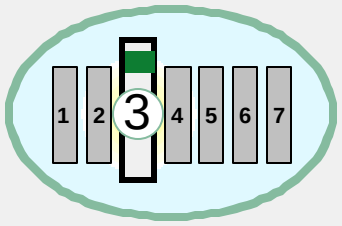
US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

Hazardous Waste Combustion Unit Permitting Manual



COMPONENT 3

How To Review A Part B Permit Application

U.S. EPA Region 6 Center for Combustion Science and Engineering

Tetra Tech EM Inc.

US EPA ARCHIVE DOCUMENT

COMPONENT THREE

HOW TO REVIEW A PART B PERMIT APPLICATION

JANUARY 1998

CONTENTS

Section **Page**

ABBREVIATIONS AND ACRONYMS 3-vi
BIBLIOGRAPHY 3-viii

1.0 INTRODUCTION 3-1

1.1 EXISTING FACILITIES 3-3
1.2 NEW FACILITIES 3-9
1.3 OVERVIEW OF THE PERMITTING PROCESS 3-10
1.4 COORDINATION OF THE APPLICATION SUBMITTAL AND REVIEW PROCESS 3-15

2.0 REVIEWING THE PART B PERMIT APPLICATION 3-17

2.1 DIVIDING THE APPLICATION 3-19
2.2 SUGGESTED PART B APPLICATION FORMATS 3-21
2.3 TOOLS AVAILABLE TO ASSIST IN THE REVIEW 3-22
2.4 THE COMPLETENESS DETERMINATION 3-23
2.5 THE TECHNICAL ADEQUACY DETERMINATION 3-24
2.6 HANDLING CONFIDENTIAL BUSINESS INFORMATION 3-25
2.7 WASTE MINIMIZATION PLAN REVIEW 3-27
2.8 AVOIDING FUTURE CHANGES TO THE APPLICATION (AND THE PERMIT) 3-28
2.9 CROSS REFERENCE BETWEEN COMPONENT 3 OF THE PERMITTING MANUAL AND THE SUGGESTED PART B PERMIT APPLICATION FORMAT 3-29
2.10 HUMAN HEALTH AND SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT 3-32

3.0 REVIEWING THE PART A APPLICATION—SECTION A 3-40
4.0 REVIEWING THE FACILITY DESCRIPTION—SECTION B 3-43

4.1 GENERAL DESCRIPTION 3-44
4.2 TOPOGRAPHIC MAP 3-46
4.3 LOCATION INFORMATION 3-49
4.4 TRAFFIC INFORMATION 3-51

5.0 REVIEWING WASTE CHARACTERISTICS—SECTION C 3-52

5.1 CHEMICAL AND PHYSICAL ANALYSES 3-54

5.1.1 Containerized Waste 3-56
5.1.2 Waste in Tank Systems 3-57
5.1.3 Waste in Piles 3-58
5.1.4 Landfilled Wastes 3-59

US EPA ARCHIVE DOCUMENT

CONTENTS (Continued)

Section **Page**

5.1.5 Waste in Incinerators 3-60
5.1.6 Wastes to be Land Treated 3-62
5.1.7 Waste in Miscellaneous Treatment Units 3-63
5.1.8 Waste in Boilers and Industrial Furnaces 3-64

5.2 WASTE ANALYSIS PLAN 3-66

5.2.1 Parameters and Rationale 3-68
5.2.2 Test Methods 3-69
5.2.3 Sampling Methods 3-71
5.2.4 Frequency of Analyses 3-73
5.2.5 Additional Requirements for Wastes Generated Off site 3-75
5.2.6 Additional Requirements for Ignitable, Reactive, or Incompatible Wastes 3-76
5.2.7 Additional Requirements Pertaining to Boiler and Industrial Furnaces 3-77
5.2.8 Additional Requirements Pertaining to Containment Buildings 3-78

5.3 WASTE ANALYSIS REQUIREMENTS PERTAINING TO LAND DISPOSAL RESTRICTIONS 3-79

6.0 REVIEWING PROCESS INFORMATION—SECTION D 3-81

6.1 REVIEWING INFORMATION REGARDING CONTAINERS—40 CFR PART 264 SUBPART I 3-86
6.2 REVIEWING INFORMATION REGARDING TANK SYSTEMS—40 CFR PART 264 SUBPART J 3-88
6.3 REVIEWING INFORMATION REGARDING WASTE PILES—40 CFR PART 264 SUBPART L 3-90
6.4 REVIEWING INFORMATION REGARDING SURFACE IMPOUNDMENTS—40 CFR PART 264 SUBPART K 3-91
6.5 REVIEWING INFORMATION REGARDING INCINERATORS—40 CFR PART 264 SUBPART O 3-92

6.5.1 Justification for Exemption 3-93
6.5.2 Trial Burn 3-94
6.5.3 Data Submitted in Lieu of Trial Burn 3-96

6.6 REVIEWING INFORMATION REGARDING LANDFILLS—40 CFR PART 264 SUBPART N 3-97
6.7 REVIEWING INFORMATION REGARDING LAND TREATMENT—40 CFR PART 264 SUBPART M 3-98
6.8 REVIEWING INFORMATION REGARDING MISCELLANEOUS UNITS—40 CFR PART 264 SUBPART X 3-99
6.9 REVIEWING INFORMATION REGARDING BOILER AND INDUSTRIAL FURNACE UNITS—40 CFR PART 266 SUBPART H 3-101

US EPA ARCHIVE DOCUMENT

CONTENTS (Continued)

Section **Page**

6.10 REVIEWING INFORMATION REGARDING CONTAINMENT BUILDINGS—40 CFR PART 264 SUBPART DD 3-104
6.11 REVIEWING INFORMATION REGARDING DRIP PADS—40 CFR PART 264 SUBPART W 3-105
6.12 REVIEWING INFORMATION REGARDING AIR EMISSIONS FROM PROCESS VENTS—40 CFR PART 264 SUBPART AA 3-106
6.13 REVIEWING INFORMATION REGARDING AIR EMISSIONS FROM EQUIPMENT LEAKS—40 CFR PART 264 SUBPART BB 3-111
6.14 REVIEWING INFORMATION REGARDING AIR EMISSIONS FROM TANKS, SURFACE IMPOUNDMENTS, AND CONTAINERS—40 CFR PART 264 SUBPART CC 3-118

6.14.1 Applicability 3-121
6.14.2 Exemptions 3-123
6.14.3 Tank Standards 3-125
6.14.4 Surface Impoundment Standards 3-127
6.14.5 Container Standards 3-128
6.14.6 Closed-Vent Systems and Control Devices Standards 3-130
6.14.7 Inspection and Monitoring Requirements 3-132
6.14.8 Recordkeeping Requirements 3-133
6.14.9 Reporting Requirements 3-134

7.0 REVIEWING GROUNDWATER MONITORING SYSTEM INFORMATION—SECTION E 3-135
8.0 REVIEWING PROCEDURES TO PREVENT HAZARDS—SECTION F 3-136
9.0 REVIEWING CONTINGENCY PLANS—SECTION G 3-139
10.0 REVIEWING PERSONNEL TRAINING RECORDS—SECTION H 3-142
11.0 REVIEWING CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS—SECTION I 3-144

11.1 CLOSURE PLANS 3-145

11.1.1 Closure Performance Standards 3-146
11.1.2 Partial Closure and Final Closure Activities 3-148
11.1.3 Maximum Waste Inventory 3-149
11.1.4 Schedule for Closure 3-150
11.1.5 Closure Procedures 3-152

11.1.5.1 Inventory Removal 3-153
11.1.5.2 Disposal or Decontamination of Equipment, Structures, and Soils 3-154
11.1.5.3 Closure of Disposal Units/Contingent Closures 3-156
11.1.5.4 Closure of Containers 3-157
11.1.5.5 Closure of Tanks 3-158

US EPA ARCHIVE DOCUMENT

CONTENTS (Continued)

Section **Page**

11.1.5.6 Closure of Waste Piles 3-159
11.1.5.7 Closure of Surface Impoundments 3-160
11.1.5.8 Closure of Incinerators 3-161
11.1.5.9 Closure of Landfills 3-163
11.1.5.10 Closure of Land Treatment Facilities 3-164
11.1.5.11 Closure of Miscellaneous Units 3-165
11.1.5.12 Closure of Boilers and Industrial Furnaces 3-166
11.1.5.13 Closure of Containment Buildings 3-168

11.2 POST-CLOSURE PLAN/CONTINGENT POST-CLOSURE 3-169
11.3 NOTICES REQUIRED FOR DISPOSAL FACILITIES 3-170
11.4 CLOSURE COST ESTIMATE 3-171
11.5 FINANCIAL ASSURANCE MECHANISM FOR CLOSURE 3-173
11.6 POST-CLOSURE CARE COST ESTIMATE 3-177
11.7 FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE CARE . . . 3-178
11.8 THIRD-PARTY LIABILITY REQUIREMENTS 3-179
11.9 USE OF STATE-AUTHORIZED MECHANISMS 3-182

12.0 REVIEWING CORRECTIVE ACTION PLANS FOR SOLID WASTE MANAGEMENT UNITS—SECTION J 3-184
13.0 REVIEWING THE APPLICABILITY OF OTHER FEDERAL LAWS—SECTION K . . 3-185
14.0 REVIEWING THE FACILITY CERTIFICATION—SECTION L 3-188
15.0 PREPARING NOTICE OF DEFICIENCIES 3-190

15.1 THE TIMING 3-191
15.2 THE COMMENTS 3-193
15.3 THE ATTACHMENTS 3-194
15.4 THE MEETING 3-195

16.0 THE COMPLETE PART B PERMIT APPLICATION 3-196

16.1 DRAFT PERMIT OR “NOTICE OF INTENT TO DENY” 3-198
16.2 THE PUBLIC COMMENT PERIOD 3-199
16.3 APPEALS 3-201

17.0 FUTURE CHANGES TO THE PART B APPLICATION 3-202

17.1 CLASS 1 MODIFICATIONS 3-203
17.2 CLASS 2 MODIFICATIONS 3-204
17.3 CLASS 3 MODIFICATIONS 3-205
17.4 TEMPORARY AUTHORIZATION 3-206

US EPA ARCHIVE DOCUMENT

CONTENTS (Continued)

EXHIBITS

Exhibit **Page**

1.1-1 DOCUMENTATION REQUIREMENTS FOR EXISTING AND NEW FACILITIES WITH NEWLY REGULATED BIFS 3-6
1.3-1 PERMITTING PROCESS TIMELINE 3-12
2.9-1 CROSS REFERENCE BETWEEN COMPONENT 3 OF THE PERMITTING MANUAL AND THE SUGGESTED PART B PERMIT APPLICATION FORMAT 3-30
2.10-1 INFORMATION NEEDED TO INITIATE HUMAN HEALTH RISK ASSESSMENT 3-34
2.10-2 INFORMATION NEEDED TO INITIATE SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT 3-39
4.2-1 XYZ COMPANY TOPOGRAPHIC MAP 3-48
14.0-1 EXAMPLE PART B PERMIT APPLICATION CERTIFICATION 3-189

ATTACHMENTS

Attachment

A EXAMPLE PART B PERMIT APPLICATION FORM
B CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS
C PERMIT PROCESS STEPS FOR INTERIM STATUS AND NEW HAZARDOUS WASTE COMBUSTION FACILITIES
D DRAFT GUIDANCE ON INCINERATOR CLOSURE
E PART A PERMIT APPLICATION
F LOGIC DIAGRAM FOR DETERMINING APPLICABILITY OF SUBPART CC STANDARDS
G EXAMPLE CLOSURE PLAN AND FINANCIAL REQUIREMENTS

US EPA ARCHIVE DOCUMENT

ABBREVIATIONS AND ACRONYMS

ADEM	Alabama Department of Environmental Management
APCS	Air pollution control system
ASTM	American Society for Testing and Materials
AWFCO	Automatic waste feed cutoff
BIF	Boiler and industrial furnace
Btu	British thermal unit
CAA	Clean Air Act
CBI	Confidential business information
CD	Calibration drift
CE	Calibration error
CEQ	Council on Environmental Quality
CEMS	Continuous emissions monitoring system
CFO	Chief financial officer
40 CFR	Title 40, Code of Federal Regulations
CO	Carbon monoxide
COPC	Constituent of potential concern
CPA	Certified public accountant
CKD	Cement kiln dust
CQA	Construction quality assurance
CZMA	Coastal Zone Management Act
DRE	Destruction and removal efficiency
DOT	U.S. Department of Transportation
EAB	Environmental Appeals Board
ESA	Endangered Species Act
ESP	Electrostatic precipitator
FR	Federal Register
FWCA	Fish and Wildlife Coordination Act
FWS	U.S. Fish and Wildlife Service
GC	Gas chromatography
H_2S	Hydrogen sulfide
HHRA	Human health risk assessment
HRA	Hourly rolling average
HSWA	Hazardous and Solid Waste Amendments
HWDF	Hazardous waste derived fuel
HWM	Hazardous waste management
HWMU	Hazardous waste management unit
IS	Interim status
KDHE	Kansas Department of Health and Environment
km	Kilometer
kPa	KiloPascals
LDR	Land disposal restrictions
MACT	Maximum Achievable Control Technology
MDL	Method detection limit
m^3	Cubic meters

US EPA ARCHIVE DOCUMENT

ABBREVIATIONS AND ACRONYMS (Continued)

NHPA	National Historic Preservation Act
NOD	Notice of deficiency
ORD	Office of Research and Development
OSW	Office of Solid Waste
OSWER	Office of Solid Waste and Emergency Response
O_2	Oxygen
PAH	Polynuclear aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCDD/PCDF	Polychlorinated dibenzo-p-dioxin/polychlorinated dibenzofuran
PIC	Product of incomplete combustion
POHC	Principal organic hazardous constituent
ppmv	Parts per million by volume
ppmw	Parts per million by weight
PST	Performance specification test
QA/QC	Quality assurance/quality control
QAPP	Quality assurance project plan
RAWP	Risk assessment work plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
SIC	Standard industrial classification
SLERA	Screening level ecological risk assessment
SOP	Standard operating procedure
SQL	Sample quantitation limit
SVOC	Semivolatile organic compound
SWMU	Solid waste management unit
TBP	Trial burn plan
TBR	Trial burn report
TNRCC	Texas Natural Resources Conservation Commission
TSDF	Treatment, storage, and disposal facility
UTM	Universal Transverse Mercator
USGS	U.S. Geological Survey
U.S.C.	United States Code
U.S. EPA	U.S. Environmental Protection Agency
VOC	Volatile organic compound
WAP	Waste analysis plan
WSRA	Wild and Scenic Rivers Act

US EPA ARCHIVE DOCUMENT

BIBLIOGRAPHY

A.T. Kearney, Inc. 1983. "Permit Writer's Guidance Manual (For Treatment and Storage in Tanks and Containers)." Alexandria, Virginia.

PRC Environmental Management, Inc. (PRC). 1995. "Resource Conservation and Recovery Act (RCRA) Closure and Post-closure Care Cost Estimating Methodology." Sponsored by U.S. EPA Region 4. Atlanta, Georgia.

Tetra Tech EM Inc. 1997. "CostPro RCRA Closure and Post-closure Care Cost Estimating Software - Version 3.0." Sponsored by U.S. EPA Region 4. Atlanta, Georgia.

U.S. Environmental Protection Agency (EPA). 1980. "RCRA Personnel Training Guidance Manual for Owners or Operators of Hazardous Waste Management Facilities." Accession No. 2362. Call Number PB87-193348. September 1.

U.S. EPA. 1981. "Financial Requirements (40 CFR Parts 264 and 265, Subpart H); Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF) Under RCRA, Subtitle C, Section 3004." Office of Solid Waste and Emergency Response (OSWER). Washington, D.C. January 15.

U.S. EPA. 1982. "Facilities Storing Hazardous Waste in Containers: Guidance for Permit Writers." Office of Solid Waste (OSW) PB88-105689.

U.S. EPA. 1982. "Financial Assurance for Closure and Post-closure Care: Requirements for Owners and Operators of Hazardous Waste TSDFs, A Guidance Manual." OSWER. Washington, D.C. May 15.

U.S. EPA. 1982. "Liability Coverage; Requirements for Owners and Operators of Hazardous Waste TSDFs; A Guidance Manual." OSWER. Washington, D.C. November 15.

U.S. EPA. 1983. "Guidance Manual for Hazardous Waste Incineration Permits." OSWER. Washington, D.C. EPA/SW-966. July.

U.S. EPA. 1983. "Permit Applicants' Guidance Manual for the General Facility Standards of 40 CFR Part 264." SW-968. October.

U.S. EPA. 1984. "Financial Requirements; Interim Status Standards (40 CFR Part 265 Subpart H); Final Draft Guidance." OSWER. Washington D.C. January 15.

U.S. EPA. 1984. "Permitting of Hazardous Waste Treatment/Storage Tanks." OSWER 9483.01(84). February 23.

U.S. EPA. 1986. "Background Document - Final Rule, Closure/Post-closure and Financial Responsibility Requirements, Hazardous Waste TSDFs." OSWER. Washington, D.C. April.

U.S. EPA. 1986. "RCRA Groundwater Monitoring Technical Enforcement Guidance Document." OSWER 9950.1. September 9.

U.S. EPA. 1986. "RCRA Facility Assessment Guidance." OSWER. 9502.00-05. October 9.

US EPA ARCHIVE DOCUMENT

BIBLIOGRAPHY (Continued)

U.S. EPA. 1986. "Guidance Manual: Cost Estimates for Closure and Post-Closure Plans (Subparts G and H)." OSWER. Policy Directive No. 9476.00-6. November.

U.S. EPA. 1986. "Final RCRA Comprehensive Ground-Water Monitoring Evaluation (CME) Guidance Document." OSWER 9950.2. December 19.

U.S. EPA. 1986. "Environmental Protection Agency: Hazardous Waste Management System: Standards for Owners and Operators of Miscellaneous Units." OSW 375. December.

U.S. EPA. 1987. "RCRA Facility Investigation (RFI) Guidance." OSWER 9502.00-06C. July 1.

U.S. EPA. 1987. "Hazardous Waste Miscellaneous Unit Standards: Applicable to Owners and Operators." OSW 2534. December 10.

U.S. EPA. 1988. "Hazardous Waste Incineration: Questions and Answers." OSW. EPA/530-SW-88-018. April.

U.S. EPA. 1988. "The EPA Manual for Waste Minimization Opportunity Assessments." Hazardous Waste Engineering Research Laboratory. EPA 600/2-88/025. April.

U.S. EPA. 1988. "Permitting Hazardous Waste Incinerators." EPA/530-SW-88-024. April.

U.S. EPA. 1988. "Executive Summary: RCRA Ground Water Monitoring Technical Enforcement Guidance Document." OSWER 9950.1-A. July 11.

U.S. EPA. 1988. "Model RCRA Permit for Hazardous Waste Management Facilities." OSWER. Washington, D.C. EPA/530-SW-90-049. September.

U.S. EPA. 1988. "RCRA Permit Quality Protocol." OSWER. Washington, D.C. EPA/530-SW-90-050. September.

U.S. EPA. 1988. "Final Rule on Modifying RCRA Permits." 53 Federal Register (FR) 37935. September 28.

U.S. EPA. 1988. "Guidance for Conducting Remedial Investigation and Feasibility Studies Under CERCLA." Office of Emergency and Remedial Response. Washington, D.C. October.

U.S. EPA. 1989. "Handbook: Guidance on Setting Permit Conditions and Reporting Trial Burn Results." Office of Research and Development (ORD). Washington D.C. EPA/625/6-89/019. January.

U.S. EPA. 1989. "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods." EPA SW-846. OSWER. Washington D.C. March.

U.S. EPA. 1989. "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities: Interim Final Guidance." EPA 8909-0036. April 1.

U.S. EPA. 1989. "Handbook: Hazardous Waste Incineration Measurement Guidance Manual." OSWER. Washington, D.C. EPA/625/6-89/021. June.

U.S. EPA. 1989. "Modifying RCRA Permits." OSWER. Washington, D.C. September.

US EPA ARCHIVE DOCUMENT

BIBLIOGRAPHY (Continued)

U.S. EPA. 1990. "Handbook: Quality Assurance/Quality Control Procedures for Hazardous Waste Incineration." Center for Environmental Research Information. Cincinnati, Ohio. EPA/625/6-89/023. January.

U.S. EPA. 1990. "Preamble to the RCRA Subparts AA and BB Final Rules." 55 FR 25494. Washington, D.C. June 21.

U.S. EPA. 1991. "Burning of Hazardous Waste in BIFs: Final Rule." 56 FR 7134. February 21.

U.S. EPA. 1992. "Technical Implementation Document for EPA's BIF Regulations." OSWER. Washington D.C. EPA-530-R-92-011. March.

U.S. EPA. 1992. "RCRA Ground-Water Monitoring: Draft Technical Guidance." PB93-139350. November.

U.S. EPA. 1993. "Strategy for Combustion of Hazardous Waste." May.

U.S. EPA. 1993. "Waste Minimization Program in Place." OSWER. May.

U.S. EPA. 1993. "RCRA Public Involvement Manual." OSW. Washington, D.C. EPA/530-R-93-006. September.

U.S. EPA. 1993. "Completeness/Technical Adequacy Evaluation Checklist." Revision 8. OSWER. Washington D.C. December.

U.S. EPA. 1993. "RCRA Part B Permit Application Checklist Canned Comments." Revision 8. OSWER. Washington, D.C. December.

U.S. EPA. 1994. "Exposure Assessment Guidance for RCRA Hazardous Waste Combustion Facilities, Attachment B Guidance on Trial Burns." OSWER. Washington, D.C. April.

U.S. EPA. 1994. "Waste Analysis at Facilities That Generate, Treat, and Dispose of Hazardous Waste." OSWER. Washington D.C. No. 9938.4-03. April.

U.S. EPA. 1994. "Draft RCRA Waste Minimization Plan." OSWER. Washington, D.C. May.

U.S. EPA. 1994. "Memorandum on Trial Burns." OSWER. Washington, D.C. EPA/530-F-94-023. July.

U.S. EPA. 1994. "Waste Analysis Guidance for Facilities That Burn Hazardous Wastes." Draft. Enforcement and Compliance Assurance (ECA). Washington D.C. EPA 530-R-94-019. October.

U.S. EPA. 1994. "Environmental Fact Sheet - EPA Announces Strategy for Hazardous Waste Minimization and Combustion." OSWER. EPA/530-F-94-027. November.

U.S. EPA. 1994. "Permit Process Steps: For Interim Status Hazardous Waste Combustion Facilities and for New Hazardous Waste Combustion Facilities." OSWER. Washington, D.C. EPA/530-F-94-036. November.

US EPA ARCHIVE DOCUMENT

BIBLIOGRAPHY (Continued)

U.S. EPA. 1994. "Update on Implementation of the Hazardous Waste Minimization and Combustion Strategy." OSWER. EPA/530-F-94-037. November.

U.S. EPA. 1994. "Preamble to the RCRA Subpart CC Final Rule." 59 FR 62896. Washington, D.C. December 6.

U.S. EPA. 1995. "TSCA Confidential Business Information Security Manual." Office of Pollution Prevention and Toxics. Washington, D.C. April.

U.S. EPA. 1995. " RCRA Ground-Water Monitoring Enforcement Guidance." EPA 8708-0003. August 1.

U.S. EPA. 1995. "RCRA Expanded Public Participation and Revisions to Combustion Permitting Procedures: Final Rule." 60 FR 63433. December 11.

U.S. EPA. 1996. "Preamble to the RCRA Subpart CC Final Rule." 61 FR 59932. Washington, D.C. November 25.

U.S. EPA. 1996. "Regulatory Completeness Checklist for Hazardous Waste Treatment, Storage, and Disposal Facilities, Subpart AA Process Vents - Module D-10." Draft. OSWER. Washington, D.C.

U.S. EPA. 1996. "Regulatory Completeness Checklist for Hazardous Waste Treatment, Storage, and Disposal Facilities, Subpart BB Equipment Leaks - Module D-11." Draft. OSWER. Washington, D.C.

U.S. EPA. 1996. "Regulatory Completeness Checklist for Hazardous Waste Storage, Treatment, and Disposal Facilities, Subpart CC Air Emission Standards - Module D-12." Draft. OSWER. Washington, D.C.

U.S. EPA. 1996. "Subpart CC Inspection Procedures and Checklists." Draft. U.S. EPA Region 4. Atlanta, Georgia. December 20.

U.S. EPA. 1996. "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods." SW-846, Third Edition. December.

U.S. EPA. 1997. "Generic Quality Assurance Project Plan (QAPP)." Center for Combustion Science and Engineering, Multimedia Planning and Permitting Division, U.S. EPA Region 6. Dallas, Texas. December.

U.S. EPA. 1997. "Generic Trial Burn Plan (TBP)." Center for Combustion Science and Engineering, Multimedia Planning and Permitting Division, U.S. EPA Region 6. Dallas, Texas. December.

U.S. EPA. 1998. "Protocol for Human Health Risk Assessment at Hazardous Waste Combustion Facilities." Center for Combustion Science and Engineering, Multimedia Planning and Permitting Division, U.S. EPA Region 6. Dallas, Texas. EPA-R6-098-002. January.

U.S. EPA. 1998. "Protocol for Screening Level Ecological Risk Assessment at Hazardous Waste Combustion Facilities." Center for Combustion Science and Engineering, Multimedia Planning and Permitting Division, U.S. EPA Region 6. Dallas, Texas. EPA-R6-098-003. January.

US EPA ARCHIVE DOCUMENT

BIBLIOGRAPHY (Continued)

US EPA ARCHIVE DOCUMENT

1.0 INTRODUCTION

Regulations: Title 40 Code of Federal Regulations (CFR) Parts 124 and 270
40 CFR Part 270 Subpart B
40 CFR Part 270.62
40 CFR Part 270.66

Guidance: No specific references are applicable to this section of the manual.

Explanation: Owners or operators of combustion units (such as incinerators or boilers and industrial furnaces [BIF]) that burn hazardous waste must obtain an operating permit from the appropriate regulatory agency: the U.S. Environmental Protection Agency (EPA) Regional Office or, if authorization has been obtained, a state agency. U.S. EPA has established specific regulations and procedures in 40 CFR Parts 124 and 270 that govern the content of permit applications, as well as the review, approval, and issuance of permits or permit modifications. An example Part B permit application is included as Attachment A.

In general, the permitting process includes the following basic steps: submittal of the permit application; completeness review using checklist; submission of "Notice of Deficiencies" (NOD) to applicant; preparation of a draft permit; public comment period; and issuance of final permit decision.

For hazardous waste combustion units, the permitting process also requires a trial burn. A trial burn is a test to determine whether the unit can meet performance requirements specified by the regulations. Other data, such as data required to complete human health and screening level ecological risk assessments, that the permitting authority deems necessary can also be collected to ensure the facility can be operated in a manner that is protective of human health and the environment.

Procedures differ for permitting "new facilities" versus "existing facilities." A detailed explanation of permitting procedures and definitions of existing and new facilities located in Sections 1.1, 1.2, and 1.3. In general, the differences between these procedures are the points at which (1) the trial burn and risk assessment fit into the overall permitting procedure, and (2) the permit writer must evaluate the trial burn and risk assessment information.

For the purpose of determining feasibility of compliance with performance standards and operating conditions, the permitting authority must establish conditions in the permit for the combustion unit. Applicants must propose a trial burn plan (TBP) that, at a minimum, includes an analysis of each waste stream, a detailed engineering description of the combustion unit, the collection of data adequate to complete the risk assessment process, and various other items specifically described in the CFR or state regulations. When reviewing the TBP for adequacy, the permit writer should refer to Component 1—How to Review a Trial Burn Plan.

US EPA ARCHIVE DOCUMENT

Check For: The permit review team should check to ensure that the following information is available:

- ❑ Completeness review checklist items
- ❑ Technical adequacy checklist items
- ❑ Specific elements required by regulations

Example Situation: Not applicable to this section of the manual.

Example Action: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

1.1 EXISTING FACILITIES

Regulations: 40 CFR Part 270.10(e)(4)
40 CFR Parts 260.10 and 270.2
40 CFR Part 266.103(a)(1)(ii)

Guidance: U.S. EPA. 1992. "Technical Implementation Document for EPA's BIF Regulations." OSWER. Washington, D.C. EPA 530-R-92-011. March. Section 10.1.1 and Table 10-1.

Explanation: Existing combustion units operating under interim status (IS) must either (1) submit a permit application when requested by the permitting authority, or (2) voluntarily submit the permit application before the permitting authority calls for a permit. RCRA regulations do not require the permitting authority to immediately review an application, should a facility submit a permit application voluntarily. To expedite the review process, the permitting authority may require that the TBP and RAWP be submitted before the remainder of the Part B permit application. For BIF facilities, the permit scheduling requirements are presented in Exhibit 1.1-1.

Existing facilities are combustion units that were "in existence" at the time of statutory or regulatory changes that subjected them to RCRA. Such facilities are considered to be operating under IS. Unless subject to statutory permitting deadlines, regulatory agencies will call in permit applications for existing facilities (that is, notify the facility owner or operator that the Part B must be submitted). The procedures for calling in the Part B vary among permitting authorities.

BIFs may have been "in existence" on the date of the final BIF rule (February 21, 1991) in three cases, and therefore are defined as existing facilities:

- Newly regulated facilities (that is, facilities that became regulated as a result of the final BIF rulemaking [February 21, 1991, 56 FR 7186] and notified of hazardous waste activity and submitted a Part A permit application)

- IS facilities that contain BIFs newly regulated by the final BIF rulemaking (such facilities must have submitted an amended RCRA Part A application)

- Permitted facilities with BIFs that were newly regulated by the final BIF rulemaking (such facilities must have submitted a permit modification to U.S. EPA or the state under 40 CFR Part 270.42 or similar authorities).

Because existing facilities already are operating, the permit application for those facilities need not include conditions for initial startup and shakedown. For BIFs, the trial burn may be waived only if certain requirements are met [see 40 CFR Part 270.22(a)]). However, U.S. EPA Region 6 currently requires all new and

existing combustion units to conduct a risk burn even if a trial burn may be waived according to regulation. The decision to approve or deny a permit for existing facilities is made after trial burn results and risk burn results have been submitted and evaluated.

Check For: The permit writer should check for the following:

- ❑ Facility's status with regard to other IS or RCRA-permitted units
- ❑ BIFs that applied for or received an incinerator permit
- ❑ Compliance with IS requirements

Example Section: All RCRA hazardous waste management units (HWMU) that exist on the site, whether operating under IS or fully permitted, must be identified. If a hazardous waste unit is undergoing a permit modification, all components to be modified must be identified. These issues help to determine when the revised Part A or Part B permit application must be submitted to the regulatory authority. If the facility's units are fully permitted, the facility permit must be modified to include the combustion unit if it is being constructed or modified. Also, information on existing units such as tanks, container processing areas, container storage areas, and other related units must be re-evaluated to ensure (1) that the units meet current regulations, and (2) the information presented is adequate to complete the risk assessment process. For example, assume a facility permit modification is being requested for a scrubber upgrade. It would be appropriate at this time to review facility compliance with recent tank vent regulations under RCRA Subpart CC.

If a BIF is currently undergoing review for an incinerator permit, U.S. EPA can decide whether the unit will be permitted under RCRA as a BIF or an incinerator. If U.S. EPA decides that the unit will be permitted as an incinerator, conditions should be added to the permit to ensure that the unit complies with the requirements applicable to BIFs. When deciding whether to continue with the incinerator permit or change to a BIF permit, U.S. EPA might consider the following:

- Technical changes required to bring the incinerator permit up to BIF permit requirements (for example, if little or no changes are required, the incinerator permit would be preferable. If many technical changes are required, it may be better to permit the unit as a BIF).
- Schedule impact
- Facility needs (for example, the facility may need the permit in the near future to be able to dispose of a waste on site)

The decision to continue to permit as an incinerator or as a BIF should be discussed among the permitting agencies, facility, and any other involved groups.

US EPA ARCHIVE DOCUMENT

If the facility contains a BIF that is already operating under an incinerator permit, it may continue to do so until the permit expires, is renewed, or is reopened. At that time, the unit should be permitted as a BIF. See Exhibit 1.1-1 (page 3-6) for examples of existing and new facilities permit review processes. Section 10.1.1 of the "Technical Implementation Document for U.S. EPA's BIF Regulations" (EPA 1992) discusses permitting issues.

An IS facility will be required to submit all the necessary documents to fulfill the RCRA Part B permit trial burn planning process and site-specific human health and ecological risk assessments. During review of these documents, inadequacies may appear. In this case, the permitting agency or the state can take enforcement action depending on the severity of the inadequacy and the facility's past compliance record. Any inadequacies, such as design data, that affect the Part B permit application are usually addressed through an NOD.

Example Comments: Inadequacies in the Part B permit application occur when an IS facility does not have as-built drawings or construction upgrades. NODs usually accommodate these issues without incurring unnecessary delays or excessive costs. The NOD usually can be rectified if the facility provides additional information, especially if it is an older facility that was in operation before 1980.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

EXHIBIT 1.1-1
DOCUMENTATION REQUIREMENTS FOR EXISTING AND NEW FACILITIES WITH NEWLY REGULATED BIFS

Documentation	Existing Facilities					New Facility
	Not Previously Subject to Interim Status or Permit Requirements with BIF Subject to RCRA Regulations for First Time	**Interim Status RCRA Facility[a] with Newly Regulated BIF**	**Permitted RCRA Facility[b] with Newly Regulated BIF**	**Facility with Permitted and Interim Status RCRA Units[c] on Site and with Newly Regulated BIF**	**Facility with BIF Unit Under RCRA Incinerator Standards**	
3010 Notification (EPA Form 8700-12)	Submit to U.S. EPA by May 22, 1991, if facility was handling hazardous waste fuel on February 21, 1991, if not previously submitted	Should have been submitted to U.S. EPA before initiation of hazardous waste activity	Should have been submitted to U.S. EPA before initiation of hazardous waste activity	Should have been submitted to U.S. EPA before initiation of hazardous waste activity	Should have been submitted to U.S. EPA before initiation of hazardous waste activity	Not applicable[d]
Part A Permit Application (EPA Form 8700-23)	Submit to U.S. EPA by August 21, 1991	Submit revised Part A to U.S. EPA by August 21, 1991	Submit Class 1 modification (e.g., could be a revised Part A) to U.S. EPA by August 21, 1991	Submit revised Part A or Class 1 modification to U.S. EPA by August 21, 1991	If BIF was operating under interim status incinerator standards or if BIF was not allowed by U.S. EPA to continue permit review process, submit revised Part A to U.S. EPA by August 21, 1991	Submit to U.S. EPA as part of RCRA permit application
Precompliance Certification	Submit to U.S. EPA by August 21, 1991	Submit to U.S. EPA by August 21, 1991	Submit to U.S. EPA by August 21, 1991	Submit to U.S. EPA by August 21, 1991	If BIF was operating under interim status incinerator standards or if BIF was not allowed by U.S. EPA to continue permit review process, submit to U.S. EPA by August 21, 1991	Not applicable
Compliance Certification	Submit to U.S. EPA by August 21, 1992 or as extended	Submit to U.S. EPA by August 21, 1992 or as extended	Submit to U.S. EPA by August 21, 1992 or as extended, unless permit modification issued by that date	Submit to U.S. EPA by August 21, 1992 or as extended, unless permit modification issued by that date	If BIF was operating under interim status incinerator standards and/or if BIF not allowed by U.S. EPA to continue permit review process, submit to U.S. EPA by August 21, 1992 or as extended	Not applicable

US EPA ARCHIVE DOCUMENT

EXHIBIT 1.1-1 (Continued)
DOCUMENTATION REQUIREMENTS FOR EXISTING AND NEW FACILITIES WITH NEWLY REGULATED BIFS

Documentation	Existing Facilities					New Facility
	Not Previously Subject to Interim Status or Permit Requirements with BIF Subject to RCRA Regulations for First Time	**Interim Status RCRA Facility[a] with Newly Regulated BIF**	**Permitted RCRA Facility[b] with Newly Regulated BIF**	**Facility with Permitted and Interim Status RCRA Units[c] on Site and with Newly Regulated BIF**	**Facility with BIF Unit Under RCRA Incinerator Standards**	
Part B Permit Application[e]	When requested by U.S. EPA, submit by date set (which will be at least 6 months after request)	When requested by U.S. EPA, submit by date set (which will be at least 6 months after request)	Submit Class 3 modification to U.S. EPA by February 17, 1992	If revised Part A submitted on August 21, 1991, submit Part B by date set by Agency (which will be at least 6 months after U.S. EPA request); if Class 1 modification submitted by August 21, 1991, submit Class 3 modification to U.S. EPA by August 17, 1992	If revised Part A submitted on August 21, 1991, submit Part B by date set by Agency (which will be at least 6 months after U.S. EPA request); if facility in process of obtaining incinerator permit, continue process if U.S. EPA allows; if facility operates under incinerator permit, continue operation until permit is reopened or expires, then submit BIF permit application	Submit to U.S. EPA at least 180 days before physical construction expected to begin
Public Notification by Applicant of Request for Permit Modification Published in Local Newspaper	Not applicable	Not applicable	Not applicable for Class 1 modification; publish within 7 days before or after submittal of Class 3 modification	Not applicable unless facility submits Class 3 modification in which case within 7 days before or after submittal of Class 3 modification	Not applicable unless facility submits Class 3 modification in which case within 7 days before or after submittal of Class 3 modification	Not applicable

US EPA ARCHIVE DOCUMENT

EXHIBIT 1.1-1 (Continued)
DOCUMENTATION REQUIREMENTS FOR EXISTING AND NEW FACILITIES WITH NEWLY REGULATED BIFS

Documentation	Existing Facilities					New Facility
	Not Previously Subject to Interim Status or Permit Requirements with BIF Subject to RCRA Regulations for First Time	**Interim Status RCRA Facility[a] with Newly Regulated BIF**	**Permitted RCRA Facility[b] with Newly Regulated BIF**	**Facility with Permitted and Interim Status RCRA Units[c] on Site and with Newly Regulated BIF**	**Facility with BIF Unit Under RCRA Incinerator Standards**	
Notification sent by applicant to parties on facility mailing list	Not applicable	Not applicable	Within 90 days after Class 1 modification is effective; within 7 days before or after submittal of Class 3 modification	Same as public notification	Not applicable	Not applicable
Public meeting held by applicant	Not applicable	Not applicable	For Class 3 modifications, no later than 15 days before close of 60-day comment period	For Class 3 modifications, no later than 15 days before close of 60-day comment period	Not applicable	Not applicable

Source: U.S. EPA. 1992. "Technical Implementation Document for EPA's BIF Regulations." OSWER. Washington, D.C. EPA-530-R-92-011. March. Table 10-1, pages 10-2 through 10-4.

[a] Facility has interim status units that are not BIFs (e.g., storage tanks, thermal treatment units)
[b] Facility has permitted units that are not BIFs (e.g., storage tanks, thermal treatment units)
[c] Facility has interim status and permitted units on site that are not BIFs (e.g., storage tanks, thermal treatment units)
[d] Facility is still required to file for a U.S. EPA identification number
[e] Includes TBP and RAWP

1.2 NEW FACILITIES

Regulations: 40 CFR Part 260.10

Guidance: U.S. EPA. 1992. "Technical Implementation Document for EPA's BIF Regulations." OSWER. Washington, D.C. EPA 530-R-92-011. March. Section 10.1.1 and Table 10-1.

Explanation: RCRA specifies that new facilities are not allowed to be constructed or to operate without a permit. Therefore, the regulatory agency must issue a permit before construction begins. Under 40 CFR Parts 270.62 (incinerators) and 270.66 (BIFs), permitting requirements specify that the permit conditions must limit operations for new facilities after construction. Specifically, the regulations discuss three distinct phases of operation after construction is completed but before the final permit is issued: the startup and shakedown period (pretrial burn period); trial burn period; and post-trial burn period. Assuming the trial burn was successful, permit conditions are modified, if necessary, and the facility proceeds to operate under the final permit, the fourth phase of the process, see Component 7—How to Prepare Permit Conditions.

Check For: The permit reviewer should check for the following:

- ❑ Determine if a BIF is considered a "new facility" or "existing facility" by reviewing the February 21, 1991, *Federal Register* (56 FR 7186) to determine if the facility was "in existence"
- ❑ For a currently nonregulated incinerator, determine if waste streams are newly identified as hazardous waste, thereby causing the unit to be a "new" facility

Example Situation: The U.S. Army is currently constructing a series of hazardous waste combustion units to destroy obsolete chemical weapons at the Anniston Army Depot in Anniston, Alabama. Before beginning construction of these units, a permit for the facility was issued by the Alabama Department of Environmental Management (ADEM).

Example Action: Concurrent with final planning and design activities, the U.S. Army submitted a complete RCRA Part B permit application for the chemical weapons destruction facility—before beginning construction activities. This application included a TBP, RAWP, and trial burn quality assurance project plan (QAPP). The permit application was reviewed several times, and the facility completed the permitting process (including the public participation process, see Component 7—How to Prepare Permit Conditions). ADEM subsequently issued a permit prior to construction; the permit will be modified based on the results of the trial burn.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

1.3 OVERVIEW OF THE PERMITTING PROCESS

Regulations: 40 CFR Parts 124 and 270
40 CFR Part 270.62
40 CFR Part 270.66

Guidance: No specific references are applicable to this section of the manual.

Explanation: The permitting process for a combustion unit occurs in one of two sequences, either: (1) for an IS unit, or (2) for a new unit. These sequences are shown in Exhibit 1.3-1, see pages 3-12 through 3-14.

As illustrated in the two sequences, the major difference between the permitting process for an interim status unit and a new unit is that the trial burn for an interim status unit is conducted before the draft permit is prepared, whereas for a new unit, the draft permit is prepared before the trial burn and before construction for the new unit can begin. Sections 1.1 and 1.2 of this component address specific issues regarding interim status unit and new unit permitting.

The timelines provided above incorporate regulations promulgated under the RCRA Expanded Public Participation Rule, 60 FR 63417, December 11, 1995. The rule focuses on four goals:

- Involve the public earlier in the permitting process
- Provide more opportunities for public participation
- Expand public access to information
- Offer guidance to improve public participation

Some of the new requirements stipulated in the rule include:

- Applicant must hold an informal public meeting before applying for a permit
- Agency must send a notice to everyone on the facility mailing list announcing that the application has been submitted
- Agency may require the facility to establish an information repository
- Agency must notify the public prior to a trial burn by sending a notice to everyone on the facility mailing list

The rule applies to facilities seeking a RCRA permit and RCRA permit renewals with a significant change. A state permitting agency can implement the rule as long as it has RCRA authority and has adopted the rule as state legislation. Otherwise, the U.S. EPA Regional offices will administer the rule.

Check For:

- ❑ Ensure the facility mailing list is comprehensive and includes all appropriate neighboring citizens, businesses, and industry
- ❑ Confirm that the repository location is appropriate and accessible

US EPA ARCHIVE DOCUMENT

- ❑ Consider attending any community or public meeting coordinated by the facility or local citizens groups

Example Situation: The Kansas Department of Health and Environment (KDHE) received a permit application for the Ash Grove Cement in Chanute, Kansas, on May 31, 1995. The following is a list of steps KDHE and Ash Grove Cement completed during the permitting process:

- U.S. EPA review of permit application—June to October 1995
- Trial burn test—April 1994
- Draft permit issued—1995
- Public comment period—1995
- Public hearings—1995

Example Action: KDHE issued the final permit for tanks and containers on August 5, 1996, and the final permit for the cement kilns was issued by U.S. EPA Region 7 on August 15, 1996.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

EXHIBIT 1.3-1

PERMITTING PROCESS TIMELINE

Permitting Activity	Responsible Organization			Approximate Timeline
	Permitting Agency	Facility	Any Concerned Group or Individual	
INTERIM STATUS UNITS				
Conduct pre-application meeting		✓		Some time prior to submittal of application
Submit Part A and Part B applications (including TBP) and RAWP		✓		Day 0
Provide notice of receipt of application	✓			Day 1
Review the application and RAWP	✓		✓	Day 1 through Day 120 (average 4 months)
Establish and maintain an information repository		✓		Approximately Day 30, update information throughout the active life of the project
Provide notice of trial burn	✓			Approximately 30 days before the trial burn
Conduct the trial burn		✓		Day 120 through Day 130 (conservative 10 day estimate)
Prepare TBR		✓		Day 130 through Day 220 (90 days allowed by regulation; extensions may be granted by permitting authority on a case-by-case basis)
Review TBR and risk assessment results	✓		✓	Day 220 through Day 280 (average 2 months)
Prepare draft permit determination	✓			Day 280 through Day 310 (average 1 month)
Request public comment/hearing			✓	Day 310 through Day 370 (average 2 months, a minimum of 45 days required by regulation, may last longer if public hearing process is prolonged)
Decide permit fate: deny or approve	✓			Day 370 through Day 400 (average 1 month)
File permit appeal			✓	Appeal must be filed within 30 days of permit decision
Seek judicial appeal			✓	Once permit appeals process is completed, judicial review can begin

US EPA ARCHIVE DOCUMENT

EXHIBIT 1.3-1 (Continued)

PERMITTING PROCESS TIMELINE

Permitting Activity	Responsible Organization			Approximate Timeline
	Permitting Agency	Facility	Any Concerned Group or Individual	
NEW UNITS				
Conduct pre-application meeting		✓		Some time prior to submittal of application
Submit Part A and Part B application (including TBP) and RAWP		✓		Day 0
Provide notice of receipt of application	✓			Day 1
Review the application and RAWP	✓		✓	Day 1 through Day 300 (average 10 months)
Establish and maintain an information repository		✓		Approximately Day 30, update information throughout the active life of the project
Prepare draft permit determination	✓			Day 300 through Day 360 (average 2 months)
Request public comment/hearing			✓	Day 360 through Day 420 (average 2 months; a minimum of 45 days required by regulation, may last longer if public hearing process is prolonged)
Issue four-phased permit or deny the permit	✓			Day 420 through Day 450 (average 1 month)
File permit appeal			✓	Appeal must be filed within 30 days of permit decision
Seek judicial appeal			✓	Once permit appeals process is completed, judicial review can begin
Operate during start-up/shakedown period (Phase One)		✓		Day 450 through Day 630 (startup averages 3 months; shakedown can last up to 720 hours, or 3 months; by regulation, an extension may be granted on a case-by-case basis)
Provide notice of trial burn	✓			Approximately 30 days before the trial burn
Conduct the trial burn (Phase Two)		✓		Day 630 through Day 640 (conservative 10 day estimate)
Operate during the post-trial burn period (Phase Three)		✓		Day 640 until the final operating permit is issued (approximately 7 months)

US EPA ARCHIVE DOCUMENT

EXHIBIT 1.3-1 (Continued)

PERMITTING PROCESS TIMELINE

Permitting Activity	Responsible Organization			Approximate Timeline
	Permitting Agency	Facility	Any Concerned Group or Individual	
NEW UNITS				
Prepare TBR		✓		Day 640 through Day 730 (90 days allowed by regulation; extensions may be granted by permitting authority on a case-by-case basis)
Review TBR and risk assessment results	✓		✓	Day 730 through Day 820 (average 3 months)
Prepare final operating permit (Phase Four)	✓			Day 820 through Day 850 (average 1 month)

US EPA ARCHIVE DOCUMENT

1.4 COORDINATION OF THE APPLICATION SUBMITTAL AND REVIEW PROCESS

Regulations: No regulations are applicable to this section of the manual

Guidance: No specific references are applicable to this section of the manual.

Explanation: Because the RCRA Part B permit application for any combustion unit is a complex document, it is highly recommended that a preapplication meeting be scheduled. Attendees should include: the U.S. EPA Regional lead permit writer and contractor personnel who will review the application, state and local agency personnel who will review the application, and facility personnel responsible for preparing the application. If the application is for an existing facility operating under IS, the meeting should be scheduled after the permit application has been called in.

Reviewing the RCRA Part B permit application requires a team effort. A lead permit writer should be assigned to manage and coordinate all review activities and formulate the final approval of the application. The lead writer should identify qualified staff and contractor personnel to evaluate specific portions of the permit application (see Component 1—How to Review a Trial Burn Plan). The lead writer should develop the review schedule with critical completion dates and conduct regular meetings with the teams to discuss progress, problems, and potential delays, and resolve issues as they arise.

The regulations at 40 CFR Part 270.10 provides for a two-step review process: (1) a completeness review to determine if all applicable sections have been submitted, and (2) the detailed technical review. Many regulatory agencies combine these two steps and do not consider the application complete until it contains all the information necessary to complete the risk assessment process and develop draft permit determinations.

It is important to coordinate permit application efforts with the state agency authorized to issue either all or portions of a RCRA permit or a state Clean Air Act (CAA) permit.

Check For: To coordinate the application submittal and review process, the permit reviewer should prepare, determine, or establish the following:

- ❑ Preapplication meeting with agenda as follows:
  - ❑ Design and operation of the combustion unit
  - ❑ Format of the permit application
  - ❑ Requirements for the trial burn
  - ❑ Requirements for the risk assessment
  - ❑ Whether the facility will use the U.S. EPA Region 6 generic TBP as a template for the TBP
  - ❑ Recent guidance or policy directives that could affect information required for the application

US EPA ARCHIVE DOCUMENT

- ❑ Relevant issues to expedite the permitting process
- ❑ Proposed schedules

❑ Whether the state agency has RCRA/Hazardous and Solid Waste Amendments (HSWA) authorization

❑ Whether the authorized agency has the necessary expertise to technically review the application

❑ Determine the state agency's proposed review schedule

❑ Determine which agency ultimately will be responsible for drafting the permit conditions

❑ Review process completion time frame

Example Section: Not applicable to this section of the manual

Example Comments: Not applicable to this section of the manual

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

2.0 REVIEWING THE PART B PERMIT APPLICATION

Regulations: 40 CFR Parts 124 and 270
40 CFR Part 270 Subpart B
40 CFR Part 270.62
40 CFR Part 270.66

Guidance: No specific references are applicable to this section of the manual.

Explanation: The review of a RCRA Part B permit application consists of a completeness review and a technical adequacy determination. The review process can be more efficient if the applicant uses the proper format for the application, and the reviewers are aware of special procedures that must be followed during the review process.

Check For: The following subsections describe procedures for reviewing the Part B permit application, as follows:

- ❑ Dividing the Application (see Section 2.1)
- ❑ Suggested Part B Application Formats (see Section 2.2)
- ❑ Tools Available to Assist in the Review (see Section 2.3)
- ❑ The Completeness Determination (see Section 2.4)
- ❑ The Technical Adequacy Determination (see Section 2.5)
- ❑ Handling Confidential Business Information (see Section 2.6)
- ❑ Waste Minimization Plan Review (see Section 2.7)
- ❑ Avoiding Future Changes to the Application (and the Permit) (see Section 2.8)
- ❑ Cross Reference Between Component 3 of the Combustion Manual And The Suggested Part B Permit Application Format (see Section 2.9)
- ❑ Human Health and Screening Level Ecological Risk Assessment Data Requirements (see Section 2.10)

The permit reviewer is responsible for and should complete the following:

- ❑ Obtain suggested formats for the Part B permit application
- ❑ Obtain tools available to assist in the review

US EPA ARCHIVE DOCUMENT

- ❑ Divide the application into manageable sections and forward them to team members with relevant expertise
- ❑ Conduct the completeness determination
- ❑ Complete the technical adequacy determination

Example Situation: The XYZ Company has submitted what it says is a complete RCRA Part B permit application for a hazardous waste incinerator with on site ash disposal. The proposed site is in a rural area of southwestern Alabama; the nearest incorporated city is 25 miles away, but the facility is 1 mile off a major interstate.

Lois and Clark have been assigned to review the application for completeness and technical adequacy. Lois will review sections dealing with ash disposal, general site location, and landfill designs. Clark will review all technical aspects of the incinerator, scrubber, control room, and associated on site laboratory facilities. During her review, Lois noted that the landfill construction quality assurance (CQA) was signed by the company attorney attesting that the plan met or exceeded all design criteria required for a hazardous waste landfill.

Example Comments: According to 40 CFR Part 264.19(a), only a registered professional engineer can develop and sign the CQA. Lois wrote an NOD stating that the CQA should be reviewed and signed by the person who developed it and who will be responsible for implementing the construction program.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

2.1 DIVIDING THE APPLICATION

Regulations: No regulations are applicable to this section of the manual

Guidance: No specific references are applicable to this section of the manual.

Explanation: In general, it is more efficient to use a multidisciplined team to review a Part B permit application. A team brings more expertise and skills to the review and allows the lead permit writer to assign specific sections of the application to members of the team, expediting the review process. Before the agency receives a permit application, a permit review team should be assembled.

When the permit application has been received , the lead permit writer should meet with the review team and divide the application into various sections to expedite the evaluations of completeness and technical adequacy. In determining how to divide the application, the lead permit writer should consider whether the completeness and technical adequacy reviews will be conducted as separate tasks or concurrently. If a separate completeness check is conducted prior to the technical adequacy evaluation, junior staff or staff without specific disciplines may be used. However, if the technical adequacy check occurs concurrently, it will be necessary to assign sections of the application to staff having appropriate expertise. In addition, during the division of labor, the lead permit writer should discuss the type of quality controls to be used to ensure accuracy of the review. For example, certain staff may be designated to act as internal technical reviewers for application reviews when they have no direct involvement.

The lead permit writer should record how the application is divided and to whom the sections are assigned to help track application distribution. The lead permit writer should encourage and facilitate communication among reviewers, both directly to the lead permit writer and between team members. Communication will help resolve issues and staff will be more likely to identify inconsistencies in the application. In addition, the lead permit writer should hold regular review team meetings to discuss the progress of the permit application and resolve issues identified by the team.

The lead permit writer also should provide the team members with Part B completeness/technical evaluation checklist and completion instructions.

Check For: The lead permit writer should:

- ❑ Meet with the review team on a regular, scheduled basis
- ❑ Divide application for completeness determination and technical evaluation reviews
- ❑ Designate and record staff review assignments
- ❑ Facilitate and promote communication among team members

Example Section: The XYZ Company submitted a Part B permit application for a hazardous waste incinerator with an on site landfill for incinerator ash only. The application contained the following parts:

1. General Facility Standards
2. Preparedness and Prevention
3. Contingency Plan and Emergency Procedures
4. Manifest System, Recordkeeping, and Reporting
5. Closure and Post-Closure
6. Financial Requirements
7. Use and Management of Containers
8. Tank Systems
9. Landfills
10. Incinerators
11. Air Emission Standards for Equipment Leaks
12. Organic Air Emissions Standards for Tanks

Example Comments: While reviewing the CFR, Lois noted that the Part 264 standards include requirements for releases from solid waste management units (SWMU). Although the landfill standards are addressed, Lois determined that XYZ should address the release standard in the application. An NOD was written requesting XYZ Company to address this subpart of the regulations.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

2.2 SUGGESTED PART B APPLICATION FORMATS

Regulations: 40 CFR Parts 270.13 and 270.14 through 270.27

Guidance: No specific references are applicable to this section of the manual.

Explanation: Although there is no required format for a RCRA Part B permit application, permits that are organized according to a review checklist will generally expedite the completeness and technical adequacy review process. It is recommended that the applicant be given or instructed to follow the RCRA Part B Permit Application Review Checklist (see Attachment B of this component) when preparing the permit application. This checklist will reduce the time and effort needed to determine if the application is complete and will simplify locating and cross-referencing information.

Check For:

- ❑ States may have separate required Part B application formats, which should be referenced and used as appropriate. (For example, the applicant should not be required to submit two Part B applications with similar information, just in different formats.) Attachment A includes the Texas Natural Resources Conservation Commission (TNRCC) application form.

Example Section: The XYZ Company submitted a Part B permit application. Lois and Clark were asked to review and approve the Part B permit. The application was formatted according to the 1993 RCRA Part B permit application review checklist. However, information regarding Subparts AA, BB, and CC (air emission standards for equipment leaks and tanks, containers, and surface impoundments) and the RAWP were included as attachments to the application. The XYZ Company explained that since the 1993 checklist did not contain sections for AA, BB, CC, or the RAWP, the company decided that the information should be submitted as an attachment to the application rather than as a separate section.

Example Comments: Lois and Clark located the Subpart AA, BB, and CC information and the RAWP and determined it was complete enough to warrant a technical adequacy review. However, they also shared with XYZ Company a draft version of a more recent Part B permit application review checklist to use as reference. They suggested that the company review and compare the checklist to the Part B permit application to determine whether the application responds to the information requirements for Subparts AA, BB, CC, and RAWPs.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

2.3 TOOLS AVAILABLE TO ASSIST IN THE REVIEW

Regulations: 40 CFR Parts 124 and 270

Guidance: No specific references are applicable to this section of the manual.

Explanation: In addition to the regulations and technical permit writer guidance documents cited in this manual, several tools are available to assist the permit writer with review of Part B applications. These tools include:

- The RCRA Part B Permit Application Review Evaluation Checklist (see Attachment B)
- The U.S. EPA 1993 RCRA Part B Permit Application Checklist Canned Comments, Revision 8
- Various federal or state facility inspection checklists
- RAWP informational requirements listing (see Section 2.10)

Check For: The permit reviewer should check for the following:

❑ Confirm that the checklists are current; for example, older checklists may not include the 1995 Public Participation Rule or the 1996 Subpart CC rule requirements

❑ Confirm that all determinations based on the results of the completed checklist are consistent with the regulations

Example Section: The XYZ Company submitted a Part B permit application formatted in accordance with the 1993 RCRA Part B permit application review checklist

Example Comments: Lois and Clark received the application and compared its format against a 1997 review checklist. They found that the 1993 review checklist did not provide as great a level of detail as the 1997 checklist; however, the checklists were similar. As a result, Lois and Clark distributed the relevant sections of the 1997 checklist along with corresponding portions of the application to the appropriate reviewers. Although the 1997 checklist offers a greater level of detail than the older version, it should not promote a more or less complete permit application because the RCRA-required information remains the same. A more recent checklist simply provides the reviewer with a more comprehensive and more up-to-date tool, but does not replace the need to review and understand the regulations.

Notes: _____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

2.4 THE COMPLETENESS DETERMINATION

Regulations: 40 CFR Part 270 Subpart B
40 CFR Part 124

Guidance: No specific references are applicable to this section of the manual.

Explanation: The completeness review is the first step to processing the permit application. The applicant must submit Parts A and B of the permit application and any relevant supporting data, technical reports, or other documentation. If required information is missing, the reviewer will send the applicant an NOD.

Check For: The reviewer should:

- ❑ Ensure that team members properly use an up-to-date Part B Completeness/Technical Evaluation Checklist during the review process. The checklist is included in Attachment B of this component.
- ❑ Compare the checklist to current regulations and refer to the regulations to ensure that all required information is accounted for during the review
- ❑ Identify and compile sections of the checklist that are relevant to the facility's operation
- ❑ Review inspection reports, previously submitted Part A permit applications (if applicable), and the RCRA facility assessment (if available), to ensure that the application addresses all units that are subject to permitting requirements
- ❑ Be aware of any recently promulgated final rules
- ❑ Be aware of any proposed rule changes

Example Section: The XYZ company stated that since the proposed maximum achievable control technologies (MACT) rule for hazardous waste combustors is not final, none of those regulations or issues apply to the combustion unit.

Example Comments: Lois and Clark advised XYZ Company to review the MACT rule and be prepared to address any issues that apply to its facility even though the regulation is only proposed. Even though the regulation is not promulgated, U.S. EPA may still impose requirements the agency feels are necessary to protect human health and the environment. To assist the company, Lois and Clark highlighted portions of the regulations they determined were potentially applicable to the facility.

Notes: _____
_____
_____

2.5 THE TECHNICAL ADEQUACY DETERMINATION

Regulations: 40 CFR Part 270 Subpart B
40 CFR Part 124

Guidance: No specific references are applicable to this section of the manual.

Explanation: During the technical review, each reviewer will thoroughly analyze the technical information submitted and determine if the facility has met appropriate requirements. Various U.S. EPA guidance documents provide specific details for technical adequacy evaluations and evaluating data supplied by the applicant.

Check For: The reviewer should:

- ❑ Double-check cross references to other sections of the application to ensure accuracy
- ❑ Ensure that the approach offered by the applicant does not simply restate the regulatory requirement, but provides details on how the requirement will be achieved and shows that it is consistent with U.S. EPA and state guidance and policy
- ❑ Reference resources or documents used, and document all assumptions made during the technical adequacy evaluation

Example Section: Examples of various portions of the Part B permit application appear in Sections 3.0 through 14.0 of this component.

Example Comments: Examples of various technical adequacy review comments on the Part B permit application appear in Sections 3.0 through 14.0 of this component.

Notes: _____
_____
_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

2.6 HANDLING CONFIDENTIAL BUSINESS INFORMATION

Regulations: 40 CFR Part 2 Subpart B
RCRA 42 U.S.C. 6901

Guidance: No specific references are applicable to this section of the manual.

Explanation: Permit applicants may identify specific process or other information in the application as "confidential business information" (CBI). Claims will be evaluated by the lead permit writer to determine if they are valid. Procedures are identified by the regulations established in 40 CFR Part 2 Subpart B. Information deemed CBI must be handled in accordance with U.S. EPA or state policies and site-specific protocols to prevent its disclosure to unauthorized recipients.

Offices will usually designate certain secure storage areas for maintaining CBI data. Contractors and subcontractors must have programs in place and provide documentation of such programs to properly manage CBI. CBI may be reviewed only by staff who have appropriate approval.

However, when the facility appears to have claimed as CBI a majority of the technical information contained in the application, the permit writer should explain to the facility the following issues:

- Large sections claimed as CBI inhibit timely review because only authorized personnel can review the material; the reviewer must work behind closed doors, and only limited personnel can share the information and provide technical assistance
- Claiming large sections of the application as CBI can create the perception of secrecy which may cause distrust by the community
- Some of the material claimed as CBI may already be publicly available as manufacturer or vendor data, so that the CBI claim will not prevent disclosure
- Similar material for similar facilities may have been claimed as non-CBI

Check For: The reviewer must:

- ❑ Determine, to the extent practicable, the validity of CBI claims (this can be difficult)
- ❑ Handle CBI in accordance with site-specific policies—in particular, the reviewer should revisit CBI handling policies before receiving CBI material

Example Situation: Lois and Clark of Metropolis were selected to review XYZ Company's (the

facility) Part B permit application. In reviewing Section D of the application, Lois notes that the facility has claimed all process information as CBI, and that the applicant's economic viability would suffer if the information were to be made publicly available. As an example, all of the combustion unit and air pollution control device design specifications and proposed normal operating conditions are claimed as CBI.

Example Action: Although this position may be true for portions of the process information section, it is unlikely that everything in that section is CBI. However, Lois and Clark should be sensitive to the facility's concern regarding proprietary information. Keeping this in mind, Lois should strongly encourage the applicant to revise Section D of its application, marking as CBI only specific portions that are genuinely proprietary.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

2.7 WASTE MINIMIZATION PLAN REVIEW

Regulations: 40 CFR Part 264.73(b)(9)

Guidance: No specific references are applicable to this section of the manual.

Explanation: The "Strategy for Combustion of Hazardous Waste" identifies waste minimization as one of eight goals to maximize the reduction of hazardous waste, and to ensure safety and reliability of hazardous waste combustion in incinerators and BIFs. The strategy emphasizes aggressive use of waste minimization measures and voluntary actions to reduce demand for waste combustion.

Check For: The permit writer should:

- ❑ Identify and inform the owner or operator of potential opportunities to incorporate waste minimization techniques in the facility's operations
- ❑ Assign waste minimization plan review to an internal waste minimization expert

Example Section: As Lois and Clark were reviewing XYZ Company's Part B permit application, they realized XYZ was not taking advantage of obvious waste minimization opportunities. XYZ's permit application discloses an existing contract with a manufacturer that generates 50,000 gallons per month of slightly contaminated acetone. The permit application showed that this waste stream is discharged to the tank farm with ultimate disposal in the incinerator. XYZ has an opportunity to segregate this stream and either construct a solvent recovery process on site or transfer the stream to a permitted recycling operation.

Example Comments: Lois and Clark scheduled a meeting with the XYZ Company Environmental Director, the Operations Director, and the Facility Manager to discuss this opportunity to aggressively carry out a waste minimization program. By recycling the solvent, XYZ Company would receive credit for implementing a waste minimization program and the solvent could be reused by the generating industry or another secondary solvent user.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

2.8 AVOIDING FUTURE CHANGES TO THE APPLICATION (AND THE PERMIT)

Regulations: No regulations are applicable to this section of the manual

Guidance: No specific references are applicable to this section of the manual.

Explanation: The permit writer should attempt to minimize the potential for permit modifications in the short-term. Understanding of the facility's current and future operations during the initial review period avoids reopening the permit for minor changes (basically spending extra unnecessary time). If the permit application review process will not be significantly delayed, the permit writer should encourage the applicant to project any reasonable and potential changes or additions to the HWMU and practices. As a result, an applicant may include additional HWMUs in the permit application. While this approach is not required by the regulation, it often benefits both the reviewing agency and the regulated party.

Check For: The reviewer should consider:

- ❑ Discussing with the owner or operator any potential changes or plans that may reasonably affect the facility during the short term (that is, 5 or 10 years into the future)

Example Section: While discussing Section D of the Part B permit application with the company, Lois discovered that the XYZ Company plans to add a new production process in about 2 years. The hazardous waste stream generated by this process will require storage in a tank farm and must eventually be sent to the on-site BIF unit. XYZ officials told Lois they did not consider the added process pertinent to the current permit application.

Example Comments: To avoid reviewing a new Part B permit application and the costly supplemental trial burn in 2 years, Lois strongly encourages XYZ Company to include all the design and facility modifications necessary to implement the new process in the current submittal. She suggests that XYZ Company modify the BIF TBP to include a waste similar to, or the same as that generated by, the new process, so that an additional trial burn will not be required.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

2.9 CROSS REFERENCE BETWEEN COMPONENT 3 OF THE PERMITTING MANUAL AND THE SUGGESTED PART B PERMIT APPLICATION FORMAT

Regulations: No regulations are applicable to this section of the manual

Guidance: No specific references are applicable to this section of the manual.

Explanation: This cross reference will assist permit writers in finding information located in this component of the Combustion Manual as they review Part B permit applications. This format follows the format suggested in the RCRA Part B Permit Application Review Checklist found in Attachment B to this component.

Check For: Developing a method to manage cross referencing will increase the review efficiency of the lead permit writer (see Exhibit 2.9-1, see page 3-30)

Example Section: Lois and Clark were concerned that XYZ Company must comply with Subpart CC of RCRA, and direct all volatile organic compound (VOC) emissions to the incinerator or into activated carbon containers. This information is provided in Section D, Subpart CC of the permit application and Lois found additional information in Section 6.14 of Component 3 of the Combustion Manual.

Example Comments: Lois will find guidance, regulations, and an explanation of the requirements of Subpart CC. This information will assist her in conducting the technical adequacy review of the permit application.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

EXHIBIT 2.9-1

CROSS REFERENCE BETWEEN COMPONENT 3 OF THE PERMITTING MANUAL AND THE SUGGESTED PART B PERMIT APPLICATION FORMAT

Suggested Part B Permit Application Format	Component 3 of the Permitting Manual
A	3.0
B	4.0
B-1	4.1
B-2	4.2
B-3	4.3
B-4	4.4
C	5.0
C-1	5.1
C-1a	5.1.1
C-1b	5.1.2
C-1c	5.1.3
C-1d	5.1.4
C-1e	5.1.5
C-1f	5.1.6
C-1g	5.1.7
C-1h	5.1.8
C-1i	
C-2	5.2
C-2a	5.2.1
C-2b	5.2.2
C-2c	5.2.3
C-2d	5.2.4
C-2e	5.2.5
C-2f	5.2.6
C-2g	5.2.7
C-2h	5.2.8
C-3	5.3
D	6.0
D-1	6.1
D-2	6.2
D-3	6.3
D-4	6.4
D-5	6.5
D-6	6.6
D-7	6.7
D-8	6.8
D-9	6.9
D-10	6.10
D-11	6.11
E	7.0
F	8.0
G	9.0
H	10.0

US EPA ARCHIVE DOCUMENT

EXHIBIT 2.9-1 (Continued)

CROSS REFERENCE BETWEEN COMPONENT 3 OF THE PERMITTING MANUAL AND THE SUGGESTED PART B PERMIT APPLICATION FORMAT

Suggested Part B Permit Application Format	Component 3 of the Permitting Manual
I	11.0
I-1	11.1
I-1a	11.1.1
I-1b	11.1.2
I-1c	11.1.3
I-1d	11.1.4
I-1e	11.1.5
I-le(1)	11.1.5.1
I-le(2)	11.1.5.2
I-le(3)	11.1.5.3
I-le(4)	11.1.5.4
I-le(5)	11.1.5.5
I-le(6)	11.1.5.6
I-le(7)	11.1.5.7
I-le(8)	11.1.5.8
I-le(9)	11.1.5.9
I-le(10)	11.1.5.10
I-le(11)	11.1.5.11
I-le(12)	11.1.5.12
I-le(13)	11.1.5.13
I-2	11.2
I-3	11.3
I-4	11.4
I-5	11.5
I-6	11.6
I-7	11.7
I-8	11.8
I-9	11.9
J	12.0
K	13.0
L	14.0
M	6.12
N	6.13
O	6.14

US EPA ARCHIVE DOCUMENT

2.10 HUMAN HEALTH AND SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT

Regulations: No regulations are applicable to this section of the manual.

Guidance: The U.S. EPA 1998 Region 6 risk protocols are considered to be the compilation of all existing guidance documents on this subject.

Explanation: The U.S. EPA 1998 Region 6 Human Health Risk Assessment (HHRA) and Screening Level Ecological Risk Assessment (SLERA) protocols provide an additional method for evaluating the protectiveness of a permit. The permitting agency can carry out, or require the applicant to conduct, an HHRA and SLERA to measure the risks to humans and the surrounding environmental receptors associated with emissions from a specific hazardous waste combustion facility. By comparing the risks against acceptable target levels and properly considering the degree of uncertainty inherent in the analysis, a permitting agency can evaluate whether the permit is protective of human health and the environment.

The HHRA and SLERA reports are not specifically required in the permitting regulations. However, the authority to request HHRAs and SLERAs is based on the requirements of RCRA Section 3005(c)(3), which states that "each permit issued under this section shall contain such terms and conditions as the Administrator (or the State) determines necessary to protect human health and the environment." Because the current technical standards do not address many of the hazards associated with emissions from the combustion of hazardous waste, protectiveness for combustion units is not ensured even when the permit conforms to regulations.

It is suggested that a RAWP for preparing the HHRA and SLERA reports be submitted along with the Part B permit application. Although the review of the two documents will differ slightly (particularly with respect to the agency review team members), the information is interrelated. Also, as discrepancies arise and information changes, the documents should be revised and refined to be accurate and consistent.

The protocol documents provides extensive guidance and direction on how to conduct a HHRA and SLERA and prepare the associated reports. The protocols outline the information needed to conduct the screening and develop the report. At times the HHRA and SLERA require information that is also needed in the Part B application. In these cases, it is suggested that the HHRA and SLERA reference the information in the Part B rather than repeat it. This situation is common for information contained in the TBP (see Section D-5b of the application) and HHRA and SLERA. A listing of the information required for the HHRA report appears in Exhibit 2.10-1 (see page 3-34). A listing of the information required for the SLERA report appears in Exhibit 2.10-2 (see page 3-39). This list consolidates the information requested in the protocol documents.

US EPA ARCHIVE DOCUMENT

Check For: Because the following sections of the Part B permit application are usually affected by requirements of the HHRA and SLERA, confirm that these sections are consistent with the HHRA and SLERA:

- ❑ Section B - General Facility Information: for example, length of time the unit has been in operation
- ❑ Section C - Waste Characteristics: for example, complete evaluation of the waste burned in the unit
- ❑ Section D - Process Information: for example, number of fugitive emission points (equipment leaks)

Example Section: The XYZ Company submitted the Part B permit application for the existing BIF unit at their manufacturing facility. The cover letter stated that the RAWP would be submitted within the next 6 months.

Example Comments: Lois sent a letter to the XYZ Company acknowledging receipt of the Part B permit application. She informed the company that review of the application would be delayed until the RAWP was received. The permitting agency believes that the information between the RAWP and Part B application are interrelated and should be reviewed concurrently for maximum efficiency.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

EXHIBIT 2.10-1

INFORMATION NEEDED TO INITIATE HUMAN HEALTH RISK ASSESSMENT

Certain information is necessary to properly conduct a human health risk assessment. This information falls into nine general categories:

- ❑ Identification of sources of stack and fugitive emissions
- ❑ Information on RCRA fugitive emission sources
- ❑ Information on fugitive emissions from cement kiln dust management and transportation
- ❑ Information on emissions from process upsets
- ❑ Supporting information for estimating stack emission rates and identifying compounds of potential concern
- ❑ Supporting information for stack emission rate estimates for facilities not yet operational
- ❑ Information on physical characteristics of surrounding area
- ❑ Ambient data
- ❑ Air dispersion modeling results

Each category is discussed in detail below.

1. Identification of Sources of Stack and Fugitive Emissions

- ❑ Facility plot map that clearly labels and provides in Universal Transverse Mercator (UTM) coordinates (specify if North American Datum of 27 or North American Datum 83) the following:
  - ❑ Coordinates of stacks for combustion units burning hazardous waste
  - ❑ Corners and heights of buildings located within five times the building height from the stack and that have a height greater than 40 percent of the stack height
  - ❑ Locations of RCRA fugitive emission sources associated with the treatment, storage, or disposal of hazardous wastes. Complex piping and process areas near numerous fugitive emission sources may be grouped into a single combined source with a summed emission rate. For combined sources, the coordinates defining the aerial extent of the area should be provided. Generally, RCRA fugitive emission sources identified for evaluation include the RCRA combustion units and ancillary piping and tanks. However, fugitive emissions from other RCRA treatment, storage, or disposal units may also require evaluation in some cases.
- ❑ Principal business and primary production processes

EXHIBIT 2.10-1 (Continued)

- ❑ Identification and location of other RCRA treatment, storage, or disposal units
- ❑ Period of time that each combustion unit burning hazardous waste has been in operation
- ❑ Period of time that each combustion unit has been burning hazardous waste
- ❑ Period of time that each combustion unit has been projected to burn hazardous waste
- ❑ Combustion unit normal and maximum production rates
- ❑ Type of air pollution control system (APCS) associated with the combustion unit
- ❑ Combustion unit energy consumption and production rates
- ❑ Description of previously operated combustion units that burned hazardous waste
- ❑ Description of combustion units that are planned to burn hazardous waste

2. Information on RCRA Fugitive Emission Sources

- ❑ Number and location of RCRA fugitive emission sources
- ❑ Compound specific emission rate (for example, grams per second) and total mass (annual basis) estimates for all RCRA fugitive emission sources, including applicable supporting documentation:
  - ❑ Number and description of equipment identified as potential sources of fugitive emissions (for example, 5 tanks, 40 pumps, and 20 valves), including process design drawings if necessary
  - ❑ Characterization of each waste stream in contact with the equipment or source
  - ❑ Time each source is in operation specific to each waste stream
  - ❑ Percent by weight of each organic compound in each waste stream
  - ❑ Type of waste stream service (light or heavy liquid) as defined in U.S. EPA 1993 guidance Protocols for Equipment Leak Emission Estimates, EPA-453/R-93-026
  - ❑ Frequency and probable cause of known emissions
  - ❑ Aboveground height of the emission point
  - ❑ Air monitoring information, such as routine organic vapor monitoring of combustion unit
  - ❑ Physical description of other RCRA units not included as ancillary equipment to the combustion unit, but that are sources of fugitive emissions that may be evaluated during the risk assessment

3. Information on Fugitive Emissions from Cement Kiln Dust (CKD) Management and Transportation

- ❑ Number and location of CKD management, transportation, storage, and disposal areas or units
- ❑ Procedures for CKD management, transportation, storage, and disposal
- ❑ Containment procedures, including fugitive dust prevention and area of exposed CKD
- ❑ Exposed surface area of CKD disposal unit
- ❑ Physical data including particle size distribution and density
- ❑ Data including organic and inorganic analytical tests similar to those used for sampling combustion gases
- ❑ CKD recycling rate
- ❑ Ambient air monitoring data

US EPA ARCHIVE DOCUMENT

EXHIBIT 2.10-1 (Continued)

4. Information on Emissions from Process Upsets

- ❑ Description of process upsets or failures at the facility as defined below:

  Process Upset—The release of compounds or pollutants from a hazardous waste combustion unit into the ambient air while the unit is not being operated as intended, or during startup or shutdown. Process upset emissions usually result from a disturbance in the hazardous waste combustion system. Upset emissions are generally expected to be greater than stack emissions during normal operations because the process upset results in incomplete destruction of the wastes or other physical or chemical conditions within the combustion system that promote the formation or release of hazardous compounds via the combustion unit stack. Upset emissions usually occur when the hazardous waste combustion unit is not operating within the limits specified in a permit or regulation.

- ❑ Historical operating data demonstrating frequency and duration of process upsets. These data may include tables, figures, or charts indicating the following data for the last 5 years:

  - ❑ Number of days per year a process upset was experienced
  - ❑ Number of days per year the combustion unit was in operation
  - ❑ Condition used to determine process upset occurrence
  - ❑ Length of time—for each occurrence—the unit was in upset status (minutes)
  - ❑ Total length of time the unit was in operation per year
  - ❑ Combustion unit conditions during each process upset (at a minimum, this information should include instantaneous or hourly rolling average values—as appropriate—for all process operating parameters controlled by permit or regulation)

5. Supporting Information for Estimating Stack Emission Rates and Identifying Compounds of Potential Concern

- ❑ Descriptions of the waste feed streams burned during stack sampling, including chemical composition and physical properties, which demonstrate that the waste feeds are representative of normal site-specific wastes
- ❑ Trial burn test data that include:

  - ❑ Facility description
  - ❑ Test objectives
  - ❑ Summary of test results
  - ❑ Test plan protocol
  - ❑ Quality assurance/quality control results
  - ❑ Data validation results
  - ❑ Process operating data
  - ❑ Continuous emissions monitoring system (CEMS) data

US EPA ARCHIVE DOCUMENT

EXHIBIT 2.10-1 (Continued)

- ❑ Process instrumentation and CEM calibration records
- ❑ Laboratory analytical data
- ❑ Sampling and analytical procedures
- ❑ Field testing data

- ❑ Discussion of unit operations or waste feeds (commercial waste disposal, plastics, polychlorinated biphenyl (PCB) wastes, explosives, or mixed wastes) conducive to producing emissions containing dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF), PCBs, polynuclear aromatic hydrocarbons (PAH), nitroaromatics, phthalates, or other risk-causing compounds
- ❑ Discussion of information required for the constituent of potential concern (COPC) identification process including:

  - ❑ Any nondetect compounds that should be retained as COPCs because they are present in the waste
  - ❑ Evaluation of the realistic emission potential of nondetect compounds
  - ❑ Evaluation of the 20 largest tentatively identified compound peaks obtained during gas chromatography (GC) analysis of emissions during the trial burn

6. Supporting Information for Stack Emission Rate Estimates for Facilities Not Yet Operational

- ❑ Stack test reports for facilities of similar technology, design, operation, capacity, auxiliary fuels, waste feed types, and APCS
- ❑ All stack test reports for combustion units used to develop emission rate estimates
- ❑ Description of how the combustion data used represents similar technology, design, operation capacity, auxiliary fuels, waste feed typed and APCS
- ❑ Demonstration that the data used to develop the emission rate estimates were collected using appropriate sampling and analysis procedures

7. Information on Physical Characteristics of Surrounding Area

- ❑ Identification and description (including UTM coordinates) of current and reasonable potential future land use of undeveloped areas within the facility property boundary including (1) livestock grazing, gardening, or farming, (2) fishing, (3) residential, and (4) ecological habitats

8. Ambient Data

- ❑ Identification and summary of ambient data collected at the facility that describe the concentrations of hazardous constituents found in media including biota, animal tissue, fish tissue, sediments, soils, air, and surface water

US EPA ARCHIVE DOCUMENT

EXHIBIT 2.10-1 (Continued)

9. Air Dispersion Modeling Results

- ❑ Air dispersion modeling (typically ISCST3) input files and output files used to support risk evaluation of all emission sources at the facility. The input files should be in electronic format suitable for direct insertion into ISCST3 as required to directly reproduce the modeling effort. The output files should be in electronic format as provided by ISCST3 for all sources and all receptor grid nodes (locations). These files include modeling results to all receptor grid nodes modeled (not only the selected exposure scenario locations evaluated in the facility's risk assessment) to provide air dispersion modeling data for subsequent risk evaluation of any receptor grid node (consult combustion risk assessment guidance for receptor grid node resolution) within 3 kilometers of the centroid of the sources at the respective facility.

US EPA ARCHIVE DOCUMENT

EXHIBIT 2.10-2

INFORMATION NEEDED TO INITIATE SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT

1. Land use map (out to at least 10 kilometer (km) showing the following types of land use:

   Agricultural
   Residential
   Industrial
   Other Urban
   Forest
   Water
   Wetland
   Rangeland
   Barren Land

2. Current aerial photographic coverage out to 10 km.

3. Topographic map coverage out to 50 km.

4. Selection of all applicable and appropriate food webs from the list presented in the protocol.

5. Representative receptors for each trophic level of each selected food web. Include natural history information for each selected receptor.

6. Type, location, and size of special ecological habitats within 50 km. Examples include wildlife refuges, wildlife management areas, and designated scenic rivers or water bodies.

7. Name and location of threatened or endangered species, including migratory species and plant species.

8. Selection of all applicable or appropriate receptor scenarios from the ones presented in the protocol.

US EPA ARCHIVE DOCUMENT

3.0 REVIEWING THE PART A APPLICATION—SECTION A

Regulations: 40 CFR Part 270.1
40 CFR Part 270.13.

Guidance: Application for a Hazardous Waste Permit-Part A. U.S. EPA Form 8700-23.

Notification of Regulated Waste Activity. U.S. EPA Form 8700-12.

These two documents contain application forms with instructions and may be obtained from an U.S. EPA regional office or state RCRA program office.

Explanation: Every owner or operator of a hazardous waste treatment, storage, or disposal facility (TSDF) must apply to U.S. EPA or the authorized state for a U.S. EPA identification number. Part A of the permit application is filed with the U.S. EPA regional administrator or state director (in authorized states) on a form provided by the regional administrator or state director. U.S. EPA Form 8700-23 replaces obsolete U.S. EPA Forms 3510-1 and 3. Detailed instructions for completing the Part A application are included with the application forms (see Attachment E of this component).

Although the majority of the information in Part A is also contained in the Part B application, the submittal of Part A is critical for the following reasons: (1) if an existing facility wanted to operate under IS before receiving a permit, a Part A application must have been submitted by the specified notification date; (2) if an existing facility is found to be operating without a permit and it never submitted the Part A application, the facility does not have authorization to operate under IS and is a candidate for enforcement action; or (3) if a facility wishes to be permitted as a new facility, then the Part A application must accompany the Part B application.

The permit writer should ensure that the information presented in the Part A is consistent with the information submitted with other parts of the Part B application, including the TBP and RAWP.

Check for: Ensure the following elements in the Part A application are completed:

- ❑ Facility Operator
  - ❑ Name of operator
  - ❑ Address of operator
  - ❑ Telephone number of operator
  - ❑ Ownership status
    - ❑ Federal
    - ❑ State
    - ❑ Private
    - ❑ Public

US EPA ARCHIVE DOCUMENT

- ❑ Other (explain)

- ❑ Facility Owner
  - ❑ Owner name
  - ❑ Owner address
  - ❑ Owner telephone number
- ❑ Facility name
  - ❑ Address
  - ❑ Location (latitude and longitude)
  - ❑ New or existing facility
  - ❑ Facility mailing address
- ❑ Facility contact
  - ❑ Address
  - ❑ Telephone number
- ❑ Name of operator
  - ❑ Address
  - ❑ Telephone number
- ❑ Type of operator
- ❑ Change of operator
  - ❑ Date changed
- ❑ Type of owner
- ❑ Change of owner
  - ❑ Date changed
- ❑ Standard Industrial Classification (SIC) codes (up to four)
- ❑ Other environmental permits
- ❑ Description of the nature of the business
- ❑ Processes and design capacity of each process
- ❑ Additional treatment processes and design capacity of each
- ❑ Description and amount of each hazardous waste managed

US EPA ARCHIVE DOCUMENT

- ❑ Detailed topographic map
- ❑ Scale drawing of the facility
- ❑ Detailed photograph of the facility
- ❑ Signed certification
  - ❑ Owner signature
  - ❑ Operator signature
  - ❑ Other authorized signature(s)

Example Situation: Lois and Clark were reviewing the Part A submittal and noted that the topographic maps for the area where XYZ Company plans to construct the facility were out of date. The maps were dated 1966 and the contour intervals were not sufficiently clear. Because the maps were more than 30 years old, they did not accurately depict surrounding land use that has changed since 1966.

Example Action: Clark wrote an NOD to reflect his concern that the Part A topographic maps were outdated and not accurate. He requested that the facility procure a more recent map.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

4.0 REVIEWING THE FACILITY DESCRIPTION—SECTION B

Regulation: 40 CFR Part 270.14

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section normally appears as Section B of the permit application. It provides a general overview of the facility and includes information regarding the nature of the facility's business, surrounding land use, and geographic details.

Check For: Ensure that all of the following subsections, at a minimum, are listed under Section B of the permit application:

- ❑ General description (see Section 4.1)
- ❑ Identification of site-specific risk assessment information
- ❑ Topographic map showing a distance of 1,000 feet around the facility at a minimum (see Section 4.2)
- ❑ Location information (see Section 4.3)
- ❑ Traffic patterns (see Section 4.4)

Example Section: See Sections 4.1 through 4.4 for specific examples.

Example Comments: See Section 4.1 through 4.4. for specific comments.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

4.1 GENERAL DESCRIPTION

Regulation: 40 CFR Part 270.14(b)(1)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section briefly describes the facility to provide the permit writer with an overview of the facility's operations. If a TBP accompanies the Part B permit application, this information may also appear in the beginning of the TBP. It is acceptable, and sometimes easier, if this information appears only in the TBP to promote the TBP's independence as a document and avoid repetition between the Part B application and the TBP. In addition, the Part A application also provides some of the information listed below. However, in this case, it is more desirable for the information to be listed in both the TBP and the Part A application to facilitate information retrieval.

Check For: The permit writer should check for:

- ❑ Brief description of the facility
- ❑ Explanation of the nature of the business
- ❑ Description of the processes involved in hazardous waste generation and management
- ❑ List of industries served if managing wastes from off site
- ❑ General facility information:
  - ❑ Facility name
  - ❑ Facility contact
  - ❑ Facility address (both mailing and physical address)
  - ❑ Facility telephone number
  - ❑ Facility U.S. EPA identification number

Example Section: While reviewing the facility description, Clark noticed that the annual generation rate of ash was not discussed; the facility planned to dispose of ash on site at a landfill to be constructed. Ash will be generated from the incinerator, the baghouse, the spray dryer absorber, and from the BIF operations on site. The rate of ash generation is important to determine landfill size and operating cell life in the landfill operations.

Example Comments: Clark wrote an NOD to XYZ Company explaining that the annual generation rate of ash must be estimated. This information would provide the engineering guidance for landfill cell size and life expectancy.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

4.2 TOPOGRAPHIC MAP

Regulation: 40 CFR Part 270.14(b)(19)
40 CFR Part 270.14(c)(3) and (c)(4)(I),
40 CFR Part 264.95
40 CFR Part 264.97

Guidance: No specific references are applicable to this section of the manual.

Explanation: According to 40 CFR Part 270.14(b)(19), the Part B application must include a topographic map that shows the facility and a distance of 1,000 feet around it at a scale of 1 inch to not more than 200 feet. The map must include contours of 5 feet if relief is greater than 20 feet and controls of 2 feet if relief is less than 20 feet. The map must include a scale and date, 100-year flood plain areas, surface waters including intermittent streams, surrounding land uses, map orientation, and legal boundaries of the facility site. The map must also indicate the location of:

- Access control points
- Injection and withdrawal wells
- Buildings, structures, sewers (storm, sanitary, and process)
- Loading and unloading areas
- Fire control facilities
- Flood control or drainage barriers and run-off control systems
- Proposed and existing HWMUs and SWMUs.

Multiple maps may be used. The topographic map provides the permit writer with an aerial view of the facility's boundaries (and sometimes HWMUs) in comparison to various geographic formations (in particular, surface water drainage) and surrounding land use. The regulations listed above identify the information that should be provided on the map.

Check For: The following items should be identified:

- ❑ Map scale and date
- ❑ 100-year flood plain areas
- ❑ Surface waters including intermittent streams
- ❑ Surrounding land use

- ❑ A wind rose and orientation, with north clearly shown
- ❑ Legal boundaries of the hazardous waste management (HWM) facility
- ❑ Access control
- ❑ All proposed buildings, building dimensions, internal roads, fire control facilities, and ancillary structures
- ❑ Barriers for drainage or flood control
- ❑ Location where hazardous waste will be treated, stored, or disposed
- ❑ UTM coordinates and overlays showing prevailing wind patterns, both direction and speed
- ❑ Such risk assessment information as may be required for the site-specific risk assessment

Example Situation: The XYZ Company submitted Exhibit 4.2-1 (see page 3-48), a copy of a 1979 U.S. Geological Survey (USGS) topographic map. The map has no scale and is in black and white and of poor quality. The map does not clearly show the proposed facility boundaries, does not provide the UTM coordinates, and does not show surface water and intermittent streams. Also, there is no overlay presenting wind speed and direction that will be required as part of the site- specific risk assessment.

Example Action: In his review of Exhibit 4.2-1 (see page 3-48), Clark noted that some of the basic requirements presented in 40 CFR Part 270.14(b)(19) were missing from the map. An official NOD was developed instructing XYZ Company to review the requirements presented in the CFR, procure a recent color topographic map, and revise the presentation. Additionally, Clark informed XYZ Company that information concerning topography, land use patterns, site building heights, and annual wind direction and speed data would be required for inclusion in the site-specific risk assessment.

Notes: _____

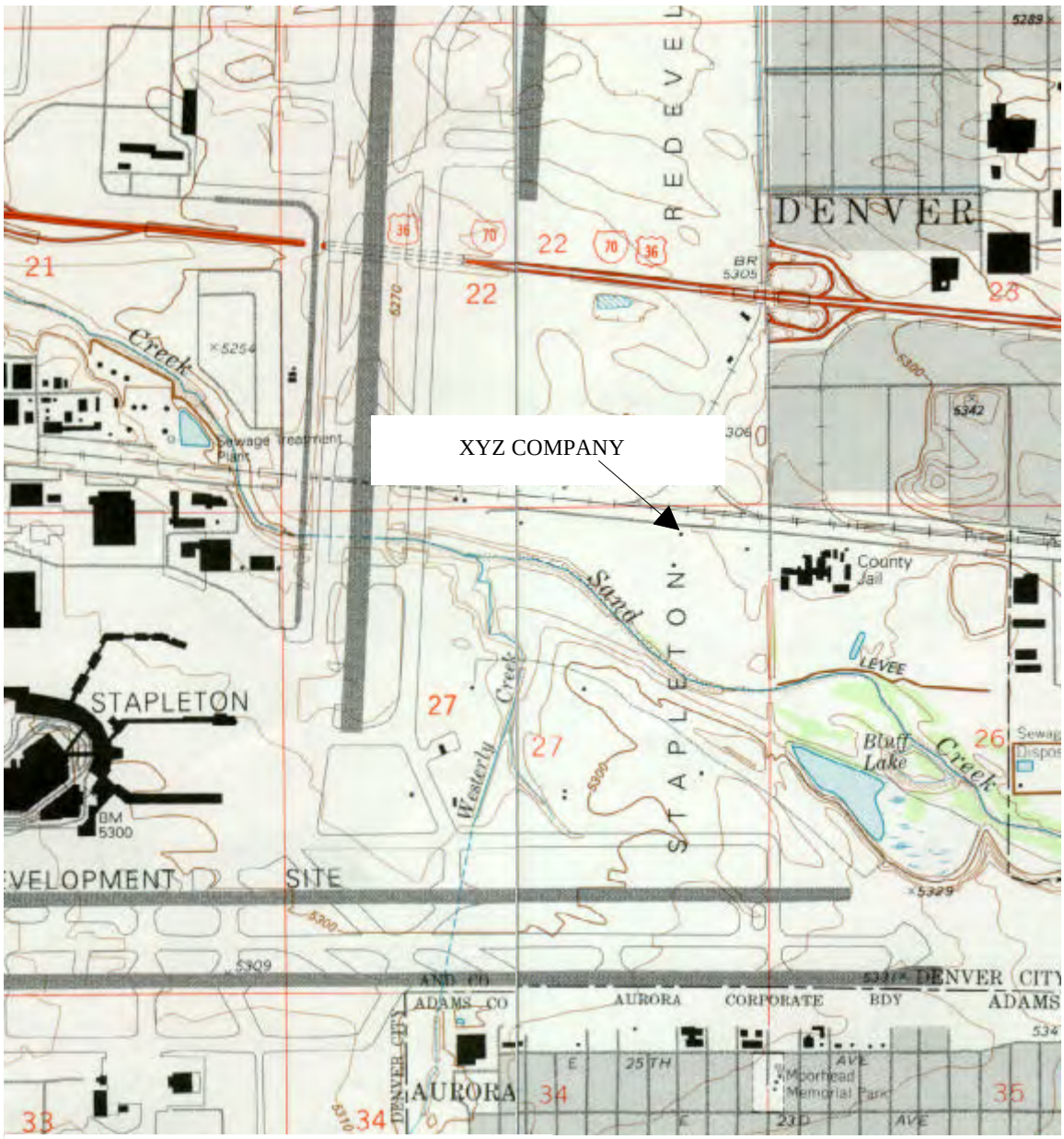
_____

_____

US EPA ARCHIVE DOCUMENT

EXHIBIT 4.2-1

XYZ COMPANY TOPOGRAPHIC MAP



US EPA ARCHIVE DOCUMENT

4.3 LOCATION INFORMATION

Regulation: 40 CFR Part 264.18(a) and (b)
40 CFR Part 264 Appendix VI
40 CFR Part 270.14(b)(11)(i) through (v)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section describes the location of the facility with respect to 100-year flood plains and areas with seismic activity. If a new facility will be located in an area listed in 40 CFR Part 264 Appendix VI, additional information must be provided on the seismic activity of the area and the physical location of the facility. The application must also document whether the facility is located within a 100-year flood plain. If so, additional information must be provided that describes how the facility's design takes into account a potential flooding scenario and plans for future compliance with floodplain standards.

In addition to the above, the application should include site-specific risk assessment information for indirect exposure pathways. The pathway groupings are related to human ingestion of media and food by soil ingestion and consumption of aboveground and root vegetables, beef and milk, and fish. The affected community includes the subsistence farmer, subsistence fisher, adult resident, and child resident.

Check For: The permit writer should check for:

- ❑ Statement indicating whether the facility is located in an area listed in 40 CFR Part 264 Appendix VI; if so, a complete description of how the facility meets the seismic standards (including supporting information) should be included
- ❑ A Federal Insurance Administration Map (or equivalent) that documents whether the facility is located in a 100-year flood plain
- ❑ If the facility is located in the flood plain, extensive engineering and operating protocols should be provided to demonstrate how the facility deals with flooding
- ❑ If the facility has applied for a waiver from the flood proofing and flood plan requirements, a comprehensive set of operating procedures must be in place to safely remove the waste before flood waters can reach the facility
- ❑ Land use information in surrounding areas out to approximately 10 km from the incinerator stack or from the source

US EPA ARCHIVE DOCUMENT

Example Section: Lois and Clark were reviewing this section of XYZ Company's application and were comparing the proposed location to a USGS topographic map in the office. Lois notices that the general location map of the facility showed the wind was directly out of the west almost 85 percent of the time. When she drew a 10 km circle around the facility, it showed that 8.5 km to the east was a sugar beet farm. This information was not included in XYZ Company's location information submission.

Example Comments: Lois wrote a technical adequacy review noting the sugar beet farm was not identified. Lois instructed XYZ Company to include this as part of the site-specific risk assessment. Because this information was not included in the Part B permit application, Lois wrote an NOD covering the overall location information and requiring XYZ Company to identify any of the five pathway groupings discussed in Section 4.3 of the revised submission.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

4.4 TRAFFIC INFORMATION

Regulation: 40 CFR Part 270.14(b)(10)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section describes the traffic patterns and road use of the facility. It informs the permit writer how hazardous wastes are transported on facility premises.

Check For: The permit writer should check for:

- ❑ On site traffic patterns
- ❑ Estimated volumes, including number and types of vehicles
- ❑ Traffic control signs, signals, and procedures
- ❑ Access road surfacing and load-bearing capacity

Example Situation: Lois and Clark were reviewing the facility description for XYZ Company and noted that there was no discussion of the estimated number and types of vehicles entering the facility daily. A blind turn was found around the tank farm where tractor trailer-type trucks could encounter oncoming traffic and not be able to avoid an accident.

Example Comments: Lois wrote an NOD to XYZ Company about the missing number and type of vehicles entering daily. She also suggested XYZ Company review the traffic flow and proposed plant layout to avoid the blind curve noted.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.0 REVIEWING WASTE CHARACTERISTICS—SECTION C

Regulation: 40 CFR Part 270.14(b)(2) and (3)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This information normally appears as Section C of the permit application and includes 3 parts: (1) chemical and physical analyses (see Section 5.1 of this component), (2) the waste analysis plan (WAP) (see Section 5.2 of this component), and (3) waste analysis requirements pertaining to land disposal restrictions (LDR) (see Section 5.3 of this component). This information is necessary to ensure proper waste management. The chemical and physical analyses section includes up-to-date laboratory analysis of wastes managed at the facility. The WAP provides the facility's plan for ongoing sampling and analysis to properly manage wastes. Requirements pertaining to LDRs lists requirements unique to wastes managed under LDRs.

Check For: The permit writer should check for:

- ❑ Adequate characterization of the waste to meet regulatory requirements
- ❑ Any process-specific waste characterization requirements
- ❑ A complete WAP using all applicable U.S. EPA or American Society for Testing and Materials (ASTM) methods
- ❑ Approved sampling procedures to obtain representative waste samples
- ❑ Regulatory requirements for wastes that have LDR restrictions
- ❑ Documentation of all WAP QA/QC procedures
- ❑ Incorporation of data requirements for the HHRA and SLERA into waste characterization procedures
- ❑ Quantitation limits for LDR wastes and RAWP COPC analysis
- ❑ Acknowledgment that sampling and analysis is an ongoing effort—not something done sporadically

Example Section: XYZ Company submitted the chemical and physical analysis of the hazardous waste to be handled at the facility. In the submission, Lois noted that XYZ Company neglected to present data on metals content of the waste. The regulations require the submittal of all information that must be available to treat, store, or dispose of the wastes properly.

Example Comments: Because information on metals content of the wastes was not presented and Lois knew that metals were important in developing the site-specific risk assessment,

US EPA ARCHIVE DOCUMENT

she wrote the following NOD to XYZ Company instructing it to produce the necessary information.

"Section C of the application fails to present hazardous waste stream characterization methods or procedures for metals content. Please revise the WAP to include appropriate sampling and analysis methods to determine metals concentration in the hazardous waste stream. Provide information on the method selection rationale."

Notes:

US EPA ARCHIVE DOCUMENT

5.1 CHEMICAL AND PHYSICAL ANALYSES

Regulation: 40 CFR Parts 264.13(a), 266.102(a)(2)(ii), 266.102(b), and 270.14(b)(2)

Guidance: No specific references are applicable to this section of the manual.

Explanation: For each hazardous waste managed at the facility, the application should include (1) a waste description, (2) hazardous characteristics, (3) the basis for designation as hazardous, and (4) a laboratory report detailing the chemical and physical analysis of representative samples. Analytical results must include all information needed to treat, store, or dispose of the waste according to applicable requirements under 40 CFR Parts 264, 268, or 270; specifically, waste classified as:

- Containerized Waste (see Section 5.1.1)
- Waste in Tank Systems (see Section 5.1.2)
- Waste in Piles (Section 5.1.3)
- Landfilled Waste (see Section 5.1.4)
- Waste in Incinerators (see Section 5.1.5)
- Wastes to be Land Treated (see Section 5.1.6)
- Waste in Miscellaneous Treatment Units (see Section 5.1.7)
- Waste in BIFs (see Section 5.1.8)

Check For: The permit writer should check for the application for certain information:

- ❑ Waste characteristic data as recent as possible for the waste being submitted for treatment or disposal
- ❑ Recurring waste stream characterization data reconfirmed at least annually, or as appropriate
- ❑ Sampling and analysis methods consistent with current EPA-approved procedures
- ❑ Typical waste characterization and analytical data in all feed streams, at a minimum:
  - ❑ VOCs
  - ❑ SVOCs
  - ❑ PCBs
  - ❑ PCDD/PCDFs
  - ❑ Metals

US EPA ARCHIVE DOCUMENT

- ❑ Chlorine
- ❑ Solids and ash
- ❑ Physical characteristics such as heat value, density, and viscosity

Example Section: XYZ Company had included an analytical procedure for mercury analysis that deviates from the U.S. EPA method. XYZ has provided details on the method, the digestion, and the QA/QC based on laboratory results. Lois was concerned that it was not a U.S. EPA-approved method and requested the company to compare the method with approved mercury analytical procedures.

Example Comments: In an NOD, Lois requested that the XYZ Company conduct a side-by-side comparison of the proposed mercury analysis method and the U.S. EPA SW-846 approved method. She indicated that spike and recovery results must be presented along with duplicate analysis and results of waste mercury results on a statistically valid sample size. Lois informed XYZ Company that these results would be reviewed by experts at the U.S. EPA and would have to merit their approval before the mercury analysis proposed by the company could be approved for general use at the facility.

Lois also informed XYZ Company that any analytical data older than 1 year would be unacceptable and must be updated. Lois indicated that all analyses submitted for inclusion in the Part B permit application should follow U.S. EPA-approved sampling and analysis procedures to expedite the review process.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.1.1 Containerized Waste

Regulation: 40 CFR Parts 264.172 and 270.15(b)(1)
40 CFR Part 264.314

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should provide waste characteristic data which demonstrate that the wastes are compatible with container construction materials.

Check For: The permit writer should check for:

- ❑ Documentation and test results that show whether the container stores wastes that contain free liquids. If the wastes contain free liquids, a secondary containment system must be in place.

  The most common free liquids test is the Paint Filter Liquids Test, Method 9095 in SW-846.

- ❑ Information regarding the construction material of the containers (in particular, the interior surface) and the types of compounds that are compatible with the material. For example, the facility should provide vendor data or manufacturers specification sheets that document which compounds either are, or are not, compatible with the container's construction materials.

Example Situation: Lois and Clark were concerned that XYZ Company would receive and try to incinerate containers that contained free liquids. However, XYZ Company stated in the incinerator permit application that no containers containing free liquids would be fed to the combustion unit. Lois asked the company to explain how it could guarantee no free liquids would be included in containers fed to the combustion unit.

Example Action: XYZ Company responded that all 55-gallon drums containing hazardous waste would be shredded in a controlled environment, then passed directly into the rotary kiln via a ram/air lock device. The shredding and feeding process would be monitored under closed circuit TV cameras and can be stopped if an operator determines that excess liquid has entered the process. The liquids would then be contained, collected, and routed to the liquid injection portion of the treatment system. The same feeding system would be used for smaller containers if free liquids are a concern.

Notes: _____
_____
_____

US EPA ARCHIVE DOCUMENT

5.1.2 Waste in Tank Systems

Regulation: 40 CFR Parts 264.190(a), 264.191(b)(2), and 264.192(a)(2)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should provide waste characteristic data to demonstrate that tank construction materials are compatible with wastes stored in the tank.

Check For: The permit writer should check for:

- ❑ Documentation and test results that show whether the tank stores wastes that contain free liquids. If the wastes contain free liquids, a secondary containment system must be in place.

  The most common free liquids test is the Paint Filter Liquids Test, Method 9095 in SW-846

- ❑ Information on the construction material of the tank (in particular, the interior surface) and the types of compounds that are compatible with the material. For example, the facility should provide vendor data or manufacturers specification sheets that document which compounds either are, or are not, compatible with the tank's construction materials.

Example Section: In its Part B permit application, XYZ Company certified that the tank system's integrity had not been violated, there were no leaks, and it was fit for use.

During the review, Lois noticed that the certification was signed by the president of the company. Lois remembered from 40 CFR Part 264 Subpart J—Tank Systems, the certification must be signed and stamped by a qualified, registered professional engineer.

Example Comments: Lois wrote the following NOD for the tank system certification. "The tank system integrity certification must be signed by a qualified, registered professional engineer. The engineer must be registered in the state in which the facility is located. The facility might be best served if this engineer was independent of the company."

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.1.3 Waste in Piles

Regulation: 40 CFR Part 264.250(c)(1) and (4)

Guidance: RESERVED

Explanation: Since these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.1.4 Landfilled Wastes

Regulation: 40 CFR Parts 264.13(c)(3) and 264.314

Guidance: RESERVED

Explanation: Since these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.1.5 Waste in Incinerators

Regulation: 40 CFR Parts 264.341 and 270.62(b)(2)(I)

Guidance: U.S. EPA. 1992. "TID for EPA's BIF Regulations." OSWER. Washington D.C. EPA-530-R-92-011. March. Section 5.2.6.

Explanation: This section should provide the results of analysis for each waste or waste mixture to be burned during operation, and information on the waste feed proposed for the trial burn or risk burn.

Check For:

- ❑ The following analytical data, at a minimum, should be provided for each waste stream to be burned:
  - ❑ Heating value
  - ❑ Viscosity of pumpable wastes (liquids)
  - ❑ Physical form of nonpumpable wastes (nonliquids)
  - ❑ Identification and quantification of (1) the waste via SW-846 Method 8260 and 8270, and (2) Appendix VIII constituents reasonably expected to be present in the waste
  - ❑ PCB concentration (Method 8270)
  - ❑ PCDD/PCDF concentration (Method 8290)
  - ❑ Total chlorine/chloride concentration
  - ❑ Ash content
  - ❑ BIF metals concentration (antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, nickel, and selenium); the authority for this requirement is based on the Omnibus Provision
  - ❑ Ultimate and proximate analysis
- ❑ Waste stream selection for various test requirements
  - ❑ Destruction and removal efficiency (DRE) test requires wastes with indicator organic compounds used for tracking destruction efficiency of the incinerator
  - ❑ Risk burn test typically requires worst-case waste streams operating under normal conditions in order to measure PIC formation
- ❑ Quantification limits for various analytical methods should be reviewed to ensure that the minimum sample quantitation limit (SQL) is sufficient to enable accurate calculation of waste feed rates. This issue is important with regard to (1) calculating the DRE for each constituent based on the constituent concentration in each waste feed stream, and (2) calculating emission rates for completing the risk assessment process.

US EPA ARCHIVE DOCUMENT

- ❑ Sampling and analytical methods used to collect samples for analysis should be documented so that the permit writer can confirm that appropriate methods were employed and corresponding techniques were used

Example Section: Lois and Clark were reviewing the waste incineration section of XYZ Company's Part B permit application and noticed that no specific organic compounds had been quantified. The Appendix VIII organic compounds identified were listed, but no quantities were provided. To assign matrix principal organic hazardous constituents (POHC), it is important to know which compounds are present in the highest concentrations. It is also important that U.S. EPA-approved stack sampling methods and analysis procedures be available for compounds designated as POHCs.

Example Comments: Clark wrote XYZ Company an NOD and requested a quantitative analysis of native organic constituents in the waste streams be provided.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.1.6 Wastes to be Land Treated

Regulation: 40 CFR Parts 264.271(a)(1) and (2), 264.272, 264.276 and Part 261 Appendix VIII and 270.20(b)(4)

Guidance: RESERVED

Explanation: Because this issue is not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.1.7 Waste in Miscellaneous Treatment Units

Regulation: 40 CFR Part 270.23(d)

Guidance: RESERVED

Explanation: Because this issue is not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.1.8 Waste in Boilers and Industrial Furnaces

Regulation: 40 CFR Parts 266.102(b) and 270.66(r)

Guidance: U.S. EPA. 1992. "Technical Implementation Document for EPA's BIF Regulations." EPA-530-R-92-011. OSWER. Washington D.C. March. Section 5.2.6.

Explanation: This section should provide analytical results for each fuel, industrial furnace feed stock, hazardous waste, or hazardous waste mixture to be burned during operation. It should also provide analytical results for the feed streams proposed for the trial burn or performance test. These results are also required for any vent gas streams routed to the BIF.

Check For:

- ❑ The following analytical data, at a minimum, should be provided for each feed stream:
  - ❑ Heating value
  - ❑ Viscosity of pumpable wastes (liquids)
  - ❑ Physical form of nonpumpable wastes (nonliquids)
  - ❑ BIF metals concentration (antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, nickel, and selenium)
  - ❑ PCB concentration (Method 8270)
  - ❑ PCDD/PCDF concentration (Method 8290)
  - ❑ Total chlorine/chloride concentration
  - ❑ Ash content
  - ❑ Viscosity or description of the physical form of the feed stream
  - ❑ Ultimate and proximate analysis
- ❑ For each hazardous waste stream as fired, the following analytical data, at a minimum, should be provided:
  - ❑ Identification and quantification via SW-846 Methods 8260 and 8270
  - ❑ If blending is to occur prior to firing, a detailed analysis of the hazardous waste prior to blending, the blending material, blending ratios, and description of blending procedures
  - ❑ Blended materials should have an "as blended" analysis before being fired to provide an accurate assessment of the composition of the material fed to the BIF

US EPA ARCHIVE DOCUMENT

- ❑ The TBP or Part B permit application should contain waste characteristic data. It is not recommended that this information appear twice between the two documents. Rather, it should appear in one of the two documents and be referenced, as needed.

- ❑ Additional analytical requirements needed to satisfy the risk assessment (see Section 5.0 of this component).

- ❑ Quantification limits for various analytical methods should be reviewed to ensure that the minimum SQL is adequate to enable accurate calculation of waste feed rates. This issue is important in calculating the DRE for each constituent based on the constituent concentration in each waste feed stream. This issue is further discussed in Component 1—How to Review a Trial Burn Plan, Sections 3.1.4.4 and 3.1.4.6.

- ❑ Sampling and analysis methods should be documented so that the permit writer can confirm that appropriate methods were employed and corresponding techniques were used.

Example Section: Lois reads the Waste in BIF section of the facility's Part B permit application which states:

"To ensure a safe and steady state operation, hazardous waste-derived fuel (HWDF) sometimes needs to be blended to provide a uniform fuel before it can be burned in a cement kiln system. The contents of each incoming shipment and each blend of individual shipments will be sampled and analyzed. Based on composition, heat value, and the contents of each sample, a blend of different amounts of HWDF from incoming loads and in storage tanks will be prepared. All blended HWDF will be analyzed for burning acceptance to demonstrate compliance with all applicable regulatory specifications and Certification of Compliance limits. HWDF in storage tanks can be blended between tanks to improve the quality prior to energy recovery in the kilns. HWDF from each tank that will be utilized in the blending process.

Example Comments: The text states that HWDF will be blended to improve the quality of the fuel prior to energy recovery in the kilns; however, the specific criteria are not clear. While the Part B permit application states that wastes will be analyzed before they can be burned, Lois requests in an NOD that the facility revise this section to identify the types of wastes that are likely candidates for blending and to what composition levels the waste will be blended.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.2 WASTE ANALYSIS PLAN

Regulation: 40 CFR Parts 264.13(b) and (c)
40 CFR Parts 266.102(a)(2)(ii) and 266.104(a)(2)
40 CFR Part 268.7
40 CFR Part 270.14(b)(3)

Guidance: No specific references are applicable to this section of the manual.

Explanation: The regulation requires that a WAP be provided in the permit application. The WAP should describe the methodologies for conducting the analyses required to properly treat, store, or dispose of hazardous wastes. In addition, the WAP should also demonstrate compliance with LDRs. The goal of the WAP is to establish a sampling and analysis plan that will (1) provide data that support the facility's demonstration of compliance with the waste feed and residual management requirements, and (2) provide data necessary to complete the risk assessment process.

The following subsections identify various elements required in a WAP. The format of a WAP is flexible but should contain all stated elements:

- Parameters and Rationale (see Section 5.2.1)
- Test Methods (see Section 5.2.2)
- Sampling Methods (see Section 5.2.3)
- Frequency of Analyses (see Section 5.2.4)
- Additional Requirements for Wastes Generated Off site (see Section 5.2.5)
- Additional Requirements for Ignitable, Reactive, or Incompatible Wastes (see Section 5.2.6)
- Additional Requirements Pertaining to BIFs (see Section 5.2.7)
- Additional Requirements Pertaining to Containment Buildings (see Section 5.2.8)

Check For: Certain elements must be contained in every WAP.

❑ The most current EPA-approved methodologies (or justification as to why non-EPA methods are proposed) should be included in the WAP

US EPA ARCHIVE DOCUMENT

- ❑ The WAP should specify, by name and method number, the sampling and analysis methods proposed. It is not acceptable to simply state that the most current EPA-approved methods will be used

- ❑ To ensure that analytical methods do not become outdated, the WAP should propose that future updates to sampling and analysis methods will be incorporated into the facility's WAP

- ❑ The WAP should be updated either when (1) existing HWMUs become regulated (such as an existing BIF unit coming under regulation in 1991), (2) new units are proposed through permit modifications: (3) new waste streams are handled, or (4) facility operating process changes dictate a need for revision

- ❑ Methods proposed in the WAP should specify detection limits that are adequate to support accurate waste feed rate calculations.

Example Section: XYZ Company submitted a detailed WAP which states that a representative sample of hazardous waste will be collected before it is accepted and burned. This plan provides the basis for acceptance or rejection of incoming wastes based on criteria established by XYZ Company for acceptable waste and from results of the trial burn conducted under authority of the regulatory officials.

The WAP covers RCRA Part B operations and combustion unit (incinerator and boiler) operations. Permit limitations are specified for each waste disposal option and the WAP is used to demonstrate compliance, assure QA/QC for the results, and complete the risk assessment process.

In his review, Clark notes that XYZ Company does not receive the same wastes at the incinerator as are received at the boiler. In some cases, the boiler receives wastes that have been blended by the incinerator operations. XYZ Company must address the waste analysis requirements of 40 CFR Parts 264.13 and 266.102 for wastes received by the incinerator operations.

Example Comments: Because the operations overlap, Clark requested XYZ Company develop a WAP and waste dispatching procedure that clearly shows waste streams sent to the RCRA Part B-permitted incinerator and waste streams used as fuel in the boiler. Clark expressed concern that wastes designated for the incinerator with its quench and scrubber system could be sent to the boiler which lacks an equivalent APCS. Because the combustion processes differ, Clark wanted to ensure that only unit-specific approved wastes could be sent to either the incinerator or BIF.

Notes: _____

_____

_____

5.2.1 Parameters and Rationale

US EPA ARCHIVE DOCUMENT

Regulation: 40 CFR Part 264.13(b)(1)

Guidance: No specific references are applicable to this section of the manual.

Explanation: The WAP should contain a list of analytical parameters supported by a rationale for their selection. It is important to note that the WAP must include all feed streams to the combustion unit and any process residues (such as scrubber effluent or ash). It may also include stack gas samples, if the permit writer specifies regular stack testing as a permit condition.

Check For: The permit writer should check for the following information:

- ❑ Rationale should be provided for each parameter (for example, total chlorine/chloride) as required under 40 CFR Part 266.102[b])
- ❑ For parameters that are not specifically required by regulation, the rationale must provide greater detail as to how a particular analysis will provide sufficient information on the feed stream's properties to comply with specific facility operating requirements

Example Section: Lois and Clark were reviewing the Parameters and Rationale section of the XYZ Company's WAP. They noticed that the plan called for mercury analysis using atomic absorption spectroscopy (AAS). Clark reviewed SW-846 analytical procedures for metal analysis and found that by using AAS for mercury analysis, the company was not likely to detect mercury in most samples because of the poor detection limit.

Example Comments: Clark wrote XYZ Company an NOD for the Parameters and Rationale section of the WAP recommending that all waste streams must be analyzed for mercury using the cold vapor atomic absorption technique. This technique yields a much lower detection limit and will develop more reliable data for inclusion in the facility site-specific risk assessment.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.2.2 Test Methods

Regulation: 40 CFR Part 264.13(b)(2)

Guidance: U.S. EPA. 1994. "Waste Analysis Guidance for Facilities that Burn Hazardous Wastes." Draft. EPA 530-R-94-019. Enforcement Compliance Assurance (ECA). Washington D.C. October. Sections 2 and 3.

Explanation: The WAP should list test methods used to test for selected parameters.

Check For: The permit writer should:

- ❑ Confirm that each test method is clearly identified
- ❑ Confirm that test methods are those generally acceptable to the permitting authority, such as SW-846 and ASTM
- ❑ Compare the test methods proposed in the TBP and RAWP with those proposed in the WAP; when possible, it is advisable to use the same methods in the TBP as in the WAP to promote a comparable data set
- ❑ Ensure a representative sample is collected
- ❑ Ensure that the SQL and method detection limit (MDL) for each method is clearly explained and understood during the review process
- ❑ Confirm that facility proposed modifications to accepted methods have supporting documentation

Example Section: During their review of the Test Methods section of the WAP, Lois and Clark noticed that method numbers were not consistent and that some methods appeared to be facility modifications of SW-846 methods.

Lois noticed that XYZ Company proposed in the TBP and RAWP that all waste samples would be analyzed by an outside laboratory. The company stated "analysis by an outside laboratory would further verify the validity of the trial burn results." Lois was concerned that the on site laboratory should also participate in the analysis of all waste samples for, at a minimum, WAP parameters. These data would serve as a direct comparison with the contract laboratory for validity and provide the permitting authority much needed information about the performance of the on site laboratory.

Example Comments: Clark wrote an NOD requesting XYZ Company use a method numbering system that is consistent with EPA-approved analytical methods. He suggested that XYZ Company follow SW-846 and ASTM for those methods. Clark requested that any modified methods use the original number with the letter "M" at the end to indicate it was a modified SW-846 method.

US EPA ARCHIVE DOCUMENT

Lois wrote an NOD to XYZ Company requiring the on-site facility laboratory to actively participate in the trial burn. She requested the on site laboratory take split samples and analyze them for the same parameters as the contract laboratory. She also requested that all QA/QC results be included in the trial burn report.

Notes:

US EPA ARCHIVE DOCUMENT

5.2.3 Sampling Methods

Regulation: 40 CFR Part 264.13(b)(3)
40 CFR Part 261 Appendix I
40 CFR Part 266 Appendix IX

Guidance: U.S. EPA. 1994. "Waste Analysis Guidance for Facilities that Burn Hazardous Waste." Draft. ECA. Washington D.C. EPA 530-R-94-019. October. Sections 2 and 3.

Explanation: The WAP should list sampling methods used to obtain a representative sample of each feed stream to be analyzed. The WAP should also identify the sampling location.

Check For: The permit writer should check that the WAP contains certain components:

- ❑ Each sampling method should be clearly identified. If the sampling method is a U.S. EPA or ASTM method, the method number and reference should be provided. If the sampling method is something other than ASTM (facility-specific sampling method), the facility should provide documentation to support and justify the use of the non-ASTM method. In addition, complete documentation (for example, standard operating procedures [SOP]) should be provided to support its rationale for not using the U.S. EPA method.

- ❑ The most recent version of the reference source should be used for sampling methods.

- ❑ Compare sampling methods proposed in the TBP and RAWP with those proposed in the WAP. Methods should be consistent, or at least comparable, so that data obtained during the trial burn and the data obtained day-to-day can be easily compared. Comparability becomes a critical issue with regard to obtaining a representative sample. It is imperative that a sound approach be used to obtain a representative sample and that the approach used during the trial burn can be replicated during normal operations.

- ❑ The method used to collect a representative sample varies depending on the number of different feed streams sent to the combustion unit, and how those streams are managed prior to firing. The U.S. EPA 1994 Waste Analysis Guidances for Facilities that Burn Hazardous Waste offers suggestions on sampling and analysis strategies. It explains different approaches depending on whether the unit receives a variety of wastes in batches versus a dedicated feed unit. It is strongly recommended that this guidance be consulted before preparing a WAP.

US EPA ARCHIVE DOCUMENT

Example Situation: During her review of the Sampling Methods section of XYZ Company's Part B permit application, Lois notices the following statement:

"All hazardous waste derived fuel for the BIF that requires testing and analysis will be collected by the fuels technician from XYZ Company. Samples of baghouse dust, kiln ash, and any nonhazardous fuels will be collected by operations personnel."

Example Action: Lois notes that while this section describes sampling associated with hazardous waste fuel, baghouse dust, kiln ash and nonhazardous fuels, it does not identify and cite the sampling methods to be used to obtain a representative sample of each material. In accordance with 40 CFR Part 264.13(b)(3), Part 261 Appendix IX, Lois requests that XYZ Company revise this section to properly identify and cite sampling methods to be used. She also requests that the XYZ Company document that the chosen sampling method is appropriate for the type and nature of the waste.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.2.4 Frequency of Analyses

Regulation: 40 CFR Part 264.13(b)(4)

Guidance: U.S. EPA. 1994. "Waste Analysis Guidance for Facilities that Burn Hazardous Waste." ECA. Washington D.C. EPA 530-R-94-019. October. Section 3.0.

Explanation: The WAP should describe the frequency of repetition for analysis.

Check For: The permit writer should check that:

- ❑ The frequency of sampling and analysis is clearly identified and justified.
- ❑ Any variances in the frequency of sampling and analysis depending on the variability of feed streams to the unit is explained.
- ❑ Any statistical analysis used in determining an appropriate sampling and analysis frequency is completed in accordance with the procedures outlined in U.S. EPA 1994 Waste Analysis Guidance for Facilities that Burn Hazardous Waste.

Example Section: In the WAP, XYZ Company states that the process waste stream used to supply fuel to the boiler will be sampled and analyzed annually. In the RCRA Part B permit application, XYZ Company discusses a possible process change prompted by recent research results producing higher product yields than are produced by present operations. Lois notes that no change in fuels sampling and analysis is proposed for the process that will be modified.

Clark was reviewing the frequency of analysis section and noted that XYZ Company proposed to prepare weekly composites of all waste streams received from a pesticide manufacturing client. XYZ claims that it would be too time consuming and costly to analyze every waste stream received from the pesticide company.

Example Comments: Lois wrote XYZ Company an NOD based on the frequency of analysis for a process waste stream that may change. The NOD said that annual analysis was sufficient with quarterly fingerprint analyses to confirm no process changes have occurred as long as the process generating the waste did not change.

Clark wrote XYZ Company an NOD informing them that it was unacceptable to composite samples from the pesticide manufacturer for weekly analysis. Clark informed XYZ Company that the pesticide production process was too variable to permit one composite sample to be analyzed. He suggested that XYZ Company contact the pesticide manufacturer and develop a waste coding system so that samples from each production process could be collected and analyzed separately. Clark stated that, should the permitting authority express future concerns about the validity of the samples or see that analysis was not showing anticipated variances, additional sampling and analysis would be required.

US EPA ARCHIVE DOCUMENT

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.2.5 Additional Requirements for Wastes Generated Off site

Regulation: 40 CFR Parts 264.13(b)(5) and (c)
40 CFR Part 264.73(b)(1)

Guidance: No specific references are applicable to this section of the manual.

Explanation: The WAP should describe procedures used to inspect or analyze a representative portion of wastes generated off site.

Check For: The permit writer should check that:

- ❑ The application describes and justifies the facility's statistical method used to determine a representative sample of incoming waste
- ❑ Procedures are in place to ensure that hazardous waste received matches the accompanying manifest or shipping papers

Example Section: For each shipment of drummed wastes received from off site, all drums with the same generator/process/waste facility identification number will be gathered together. In this way, XYZ Company can identify how many drums are part of the same generating process. XYZ Company proposes in the WAP to sample 10 percent of each lot of waste by randomly sampling wastes and comparing the fingerprint analytical results with the manifests to confirm that the total shipment meets facility acceptance criteria.

Example Comments: Although Clark generally agrees with the concept of random sampling of drummed waste, XYZ Company must offer some limitations. In
SW-846 provides examples on conducting a random number sampling event. It also discusses the limitations of random sampling when only a few drums of a certain waste are received. Clark wrote an NOD and suggested that XYZ Company review the procedures described in SW-846 and revise the drum sampling program accordingly.

Notes: _____
_____
_____

US EPA ARCHIVE DOCUMENT

5.2.6 Additional Requirements for Ignitable, Reactive, or Incompatible Wastes

Regulation: 40 CFR Part 264.13(b)(6)
40 CFR Part 264.17

Guidance: No specific references are applicable to this section of the manual.

Explanation: The WAP should describe methods used to meet additional waste analysis requirements necessary for treating, storing, or disposing of ignitable, reactive, or incompatible wastes.

Check For: The permit writer should check that:

- ❑ The facility is able to identify wastes that fall into these categories and take precautions to handle the waste appropriately and safely.

Example Section: Clark reads the *Additional Requirements for Ignitable, Reactive, or Incompatible Wastes* section of the facility's Part B permit application as follows:

"Before any transport container of liquid HWDF can be unloaded, the compatibility of its contents with the contents of the designated receiving vessel will be verified according to the following procedure:

"A representative sample from each transport container will be mixed in a container with a sample of the material in the vessel in an amount proportional to the volume in the vessel. The mixture will be agitated, and a thermometer will be used to measure any temperature change. The mixed sample will be observed after 5 minutes to determine if any adverse reactions have taken place, particularly polymerization or heat generation. If polymerization or a temperature increase of 10ºC or more is observed, the HWDF will be considered incompatible. The 5-minute observation time is adequate to ensure that no polymerization reaction has occurred. The 10ºC temperature increase is large enough to indicate that a reaction has occurred."

Example Comments: Clark agrees with the test for incompatibility and requests in an NOD that the generation of gas be included as an observation. If gas is noted during a 10-minute reaction time, a reaction generating hydrogen or some toxic gas such as hydrogen sulfide (H_2S) may be occuring. If gas is observed, the facility must review the manifest and existing analytical data to determine if any flammable or toxic gases are being generated. Usually, temperature and polymerization are sufficient to determine compatabiilty.

Notes: _____
_____
_____

US EPA ARCHIVE DOCUMENT

5.2.7 Additional Requirements Pertaining to Boiler and Industrial Furnaces

Regulation: 40 CFR Part 266.102(e)(6)(ii)(C)
40 CFR Part 266.102(e)(6)(iii)

Guidance: No specific references are applicable to this section of the manual.

Explanation: As stated in Section 5.1.8 of this component, regulations require characterization for certain constituents. This information is needed to establish feed rates for each constituent. The facility must propose a method for determining all feed rates for which limits must be established. As a result, the sampling and analysis methods outlined in the WAP, along with the feed rate monitoring method (to determine mass flow rates), are used to establish feed rate limits.

Check For:

- ❑ See Component 1—How to Review a Trial Burn Plan for additional information regarding waste analysis requirements for BIFs

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____
_____
_____

US EPA ARCHIVE DOCUMENT

5.2.8 Additional Requirements Pertaining to Containment Buildings

Regulation: 40 CFR Part 264.1100

Guidance: RESERVED

Explanation: Because these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

5.3 WASTE ANALYSIS REQUIREMENTS PERTAINING TO LAND DISPOSAL RESTRICTIONS

Regulation:

40 CFR Part 262.10
40 CFR Part 262.11
40 CFR Part 264.13
40 CFR Part 264.73
40 CFR Part 266.102(a)(2)(ii)
40 CFR Part 268
40 CFR Part 270.14(b)(3)

Guidance:

U.S. EPA. 1992. Federal Register. 57 FR 37194. August 18.

U.S. EPA. 1993. Federal Register. 58 FR 29860. May 24.

U.S. EPA. 1994. Federal Register. 59 FR 4790. September 19.

Explanation:

LDRs influence waste analysis requirements when waste is either shipped from an off site source to a hazardous waste TSDF, or when residues from the facility are shipped off site for treatment, storage, or disposal. LDRs require accompanying analytical data for each that demonstrate whether the waste is a restricted waste, and if so, whether it is properly managed under the LDRs at 40 CFR Part 268. Restricted waste types and corresponding treatment standards vary greatly. As a result, the process of determining whether LDRs apply and if so, what type of data is required, is site specific. LDRs also require extensive documentation of waste characteristics and how the waste is managed.

The operation of a hazardous waste combustion facility is affected by LDRs both in receiving wastes and disposing of generated residues. These two situations are described below.

When a hazardous waste combustion facility receives waste from off site, the waste generator should have already conducted the analysis required to determine whether LDRs apply and if so, whether the proposed waste treatment meets prescribed LDR treatment standards. To ensure that the waste meets facility receiving criteria, the receiving facility must implement independent waste analysis plan procedures. However, the facility need not conduct LDR waste analysis in addition to the generator's to determine whether LDR requirements are met. The receiving facility should confirm that LDR-required notices and certifications that accompany the waste are in order.

After the waste is treated in the combustion unit, the facility must then determine if various residues generated (such as incinerator ash or scrubber wastewater) are subject to LDRs. If so, the facility must submit the required notice and certification to the land disposal facility (for example, a landfill receiving the ash) or the treatment or storage facility (for example, an organics recovery process, such as distillation or stream stripping, receiving the scrubber waste water). Extensive records must be maintained to document compliance with LDRs.

US EPA ARCHIVE DOCUMENT

Because LDRs are a complex set of regulations, the Combustion Manual will not expand on this discussion. The permit writer is encouraged to seek out more detailed information in the guidance documents listed above specific to LDR requirements.

Check For: Not applicable to this section of the manual.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.0 REVIEWING PROCESS INFORMATION—SECTION D

Regulations: No regulations are applicable to this section of the manual

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section normally appears as Section D in the permit application. A corresponding process information section under Section D should be provided for each of the various types of HWMUs located at the facility. Each section should clearly describe how design, operation, and monitoring of the unit will comply with applicable, unit-specific requirements.

The TBP normally appears as part of Section D. As a result, much of the information required for the combustion unit process description is also required for the TBP. Where applicable, the following subsections reference the appropriate section of Component 1—How to Review a Trial Burn Plan, for additional instruction regarding reviewing these overlapping parts of the Part B application.

The following types of HWMUs listed under 40 CFR Parts 264 and 266 are discussed:

- Containers, 40 CFR Part 264 Subpart I (see Section 6.1)
- Tank systems, 40 CFR Part 264 Subpart J (see Section 6.2)
- Incinerators, 40 CFR Part 264 Subpart O (see Section 6.5)
- Miscellaneous units, 40 CFR Part 264 Subpart X (see Section 6.8)
- BIFs, 40 CFR Part 266 Subpart H (see Section 6.9)
- Air emissions from process vents, 40 CFR Part 264 Subpart AA (see Section 6.12)
- Air emissions from equipment leaks, 40 CFR Part 264 Subpart BB (see Section 6.13.)
- Air emissions from tanks, containers, and surface impoundments, 40 CFR Part 264 Subpart CC (see Section 6.14)

Photographs or diagrams of these HWMUs can be found at the end of this section.

US EPA ARCHIVE DOCUMENT

The following types of HWMUs listed under 40 CFR Part 264 are not discussed in detail because they are not normally associated with combustion units:

- Waste piles (see Section 6.3)
- Surface impoundments (see Section 6.4)
- Landfills (see Section 6.6)
- Land treatment (see Section 6.7)
- Containment buildings (see Section 6.10)
- Drip pads (see Section 6.11)

Check For: The reviewer should check for the following:

❑ When the HWMUs are located at a manufacturing facility, it is often helpful to have information regarding manufacturing processes related to the HWMUs.

Example Section: The XYZ Company's permit application states that a BIF feed tank receives liquid waste from four different production processes. Clark believes that for the safe management and blending of these wastes it is necessary to understand the processes associated with those four production processes. This information would allow XYZ Company to better understand any variances that might occur in the waste characteristics and how they might affect blending and BIF operations. The generating company may be reluctant to provide this type of process detail, mainly because some of this information is considered confidential or proprietary. In these cases, XYZ Company should meet with the generating industry and explain the reasons for requesting the information, and suggest that XYZ Company would tailor the information in a manner that is not considered proprietary.

Example Comments: Clark informed XYZ Company that if they could not reach an agreement with the generators of the BIF fuel, the permit writer must handle the information according to (CBI) requirements throughout the permit review period.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

Boiler Unit

Tank System

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

Container

Rotary Kiln

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

Surface Impoundment

US EPA ARCHIVE DOCUMENT

6.1 REVIEWING INFORMATION REGARDING CONTAINERS—40 CFR PART 264 SUBPART I

Regulations: 40 CFR Parts 270.15 and 270.17
40 CFR Part 264 Subpart I and Part 264 Subpart CC

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section provides guidance to permit writers on specific permit application information requirements for the use and management of containers storing hazardous waste. Facilities commonly store hazardous waste in containers prior to treatment in the combustion unit. Specifically, this section discusses requirements for (1) containment systems, (2) buffer zones, (3) incompatible waste management, and (4) emission standards.

Containers storing hazardous waste containing free liquids, as defined by 40 CFR Part 260.10, or wastes listed as F020, F021, F022, F023, F026, or F027, must have a containment system of sufficient volume to contain 10 percent of the volume of containers or the volume of the largest container, whichever is greater. The volume of the containment system must be adequate to account for accumulated precipitation, unless runon controls are provided for the containment system. The containment system must be designed to prevent containers from contacting liquids either from leaks or precipitation. The base of the containment system must be impervious to leaks, spills, or accumulated precipitation until collected material is detected and removed. Permit applicants must provide adequate documentation to demonstrate compliance with containment system requirements.

Containers not storing wastes with free liquids need not be stored within a secondary containment system, but the storage area must be designed to prevent containers from contacting liquids. The permit applicant must provide information to demonstrate that containers do not contain free liquids and a description of how containers are kept from contact with standing liquids.

If the secondary containment system is subject to precipitation runon, the permit applicant must describe how accumulated liquid will be removed. Analytical procedures to determine whether the liquid is contaminated with hazardous waste must also be described.

Permit applicants must also demonstrate that containers storing ignitable or reactive hazardous wastes are located at least 15 meters from the facility's property line. Containers storing ignitable or reactive wastes must be protected from heat or other sources of ignition as required by 40 CFR Part 264.17(a). Incompatible wastes must not be placed in the same container and must be separated by a dike, berm, wall, or other device. The application must describe container management procedures to prevent accidental ignition or reaction of wastes in containers.

US EPA ARCHIVE DOCUMENT

Subpart CC of 40 CFR Part 264 describes requirements to prevent air emissions from containers. Specific requirements are discussed in a separate section in this guidance manual.

The permit application must contain sufficient information to allow the reviewer to determine whether secondary containment has enough volume to hold the contents of leaking containers plus precipitation. Container storage areas located outside pose special challenges when determining whether the volume of the secondary containment is adequate. The permit applicant must show calculations demonstrating that the secondary containment storage capacity can hold potential precipitation plus the volume needed to contain waste spills or leaks. Historical records of local rainfall events are used to predict maximum 25-year, 24-hour rainfall amounts. Historical precipitation records obtained from the National Weather Service may represent a location different from the facility. Inaccurate data can result in undersized secondary containment.

Check For: The permit writer should check:

- ❑ Whether containers store free liquids
- ❑ Whether secondary containment is impervious to liquids
- ❑ Whether the volume of secondary containment is adequate
- ❑ Whether a buffer zone for ignitable and reactive wastes has been provided
- ❑ Whether procedures to manage incompatible wastes are in place
- ❑ Whether emission controls or containers used to comply with air emission requirements are provided

Example Situation: The XYZ Company hazardous waste management facility is located approximately 100 miles from the nearest city where National Weather Service precipitation records are kept. In addition, there are four cities surrounding the XYZ Company facility all within the 100-mile range and all with different precipitation amounts and 25-year, 24-hour rainfall events.

Example Action: Clark recommended that XYZ Company immediately install rain gauges and anemometers at the proposed facility. He further recommended that XYZ Company construct the secondary containment surrounding the container storage area to handle the largest 25-year, 24-hour event recorded at the four surrounding cities.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.2 REVIEWING INFORMATION REGARDING TANK SYSTEMS—40 CFR PART 264 SUBPART J

Regulations: 40 CFR Parts 264.190, 270.16, and 270.27

Guidance: No specific references are applicable to this section of the manual.

Explanation: Facilities commonly store hazardous waste in tanks prior to treatment in the combustion unit. This section provides guidance to permit writers regarding information requirements for permitting tank systems at BIF facilities. This section describes required (1) engineering descriptions, (2) secondary containment, (3) operating controls, (4) reactive, ignitable, or incompatible waste storage, and (5) air emission controls.

In addition to the detailed tank system requirements of 40 CFR Part 264.190, permit applicants must provide a written assessment certified by an independent, qualified, registered professional engineer that attests to the structural integrity and suitability of the tank system to handle hazardous waste. The permit application must also include a detailed description of dimensions and capacities of each tank. Descriptions of feed systems, bypass, flow cutoff, and pressure controls along with a diagram of piping, instrumentation, and process flows for each tank must be included in the permit application. If the tank system is in contact with soil or water, the permit applicant must describe materials and equipment used to provide external corrosion protection as required by 40 CFR Part 264.192(a)(3)(ii). If the tank system is not yet installed, the permit applicant must describe in detail how the tank system will be installed to maintain compliance with 40 CFR Part 264.192(b), (c), (d), and (e).

New tank systems (as defined by 40 CFR Part 260.10) storing liquid hazardous wastes are required to have secondary containment designed, constructed, and operated according to the standards in 40 CFR Part 264.193 (a), (b), (c), (d), (e), and (f). Existing tank systems (as defined by 40 CFR Part 260.10) are required to have secondary containment according to the schedule provided in 40 CFR Part 264.193. In either case, if secondary containment is required, the permit applicant must provide information documenting that the secondary containment has enough volume to contain 100 percent of the volume of the largest tank within its boundaries, as well as precipitation from a 25-year, 24-hour rainfall event.

The permit applicant must also provide information describing operating methods to prevent tank overfill and to prevent spills and leaks while transferring wastes to or from the tank system. Specific operating requirements are found in 40 CFR Part 264.194.

Similar to containers, procedures to manage ignitable, reactive, or incompatible wastes in tanks must be included in the permit application. Specific requirements are found in 40 CFR Parts 264.198 and 264.199. Subpart CC requirements regarding air emissions from tanks are discussed in Section 6.9.

US EPA ARCHIVE DOCUMENT

Check For: The permit writer should check for:

- ❑ Detailed tank system description including materials of construction and any applicable construction codes such as ASME or American Petroleum Institute (API)
- ❑ Dimensions and tank capacities
- ❑ Feed system, bypass, and cutoff control descriptions
- ❑ Piping, instrumentation, and process flow diagram
- ❑ Ignitable, reactive, and incompatible waste management
- ❑ New or existing tank system
- ❑ Tank integrity assessment
- ❑ Secondary containment description
- ❑ Overflow and spill prevention

Example Section: During their review, Lois and Clark noted that Subpart J of the XYZ Company Part B permit application called for a roll-off box to be used as a container. The application pointed out that the roll-off box was not portable, as it was planned to be used as a stationary vessel. The application stated that hazardous waste would be unloaded into the roll-off box from portable containers, mixed with sawdust, and then used as a fuel in a BIF unit. The roll-off box meets the definition of tanks described in 40 CFR Part 260.10. When reviewing the XYZ Company's list of tanks at the facility, Lois noted that the roll-off box was not included.

Example Comments: Lois and Clark determined that according to the process described in the XYZ Company Part B permit application, the roll-off box to be used as a fixed process unit for blending hazardous waste meets the definition of a tank. The Part B application was deemed inadequate because it did not provide a detailed description of the dimensions and capacity of the roll-off box, as well as a tank integrity assessment certified by an independent, qualified, registered professional engineer. Lois and Clark required XYZ Company to describe in detail: (1) methods to prevent spills and overflows; (2) procedures to prevent the accidental ignition or reaction of hazardous waste in the roll-off box; (3) procedures to prevent mixing incompatible wastes in the roll-off box; and (4) secondary containment. Finally, Clark asked that XYZ Company further amend the application to describe the roll-off box as a tank in the facility diagram and to amend the Part A application to include the roll-off box in the list of tanks.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.3 REVIEWING INFORMATION REGARDING WASTE PILES—40 CFR PART 264 SUBPART L

Regulations: 40 CFR Parts 260.10 and 264.250

Guidance: No specific references are applicable to this section of the manual.

Explanation: Since these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.4 REVIEWING INFORMATION REGARDING SURFACE IMPOUNDMENTS—40 CFR PART 264 SUBPART K

Regulations: 40 CFR Parts 260.10 and 264.220

Guidance: No specific references are applicable to this section of the manual.

Explanation: Since these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.5 REVIEWING INFORMATION REGARDING INCINERATORS—40 CFR PART 264 SUBPART O

Regulation: 40 CFR Parts 264.340 through 264.351 and Parts 270.19

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section normally appears as Section D-5 of the permit application. The bulk of the information listed in this section is required to be submitted in support of the TBP or RBP. The following subsections (see Sections 6.5.1 through 6.5.3) reference applicable portions of Component 1—How to Review a Trial Burn Plan. Incinerator regulations are augmented by several EPA-sponsored guidance documents. Therefore, it is critical that permit writers become intimately familiar with pertinent guidance documents.

Check For: The reviewer should check for the following:

- ❑ For facilities with more than one incinerator on site, ensure the application makes a clear distinction among feed streams, operating protocols, and trial burns or risk burns planned for each unit. Except when air modeling or a risk assessment, each unit should be thoroughly reviewed independently of each other, unless operations among them are related.

- ❑ Incinerator regulations are augmented by the BIF regulations under the Omnibus Provision. This authority is granted by RCRA Section 3005 [40 CFR Parts 270.11(k) and 270.32(b)(2)] and allows U.S. EPA, in an effort to protect human health and the environment, to request additional information and apply guidance or appropriate regulation in addition to the incinerator regulations. As a result, many BIF-specific regulations, such as establishing feed rates for BIF-specific metals, are transferred onto incinerators. Therefore, it is imperative that a permit writer for an incinerator be intimately familiar with BIF regulations and guidance.

Example Section: The XYZ Company application stated that the incinerator will comply with all requirements listed in 40 CFR Part 264 Subpart O, applicable sections of 40 CFR Parts 261, 268, and 270, and the incineration guidance documents.

Example Comments: Lois wrote an NOD requesting that the application be amended to state the incinerator will also comply with requirements listed in the BIF regulations, 40 CFR Part 266, and BIF guidance documents. The TBP, RBP, and other permit application information should be revised as needed to incorporate these regulations and guidance. Under the Omnibus Provision, U.S. EPA can request that facilities comply with applicable regulation and guidance in an effort to protect human health and the environment.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.5.1 Justification for Exemption

Regulation: 40 CFR Part 264.340(b)

Guidance: No specific references are applicable to this section of the manual.

Explanation: See Component 1—How to Review a Trial Burn Plan—Section 2.0, for additional discussion.

A waste can sometimes qualify for an exemption from a trial burn. This exemption is usually granted because the waste contains none of the hazardous constituents listed in 40 CFR Part 261, Appendix VIII and because the waste is listed as hazardous solely because it is ignitable, reactive, or corrosive. The permit authority can exempt these wastes from a formal trial burn; however, the permitting authority will likely still require a risk burn for the exempted wastes.

Check For: Not applicable to this section of the manual.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.5.2 Trial Burn

Regulation: 40 CFR Part 270.62(b)(1)

Guidance: No specific references are applicable to this section of the manual.

Explanation: See Component 1—How to Review a Trial Burn Plan —Section 3.0, for additional discussion.

All RCRA regulated combustion units must develop a TBP or RBP, conduct the trial burn or risk burn, and pass the performance standards for the unit. TBPs and RBPs are usually submitted as free standing documents but are part of the overall Part B permit application.

TBPs must include detailed engineering descriptions of the combustion unit, hazardous waste feed system, any APCS, automatic waste feed cutoff (AWFCO), and stack gas and pollution control monitoring system. Complete TBP information requirements are found in 40 CFR Part 270.62(b).

Component 1 of this manual details the specific informational requirements of a TBP. Also, Attachment A to Component 1, U.S. EPA Region 6 Generic TBP, outlines the format and content of a typical TBP.

The information requirements for permit applicants seeking a waiver from a trial burn are essentially as extensive as those required for a TBP.

Check For: The permit writer should check for:

- ❑ Detailed description of the combustion units
- ❑ Detailed waste analysis
- ❑ Description of AWFCO
- ❑ Description of APCS (if applicable)
- ❑ Description of process monitoring system
- ❑ Waste feed rates
- ❑ Production rates
- ❑ Process operating parameters
- ❑ Management of residues
- ❑ Determination of interim status or new combustion unit

US EPA ARCHIVE DOCUMENT

- ❑ Trial burn waiver documentation
- ❑ Direct transfer operations
- ❑ Trial burn test protocol

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.5.3 Data Submitted in Lieu of Trial Burn

Regulation: 40 CFR Part 270.19(c)

Guidance: No specific references are applicable to this section of the manual.

Explanation: See Component 1—How to Review a Trial Burn Plan —Section 4.0, for additional discussion.

The regulations allow a facility with multiple combustion units to conduct a trial burn on one unit and set operating limits for similar units. To be classified as similar, the unit should use the same source of hazardous waste feed, have identical dimensions, and have similar operating controls and comparable continuous emission monitoring system (CEMS). All maintenance should also be identical.

Even though the permitting authority may accept trial burn data from a different combustion unit, a risk burn may be still required for each unit.

Check For: The permit writer should check for:

- ❑ Combustion unit dimensions
- ❑ Comparable operating conditions
- ❑ Use of the same hazardous waste feed and auxiliary fuel
- ❑ CEMS comparisons

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.6 REVIEWING INFORMATION REGARDING LANDFILLS—40 CFR PART 264 SUBPART N

Regulations: 40 CFR Parts 260.10 and 264.300

Guidance: No specific references are applicable to this section of the manual.

Explanation: Since these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: .

US EPA ARCHIVE DOCUMENT

6.7 REVIEWING INFORMATION REGARDING LAND TREATMENT—40 CFR PART 264 SUBPART M

Regulations: 40 CFR Parts 260.10 and 264.270

Guidance: No specific references are applicable to this section of the manual.

Explanation: Since these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.8 REVIEWING INFORMATION REGARDING MISCELLANEOUS UNITS—40 CFR PART 264 SUBPART X

Regulations: 40 CFR Parts 270.23 and 264.600.

Guidance: No specific references are applicable to this section of the manual.

Explanation: BIF facilities may conduct other treatment or disposal processes in units that are most appropriately defined as miscellaneous units. Examples of potential miscellaneous units are open burning/open detonation, carbon and catalyst regeneration, shredders, filter presses, thermal desorption units, and can crushers. Specific technical standards have not been developed for miscellaneous units; therefore, this section discusses general permit application requirements found in 40 CFR Part 270.23.

Permit applicants are required to provide a detailed description of the miscellaneous unit, including physical characteristics, construction materials, and dimensions. Additionally, permit applicants must provide detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected, and closed. For disposal units, the permit applicant must submit a post-closure plan.

The permit applicant must also provide detailed hydrologic, geologic, and meteorologic assessments, and land use maps for the region surrounding the facility to demonstrate compliance with environmental performance standards contained in 40 CFR Part 264.601. The permit application must also include information on potential routes and the potential magnitude and nature of exposure to humans or other environmental receptors of hazardous waste constituents. Finally, for a treatment unit, the permit application must provide a demonstration of treatment effectiveness.

Check For: The permit writer should check for the following:

- ❑ Detailed description of the miscellaneous unit
- ❑ Characteristics of wastes to be managed
- ❑ Compliance with environmental performance standards
- ❑ Potential exposure pathways
- ❑ Potential exposure magnitude
- ❑ Treatment effectiveness

US EPA ARCHIVE DOCUMENT

Example Section: XYZ Company noted in the Part B permit application that it intends to install and use a material shredder in conjunction with a BIF unit. Lois was familiar with the use of shredders in conjunction with an incinerator or a BIF and that they are sometimes permitted as a miscellaneous unit. In her review of the XYZ Company shredder, Lois noted that the application lacked detail on where the shredder was to be located (indoors or outdoors), what type of material for shredding was planned, what kind of explosion control system or spark abatement system would be included, the location to which the shredder feed would discharge, and the size of the discharged solids.

Example Comments: Lois wrote XYZ Company an NOD concerning the planned installation of the material shredder. The NOD requested that XYZ Company identify the manufacturer of the shredder, other applications of this type of shredder, the design capacity of the shredder, and the power requirements and physical dimensions of the shredder. Lois requested that the company describe: (1) prevention of fires/explosions; (2) specific types of waste planned for the shredder; (3) design of secondary containment system; (4) procedures for prevention of shredding incompatible wastes; and (5) how the discharge would be used as feed to the BIF and the heat content of the discharged shredded material. Lois asked that the XYZ Company have an independent, qualified, registered professional engineer review the operation and prepare a signed report on the overall safety and feasibility of the operation including fugitive emissions control.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.9 REVIEWING INFORMATION REGARDING BOILER AND INDUSTRIAL FURNACE UNITS—40 CFR PART 266 SUBPART H

Regulations: 40 CFR Part 270.22
40 CFR Part 270.66
40 CFR Part 266 Subpart H.

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section normally appears as Section D-9 of the permit application and provides guidance to permit writers on the information requirements specific to BIF units. A BIF unit is defined in 40 CFR Part 260.10 and includes the following types of units:

- Boilers
- Cement, lime, aggregate, and phosphate kilns
- Coke ovens
- Blast furnaces
- Smelting, melting, and refining furnaces
- Titanium dioxide chloride process oxidation reactors
- Methane reforming furnaces
- Pulping liquor recovery furnaces
- Combustion devices used to recover sulfur from spent sulfuric acid
- Certain halogen acid furnaces
- Other similar devices burning hazardous waste to produce or recover a product

Owners and operators of BIF units must conduct a compliance test and submit the results in accordance with 40 CFR Part 270.66, except in certain circumstances. If the permit applicant is operating a boiler under the specific requirements of 40 CFR Parts 266.104(a)(4) and 266.110 (described below), a trial burn to demonstrate the DRE of the boiler is not required. To qualify for the DRE trial burn waiver, the permit applicant must demonstrate that the boiler under consideration meets all of the design and operating parameters specified in 40 CFR Part 266.110. These parameters include prohibitions against burning hazardous wastes listed for dioxins, minimum fossil fuel firing rates of 50 percent, minimum heat input to boiler of 40 percent of the maximum design heat input,

US EPA ARCHIVE DOCUMENT

minimum fuel heat value of 8,000 British thermal units per pound (Btu/lb), and a carbon monoxide (CO) emission rate on an hourly rolling average (HRA) of no greater than 100 parts per million by volume (ppmv) corrected to 7 percent oxygen on a dry-gas basis. To qualify for the waiver, the applicant must meet further restrictions on the design of the boiler and the physical characteristics of the fuel, such as viscosity and particle size.

BIFs may qualify for a DRE trial burn waiver if, because of the type of hazardous waste fuel burned, and the design and operation of the BIF unit, the unit meets the low-risk waste exemption requirements of 40 CFR Part 266.109. Extensive documentation, including emission dispersion modeling to demonstrate that hazardous waste burning will not pose unacceptable adverse public health effects, is required of permit applicants claiming a low-risk waste exemption. Permit applicants who receive a waiver from the DRE standard also qualify for a waiver from the particulate standard if Tier I or adjusted Tier I metals feed rate screening limits are met. Permit applicants may also seek a waiver from a trial burn for hydrogen chloride and chlorine provided that the facility complies with Tier I or adjusted Tier I feed rate screening limits for chlorine and meets the additional documentation requirements of 40 CFR Part 270.22(a)(5). BIF units most likely to qualify for the low-risk waste exemption are located at facilities that burn only hazardous wastes containing extremely low concentrations of metals, chlorine, and ash. Facilities meeting these criteria may not automatically waive the requirement to conduct a risk burn under the authority of 40 CFR Part 270.11(k). Currently, U.S. EPA recommends that site-specific risk assessments be conducted as part of RCRA permitting for BIFs as being necessary to protect human health and the environment.

Much of the specific information about the BIF unit that is required in the permit application is related to the unit's performance during a trial burn. Permit applicants may choose to submit data from a trial burn conducted at a similar unit burning similar hazardous waste instead of conducting a trial burn at the unit for which a permit is sought. If this option is chosen, data must be submitted in accordance with 40 CFR Part 270.22(a)(6). For example, if a facility has two identical boilers that burn the same waste stream, it is common to conduct a trial burn on one unit, and use the data to develop permit conditions for both boilers. Additionally, a facility may choose to submit past Certification of Compliance test data in lieu of a trial burn. The permitting agency determines the adequacy of this data and whether it meets trial burn and risk burn data requirements.

Other information required by 40 CFR Part 270.22 includes documentation justifying an alternative hydrocarbon limit and an alternative metals implementation approach, if applicable. Additionally, all permit applicants must submit information describing AWFCO systems; direct transfer operations, if applicable; and documentation to show that waste residues from the BIF unit are excluded from regulation, if applicable.

Permit applicants seeking permits for new BIF units (those not operating under IS) must follow the requirements of 40 CFR Parts 270.66(b) through 270.66(f).

US EPA ARCHIVE DOCUMENT

Permit applicants seeking a permit for a BIF unit operating under IS must follow the requirements of 40 CFR Part 270.66(g). These regulations list specific requirements for submitting TBPs and conducting trial burns.

Permit applicants must submit detailed information about the physical characteristics of the waste, including heating value, viscosity, or physical form, and a description of hazardous constituents listed in 40 CFR Part 261 Appendix VIII. The description of hazardous constituents must be based on an analysis conducted according to techniques specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA Publication SW-846, or equivalent methods. Permit applicants must also submit a detailed description of any waste blending processes in accordance with 40 CFR Part 270.66(c)(2)(iii).

Check For: See Section 6.5.2 of this component.

Example Section: While burning hazardous waste, BIF units must be continuously monitored for various parameters, including combustion chamber temperature. Temperatures are difficult to accurately measure in the combustion chamber in certain types of BIF units such as cement kilns because the harsh environment causes premature failure of the temperature sensor. Several permit applicants have proposed using a surrogate for combustion chamber temperature by measuring the temperature at some other location. Initially, these applications contained inadequate documentation to substantiate the claim that the surrogate temperature accurately reflected the actual temperature.

Example Comments: Demonstrate that the temperature measured at the kiln chain section is directly proportional to the combustion chamber temperature through the entire temperature operating range. Provide actual comparative data as well as the theoretical basis for using chain section temperature as a surrogate for combustion chamber temperature.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.10 REVIEWING INFORMATION REGARDING CONTAINMENT BUILDINGS—40 CFR PART 264 SUBPART DD

Regulation: 40 CFR Parts 260.10, 264.1100, 264.1101, and 264.1102

Guidance: No specific references are applicable to this section of the manual.

Explanation: Since these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.11 REVIEWING INFORMATION REGARDING DRIP PADS—40 CFR PART 264 SUBPART W

Regulations: 40 CFR Parts 260.10 and 264.570

Guidance: No specific references are applicable to this section of the manual.

Explanation: Since these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.12 REVIEWING INFORMATION REGARDING AIR EMISSIONS FROM PROCESS VENTS—40 CFR PART 264 SUBPART AA

Regulation: 40 CFR Parts 264.1030 and 270.24

Guidance: No specific references are applicable to this section of the manual.

Explanation: Subpart AA of RCRA establishes air emission standards for process vents for operations listed below that manage hazardous waste with an annual average total organics concentration of 10 parts per million by weight (ppmw) or greater:

- Distillation
- Fractionation
- Thin-film evaporation
- Solvent extraction
- Air stripping
- Steam stripping

Photographs or diagrams of these process units can be found at the end of this section.

A process vent is any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (for example, a bottoms receiver or a surge control tank). The emissions control standard requires that facilities maintain total organics emissions below an allowable level or that they install and operate control equipment to reduce total organic emissions by 95 percent by weight. The rule does not require the use of any specific types of equipment, but rather describes acceptable control equipment and operating criteria. Various types of inspection, monitoring, recordkeeping, and reporting are also required.

The process types listed above are not normally associated with combustion units; they are more commonly found at hazardous waste recycling facilities. Occasionally, these hazardous waste processes may be located at a manufacturing site; however, it is more common that these same processes are considered to be part of the manufacturing process handling an intermediate product.

US EPA ARCHIVE DOCUMENT

Check For: The reviewer should check to:

- ❑ Ensure that the process is one of the operations listed in the regulation; otherwise, Subpart AA does not apply.
- ❑ Ensure that the process is part of the hazardous waste treatment system; otherwise, Subpart AA does not apply.
- ❑ If applicable, ensure that adequate information is provided to demonstrate compliance with 40 CFR Parts 264.1030 and 270.24, Subpart AA.
- ❑ If applicable, determine the number and location of all process vents, and review the estimate of the fugitive emission rate for each source in accordance with risk assessment protocol (see also Section 2.10 of this component)

Example Section: Clark reads in the application that XYZ Company processes a stream through a series of three distillation columns. XYZ Company assumes that Subpart AA does not apply because the stream is not a hazardous waste.

Example Comments: Clark requests that the facility provide the following information to explain whether Subpart AA applies:

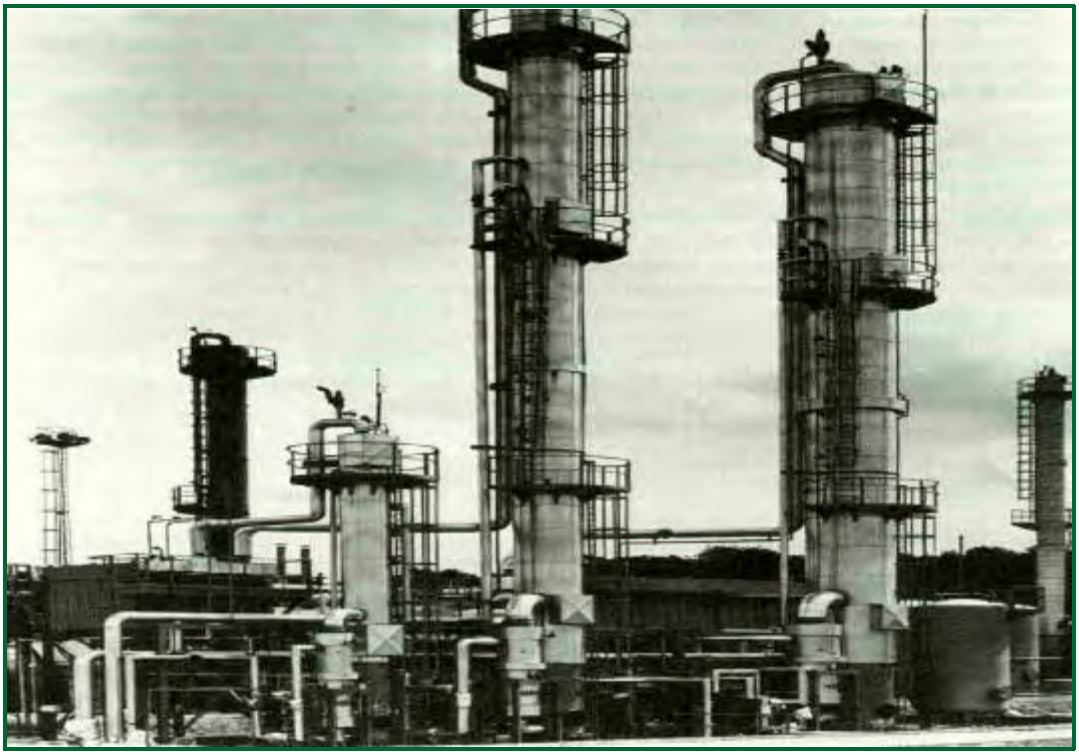
- Describe the stream being processed, in particular whether it is considered a waste as defined by RCRA
- If the stream is a waste, then further describe if the waste is classified as hazardous
- If the stream is a hazardous waste, then determine if the annual average total organic concentration of the waste is 10 ppmw or greater
- If the waste meets the greater than 10 ppmw criteria, the facility must demonstrate that the emissions controls for the distillation columns meet the standards prescribed in Subpart AA.

Notes: _____

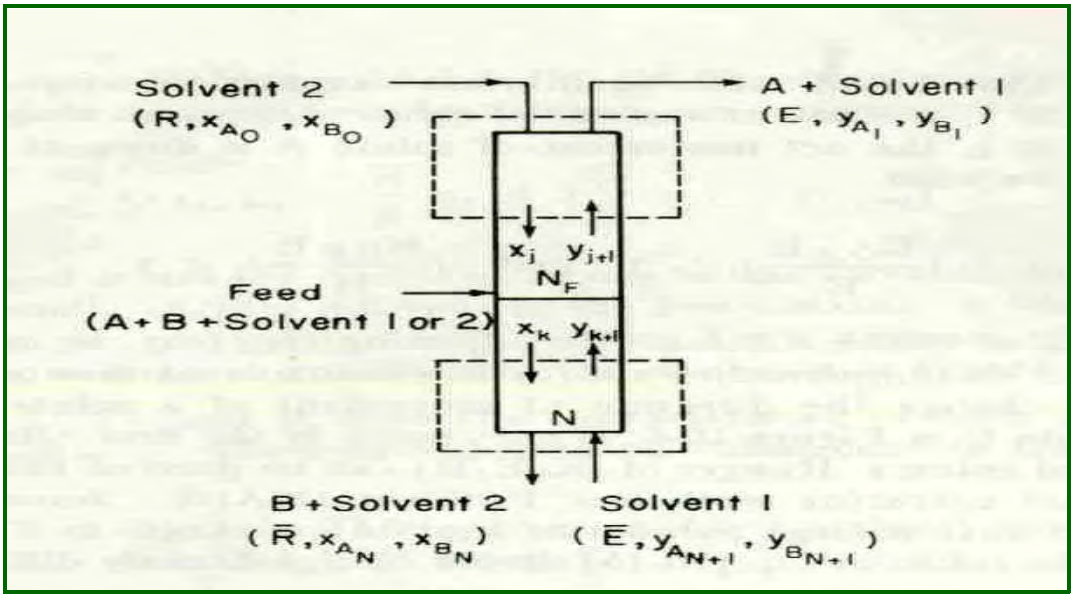
_____

_____

US EPA ARCHIVE DOCUMENT

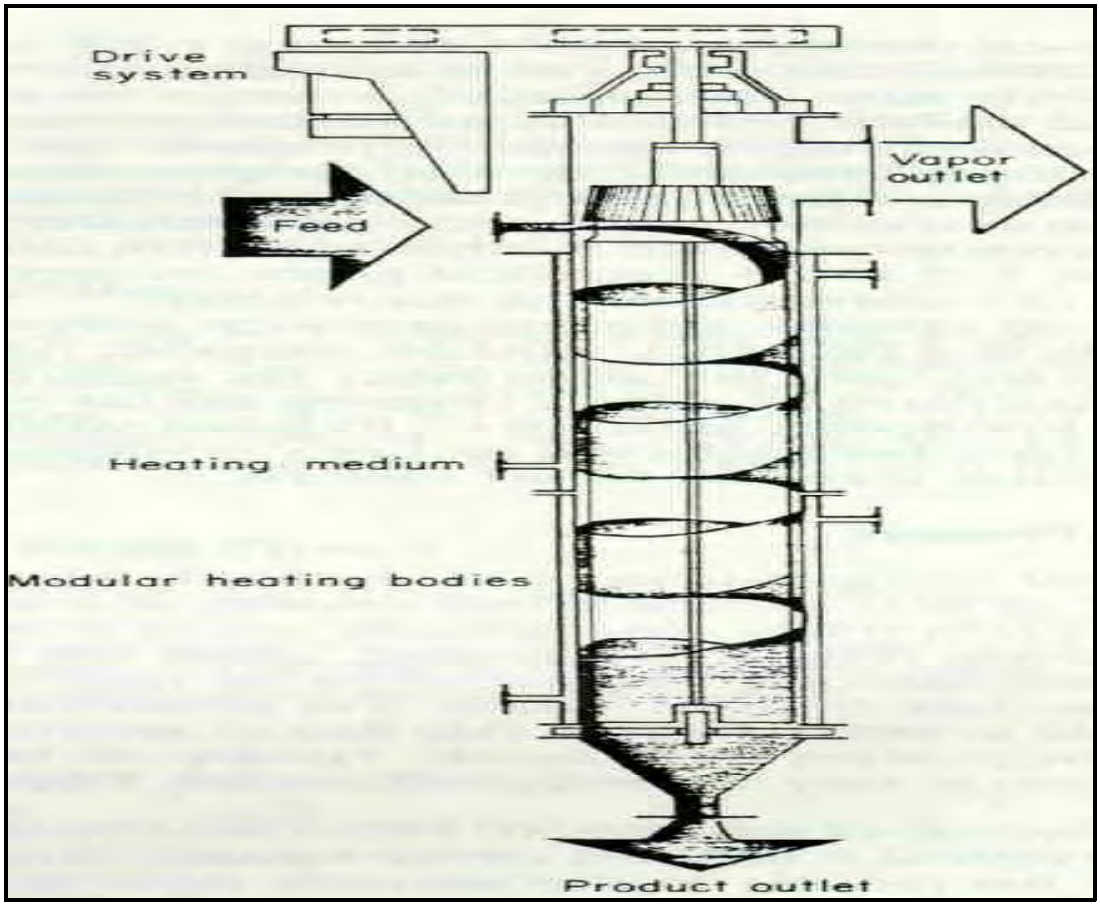


Distillation Columns

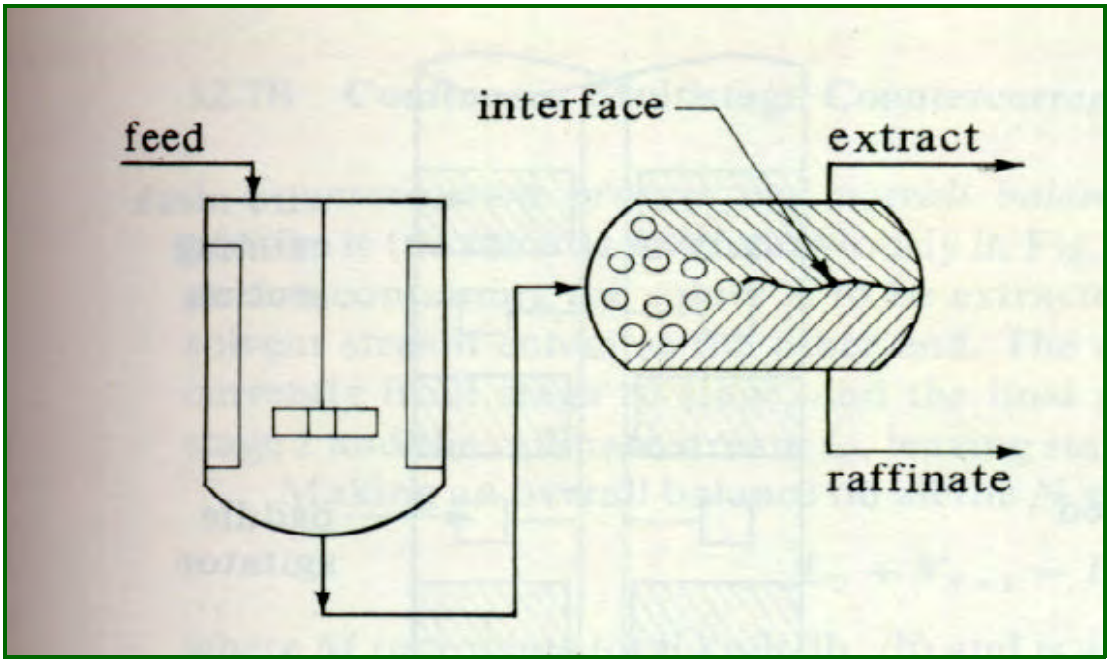


Fractionation Process

US EPA ARCHIVE DOCUMENT

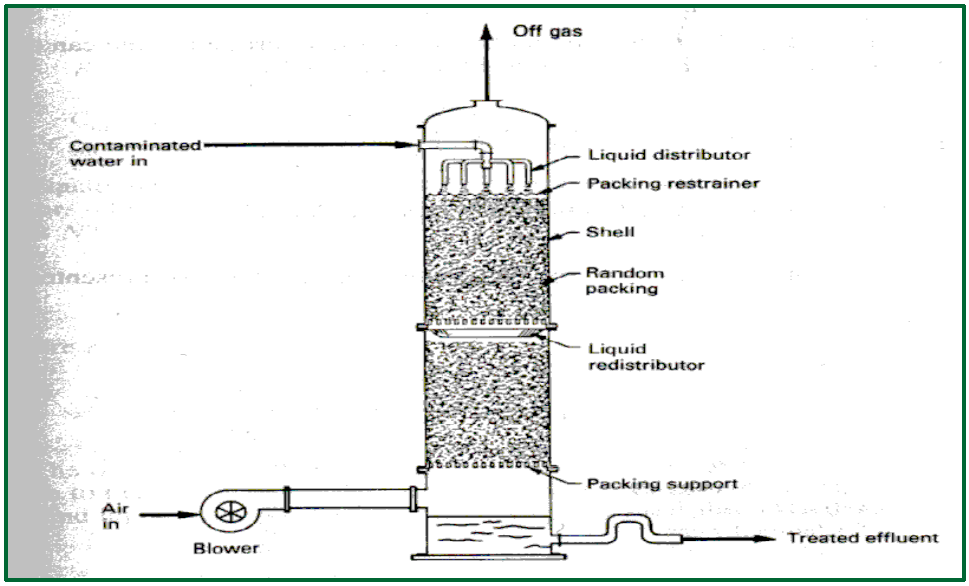


Thin-film Evaporation

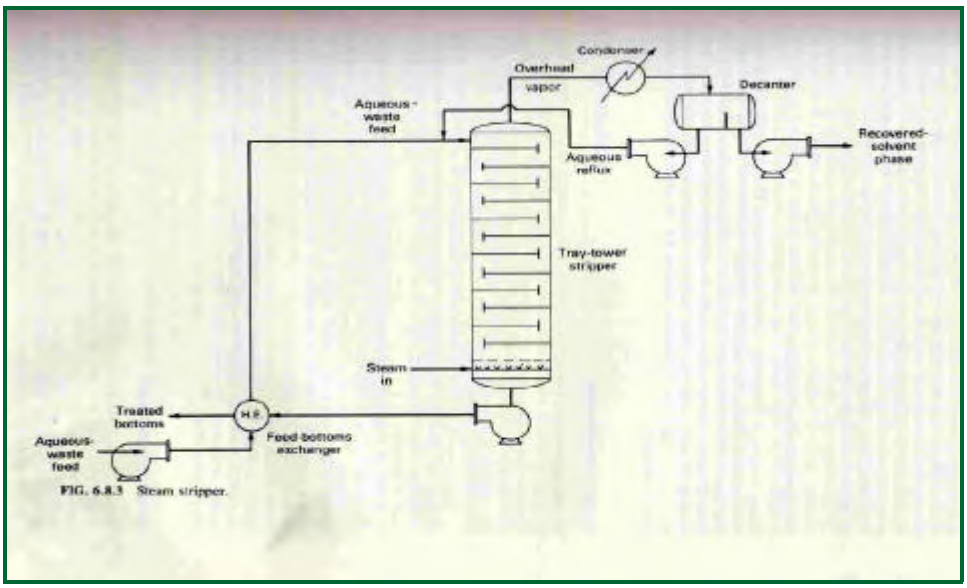


Solvent Extraction

US EPA ARCHIVE DOCUMENT



Air Stripping Process



Steam Stripping Process

US EPA ARCHIVE DOCUMENT

6.13 REVIEWING INFORMATION REGARDING AIR EMISSIONS FROM EQUIPMENT LEAKS—40 CFR PART 264 SUBPART BB

Regulation: 40 CFR Parts 264.1050 and 270.25

Guidance: U.S. EPA. 1998. "Protocol for Human Health Risk Assessment at Hazardous Waste Combustion Facilities." U.S. EPA Region 6. EPA-R6-098-002. January. Section 2.2. Page 2-2.

Explanation: Subpart BB establishes standards for air emissions leaks from equipment that contains or contacts hazardous waste streams with organic concentrations of 10 percent by weight or greater. The definition of equipment includes the following:

- Valves
- Pumps
- Compressors
- Pressure relief devices
- Sampling connection systems
- Open-ended valves or lines
- Flanges
- Control devices or systems required under 40 CFR Part 264 Subparts AA, BB, or CC

Photographs or diagrams of these types of equipment can be found at the end of this section.

After the affected equipment is identified, the facility is required to establish a monitoring, inspection, and repair program to address all equipment and corresponding requirements. Recordkeeping is an essential element of Subpart BB standards and can require considerable effort, depending on the size of the facility. The facility must submit a semiannual report that details the results of the inspection and monitoring plan.

After a facility becomes subject to any one of RCRA Subparts AA, BB, or CC, it is subject to the other two subparts, as long as the substantive requirements of that subpart are met. For example, after a 90-day storage tank becomes subject to Subpart CC, all pieces of equipment associated with that tank are subject to Subpart BB if the hazardous waste in the tank has an organic concentration of 10 percent by weight or greater (the substantive requirement of Subpart BB).

US EPA ARCHIVE DOCUMENT

There are times when it is difficult to determine which pieces of equipment are associated with a HWMU and which are associated with a process unit. This problem is common with the transfer piping between a process vessel, such as a process bottoms receiver, and a hazardous waste storage tank either feeding directly to a BIF or acting as a surge tank prior to the BIF feed tank. The applicant should address the transfer lines between the tank and the process unit and identify the point at which the stream is first considered to be a "waste." From that point on, it can be assumed that the equipment, transfer lines, and storage vessels are subject to any applicable RCRA air emission standards.

Check For:

- ❑ An inventory of all affected equipment should be provided with the application [see 40 CFR Part 264.1064(b)]. The inventory should list the following:
  - ❑ Equipment type, identification number, and HWMU identification
  - ❑ Location within the facility
  - ❑ Material service (gas/vapor or heavy or light liquid)
  - ❑ Documentation of (or assumption that) the material has an organic concentration of 10 percent by weight or greater
  - ❑ Compliance method

Additional information is required for each type of equipment.

- ❑ An inspection, maintenance, and monitoring plan should be included in the application. The plan should include methods of inspections, log forms to be completed on inspection, and a demonstration that the proposed plan complies with the requirements specified in the regulation.

- ❑ An estimate of the fugitive emission rate for each piece of equipment, in accordance with the risk assessment protocol (See Section 2.10 of this component).

Example Section: In reviewing the XYZ Company submission regarding 40 CFR Part 264 Subpart BB—Air Emission Standards for Equipment Leaks, Lois noted that the company did not submit an inspection checklist for pumps to be used in hazardous waste transfers. She further noted that XYZ Company did not indicate how it will determine if equipment used for hazardous waste is leaking other than noticing the spill after major component failure has occurred. Lois refers the deficiency to Clark to develop the NOD.

Example Comments: The full text submitted by the facility discusses air emission standards for equipment leaks and benzene operations and generally states that the facility will comply with the requirements of 40 CFR Part 264 Subpart BB and Part 61 Subpart FF for equipment leak detection monitoring, recordkeeping, corrective action, and reporting. However, Clark notes that these sections do not explain how the equipment and components will be identified or how leaks are detected, measured, and controlled. These sections should clearly explain procedures implemented to comply with standards for equipment leaks and benzene

US EPA ARCHIVE DOCUMENT

operations, and Clark asks that the facility revise these sections accordingly.

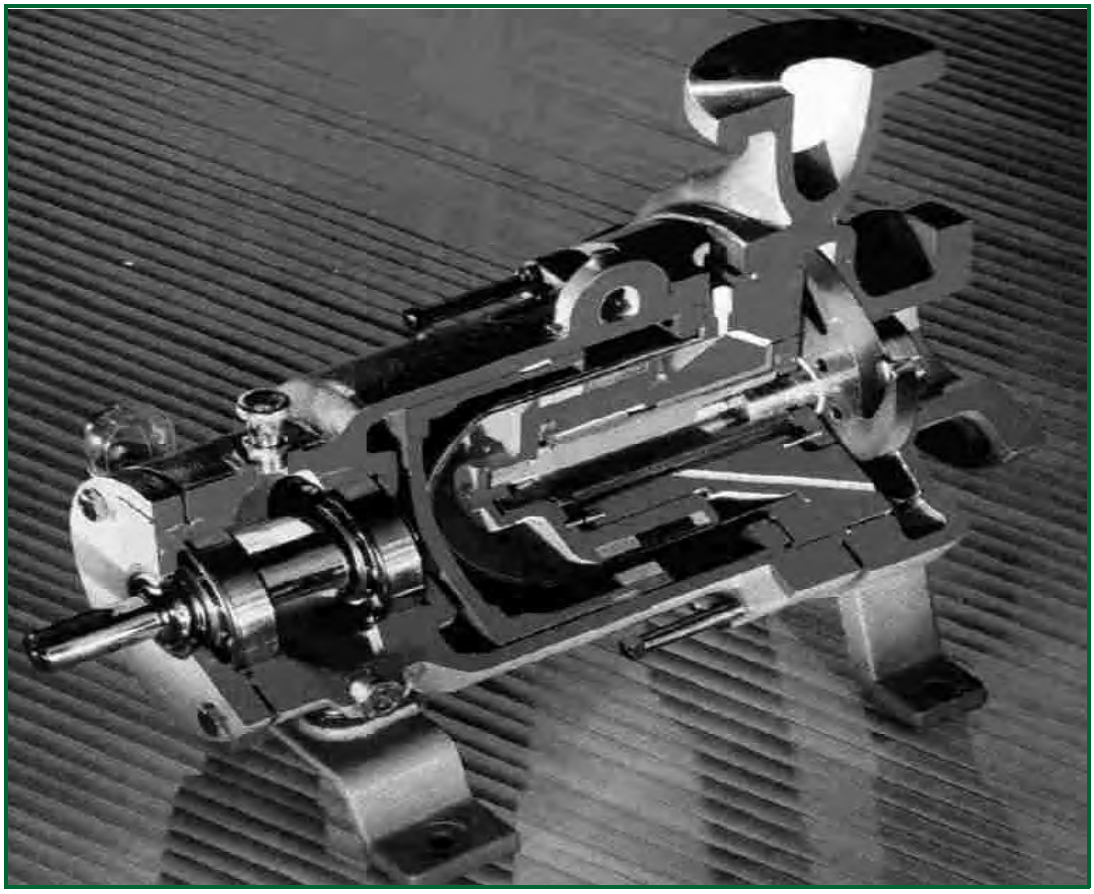
Notes: _____

_____

_____

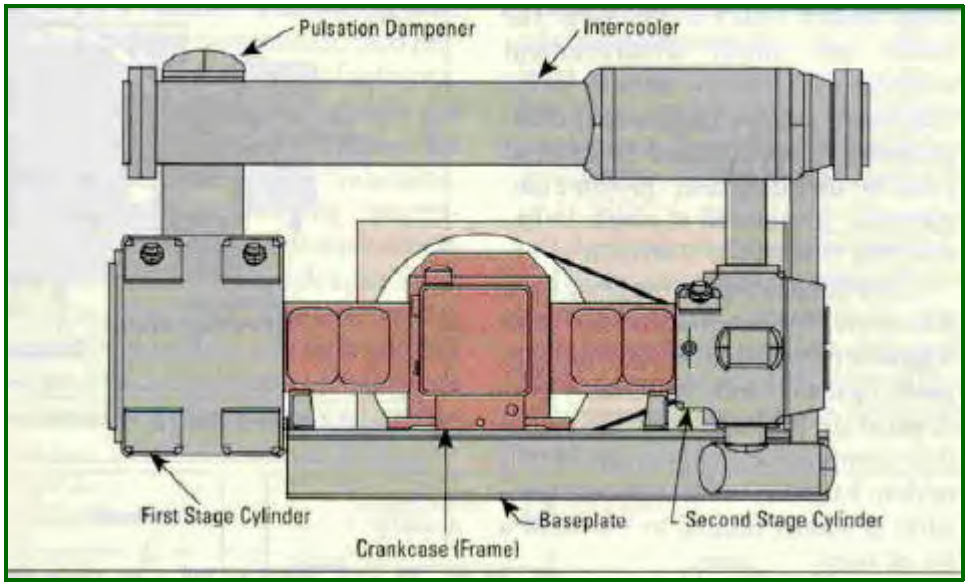
US EPA ARCHIVE DOCUMENT

Valve



Pump

US EPA ARCHIVE DOCUMENT



Compressor

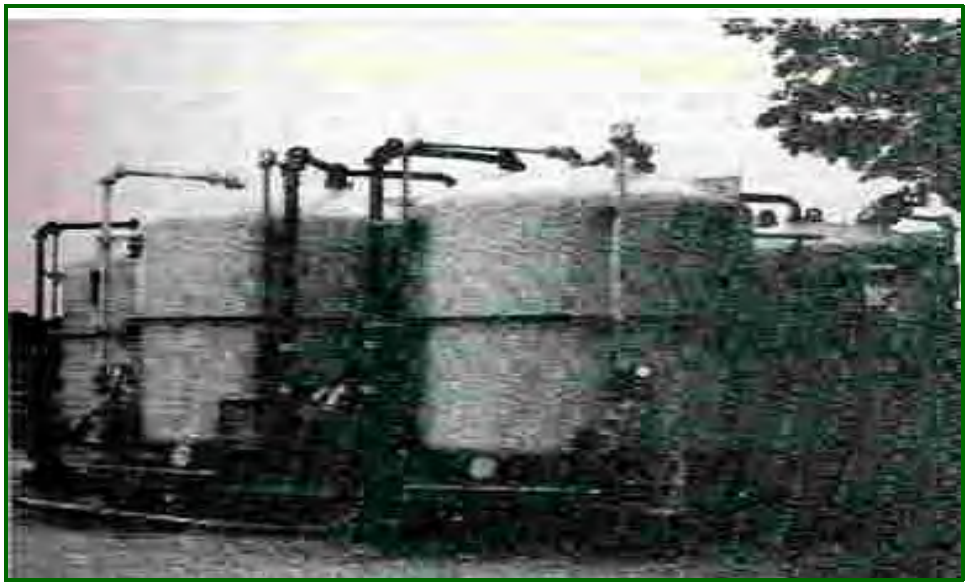
Pressure Relief Valve

US EPA ARCHIVE DOCUMENT

Sampling Connection System

Open-ended Line

US EPA ARCHIVE DOCUMENT



Control System - Carbon Beds

US EPA ARCHIVE DOCUMENT

6.14 REVIEWING INFORMATION REGARDING AIR EMISSIONS FROM TANKS, SURFACE IMPOUNDMENTS, AND CONTAINERS—40 CFR PART 264 SUBPART CC

Regulation: 40 CFR Parts 264.1080 through 264.1090 and 270.27

Guidance: U.S. EPA. 1998. "Protocol for Human Health Risk Assessment at Hazardous Waste Combustion Facilities." U.S. EPA Region 6. EPA-R6-098-002. Section 2.2.

Explanation: This regulation establishes air emission control requirements for containers (also regulated under 40 CFR Part 264.170 Subpart I—Use and Management of Containers); tanks (also regulated under 40 CFR Part 264.190 Subpart J—Tank Systems); and surface impoundments (also regulated under 40 CFR Part 264.220 Subpart K—Surface Impoundments) that treat, store, or dispose of hazardous waste. Various scenarios are listed that provide exemptions from the regulation, which should be explored as part of the applicability determination.

Corresponding standards or control levels apply to each of the three HWMUs listed above. The control level varies depending on the waste managed within the unit and the volume of the tank or container. Because surface impoundments are not normally associated with combustion units, those technical requirements will not be discussed in this component.

Because this regulation is recent, many facilities may not be familiar with the technical, recordkeeping, and reporting requirements. As a result, many applications may be deficient. To promote a more complete application, the permit writer should draft the NOD to request specific information, as identified by the regulation.

After a facility becomes subject to any one of RCRA Subparts AA, BB, or CC, it is subject to the other two subparts as long as the substantive requirements of that subpart are met. For example, after a 90-day storage tank becomes subject to Subpart CC, all pieces of equipment associated with tank are subject to Subpart BB if the hazardous waste in the tank has an organic concentration of 10 percent by weight or greater (the substantive requirement of Subpart BB).

Check For: The Part B permit application should include the following subsections:

- ❑ Applicability
- ❑ Exemptions
- ❑ Tank standards
- ❑ Surface impoundments
- ❑ Container standards

US EPA ARCHIVE DOCUMENT

- ❑ Closed-vent systems and control devices
- ❑ Inspection and monitoring
- ❑ Recordkeeping

The reviewer should check for the following:

- ❑ An inventory listing all tanks and containers (including less-than-90-day storage units), their design capacity, waste managed and its characteristics, location at the facility, and any emission control devices used
- ❑ If control devices are currently used, specific and detailed information is required to demonstrate that the device meets the control standards listed 40 CFR Parts 264.1033 and 264.1087(c)(1)
- ❑ This regulation is considered "self-implementing" and became effective on December 6, 1996. For existing facilities, physical emission control requirements were to be in place by that date. If the facility was not able to meet that date, an implementation schedule was to be in place that documented how the controls will be installed and operating by December 8, 1997 (See 40 CFR Part 265.1082). However, if the permit is either reopened or an initial RCRA permit is under consideration, the facility should propose and attempt to install the required emission controls on issuance of the RCRA operating permit if issuance is expected prior to December 8, 1997. However, 40 CFR Part 270.27(a)(7) states that if the facility cannot comply with Subpart CC by the date the permit is issued (if issued before December 8, 1997), the facility may extend the compliance date to December 8, 1997, or later, on a case-by-case basis, at the discretion of the U.S. EPA Regional Administrator, see 40 CFR Part 265.1082(c), or authorized state permitting agency director.
- ❑ For new facilities, applicable air emission control requirements must be in place on facility startup. Existing facilities that do not meet IS notification and operating requirements must be permitted as new facilities and cannot manage hazardous waste in the affected units until a permit is issued and all applicable air emission control requirements are in place.
- ❑ Fugitive emission rate must be estimated for each affected unit, in accordance with the risk assessment protocol (See Section 2.10 of this component).

Example Section: Continuing her review of the facility's Part B permit application, Lois reads as follows:

"Hazardous waste derived fuel (HWDF) is supplied to feed lines from a central charging column (similar to a surge tank) that is loaded (charged) intermittently on

US EPA ARCHIVE DOCUMENT

demand."

Example Comments: It is unclear to Lois which tank or tanks are used as feed tanks to the kilns. Portions of the text indicate that some of the storage tanks can be fed directly to the kiln (not including any direct transfer facilities). However, the application states that HWDF is supplied to kiln feed lines from a central charging column that is filled intermittently on demand. Lois asks that the facility revise this section to clearly explain which tanks are used as direct feed tanks to the kiln and which tanks are used for HWDF storage before being sent to the kiln feed tanks. This issue is important with regard to applicability of and compliance with the Subpart CC regulations.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

6.14.1 Applicability

Regulation: 40 CFR Part 264.1080

Guidance: No specific references are applicable to this section of the manual.

Explanation: Before technical requirements for an affected unit can be determined, an applicability determination must first be made. Subpart CC standards apply to TSDF owners and operators subject to RCRA Subtitle C permitting requirements, and to certain hazardous waste generators accumulating waste on site in permit-exempt tanks and containers. Specifically, the rule applies to TSDFs that manage hazardous waste in tanks, surface impoundments, or containers subject to either Subparts I, J, or K of RCRA. Examples of RCRA permit-exempt tanks and containers that are subject to Subpart CC include containers and tanks used to accumulate hazardous waste on site for 90 days or less, pursuant to 40 CFR Part 262.34(a). However, satellite accumulation areas operated by generators under 40 CFR Part 262.34 are not subject to the Subpart CC standards.

Attachment F to this component provides a logic diagram for determining the applicability of RCRA Subpart CC air emission control standards to HWMUs. It is recommended that this logic diagram guide the review of the information presented in the permit application.

Check For: The reviewer should check for the following:

- ❑ A specific set of conditions must be satisfied to quality for each exemption. The facility is responsible for demonstrating compliance with these conditions. If a unit appears to meet one of the exemptions, it is imperative that all information required to demonstrate that the exemption is merited be provided. If a unit is considered to meet an exemption but some of the information provided in the permit is discovered during an inspection or other future facility review to be incorrect or inaccurate, the facility will be held accountable for noncompliance during the regulated operating life of the unit. The likelihood of a facility claiming an unsupported exemption for a unit is greater during IS because U.S. EPA is not required to review facility information on Subpart CC. Therefore, this situation may first be discovered during the permit application review.

- ❑ The unit must first be subject to Subparts I, J, or K, and the waste must contain an average volatile organic concentration of greater than 500 ppmw at the point of waste origination.

- ❑ Ninety-day storage tanks and containers must comply with air emission standards under Subpart CC—they are *not* exempt from this regulation.

Example Situation: In reviewing the Applicability section of XYZ Company's Part B permit application, Lois notes that the facility operates a tank used for bulk feed of an incinerator. The facility claims that Subpart CC does not apply. Lois also noticed

that the facility failed to mention any tanks or containers used for 90 days or less and how those units would comply with Subpart CC.

Example Action: While Subpart CC applies to incinerator feed tanks, these tanks might fulfill the requirements for an exemption from air emissions control standards listed in 40 CFR Part 264.1082(c)(5). The exemption conditions state that the tank must be located in an enclosure vented to a control device. This exemption allows the tank to forego emission control standard requirements. However, the control device (regulated under 40 CFR Part 264.1087) is required to undergo inspections and monitoring according to a written plan, as required under 40 CFR Part 264.1088(b). Lois asks that the facility revise this section to demonstrate compliance with exemption requirements, if applicable.

Lois also reminded the facility that tanks or containers used for 90 days or less must also comply with Subpart CC requirements. She pointed out that compliance with the air emission controls could be as simple as using U.S. Department of Transportation (DOT)-approved containers and fixed roof tanks. She advised the facility to revise the application to address tanks and containers used for 90 days or less.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.14.2 Exemptions

Regulation: 40 CFR Part 264.1082

Guidance: No specific references are applicable to this section of the manual.

Explanation: A unit may be exempt from Subpart CC standards for a variety of reasons; 40 CFR Parts 264.1080(b) and 264.1082(c), as well as the logic diagram (Attachment F of this component), list various exemptions.

Rigorous waste determination procedures outlined in 40 CFR Part 264.1083(a) and (b) must be followed when attempting to demonstrate certain exemptions from the regulation. These procedures are detailed and must be followed closely to obtain acceptable data.

The waste determination procedures identified in 40 CFR Part 264.1083(a) and (b) are necessary only if the facility wishes to pursue an exemption. If a facility does not wish to pursue an exemption, it has only to address the unit's applicability based on design capacity and knowledge of the managed waste, and to provide any analysis [for example, 264.1083(c) or (d)] required under the emission control standard. The facility should also discuss how the design operation of the unit complies with the applicable standard.

Check For: The reviewer should check for the following:

- ❑ The application should clearly identify any exemptions the applicant is pursuing
- ❑ The application should identify and demonstrate compliance with each requirement specified by the exemption
- ❑ Waste determination procedures should be followed as specified in the regulation. Any deviation should be clearly explained and justified

Example Section: A facility manages 60 55-gallon containers in a RCRA-permitted container storage area. The containers manage waste from about 20 different sources. The containers are not used for treatment using a waste stabilization process. The facility suspects that the average volatile organic concentration is about 500 ppmw. Because use of DOT-approved containers, packaging, and handling methods complies with both container Levels 1 and 2 standards (see Section 6.14.5 of this component), the facility could assume that the waste contains an average volatile organic concentration greater than 500 ppmw and state that it will use DOT containers and handling methods, thereby demonstrating compliance with Subpart CC standards.

US EPA ARCHIVE DOCUMENT

Example Comments: XYZ Company contacted each of the 20 companies that supply the 60 55-gallon containers stored in the RCRA-permitted storage area. Each company was requested to provide documentation that the process produces a waste stream with a volatile organic concentration greater than 500 ppmw. With the results supplied by each company, XYZ Company would justify use of DOT containers and handling methods, thus demonstrating compliance with Subpart CC standards. In this way, XYZ Company was spared the cost and effort of conducting extensive waste analysis for 20 separated waste streams to demonstrate compliance with the regulation.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.14.3 Tank Standards

Regulation: 40 CFR Part 264.1084

Guidance: No specific references are applicable to this section of the manual.

Explanation: Two levels of air emission controls exist for tanks. Attachment F to this component presents the two levels of control. Control level is determined by (1) the tank capacity, (2) the maximum organic vapor pressure of the hazardous waste managed in the tank, (3) whether the waste is heated, and (4) whether the waste is treated using a waste stabilization process. The options that determine control levels require specific information on design criteria and operating protocols. In addition, specific inspection and monitoring requirements apply to the two control options.

In general, the tank may be opened to the atmosphere during routine inspection, maintenance, sample collection, or other activities needed for normal operation. Also, pressure relief valves may open during normal operations to maintain internal tank pressure. Finally, a safety device may be opened at any time to avoid an unsafe condition.

Check For: The reviewer should check for the following:

- ❑ A complete and clear description of the waste managed in the tank, along with the tank design criteria and operating protocols
- ❑ Tank capacity
- ❑ Maximum organic vapor pressure of hazardous waste to be managed in the tank
- ❑ The expected maximum temperature of waste in the tank
- ❑ Design of vapor control system proposed for the tank
- ❑ Estimated fugitive emission leak rate of vapor from the tank
- ❑ Inspection and maintenance program for vapor control system

Example Section: XYZ Company's permit application states, "In accordance with Tank Level 1 controls, the 100 cubic meters (m^3) tank is equipped with a fixed roof."

US EPA ARCHIVE DOCUMENT

Example Comments: The application should be revised to more clearly demonstrate compliance with the RCRA Subpart CC air emission standards for tanks. For a 100 m^3 fixed roof tank to meet Tank Level 1 standards, the maximum organic vapor pressure of the waste must be less than 27.6 kiloPascals (kPa). The application should provide vapor pressure information in accordance with the maximum organic vapor pressure determination procedures outlined in 40 CFR Part 265.1084(c).

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.14.4 Surface Impoundment Standards

Regulation: 40 CFR Part 264.1085

Guidance: No specific references are applicable to this section of the manual.

Explanation: Since this unit is not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

6.14.5 Container Standards

Regulation: 40 CFR Part 264.1086

Guidance: No specific references are applicable to this section of the manual.

Explanation: Three levels of air emission controls exist for containers. Attachment F to this component presents the three levels of control. Air emission control levels are determined by (1) container capacity, (2) whether the container is in light material service, and (3) whether the waste is treated using a waste stabilization process. The options that determine control levels require specific information on container design criteria, handling and packaging procedures, operating protocols, and emission control device specifications. In addition, specific inspection and monitoring requirements apply to three control options.

The regulation allows periods of uncontrolled emissions venting. In general, the container may be opened to add hazardous waste or other material, remove hazardous waste, or obtain access inside the container when routine activities other than waste transfer are required. Pressure relief valves may open during normal operations to maintain container integrity. Finally, a safety device may be opened at any time to avoid an unsafe condition.

Check For: The reviewer should check for the following:

- ❑ Container capacity
- ❑ Container service
- ❑ Waste stabilization procedures, if applicable
- ❑ Handling procedures for drums
- ❑ Operating protocols
- ❑ Emission control specifications
- ❑ Inspection and monitoring program
- ❑ Estimated fugitive emission rate from each container
- ❑ Drum material transfer procedures
- ❑ Clear presentation of waste to be managed in the containers

Example Section: The XYZ Company permit application states, “The drummed hazardous wastes are managed in industry standard containers. The average volatile organic concentration is assumed to be greater than 500 ppmw.”

Example Comments: The application should be expanded to more clearly explain the type of containers that are used to manage hazardous waste. In particular, the information should respond to requirements listed in RCRA Subpart CC for air emission controls standards for HWMUs. Because the average volatile organic concentration is assumed to be greater than 500 ppmw, either Container Level 1 or 2 standards must be instituted. The statement "industry standard containers" does not specify the type of container, nor does it demonstrate compliance with Subpart CC requirements.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

6.14.6 Closed-Vent Systems and Control Devices Standards

Regulation: 40 CFR Part 264.1087

Guidance: No specific references are applicable to this section of the manual.

Explanation: Regulations describe various types of closed-vent systems and control devices. Basic design criteria are defined in 40 CFR Part 264.1033. Operating protocols, inspection, and monitoring requirements are specified depending on the type of control device employed.

It is common at hazardous waste combustion facilities to route emissions from hazardous waste storage tanks to the combustion chamber for organics emission control. This method is accepted under control device standards.

Check For: The reviewer should check for the following:

- ❑ Type of closed-vent system
- ❑ Control devices installed on vent system
- ❑ Inspection and monitoring program
- ❑ Whether volatile emission vent system is connected to the combustion unit
- ❑ How volatile emissions are controlled when the combustion unit is not operating
- ❑ The capacity of the volatile emission collection/control system that is used when the combustion unit is not operating

Example Section: The XYZ Company application states that volatile organic emissions from hazardous waste storage tanks in tank farm HW-10 are collected through a common manifold system routed to the combustion unit through the combustion air blower. These tanks are exempt from Subpart CC standards because they are used for bulk feed of hazardous waste to a combustion unit; see 40 CFR Part 264.1082(c)(5).

Example Comments: Lois requests that the application be revised to demonstrate compliance with RCRA Subpart CC air emission control standards for hazardous waste storage tanks in tank farm HW-10. It appears from earlier information that these tanks are not feed tanks for the combustion unit; rather, these tanks store hazardous waste immediately prior to the actual feed tank. As a result, these tanks do not qualify for an exemption under 40 CFR Part 264.1082(c)(5). The application should explain how the manifold system and combustion unit meet the requirements for a closed-vent system and control device under 40 CFR Part 264.1087.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.14.7 Inspection and Monitoring Requirements

Regulation: 40 CFR Part 264.1088

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section requires that a written plan be developed and implemented for the inspections detailed in the unit-specific standards (40 CFR Parts 264.1084 through 264.1087).

Check For: The reviewer should check for the following:

- ❑ An inspection and monitoring plan

Example Section: Clark noticed that in XYZ Company's Part B application, there is no mention of inspection and monitoring for containers or tanks subject to Subpart CC.

Example Comments: Clark requested that XYZ Company's application be amended to include the inspection and monitoring requirements in 40 CFR Part 264 regarding Subpart CC standards. The requirements vary depending on the individual hazardous waste management unit (tanks or containers) and control devices (for example, internal floating roof or combustion device).

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.14.8 Recordkeeping Requirements

Regulation: 40 CFR Part 264.1089

Guidance: No specific references are applicable to this section of the manual.

Explanation: In general, records need only be maintained if a physical air emission control (either an internal floating roof or emission control device) is used to comply with regulations. Waste analysis results, either for waste determination or vapor pressure, should also be maintained in the facility operating record.

Check For: The reviewer should check for the following:

- ❑ Type of device that requires records
- ❑ Existence of a plan to manage and store the records

Example Section: Clark noted that the XYZ Company's application states that waste determination procedures and results are recorded and maintained in accordance with the RCRA Subpart CC requirements.

Example Comments: Clark requested that the application discuss how the recordkeeping procedures demonstrate compliance with the RCRA Subpart CC requirements listed in 40 CFR Part 264.1089. Recordkeeping requirements are specific to the hazardous waste management unit and control device employed. In addition, the application should confirm that records will be maintained in the facility operating record for a minimum of 3 years. Air emission control equipment design documentation must be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

6.14.9 Reporting Requirements

Regulation: 40 CFR Part 264.1090

Guidance: No specific references are applicable to this section of the manual.

Explanation: Written reports are required only if a noncompliance event has occurred; for example, an exempt unit managed waste with an average volatile organic concentration greater than 500 ppmw, or treated hazardous waste failed to achieve applicable requirements. Written reports are also required if a control device failed to operate in compliance with permit conditions for 24 hours or longer or a flare operated with visible emissions for 5 minutes or longer.

Check For: The reviewer should check for the following:

- ❑ Ensure that the application addresses the RCRA requirement for reports and how the information required in the reports will be gathered through the site inspection plan

Example Section: In the XYZ Company application, there is no mention of reporting in response to RCRA Subpart CC. As a result, Lois was unsure whether the company was unaware of reporting requirements or whether the reporting did not apply.

Example Comments: Lois recommended that the application be augmented to discuss the reporting requirements required under RCRA Subpart CC. The application should explain the circumstances that will dictate a reporting event and when the reports will be submitted.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

7.0 REVIEWING GROUNDWATER MONITORING SYSTEM INFORMATION—SECTION E

Regulations: 40 CFR Part 270.14(c) and 40 CFR Parts 264.90 through 264.100.

Guidance: No specific references are applicable to this section of the manual.

Explanation: Requirements for groundwater monitoring information that must be included in the permit application is found in 40 CFR Part 270.14(c). Groundwater monitoring regulations are not applicable to BIF units; however, if the facility also has a surface impoundment, waste pile, land treatment unit, or landfill that receives hazardous waste after July 26, 1982, specific regulations in 40 CFR Parts 264.90 through 264.100 apply to those regulated units.

Check For: Not applicable to this section of the manual.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

8.0 REVIEWING PROCEDURES TO PREVENT HAZARDS—SECTION F

Regulations: 40 CFR Parts 270.14(b), 270.14(b)(5), 270.14(b)(6), 274.14(b)(8), 270.14(b)(9), 270.15, and 270.16
40 CFR Part 264
40 CFR Parts 266.102(e)(8), 266.111(e)(3), and 266 Appendix IX.

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section provides guidance to permit writers on information requirements for permit applications for prevention of hazards. Specifically, this section describes (1) security procedures and equipment, (2) inspection procedures, (3) preparedness and prevention procedures, (4) general hazard prevention procedures, and (5) accidental ignition or waste reaction prevention.

Title 40 CFR Part 270.14(b)(4) requires the permit applicant to describe security procedures and equipment specified in 40 CFR Part 264.14 or to provide justification for requesting a waiver from these requirements. In general, security must be adequate to prevent or minimize the unknowing or unauthorized entry of persons or livestock onto the active portion of the facility. The permit application must include either a description of a 24-hour surveillance system to continuously monitor or control access to active portions of the facility or, if such a system is not feasible, a description of a barriers system with controlled entries to active portions of the facility. For most facilities with BIF units, this requirement can be met through the use of a fence of adequate height, either alone or in combination with a natural barrier, such as a cliff, around the active portion of the facility. Additionally, warning signs must be posted at all approaches to the active portion of the facility in all languages commonly spoken in the geographic area. A request for a waiver from these requirements must demonstrate that unknown or unauthorized contact with waste is not harmful and that disturbance of waste or the waste management equipment will not result in a violation of 40 CFR Part 264. Situations in which a waiver from these requirements is appropriate are expected to be extremely rare, and requests for such a waiver must include a detailed risk analysis to demonstrate that security provisions are not necessary.

Title 40 CFR Part 270.14(b)(5) requires the permit applicant to provide a general inspection schedule to fulfill the requirements of 40 CFR Parts 264.15, 264.174, and 264.195. Inspection requirements specific to BIF units are found in 40 CFR Parts 266.102(e)(8) , 266.11(e)(3), and 266 Appendix IX. This schedule must be submitted in the permit application and should include a description of the equipment to be inspected and define inspection frequency. Additionally, the permit applicant must state how deteriorations or malfunctions will be remedied. A log of these inspections must be kept for at least 3 years. Facilities with combustion units commonly include regulated container or tank storage units. Container storage areas must be inspected weekly for leaking containers or evidence of container or containment system deterioration caused by corrosion or other factors. Hazardous waste storage tanks, related ancillary equipment, and secondary containment systems must be inspected once each operating day to

US EPA ARCHIVE DOCUMENT

detect corrosion and hazardous waste releases. Combustion units and associated equipment must be inspected each operating day for leaks, spills, fugitive emissions, and signs of tampering. Direct transfer equipment must be inspected at least once each operating hour when hazardous waste is being transferred from the transport vehicle (container) to the combustion unit. CEMS must be inspected daily to ensure proper operation. Additionally, CEMS must be subjected to a daily calibration drift (CD) test, quarterly calibration error (CE) test, and an annual performance specification test. Additional monitoring and inspection procedures may apply to demonstrate compliance with permit conditions relating to the monitoring, verification, or control of fugitive emissions made to complete the risk assessment.

Title 40 CFR Part 270.14(b)(6) requires a permit applicant comply with preparedness and prevention requirements contained in 40 CFR Part 264 Subpart C or submit a request for a waiver from preparedness and prevention requirements. Preparedness and prevention requirements include proper design and operation of the unit to prevent releases of hazardous waste constituents, and provision of an internal communication or alarm system for summoning emergency response personnel, fire fighting equipment, and spill control equipment. The owner or operator is required to test and maintain all equipment and systems required to respond to emergencies and to attempt to make arrangements to familiarize local authorities with waste characteristics treated at the unit and potential hazards posed by such wastes. If the permit applicant requests a waiver from preparedness and prevention requirements, a justification for this request must be included in the permit application. As with requests for waivers from security requirements, conditions that justify a waiver from preparedness and prevention requirements are extremely rare.

Requirements for general hazard prevention are specified in 40 CFR Part 270.14(b)(8). For combustion units, in general, the permit applicant must address hazards related to (1) loading and unloading of ignitable or toxic waste, (2) potential contamination of water supplies by runoff during occasional flooding, (3) potential releases from equipment failure or power outages, and (4) exposure of facility personnel to hazardous wastes from equipment maintenance or operation. Repairing or replacing pumps and lines containing hazardous waste at combustion units pose a threat of release to the environment or of exposure to maintenance personnel. The permit applicant must identify all hazards involved in these operations and the steps that will be taken to prevent these hazards.

Title 40 CFR Part 270.14(b)(9) requires the permit applicant to describe precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes. Specific regulatory requirements that must be met are found in 40 CFR Part 264.17. Ignitable wastes must be separated and protected from ignition or reaction sources. The permit applicant must describe precautions that will be taken to prevent uncontrolled fires, explosions, or other violent reactions and precautions to prevent damage to the integrity of the combustion unit. Provisions must be included for physical separation of ignitable wastes, either by distance or engineering controls such as berms or other barriers, to prevent

US EPA ARCHIVE DOCUMENT

commingling of incompatible wastes. Incompatible wastes are not commonly burned in combustion units; however, if they are, permit applicants must describe precautions to be used to prevent hazardous reactions in pipelines, tanks, or in combustion units. Precautions may include methods to flush pipelines or to provide separate pipelines to combustion units.

Check For: The reviewer should check for the following:

- ❑ Security procedures
- ❑ Inspection procedures
- ❑ Preparedness and prevention procedures
- ❑ General hazard prevention procedures
- ❑ Accidental ignition or waste reaction prevention
- ❑ Posting of signs at appropriate points
- ❑ Control of deterioration or malfunctions, to the extent possible
- ❑ Container inspection schedule and record
- ❑ Pump, piping, joints, and flange inspection and record
- ❑ Inspection of direct transfer equipment and record
- ❑ Arrangements with local fire and emergency authorities

Example Section: BIF units may burn either solid or liquid hazardous wastes as fuel. Current technology also promotes the blending of certain types of solid hazardous wastes with liquids to yield a pumpable hazardous waste fuel. Both solid and liquid waste fuels containing solids tend to be abrasive to pipelines and may cause wear, resulting in leaks or releases to the environment.

Example Comments: The application should demonstrate that the BIF unit will be subject to thorough visual inspections (at least daily) when it contains hazardous waste for signs of leaks, spills, fugitive emissions, and tampering.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

9.0 REVIEWING CONTINGENCY PLANS—SECTION G

Regulations: 40 CFR Part 270.14(b)(7)
40 CFR Part 264.50

Guidance: No specific references are applicable to this section of the manual.

A contingency plan must be included in the permit application, as specified in 40 CFR Part 270.14(b)(7); regulatory requirements for the contingency plan are specified in 40 CFR Part 264 Subpart D.

Explanation: The purpose of the contingency plan is to minimize hazards from fires, explosions, or unplanned releases of hazardous waste or hazardous constituents. The plan should be implemented whenever a fire, explosion, or a release of hazardous waste constituents threatens human health or the environment. The contingency plan must specify (1) the facility's emergency response team and emergency response coordinators by name, address, and telephone numbers; (2) arrangements the facility has made with local authorities and emergency response teams; (3) types and locations of emergency equipment kept at the facility; (4) an evacuation plan for facility personnel; and (5) the locations of copies of the contingency plan at the facility. The contingency plan must be updated and amended, as necessary, and must be made available to all personnel who may be involved in emergency response actions.

The contingency plan must include descriptions of the following:

- Procedures for the emergency coordinator to alert all facility personnel in case of emergency and to notify state and local agencies
- Plans for the emergency coordinator to identify the character, source, amount, and areal extent of any explosion, fire, or release
- Means to assess possible hazards to human health or the environment from an explosion, fire, or release
- Procedures for the emergency coordinator to respond to fires, explosion, or releases of hazardous wastes at the facility
- Provision for treatment, storage, and disposal of released material
- Recordkeeping and reporting to U.S. EPA or an authorized state each time the facility implements its contingency plan

US EPA ARCHIVE DOCUMENT

Combustion units commonly operate 24 hours a day, 7 days a week, and an emergency coordinator must be either at the facility at all times or be able to respond within a short time. To facilitate contact, both home and office phone numbers and addresses of emergency coordinators must be included in the contingency plan.

Wastes managed at facilities with combustion units are often ignitable and may also be corrosive, reactive, or toxic. Special precautions must be taken when responding to fires, explosions, or hazardous waste releases. In the event of an emergency, to ensure quick response, the contingency plan must describe arrangements with local authorities. For example, emergency response capabilities of each potential emergency response team should be described, as well as how and where the emergency response team will receive detailed instructions from the emergency coordinator. Permit applicants often do not describe in detail where the off site emergency response teams are to meet the emergency coordinator. Specific arrangements should be described in the contingency plan, such as " The emergency coordinator will meet the fire department at Gate B" or "The emergency coordinator will give specific instructions to the fire department over the telephone when the call for assistance is made."

Check For: The reviewer should check for the following:

- ❑ Names of emergency coordinator(s)
- ❑ Office and home addresses and telephone numbers
- ❑ Emergency coordinator(s) authority and qualifications
- ❑ Specific arrangements with local authorities
- ❑ Emergency equipment list
- ❑ Emergency equipment maintenance schedule
- ❑ Evacuation plan

Example Section: Clark was reviewing the contingency plan submitted by XYZ Company and noted that it did not comply with 40 CFR Part 264.52(c). This part of the regulation requires the facility owner to describe arrangements with local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services. The contingency plan submitted by XYZ Company stated that all of the above agencies had been contacted but did not present evidence they would provide the necessary services to XYZ Company.

Example Comments: Clark wrote an NOD that stated the application should provide names, addresses, and telephone numbers (both home and office) of primary and alternate emergency coordinators.

US EPA ARCHIVE DOCUMENT

In addition, it should describe coordination agreements with local police and fire departments, hospitals, contractors, and state and local emergency response teams to familiarize them with the facility and actions needed in case of emergency.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

10.0 REVIEWING PERSONNEL TRAINING RECORDS—SECTION H

Regulations: 40 CFR Parts 264.16 and 270.14(b)(12)

Guidance: No specific references are applicable to this section of the manual.

Explanation: Title 40 CFR Section 270.14(b)(12) requires that the permit application describe the introductory and continuing training programs for combustion unit operators. Regulatory standards for training are contained in 40 CFR Part 264.16. In general, permit writers should ensure that the training will support safe hazardous waste management and will ensure compliance with applicable hazardous waste management regulations. The training program must address routine operations and emergency procedures, including contingency plan implementation. The program must specify appropriate training procedures relevant to job positions for employees who will handle or may come into contact with hazardous waste. It must also specify the training frequency, techniques to be used, and training record maintenance, such as training course outlines and documentation that training has been completed. Permit writers should require applicants to furnish evidence that instructors are qualified and a detailed description of the training program.

In the case of combustion unit operations, facility personnel must be trained to safely shut down the combustion unit in an emergency. Personnel must also know how to respond to hazardous waste leaks or spills.

Check For: The reviewer should check for the following:

- ❑ Training program outline
- ❑ Inclusion of contingency plan
- ❑ Job titles
- ❑ Job descriptions
- ❑ Training director qualifications
- ❑ Description of training type and amount

Example Section: BIF units are required to operate under conditions that limit emissions of metals, organic compounds, chlorine and hydrogen chloride, and particulates. Emissions are controlled by establishing applicable operating parameters for AWFCO systems. System malfunctions could cause the BIF unit to deviate from its operating parameters. BIF unit operators must know the applicable parameters to determine whether the BIF unit is functioning properly.

US EPA ARCHIVE DOCUMENT

In reviewing the facility's training program, Clark concludes that it is too general and is not facility specific. For example, the facility indicated that it requires 40-hour health and safety training for all BIF unit operations personnel; however, the facility does not indicate that the health and safety training has been supplemented with site-specific information, including a review of the facility's contingency plan.

The training program must address routine and emergency procedures and should include the following, if applicable: (1) procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment; (2) key parameters for AWFCO systems, communications, or alarm systems; (3) response to fires; (4) response to groundwater contamination incidents; and (5) operations shutdown.

Example Comments: This section should demonstrate that facility personnel are able to respond effectively to emergencies and are familiar with both routine and emergency procedures, equipment, and systems. Clark requests that the facility revise this section accordingly.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.0 REVIEWING CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS—SECTION I

Regulation: 40 CFR Parts 270.14(b)(13) and (15) through (18), 264.110 through 264.151, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, and 264.351

Guidance: No specific references are applicable to this section of the manual.

Explanation: Closure and post-closure procedures ensure protection of the public and environment against leakage of hazardous wastes to the environment from closed facilities that formerly stored, treated, or disposed of such wastes. The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with all applicable regulations.

Check For:

- ❑ Written closure plan (see Section 11.1)
- ❑ Written post-closure plan (see Section 11.2)
- ❑ Appropriate procedures for filing notices required for disposal facilities (see Section 11.3)
- ❑ Written closure cost estimate (see Section 11.4)
- ❑ Financial assurance plan for closure, in current dollars (see Section 11.5)
- ❑ Written post-closure cost estimate (see Section 11.6)
- ❑ Financial assurance plan for post-closure, in current dollars (see Section 11.7)
- ❑ Third-party liability coverage scheme (see Section 11.8)
- ❑ Appropriate use of state-authorized mechanisms, as applicable (see Section 11.9)

Example Section: See following subsections for specific example sections.

Example Comments: See following subsections for specific example comments.

Notes: _____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

11.1 CLOSURE PLANS

Regulation: 40 CFR Parts 112(a)(1) and (2), 264.113, 264.114, and 264.115

Guidance: No specific references are applicable to this section of the manual.

Explanation: The written closure plan should include all elements listed in Subsections 11.1.1 through 11.1.5. The plan should clearly describe how each hazardous waste management unit will be safely closed and how the overall facility closure plan will be conducted. Attachment G of this component provides an example facility closure plan.

Check For: The reviewer should check for the following:

- ❑ Clearly written plan
- ❑ Inclusion of all components of the facility
- ❑ Disposal of current inventory and decontamination materials using acceptable practices
- ❑ Review closure plan periodically for technical adequacy and incorporating new techniques
- ❑ Discussion of closure of combustion units and BIFs as applicable
- ❑ Recognition of differences in closure of a RCRA hazardous waste treatment facility and a BIF

Example Section: The XYZ Company developed a detailed closure plan for all parts of the facility. The waste receiving area, laboratory, storage and various treatment areas including the combustion unit were encompassed in the plan. All these plans were deemed complete and adequate by Clark. However, when the plan for the XYZ Company BIF was reviewed, it said only that "waste flow will cease when the BIF is closed."

Example Comments: Clark feels this plan is inadequate because it fails to state whether the BIF will remain in operation using virgin fuel. It also does not mention the waste feed lines from the generating process and whether they must be dismantled, cleaned, or sent to a Class I landfill for ultimate disposal. Clark requested XYZ Company specifically address closure of the BIF in significantly more detail.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.1.1 Closure Performance Standards

Regulation: 40 CFR Part 264.111

Guidance: No specific references are applicable to this section of the manual.

Explanation: The closure plan should demonstrate that performance standards listed in 40 CFR Part 264.111 will be met. The application should specifically address each of the points listed in the regulation.

Check For: The reviewer should check for the following:

- ❑ How the closure plan minimizes the need for further maintenance
- ❑ How the closure plan controls, minimizes, or eliminates the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the soils, ground and surface waters, or atmosphere
- ❑ How the closure plan complies with the Subpart G requirements and unit-specific closure requirements

Example Situation: Lois and Clark read the Closure Performance Standard section of the facility's Part B permit application which states:

"Kilns closure will be verified with collection of refractory brick samples and the coating material atop the refractory brick after a sufficient burn period (for example, a minimum of three raw material residence periods). Clean closure will be demonstrated for each kiln when average metal and organic sample concentrations meet the following criteria:

"Refractory brick:
- less than SQL or
- less than the average plus two standard deviations for background samples of similar virgin brick

Coating on the refractory brick:
- less than SQLs or
- less than the average plus two standards deviations for background samples of clinker or kiln feed or cement kiln dust."

Example Action: In this section, performance standards for clean closure are proposed for the kilns, associated duct work, APCS, and any other structures or operating equipment that have come into contact with hazardous wastes. These proposed closure performance standards are not adequate for demonstrating any effect from hazardous waste burned in the kilns on the refractory brick coating and on the residue adhering to internal surfaces of the electrostatic precipitators (ESP), the

duct work, and the exhaust stack. In accordance with 40 CFR Parts 264.111 and 266.112, Lois and Clark ask that the facility revise its closure performance standards for determining that hazardous waste does not significantly affect refractory brick coating or the residue on internal surfaces of the ESP, the duct work, and the exhaust stack. The revision should demonstrate conformance through a comparison of waste-derived residue concentrations with health-based limits, as established in 40 CFR Part 266.112(b)(2)(I) and (ii). Furthermore, the revisions must include a table that presents (1) the health-based limits for each of the 40 CFR Part 261 Appendix VII hazardous constituents contained in the hazardous wastes listed in Part A of the permit application, (2) the method for analyzing residues for each of those hazardous constituents, and (3) the corresponding sample quantification limits of those analytical methods for each hazardous constituent.

Notes:

US EPA ARCHIVE DOCUMENT

11.1.2 Partial Closure and Final Closure Activities

Regulation: 40 CFR Parts 264.112(b)(1) through 264.112(b)(7)

Guidance: No specific references are applicable to this section of the manual.

Explanation: If the facility anticipates closing portions of its operations over time, a partial closure schedule must be proposed along with partial and final closure activities. The facility must identify the maximum extent of operations that will remain active during the life of the facility. A more conservative approach to the facility's potential for partial closure is advisable; for example, consider that a presently available on site method of waste treatment and disposal will not be available during partial to final closure. Therefore, an off site means of treatment or disposal of the waste would be necessary.

Check For: The reviewer should check the following:

- ❑ Partial and final closure schedules
- ❑ Extent of operations during the life of the facility
- ❑ Evaluation of the need to conduct (and costs associated with) a revised risk assessment in case of partial closure

Example Section: In reviewing the facility's proposed closure plan, Lois notes that it does not contain any provision for partial closure, should partial closure ever become necessary (for example, possible shutdown of one kiln with one remaining operational) (40 CFR Part 264.112).

Example Action: Lois asks in and NOD that the facility revise the Part B application to discuss the possibility of partial closure and, if applicable, revise the closure plan to address partial closure.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.1.3 Maximum Waste Inventory

Regulation: 40 CFR Part 264.112(b)(3)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section must describe the maximum inventory of wastes that could be on site at any time during the active life of the facility.

Check For: The reviewer should check for the following:

- ❑ Be sure that the amount of waste handled during closure equals the permitted volume of waste. It is safer to assume that the total permitted volume of waste will be handled during closure. In this way, the closure cost estimate will be conservative, thereby providing adequate funds for closure

Example Section: It is assumed that the volume of waste managed during closure will not exceed the maximum quantity of waste handled during normal operations. Historical operating records indicate that during the facility's highest production period, the maximum volume of waste managed equaled 60 percent of the permitted capacity.

Example Comments: The closure plan should be amended to assume that the volume of waste be managed during closure will be the full permitted capacity rather than just a portion. While under historical operating conditions the maximum permitted volume of waste has not been handled, there is nothing to prevent the unit from handling the maximum permitted volume of waste in the future. Unless the permit is modified to limit the unit to a lower volume of waste, the closure plan and associated cost estimate should assume that the maximum permitted volume of waste will be managed during closure.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.1.4 Schedule for Closure

Regulation: 40 CFR Parts 264.112(b)(2) and (6) and 264.113(a) and (b)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section must include a schedule for closure activities.

Check For: The reviewer should check for the following:

- ❑ Time required to close each HWMU
- ❑ Time required for other associated closure activities
- ❑ Estimate of the expected year of final closure
- ❑ Assurance that all closure activities will be completed within 180 days after receiving the final volume of waste
- ❑ A request for extension that satisfies one of the following requirements:
  - ❑ Closure will require more than 90 or 180 days
  - ❑ Facility has the capacity to receive additional waste
  - ❑ Likelihood that another owner will recommence operation of the site within 1 year
  - ❑ Evidence that closure would be incompatible with continued facility operation
  - ❑ A demonstration that all steps will be taken to prevent a threat from the unclosed but inactive facility

Example Situation: Clark reads the Schedule for Closure section of the facility's Part B permit application, which states:

"It is likely that hazardous wastes will no longer be sent to the boiler within the next 10 years; however, the boiler will remain in operation to provide needed steam for plant operating equipment." It is unclear when the boiler will be officially closed in accordance with RCRA standards.

Example Action: Although it appears to be acceptable to continue boiler operation longer than 1 year after the final volume of waste has been received, a RCRA closure date for the boiler must be determined. It is important to include the boiler in all closure planning activities, such as closure procedures, cost estimates, and schedule. Clark asks that the facility revise this section to reflect an estimated date for boiler closure in accordance with RCRA standards.

US EPA ARCHIVE DOCUMENT

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.1.5 Closure Procedures

Regulation: 40 CFR Parts 264.112 and 264.114

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section identifies requirements for both general and unit-specific closure procedures. It is important that each of these areas is reviewed to promote a more comprehensive closure plan and more accurate closure cost estimate.

Check For: The reviewer should check the items in Subsections 11.1.5.1 through 11.1.5.13.

Example Section: Lois and Clark were reviewing the XYZ Company closure plan and the description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards. Clark noted that XYZ Company had failed to address how runon water (rain water) would be collected or controlled at the last active landfill cell during closure.

Example Action: Clark wrote XYZ Company an NOD because the closure regulations clearly state that a detailed description for control of runon water during closure must be included. Clark requested that XYZ Company clearly explain how runon water will be controlled while closure of the last landfill cell is occurring. He requested that the explanation address the issue of water in the cell and the disposition of all collected water originating from the hazardous waste area and landfill cell.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

11.1.5.1 Inventory Removal

Regulation: 40 CFR Parts 264.112 and 264.114

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should discuss the volume of hazardous waste and identify the types of off site disposal or treatment methods to be used.

Check For:

- ❑ Methods for waste removal
- ❑ Methods for waste transportation
- ❑ Methods for waste treatment
- ❑ Methods for waste storage
- ❑ Methods for waste disposal
- ❑ Types of off site hazardous waste management units to be used

Example Section: The XYZ Company application stated, "the final inventory of hazardous waste stored in the tank farm will be routed to appropriate disposal." Because XYZ Company operated both a boiler and an incinerator, Lois was unsure of the disposal method for the final inventory of hazardous waste.

Example Comments: Lois wrote an NOD requesting the facility to clearly identify the specific disposal method for the hazardous waste inventory remaining in the tank farm at the start of closure.

Notes: _____

_____

_____

11.1.5.2 Disposal or Decontamination of Equipment, Structures, and Soils

Regulation: 40 CFR Parts 264.112(b)(4) and 264.114

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should describe, in detail, the steps needed to decontaminate or dispose of all facility equipment, structures, and contaminated soils.

Check For:

- ❑ Decontamination procedures, including (1) estimated volume of water used per square foot of surface cleaned; (2) method of decontamination (for example, either by high pressure washing or steam cleaning); (3) proposed cleaning solvents, if needed; and (4) method of collection, storage, and treatment of decontamination fluids.
- ❑ Criteria for determining decontamination
- ❑ List of equipment, structures, and soils, including estimated depth of contaminated soil to excavate
- ❑ Disposal of contaminated soil and residues
- ❑ Decontamination of cleanup materials and equipment
- ❑ Demonstration that decontamination has been effective

Example Section: The XYZ Company application stated that once site soils have been excavated, the heavy equipment used during excavation will be decontaminated and then used to refill and compact the hole with clean soil. The contaminated soils will be sent off site for appropriate disposal.

Example Comments: Clark requested that the application provide the following information regarding decontamination, soil excavation, and disposal:

- Types of heavy equipment anticipated for use during excavation and backfill
- Volume of soil expected to be excavated
- Procedures for decontamination of the heavy equipment, including volume of water used for surface cleaning and wash area for the trucks
- Methods of collection, sampling, analysis, transportation off site, and disposal of the decontamination water
- Methods of sampling, analysis, transportation off site, and disposal of the excavated soils

US EPA ARCHIVE DOCUMENT

This information is needed to evaluate the adequacy of the closure plan and to promote a more accurate closure cost estimate.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

11.1.5.3 Closure of Disposal Units/Contingent Closures

Regulation: 40 CFR Parts 270.14(b)(13), 270.17(f), 270.18(h), 270.21(e), 264.228(a)(2), 264.228(c)(1)(I), 264.258(c)(1)(I), 264.310(a), and 264.601

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should describe closure for units that will continue to contain wastes or contaminated materials after closure. This is common for units such as waste piles, surface impoundments, and miscellaneous units. However, it is not common for types of equipment related to hazardous waste combustion, for example, boilers, incinerators, tanks, containers, and container storage areas. Therefore, this section is not discussed in depth in this manual.

Check For:

- ❑ Closure procedures

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

11.1.5.4 Closure of Containers

Regulation: 40 CFR Parts 264.178, 264.112(b)(3), and 270.14(b)(13)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should address closure of all containers and the associated container storage area.

Check For:

- ❑ Hazardous waste removal and disposal methods (ensure that incompatible wastes and other nonsimilar wastes are to be handled separately during closure)
- ❑ Container decontamination and disposal methods
- ❑ Site decontamination procedures for, and disposal of, linings, concrete, soil, and decontamination fluids
- ❑ Methods for verifying decontamination
- ❑ Maximum inventory of waste (it is conservative to assume the maximum inventory to be equal to the maximum permitted volume of waste)

Example Situation: Lois reads the Closure of Containers section of the Part B permit application, which states:

"During closure, all organic wastes will be transferred to a holding tank prior to piping to a transport tanker for shipment off site to a permitted commercial hazardous waste incinerator."

Example Action: It is inappropriate and unsafe to mix organic wastes into one holding tank without confirming that the wastes are compatible. Lois asks that the facility review the various organic waste streams and explain why they can be safely mixed into one holding tank. If mixing the wastes is no longer a viable option, Lois also asks that the facility propose an alternative method for handling organic wastes during closure.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

11.1.5.5 Closure of Tanks

Regulation: 40 CFR Parts 264.197, 264.112(b)(3), and 270.14(b)(13)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should address closure of tank systems and associated equipment, such as the containment system, liners, sumps, other structures, and surrounding contaminated soils (if applicable).

Check For:

- ❑ Hazardous waste removal and disposal methods (ensure that incompatible wastes and other nonsimilar wastes are to be handled separately during closure)
- ❑ Tank system (including the tank shell itself, if applicable) decontamination and residue disposal methods
- ❑ Site decontamination procedures for, and disposal of, linings, concrete, soil, other structures, and decontamination fluids
- ❑ Methods for verifying decontamination
- ❑ Maximum inventory of waste (it is conservative to assume the maximum inventory to be equal to the maximum permitted volume of waste)

Example Situation: Clark reads the Closure of Tanks section of the Part B permit application, which states:

"Tank system components, such as the containment system (the concrete, stairs, and sump), will be decontaminated using a high-pressure wash. Decontamination fluids will be collected and stored in 500-gallon holding tanks prior to off site disposal."

Example Action: Clark realizes that this section does not explain how or if the tank itself will undergo decontamination. If it will be decontaminated, the section should explain how the tank shell will be high-pressure washed and how decontamination fluids will be collected. If the tank will be left in place, the section should explain the criteria to be used to evaluate whether if decontamination efforts were successful (for example, identify constituent concentration action levels to be used to decide whether the tank has been "cleaned" enough). If the tank will be torn down, then the section should explain how the process will occur. Clark asks that the facility revise this section based on his comments.

Notes: _____

_____

_____

11.1.5.6 Closure of Waste Piles

Regulation: 40 CFR Parts 264.258 and 270.18(h)

Guidance: RESERVED

Explanation: Because these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

_____

US EPA ARCHIVE DOCUMENT

11.1.5.7 Closure of Surface Impoundments

Regulation: 40 CFR Parts 264.228(a)(1), (2), and (b) and 270.17(f)

Guidance: RESERVED

Explanation: Because these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

11.1.5.8 Closure of Incinerators

Regulation: 40 CFR Parts 264.351 and 270.14(b)(13)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should describe how all hazardous waste and hazardous waste residues will be removed from the incinerator and all associated structures and equipment. Alternatively, the facility may propose to dismantle and dispose of the incinerator and associated units as hazardous waste. It is more common for facilities to attempt to reduce equipment contamination as much as possible, dismantle the unit, and then send it off site for disposal, rather than attempt to fully clean-close the unit and leave it in place. However, if any contaminated components or wastes remain after closure, plans must be submitted to close the unit as a landfill and to provide post-closure care.

For U.S. EPA guidance on combustion unit closure the permit writer should reference the U.S. EPA Draft Final Report, "Draft of Guidance of Incinerator Closure" attached to Lionel Vega's memorandum dated October 30, 1990, on "Draft Guidance on Incinerator Closure." This guidance is included as Attachment D.

Check For:

- ❑ Ensure that all pieces of equipment are accounted for when assessing the extent of closure activities. Examples include, but are not limited to, the following:
  - ❑ Ductwork
  - ❑ Piping
  - ❑ APCS equipment
  - ❑ Sumps
  - ❑ Exhaust stack
  - ❑ Equipment as defined by RCRA (for example, pumps and valves)
  - ❑ Any other structures or operating equipment that has come into contact with hazardous waste
- ❑ Ensure that all hazardous waste and residues are accounted for when assessing the extent of the volume of waste handled during closure. Examples include, but are not limited to, the following:
  - ❑ Ash
  - ❑ Scrubber waters
  - ❑ Scrubber sludges
  - ❑ Refractory brick

Example Situation Clark reads the Closure of Incinerators section of the Part B permit application, which states:

"To ensure removal of all organic constituents from the refractory brick surface inside the incinerator, the incinerator will be fired on natural gas only for 8 hours at temperatures exceeding the average maximum normal operating temperature."

Example Action: It is not acceptable to state that a high-temperature burn will adequately destroy organic compounds from the refractory brick. Clark asks that the facility revise this section to propose confirmation sampling to demonstrate that hazardous organic constituents do not remain on the refractory brick. The revised section should also explain a course of action to be taken if refractory brick samples indicate the presence of hazardous organic constituents.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.1.5.9 Closure of Landfills

Regulation: 40 CFR Parts 264.310(a) and 270.21(e)

Guidance: RESERVED

Explanation: Because these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

_____

US EPA ARCHIVE DOCUMENT

11.1.5.10 Closure of Land Treatment Facilities

Regulation: 40 CFR Parts 264.280(a) and 270.20(f)

Guidance: RESERVED

Explanation: Because these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

US EPA ARCHIVE DOCUMENT

11.1.5.11 Closure of Miscellaneous Units

Regulation: 40 CFR Part 270.23(a)(2)

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should describe, in detail, how all hazardous waste and hazardous waste residues will be removed from the treatment process or equipment and how the unit will be decontaminated.

Check For:

- ❑ Ensure that all structures and equipment associated with the miscellaneous unit are accounted for when assessing the extent of closure activities
- ❑ Closure requirements for miscellaneous units should be similar to those required for other HWMUs

Example Section: The XYZ Company application stated that the waste feed processing unit (the pug mill) will be disassembled during closure and shipped to an off site industrial landfill. However, no mention was made regarding cleaning and sampling of the unit before shipment off site.

Example Comments: Lois requested that closure plan in the application be revised to incorporate decontamination, sampling, and analysis of the pug mill. Also, the method for off site disposal should be revisited in case the pug mill cannot be fully decontaminated and must be sent to a hazardous waste landfill.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

11.1.5.12 Closure of Boilers and Industrial Furnaces

Regulation: 40 CFR Part 266.102(a)(2)(vii)

Guidance: U.S. EPA. 1992. "TID for EPA's BIF Regulations." OSWER. Washington, D.C. EPA-530-4-92-11. March. Section 5.4.3, pages 5-30 and 5-31.

Explanation: This section should describe how all hazardous waste and hazardous waste residues will be removed from the BIF and all associated structures and equipment. Alternatively, the facility may propose to dismantle and dispose of the BIF and associated units as hazardous waste. It is more common for facilities to attempt to reduce the contamination of the equipment as much as possible, dismantle the unit, and then send it off site for disposal, rather than attempt to fully clean-close the unit and leave it in place. However, if any contaminated components or wastes remain after closure, plans must be submitted to close the unit as a landfill and to provide post-closure care.

For U.S. EPA guidance on combustion unit closure the permit writer should reference the U.S. EPA Draft Final Report, "Draft of Guidance of Incinerator Closure" attached to Lionel Vega's memorandum dated October 30, 1990, on "Draft Guidance on Incinerator Closure." This guidance is included as Attachment D.

Check For:

- ❑ Ensure that all pieces of equipment are accounted for when assessing the extent of closure activities. Examples include, but are not limited, to the following:
  - ❑ Ductwork
  - ❑ Piping
  - ❑ APCS equipment
  - ❑ Sumps
  - ❑ Exhaust stack
  - ❑ Equipment as defined by RCRA (for example, pumps and valves)
  - ❑ Any other structures or operating equipment that has come into contact with hazardous waste
- ❑ Ensure that all hazardous waste and residues are accounted for when assessing the extent of the volume of waste handled during closure. Examples include, but are not limited to, the following:
  - ❑ Ash
  - ❑ Scrubber waters
  - ❑ Scrubber sludges
  - ❑ Refractory brick
- ❑ Because a BIF is an integral part of the facility's production processes, there may be times when the BIF will stop receiving hazardous waste but will continue to operate to maintain the facility's production levels. If this

is the case, the facility should clearly explain how the BIF will be operated during its remaining life when not receiving hazardous waste. Because BIF rules address only the BIF's operation when receiving hazardous waste, no specific rules have been promulgated that address BIF monitoring during the period when it stops receiving hazardous waste and officially undergoes RCRA closure. As a result, the facility must explain how the unit will be operated so that it will not pose a threat to human health or the environment.

Example Section: The XYZ Company application states, the cement kiln will stop receiving hazardous waste in approximately 15 years because the source of the HWDF will cease operations at that time. However, the cement kiln will continue to operate for approximately 15 years after hazardous waste feed to the unit is stopped. As a result, the cement kiln will no longer be considered a hazardous waste management unit and will not need to undergo RCRA closure."

Example Comments: Clark commented that the application should be augmented to address RCRA closure requirements when the cement kiln both stops receiving hazardous waste and when it undergoes physical decommissioning approximately 15 years later. Even though the unit may not have been burning hazardous waste when it undergoes physical closure, it still must undergo RCRA closure because it once operated as a RCRA unit. When the unit stops receiving hazardous waste but continues to operate, the facility should outline the operating procedures to ensure that continued operation will not pose a threat to human health or the environment.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.1.5.13 Closure of Containment Buildings

Regulation: 40 CFR Part 264.1102

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section should address how hazardous waste and residues stored in a containment building will be removed. If any wastes or contaminated components remain after closure, plans should be submitted to close the building as a landfill and to provide post-closure care.

Check For:

- ❑ Ensure that all of the following items are accounted for when assessing the extent of closure:
  - ❑ Containment system
  - ❑ Contaminated soils (if applicable)
  - ❑ All structures and equipment contaminated with waste or leachate

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.2 POST-CLOSURE PLAN/CONTINGENT POST-CLOSURE

Regulation: 40 CFR Parts 270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(3), 264.118, 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.280(c), 264.310(b), and 264.603

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section addresses post-closure and contingent post-closure care (where proposed closure activities do not result in clean-closed conditions, then the facility must institute post-closure care.) Because these scenarios are not commonly associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.3 NOTICES REQUIRED FOR DISPOSAL FACILITIES

Regulation: 40 CFR Parts 264.115 and 264.280

Guidance: No specific references are applicable to this section of the manual.

Explanation: This section addresses notices required for disposal facilities such as surface impoundments, waste piles, land treatment areas, and landfills. Because these units are not normally associated with combustion units, this section will remain reserved.

Check For: RESERVED

Example Section: RESERVED

Example Comments: RESERVED

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.4 CLOSURE COST ESTIMATE

Regulation: 40 CFR Parts 264.142 and 265.142

Guidance: No specific references are applicable to this section of the manual.

Explanation: Closure cost estimates usually are provided as an attachment to the closure plan. The cost estimate serves as the basis for determining the amount of financial assurance that is required for closure.

Check For: The reviewer should check for the following:

- ❑ Written, detailed estimate, in current dollars, of the cost of closing the facility in accordance with the regulations
- ❑ The cost of final closure must be equal to a point in the facility's active life when closure would be most expensive
- ❑ Closure cost must include:
  - ❑ Transportation
  - ❑ Treatment and disposal
  - ❑ Management of decontamination liquids
  - ❑ Sampling and analysis
- ❑ The closure cost must assume that a third party will close the facility
- ❑ No salvage value can be included in the cost estimate
- ❑ The estimate cannot incorporate a zero cost for hazardous wastes that might have economic value
- ❑ The estimate must specify contingency cost estimates
- ❑ Estimate must be updated annually provided and to the permitting authority

Example Section: In reviewing the facility's closure plan (see Attachment G of this component), Clark notes that Table I-3 presents closure cost estimates for the existing facility, and Table I-4 presents closure cost estimates for the "complete facility." The term "complete facility" means the facility when all proposed HWMUs listed in the Part A permit application are constructed. However, these closure cost estimates are not complete because they do not include closure costs for (1) sampling residues in duct work, APCS, and any other structures or operating equipment that have come into contact with hazardous wastes to demonstrate that closure performance standards are met, and (2) decontaminating kilns, APCS, and any other structures or operating equipment to meet closure performance standards.

US EPA ARCHIVE DOCUMENT

Example Action: In accordance with 40 CFR Parts 270.14(b)(15) and 264.142, Clark requests that the facility revise Tables I-3 and I-4 to include closure costs for the above-referenced sampling and decontamination activities.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.5 FINANCIAL ASSURANCE MECHANISM FOR CLOSURE

Regulation: 40 CFR Parts 264.143 and 265.143

Guidance: No specific references are applicable to this section of the manual.

Explanation: Requirements for financial assurance help to ensure that funds are available to cover the closure costs should owners or operators be unable or unwilling to pay them. Owners and operators of more than one TSDF must provide financial assurance equal to the sum of the cost estimates for all of their facilities. A single financial mechanism may be used to meet requirements for financial assurance for more than one facility. A combination of several mechanisms may be used to meet requirements for one or more facilities.

Financial mechanisms that may be used to demonstrate financial assurance for closure include: (1) trust fund, (2) surety bond, (3) letter of credit, (4) insurance, (5) financial test, and (6) corporate guarantee. The wording of each financial mechanism must be *identical* to the wording specified in 40 CFR Part 264.151 or the appropriate state code. In some states, financial mechanisms must be executed on state-issued forms.

Check For: The reviewer should check for the following:

- ❑ When trust funds are used to demonstrate financial assurance for closure:
  - ❑ The owner or operator must make annual payments into the trust fund or otherwise maintain the value of the trust fund at no less than the amount specified by the established minimum payment formula.
  - ❑ Owners or operators generally must make payments into the trust fund annually over the life of the initial permit or over the remaining operating life of the facility, whichever is shorter.
  - ❑ The annual valuation statement submitted by the trustee should be checked to ensure that the funds held in trust are adequate to demonstrate financial assurance for closure.
  - ❑ Owners or operators may not withdraw funds from the trust fund without first obtaining permission from U.S. EPA or the appropriate state agency.
  - ❑ If the operating life of the facility extends beyond the pay-in period, the owner or operator must continue to update the trust fund annually to account for inflation.

US EPA ARCHIVE DOCUMENT

- ❑ If the trust fund is established after another mechanism has been used, the first payment must be at least the amount that the fund would contain if the trust fund had been used all from the beginning.

- ❑ At closure, the value of the trust fund must be at least equal to the current closure cost estimate.

❑ When surety bonds are used to demonstrate financial assurance for closure:

- ❑ The penal sum of the bond must be at least equal to the current closure cost estimate.

- ❑ The surety company must be listed in the current U.S. Treasury Department Circular 570.

- ❑ The owner or operator must establish a standby trust fund in conjunction with the surety bond.

❑ When letters of credit are used to demonstrate financial assurance for closure:

- ❑ The face value of the letter of credit must be at least equal to the current closure cost estimate.

- ❑ The owner or operator must establish a standby trust fund in conjunction with the letter of credit.

❑ When insurance is used to demonstrate financial assurance for closure:

- ❑ The face value of the insurance policy must be at least equal to the current closure cost estimate.

- ❑ In addition to the certificate of insurance, each insurance policy should be reviewed to: (1) determine if the terms of the policy are consistent with numerous requirements specified in 40 CFR Parts 264.143(e), and (2) identify any terms or conditions specified in the policy (for example, deductible levels) that may be unfavorable to U.S. EPA or the state agency.

- ❑ Recently, certain TSDF owners and operators have begun to submit certificates of insurance from *captive* insurance companies to demonstrate financial assurance for closure. Because captive insurance companies are held within the same corporate family as the owner or operator, the use of such insurance may be inappropriate to demonstrate financial assurance. Depending on state regulations.

US EPA ARCHIVE DOCUMENT

- When the financial test is used to demonstrate financial assurance for closure:

  - To satisfy the criteria of the financial test, the operator must demonstrate an investment grade bond rating or meet two of three financial ratios. The owner or operator also must meet criteria for tangible net worth; domestic assets; and, if necessary, net working capital.

  - If an owner or operator is basing eligibility to use the financial test, in part, on the demonstration of an investment-grade bond rating, care should be taken to ensure that the rating is representative of the financial condition of the firm and has not been *defeased* or otherwise inflated artificially through the use of other support mechanisms, such as insurance policies or intercompany agreements.

  - The chief financial officer (CFO) letter must demonstrate that the owner or operator has complied fully with all requirements for the financial test. The letter must be signed by the CFO of the owner or operator.

  - Eligibility to use the test is determined annually and through an evaluation of the owner's or operator's financial data for the latest completed fiscal year. For example, financial data for fiscal year 1996 may be used only to demonstrate eligibility for use of the financial test in 1997. The financial test must be updated within 90 days after the close of the firm's fiscal year.

  - Reports from independent certified public accountants (CPA) must be examined carefully to confirm that (1) data in the owner's or operator's financial statements correctly represent the financial condition of the owner or operator, and (2) data in the CFO's letter are taken directly from, or can be derived from, the year-end financial statements of the owner or operator for the latest completed fiscal year.

  - The special report from the independent CPA should comment directly on the value of a firm's domestic assets.

  - Eligibility to use the financial test depends, in part, on the ratio of the owner's or operator's tangible net worth, net working capital, and domestic assets to the total closure costs for all facilities covered under the test. Also, owners and operators may use the financial test to demonstrate financial assurance for an unlimited number of TSDFs in multiple states or jurisdictions. It often is necessary, therefore, to contact each state or jurisdiction in which a facility that is covered by the financial test is located to confirm

US EPA ARCHIVE DOCUMENT

that closure cost estimates specified for each of those facilities are accurate and have been updated properly for inflation.

- ❑ When the corporate guarantee is used to demonstrate financial assurance for closure:
  - ❑ The guarantor must annually meet all requirements of the financial test.
  - ❑ In addition to documents required to pass the financial test, the guarantor must submit a guarantee agreement for closure and post-closure care. The wording of the agreement must be identical to the wording specified in the regulations.
  - ❑ The guarantor must be: (1) the direct, higher-tier parent corporation of the owner or operator; (2) a firm whose parent corporation also is the parent corporation of the owner or operator; or (3) a firm with a "substantial business relationship" with the owner or operator.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.6 POST-CLOSURE CARE COST ESTIMATE

Regulation: 40 CFR Parts 264.144 and 265.144

Guidance: No specific references are applicable to this section of the manual.

Explanation: Cost estimates for post-closure care usually are provided as an attachment to the closure plan. The cost estimate serves as the basis for determining the amount of financial assurance that is required for post-closure care.

Check For: The reviewer should check for the following:

- ❑ See the items listed under Section 11.4. The process for the post-closure care cost estimate is the same as that for closure cost estimate.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.7 FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE CARE

Regulation: 40 CFR Parts 264.145 and 265.145

Guidance: No specific references are applicable to this section of the manual.

Explanation: The owner or operator of a permitted RCRA hazardous waste management facility is required to prepare a contingent closure and post-closure plan. This plan must provide a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with all applicable regulations.

Check For: The reviewer should check for the following:

- ❑ The written detailed post-closure plan
- ❑ Cost to conduct post-closure care, in current dollars
- ❑ Estimated number of years post-closure care will be required
- ❑ Establishment of post-closure trust fund or surety bond guaranteeing payment into a post-closure trust fund, or a surety bond guaranteeing performance of post-closure care or post-closure insurance or other financial instruments outlined in the regulations

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

11.8 THIRD-PARTY LIABILITY REQUIREMENTS

Regulation: 40 CFR Parts 264.147 and 270.14(b)(17)

Guidance: No specific references are applicable to this section of the manual.

Explanation: Requirements for financial assurance for third-party liability help to ensure that funds will be available to pay costs arising from bodily injuries and property damage to third parties caused by TSDF operations. TSDF owners and operators are required to maintain financial assurance for third-party liability for sudden accidental occurrences in the amounts of $1 million per occurrence and $2 million annual aggregate, exclusive of legal defense costs. Owners and operators of hazardous waste land disposal facilities must maintain total financial assurance for third-party liability for sudden and nonsudden accidental occurrences in the amounts of $4 million per occurrence and $8 million annual aggregate, exclusive of legal defense costs. If it is determined that the levels of third-party liability coverage required under regulations are not consistent with the degree and duration of risk associated with TSDF operations or a group of TSDFs, U.S. EPA or state agencies may increase coverage levels as necessary to protect human health and the environment.

Check For: The reviewer should check for the following:

- ❑ Financial mechanisms that may be used to demonstrate financial assurance for third-party liability:
  - ❑ Trust fund
  - ❑ Surety bond
  - ❑ Letter of credit
  - ❑ Insurance
  - ❑ Financial test
  - ❑ Corporate guarantee
- ❑ Weakness and limitation of each of the financial mechanisms
- ❑ When insurance is used to demonstrate third-party liability:
  - ❑ Levels of per occurrence and annual aggregate coverage.
  - ❑ Terms consistent with requirements specified in 40 CFR Part 264.147(a)(b)
  - ❑ Terms and conditions in the policy such as deductibles
- ❑ When the financial test is used to demonstrate financial assurance for third-party liability:
  - ❑ The same financial test may be used to demonstrate financial assurance for closure and post-closure care and third-party liability.

- ❑ Requirements for use of the financial test for third-party liability are essentially the same as for closure and post-closure care.

- ❑ To satisfy the criteria of the financial test for third-party liability, the operator may be required to demonstrate an investment grade bond rating or meet two of three financial ratios. The owner or operator also must meet criteria for tangible net worth; domestic assets; and, if necessary, net working capital.

- ❑ Eligibility to use the financial test depends, in part, on the ratio of the owner's or operator's tangible net worth, net working capital, and domestic assets to the annual aggregate amount of third-party liability coverage to be demonstrated under the test.

❑ When the corporate guarantee is used to demonstrate financial assurance for third-party liability:

- ❑ The guarantor must annually meet all requirements of the financial test for third-party liability.

- ❑ In addition to documents required to pass the financial test, the guarantor must submit a certified copy of a guarantee agreement for third-party liability. The wording of the guarantee agreement must be identical to the wording specified in the regulations.

- ❑ U.S. corporations must submit to U.S. EPA or the appropriate state agency written statements from the attorneys general or the insurance commissioners of (1) the state in which the guarantor is incorporated and (2) each state in which a facility covered by the corporate guarantee is located. The statements must confirm that the corporate guarantee is legally valid and an enforceable obligation in that state.

- ❑ Foreign corporations must submit to U.S. EPA, or the appropriate state agency written statements from the attorneys general or the insurance commissioners of (1) the state in which the guarantor has its principal place of business, and (2) each state in which a facility covered by the corporate guarantee is located. The statements must confirm that the corporate guarantee is legally valid and an enforceable obligation in that state.

- ❑ Foreign corporations must identify a registered agent for service of process in (1) the state in which the guarantor has its principal place of business, and (2) each state in which a facility covered by the corporate guarantee is located.

US EPA ARCHIVE DOCUMENT

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

11.9 USE OF STATE-AUTHORIZED MECHANISMS

Regulation: 40 CFR Parts 264.149 and 265.149, 270.14(b)(18)

Guidance: No specific references are applicable to this section of the manual.

Explanation: In certain circumstances, owners and operators may use mechanisms authorized under state regulations to demonstrate financial assurance. These circumstances arise when:

- The state has been authorized to administer the RCRA program
- The state has not been authorized but has promulgated regulations that require owners and operator of TSDFs to demonstrate financial assurance for closure and post-closure care or third-party liability, owners or operators may use mechanisms authorized under state regulations to demonstrate the assurance, provided that such mechanisms are at least equivalent to mechanisms authorized under the federal code.

Check For: The reviewer should check for the following:

- ❑ Examples of state-authorized mechanisms that are used in some states to demonstrate financial assurance for TSDFs for closure and post-closure care or third-party liability include cash bonds, certificates of deposit, securities, and escrow accounts.
- ❑ In general, the value of such mechanisms must be at least equal to the current estimates of closure and post-closure care cost or the annual aggregate amount of third-party liability coverage to be demonstrated.
- ❑ Requirements for these mechanisms are specific to states that authorize their use. Permit reviewers must consult pertinent state regulations to determine the exact criteria established for use of each state-authorized mechanism.
- ❑ In many cases, states have adopted and modified the federal financial assurance mechanisms approved under RCRA Subtitle C to meet the needs of their programs. For example, states often make minor changes to the required wording for such mechanisms to establish jurisdiction and authority for executing them. Such modifications may result in subtle variations in the requirements established for use of those mechanisms in each host state.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

US EPA ARCHIVE DOCUMENT

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

12.0 REVIEWING CORRECTIVE ACTION PLANS FOR SOLID WASTE MANAGEMENT UNITS—SECTION J

Regulations: 40 CFR Part 270.14(d).

Guidance: RCRA Part B Permit Application Review Checklist, Section J.

Explanation: Information requirements for the identification of SWMUs and a description of any releases from the SWMUs are found in 40 CFR Part 270.14(d). This may involve sampling and analysis as required by 40 CFR Part 270.14(d)(3).

Title 40 CFR Part 270.14(d) requires the permit applicant to identify all past and present SWMUs at the facility, including those used for hazardous and non-hazardous wastes. Examples of SWMUs are: landfills, surface impoundments, waste piles, land treatment units, tanks, injection wells, incinerators, wastewater treatment tanks, container storage areas, waste handling areas, transfer stations, and waste recycling operations.

Each SWMU must be characterized, as much as possible, by (1) unit type; (2) location on a topographic map; (3) engineering drawings; (4) dimensions; (5) construction materials; (6) dates when the unit was in operation; and (7) a description and quantity of wastes placed in each unit. If there are no past or existing SWMUs at the facility, the permit applicant must document the methodology used to make that determination. The applicant must supply all available information on releases from the units.

Check For: Not applicable to this section of the manual.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

13.0 REVIEWING THE APPLICABILITY OF OTHER FEDERAL LAWS—SECTION K

Regulations: 40 CFR Parts 270.(b) (20) and 270.3.

Guidance: No specific references are applicable to this section of the manual.

Explanation: Permit applicants must demonstrate that the permit will not result in noncompliance with (1) The Wild and Scenic Rivers Act (WSRA), 16 United State Code (U.S.C.) 1273 et seq., (2) The National Historic Preservation Act (NHPA) of 1966, 16 U.S.C. 470 et seq., (3) The Endangered Species Act (ESA), 16 U.S.C. 1531 et seq., (4) The Coastal Zone Management Act (CZMA), 16 U.S.C. 1451 et seq., and (5) The Fish and Wildlife Coordination Act (FWCA),16 U.S.C. 661 et seq.

WSRA prohibits U.S. EPA from authorizing any water resources project that adversely affects an established wild and scenic river. Permit applicants must demonstrate that construction of the facility will have no direct, adverse effect on any waterway designated a wild and scenic river.

Section 106 of the NHPA requires U.S. EPA, before issuing a combustion unit permit, to consider potential effects of permitted activities on properties listed, or eligible for listing, on the National Register of Historic Places. Requirements of the act are implemented in cooperation with state preservation offices and, when appropriate, the Advisory Council on Historic Preservation. The Section 106 process requires that all historic properties present in the area potentially affected by proposed activities be identified. National Register criteria should be used to evaluate properties that may be affected by the undertaking and that have not been previously evaluated for National Registry eligibility. If the property is found to be eligible using these criteria, it should be considered to be eligible for the National Register for Section 106 purposes.

If historic properties may be affected by proposed activities, these effects should be evaluated by using the criteria specified in 40 CFR 800.9. If an effect is found, U.S. EPA, in consultation with the state historic preservation officer, must determine whether the effect is considered adverse. If the effect is found to be adverse, U.S. EPA must (1) notify the Council on Environmental Quality (CEQ) and (2) work with the state historic preservation officer to seek ways to avoid or reduce the effects on historic properties. A memorandum of agreement must be executed if U.S. EPA and the state historic preservation officer agree on how the effects will be taken into account. The memorandum of agreement must be reviewed and approved by the CEQ, if the CEQ was not involved in formulating the memorandum of agreement. As specified in 40 CFR Part 800.8, a finding of no adverse effect must be fully documented to explain how the finding was reached.

The U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service share responsibility for implementing the ESA. Section 7(a)(2) of ESA requires every federal agency, including U.S. EPA, to ensure that any action it authorizes, funds, or carries out, is not likely to (1) jeopardize the continued

US EPA ARCHIVE DOCUMENT

existence of any listed species of fish, wildlife, or plants, or (2) result in destruction or adverse modification of critical habitats. If the prospective permit applicant has reason to believe that the combustion unit may affect listed species or critical habitat, the applicant may request U.S. EPA to enter into early consultation with FWS. Section 7(a)(3) of ESA authorizes prospective permit applicants to request, in writing, an early consultation with FWS to determine whether the proposed action is likely to violate the ESA. Early consultation should be conducted before the permit application is filed and should involve FWS, U.S. EPA, and the permit applicant, as specified in 40 CFR Part 402.11.

If FWS determines, after the preliminary consultation, that the proposed activities may violate the provisions of ESA Section 7(a)(2), a formal consultation is required and must be conducted as specified in 40 CFR Part 402.11. After concluding the final consultation, the FWS must deliver a "biological opinion" stating whether proposed actions are likely to jeopardize the continued existence of a listed species or will result in the destruction or adverse modification of critical habitat (jeopardy biological opinion). A jeopardy biological opinion must include alternatives, if any, that the permit applicant can take to minimize the impact of proposed activities on listed species and critical habitats. If FWS is unable to develop such alternatives, it must indicate that, to the best of its knowledge, no reasonable and prudent alternatives exist.

CZMA requires all federally conducted or supported activities, including development projects directly affecting the coastal zone, to be implemented in a manner consistent with approved state coastal zone management programs. Federally licensed or permitted activities affecting the coastal zone also must be conducted in a manner consistent with the state's approved management programs. States are authorized to review federal permit applications to determine whether proposed activities are consistent with approved states coastal zone management plans.

If combustion unit construction involves the modification of any body of water, FWCA requires U.S. EPA to consult with the appropriate state agency to ensure that the proposal conserves wildlife resources.

Check For: The reviewer should check for the following:

- ❑ Compliance with WSRA
- ❑ Compliance with NHPA
- ❑ Compliance with ESA
- ❑ Compliance with CZMA
- ❑ Compliance with FWCA

Example Section: One of the most common deficiencies in permit applications with regard to other federal laws is inadequate documentation to demonstrate that the facility has

US EPA ARCHIVE DOCUMENT

investigated how these laws affect its operations. Clark reviews a permit application which simply states that there are no endangered species likely to be affected by combustion unit operation. This application is inadequate without documentation to show how that conclusion was reached.

Example Comments: Clark asks that the facility clarify whether the discussion of endangered species means that there are no endangered species identified in the area or that there are endangered species in the area not likely to be affected by the combustion unit. In either case, he also requests that the facility provide the rationale for this determination, such as written opinion from the FWS.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

14.0 REVIEWING THE FACILITY CERTIFICATION—SECTION L

Regulation: 40 CFR Part 270.11

Guidance: No specific references are applicable to this section of the manual.

Explanation: This information normally appears as Section L of the permit application. All permit applications must be accompanied by a certification letter, as specified in 40 CFR Part 270.11(d). The responsible individual must sign the certification letter. The regulation identifies the appropriate responsible individual for the following business scenarios: (1) a corporation, (2) a partnership or sole proprietorship, and (3) a municipality, state, federal, or other public agency.

Check For: The reviewer should check for the following:

- ❑ Ensure that the language in the facility's certification letter matches exactly 40 CFR Part 270.11(d).
- ❑ The facility should identify which of the three business scenarios listed above applies.
- ❑ Confirm that the certification letter signatory complies with 40 CFR Part 270.11(d) requirements.
- ❑ Confirm that the certification letter is currently signed by the correct corporate officer. If the application is a modification, check to see if the individual listed has changed since the last permit application review.

Example Situation: Lois reads the Section Certification section of the part B permit application, as presented in Exhibit 14.0-1, (see page 3-189).

Example Comments: According to 40 CFR Part 270.11, the Part B permit application must contain a certification letter with an appropriate signatory. For a corporation, the signatory must be a principal executive officer at least at the level of vice president. However, the facility certification letter has been signed by the plant manager. Lois asks that the facility either revise this section to explain how the plant manager meets the required signatory level, or submit a new certification letter reflecting an appropriate signatory.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

EXHIBIT 14.0-1

EXAMPLE PART B PERMIT APPLICATION CERTIFICATION

SECTION L

CERTIFICATION

[40 CFR Part 270.11(D), K.A.R. 28-31-9a]

"I certify under penalty of the law that this document and all attachments were prepared under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Date:_____ Signature: Original Signed by Plant Manager
Plant Manager

15.0 PREPARING NOTICE OF DEFICIENCIES

US EPA ARCHIVE DOCUMENT

Regulations: 40 CFR Parts 124 and 270 Subpart B
40 CFR Part 270.62
40 CFR Part 270.66

Guidance: No specific references are applicable to this section of the manual.

Explanation: Any deficiencies identified during the completeness and technical adequacy evaluation of the permit application are documented in an NOD that is sent to the applicant. The NOD generally consists of an introductory cover letter, a summary of major deficiencies, and a listing of specific deficiencies with descriptive comments. The NOD also may contain attachments, such as a copy of the completed Part B permit application review checklist and references to guidance documents or other information, to assist the applicant in revising the application.

Check For: The reviewer should consider the following in preparation of the NOD:

- ❑ Timing for notification of major gaps or deficiencies in the permit application (see Section 15.1)
- ❑ Comments that would help the applicant address the issues adequately (see Section 15.2)
- ❑ Attachments that may be helpful to the applicant (see Section 15.3)
- ❑ Meetings after the applicant has reviewed the NOD (see Section 15.4)

Example Section: While reviewing the TBP in the Part B permit application, Lois notes that XYZ Company does not propose to test for dioxins and furans in stack gas samples.

Example Comments: Lois prepares the following comment:

"The facility does not propose to test for dioxin and furans. Revise the TBP to specify stack gas sampling and analysis for dioxins and furans. The current accepted methodology for dioxin testing is Method 0023A found in U.S. EPA 1996 SW-846. Dioxin and furan testing is required because these compounds have been shown to be significant contributors to risk in indirect risk assessments."

Notes: _____
_____
_____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

15.1 THE TIMING

Regulations: No regulations are applicable to this section of the manual

Guidance: No specific references are applicable to this section of the manual.

Explanation: During review of the permit application, it is more efficient to identify and immediately report major gaps or deficiencies to the applicant. In the meantime, if the application is not entirely inadequate, the reviewer may continue evaluating sections of the application that are not affected by revisions.

By notifying the applicant immediately of "major problems" in an initial NOD (such as major sections that are incomplete, or sections that clearly do not meet technical adequacy criteria) rather than wait until a formal NOD is sent, the applicant can anticipate and begin to revise those sections of the application. A more detailed NOD can follow later after the more detailed review is completed.

Check For: The reviewer should:

- ❑ Identify and immediately set aside sections of the application that are clearly deficient and review only those sections that will not be altered by revisions
- ❑ Notify the applicant by telephone of sections that will require major revisions
- ❑ Send written NODs outlining major problems
- ❑ Continue review of the sections not substantially deficient
- ❑ Review revised application addressing major problems as outlined in the first NOD
- ❑ Send comprehensive NOD

Example Section: As Clark begins to review the Part B permit application for XYZ Company, he notices that the facility has submitted a permit application without the TBP.

Example Comments: Clark prepares the following letter to the facility:

"U.S. EPA Region 6 has reviewed your BIF Part B permit application and found that you did not submit a TBP in accordance with 40 CFR Part 270.22.

"Pursuant to 40 CFR Part 124.3(c), you are required to submit a TBP to U.S. EPA Region 6 within 30 days from the date of this letter. U.S. EPA Region 6 will review the plan within 15 days of its submittal. The trial burn report should also be submitted to U.S. EPA Region 6 within 100 days from the completion date of the trial burn, but no later than May 1, 1997.

"Pursuant to 40 CFR Part 270.10(e)(5), failure to submit a timely or complete Part B application for facilities that qualify for interim status is grounds for termination of interim status. Therefore, failure to correct these deficiencies may result in an enforcement action.

"To assist you in the preparation of a TBP, enclosed is a copy of the U.S. EPA Region 6 Generic TBP. This plan may serve as guidance for trial burn performance objectives, methodology, and protocol that should be considered to obtain the data necessary for permitting purposes."

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

15.2 THE COMMENTS

Regulations: 40 CFR Part 124

Guidance: No specific references are applicable to this section of the manual.

Explanation: The specificity of the reviewer's comments contained in the NOD will largely affect how well the applicant revises the permit application. In general, comments should cite specific sections or exact needs in terms of data, documentation, or explanation to satisfy regulatory requirements. If necessary, cite examples in relevant guidance documents to demonstrate what is needed. Vague comments, such as "be more specific" or "provide more explanation," will result in further misunderstanding and will require additional rounds of reviews and revisions.

Check For: The reviewer should:

- ❑ Review all comments associated with technical inadequacies to ensure that they are not vague, but state specifically the information required
- ❑ Write comments objectively; do not try to assume the facility's position, attitude, or rationale underlying a poorly prepared or inadequate section
- ❑ Attempt to promote only one round of revisions by preparing specific and direct comments identifying incomplete and technically inadequate sections of the application

Example Section: The XYZ Company TBP was reviewed by Lois and Clark and found to be deficient in many areas. For example, Lois noticed that the CEMS used to monitor CO would be capable of accurately measuring CO concentrations in the stack up to 500 ppmv. Lois knew that U.S. EPA requirements for this critical combustion indicator constituent required dual range devices so that the magnitude of upset conditions could be measured as well as concentrations during normal operations.

Example Comments: Lois wrote XYZ Company an NOD requesting more detail on the CEMS and particularly on the CO analyzer.

Lois should also reference the Appendix IX performance specification test requirements and inform XYZ Company that a single range CO instrument is not acceptable.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

15.3 THE ATTACHMENTS

Regulations: No regulations are applicable to this section of the manual.

Guidance: No specific references are applicable to this section of the manual.

Explanation: Various attachments, such as completed checklists, copied sections of relevant guidance documents, or references to guidance or policy documents, may be included with the NOD. In particular, it is often advantageous to provide the applicant with a copy of completed checklists and other internal working documents used to review the application as an attachment to the NOD. These attachments will assist the applicant to not only better organize the revisions, but to better understand the regulatory agency's rationale or justification for deeming the application technically inadequate.

Check For: The reviewer should consider:

- ❑ Providing completed checklists as an attachment to the NOD
- ❑ Specifically referencing guidance documents used during the review or providing a list of those documents as an attachment to the NOD

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

15.4 THE MEETING

Regulations: No regulations are applicable to this section of the manual.

Guidance: No specific references are applicable to this section of the manual.

Explanation: It may be advantageous to schedule a meeting with the applicant after receipt and review of the NOD. A meeting may help to clarify deficiencies noted in the application and to discuss other issues, such as expanded public participation during the permitting process.

Check For: Prepare for the meeting by:

- ❑ Reviewing the deficiencies identified in the NOD and discussing with team members the best approach for resolving them with the applicant
- ❑ Obtaining all guidance and policy documents used or cited to justify NODs. Those documents should be brought to the meeting and discussed, if necessary
- ❑ Developing an agenda to keep the meeting focused

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

16.0 THE COMPLETE PART B PERMIT APPLICATION

Regulations: 40 CFR Parts 124 and 270 Subpart B
40 CFR Part 270.62
40 CFR Part 270.66

Guidance: No specific references are applicable to this section of the manual.

Explanation: After the regulatory agency sends the facility an NOD regarding the permit application, the facility will be allowed a specified time to respond. Subsequent revisions must be reviewed for completeness and technical adequacy. If further revisions are required, the regulatory agency may again issue NODs. The regulatory agency must notify the applicant after the application is deemed complete. However, if the facility continues to provide inadequate information or fails to respond in a timely manner, the agency may consider issuing a "Notice of Intent to Deny." If this notice is issued, a public comment period must take place followed by a final permit determination and potential appeals.

At an IS facility where hazardous waste management is ongoing, submittal of the complete Part B permit application can take a very long time. In the meantime, since the TBP is usually a stand alone document, the permit authority will request the RCRA trial burn be conducted. This occurs in order to establish permit limits for the combustion unit incorporating performance standards published as regulations. The TBP will be submitted, reviewed, revised, and the trial burn conducted before the complete Part B permit application is submitted.

Assuming that the Part B application is complete and technically adequate, the following eight steps occur for new facilities: (1) preparation of the draft permit; (2) public comment on the draft permit; (3) permit determination (in four-phases); (4) construction and pretrial burn operation (Phase 1); (5) of the trial burn (Phase 2); (6) post-trial burn operation (Phase 3); (7) final operating conditions (Phase 4); and (8) potential permit appeals. After the trial burn, an additional public comment period may be required if final operating conditions require major modifications (for example, an additional trial burn).

Check For: The permit reviewer, after reviewing the Part B permit application, should:

- ❑ Prepare a draft permit or "notice of intent to deny"
- ❑ Allow for a public comment period
- ❑ Complete permit appeals process

US EPA ARCHIVE DOCUMENT

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

16.1 DRAFT PERMIT OR "NOTICE OF INTENT TO DENY"

Regulations: 40 CFR Part 124, Subparts A and B

Guidance: No specific references are applicable to this section of the manual.

Explanation: After review of the Part B permit application and completion of the trial burn (in the case of existing facilities), the regulatory agency will prepare a draft permit determination. If the facility is unable to meet statutory or regulatory standards, a "Notice of Intent to Deny" is prepared. The U.S. EPA Region 6 Model RCRA Permits (see Component 7, Attachments C through F) are excellent guides to preparing a permit using a modular approach to the permit structure.

Check For: The reviewer should examine the following prior to issuing a draft permit:

- ❑ The classification as either major or minor is assigned to the facility by the U.S. EPA Regional Director or authorized state agency director. A major HWM facility is considered the subject of widespread public interest or raises major issues [See 40 CFR Part 124.8 (a)]. A minor HWM facility is simply a non-major HWM facility. Draft permits for hazardous waste combustion units normally require preparation of a fact sheet.
- ❑ If the facility is categorized as major, confirm that a fact sheet is prepared (see 40 CFR Part 124.8).
- ❑ If the facility is categorized as minor, confirm that a statement of basis is prepared (see 40 CFR Part 124.7).
- ❑ Supporting documents and notes and correspondence associated with drafting the permit must be placed in the administrative record for the facility.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

US EPA ARCHIVE DOCUMENT

16.2 THE PUBLIC COMMENT PERIOD

Regulations: 40 CFR Part 124

Guidance: No specific references are applicable to this section of the manual.

Explanation: After preparation of the draft permit or in the case of a "Notice of Intent to Deny," the regulatory agency must allow a public comment period. During this period, the regulatory agency solicits, reviews, and responds to public comments. For RCRA permits, the public notice must allow at least 45 days for comment.

The agency must prepare a "Response to Public Comments." This document responds to major comments and explains what, if any, provisions of the draft permit have been changed as a result.

During the public comment period, anyone including the permitting agency may request a public hearing. The agency must provide 30 days notice before the hearing starts. In a hearing, arguments for and against the permit are presented by various individuals and organizations, such as environmental groups, neighborhood organizations, the facility, and the permitting agency. A governmental board or commission presides over the hearing and passes judgement in favor of or opposing issuing the permit.

Since promulgation of the Expanded Public Participation Rule (see Section 1.3 of this component), the public is encouraged to be involved in the permitting process before the permit application is submitted throughout review of the application, and during permit preparation. To promote community awareness and understanding, facilities are encouraged to coordinate a public involvement program that incorporates public meetings, facility tours, and information transfer. The permitting agency is responsible for various public notices and directing facilities to U.S. EPA guidance documents that suggest effective methods for public involvement.

Check For:

- ❑ The administrative record must be established and maintained, see 40 CFR Parts 124.6(e) and 124.9 for requirements
- ❑ All public comments are collected and accounted for (including oral comments submitted during the public hearing)
- ❑ "Response to Public Comments" must be prepared within 60 days after the close of the comment period.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

US EPA ARCHIVE DOCUMENT

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

16.3 APPEALS

Regulations: 40 CFR Part 124

Guidance: No specific references are applicable to this section of the manual.

Explanation: After a permit decision is made, any person who filed comments on the draft permit or participated in the public hearing on the draft permit may petition the U.S. Environmental Appeals Board (EAB) to review any condition of the permit decision.

After the administrative permit appeals process has been completed, the petitioner could then seek judicial review in federal court. However, the decision of the EAB is final pending a decision in federal court, unless the federal court grants a petition to stay the EAB's decision pending the decision of the federal court.

.

Check For: Not applicable to this section of the manual.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

17.0 FUTURE CHANGES TO THE PART B APPLICATION

Regulations: 40 CFR Part 270 Subpart D

Guidance: No specific references are applicable to this section of the manual.

Explanation: Facilities may require modifications to existing RCRA permits for various reasons; including a change in facility operations, or statutory or regulatory changes.

U.S. EPA has established three classes of permit modifications and administrative procedures for approving modifications in each (see 40 CFR Part 270.42 Appendix I).

- Class 1 addresses routine and administrative changes and represents a range of modifications with the least potential for environmental impact (see Section 17.1).
- Class 2 primarily addresses improvements in technology and management techniques and represents a range of modifications with moderate potential for environmental impact (see Section 17.2).
- Class 3 represents major changes to a facility and its operations and represents a range of modifications with the greatest potential for environmental impact (see Section 17.3).

In some final rulemakings, U.S. EPA will explain whether new requirements will obligate permitted facilities to obtain a Class 1, 2, or 3 modification. Class 2 and 3 modifications require public comment periods. U.S. EPA can also allow temporary authorization to allow the facility to complete form closure or corrective action activities while awaiting approval of permit modifications (see Section 17.4).

Check For: The reviewer should check for the following:

- ❑ A reference to Appendix I of 40 CFR Part 270.42 as to whether the proposed modification meets one of the listed modifications
- ❑ Sufficient explanation of the change to clearly demonstrate which class applies

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

17.1 CLASS 1 MODIFICATIONS

Regulations: 40 CFR Part 270.42

Guidance: No specific references are applicable to this section of the manual.

Explanation: In general, Class 1 modifications do not require approval by the regulatory agency before they are implemented. Within 90 days of implementing the change, a facility making a Class 1 modification must notify the public by sending a notice to all parties on its mailing list. Any member of the public may request the regulatory agency to review a Class 1 modification. In addition, U.S. EPA may deny any Class 1 modification. These types of changes typically apply to information in the Part A permit application and the general information section of the Part B permit application

Check For: ❑ Whether the modification appears in Appendix I to 40 CFR Part 270.42

Example Section: Examples of Class 1 modifications include:

- Correction of typographical errors
- Changes in name, address, or telephone numbers of emergency coordinators

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

17.2 CLASS 2 MODIFICATIONS

Regulations: 40 CFR Part 270.42

Guidance: No specific references are applicable to this section of the manual.

Explanation: Class 2 modifications require the facility to submit a request for approval of the change to the permitting agency. A facility may begin construction 60 days after submitting a request, although the permitting agency may delay all or part of the construction.

The facility must notify citizens and organizations on the facility mailing list about the modification and publish a notice in a major local newspaper. This notice must occur within 7 days of the facility's change request. The newspaper notice marks the start of a 60-day comment period and also announces the time and place of an informal meeting. The permitting agency must consider those comments before rendering a final permit decision.

Class 2 permit modifications include a default provision to ensure that the permitting agency responds promptly to the facility's request. The permitting agency may upgrade the facility's request to a Class 3 if there is significant public concern or if the facility's request is too complex for Class 2 procedures.

Check For:

- ❑ Whether the modification appears in Appendix I to 40 CFR Part 270.42

Example Section: Examples of Class 2 modifications include:

- Change of inspection schedule frequency or content
- Modification of tank unit or secondary containment system without increasing system capacity

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

17.3 CLASS 3 MODIFICATIONS

Regulations: 40 CFR Part 270.42

Guidance: No specific references are applicable to this section of the manual.

Explanation: Class 3 modifications must initially follow the same public notice, comment, and meeting procedures as for Class 2. The permitting agency must prepare a draft permit modification, allow 45 days for public comment on the draft, hold a public hearing, if requested, and then issue or deny the permit modification request.

Check For:

- ❑ Whether the modification appears in Appendix I to 40 CFR Part 270.42

Example Section: Examples of Class 3 modifications include:

- Change to increased feed rate to a BIF unit by more than 25 percent
- Extension of final compliance date

Example Comments: Not applicable to this section of the manual.

Notes: _____

_____

_____

US EPA ARCHIVE DOCUMENT

17.4 TEMPORARY AUTHORIZATION

Regulations: 40 CFR Part 270.42

Guidance: No specific references are applicable to this section of the manual.

Explanation: For certain Class 2 or 3 modifications, the permitting agency may grant a facility temporary authorization for certain activities, such as corrective action or closure activities, for up to 180 days. The facility must notify the public within 7 days of making the request. However, the permitting agency may grant temporary authorization without notifying the public. A facility may renew a temporary authorization only by requesting a permit modification and initiating public participation.

Check For: Not applicable to this section of the manual.

Example Section: Not applicable to this section of the manual.

Example Comments: Not applicable to this section of the manual.

Notes: _____

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

ATTACHMENT A

EXAMPLE PART B PERMIT APPLICATION FORM

(108 Sheets)

US EPA ARCHIVE DOCUMENT

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PERMIT APPLICATION FOR
INDUSTRIAL AND HAZARDOUS WASTE
STORAGE/PROCESSING/DISPOSAL FACILITY

PART B

FORM AVAILABILITY:

This form, as well as other Industrial and Hazardous Waste documents, is available on the TNRCC OnLine bulletin board service at (512) 239-0700 and on the Internet World Wide Web, Waste Management home page at address http://www.tnrcc.state.tx.us

INTRODUCTION:

This permit application is generally a reorganized summary of the Part B information requirements of 40 CFR Part 270 and 30 Texas Administrative Code (TAC) Chapter 305 Subchapters C and D and Chapter 335. The TNRCC may request additional information before a permit is issued, if regulatory requirements change.

The original application plus all copies should be submitted to:

Texas Natural Resource Conservation Commission
Attention: Permits Section, MC130
Industrial & Hazardous Waste Division
P. O. Box 13087
Austin, Texas 78711-3087

TELEPHONE INQUIRIES:

(512) 239-6595 - Technical - Permits Section, Industrial & Hazardous Waste Division
(512) 239-6832 - Waste Identification - Waste Evaluation Section, Industrial & Hazardous Waste Division
(512) 239-1230 - Office of Air Quality, New Source Review
(512) 239-0600 - Legal - Legal Division
(512) 239-0357 - Fees - Financial Administration Division

APPLICATION REVIEW PROHIBITION:

The Texas Natural Resource Conservation Commission (TNRCC) shall not review an application for a new commercial hazardous waste facility, and the application shall be deemed not to have been received, until the emergency response information required by Section III.F. of the application has been reviewed and declared by TNRCC staff to be complete and satisfactory. [30 TAC 281.26, 30 TAC 305.50(12)(c)(I)]

PERMIT ISSUANCE PROHIBITED [30 TAC 335.205]: The TNRCC shall not issue a permit for:

1. a new hazardous waste management facility or an areal expansion of an existing facility if the facility or expansion does not meet the requirements of 30 TAC 335.204 (relating to Unsuitable Site Characteristics).

2. a new hazardous waste landfill or the areal expansion of an existing hazardous waste landfill if there is a practical, economic, and feasible alternative to such a landfill that is reasonably available to manage the types and classes of hazardous waste which might be disposed of at the landfill.

3. a new commercial hazardous waste management facility as defined in 30 TAC 335.202 (relating to Definitions) or the subsequent areal expansion of such a facility or unit of that facility if the owner/operator proposes to locate the boundary of the unit within ½ of a mile (2,640 feet) of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park.

4. a new commercial hazardous waste management facility that is proposed to be located at a distance greater than ½ mile (2,640 feet) from an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park unless the applicant demonstrates to the satisfaction of the commission that the facility will be operated so as to safeguard public health and welfare and protect physical property and the environment, at any distance beyond the facility's property boundaries.

5. a proposed hazardous waste management facility, or a capacity expansion of an existing hazardous waste management facility if a fault exists within 3,000 feet of the proposed hazardous waste management facility or of the capacity expansion of an existing hazardous waste management facility unless the applicant performs the demonstration found in 30 TAC 335.205(h).

See 30 TAC 335 Subchapter G: Location Standards for Hazardous Waste Storage, Processing, or Disposal for additional details and information.

COMPLETING THIS APPLICATION:

This permit application form has been designed to solicit specific information, with reports to be attached or inserted. A response must be made for each informational request in the application form. If an item is not applicable please state "not applicable" and explain. All information included in the application must be listed by the format of the application. For example, if an engineering report is attached to the application to fulfill the requirements of Section V, then each subsection of the engineering report must correlate with the corresponding subsection in the application form (e.g., Subsection V.A.2. of the report would be proposed construction schedules). If information is provided which does not correspond with the application form, the specific rule or regulation which requires submittal of the information must be cited. Each report should be attached behind the summary form or table for the report and submitted as one document with the pages sequentially numbered at the bottom. Maps, bluelines, and drawings that cannot be folded to 8-1/2" x 11" may be submitted as separate documents. Engineering plans and specifications submitted with an application must be approved and sealed by a Registered Professional Engineer, with current registration required by the Texas Engineering Practice Act.

Facilities which will receive industrial and hazardous wastes from off-site sources must also provide information on these wastes and associated waste management units in accordance with 30 TAC 335.2.

For those who pre-filed a Part A application, certain items may have been omitted. These omissions must be addressed at this time. Additionally, if hazardous waste management methods have changed since the filing of the Part A, please provide an updated Part A.

Pursuant to Section 361.067 of the Texas Solid Waste Disposal Act, the TNRCC is required to mail a copy of this application or a summary of its contents to other regulatory agencies. Section I may be considered a summary of the entire application provided that all questions are completely answered. Therefore, Section I responses must not rely solely on cross-references to other sections of the application.

GROUNDWATER CONTAMINATION:

If groundwater monitoring has detected the presence of hazardous constituents in the facility ground water, the owner or operator must submit a Compliance Plan Application in addition to this application. The TNRCC Permits Section, Industrial and Hazardous Waste Division can provide the Compliance Plan Application form.

SUBMITTAL:

The complete application should be typewritten or printed neatly in black ink. If the application has been prepared using word processing, the third copy should consist of paper copies of all plans and maps and a computer diskette of the remaining document. The document should be formatted in WordPerfect® word processing software up to and including version 6.1 or a 100% compatible format. Files may be compressed using PKZIP® Ver. 2 or a 100% compatible program.

US EPA ARCHIVE DOCUMENT

For a new, original permit application or renewal, submit:

1. an original updated Part A permit application plus three (3) full copies, if appropriate;
2. the original Part B application plus three (3) full copies;
3. six (6) additional copies of Section I: General Information; and
4. a check for payment of permit application fees transmitted directly to the TNRCC Financial Administration Division with a photostatic copy of the check included in the original Part B permit application.

For major amendments to an issued hazardous waste permit, submit:

1. an original updated Part A permit application plus three (3) full copies, if appropriate;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the amendment;
3. an explanation of why the major amendment is needed;
4. six (6) additional copies of Section I: General Information; and
5. a check for payment of permit application fees transmitted directly to the TNRCC Financial Administration Division with a photostatic copy of the check included in the original Part B permit amendment application.

For minor amendments to an issued hazardous waste permit, submit:

1. an original updated Part A permit application plus three (3) full copies, if appropriate;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the amendment; and
3. an explanation of why the minor amendment is needed; and
4. a check for payment of permit application fees transmitted directly to the TNRCC Financial Administration Division with a photostatic copy of the check included in the original Part B permit amendment application.

For Class 3 modifications to an issued hazardous waste permit, submit:

1. an original updated Part A permit application plus three (3) full copies, if appropriate;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the modification;
3. a description of the exact changes to be made to the permit conditions and supporting documents referenced by the permit;
4. an explanation of why the Class 3 modification is needed;
5. evidence of the public notice mailing and publication (after the public meeting, please submit a statement that the public meeting was held within the required timeframes); and
6. a check for payment of permit application fees transmitted directly to the TNRCC Financial Administration Division with a photostatic copy of the check included in the original Part B permit modification application.

For Class 2 modifications to an issued hazardous waste permit, submit:

1. an original updated Part A permit application plus three (3) full copies, if appropriate;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the modification;
3. a description of the exact changes to be made to the permit conditions and supporting documents referenced by the permit;
4. an explanation of why the Class 2 modification is needed;
5. evidence of the public notice mailing and publication (after the public meeting, please submit a statement that the public meeting was held within the required timeframes); and
6. a check for payment of permit application fees transmitted directly to the TNRCC Financial Administration Division with a photostatic copy of the check included in the original Part B permit modification application.

For Class 1[1] modifications to an issued hazardous waste permit, submit:

US EPA ARCHIVE DOCUMENT

1. An original updated Part A permit application plus three (3) full copies, if appropriate;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the modification;
3. a description of the exact changes to be made to the permit conditions and supporting documents referenced by the permit;
4. an explanation of why the Class 1[1] modification is needed;
5. a check for payment of permit application fees transmitted directly to the TNRCC Financial Administration Division with a photostatic copy of the check included in the original Part B permit modification application.

For Class 1 modifications to an issued hazardous waste permit, submit:

1. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the modification;
2. a description of the exact changes to be made to the permit conditions and supporting documents referenced by the permit;
3. an explanation of why the Class 1 modification is needed;
4. a check for payment of permit application fees transmitted directly to the TNRCC Financial Administration Division with a photostatic copy of the check included in the original Part B permit application.

If several modifications are submitted as one application, the application review will proceed at rate of the amendment or modification which has the longest timeframe.

APPLICATION REVISIONS:

Please submit any application revisions with a revised date and page numbers at the bottom of the page(s).

WAIVERS:

Any request for waiver of any of the applicable requirements of this permit application must be fully documented.

DESIGNATION OF MATERIAL AS CONFIDENTIAL:

The designation of material as confidential is frequently carried to excess. The Commission has a responsibility to provide a copy of each application to other review agencies and to interested persons upon request and to safeguard confidential material from becoming public knowledge. Thus, the Commission requests that the applicant (1) be prudent in the designation of material as confidential and (2) submit such material only when it might be essential to the staff in their development of a recommendation.

The Commission suggests that the applicant **NOT** submit confidential information as part of the permit application. However, if this cannot avoided, the confidential information should be described in non-confidential terms throughout the application, cross-referenced to Section XII: Confidential Material, and submitted as a separate Section XII. document or binder, and conspicuously marked "CONFIDENTIAL."

Reasons of confidentiality include the concept of trade secrecy and other related legal concepts which give a business the right to preserve confidentiality of business information to obtain or retain advantages from its right in the information. This includes authorizations under 5 U.S.C. 5552(b)(4), 18 U.S.C. 1905, and special rules cited in 40 CFR 552.301-2.309

Section 361.037 of the Texas Solid Waste Disposal Act does not allow an applicant for an industrial solid waste permit to claim as confidential any record pertaining to the characteristics of the industrial solid waste.

The applicant may elect to withdraw any confidential material submitted with the application. However, the permit cannot be issued, amended, or modified if the application is incomplete.

EPA EXPOSURE ASSESSMENT:

US EPA ARCHIVE DOCUMENT

In accordance with 30 TAC 305.50(8) and 40 CFR 270.10(j), any Part B application submitted for a facility that stores, processes, or disposes of hazardous waste in a surface impoundment or a landfill (including post-closure) must be accompanied by exposure information of the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. This exposure information is considered separate from the permit application, as stated in 40 CFR 270.10(c).

PRE-APPLICATION MEETING/PUBLIC PARTICIPATION ACTIVITIES [30 TAC 335.391]:

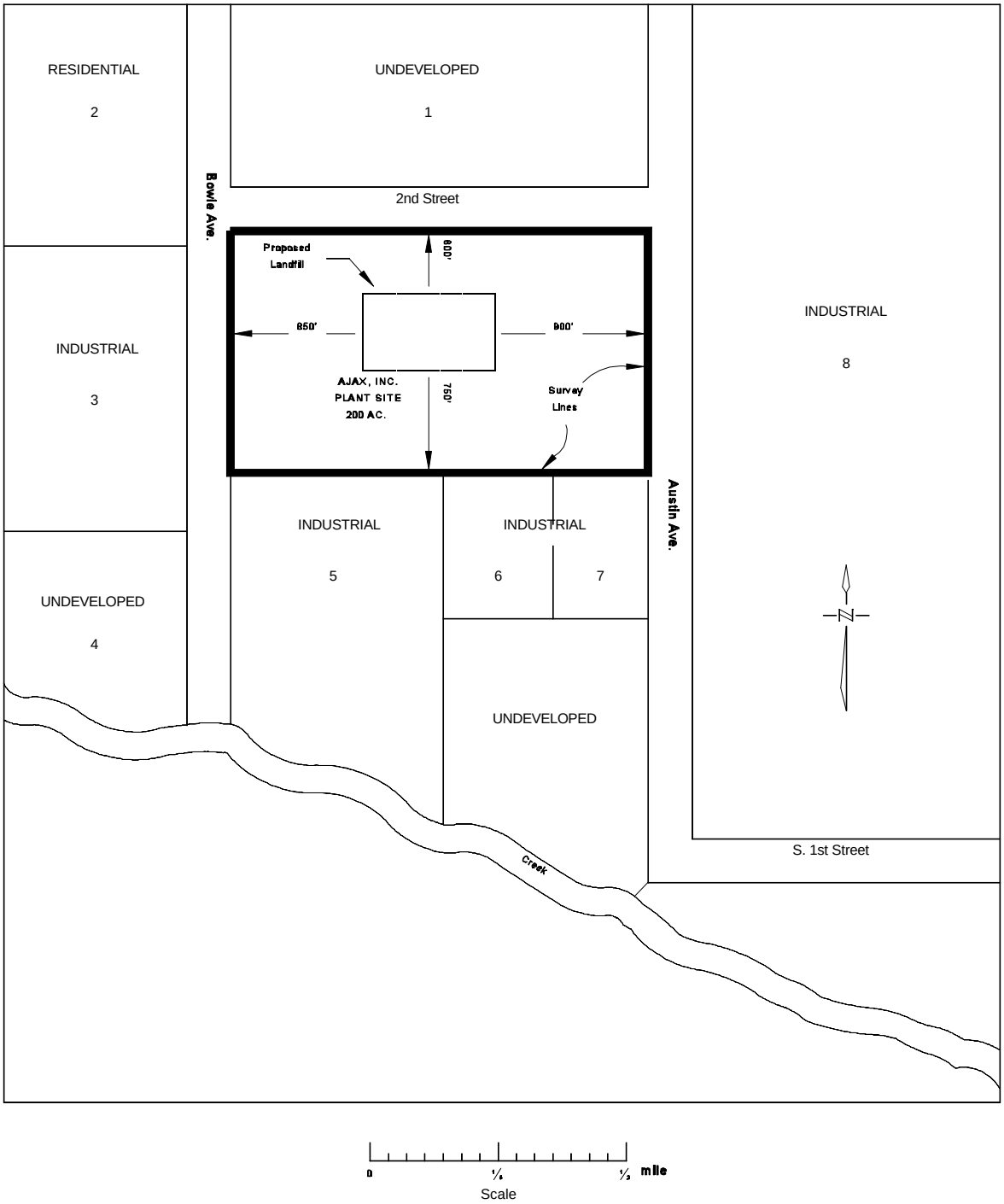
The TNRCC encourages applicants to hold a pre-application meeting with the public to allow both the applicant and the public to identify potential issues. Applicants are also encouraged to hold a pre-application meeting with TNRCC Permits Section staff and to notify the Permits Section, Industrial and Hazardous Waste Division of an intent to file a permit application.

If a local review committee has been established to facilitate communication between the applicant and the local host community, the applicant should summarize the activities of the committee and submit this summary with the application. Any report completed by the review committee must also be submitted.

US EPA ARCHIVE DOCUMENT

SAMPLE APPLICATION MAP

ALL ADJACENT LANDOWNERS SHALL BE IDENTIFIED



US EPA ARCHIVE DOCUMENT

LANDOWNERS CROSS-REFERENCED TO
APPLICATION MAP

The persons identified below would be considered as affected persons.

1. Mr. & Mrs. Samuel L. Davis
11901 Knights Bridge
Austin, Texas 78759

2. Mr. & Mrs. Edward Sanchez
1405 Craigmont Lane
Waco, Texas 76710

3. Tex-Link Corp.
8411 Zip Street
Houston, Texas 77590

4. Mr. & Mrs. Ted Goldsby
3210 20th Street
Waco, Texas 76724

5. Jaxson Brewing Co.
4240 Line Road
Dallas, Texas 77640

6. Plainview Company
6647 Star Blvd.
Houston, Texas 77590

7. ABC Chemicals, Inc.
1212 Austin Ave.
Dallas, Texas 77640

8. Big-C Bottle Co.
10024 N.W. Hwy.
Bovina, Texas 79402

US EPA ARCHIVE DOCUMENT

Table of Contents

I. GENERAL INFORMATION . . . 1
- A. Applicant . . . 1
- B. Authorized Persons . . . 1
- C. Facility . . . 2
- D. Application Type and Facility Status . . . 2
- E. Facility Siting Summary . . . 3
- F. Wastewater and Stormwater Disposition . . . 3
- G. Adjacent Landowners List . . . 4
- H. Signature on Application . . . 4

II. FACILITY SITING CRITERIA . . . 7
- A. Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills . . . 7
- B. Additional Requirements for Storage Surface Impoundments . . . 8
- C. Additional Requirements for Waste Piles . . . 9
- D. Additional Requirements for Land Treatment Facilities . . . 9
- E. Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with Wastes in Place) . . . 10
- F. Flooding . . . 10
- G. Additional Information Requirements . . . 11

III. FACILITY MANAGEMENT . . . 12
- A. Compliance History and Applicant Experience . . . 12
- B. Personnel Training Plan . . . 12
- C. Security . . . 12
- D. Inspection Schedule . . . 12
- E. Contingency Plan . . . 13
- F. Emergency Response Plan . . . 14
- TABLE III.D. INSPECTION SCHEDULE . . . 16
- TABLE III.E.1 ARRANGEMENTS with LOCAL AUTHORITIES . . . 17
- TABLE III.E.2. EMERGENCY COORDINATORS . . . 18
- TABLE III.E.3. EMERGENCY EQUIPMENT . . . 19

IV. WASTES AND WASTE ANALYSIS . . . 20
- TABLE IV.A. WASTE MANAGEMENT INFORMATION . . . 21
- TABLE IV.B. WASTES MANAGED IN PERMITTED UNITS . . . 22
- TABLE IV.C. SAMPLING AND ANALYTICAL METHODS . . . 23

V. ENGINEERING REPORTS . . . 24
- A. General Engineering Reports . . . 24
- B. Container Storage Areas . . . 25
- C. Tank Systems and Secondary Containment . . . 26
- D. Surface Impoundments . . . 26
- E. Waste Pile Report . . . 29
- F. Land Treatment Units . . . 32
- G. Landfills . . . 33
- H. Incinerators . . . 36
- I. Boilers and Industrial Furnaces . . . 37
- J. Drip Pads . . . 37
- K. Miscellaneous Units . . . 38
- L. Containment Buildings . . . 38
- TABLE V.B CONTAINER STORAGE AREAS . . . 39
- TABLE V.C TANKS . . . 40

US EPA ARCHIVE DOCUMENT

TABLE V.D.1 SURFACE IMPOUNDMENTS 41
TABLE V.D.6 SURFACE IMPOUNDMENT LINER SYSTEM 42
TABLE V.E.1 WASTE PILES 43
TABLE V.E.3 WASTE PILE LINER SYSTEM 44
TABLE V.F.1. LAND TREATMENT UNITS 45
TABLE V.F.2. LAND TREATMENT UNIT CAPACITY 46
TABLE V.F.3 LAND TREATMENT PRINCIPAL HAZARDOUS CONSTITUENTS 47
TABLE V.G.1. LANDFILLS 48
TABLE V.G.3. LANDFILL LINER SYSTEM 49
TABLE V.G.3 (continued) LANDFILL LEACHATE COLLECTION SYSTEM 50
TABLE V.H.1 INCINERATORS 51
TABLE V.H.2 PRINCIPAL ORGANIC HAZARDOUS CONSTITUENTS 52
TABLE V.I.1 BOILERS AND INDUSTRIAL FURNACES 53
TABLE V.I.2 PRINCIPAL ORGANIC HAZARDOUS CONSTITUENTS 54
TABLE V.J.1 DRIP PADS 55
TABLE V.J.2 DRIP PAD SYNTHETIC LINER SYSTEM 56
TABLE V.K MISCELLANEOUS UNITS 57
TABLE V.L CONTAINMENT BUILDINGS 58

VI. GEOLOGY REPORT 59
A. Geology and Topography 59
B. Facility Ground Water 62
C. Exemption from Ground-water Monitoring for an Entire Facility 65
D. Unsaturated Zone Monitoring 65
TABLE VI.A.4 WASTE MANAGEMENT AREA SUBSURFACE CONDITIONS 67
TABLE VI.B.3.b UNIT GROUNDWATER DETECTION MONITORING SYSTEM 68
TABLE VI.B.3.c GROUNDWATER SAMPLE ANALYSIS 69

VII. CLOSURE AND POST-CLOSURE PLANS 70
A. Closure 70
B. Closure Cost Estimate 70
C. Post-closure 71
D. Post-closure Cost Estimate 71
TABLE VII.A UNIT CLOSURE 73
TABLE VII.B UNIT CLOSURE COST ESTIMATE 74
TABLE VII.C.5 LAND-BASED UNITS CLOSED UNDER INTERIM STATUS 75
TABLE VII.D UNIT POST-CLOSURE COST ESTIMATE 76
TABLE VII.E CLOSURE/POST-CLOSURE COST SUMMARY 77

VIII. FINANCIAL ASSURANCE 78
A. Financial Assurance Information Requirements for all Applicants 78
B. Applicant Financial Disclosure Statements 78
C. Applicants Requesting Facility Expansion, Capacity Expansion, or New Construction 79
TABLE VIII.C ESTIMATED CAPITAL COSTS 80

IX. RELEASES FROM SOLID WASTE UNITS AND CORRECTIVE ACTION 81
A. Preliminary Review Checklists 82
B. Appendices to Preliminary Review 87
C. Preliminary Review Submittal Format 87

X. AIR EMISSION STANDARDS 88
A. Process Vents and Equipment Leaks 88
B. Optional TNRCC Office of Air Quality Information 89
TABLE X.A.1 Process Vents 91
TABLE X.A.3 Equipment Leaks 92

XI. HAZARDOUS WASTE PERMIT APPLICATION FEE 95
TABLE XI-1 HAZARDOUS WASTE UNITS (FOR APPLICATION FEE CALCULATIONS) 97
TABLE XI-2 HAZARDOUS WASTE PERMIT APPLICATION FEE WORKSHEET 98

US EPA ARCHIVE DOCUMENT

XII. CONFIDENTIAL MATERIAL 99

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
ATTN: Permits Section -MC130
Industrial and Hazardous Waste Division
P. O. Box 13087
Austin, Texas 78711-3087

INDUSTRIAL AND HAZARDOUS WASTE PART B PERMIT APPLICATION

I.GENERAL INFORMATION

A.Applicant[1]: _____
(Individual, Corporation, or Other Legal Entity Name)

Address: _____

City: _____ State: _____ Zip Code:_____

Telephone Number: _____

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.

_____
(Charter Number)

B.Authorized Persons

1.List those persons or firms, including a complete mailing address and telephone number, authorized to act for the applicant during the processing of the permit application.

2.If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.

3.List the individual and his/her mailing address that will be responsible for causing notice to be published in the newspaper.

[1]The operator has the duty to submit an application [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on Part A of this application [Section 361.087, Texas Solid Waste Disposal Act].

US EPA ARCHIVE DOCUMENT

I.C.Facility for which application is submitted:

_____
(Facility Name)

Address: _____

City: _____, Texas Zip Code:_____

Telephone Number: _____

TNRCC Registration No.: _____ EPA I.D. No.: _____

County:_____

I.D.Application Type and Facility Status

1. ___ permit ___ amendment ___ modification
___ new ___ major ___ Class 3
___ interim status ___ minor ___ Class 2
___ renewal ___ Class 1[1]
___ RD&D ___ Class 1

2.In either column, check all that apply.

___ proposed hazardous waste management facility ___existing hazardous waste management facility
___ on-site___ on-site
___ off-site___ off-site
___commercial___ commercial
___ recycler___ recycler
___ land disposal___ land disposal
___ areal or capacity expansion

3.Is the facility within the Coastal Management Program boundary? ___Yes.___No.

For any questions regarding the Coastal Management Program, pleae contact 1-800/85-BEACH (852-3224).

4.Provide a brief verbal description of the portion of the facility covered by this application, including the changes for which an amendment or modification is requested.

US EPA ARCHIVE DOCUMENT

I.E.Facility Siting Summary

Is the facility located or proposed to be located:

1.within a 100-year floodplain?

YES____ NO____

2.in wetlands?

YES____ NO____

3.in the critical habitat of an endangered species of plant or animal?

YES____ NO____

4.on the recharge zone of a sole-source aquifer?

YES____ NO____

5.in an area overlying a regional aquifer?

YES____ NO____

6.(for a new commercial hazardous waste management facility or subsequent areal expansion of such a facility or unit of that facility as defined in 30 TAC 335.202) within ½ of a mile (2,640 feet) of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park?

YES____ NO____

If YES, the TNRCC shall not issue a permit for this facility.

I.F.Wastewater and Stormwater Disposition

1.Is the disposal of any waste to be accomplished by a waste disposal well at this facility?

__ NO __ YES (WDW Permit No(s). _____)

2.Will any point source discharge of effluent or rainfall runoff occur as a result of the proposed activities?

__ YES __ NO

3.If YES, is this discharge regulated by a NPDES or TNRCC permit?

__ YESPermit No. _____(TNRCC)
Permit No. _____(NPDES)

__ NODate TNRCC discharge permit application filed _____
Date NPDES discharge permit application filed _____

US EPA ARCHIVE DOCUMENT

I.G.Adjacent Landowners List

Submit a map indicating the boundaries of all adjacent parcels of land, and a list of the names and mailing addresses of all adjacent landowners and other nearby landowners who might consider themselves affected by the activities described by this application. Cross-reference this list to the map through the use of appropriate keying techniques. The map should be a USGS map, a city or county plat, or another map, sketch, or drawing with a scale adequate enough to show the cross-referenced affected landowners. The list should be updated prior to any required public notice.

I.H.Signature on Application

The person who signs the application form will often be the applicant himself; when another person signs on behalf of the applicant, his title or relationship to the applicant will be shown. In all cases, the person signing the form must be authorized to do so by the applicant. An application submitted by a corporation must be signed by a principal executive officer of at least the level of vice president or by his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the activity described in the form originates. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a municipal, state, federal, or other public facility, the application must be signed by a principal executive officer, a ranking elected official, or another duly authorized employee. A person signing an application on behalf of an applicant must provide notarized proof of authorization.

US EPA ARCHIVE DOCUMENT

APPLICATION SIGNATURE PAGE

I, _____, _____,
(applicant) (Title)

certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of civil penalty and criminal fines.

Signature: _____ Date: _____

- - - -

INTERIM STATUS LAND DISPOSAL UNIT(S) CERTIFICATION

For all land disposal units managing wastes which are newly listed or identified as hazardous wastes, the following certification must be executed by or on the date 12 months after the effective date of the rule identifying or listing the waste as hazardous. If the applicant fails to certify compliance with these requirements, the applicant shall lose authority to operate under interim status. [40 CFR 270.73(d)]

I, _____, _____,
(applicant) (Title)

certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete.

I further certify that in accordance with Section 3005(e)(3) of the Resource Conservation and Recovery Act, as amended, the subject land disposal unit(s) are in compliance with all applicable groundwater monitoring and financial responsibility requirements of 30 TAC Sections 335.112, 335.116, and 335.117. I am aware there are significant penalties for submitting false information, including the possibility of civil penalty, criminal fines, and imprisonment.

Signature: _____ Date: _____

US EPA ARCHIVE DOCUMENT

II.FACILITY SITING CRITERIA.

Unless requesting an areal expansion, all existing hazardous waste management facilities and capacity expansions of existing facilities need only complete Section II.F. and the applicable portions of II.G. Please note however, that additional technical information may be requested to address any facility siting characteristics noted in Section I.E.

For all new hazardous waste management facilities or areal expansions of existing hazardous waste management facilities, provide a Site Selection Report for the facility which includes all information regarding Unsuitable Site Characteristics found in 30 TAC 335 Subchapter G. The report must address each requirement applicable to the type of activity submitted in the application. Reference specific rule numbers whenever possible. Supporting information may be cross-referenced to other parts of this application such as Section V - Engineering Report or Section VI - Geology Report, but information submitted in previous applications must be fully reproduced herein. In addition, provide the following information.

A.Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills.

Is the facility located or proposed to be located:

1.in wetlands?

YES____ NO____

Provide the source of information.

2.in the critical habitat of an endangered species of plant or animal?

YES____ NO____

Provide the source of information. If YES, then submit in Section V information demonstrating that design, construction, and operational features will prevent adverse effects on such critical habitat.

3.on the recharge zone of a sole-source aquifer?

YES____ NO____

Provide the source of the information. If YES, then for storage and processing facilities (excluding storage surface impoundments), submit in Section V information demonstrating that secondary containment is provided to preclude migration to groundwater from spills, leaks, or discharges. Land treatment facilities, waste piles, storage surface impoundments, and landfills may not be located on the recharge zone of a sole-source aquifer.

4.in an area overlying a regional aquifer?

YES____ NO____

If YES, then submit site-specific information in Section V and/or Section VI demonstrating compliance with 30 TAC 335.204(a)(4), (b)(4), (c)(4), (d)(4), or (e)(4), as applicable.

5.in areas where soil unit(s) are within five feet of the containment structure, or treatment zone, as applicable, that have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec?

YES____ NO____

Provide information to verify the above. If YES, then provide additional information in Sections V and/or Section VI demonstrating compliance with 30 TAC 335.204(a)(5), (b)(5), (c)(5), (d)(5), or (e)(5), as applicable.

US EPA ARCHIVE DOCUMENT

6.in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system?

YES____ NO____

If YES, then provide information in Section V demonstrating compliance with 30 TAC 335.204 (a)(6), (b)(7), (c)(6), or (e)(8) as applicable.

7.in areas of active geologic processes, including but not limited to erosion, submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cuttings, or earthquakes?

YES____ NO____

If YES, then specify in Section V the design, construction, and operational features of the facility that will prevent adverse effects resulting from the geologic processes.

8.within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures?

YES____ NO____

If YES, then specify in Section V the design, construction, and operational features that will prevent adverse effects resulting from any fault movement.

If a fault is found to be present, the width and location of the actual or inferred surface expression of the fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, must be determined by a qualified geologist or geotechnical engineer and reported in Section VI.

II.B.Additional Requirements for Storage Surface Impoundments

Is the storage surface impoundment located or proposed to be located:

1.a.within 1000 feet of an area of active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?

YES____ NO____

If YES, then submit in Section V.D design, construction and operational features of the facility which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

b.within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula.

YES____ NO____

If YES, then submit in Section V.D design, construction and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

2.on a barrier island or peninsula?

YES____ NO____

II.C.Additional Requirements for Waste Piles

Is the waste pile located or proposed to be located:

US EPA ARCHIVE DOCUMENT

1.a.Within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?

YES____ NO____

If YES, then submit in Section V.E design, construction, and operational features on the facility which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

b.Within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula.

YES____ NO____

If YES, then submit Section V.E design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

2.on a barrier island or peninsula?

YES____ NO____

II.D.Additional Requirements for Land Treatment Facilities

Is the land treatment facility located or proposed to be located:

1.within 1000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or which is in use at the time the permit application is filed with the commission?

YES____ NO____

2.a.within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?

YES____ NO____

If YES, then submit in Section V.F design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

b.within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula.

YES____ NO____

If YES, then submit Section V.F design, construction and operational features, which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

3.on a barrier island or peninsula?

YES____ NO____

II.E.Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with Wastes in Place)

Is the landfill located or proposed to the located:

1.within 1000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit

US EPA ARCHIVE DOCUMENT

application is filed with the commission, or which is in use at the time the permit application is filed with the commission?

YES____ NO____

2.(for commercial hazardous waste landfills) in the 100-year floodplain of a perennial stream that is delineated on a flood map adopted by the Federal Emergency Management Agency after September 1, 1985, as zone A1-99, VO, or V1-30?

YES____ NO____

3.a.Within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?

YES____ NO____

If YES, then submit in Section V.G design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

b.Within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barriers island or peninsula.

YES____ NO____

If YES, then submit in Section V.G design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

4.On a barrier island or peninsula?

YES____ NO____

II.F.Flooding

1.Identify whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of relevant documentation (e.g., flood maps, if used and/or calculations). The boundaries of the hazardous waste management facility must be shown on the floodplain map. If the facility is not subject to inundation as a result of a 100-year flood event, do not complete F.2.-5. below. An applicant for a proposed hazardous waste landfill, areal expansion of a hazardous waste landfill, or a commercial hazardous waste land disposal unit may not rely solely on floodplain maps prepared by the Federal Emergency Management Agency or a successor agency for this determination.

2.If the facility is located within the 100-year floodplain the applicant must provide information detailing the specific flooding levels and other events (e.g., Design Hurricane projected by Corps of Engineers) which impact the flood protection of the facility. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, construction, operating, or maintaining the facility to withstand washout from a 100-year flood.

3.State whether any flood protection device exist at the facility (e.g., floodwalls, dikes, etc.), designed to prevent washout from the 100-year flood.

a.If YES, provide in Section V an engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood.

Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

US EPA ARCHIVE DOCUMENT

b.If NO, the applicant shall provide in Section V a plan for constructing flood protection devices and a schedule including specific time frames for completion. Provide engineering analyses to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood.

Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

4.If applicable, and in lieu of flood protection above, provide a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded including:

a.Timing of such movement relative of flood levels, including estimated time to move the waste, to show that such movement can be completed before flood waters reach the facility. Indicate which specific events shall be use to begin waste movement (e.g., Hurricane warning, Flash Flood watch, etc.).

b.A description of the location(s) to which the waste will be moved and a demonstration that these facilities will be eligible to receive hazardous waste in accordance with appropriate regulations (i.e., a permitted facility).

c.The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use.

d.The potential for accidental discharges of the waste during movement and precautions taken to preclude accidental discharges.

II.G.Additional Information Requirements

1.For a new hazardous waste management facility[2], include a map of relevant local land-use plans and descriptions of the major routes of travel in the vicinity of the facility to be used for the transportation of hazardous waste to and from the facility covering at least a five (5)-mile radius from the boundaries of the facility. [30 TAC 305.50(10)(A)&(D)]

2.For a new commercial hazardous waste management facility as defined in 30 TAC 335.202 or the subsequent areal expansion of such a facility or unit of that facility, indicate on the map the nearest established residence, church, school, day care center, surface water body used for a public drinking water supply, and dedicated public park.

3.For new commercial hazardous waste management facilities, identify the public roadways used by vehicles traveling to and from the facility within a minimum radius of 2.5 miles from the facility as well as the following: [30 TAC 305.50(12)(A)]

a.the major highways nearest the facility irrespective of distance;

b.the average number, gross weight, type, and size of vehicles used to transport hazardous waste.

4.Include the names and locations of industrial and other waste-generating facilities within 0.5 miles for a new on-site hazardous waste management facility and the approximate quantity of hazardous waste generated or received annually at those facilities. [30 TAC 305.50(10)(B)&(C)]

5.Include the names and locations of industrial and other waste-generating facilities within 1.0 miles for a new commercial hazardous waste management facility and the approximate quantity of hazardous waste generated or received annually at those facilities. [30 TAC 305.50(10)(B)&(C)]

6.For existing land disposal facility units provide documentation that the information required by 30 TAC 335.5 has been placed in the county deed records. If previously submitted, please reference the submittal by date and registration number.

[2] For the purposes of Section II.G, “new” means as of 6/07/91.

US EPA ARCHIVE DOCUMENT

7.If a surface impoundment or landfill (including post-closure) is to be permitted, provide exposure information to accompany this application and in accordance with 30 TAC 305.50(8) and 40 CFR 270.10(j). This information will be considered separately from the TNRCC application completeness determination.

8.For a requested capacity expansion of an existing hazardous waste management facility, please provide in Section VI.A.1.a the requested fault delineation information. [30 TAC 305.50(4)(F)]

III.FACILITY MANAGEMENT

A.Compliance History and Applicant Experience

Provide listings of all non-compliances concerning solid waste management by the permit holder in the preceding five (5) years at the permitted site, all non-compliances concerning solid waste management at any site in Texas owned, operated, or controlled by the applicant, a summary of the attempts of the permit holder to correct environmental violations, and an indication of the indebtedness of the permit holder or applicant to the State of Texas as required by 30 TAC 305.50(2).

For a new commercial hazardous waste management facility, provide a summary of the applicant's experience in hazardous waste management as required by 30 TAC 305.50(12)(E).

B.Personnel Training Plan.

Provide an outline of the facility training plan which includes all the information required by 40 CFR 264.16. Indicate which training will be repeated annually.

C.Security

Describe how the facility complies with the security requirements of 40 CFR 264.14 or submit a justification demonstrating the reasons for requesting a waiver of these requirements.

D.Inspection Schedule

Provide an inspection schedule summary for the facility which reflects the requirements of 40 CFR 264.15, 264.33 and, where applicable, the specific requirements in 40 CFR 264.174, 264.193, 264.195, 264.226, 264.254, 264.273, 264.303, 264.347, 264.574, 264.602, 264.1033(f), 264.1034, 264.1052, 264.1053(e), 264.1057, 264.1063, 264.1101(c)(4), 270.14(b)(5), 270.17(c), 270.18(d), 270.20(c)(5), 270.21(d), 270.23(a)(2), 270.25(a)(6), and 270.26(c)(14). The inspection schedule should reflect the requirements described below. The schedule should encompass each type of hazardous waste management (HWM) unit (i.e., facility component) and its inspection requirements. In addition, complete Table III.D. for all units to be permitted.

The owner or operator must inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to the release of hazardous waste constituents to the environment or which may pose a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

The owner or operator must develop and follow a written schedule for inspecting other basic elements such as monitoring equipment, safety and emergency equipment, security devices, the presence of liquids in leak detection systems, where installed, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

If the owner or operator of a facility which contains a waste pile wishes to pursue an exemption from the ground-water monitoring requirements for that waste management unit, the inspection schedule must include examination of the base for cracking, deterioration, or other conditions that may result in leaks. The frequency of inspection must be

US EPA ARCHIVE DOCUMENT

based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates, and subsurface stability).

III.E.Contingency Plan

(This portion of the application does not apply to post closure applications.) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this section. Provide a Contingency Plan which includes all the information required by 40 CFR Part 264 Subparts C and D, except for 40 CFR 264.56(d). This plan must also include a drawing of the facility which shows the location of all emergency equipment. In addition, complete the following tables to summarize information expressed in more detail in the plan.

1.Arrangements with Local Authorities

Complete Table III.E.1. to indicate arrangements (if made) with local authorities to familiarize local fire and police departments, local hospitals, equipment suppliers, and local and State emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes. Provide documentation of the attempts and any arrangements made with local authorities and emergency response teams.

2.Emergency Coordinator's List

List in Table III.E.2. the persons qualified to act as emergency coordinator. List the alternates in the order in which they will assume responsibility.

3.Emergency Equipment List

List in Table III.E.3. all types of emergency equipment at the facility [such as fire-extinguishing systems, spill-control equipment, communications and alarm systems (internal and external), and decontamination equipment], if this equipment is required. Briefly outline the equipment capabilities.

If the owner or operator wishes to request a waiver from any of the preparedness and prevention requirements, he must submit a justification demonstrating the reasons for requesting the waiver, as discussed below.

III.F.Emergency Response Plan

For a new commercial hazardous waste management facility, the application shall contain evidence sufficient to demonstrate that emergency response capabilities are available or will be available before the facility first receives waste. An emergency response plan must be provided which satisfies the requirements of 30 TAC 305.50(12)(C-D). This plan must show that the proposed facility has sufficient emergency response capabilities for managing a reasonable worst-case emergency condition associated with the operation of the facility. (For financial assurance requirements associated with the emergency response activities, please see Section VIII.C.3.)

1.Practice Drills

In addition to the contingency plan required under 40 Code of Federal Regulations Part 270.14(b)(7), provisions specifying procedures and timing of practice facility evacuation drills are required. Provide a description and a frequency for facility evacuation drills.

2.If a private corporation, municipality or county group will provide emergency response actions at the proposed facility, include a copy of the contract for this type of agreement with this application or state that documentation will be submitted before the facility accepts wastes.

US EPA ARCHIVE DOCUMENT

3.Historical weather data for the area should be documented and submitted. Information should be included regarding how emergency response operations may be affected by weather conditions. (Local rainfall extremes, average rainfall amounts, average wind speeds and directions, potential for major weather events such as hurricanes, tornados, icy conditions, flash flooding etc., should be addressed.)

4.A definition of a worst-case emergency for the proposed facility should be described in the application. This worst-case emergency should take into account the possible complications involved with a facility emergency compounded by adverse weather conditions. It should also detail spills, fires, explosions, etc. This worst case scenario should be developed with the help of local governmental entities where possible. Emergency planning should include both unexpected emergencies and emergencies occurring as a result of a predictable event such as a flood or hurricane. For areas which are prone to hurricanes and flash flooding, the worst case which allows for a realistic situation should be used. For example, response teams should be well versed in reacting to events such as a 100-year flood.

5.A training program for personnel who will respond to these types of emergencies must be provided and must include the requirements described in OSHA Federal Register 1910 and EPA Federal Register 311, the Texas Hazard Communication Act, SARA Title III 302, 304, 311, 312, and 313. If emergency response actions are contracted out, the contracted employees must be properly trained and documentation of this training must be maintained on-site. All responders to emergencies at the proposed facility must be involved in training and drills at the facility in order to be thoroughly familiar with the facility and its operations.

6.The application must include a description and identification of first-responders. This should include the identification of all involved employee positions, locals and contractors. The duties of the facility employee who is to be the on-scene coordinator (OSC) must be described. Additional information must be provided detailing the OSC's role in the emergency response activities. This person must have the authority to commit the resources needed to carry out the Emergency Response Plan. His duties must be thoroughly described so that it is clear whether he will remain in control once the emergency response team arrives or whether he will relinquish control to another incident commander upon that person's arrival on the scene. Additionally, there must be a qualified OSC on-site or on call 24 hours a day. The name, address and phone numbers (home and work) of the OSC(s) must be listed in the Emergency Response Plan. Where more than one person is listed, one must be named as the primary OSC and others must be listed in the order in which they will assume responsibility as alternates.

7.Local or regional emergency medical services or hospitals which have experience in hazardous materials training must be identified in the application. The names, addresses and phone numbers of the hospitals or medical centers should be listed here and updated as necessary. Additionally, maps showing the quickest routes to the medical services must be provided. A description of decontamination procedures for injured personnel prior to transport to medical services must also be provided. The decontamination and transport of injured people to appropriate medical centers must be included in the emergency evacuation training and drills.

8.A pre-disaster plan which includes training drills must be included in the application. This plan should include a schedule for staging evacuations of the facility and for emergency response training drills. At least two evacuations and two emergency response drills should occur annually. The plan should also include additional drills for responding to "predictable" emergencies such as floods and hurricanes. The plan must include the following (or must reference applicable sections of the Contingency Plan): a description of arrangements already in place with local authorities; emergency phone numbers; internal communication or alarm systems and proper alarm codes; a list of all types of emergency equipment at the facility, including a physical description and the capabilities of each item on the list, and the location of each item (a map would be useful here); a description of decontamination equipment; an evacuation plan including signals, evacuation routes and alternate evacuation routes; listing of pertinent first responder emergency phone numbers, and codes for other types of communication devices; and a description of actions that will be preformed in the event that a "predictable" emergency occurs.

9.Describe the mechanism which will be used to notify first responders and appropriate local governmental entities that an emergency has occurred. Also describe the mechanism which will be used to notify all applicable governmental agencies when an incident occurs (i.e., TNRCC, Texas Parks and Wildlife, General Land Office, TNRCC Office of Air Quality, Texas Department of Health, and the Texas Railroad Commission).

10.Evidence must be provided that shows coordination with the Local Emergency Planning Committee (LEPC) and any local comprehensive emergency management plan. The applicants should be able to show compliance with SARA Title III.

11.Any medical response capabilities proposed for the facility property must be detailed in the application.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE III.D. INSPECTION SCHEDULE

Facility Unit(s) and Basic Elements	*Possible Error, Malfunction, or Deterioration*	*Frequency of Inspection*

TABLE III.E.1 ARRANGEMENTS with LOCAL AUTHORITIES

Police:	
Address:	
Person Contacted:	**Phone:**
Agreed Arrangements*:	
Fire:	
Address:	
Person contacted:	**Phone:**
Agreed Arrangements*:	
Hospital:	
Address:	
Person Contacted:	**Phone:**
Agreed Arrangements*:	
Other:	
Address:	
Person Contacted:	**Phone:**
Agreed Arrangements*:	

*For new commercial facilities

US EPA ARCHIVE DOCUMENT

TABLE III.E.2. EMERGENCY COORDINATORS

Name	*Home Address*	*Office Phone(s) and/or Pager*	*Home Phone(s)*
Primary:			
Alternates:			

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE III.E.3. EMERGENCY EQUIPMENT

Equipment	*Location*	*Physical Description*	*Capabilities*

IV.WASTES AND WASTE ANALYSIS

A.(Section IV.A of the application does not apply to post closure applications.) For a new hazardous waste management facility or for a facility hazardous waste management capacity expansion, complete Table IV.A. for each waste, source, and volume of waste to be stored, processed, or disposed of in the facility units to be permitted as required by 30 TAC 305.50(9). For on-site facilities, list "on-site" for the waste source. For off-site facilities, list the source of the waste. If unknown, identify potential sources (e.g., industries/processes to be serviced).

B.For all hazardous waste management facilities, complete Table IV.B for each waste and debris to be managed in a permitted unit. Provide a verbal description, EPA waste codes, EPA hazard codes (I, C, R, E, H, T), TNRCC waste classification (IH, I, II, III or H, 1, 2, 3[3]), and TNRCC waste codes.

C.Complete Table IV.C. for each waste and debris proposed to be sampled and analyzed and include sampling location, sampling method, sample frequency, analytical method, and desired accuracy level for each waste and debris to be managed in a permitted, storage, processing, or disposal unit at the facility.

D.Waste Analysis Plan

The Waste Analysis Plan must address the requirements of 40 CFR 264.13 and 268.7. The Plan should include supplemental and coordinating information on how the facility will analyze wastes and debris (as listed in Table IV.B) to be managed in permitted units. The plan must address the determination of land disposal restrictions. Generators must determine and certify with the manifest the land disposal restriction status of a waste, even if the waste or debris is not intended for land disposal. Land disposal treatment facilities must identify the treatment process and analytical procedures to be used, and include them in the waste analysis plan. Land disposal restriction records must be maintained at the facility until closure of the facility [40 CFR 264.73(b)]. Landfill facilities must determine through the Paint Filter Liquids test if there is free liquid in a bulk or containerized waste to be landfilled. If so, it must be stabilized; adding adsorbents alone is not acceptable, even for containerized waste.

For off-site facilities the waste analysis plan must specify procedures which will be used to inspect and, if necessary, analyze each movement of industrial and hazardous waste or hazardous debris received at the facility to ensure it matches the identity of the waste designated on the accompanying shipping ticket. The plan must describe methods which will be used to determine the identity of each movement of waste and debris managed at the facility and sampling method used if the identification method includes sampling in order to store, process, or dispose of the wastes and debris in accordance with 40 CFR Parts 264 and 268 and any abnormal characteristics which may upset further treatment or processing operations. Include rejection criteria for shipments of waste and debris received at the facility

For on-site facilities the waste analysis plan must specify the normal characteristics of the waste (including EPA hazardous waste codes, EPA hazard codes, and 40 CFR 261 Appendix VIII Hazardous Constituents) which must be known to store, process, or dispose of the wastes and debris in accordance with 40 CFR Parts 264 and 268 and any abnormal characteristics which may upset further treatment or processing operations.

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Those sampling methods listed in 40 CFR 261 Appendix I, for sampling waste with properties similar to the indicated materials, or equivalent sampling methods approved by EPA under 40 CFR 260.20 and 260.22, will be considered by the TNRCC to be acceptable.

[3]For newly generated wastes classified after 1/01/93. Existing wastes must be reclassified by 1/01/95.

US EPA ARCHIVE DOCUMENT

TABLE IV.A. WASTE MANAGEMENT INFORMATION

Waste	***Source***	***Volume*** *(tons/year)*

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE IV.B. WASTES MANAGED IN PERMITTED UNITS

No.	*Waste*	*EPA Waste Codes*	*EPA Hazard Codes (I, C, R, E, H, T)*	*TNRCC Waste Classifications (IH, I, II, III or H, 1, 2, 3[1])*	*TNRCC Waste Codes*

[1]For newly generated wastes classified after 1/01/93. Existing wastes must be reclassified by 1/01/95.

US EPA ARCHIVE DOCUMENT

TABLE IV.C. SAMPLING AND ANALYTICAL METHODS

Waste No.[1]	*Sampling Location*	*Sampling Method*	*Frequency*	*Parameter*	*Test Method*	*Desired Accuracy Level*

[1]from Table IV.B, first column

V.ENGINEERING REPORTS

The engineering report represents the conceptual basis for the storage, processing, or disposal units at the hazardous waste management (HWM) facility. It should include calculations and other such engineering information as may be necessary to follow the logical development of the facility design. Plans and specifications are an integral part of the report. They should include construction procedures, materials specifications, dimensions, design capacities relative to the volume of wastes (as appropriate), and the information required by 40 CFR 270.14(b)(8), 270.14(b)(10). For landfills, surface impoundments, and waste piles, a Construction Quality Assurance Plan, that considers the guidance in EPA publication 530-SW-85-014, should be submitted.

For facilities which will receive wastes from off-site sources, the engineering report must also contain information on the units which will manage these off-site wastes in accordance with 30 TAC 335.2.

Certain ancillary components or appurtenant devices must be addressed in the Part B application. These include but are not limited to sumps, pipelines, ditches, and canals. The technical information and the level of detail required will vary with the nature, scope, and location of the ancillary component. At a minimum they should be included in descriptions of piping and process flow. More information may be required. A single area containing a large number of ancillary components or a remote appurtenant device in an unusually sensitive location may warrant some specific permit requirements. All ancillary components must be included in calculating closure cost estimates.

In each of the unit-specific sections, describe precautions taken to prevent accidental commingling of incompatible wastes. If reactive or ignitable wastes are to be managed, or if incompatible wastes are deliberately commingled, provide information to ensure that precautions are taken to avoid danger due to:

-generation of extreme heat or pressure, fire, explosion, or violent reaction;

-production of uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;

-production of uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion;

-damaging the structural integrity of the device or facility containing the waste; or

-threatening human health or the environment by any other means.

Comprehensive consideration should be given to ensure that the facility is designed in accordance with good public health and hazardous waste management practices. The application will be evaluated primarily for the aspects of design covered by the regulations. Nothing in any approval is intended to relieve the facility owner or operator of any liabilities or responsibilities with respect to the design, construction, or operation of the project.

A.General Engineering Reports

1.General Information

Provide an overall plan view of the entire facility. Identify each hazardous or industrial solid waste management unit (container storage area, tank, incinerator, etc.) **to be permitted** in relation to its location and the type of waste managed in that unit. Also provide a plan view at an appropriate scale to clearly show the location of all hazardous waste management units to be permitted on one or more 8 ½" x 11" sheets. Indicate on this plan view how the design or operation provides for buffer zones or waste segregation as appropriate for incompatible, ignitable, or reactive wastes.

Submit a topographic map or maps of the facility which clearly shows the information specified in 40 CFR 270.14(b)(19), 270.14(c)(3), and 270.14(d)(1)(I) (for large HWM facilities, the TNRCC will allow the use of other scales on a case-by-case basis). Please note that the term "facility" includes all contiguous land, structures, other appurtenances, and improvements on the land for storing, processing, or disposing of hazardous and industrial solid waste.

2.Features to Mitigate Unsuitable Site Characteristics

US EPA ARCHIVE DOCUMENT

For all new hazardous waste management storage and/or processing facilities or areal expansions of existing hazardous waste management storage and/or processing facilities, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(a)(1) and (a)(3)-(9).

3.Construction Schedules

a.In order to meet the required design standards, extensive retrofitting of some facilities may be required. In the worst case, the applicant may elect to close certain operations rather than comply with the RCRA standards. Thus, the permit may specify a schedule of compliance requiring the accomplishment of given tasks within specific time frames. As required, indicate an appropriate schedule(s) of compliance in this application. The schedule should provide for facility compliance as soon as possible and in accordance with 40 CFR 270.33(a)(2) and 270.33(b).

b.For commercial hazardous waste management facilities, permit applications (new, renewal, or interim status applications), major amendments, or Class 3 modifications submitted after 11/23/94 must include a construction schedule. A construction schedule must be submitted even if the application does not include an addition of units or a revision to permitted units. This schedule should comply with the requirements of 30 TAC 305.149.

4.Provide detailed plans and specifications which when accompanied by the engineering report will be sufficiently detailed and complete to allow the Executive Director to ascertain whether the facility will be constructed and operated in compliance with all pertinent permitting requirements. Engineering plans and specifications must be prepared under the supervision of and sealed by a Registered Professional Engineer, with current registration as required by the Texas Engineering Practice Act. For some facilities, plans in the form of a standard piping and instrumentation diagram will be sufficient. Overall dimensions and materials of construction must be shown.

V.B.Container Storage Areas

Provide an engineering report which includes all of the information specified in 40 CFR 264.170-264.173, 264.175-264.177, and 270.15. Complete Table V.B and list the container storage areas covered by this application to be permitted. List the N.O.R. unit number, the waste managed in each unit (the numbers in the far left column of Table IV.B are sufficient), the rated capacity or size of each unit (including the maximum number of each type of container to be stored at each unit), the areal dimensions, stack height, aisle spacing, containment volume, whether ignitable, reactive, or incompatible waste will be stored in each unit, and whether processing will occur within the unit.

1.Container storage areas must have a containment system that is capable of collecting and holding spills, leaks, and precipitation. In addition to the requirements of 40 CFR 270.15, include in the design report the following:

a.Capacity of the containment relative to the number and volume of containers to be stored, plus for unenclosed areas, the amount of rainfall collected prior to removal. The TNRCC recommends using a 25-year, 24-hour rainfall event for this extra capacity.
b.Run-on into the containment system must be prevented, or a collection system with sufficient excess capacity must be provided. If run-on is collected within the containment system, delineate the area(s) from which run-on is collected. The 25-year, 24-hour rainfall event should be used to calculate the excess capacity.

2.Wastes Containing No Free Liquids

Storage areas that hold only wastes that do not contain free liquids need not have a containment system, except as provided by 40 CFR 264.175(d), provided that compliance with 40 CFR 264.175© is demonstrated. This demonstration must be submitted as part of the application and must include:

a.test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and

b.a description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids..

V.C.Tank Systems and Secondary Containment

US EPA ARCHIVE DOCUMENT

Provide an engineering report which includes all of the information specified in 40 CFR 264.190-264.194, 264.196, 264.198-264.199, and 270.16. Complete Table V.C and list the tanks covered by this application to be permitted. List the N.O.R. unit number, whether the unit is for storage and/or processing, the waste managed in each unit, the rated capacity of each unit, overall dimensions of each unit, and whether ignitable, reactive, or incompatible waste will be stored in each unit.

Submit written assessments that were reviewed and certified by an independent, qualified registered professional engineer that attests to the structural integrity and suitability of handling the hazardous waste for each tank system, as required under 40 CFR 264.191-264.192 for existing tanks which do not have secondary containment meeting the standards of 40 CFR 264.193. The engineer signing the written assessment must make the certification specified in 40 CFR 270.11(d).

V.D.Surface Impoundments

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(6), 335.168, 335.169, and 40 CFR 264.19, 264.220, 264.222-264.225, 264.226(a) and (c), 264.227, 264.229-264.231, and 270.17.

For storage surface impoundments at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(d). For any surface impoundment to be closed as a landfill (where wastes will remain after closure of the impoundment) at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(e).

For all impoundments, include in the report the following information.

1.Complete Table V.D.1 and list the surface impoundments covered by this application to be permitted. List the waste managed in each unit and the rated capacity or size of each unit.

2.Describe the surface impoundment. A plan view and cross-section of the surface impoundment should be included with the engineering report.

3.Freeboard

Specify the minimum freeboard to be maintained and the basis of the design to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error. Show that adequate freeboard will be available to prevent overtopping from a 100-year, 24-hour storm.

If the impoundment is inflow sensitive, it should be equipped with a high-level alarm based on a different level sensor than that used for automatic control.

4.Waste Flow

Describe the means that will be used to immediately shut off the flow of waste to the impoundment to prevent overtopping or in the event of liner failure, and include appropriate detailed drawings.

If the surface impoundment is a flow-through facility describe the flow of waste, including a hydraulic profile.

5.Dike Construction

a.If dikes are used, include the following certification as part of the engineering report:

"I, ___(qualified Registered Professional Engineer)___, Texas P.E. Registration Number ____, certify under penalty of law that I have personally examined and am familiar with the design and construction of the dikes that are a portion of __ (surface impoundment unit name)___.

US EPA ARCHIVE DOCUMENT

I further certify that I have evaluated the dike design and materials of construction using accepted engineering procedures, and have determined that the dike, including the portion of the dike providing freeboard, has structural integrity, and:

1)Will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and

2)Will not fail due to scouring or piping, without dependence on any liner system included in the impoundment construction.

_____(Signature)_____Date: _____

(SEAL)"

b.The structural integrity of the dike system must be certified by a qualified Registered Professional Engineer before a permit is issued. If the impoundment is not being used, the dike system must be certified before it can be put into use.

c.A report shall accompany the dike certification which summarizes the activities, calculations, and laboratory and field analyses performed in support of the dike certification. Describe the design basis used in construction of the dikes. Include the following analyses as attachments to the engineering report:

1)Slope Stability Analysis
2)Hydrostatic and Hydrodynamic Analysis
3)Storm Loading
4)Rapid Drawdown

d.Earthen dikes should have a protective cover to minimize wind and water erosion and to preserve the structural integrity of the dike. Describe the protective cover used and describe its installation and maintenance.

6.Containment System

Technical Guideline No. 6 contains suggested methods of leak detection system construction and EPA publication 530-SW-85-014 provides design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after installation by an electrical leak location system such as developed by Southwest Research Institute, or equivalent approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.

a.Complete Table V.D.6 for each surface impoundment to be permitted.

b.In the engineering report, describe the design, installation and operation of liner and leak detection components. The description must demonstrate that the liner and leak detection system will prevent discharge to the land, and ground and surface water. Include the following analyses as attachments to the engineering report.

For artificial liners:

1)Seaming method
2)Surface preparation method
3)Tensile Strength
4)Impact Resistance
5)Compatibility Demonstration
6)Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

US EPA ARCHIVE DOCUMENT

7)Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated waste constituents
8)Atterberg Limits, % passing a #200 sieve, and Permeability
9)Moisture Content
10)Standard Proctor Density, Compaction Data

For leachate collection systems:

11)Pipe Material and Strength
12)Pipe Network Spacing and Grading
13)Collection Sump(s) Material and Strength
14)Drainage Media Specifications and Performance
15)Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
16)Compatibility Demonstration

c.Specify the liner system installation date and expected lifetime of liner system (years).

d.Whether the liner is chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.

e.Submit a quality assurance/ quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.

7.Surface impoundments that receive waste on or after May 8, 1985 (or for newly-regulated units, the effective date of the new RCRA regulation) into new units and/or lateral expansions or replacements of existing units must meet the minimum technological requirements of the Hazardous and Solid Waste Amendments of 1984, unless an appropriate waiver is granted by the Commission. The minimum technological requirements include the installation of two or more liners and a leak detection system between such liners. Plans and specifications for both new and existing surface impoundments must demonstrate conformity with 30 TAC 335.168.

8.Run-on Diversion

Describe how the surface impoundment system will manage stormwater run-on. Stormwater run-on must be diverted away from a surface impoundment. Use at least a 100-year, 24-hour rainfall event in the design and analysis of diversion structures. Where dikes are used to divert run-on, they must be protected from erosion. Include all analyses used to calculate run-on volumes.

9.Exemption from Double-Liner Requirements

Owners or operators of hazardous waste surface impoundments will be exempted from the double-liner requirements if the Commission finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics are at least as effective as a double liner in preventing migration of hazardous constituents to the ground water or surface water. If an exemption is sought, submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time.

V.E.Waste Pile Report

This section applies to owners or operators of industrial solid waste facilities that store or process hazardous waste in piles. A hazardous waste pile that will be closed with wastes left in place must be managed as a landfill. Existing portions of waste piles are those areas that were listed on the original Part A and on which wastes have been lawfully placed.

Provide an engineering report which includes all of the information specified in 30 TAC 335.170 and 40 CFR 264.19, 264.250, 264.252-264.253, 264.254(a) and (c), 264.255-264.257, 264.259, and 270.18.

US EPA ARCHIVE DOCUMENT

For waste piles at a new hazardous waste management facility or which are part of any areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(c).

For all waste piles, include in the report the following information.

1.Complete Table V.E.1 and list the waste piles covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.

2.Describe the waste pile, including any structure surrounding or enclosing the waste pile.

3.Containment System

TNRCC Technical Guide No. 6 contains suggested methods of leachate collection system construction and EPA publication 530-SW-85-014 provides design guidance for liner systems.

a.Complete Table V.E.3 and specify the type of containment/liner system.

b.In the engineering report, describe the design, installation, construction, and operation of the liner and leachate collection system. The description must demonstrate that containment systems will prevent discharge to the land, surface water, or ground water. Include the following analyses as attachments to the engineering report, when applicable to the containment system being described.

For artificial liners:

1)Seaming method
2)Surface preparation method
3)Tensile Strength
4)Impact Resistance
5)Compatibility Demonstration
6)Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

7)Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated constituents.
8)Atterberg Limits, % passing a #200 sieve, and Permeability
9)Moisture Content
10)Standard Proctor Density, Compaction Data

For leachate detection, collection, and removal system:

11)Capacity of system
(a)rate of leachate removal
(b)capacity of sumps
(c)thickness of mounding and maximum hydraulic head
12)Pipe Material and Strength
13)Pipe Network Spacing and Grading
14)Collection Sump(s) Material and Strength
15)Drainage Media Specifications and Performance
16)Analysis showing that pipe and perforation size will prevent clogging and allow free liquid access to the pipe.
17)Compatibility Demonstration

c.Containment/liner system installation date and expected lifetime of liner system (years).

US EPA ARCHIVE DOCUMENT

d.Whether the containment/liner system is chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.

e.Submit a quality assurance/ quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.

4.Wind Dispersal

Piles containing hazardous waste which could be subject to dispersal by wind must be covered or otherwise managed so that wind dispersal is minimized. Describe practices to control wind dispersal (e.g., cover or frequent wetting) of the hazardous waste.

5.Run-on Diversion

Describe measures used to control run-on and divert run-on from the unit. The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 100-year, 24-hour storm.

Include all analyses used to calculate rates of flow, run-on volume and depth, and for the ditches on plant property, back-water calculations.
Any tanks or basins associated with the run-on control systems must be emptied or otherwise managed expeditiously after a storm to maintain the design capacity of the system.

6.Run-off Control

Describe measures used to control run-off from the unit. Include all analyses used to calculate the run-off volumes.

The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 100-year, 24-hour storm.

Collection and holding facilities (e.g., tanks or basins) associated with the run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.

7.Give a description of design and operating procedures to properly manage and dispose of any residuals (e.g., leachate) that may be generated during waste management. Describe the management process and any equipment used.

8.Provide a description and listing of all equipment and procedures used to place the waste in or on the pile, and to expose the liner surface if necessary for inspection. A containment system must be protected from plant growth which could puncture any component of the system.

9.Exemption from Liner and Leachate Collection Requirements

The owner or operator will be exempted from the liner and leachate collection requirements if the Commission finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics will prevent migration of hazardous constituents to the ground water or surface water. If an exemption is sought, submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time.

10.Exemption from Ground-water Monitoring

A waste pile may be exempt from ground-water monitoring if the following standards are met:

a.The pile (including its underlying liners) must be located entirely above the seasonal high water table; and

b.The waste pile is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated, provided that:

US EPA ARCHIVE DOCUMENT

(1)Liquids or materials containing free liquids are not placed in the pile;

(2)The pile is protected from surface water run-on by the structure or in some other manner;

(3)The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and

(4)The pile will not generate leachate through decomposition or other reactions; or

c.The pile must have a leachate collection and removal system above the top liner; and

d.(1)(a)The pile must be underlain by two liners, which are designed and constructed in a manner that prevents the migration of liquids into or out of the space between the liners and a leak detection system which must be designed, constructed, maintained, and operated between the liners to detect any migration of liquids into the space between the liners; and

(b)A demonstration must be made that there is a low potential for migration of liquid from the waste pile to the uppermost aquifer during the active life of the waste pile (including the closure period). The owner or operator must base any predictions made on assumptions that maximize the rate of liquid migration; or

(2)(a)The pile must be underlain by a liner (base) that is designed, constructed, and installed in a manner that prevents the migration of liquids or waste beyond the liner; and

(b)The wastes in the pile must be removed periodically, and the liner must be inspected for deterioration, cracks, or other conditions that may results in leaks. The frequency of inspection will be specified in the inspection plan and must be based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates and subsurface stability).

The liner(s) used to satisfy 10.d. must be of sufficient strength and thickness to prevent failure due to puncture, cracking, tearing, or other physical damage from equipment used to place waste in or on the pile or to clean and expose the liner surface for inspection.

V.F.Land Treatment Units

This section applies to owners and operators of facilities that use land treatment units to treat hazardous waste. This section may be completed by a certified soil scientist. If there are separate standards for new or existing units they will be specified in that particular subsection. The regulations governing land treatment units and summarized in this section can be found in Title 31 Texas Administrative Code Section 335.171.

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(6), 335.171, 335.172, 40 CFR 264.270-264.272, 264.274-264.279, 264.281-264.283, and 270.20 for each land treatment unit.

For land treatment units at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(b).

For all land treatment units, include in the report the following information.

1.Complete Tables V.F.1 and V.F.2. and list the land treatment units covered by this application. List the waste managed in each unit and the rated capacity or size of the unit. If different wastes are placed on separate portions of the land treatment area, each one of these portions is considered a land treatment unit, and requires a separate summary form and engineering report.

US EPA ARCHIVE DOCUMENT

The treatment zone is defined as the soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized. In this section, specify the depth of the treatment zone. The maximum depth of the treatment zone for new land treatment units must be:

a.No more than 1.5 meters (5 feet) from the surface; and

b.More than 1 meter (3 feet) above the seasonal high water table.

2.Describe the land treatment unit. A plan view and cross-section of the unit should be included with the engineering report.

3.Complete Table V.F.3 and list the wastes for which the treatment demonstration will be made and the principal hazardous constituents in each waste. Specify in the report the data sources to be used to make the demonstration such as laboratory data, field data, operating data, literature, or other.

4.Run-on Diversion

Describe measures used to control run-on and divert run-on from the unit. Include all the analyses used to calculate the run-on volumes.

The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of he land treatment unit during peak discharge from at least a 100-year, 24-hour storm.

Any tanks or basins associated with the run-on control system must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.

5.Run-off Control

Describe measures used to control the run-off from the unit, and minimize hazardous constituents in the run-off, include all the analyses used to calculate the run-off volumes.

The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 100-year, 24-hour storm.

Collection and holding facilities (e.g., tanks or basins) associated with run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

6.Wind Dispersal

The owner or operator of a land treatment unit containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the land treatment unit so that wind dispersal is minimized. Describe practices to control wind dispersal (e.g., cover or frequent wetting) of the hazardous waste.

7.Treatment Demonstration

A description of the treatment demonstration required under 40 CFR 264.272 and 270.20(a) shall be included with the engineering report. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration, he must obtain a treatment or disposal permit.

8.Food Chain Crops

Several conditions must be satisfied if food-chain crops are to be grown in or on the treatment zone. A demonstration must be prepared similar to the one described in the Treatment Demonstration and submitted at least 90 days prior to the planting of crops. The demonstration need not be submitted with this application. However, a description of the

US EPA ARCHIVE DOCUMENT

demonstration must be included as part of the engineering report. This demonstration may be combined with the Treatment Demonstration description, as some of the information required is identical.

V.G.Landfills

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(5 & 6), 335.173, 335.174-176, 40 CFR 264.19, 264.300, 264.302, 264.303(a), 264.304-264.309, 264.311-264.313, 264.316-264.317, and 270.21. The text of the report should be written to supplement engineering plans, specifications, and test results necessary to provide a detailed description of how the landfill will comply with these standards.

For landfills at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(e).

For all landfills, include in the report the following information.

1.Complete Table V.G.1 and list the landfills (and number of cells, if applicable) covered by this application. List the waste managed in each unit and the rated capacity or size of the unit. If wastes are segregated in some manner please list the cell number in which wastes are placed next to each waste type.

2.Describe the landfill. A plan view and cross-section of the landfill should be included with the engineering report.

3.Containment System

TNRCC Technical Guideline No. 6 contains suggested methods of leachate collection system construction and EPA publication 530-SW-85-014 provides design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after installation by an electrical leak location system such as developed by Southwest Research Institute, or equivalent approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.

a.Complete Table V.G.3 and specify the type of liner and leachate collection systems used for the landfill.

b.In the engineering report, describe the design, installation, construction, and operation of the liner and leachate collection components. The description must demonstrate that the liner or leachate control system will prevent discharge to the land, ground water, and surface water.

For artificial liners:

1)Seaming method
2)Surface preparation method
3)Tensile Strength
4)Impact Resistance
5)Compatibility Demonstration
6)Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)
For soil liners:

7)Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated waste constituents
8)Atterberg Limits, % passing a #200 sieve, and Permeability
9)Moisture Content
10)Standard Proctor Density, Compaction Data

For dikes:

11)Slope Stability Analysis
12)Hydrostatic and Hydrodynamic Analyses

US EPA ARCHIVE DOCUMENT

13)Ability to withstand scouring from leaking liner

For leachate detection, collection, and removal system:

14)Capacity of the system:
(a)rate of leachate removal
(b)capacity of sumps
(c)thickness of mounding and maximum hydraulic head
15)Pipe Material and Strength
16)Pipe Network Spacing and Grading
17)Collection Sump(s) Material and Strength
18)Drainage Media Specifications and Performance
19)Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
20)Compatibility Demonstration

c.Whether the liner system and leachate collection components are chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.

d.Submit a quality assurance/ quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.

4.Landfills that receive waste on or after May 8, 1985 (or for newly-regulated units, the effective date of the new RCRA regulation) into new units and/or lateral expansions or replacements of existing units must meet the minimum technological requirements of the Hazardous and Solid Waste Amendments of 1984, unless an appropriate waiver is granted by the Commission. The minimum technological requirements include the installation of two or more liners and a leachate collection system above and between the liners. Plans and specifications for both new and existing landfills must demonstrate conformity with 30 TAC 335.173.

5.Site Development Plan

Describe the methods used to deposit waste in the landfill. This description should include rate of waste deposition, waste segregation, average lift size, maximum lift, average cell or trench size, maximum cell or trench size, and other information necessary to depict how the landfill will be developed. Do not include liner or leachate collection system information, closure information, or handling of special wastes. This will be included elsewhere in the report.

6.Run-on Control

The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 100-year, 24-hour storm.

Collection and holding facilities associated with the run-on control system must be emptied or otherwise managed expeditiously.

In the engineering report, include the following analyses:

a.Run-on volume and depth calculations from the peak discharge of the 100-year, 24-hour storm; and

b.For ditches on the plant property, back-water calculations.

7.Run-off Control

The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control the water volume resulting from a 100-year, 24-hour storm.

US EPA ARCHIVE DOCUMENT

Include all analyses used to calculate run-off volumes.

Collection and holding facilities (e.g., tanks or basins) associated with run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

8.Wind Dispersal

If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to minimize wind dispersal. Check off the method used to control wind dispersal on the summary form. Based upon the characteristics of the material to be landfilled describe the likelihood of wind dispersal occurring. Describe in detail any method and/or control mechanism used to prevent wind dispersal.

9.Liquid Waste

If liquid waste or waste containing free liquids is to be stabilized and then placed in the landfill, the procedures used to stabilize the waste must be described in the engineering report. The waste must be treated prior to landfilling using a treatment technology that does not solely involve the use of a material that functions primarily as a sorbent. Provide supporting documentation to verify that an appropriate stabilization procedure is used to comply with 30 TAC 335.175.

10.Exemption from Double-Liner Requirements

Owners or operators of hazardous waste landfills will be exempt from the double-liner requirements if the Commission finds, based on the demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, are at least as effective as a double liner in preventing migration of hazardous constituents to the ground water or surface water.

The demonstration must consider:

a.The nature and quantity of the wastes;

b.The proposed alternate design and operation;
c.The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and ground water or surface waters; and

d.All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

11.Above-grade Benefits

The engineering report must evaluate the benefits, if any, associated with the construction of the landfill above existing grade at the proposed site, the costs associated with the above-grade construction, and the potential adverse effects, if any, which would be associated with the above-grade construction.

V.H.Incinerators

Provide an engineering report which includes all of the information specified in 30 TAC 305.171-305.174, 40 CFR 264.340, 264.342-264.346, 264.347(a), 264.348-264.350, and 270.19.

Note: A permit is not required prior to conducting a trial burn for existing incinerator operating under 30 TAC 335.2(c). However, without the prior approval of the Executive Director the operator cannot be certain that the trial burn data will be sufficient to demonstrate compliance with regulations. Applicants are encouraged to obtain approval prior to conducting a test burn. For any trial burn plan approved by the TNRCC or EPA, the applicant shall submit a certification that the previously conducted trial burn was conducted in accordance with the approved trial burn plan.

US EPA ARCHIVE DOCUMENT

1.Complete Table V.H.1 and list the incinerators covered by this application. List the waste managed in each unit, the rated capacity or size of the unit, and the types of continuous emission monitors to be used to ensure permit compliance (e.g.,., O_2, CO, THC).

2.If a trial burn will be performed, designate one or more of the 40 CFR 261 Appendix VIII organic compounds present in the wastes to be incinerated as Principal Organic Hazardous Constituents (POHCs). Selection will be based upon the degree of difficulty of incineration of these compounds and upon their concentration or mass in the waste feed. These POHCs will be used to determine the destruction and removal efficiency (DRE) specified in the performance standards of 40 CFR 264.343. In addition, complete Table V.H.2.

3.Submit a Quality Control/Quality Assurance Plan for all sampling, analysis, and monitoring activities which will occur in conjunction with the trial burn.

V.I.Boilers and Industrial Furnaces

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(13), 305.571-573, 335.221-335.229, and 40 CFR 266.100-266.102, 266.104-266.112, and 270.22.

1.Complete Table V.I.1 and list the boilers and/or industrial furnaces by this application. List the waste managed in each unit and the rated capacity or size of the unit.

2.If a trial burn will be performed, designate one or more of the 40 CFR 261 Appendix VIII organic compounds present in the wastes to be incinerated as Principal Organic Hazardous Constituents (POHCs). Selection will be based upon the degree of difficulty of incineration of these compounds and upon their concentration or mass in the waste feed. These POHCs will be used to determine the destruction and removal efficiency (DRE) specified in the performance standards of 40 CFR 264.343. In addition, complete Table V.I.2.

3.Submit a Quality Control/Quality Assurance Plan for all sampling, analysis, and monitoring activities.

V.J.Drip Pads

Provide an engineering report which includes all of the information specified in 40 CFR 264.570-573 and 270.26. Include with this engineering report the required certification signed by an **independent**, qualified, registered professional engineer, stating that the drip pad design meets the requirements of 40 CFR 264.573(a)-(f).

1.Complete Table V.J.1 and list the drip pads covered by this application to be permitted. List the N.O.R. unit number, the waste managed in each unit, the rated capacity of each unit, and the overall dimensions of the unit (including perimeter curb or berm height) that will be in contact with the waste.

2.For either new drip pads[4] or existing drip pads for which the owner/operator elects to comply with the synthetic liner requirement of 40 CFR 264.573(b), please complete Table V.J.2 Drip Pad Synthetic Liner System.

V.K.Miscellaneous Units

A miscellaneous unit is a unit other than a container, tank, incinerator, boiler, industrial furnace, landfill, surface impoundment, waste pile, underground injection well, land treatment area, drip pad, or unit eligible for an R, D & D permit that is used to process, store, or dispose of hazardous waste.

For each miscellaneous unit for which an operating permit is sought, provide an engineering report which includes all of the information specified in 40 CFR 264.600-264.602, and 270.23. Complete Table V.K and list the miscellaneous units

[4]New drip pads are those drip pads constructed after 12/06/90 and which had no binding contract for construction. If electing to comply with 40 CFR 264.573(b), the requirement to install a leakage collection system of 40 CFR 264.573(b)(3) applies only to those drip pads constructed after 12/24/92 and which had no binding contract for construction.

US EPA ARCHIVE DOCUMENT

covered by this application. List the waste managed in each unit and the rated capacity or size of the unit. If the information requested is not applicable, an explanation must be submitted.

1.Any other information which is descriptive of the relationship between the miscellaneous unit and the environment. Application information may include design requirements of 30 TAC 305 and 335, 40 CFR Part 264 Subparts I through 0, Part 270, and Part 146 that are appropriate for the miscellaneous unit or portions of the unit being permitted.

2.For a unit which involves combustion, you must complete the TNRCC Office of Air Quality Addendum, Section X of Part B.

V.L.Containment Buildings

Provide an engineering report which includes all of the information specified in 40 CFR 264.1100-1101(c)(3), and 264.1101(d)-(e). Complete Table V.L. and list the containment buildings covered by this application to be permitted. List the N.O.R. unit number, whether the unit is for storage and/or processing, the waste or debris managed in each unit, the rated capacity of each unit, and the overall dimensions of the unit (including containment wall height) that will be in contact with the waste or debris.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE V.B CONTAINER STORAGE AREAS

List the container storage areas covered by this application to be permitted. List the waste managed in each unit and the rated capacity or size of the unit.

No.	*Container Storage Area*	*N.O.R. Unit #*	*Waste No.s*[1]	*Rated Capacity*	*Dimensions*	*Stacking height*	*Aisle Spacing*	*Containment Volume (including rainfall for unenclosed areas)*	*Ignitable*[2] *Reactive*[2] *Incompatible*[3] *Waste (Yes/No)*

[1]from Table IV.B, first column

[2]If YES, provide in the engineering report drawings demonstrating compliance with the buffer zone requirement of 40 CFR 264.17 and 264.176.

[3]If YES, provide in the engineering report a description of the procedures used to ensure compliance with 40 CFR 264.17 and 264.177.

US EPA ARCHIVE DOCUMENT

TABLE V.C TANKS

List the tanks covered by this application to be permitted. List the waste managed in each unit and the rated capacity or size of each unit.

No.	*Tank*	*N.O.R. Unit #*	*Storage and/or Processing*	*Waste No.s*[1]	*Rated Capacity*[2]	*Dimensions*	*Containment Volume (including rainfall for unenclosed areas)*	*Ignitable*[3], *Reactive*[3], *Incompatible*[4] *Waste (Yes/No)*

[1]from Table IV.B, first column

[2]If the tank has been derated or if the permitted capacity is otherwise different from the design capacity, specify in the engineering report.

[3]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.198 and provide drawings demonstrating compliance with any applicable buffer zone requirements and 40 CFR 264.17.

[4]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.199.

US EPA ARCHIVE DOCUMENT

TABLE V.D.1 SURFACE IMPOUNDMENTS

List the surface impoundments covered by this application to be permitted. List the waste managed in each unit and the rated capacity or size of each unit.

No.	*Surface Impoundment*	*N.O.R. #*	*Waste No.s*[1]	*Rated Capacity*	*Dimensions*	*Distance from lowest liner to groundwater*	*Action Leakage Rate*[2] (if required)	*Ignitable*[3] *Reactive*[3] *Incompatible*[4] *or F020, F021, F022, F023, F026, and F027*[5] *Waste (Y?N)*

[1]from Table IV.B, first column

[2]If not required in accordance with 40 CFR 264.222, state "NOT REQUIRED."

[3]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.229.

[4]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.230.

[5]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.231.

US EPA ARCHIVE DOCUMENT

TABLE V.D.6 SURFACE IMPOUNDMENT LINER SYSTEM

Surface Impoundment	***Primary Liner***			***Secondary Liner***			***Clay Liner***		
	Material	*Permeability (cm/sec)*	*Thickness*	*Material*	*Permeability (cm/sec)*	*Thickness*	*Material*	*Permeability (cm/sec)*	*Thickness*

US EPA ARCHIVE DOCUMENT

TABLE V.E.1 WASTE PILES

List the waste piles covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.

No.	*Waste Pile*	*N.O.R. Unit #*	*Waste No.s*[1]	*Rated Capacity*	*Dimensions*	*Distance from lowest liner to groundwater*	*Action Leakage Rate*[2] (if required)	*Ignitable*[3] (Y/N)	*Reactive*[3] (Y/N)	*Incompatible Waste*[4] (Y/N)

[1]from Table IV.B, first column

[2]If not required in accordance with 40 CFR 264.252, state "NOT REQUIRED."

[3]YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.256.

[4]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.257.

[5]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.259.

US EPA ARCHIVE DOCUMENT

TABLE V.E.3 WASTE PILE LINER SYSTEM

Waste Pile	***Primary Liner***			***Secondary Liner***			***Clay Liner***		
	Material	*Permeability (cm/sec)*	*Thickness*	*Material*	*Permeability (cm/sec)*	*Thickness*	*Material*	*Permeability (cm/sec)*	*Thickness*

US EPA ARCHIVE DOCUMENT

TABLE V.F.1. LAND TREATMENT UNITS

List the land treatment units covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.

No.	*Land Treatment Unit*	*N.O.R. Unit #*	*Waste No.s*[1,2]	*Dimensions*	*Distance from lowest liner to groundwater*	*Ignitable*[3] *Reactive*[3] *Incompatible*[4] *F021, F022, F023, F026, F020, and F027*[5] *Waste* (Y/N)

[1]from Table IV.B, first column

[2]If cadmium is present in the waste, state the concentration in the report.

[3]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.281.

[4]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.282

[5]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.283.

US EPA ARCHIVE DOCUMENT

TABLE V.F.2. LAND TREATMENT UNIT CAPACITY

For the land treatment units listed in Table IV.F.1, specify the waste treatment capacity.

No.	***Land Treatment Unit***	***N.O.R. Unit #***	***Rated Capacity***				***Treatment Zone Depth***
			Monthly Hydraulic Loading	*Monthly Organic Loading*	*Monthly Inorganic Loading*	*Cumulative Lifetime Loading*	

TABLE V.F.3 LAND TREATMENT PRINCIPAL HAZARDOUS CONSTITUENTS

List the wastes for which the demonstration will be made and the principal hazardous constituents in each waste. Indicate by an (*) asterisk which constituents will be treated and rendered nonhazardous.

Waste	***Hazardous Constituents***

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE V.G.1. LANDFILLS

List the landfills covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.

No.	*Landfill*	*N.O.R. Unit #*	*Waste No.s*[1]	*Rated Capacity*	*Dimensions*	*Distance from lowest liner to groundwater*	*Action Leakage Rate (if required)*[2]	*Ignitable*[3] *Reactive*[3] *Incompatible*[4] *F020, F021, F022, F023, F026, and F027*[5] *Waste (Y/N)*

[1]from Table IV.B, first column

[2]If not required in accordance with 40 CFR 264.302, state "NOT REQUIRED."

[3]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.312.

[4]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.313.

[5]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.317.

US EPA ARCHIVE DOCUMENT

TABLE V.G.3. LANDFILL LINER SYSTEM

No.	***Landfill***	***Primary Liner***			***Secondary Liner***			***Clay Liner***		
		Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness

US EPA ARCHIVE DOCUMENT

TABLE V.G.3 (continued) LANDFILL LEACHATE COLLECTION SYSTEM

Landfill	**Primary Leachate Collection System**					**Secondary Leachate Collection System**				
	Drainage Media	Collection Pipes (including risers)	Filter Fabric	Geofabric	Sump Material	Drainage Media	Collection Pipes (including risers)	Filter Fabric	Geofabric	Sump Material

US EPA ARCHIVE DOCUMENT

TABLE V.H.1 INCINERATORS

List the incinerators covered by this application to be permitted. List the waste managed in each unit and the rated capacity or size of each unit.

No.	***Incinerator***	***N.O.R. Unit #***	***Waste No.s***[1]	***Waste Physical Form***	***Rated Capacity***		***Continuous Emission Monitors***	***Reactive***[2]***, Incompatible***[2]***, F020, F021, F022, F023, F026, or F027***[3] ***Waste***
					Feed Rates	*Thermal Capacity*		*(Y/N)*

[1]from Table IV.B, first column

[2]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17.

[3]If YES, the DRE requirement for the unit is 99.9999%

TABLE V.H.2 PRINCIPAL ORGANIC HAZARDOUS CONSTITUENTS

List the wastes for which the trial burn demonstration will be made and the principal organic hazardous constituents (POHCs) in each waste.

Waste	***Principal Organic Hazardous Constituents***

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE V.I.1 BOILERS AND INDUSTRIAL FURNACES

List the boilers and industrial furnaces covered by this application to be permitted. List the waste managed in each unit and the rated capacity or size of each unit.

No.	*Boilers and Industrial Furnaces*	*N.O.R. Unit #*	*Waste No.s*[1]	*Waste Physical Form*	*Rated Capacity*		*Continuous Emission Monitors*	*Reactive*[2], *Incompatible*[2], *F020, F021, F022, F023, F026, or F027*[3] *Waste* (Y/N)
					Fuel Gas	*Thermal Capacity*		

[1]from Table IV.B, first column

[2]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17.

[3]If YES, the DRE requirement for the unit is 99.9999%

TABLE V.I.2 PRINCIPAL ORGANIC HAZARDOUS CONSTITUENTS

List the wastes for which the trial burn demonstration will be made and the principal organic hazardous constituents in each waste.

Waste	***Principal Organic Hazardous Constituents***

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE V.J.1 DRIP PADS

List the drip pads covered by this application to be permitted.

No.	*Drip Pad*	*N.O.R. Unit #*	*Storage and/or Processing*	*Waste No.s*[1]	*Overall Dimensions*	*Collection System Volume*

[1]from Table IV.B, first column

US EPA ARCHIVE DOCUMENT

TABLE V.J.2 DRIP PAD SYNTHETIC LINER SYSTEM

Drip Pad	***Synthetic Liner***			***Leakage Detection System***			***Leak Collection System***		
	Material	*Permeability (cm/sec)*	*Thickness*	*Material*	*Permeability (cm/sec)*	*Thickness*	*Material*	*Permeability (cm/sec)*	*Thickness*

US EPA ARCHIVE DOCUMENT

TABLE V.K MISCELLANEOUS UNITS

List the miscellaneous units covered by this application to be permitted. List the waste managed in each unit and the rated capacity or size of each unit.

No.	*Miscellaneous Unit*	*N.O.R. Unit #*	*Storage, Processing, and/or Disposal*	*Waste No.s*[1]	*Rated Capacity*	*Dimensions*	*Ignitable*[2], *Reactive*[2], *Incompatible*[2] *Waste* (Y/N)

[1]from Table IV.B, first column

[2]If YES, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17.

US EPA ARCHIVE DOCUMENT

TABLE V.L CONTAINMENT BUILDINGS

List the containment buildings covered by this application to be permitted.

No.	*Containment Building*	*N.O.R. Unit #*	*Storage and/or Processing*	*Waste No.s*[1]	*Rated Capacity*	*Overall Dimensions*

[1]from Table IV.B, first column

VI. GEOLOGY REPORT

This portion of the application applies to owners or operators of new hazardous waste management facilities; areal and/or capacity expansions of existing hazardous waste management facilities; and existing industrial solid waste facilities that store, process or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles (except those waste piles that meet the requirements of item V.E.10.b. of this application), and tanks or drip pads which require a contingent post-closure plan.

Submit a Geology Report which includes at a minimum the following information.

A. Geology and Topography

1. Active Geologic Processes

Provide a description of the active geologic processes in the vicinity of the facility. A qualified geologist shall perform the geological field work, prepare the cross-sections, geologic maps, and interpret these. This description should include:

a. An identification of any faults (active or otherwise) in the area of the facility. The preparer should determine which Holocene sediments or man-made structures have been displaced. The report should contain a description of the investigation techniques used to identify faults and should assess the degree, if any, to which a particular fault increases the long-term potential for waste migration. The clearance required from active faults to ensure that liner systems will not be disrupted will be based upon site specific factors such as the zone of significant surface deformation, uncertainty in locating the fault, activity of the fault, and a distance to provide a reasonable margin of safety. These issues should be addressed when discussing the offset of an industrial solid waste facility unit from an active fault.

To satisfy the requirements of 30 TAC 305.50(4)(F) and 305.50(10)(E), for a proposed hazardous waste management facility or a modification or amendment of a permit which includes a capacity expansion of an existing hazardous waste management facility, submit the following.

1) A geologic literature review should be conducted, from which useful information on the possibility of faulting at a given site may be revealed. This includes, but is not limited to, maps of surface faults, subsurface structure, and field investigations by the author(s).

2) Descriptions and maps of faulting, fracturing, and lineations in the area are necessary. An aerial photo with lineation interpretations is suggested.

3) The maps and cross-sections are to be constructed using an amount of data necessary to adequately describe the geology of the area. Surface data, including data regarding known surface expressions, such as surface faults, gas seeps, lineations, etc., should be accounted for in the subsurface interpretations. A surface structure map should be prepared, incorporating all of the subsurface data as well as known surface features.

4) A minimum of two structural cross-sections, utilizing available oil field and/or water well electric log data, shall be made perpendicular to each other, crossing at the proposed surface unit location. These cross-sections should define geologic units, indicating especially Holocene sediments and Underground Sources of Drinking Water (USDWs), as well as lithology. The cross-sections should be constructed from the surface, down through the shallowest major structure or the base of the Holocene, whichever is deeper. These cross-sections need to be on a scale necessary to depict the local geology (3000' radius from the site location minimum). If needed to

US EPA ARCHIVE DOCUMENT

adequately describe the local geology, then a larger radius or deeper area of review may be necessary.

5) A minimum of two structural subsurface maps need to be prepared. One map should be made on the shallowest mappable subsurface marker, the other on a deeper horizon that shows the underlying major structure. Additional maps may be necessary.

6) Field surveillance will be necessary to check the area of the facility for surface features, such as lineations, and to investigate potential surface faults as indicated by, but not limited to, aerial photos, topographic maps, and seismic and subsurface structural maps.

7) The above requirements do not limit the use of any additional information, such as seismic data, isopach maps, or potentiometric maps, that may help in defining the geology of the area of review.

8) If faulting exists within 3000 feet of the surface unit, it must be demonstrated that the fault has not had displacement within Holocene time. If such a fault does exist, it cannot pass within 200 feet of the surface unit.

9) If a fault that has been active within the Holocene is located within 3000 feet of the surface unit, it must be demonstrated that, a.) the fault is not transmissive, i.e., it will not provide for groundwater movement that would result in endangerment to human health or the environment, and b.) there is no actual and/or potential problem of subsidence, which could endanger the stability of the surface unit.

b. A discussion of the extent of land surface subsidence in the vicinity of the facility including total recorded subsidence and past and projected rates of subsidence. For facilities located at low elevations along the coast which have experienced appreciable rates of subsidence, the potential for future submergence beneath Gulf water should be addressed.

c. A discussion of the degree to which the facility is subject to erosion. The potential for erosion due to surface water processes such as overland flow, channeling, gullying, and fluvial processes such as meandering streams and undercut banks should be evaluated. If the facility is located in a low-lying coastal area, historical rates of shoreline erosion should also be provided.

2. Regional Physiography and Topography (applicable only to owners or operators of facilities that store, process, or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles, except waste piles exempt for groundwater monitoring requirements, and tanks which require a contingent post-closure plan)

a. Distance and direction to nearest surface water body

b. Slope of land surface

c. Direction of slope

d. Maximum elevation of facility

e. Minimum elevation of facility

3. Regional Geology (applicable only to owners or operators of facilities that store, process, or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles,

US EPA ARCHIVE DOCUMENT

except waste piles exempt for groundwater monitoring requirements, and tanks which require a contingent post-closure plan)

Provide a description of the regional geology of the area. This section should include:

a. A geologic map of the region with text describing the stratigraphic and lithologic properties of the map units. An appropriate section of a published map series such as the Geologic Atlas of Texas prepared by the Bureau of Economic Geology is acceptable.

b. A description of the generalized stratigraphic column in the facility area from the base of the lowermost aquifer capable of providing usable ground water to the land surface. At least the uppermost 1,000 feet of section below the facility should be described. The geologic age, lithology, variation in lithology, thickness, depth, geometry, hydraulic conductivity, and depositional history of each geologic unit should be described based upon available geologic information. Regional stratigraphic cross sections should be provided, where available.

4. Subsurface Soils Investigation Report

This section should contain the results of an investigation of subsurface conditions for each land based unit and/or unit which requires contingent closure and post-closure care. If several units are in close proximity, a single investigation for the area will suffice. This report should include:

a. The logs of borings performed at the waste management area. All borings must be conducted in accordance with established field exploration methods. Investigation procedures should be discussed in the report. A sufficient number of borings should be performed to establish subsurface stratigraphy and to identify and allow assessment of potential pathways for pollution migration. Borings must be sufficiently deep to allow identification of the uppermost aquifer and underlying hydraulically interconnected aquifers. Borings should penetrate through the uppermost aquifer and all deeper hydraulically interconnected aquifers, deep enough to identify the aquiclude at the lower boundary. Borings should be completed to a depth at least 30 feet below the deepest excavation planned at the waste management area. The required number of borings will increase or decrease depending on the heterogeneity of subsurface materials. Locations with stratigraphic complexities such as non-uniform beds which pinch out, vary significantly in thickness, coalesce, or grade into other units, will require a significantly greater degree of subsurface investigation than areas with simple hydrogeologic frameworks. Boring logs should include a detailed description of materials encountered including any discontinuities such as fractures, fissures, slickensides, lenses or seams. Whenever possible, electric logs should be run on each borehole. The hollow stem auger boring method is recommended in those instances where an accurate determination of initial water levels is important. A key explaining both the symbols used on the boring logs and the classification terminology for soil type, consistency, and structure should be provided.

b. Cross-sectional drawings prepared from the borings depicting the generalized soil strata profile at the site. For small waste management areas two cross sections prepared perpendicular to each other will normally suffice.

c. A text which describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation. If appropriate, soils may be assigned to generalized strata to aid in the discussion.

d. Complete Table VI.A.4 and provide in the report data which describes the geotechnical properties of the subsurface soil materials. All laboratory and field tests must be

US EPA ARCHIVE DOCUMENT

performed in accordance with recognized procedures. A brief discussion of test procedures should be included. All major strata encountered during the field investigation phase should be characterized with regard to: Unified Soil Classification, moisture content, percent less than number 200 sieve, Atterberg limits (liquid limit, plastic limit, and plasticity index), and coefficient of permeability. Field permeability tests should be used to determine the coefficient of permeability of sand or silt units and should also be used to supplement laboratory tests for more clay-rich soils. In addition, particle size distribution and relative density based upon penetration resistance should be determined for coarse-grained soils. For fine-grained soils the following parameters should also be determined: cohesive shear strength based upon either penetrometer or unconfined compression tests, dry unit weight, and degree of saturation(s). For the major soil strata encountered, the maximum, minimum, and average for each of these variables should be compiled.

e. For land treatment units, provide a description of the surficial soils at the site which includes:

(1) The name and description of the soil series at the site;

(2) Important physical properties of the series such as depth, permeability, available water capacity, soil pH, and erosion factors;

(3) Engineering properties and classifications such as USDA texture, Unified Soil Classification, size gradation, and Atterberg limits (liquid limit, plastic limit, and plasticity index); and

(4) The cation exchange capacity (CEC) of the soil(s) expressed in units of meq/100g.

Much of this information may be obtained by consulting the county soil survey published by the United States Department of Agriculture, Soil Conservation Service. If available, a copy of an aerial photograph showing soil series units on the land treatment area should be provided.

If an aerial photograph is not available, include a soil series map as an attachment to this subsurface soils investigation report.

VI. B. Facility Ground Water

If past monitoring has shown the presence of hazardous constituents in the ground water, the owner or operator must submit a Compliance Plan Application with this application. The TNRCC Permits Section, Industrial and Hazardous Waste Division can provide instructions for the Compliance Plan Application.

1. Regional Aquifers

Provide a description of the regional aquifers in the vicinity of the facility based upon available geologic references. The section should provide:

a. Aquifer names and their association with geologic units described in paragraph V.A.3.b.;

b. A description of the constituent materials of the aquifer(s);

c. A description of the water-bearing and transmitting properties of the aquifer(s);

d. Whether the aquifers are under water table or artesian conditions;

US EPA ARCHIVE DOCUMENT

e. Whether the aquifers are hydraulically connected;

f. A regional water table contour map or potentiometric surface map for each aquifer, if available, from published references;

g. An estimate of the rate of ground-water flow in units of ft/yr;

h. Values for total dissolved solids content of ground water from the aquifers;

i. Identification of areas of recharge to the aquifers; and

(An application for a new hazardous waste surface impoundment, waste pile, land treatment unit, or landfill, which is to be located in the apparent recharge zone of a major or minor aquifer, as designated by the Texas Water Development Board in the publication entitled Water for Texas, Today and Tomorrow (1990) or subsequent revision must include a hydrogeologic report documenting the potential effects, if any, on the regional aquifer in the event of a release from the waste containment system. (30 TAC 305.50(6)])

j. The present use of ground water withdrawn from aquifers in the vicinity of the facility.

The preparer should update paragraph III.C.1.e. of the Part A permit application to ensure that all water wells within 1 mile of the property boundaries of the facility have been located. The aquifer(s) yielding water should be identified for each well.

2. Provide groundwater conditions for each land based unit or unit which requires post closure care which includes all the information specified in 30 TAC 335.156-335.167. This discussion should also include:

a. Records of water level measurements in borings. The boring logs prepared in response to paragraph VI.A.4.a.) should be annotated to note the level at which ground water is first encountered and the level of ground water after equilibration. Normally a 24-hour period is adequate for equilibration of ground water but an extended period may be required for saturated clay deposits. This information should also be presented on the cross sections required in paragraph VI.A.4.b.) and in a table.

b. Records of maximum and minimum static water level measurements in monitor wells. Historic water level measurements made during any previous ground-water monitoring should be presented in a table for each well.

c. Upper and lower limits of the uppermost aquifer and deeper aquifers which are hydraulically interconnected to it beneath the facility boundary. In most cases this identification would include surface contour maps of the top and bottom surfaces.

d. A site specific water table contour map or potentiometric surface map for the uppermost aquifer, and the basis for such identification (the information obtained from hydrogeologic investigations of the facility area). The predicted groundwater flow direction and rate should be indicated.

e. A discussion of the variation of hydraulic gradient across the site, including vertical gradient. Calculations for the maximum, minimum, and average ground-water flow velocities for each aquifer identified should also be provided, including pump test data where appropriate.

f. An analysis of the most likely pathway(s) for pollutant migration in the event that the primary barrier liner system is penetrated.

US EPA ARCHIVE DOCUMENT

3. Description of the Current and Proposed Well System for Detection Monitoring Program.

The ground-water monitoring standards apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in surface impoundments, waste piles, land treatment units, landfills, or tanks without satisfactory secondary containment for which a post-closure care plan or permit is required. If a waste management unit meets certain standards it may qualify for an exemption to the ground-water monitoring requirements. An exemption for a unit does not exempt an entire facility. (See the instructions for each type of unit for a specific exemption.) A facility-wide exemption is described in Section VI.C.

It is important to note that even if the proposed program may use the same well system as the present program, the sampling parameters may be different.

a. Include in the design report a description of the proposed detection monitoring program. This description should contain all requirements of 30 TAC 335.163-335.164. Provide a justification for the selected suite of waste specific parameters specified in Table VI.B.3.c below based on toxicity, mobility, persistence, and concentrations in light and dense non-aqueous phase components of the waste. Describe the proposed sampling, analysis, and statistical comparison procedures to be utilized in evaluating groundwater monitoring data. Specify the statistical method and process for determining whether constituent concentrations in groundwater are above background, in accordance with 30 TAC 335.163. Refer to the EPA guidance document entitled Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Interim Final Guidance (April 1989) (document # EPA/530-SW-89-026) for recommended methods.

b. Complete Table VI.B.3.b to specify the proposed well system **for each unit or waste management area** which requires groundwater monitoring.

c. Complete Table VI.B.3.c to specify:

1) the suite of waste specific parameters (indicator parameters, waste constituents, or reaction products) which will be analyzed at each sampling event for each well or group of wells. These parameters must provide a reliable indication of the presence of hazardous constituents in the ground water;

2) the sampling frequencies and calendar intervals (e.g., monthly; quarterly within the second 30 days of each quarter; semiannually within the first 30 days of the 2nd and 4th quarters, etc.);

3) the detection limit of the sample preparation and analysis methods for the selected parameters. This detection limit will represent the capability of the sampling and analysis to reliably and accurately determine the presence of the selected parameters in the sample; and

4) the concentration limit which will be the basis for determining whether a release has occurred from the waste management unit/area. Concentration limits shall be based on background values for the waste management unit/area, or Practical Quantitation Limit (PQL) values identified in 40 CFR 264, Appendix IX. If background values are lower than PQLs, the applicant may choose respective PQLs as concentration limits for hazardous constituents.

d. Submit drawings depicting the monitoring well design, current and proposed.

e. Submit at least one map of the entire facility and additional maps or drawings if necessary on one or more 8½” x 11” sheets of sufficient scale to show the following in adequate detail.

US EPA ARCHIVE DOCUMENT

1) Monitoring well locations, current and proposed

2) Soil-pore liquid and core sampling points, current and proposed

3) Waste management unit(s)/area

4) Property boundary

5) Point of compliance

6) Direction of ground-water flow

7) Extent of any known plume of contamination

VI. C. Exemption from Ground-water Monitoring for an Entire Facility

In accordance with 30 TAC 335.156, a waste management facility may be exempt from ground-water monitoring if the owner or operator can demonstrate that there is no potential for migration of liquid from any regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and post-closure care period. This demonstration must be submitted with the permit application, and must be certified by a qualified geologist or geotechnical engineer.

This exemption does not apply to Unsaturated Zone Monitoring. Owners and operators of Land Treatment Units must monitor the unsaturated zone under all circumstances.

The following areas should be addressed in the demonstration, and any predictions must be made on assumptions that maximize the rate of liquid migration:

1. Thickness of soil between the base of the unit and saturated zone

2. Thickness of saturated zone

3. Head pressure of the fluids

4. Properties of the saturated and unsaturated zone (including permeability, effective porosity, and inhomogeneity).

5. Total life of facility

The criteria used for the evaluation of this demonstration are more stringent than those used for evaluations of demonstrations submitted prior to permitting. Thus it is necessary for an owner or operator to submit another demonstration even if one was submitted and approved previously.

This type of exemption differs from the exemptions described under the Landfills, Surface Impoundments, and Waste Piles Sections. An owner or operator may pursue a facility-wide exemption as well as an exemption for a particular unit, if the owner or operator wishes.

VI. D. Unsaturated Zone Monitoring

This section applies only to facilities which contain land treatment units. Attach any previous monitoring data to the monitoring report.

1. List all hazardous constituents that have been or will be monitored.

a. Current parameters

US EPA ARCHIVE DOCUMENT

b. Proposed parameters

2. Number of soil-pore liquid sampling points

a. Depth of sampling points

b. Equipment used for soil pore liquid monitoring

3. Number of soil core sampling points

a. Depth of soil core sampling points

b. Indicate on a facility map locations of all sampling points.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE VI.A.4 WASTE MANAGEMENT AREA SUBSURFACE CONDITIONS

Boring Number	*Depth Below Grade*	*Stratum*	*USC Symbol*	*Liquid Limit*	*Plasticity Index*	*Percent Passing #200 Sieve*	*Permeability*	*Percent Porosity*

Maximum depth: _____ feet below grade

_____ feet above MSL

US EPA ARCHIVE DOCUMENT

TABLE VI.B.3.b UNIT GROUNDWATER DETECTION MONITORING SYSTEM

For each unit/area which requires groundwater monitoring, specify the number and type of wells which will comprise the groundwater monitoring system for the unit/area. Prepare additional tables as necessary.

Waste Management Unit/Area Name[1]						
Well Number(s)						
Hydrogeologic Unit Monitored						
Type (e.g.,. point of compliance, background, observation, etc.)						
Up or Down Gradient						
Casing Diameter and Material						
Screen Diameter and Material						
Screen Slot Size (in.)						
Top of Casing Elevation (ft, MSL)						
Grade or Surface Elevation (ft, MSL)						
Well Depth (ft,)						
Screen Interval, From(ft) To(ft)						
Facility Coordinates (e.g., lat/long or company coordinates)						

[1]From Tables in Section V.

TABLE VI.B.3.c GROUNDWATER SAMPLE ANALYSIS

For each well or group of wells, specify the suite of parameters for which groundwater samples will be analyzed.

Well No(s). _____

Parameter	*Sampling Frequency*	*Detection Limits*	***Concentration Limits***[1]

[1] The concentration limit is the basis for determining whether a release has occurred from the waste management unit/area.

US EPA ARCHIVE DOCUMENT

VII. CLOSURE AND POST-CLOSURE PLANS

Submit a full closure plan and post-closure plan, if applicable which contains all the information required by 30 TAC 335.8, 335.169, 335.172, 335.174, 335.177-335.178, 335.551-335.569, 40 CFR 264.112, 264.118, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.575, 264.601, 264.603, 264.1102, 270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(3), and 270.26(c)(16) where applicable. The owner of property on which an existing disposal facility is located must also submit documentation that a notation has been placed in the deed to the facility that will in perpetuity notify any potential purchasers of the property that the land has been used to manage hazardous wastes and its use is restricted (see 30 TAC 335.5). For hazardous waste disposal units that were closed before submission of the application, the applicant should submit documentation to show that plats and notices required under 40 CFR 264.116 and 264.119 have been filed.

A. Closure

This section applies to the owners and operators of all hazardous waste management facilities to be permitted. The applicant must close the facility in a manner that minimizes need for further maintenance and controls, or eliminates, to the extent necessary to protect human health and the environment, the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated rainfall, or waste decomposition products to the ground water, or surface waters, or to the atmosphere.

The facility type and type of unit to be closed can determine the level of detail sufficient for a closure plan.

For each unit to be permitted, complete Table VII.A and list the facility components to be decontaminated, possible methods of decontamination, and possible methods of disposal of wastes and waste residues generated unit during closure.

Additionally, if the applicant plans to close a surface impoundment in accordance with 30 TAC 335.169(a)(1) and the impoundment does not comply with the liner requirements of 30 TAC Section 335.168(a) then the closure plan for the impoundment must include both a plan for complying with 30 TAC 335.169(a)(1) and a contingent plan for complying with 30 TAC 335.169(a)(2).

Guidance on design of a closure cap and final cover for landfills is given in TNRCC Technical Guideline No. 3, and EPA publication 530-SW-85-014 presents guidance on construction quality assurance of liner construction.

If a waste pile does not comply with the liner requirements of 30 TAC Section 335.170(a)(1) then the closure plan for the waste pile must include both a plan for complying with 40 CFR 264.258(a) and a contingent plan for complying with 40 CFR 264.258(b).

The final certification of closure of a land treatment unit may be prepared by an independent qualified soil scientist in lieu of an independent registered professional engineer.

B. Closure Cost Estimate (including contingent closure) [30 TAC 335.178, 40 CFR 264.142]

This section applies to owners or operators of all hazardous waste facilities, except state and federal agencies. A detailed estimate, in current dollars, of the cost of closing the facility should be included in the report. The cost estimate must include the cost of closure at the point in the facilities operating life when the extent and manner of its operation would make closure the most expensive. The TNRCC has published Technical Guideline No. 10 for calculating closure costs which should be consulted. Closure costs should be developed on the basis of abandonment of the site at full capacity and closure activities to be conducted by a third party with no operable on-site equipment. The costs for closing each unit must be detailed.

1. If closure costs are based on contractor bids, the applicant should submit a copy of the bid specification and each contractor's response.

US EPA ARCHIVE DOCUMENT

2. If closure costs are based on a detailed analysis, the applicant should submit details of item costs and number of each item, and details of costs for equipment rental, third party labor and supervision, transportation, analytical costs, etc. Provide an itemized cost estimate similar in style and content to Table VII.B for a complete, third party permitted facility closure and summarize in Table VII.E.

   As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

3. The closure plan may propose on-site disposal of wastes, residues, etc. during closure of a unit, and this may be executed if on-site capacity exists in other units during closure of a unit. However, the cost estimate for closure must be based on off-site shipment and disposal during closure of all wastes, waste residues, wastes generated by decontamination, contaminated stormwater, and leachate.

4. For each surface impoundment, waste pile, or tank system required to have a contingent closure plan, the cost for closure under the contingent closure plan should be detailed, as well as the cost of proposed closure. The more expensive of the cost of the proposed closure of a unit versus the cost of the contingent closure of the unit should be used in the total facility closure cost estimate.

VII. C. Post-closure

This section applies to owners or operators of all hazardous waste disposal facilities. This section also applies to certain waste piles, tanks and surface impoundments from which the owner or operator intends to remove wastes at closure but which are required to have contingent post-closure plans.

Post-closure care of each hazardous waste management unit must continue for 30 years after the date of completing closure of the unit and must consist of monitoring and reporting of the ground-water monitoring systems in addition to the maintenance and monitoring of waste containment systems. Continuation of certain security requirements may be necessary after the date of closure. Post-closure use of property on or in which hazardous waste remains after closure must never be allowed to disrupt the integrity of the containment system. In addition, submit the following information.

1. The post-closure care plan for a landfill or of a surface impoundment, waste pile, miscellaneous unit, or tank system closed with wastes or waste constituents left in place, or closed under a contingent closure plan, must demonstrate compliance with 30 TAC 335.174(b).

2. The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure period; and

3. A discussion of the future use of the land associated with each unit.

4. For landfills, surface impoundments, waste piles, and land treatment areas closed under interim status, submit the required documentation of 40 CFR 270.14(b)(14).

5. Landfills, surface impoundments, waste piles and land treatment areas that received hazardous wastes after July 26, 1982 or for which closure was certified after January 26, 1983 must be included in post-closure care plans unless they have been determined to have closed by removal equivalent to the closure standards in 40 CFR 264 Subpart G. If such a demonstration has been made pursuant to 40 CFR 270.1(c)(5), but an equivalency determination has not been made, please submit a copy of the demonstration documentation. If an equivalency determination has been made pursuant to 40 CFR 270.1(c)(6), applicant should submit a copy of the determination. Complete Table VII.C.5 for all land based units closed under interim status.

VII. D. Post-closure Cost Estimate [40 CFR 264.144]

US EPA ARCHIVE DOCUMENT

This section regarding post-closure cost estimate applies to owners or operators of all hazardous waste disposal facilities, except state and federal agencies, and certain waste piles, tank systems, and surface impoundments from which the owner or operator intends to remove wastes at closure, but which are required to have contingent closure and post-closure plans. A detailed estimate, in current dollars, of the annual cost of monitoring and maintenance of the facility in accordance with the applicable post-closure regulations must be included in the report. The TNRCC has published Technical Guideline No. 10 for calculating post-closure costs, which should be consulted. Costs should be developed in detail for 30 years of post-closure care activities to be conducted by a third party, for each applicable unit.

1. The applicant should submit details of item costs and number of each item for off-site disposal of leachate and bailed monitor well water, labor and supervision, monitor well sampling and analyses, inspection and repair of the cap(s), mowing and re-seeding of the vegetative cover, maintaining site security, etc. Provide an itemized cost estimate similar in style and content to Table VII.D for complete, third party permitted facility post-closure care and summarize in Table VII.E.

   As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

2. Total annual cost of post-closure care for the facility including costs of contingent post-closure care should be multiplied by 30 years.[5]

[5] or the remainder of 30 years from the date of closure certification for each unit if the unit has been previously certified closed.

US EPA ARCHIVE DOCUMENT

TABLE VII.A UNIT CLOSURE

For each unit to be permitted, list the facility components to be decontaminated, the possible methods of decontamination, and the possible methods of disposal of wastes and waste residues generated during unit closure:

Equipment of HWM Unit	*Possible Methods of Decontamination*[1]	*Possible Methods of Disposal* [1]

[1]Applicants may list more than one appropriate method.

US EPA ARCHIVE DOCUMENT

TABLE VII.B UNIT CLOSURE COST ESTIMATE

Task	Cost
(Name of permitted unit, e.g.,. Tank TK-1)	
Verbal description of task (waste amount generated x disposal cost/unit amount)	$$,$$$
Verbal description of task (waste amount generated x disposal cost/unit amount)	$$,$$$
Verbal description of task (waste amount generated x disposal cost/unit amount)	$$,$$$
Verbal description of task (waste amount generated x disposal cost/unit amount)	$$,$$$
Other tasks (such as labor, lab analysis, transportation, certifications, etc.)	$$,$$$
Other tasks	$$,$$$
subtotal	$$$,$$$
Contingency (10% minimum)	$$,$$$
Total Unit Closure Cost	$$$,$$$ (199_)
(Name of permitted unit, e.g.,. Surface Impoundment West)	
Verbal description of task (waste amount generated x disposal cost/unit amount)	$$,$$$
Verbal description of task (waste amount generated x disposal cost/unit amount)	$$,$$$
Verbal description of task (waste amount generated x disposal cost/unit amount)	$$,$$$
Verbal description of task (waste amount generated x disposal cost/unit amount)	$$,$$$
Other tasks (such as labor, lab analysis, transportation, certifications, etc.)	$$,$$$
Other tasks	$$,$$$
subtotal	$$$,$$$
Contingency (10% minimum)	$$,$$$
Total Unit Closure Cost	$$$,$$$ (199_)

TOTAL PERMITTED FACILITY CLOSURE COST (all unit costs combined)	**$,$$$,$$$ (199_)**

US EPA ARCHIVE DOCUMENT

TABLE VII.C.5 LAND-BASED UNITS CLOSED UNDER INTERIM STATUS

N.O.R. Unit #	*Unit Description*[1,2]	*Date of Receipt of Last Waste*[3]	*Date of Closure Certification*[3]

[1]Indicates a unit for which a 40 CFR 264 closure equivalency determination has been requested pursuant to 40 CFR 270.1(c)(5).

[2]Indicates a unit for which a 40 CFR 264 closure equivalency determination has been made pursuant to 40 CFR 270.1(c)(6).

[3]Give month, day and year.

US EPA ARCHIVE DOCUMENT

TABLE VII.D UNIT POST-CLOSURE COST ESTIMATE

Task	Cost
(Name of permitted unit, e.g.,. East Landfill)	
Verbal description of annual task, e.g.,. leachate collected (amount generated x disposal cost/unit amount)	$$,$$$
Verbal description of annual task, e.g.,. cap maintenance (material needed x cost/unit amount)	$$,$$$
Verbal description of annual task, e.g.,. detection monitoring system (# of wells x # sample events/well/year x lab analysis cost)	$$,$$$
Verbal description of annual task	$$,$$$
Other annual tasks	$$,$$$
Other annual tasks	
subtotal	$$$,$$$
Contingency (10% minimum)	$$,$$$
TOTAL UNIT POST-CLOSURE CARE COST x 30 yrs. (or other post-closure care period)	$,$$$,$$$ (199_)
(Name of permitted unit, e.g.,. Surface Impoundment West)	
Verbal description of annual task, e.g.,. leachate collected (amount generated x disposal cost/unit amount)	$$,$$$
Verbal description of annual task, e.g.,. cap maintenance (material needed x cost/unit amount)	$$,$$$
Verbal description of annual task, e.g.,. detection monitoring system (# of wells x # sample events/well/year x lab analysis cost)	$$,$$$
Verbal description of annual task	$$,$$$
Other annual tasks	$$,$$$
Other annual tasks	
subtotal	$$$,$$$
Contingency (10% minimum)	$$,$$$
TOTAL UNIT POST-CLOSURE CARE COST x 30 yrs. (or other post-closure care period)	$,$$$,$$$ (199_)

TOTAL PERMITTED FACILITY POST-CLOSURE COST (all unit costs combined)	**$,$$$,$$$ (199_)**

US EPA ARCHIVE DOCUMENT

TABLE VII.E CLOSURE/POST-CLOSURE COST SUMMARY

Closure Cost Estimate	
Unit	Cost
TOTAL CLOSURE COST ESTIMATE	(199_)[6]

Post-Closure Cost Estimate	
Unit	Cost
TOTAL POST-CLOSURE COST ESTIMATE	(199_)[6]

[6]As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

US EPA ARCHIVE DOCUMENT

VIII. FINANCIAL ASSURANCE

A. Financial Assurance Information Requirements for all Applicants (30 TAC 305.50(4)(A-E), 335.179)

1. Financial Assurance for Closure

An owner or operator must establish financial assurance for the closure of the facility no later than 60 days prior to the first receipt of hazardous waste. Please refer to 40 CFR 264.143 for the financial assurance requirements for closure, and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If the financial mechanism(s) has been obtained, provide a copy of the mechanism(s)

2. Financial Assurance for Post Closure Care (applicable to disposal facilities and contingent post closure care facilities only)

An owner or operator subject to post closure monitoring or maintenance requirements must establish financial assurance for the post closure care of the facility no later than 60 days prior to the first receipt of hazardous waste. Please refer to 40 CFR 264.145 for the financial assurance requirements for post closure, and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If the financial mechanism(s) has been obtained, provide a copy of the mechanism(s)

3. Liability Requirements

All owners or operators must establish financial assurance for third party sudden liability coverage of the facility no later than 60 days prior to the first receipt of hazardous waste. Owners or operators of disposal facilities must establish financial assurance for third party sudden <u>and</u> nonsudden liability coverage of the facility no later than 60 days prior to the first receipt of hazardous waste. Please refer to 40 CFR 264.147 for the financial assurance requirements for liability coverage, and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If the financial mechanism(s) has been obtained, provide a copy of the mechanism(s).

B. Applicant Financial Disclosure Statements **for a permit, permit amendment, or permit modification** (30 TAC 305.50(4))

1. A statement signed by an authorized signatory per 30 TAC 305.44 explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, and provide adequate liability coverage for the facility.

2. Audited financial statements for the last two years and the most current quarterly financial statement prepared according to generally accepted accounting principles. If audited statements have not been prepared for the applicant, copies of the applicant's last two years of financial statements and tax returns shall be submitted. The copies of the tax returns shall be certified by original signature of an authorized officer or owner as being a "true and correct copy of the return filed with the Internal Revenue Service." Additionally, an audited financial statement shall be prepared and submitted for the most recent fiscal year. <u>All</u> financial statements shall include a balance sheet, income statement, cash flow statement, notes to the financial statements, and the accountant's opinion letter.

3. For publicly traded companies, copies of Securities and Exchange Commission Form 10-K for the last two years and the most current Form 10-Q.

US EPA ARCHIVE DOCUMENT

4. For privately-held companies, written disclosure of the information that would normally be found in Form 10-K including, but not limited to, the following:

   a) descriptions of the business and its operations;
   b) identification of any affiliated relationships;
   c) credit agreements and terms;
   d) any legal proceedings involving the applicant;
   e) contingent liabilities; and
   f) significant accounting policies.

C. Applicants Requesting Facility Expansion, Capacity Expansion, or New Construction

Provide the following information as applicable to the particular financial circumstances:

1. Estimate of capital costs for expansion and/or construction. Complete Table VIII.C.

2. Evidence of financial resources to construct, operate safely, close, and provide liability coverage for the facility.

   a) Applicants demonstrating through financial statements or existing credit arrangements sufficient financial resources to construct, operate, and close the facility may address this requirement with the signed statement submitted to satisfy Section B.1.

   b) Applicants that must obtain additional financing through a new stock offering or new debt issuance for construction or expansion as requested in this application shall submit the following information:

      i) a financial plan sufficiently detailed to clearly demonstrate that the applicant will be in a position to readily secure financing for construction, operation, and closure if the permit is issued. The submitted financial plan must be accompanied by original letters of opinion from two financial experts, not otherwise employed by the applicant, who have the demonstrated ability to either finance the facility or place the required financing. The opinion letters must certify that the financial plan is reasonable, certify that financing is obtainable within 180 days of issuance of the permit, and include the time schedule contingent upon permit issuance for securing the financing. Only one opinion letter from a financial expert, not otherwise employed by the applicant, is required if the letter renders a firm commitment to provide all the necessary financing; and

      ii) a written detail of the annual operating costs of the facility and a <u>projected</u> cash flow statement including the period of construction and first two years of operation. The cash flow statement must demonstrate the financial resources to meet operating costs, debt service, and financial assurance for closure, post closure, and liability coverage requirements. A list of the assumptions made to forecast cash flow shall also be provided.

3. For <u>new</u> commercial hazardous waste management facility applications, a written statement signed by an authorized signatory per 30 TAC 305.44 explaining how the applicant intends to provide emergency response financial assurance per 30 TAC §305.50(12)(C) or (D).

US EPA ARCHIVE DOCUMENT

TABLE VIII.C ESTIMATED CAPITAL COSTS

	Estimated Capital Costs
Site preparation, fencing, paving, curbing, lighting, roadways	$
Foundations, buildings, other structures, utilities and connections, drainage system, HVAC system, Electrical system, wastewater system	
Process and control equipment	
Auxiliary equipment, including but not limited to exhaust hoods, fans, ducting, pumps, piping, conveyors, stacks, storage tanks, process tanks, waste disposal facilities, pollution control equipment, and fire protection system	
Process integration and instrumentation	
Emergency response equipment	
Transportation equipment	
Office equipment	
Engineering design, supervision, overhead	
Construction expenses including permits, insurance, temporary facilities, and clean-up	
Contractor's fees and overhead	
Contingency	
Total	$

The estimates listed above were derived from the following sources:

US EPA ARCHIVE DOCUMENT

IX. RELEASES FROM SOLID WASTE UNITS AND CORRECTIVE ACTION

The Texas Solid Waste Disposal Act, 30 TAC 335.167, 40 CFR 270.14(d) and Section 3004(u) of the Hazardous and Solid Waste Amendments of 1984 (HSWA) require that each hazardous waste management permit application review shall address corrective action for all releases of hazardous waste or 40 CFR 261 Appendix VIII hazardous constituents from any solid waste management unit (SWMU) at a facility, regardless of the time at which waste was placed in such unit.[7] Current EPA interpretation of this requirement has resulted in a Corrective Action process that begins with a RCRA Facility Assessment (RFA) to determine if corrective action is necessary.

The first step in the RFA is the development of a Preliminary Review (PR) from all available documentation for a facility (including but not limited to all facility documents, Part A, and Part B of the permit application, TNRCC correspondence files and inspection reports, etc.) The PR compiles available information on every SWMU that has ever existed at the facility. A unit checklist is completed for each SWMU. On a unit-by-unit basis, the PR may recommend no further action for:

- well-designed and well-managed units
- units that have not managed hazardous wastes or wastes containing hazardous constituents
- units already under corrective action by enforcement order
- units scheduled to be addressed in a compliance plan, or
- units which are RCRA regulated units and will be authorized in the hazardous waste permit.

In addition, the unit checklists are summarized in a Facility Checklist. If there is a known release or potential for a release of hazardous waste or hazardous constituents from a unit, the PR may recommend a RCRA Facility Investigation (RFI) to determine the extent of the release for future corrective action, or stabilization as an appropriate and immediate corrective action.

The second step is a Visual Site Inspection (VSI) of the entire facility. The RFA is the combination of the PR and VSI documentation and any sample results. The RFA process should be scheduled so as to be completed during the latter stages of the Technical Review process or no later than one month in advance of the preparation of an initial draft permit for the facility. The RFA includes recommendations for whether further investigation or corrective action is warranted.

The requirements for an RFI or any other corrective action will be included in the permit, in the associated compliance plan which is mandatory for facilities with known ground-water contamination, or pursuant to 40 CFR 270.14(d)(3), the applicant may be required to start the RFI or other corrective action before the permit is issued. The RFI shall comply with all the applicable items contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994, unless an alternate investigation approach is approved by the Executive Director. An RFI workplan may typically include a soil boring program, installation of monitoring wells, and sampling and analysis for 40 CFR 261 Appendix VIII and 40 CFR 264 Appendix IX hazardous constituents for surface soils, subsurface strata, surface water, ground water, and/or air.

The permittee shall perform the RFI and report the results. If the RFI Report indicates releases of hazardous waste or hazardous constituents, then the permittee shall submit a Baseline Risk Assessment (BLRA)/Corrective Measures Study (CMS) Report. This report shall evaluate the risk, identify and evaluate corrective measure

[7]For the purposes of HSWA Corrective Action, a SWMU may include, but is not limited to, any landfill, surface impoundment, land treatment unit, waste pile, underground injection well, incinerator, boiler, industrial furnace, tank, container storage area, drip pad, containment building, miscellaneous unit; any units exempt from hazardous waste permitting requirements, such as wastewater treatment units, elementary neutralization units, totally enclosed treatment units, waste recycle/reuse units, and 90-day accumulation time units; or process units or areas which may have routine and/or systematic releases to the environment (e.g., process drainage ditches or product storage tanks).

US EPA ARCHIVE DOCUMENT

alternatives, and recommend appropriate corrective measure(s) to protect human health and the environment. The BLRA/CMS Report shall address all of the applicable items in 30 TAC 335 Subchapter S and the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994.

Upon approval of the BLRA/CMS Report by the TNRCC, the permittee shall submit a Corrective Measures Implementation (CMI) Workplan to address all of the items for CMI Workplan contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994. If the CMI does not propose a permanent remedy, then a CMI Workplan shall be submitted as part of a new compliance plan application or as a modification/amendment application to an existing compliance plan. The workplan shall contain detailed final engineering design, monitoring plans, and schedules necessary to implement the selected remedy. Implementation of the corrective measures shall be addressed through a new and/or a modified/amended compliance plan. Upon installation of a corrective action system based upon the approved CMI Workplan, the permittee shall submit a CMI Report which includes as-built drawings of the corrective action system. To report the progress of the corrective measures, the permittee shall submit periodic CMI Progress Reports to the TNRCC in accordance with the schedule specified in the compliance plan.

Please note that the applicant/permittee may perform voluntary corrective action, stabilization, or "interim measures" at any time prior to or during the RFA/RFI/CMS/CMI process without prior TNRCC approval. The TNRCC strongly supports these actions when undertaken to mitigate releases or reduce or minimize exposure and releases to human health and the environment.

IX. A. Preliminary Review Checklists

For all facility SWMUs (as defined previously), complete the accompanying forms entitled "Preliminary Review Facility Checklist" (pg. 85) and "Preliminary Review Unit Checklist" (pg. 86). Make additional copies as necessary. The following instructions are provided in same format as these forms:

PRELIMINARY REVIEW FACILITY CHECKLIST INSTRUCTIONS

Facility Checklist - On the form provided, supply the following information:

Fill out the information block at the top of the page (the reviewer space should remain blank for the TNRCC permit writer).

Facility:	City:
ISW Reg No:	Date:
Permit No:	Reviewer:
EPA ID No:	

I. Waste Management Units:

1. RCRA Regulated Units: List all units that received hazardous wastes after July 26, 1982 or for which closure was certified after January 26, 1983 with the appropriate information under the three provided column headings as explained in the Unit Checklist instructions.

2. Solid Waste Management Units: List all remaining SWMUs.

II. Reviewed Documents: Enter the appropriate information for sub-items 1-6, including document dates (item 6 should include company files).

US EPA ARCHIVE DOCUMENT

III. Summary: Provide an overall summary of the results of this Preliminary Review noting units and areas of concern.

IV. Recommended Actions: Summarize the Unit Checklist Recommended Actions and list those units recommended for further investigation including appropriate Unit No.

PRELIMINARY REVIEW UNIT CHECKLIST INSTRUCTIONS

Unit Checklist - On the form provided, supply the following information for **EACH** unit or area of concern:

I. Waste Management Unit: Enter SWMU name and facility designated number (e.g., Tank 101)

A. N.O.R. No.: enter TNRCC Notice of Registration (N.O.R.) Number or, if unassigned, a letter designation (i.e., A-Z)

B. Description: enter type of unit (e.g., above-grade processing tank) and Process Code as listed below:

Process Code	Unit Type	Process Code	Unit Type
	Disposal	T82	Lime Kiln
D79	Injection Well	T83	Aggregate Kiln
D80	Landfill	T84	Phosphate Kiln
D81	Land Application	T85	Coke Oven
D83	Surface Impoundment - Disposal	T86	Blast Furnace
D99	Other Disposal	T87	Smelting, Melting, or Refining Furnace
	Storage	T88	Titanium Dioxide Chloride Process Oxidation Reactor
S01	Container	T89	Methane Reforming Furnace
S02	Tank - Storage	T90	Pulping Liquor Recovery Furnace
S03	Waste Pile	T91	Combustion Device Used in Recovery of Sulfur Values from Spent Sulfuric Acid
S04	Surface Impoundment - Storage	T92	Halogen Acid Furnace
S05	Drip Pad	T93	Other Industrial Furnaces Listed in 40 CFR 260.10
S06	Containment Building - Storage	T94	Containment Building - Treatment
S99	Other Storage		*Miscellaneous (Subpart X)*
	Treatment	X01	Open Burning/Open Detonation
T01	Tank - Treatment	X02	Mechanical Processing
T02	Surface Impoundment - Treatment	X03	Thermal Unit
T03	Incinerator	X04	Geologic Repository
T04	Other Treatment	X99	Other Subpart X
T80	Boiler		
T81	Cement Kiln		

C. Dates of Operation: enter the date the unit was placed into service and any other dates the unit changed status (active, inactive, closed, post-closure) with the appropriate status designation.

US EPA ARCHIVE DOCUMENT

II. Wastes Managed: List all solid wastes ever managed in the unit and include the TNRCC NOR waste #, EPA Hazard Codes, and EPA waste codes. For each waste, list any hazardous constituent listed in 40 CFR 261 Appendix VIII and 264 Appendix IX, as appropriate.

III. Evidence of Release: Completely describe the release, including time frame, waste amount, to what media, and any corrective measures taken.

IV. Pollutant Dispersal Pathways: Completely describe the possible and actual run-off pathways (i.e., to which tributary, creek, river, and bay or through subsoil to which aquifer with groundwater flow gradient, speed, and direction and any discharge point).

V. Summary: Provide complete unit description including unit type, elements of construction, location, age, condition, dimensions, size, capacity (i.e., gallons, square feet, cubic yards, etc.), and potential for release.

VI. Recommended Action: Recommend No Further Action, Stabilization (interim measures), or Further Investigation and justify. Note, corrective action under another authority is justification for No Further Action.

US EPA ARCHIVE DOCUMENT

PRELIMINARY REVIEW FACILITY CHECKLIST

Facility: City:

ISW Reg No: Date:

Permit No: Reviewer:

EPA ID No:

I. Waste Management Units:

1. RCRA Regulated Units:

NOR No.	Description	Status

2. Solid Waste Management Units:

NOR No.	Description	Status

II. Reviewed Documents:

1. RCRA: Part A ___

Part B ___

Permit ___

2. CERCLA:

3. Inspection Reports:

4. Enforcement Actions:

5. Exposure Information:

6. Other Information:

III. Summary:

IV. Recommended Action:

US EPA ARCHIVE DOCUMENT

PRELIMINARY REVIEW UNIT CHECKLIST

Facility: City:

ISW Reg No: Date:

Permit No: Reviewer:

EPA ID No:

I. Waste Management Unit:

A. NOR No:

B. Description:

C. Dates of Operation:

II. Wastes Managed:

III. Evidence of Release:

IV. Pollutant Dispersal Pathways:

V. Summary:

VI. Recommended Action:

US EPA ARCHIVE DOCUMENT

IX. B. Appendices to Preliminary Review (PR)

The PR should also include Appendices I-IV to correspond to the Roman numerals in the Unit Checklist:

Appendix I. FACILITY and SWMU LOCATION MAPS

- Regional Location Map

- Site Location Map

- Facility SWMU Map - Use the Notice of Registration (NOR) number to show the location of each unit on a replicate of the topographic map required in Section V.A.1 of this application. Also, please note that the term "facility" includes the entire contiguous property under the control of the owner or operator, which in most cases is the area shown as the legal description of the site in the facility's Part A permit application.

Appendix II. WASTES MANAGED

List all wastes managed and 40 CFR 261 Appendix VIII and 40 CFR 264 Appendix IX hazardous constituents. Provide pertinent health, safety, and risk data on each.

Appendix III. EVIDENCE of RELEASE

Provide any applicable documentation on a release. Provide a map of release locations, SWMU identification, and paths traveled.

Appendix IV. POLLUTANT DISPERSAL PATHWAYS

Provide a facility, local, and regional map identifying all possible and eventual pathways in which a release from any unit could or did travel. Provide a facility general cross-section to illustrate vertical pathways and lateral movements in ground water, including discharges (i.e., seeps, creeks, etc.).

IX. C. Preliminary Review Submittal Format

The PR should be bound with a cover page and contain a Table of Contents with the Facility Checklist entered first followed by all the Unit Checklists in unit NOR numerical order and alphabetical order.

US EPA ARCHIVE DOCUMENT

X. AIR EMISSION STANDARDS

Section X.A applies to all permit applications, including post-closure permit applications. Permittees with "one stop" permits applying for an amendment, modification, or renewal should clearly state whether they wish to amend, modify, or renew the Office of Air Quality portions of their combined permit *or if they intend to seek separate authorizations, as appropriate, from the OAQ and subsequently delete these requirements from their hazardous waste permit*.

A. Process Vents and Equipment Leaks

For process vents and equipment subject to the requirements of 40 CFR Part 264 Subparts AA and BB, and Part 270, please provide an air emissions report that includes all of the information required by 40 CFR 264.1032, 264.1033, 264.1035, 264.1052, 264.1059, 264.1060, 264.1064, 270.24, and 270.25.[8] Indicate on a facility plot plan the approximate location of process vents and equipment.

Wastewater treatment units, elementary neutralization units, totally enclosed treatment units, and 90 day accumulation tanks are not subject to control.

1. Complete Table X.A.1 for all vents on waste management units that manage hazardous waste with an annual average total organics concentration of 10 ppmw or greater ("process vents"). Specifically include:

   a. process vents on distillation, fractionation, thin-film evaporation, solvent extraction, air or steam stripping operations, and vents on condensers serving these operations; and

   b. process vents on tanks (e.g., distillate receivers, bottom receivers, surge control tanks, separator tanks, and hot wells) associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping processes if emissions from these process operations are vented through the tanks.

   Emissions caused by natural means such as daily temperature changes or by tank loading and unloading are not subject to control.

2. For process vents, include the following certification as part of the air emissions report:

"I, _____owner or operator___, certify that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

I further certify that the control device is designed to operate at an efficiency of 95 weight percent or greater.

OR

I further certify that the total organic emission limits of 40 CFR 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent.

_____(Signature)_____ _____(date)_____"

3. For equipment leaks, complete Table X.A.3 for all valves, pumps, compressors, pressure relief devices, sampling connection systems, and open-ended valves or lines that contains or contacts hazardous waste streams with organic concentrations of 10% by weight or greater.

   Equipment in vacuum service is not subject to control if identified in the facility operating record.

[8]If the permittee has received a RCRA permit prior to 12/21/90, these requirements for process vents and equipment may be provided in the permit renewal application.

US EPA ARCHIVE DOCUMENT

4. For equipment, include the following statement as part of the air emissions report:

"I, ____owner or operator___, certify that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur.

I further certify that the control device is designed to operate at an efficiency of 95 weight percent or greater.

_____(Signature)_____ _____(date)_____"

B. Optional TNRCC Office of Air Quality Information

In addition to the information requested in Section X.A above, the applicant may optionally elect to combine the air and waste management permitting, amendment, modification, or renewal of all waste management units to be permitted in this application and any other permittable air emission sources. The combined permit application will follow the application processing procedures for an industrial solid waste permit.

1. Area map (to scale) showing the location of the plant and land use in the vicinity of the facility including buildings, schools, residences, etc. within 3000 feet.

2. Plot plan (to scale) with latitude and longitude showing the plant layout, property boundary and location of all emission points of air contaminants. Emission points are to be numbered.

3. Specific chemical name of each air contaminant and emission rate in maximum pounds per hour, maximum tons per year and calculations used to determine emission rates. Fugitive emissions are to be included. Complete Table 1(a) entitled "Emission Sources."

4. Process description, operating schedule, and flow chart in sufficient detail that will explain the process and operation and a material balance for processes where applicable. The description should include a discussion of disposal methods for any generated residues and associated air emissions.

5. Design specifications about each emission control device using the appropriate OAQ table.

6. Volatile organic compound (VOC) concentrations in water or sludges or soil and volumes or weights of water, sludges or soils to be processed.

7. Exhaust stack or emission point parameters for each emission point including height, diameter, temperature, velocity and flow rate, except ground level fugitive emissions.

8. Best available control technology (BACT) documentation for all new and modified facilities.

9. Documentation of compliance with any applicable Federal New Source Performance Standard (NSPS) and Federal National Emission Standard for Hazardous Air Pollutants (NESHAPS).

10. Documentation as to whether a permit is required under new source review requirements of part C or D or Title I of the Federal Clean Air Act, 42 U.S.C. 7401 et seq., for a major source or major modification.

11. Information that demonstrates reliability of emission control systems including process instrumentation, equipment redundancy and operating procedures.

12. Results of atmospheric dispersion modeling certified to have been conducted in accordance with applicable TNRCC Office of Air Quality (OAQ) procedures. Model results must show maximum off-property 30-minute and annual ground level concentrations of each air contaminant. Dispersion modeling results must indicate compliance with all OAQ Rules and Regulations. Dimensions of buildings/structures that may influence dispersion modeling are to be furnished. Please consult with OAQ before beginning any modeling study.

US EPA ARCHIVE DOCUMENT

13. Storage tank data including capacity in gallons, diameter, height, paint color, composition, density, vapor pressure and molecular weight of liquid stored, maximum hourly and annual throughput and number of turnovers per year. Complete Table 7 entitled "Storage Tank Summary" for each tank.

14. A statement addressing the applicability of each OAQ regulation.

15. All methods of calculating emissions must be properly referenced with justification for selecting the values used in any equation.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

TABLE X.A.1 Process Vents

List all process vents covered by this application.

I.D. No. (if any)	***Process Vent***	***Annual Throughput***	***Operating Hours***	***Total Vent Facility Emissions***

US EPA ARCHIVE DOCUMENT

TABLE X.A.3 Equipment Leaks

List all equipment covered by this application

Equipment I.D. No.	***Equipment Type***	***Waste Management Unit N.O.R. No.***	***Waste Management Unit Name***	***% by Weight Total Organics in Haz. Waste Stream***	***Waste State*** (gas, vapor, liquid)	***Method of Compliance***

TABLE 1(a)
EMISSION SOURCES

PAGE _____ OF ____
DATE _____

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA						EMISSION POINT DISCHARGE PARAMETERS									
EMISSION POINT [1]		CHEMICAL COMPOSITION OF TOTAL STREAM		AIR CONTAMINANT EMISSION RATE		UTM COORDINATES OF EMISSION PT. [6]			STACK SOURCES (7)					AREA SOURCES [8]	
									HEIGHT ABOVE GROUND [ft.]	HEIGHT ABOVE STRUCT. [ft.]	EXIT DATA				
NUMBER	NAME	COMPONENT OR AIR CONTAMINANT NAME [2]	CONC. (%v) [3]	#/HR [4]	. . TONS/ YR [5]	ZONE	EAST [meters]	NORTH [meters]			DIA. [ft.]	VEL. [fps]	TEMP. [°F]	LENGTH [ft.]	WIDTH [ft.]

GROUND ELEVATION OF FACILITY ABOVE MEAN SEA LEVEL _____ feet.
TACB STANDARD CONDITIONS ARE 68°F AND 14.7 PSIA [RULE 131.01.00.001(55)]

General Instructions:

1. Identify each emission point with a unique number for this plant site, consistent with emission point identification used on plot plan, previous permits and Emissions Inventory Questionnaire. Limit emission point number to 8 character spaces. For each emission point, use as many lines as necessary to list air contaminant data. Typical emission point names are : heater, vent, boiler, tank, reactor, separator, baghouse, fugitive, etc. Abbreviations are OK.
2. Typical component names are: air, H_2O, nitrogen, oxygen, CO_2, CO, NO_x, SO_2, hexane, particulate matter (PM), etc. Abbreviations are OK.
3. Concentration data is required for all gaseous components. Show concentration in volume percent of total gas stream.
4. Pounds per hour (#/HR) is maximum emission rate expected by applicant.
5. Tons per year (T/Y) is annual maximum emission rate expected by applicant which takes into account process operating schedule.
6. As a minimum, applicant must furnish a facility plot plan drawn to scale showing a plant benchmark, latitude and longitude correct to the nearest second for the benchmark, and all emission points dimensioned with respect to the benchmark as required by General Application, Form PI-1. This information is essential for calculation of emission point UTM coordinates. Please show emission point UTM coordinates if known.
7. Supply additional information as follows if appropriate:
   A. Stack exit configuration other than a round vertical stack. Show length and width for a rectangular stack. Indicate if horizontal discharge with a note.
   B. Stack's height above supporting or adjacent structures if structure is within three (3) "stack heights above ground" of stack.
   C. If emission pint is a flare, show flare data on Table 8.
8. Normally used for fugitive sources. Show dimensions of a minimum size rectangle which will "enclose" all fugitive sources included in this emission point number.

US EPA ARCHIVE DOCUMENT

This page intentionally left blank

TABLE 7

STORAGE TANK SUMMARY

I. Applicant's Name: _____

II. Tank Parameters (one form for each tank).

1. Location (indicate on plot plan or provide coordinates): _____
2. Tank No. _____ 3. Emission Point No. _____
4. Nominal Capacity : _____ barrels or _____ gallons
5. Dimensions: Diameter _____ft. Height or Length _____ ft.
6. Color: Chalking white [ ] Aluminum [ ] Light grey or blue [ ]
   Dark color or not paint [ ] Other [ ] (Describe _____)
7. Status: New tank [ ] Altered tank [ ] Relocation [ ] Change of Service [ ]
   Previous permit or exemption number _____
8. Type: Fixed roof [ ] Pressure [ ] Insulated [ ] External floating roof [ ]
   Open top [ ] Underground [ ] Internal floating roof [ ] Horizontal [ ]
   Heated/Cooled [ ] (Temp. _____°F)
9. For floating roof tanks, please supply the following information:
   a. Type of roof: Double deck [ ] Pontoon [ ] Other [ ] (Describe_____)
   b. Roof color: Chalking white [ ] Aluminum [ ] Other [ ] (Describe _____)
   c. Shell construction: Riveted [ ] Welded [ ] Other [ ] (Describe_____)
   d. Seals:
      Primary: Mechanical Shoe [ ] Liquid-Mounted [ ] Vapor-Mounted [ ]
      Other [ ] (Describe _____)
      Secondary: Shoe-Mounted [ ] Rim-Mounted [ ] Weather Shield [ ] None [ ]
      Other [ ] (Describe_____)

10. Vent Valve Data	Number	Pressure Setting	Vacuum Setting	Discharging To: (Specify "atmosphere" or name abatement device)
Combination vent valve				
Pressure vent valve			********	
Vacuum vent valve		********		**********
Open vent		********	********	

III. Properties of Stored Material (If tank is to hold several different materials or mixtures, attach appropriate information)

1. Material to be stored in this tank: _____
2. Liquid density at average annual bulk storage temperature: _____lbs/gal or _____°API
3. Average vapor molecular weight _____
4. Vapor pressure @ average annual bulk storage temperature: _____psia @_____°F. (or ___lbs. Reid).
5. Vapor pressure @ maximum bulk storage temperature: _____psia @ _____°F.
6. Initial boiling point: _____°F.
7. If material stored is a solution, please supply the following information:
   a. Name of solvent: _____ b. Partial pressure of solvent: _____psia.
   c. Name of solute: _____ d. Partial pressure of solute: _____psia.
   e. Concentration of solute: _____ wt% or _____ vol% or _____lbs/gal.

IV. Operating Data:

1. Maximum filling rate: _____ bbls/hr or _____ gal/hr.
2. Average outage (average distance from top of tank shell to liquid surface): _____ft.
3. Tank turnovers per year: _____ (Use zero (0) for constant-level tanks).

* NOT APPLICABLE

XI. HAZARDOUS WASTE PERMIT APPLICATION FEE

In accordance with 30 TAC 305.53, complete Tables XI-1 and XI-2. Use the following information in calculating your fee. The application fee will be non-refundable once an initial review of the application has been completed. The applicant's fees are subject to evaluation by the technical staff of the Texas Natural Resource Conservation Commission (TNRCC). However, the TNRCC reserves the right to assess further fees as may be necessary.

A. The minimum permit application fee for a permit or a permit renewal for each hazardous waste facility to be used for Storage, Processing, Disposal, or Closure/Post-Closure Care (disposal has already occurred) of hazardous waste shall be $2,000, plus notice fee and the maximum shall be $50,000, calculated according to these instructions:

1. Process Analysis - $1,000.00.

2. Management/Facility Analysis - $500.00.

3. A facility unit(s) analysis of $500 **per unit** is charged for the following:

   a. each cell of a landfill (note that multiple cells that are identical in type and use are subject to a single $500 fee);

   b. tanks and container storage areas (note that multiple tanks and container storage areas that are identical in type and use are subject to a single $500 fee)

   c. identical in type and use means the following:

      (1) made of the same material and same design;

      (2) the same size/capacity within ± 10%;

      (3) store the same waste (as identified by USEPA hazardous waste number - 40 CFR 261 Subparts C & D); and

      (4) have the same management characteristics (e.g., storage only).

4. Site Evaluation - $100 per acre of surface used for hazardous waste management up to 300 acres. No additional fee thereafter. This shall be calculated as any acreage which will be permitted to manage hazardous waste. This shall include, for example, the entire area within the secondary containment of a tank farm, the area within a fence that surrounds individual units (other than the facility fence), or the area defined by the toe of the dike surrounding a landfill or impoundment, etc.

5. An applicant shall also include with each initial application a fee of $50 to be applied toward the cost of providing the required notice. An additional notice fee of $15 is required with each application for renewal.

B. The application fee for a major amendment or a Class 2 or 3 modification to a hazardous waste permit for operation, closure, or post-closure care is subject to the fees listed below:

1. If a unit is added or a unit area is expanded for any purpose, $100 per additional acre is assessed, until the total additional acreage reaches 300 acres.

2. If one or more of the following reports are added or are significantly revised, the process analysis fee of $1000 is assessed:

   a. waste analysis plan;

   b. site-specific or regional geology report;

US EPA ARCHIVE DOCUMENT

c. site-specific or regional geohydrology report;

d. groundwater and/or unsaturated zone monitoring;

e. closure and/or post-closure care plan; or

f. RCRA Facility Investigations (RFIs), or corrective action reports.

3. A unit analysis fee of $500 per unit is assessed if any of the following occur:

a. if a unit is added (even if identical to units already in place, using the criteria discussed in A.3 above);

b. if there are design changes in an existing unit; or

c. if a unit status changes from closure to post-closure care.

4. A management/facility fee of $500.

5. The notice fee is $50.

XI. C. The application fee for a minor amendment, a Class 1, or a Class 1[1] modification of a hazardous waste permit is $100 plus a notice fee of $50.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

This page intentionally left blank

US EPA ARCHIVE DOCUMENT

TABLE XI-1 HAZARDOUS WASTE UNITS (FOR APPLICATION FEE CALCULATIONS)

Verbal Description of Unit	*Rated Capacity*	*Surface Acreage*[1]	*# of Unit Types*[2]	*Identical Unit Justification*[3]
		TOTAL[4]	**TOTAL**[4]	

1 Number of calculated acres.
2 Enter number of units except for units identical in type and use which only count toward a single $500.00 fee.
3 Explain justification for any units claimed as identical in type and use.
4 Enter these totals on the worksheet.

US EPA ARCHIVE DOCUMENT

This page intentionally left blank

TABLE XI-2 HAZARDOUS WASTE PERMIT APPLICATION FEE WORKSHEET

Name of Applicant: _____

Solid Waste Registration Number: _____

1.Process Analysis - $1,000 $_____

2.Facility Management Analysis - 500_____

3.Unit Analysis[9] - _____ units @ $500 per unit$_____

4.Site Evaluation[9] - _____ acres @ $100 per acre $_____
(Maximum of 300 acres)

5.Minor amendment, Class 1, or Class 1[1] modification - 100_____

6.Cost of Providing Notice - $50 (+ $15 for a renewal)$_____

PAY THIS AMOUNT TOTAL $_____

MAKE CHECKS PAYABLE TO:

Texas Natural Resource Conservation Commission - **Fund 549**
(your canceled check will be your receipt)

COMPLETE AND RETURN WITH PAYMENT TO:

Texas Natural Resource Conservation Commission
Financial Administration Division - MC 214
P.O. BOX 13087
Austin, Texas 78711-3087

The applicant's fees are subject to evaluation by the technical staff of the Texas Natural Resource Conservation Commission (TNRCC). However, the TNRCC reserves the right to assess further fees as may be necessitated.

[9]For these calculations, enter the totals from Table XI-1.

US EPA ARCHIVE DOCUMENT

XII.CONFIDENTIAL MATERIAL

Any information requested in the previous Sections I.-X. of this application which is deemed confidential shall be provided in this Section as a separate collective document and clearly labeled "CONFIDENTIAL."

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

ATTACHMENT B

CHECKLIST FOR FEDERAL REVIEW OF RCRA PERMIT APPLICATIONS

(161 Sheets)

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION A. PART A GENERAL INFORMATION REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
A-1	Description of Activities Conducted which Require Facility to Obtain a Permit under the Resource Conservation and Recovery Act (RCRA), and Brief Description of Nature of the Business	270.13(a),(m)			
A-2	Name, Mailing Address, and Location of Facility for which the Application is Submitted, including a Topographic Map	270.13(b),(l)			
A-3	Up to Four Standard Industrial Classification Codes which Best Reflect the Products or Services Provided by the Facility	270.13(c)			
A-4	Operator/Owner's Name, Address, Telephone Number, and Ownership Status	270.13(d),(e)	Ownership status must include status as federal, state, private, public, or other entity.		
A-5	Facility is New, Existing, or Located on Indian Lands	270.13(f),(g)	Description must include information on whether this is a first or revised application with date of last signed permit application.		
A-6	Description of Processes to be Used for Treating, Storing, and Disposing of Hazardous Waste	270.13(i)	Description must include design capacity for these items.		
A-7	Specification of the Hazardous Wastes Listed or Designated Under 261	270.13(j)	Specifications must include estimate on quantity of waste to be treated, stored, or disposed of.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION A. PART A GENERAL INFORMATION REQUIREMENTS				
Section and Requirement	**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
A-8 Listing of all Permits or Construction Approvals Received or Applied for	270.13(k)	Permits include the following programs: Hazardous Waste Management under RCRA; Underground Injection Control under the Solid Waste Disposal Act; Prevention of Significant Deterioration, Nonattainment Program, and National Emissions Standards for Hazardous Pollutants under the Clean Air Act; ocean dumping permits under the Marine Protection Research and Sanctuaries Act; dredge and fill permits under Section 404 of the Clean Water Act; or other relevant environmental permits including state permits.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION B. FACILITY DESCRIPTION

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
B-1	General Description	270.14(b)(1)			
B-2	Topographic Map	270.14	Show a distance of 1,000 feet around the unit at a scale of 1 inch to not more than 200 feet (multiple maps may be submitted at this scale), and should be similar to Part A topographic map.		
B-2a	General Requirements	270.14(b)(19)			
	Scale and Date	270.14(b)(19)(i)	Other scales may be used if justified.		
	The 100-Year Flood Plain Area	270.14(b)(19)(ii)			
	Surface Waters	270.14(b)(19)(iii)			
	Surrounding Land Use	270.14(b)(19)(iv)			
	Wind Rose	270.14(b)(19)(v)			
	Map Orientation	270.14(b)(19)(vi)			
	Legal Boundaries	270.14(b)(19)(vii)			
	Access Control	270.14(b)(19)(viii)			
	Injection and Withdrawal Wells (On Site and Off Site)	270.14(b)(19)(ix)			
	Buildings and Other Structures	270.14(b)(19)(x)	270.14(b)(19)(x) for example list.		
	Drainage and Flood Control Barriers	270.14(b)(19)(xi)			
	Location of the Treatment or Disposal Unit(s) and Decontamination Areas	270.14(b)(19)(xii)			
	Location of Solid Waste Management Units	270.14(d)(1)(i)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION B. FACILITY DESCRIPTION

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
B-2b	Additional Information on the Topographic Map for Land Disposal Facilities	270.14(c)(3)			
	Uppermost Aquifer and Hydraulically Connected Aquifers Beneath Facility Property	270.14(c)(2)			
	Groundwater Flow Direction	270.14(c)(2)			
	Waste Management Areas	270.14(c)(3)			
	Property Boundaries	270.14(c)(3)			
	Point of Compliance Location	270.14(c)(3); 264.95	Point of compliance is defined in 264.95.		
	Location of Groundwater Monitoring Wells	270.14(c)(3); 264.97			
	Extent of any Groundwater Contaminant Plume	270.14(c)(4)(i)			
B-3	Facility Location Information	270.14(b)(11); 264.18			
B-3a	Seismic Requirements	270.14(b)(11)(i), (ii); 264.18(a)	Seismic requirements applicable only to new facilities.		
	Political Jurisdiction in which Facility is Proposed to be Located	270.14(b)(11)(i)			
	Indication of Whether Facility is Listed in Appendix VI of 264 (New Facilities)	270.14(b)(11)(i)			
	New Facility must be Located at Least 200 feet from a Fault which has had Displacement in Holocene Time	270.14(b)(11)(ii); 264.18(a)	If facility location is listed in Appendix VI of 264, this information is required.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION B. FACILITY DESCRIPTION

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
B-3b	Flood Plain Requirements	270.14(b)(11)(iii), (iv); 264.18(b)			
	Copy of Federal Insurance Administration or other Flood Map	270.14(b)(11)(iii)	Reference source used to determine whether facility is located in 100-year flood plain.		
B-3b(1)	Demonstration that Facility is Designed, Constructed, Operated, and Maintained to Prevent Washout, or Detailed Description of Procedures to be Followed to Remove Hazardous Waste to Safety before Facility is Flooded	270.14(b)(11)(iv); 264.18(b)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
B-3b(1)(a)	Engineering Analysis to Indicate the Various Hydrodynamic and Hydrostatic Forces Expected to Result from the 100-Year Flood Plain	270.14(b)(11)(iv); 264.18(b)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Demonstration that no Adverse Effects will Result from Failure to Remove Waste by Providing:	270.14(b)(11)(iv); 264.18(b)(ii)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Volume and Physical and Chemical Characteristics of the Waste in the Facility	270.14(b)(11)(iv); 264.18(b)(ii)(A)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Concentration of Hazardous Constituents that Would Potentially Affect Surface Waters as a Result of Washout	270.14(b)(11)(iv); 264.18(b)(ii)(B)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Impact of such Concentration on Current or Potential uses of, and Water Quality Standards Established for, the Affected Surface Waters	270.14(b)(11)(iv); 264.18(b)(ii)(C)	Flood plain requirements applicable if facility is located in 100-year flood plain.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION B. FACILITY DESCRIPTION					
	Section and Requirement	**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
	Impact of Hazardous Constituents on the Sediments of Affected Surface Waters, or the Soils of the 100-Year Flood Plain, that could Result from Washout	270.14(b)(11)(iv) ; 264.18(b)(ii)(D)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Plan and Schedule for Future Compliance	270.14(b)(11)(v)	Flood plain requirements applicable if facility is located in 100-year flood plain and not in compliance with 264.18(b).		
B-4	Traffic Patterns	270.14(b)(10)	Show turns across traffic lanes and stacking lanes, if appropriate.		
	Estimate of Number and Types of Vehicles around the Facility	270.14(b)(10)			
	Traffic Control Signs and Signals	270.14(b)(10)			
	Road Surface Composition and Load-Bearing Capacity	270.14(b)(10)			

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION C. WASTE CHARACTERISTICS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
C-1	Chemical and Physical Analyses	270.14(b)(2); 264.13(a)	Data generated by testing the waste, published data on the waste, or data gathered from similar processes may be used.		
C-1a	Containerized Waste	270.15(b)(1); 264.172	Demonstrate that waste is compatible with container construction materials.		
C-1b	Waste in Tank Systems	270.16(a); 264.190(a); 264.191(b)(2); 264.192(a)(2)	Demonstrate that tank construction materials are compatible with waste stored in tank.		
C-1c	Waste in Piles	270.18(a); 264.250(c)(1), (4)			
C-1d	Landfilled Wastes	270.21(a) 264.13(c)(3); 264.314	Demonstrate that sorbent materials are non-biodegradable.		
C-1e	Wastes Incinerated and Wastes used in Performance Tests	270.19(c); 270.62(b); 264.341			
C-1f	Wastes to be Land Treated	270.20(b)(4); 264.271(a)(1), (2); 264.272; 264.276, Part 261 Appendix VIII	If food-chain crops will be grown in or on treatment zone, identify hazardous constituents reasonably expected to be in or derived from waste.		
C-1g	Wastes in Miscellaneous Treatment Units	270.23(d)			
C-1h	Wastes in Boilers and Industrial Furnaces	270.66(c); 266.102(b)			
C-1i	Wastes on Drip Pads	270.26; 264.570			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION C. WASTE CHARACTERISTICS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
C-2	Waste Analysis Plan	270.14(b)(3); 264.13(b),(c)			
C-2a	Parameters and Rationale	270.14(b)(3); 264.13(b)(1)			
C-2b	Test Methods	270.14(b)(3); 264.13(b)(2)			
C-2c	Sampling Methods	270.14(b)(3); 264.13(b)(3)	If a sampling method described in 261 Appendix I is not used, facility must provide detailed description of proposed method and demonstrate its equivalency.		
C-2d	Frequency of Analyses	270.14(b)(3); 264.13(b)(4)			
C-2e	Additional Requirements for Wastes Generated Off Site	270.14(b)(3); 264.13 (b)(5), (c); 264.73(b)	Describe statistical method used to determine a representative sample of incoming waste.		
C-2f	Additional Requirements for Ignitable, Reactive, or Incompatible Wastes	270.14(b)(3); 264.13(b)(6); 264.17			
C-2g	Additional Requirements Pertaining to BIF Facilities	270.22; 266.102(e)(6)(ii)(C),(e)(6)(iii)			
C-2h	Additional Requirements Pertaining to Containment Buildings	270.14(b)(3) 264.1100			
C-3	Waste Analysis Requirements Pertaining to Land Disposal Restrictions	270.14(b)(3); 264.13; 264.73; Part 268			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION C. WASTE CHARACTERISTICS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
C-3a	Waste Analysis	270.14(a); 264.13(a)(1); 268.1; 268.7; 268.9; 268.32 - 268.37; 268.41 - 268.43	Waste that was newly identified or newly listed as hazardous after 11/08/84 for which the U.S. Environmental Protection Agency has not promulgated land disposal prohibitions or treatment standards are not subject to land disposal provisions.		
C-3a(1)	Spent Solvent and Dioxin Wastes	270.14(a); 264.13(a)(1); 268.2(f)(1); 268.7; 268.30; 268.31			
C-3a(2)	California List Wastes	270.14(a); 264.13(a)(1); 268.7; 268.32; 268.42(a); RCRA Section 3004(d)			
C-3a(3)	Listed Wastes	270.14(a); 264.13(a)(1); 268.7; 268.33 - 268.36; 268.41 - 268.43	Arsenic-containing nonwastewater may use the extraction procedure (EP) toxicity test to determine compliance with treatment standards.		
C-3a(4)	Characteristic Wastes	270.14(a); 264.13(a)(1); 268.7, 268.9; 268.37; Part 268 Appendix I, IX	Characteristic D008 lead nonwastewater and D004 arsenic nonwastewater may use EP toxicity test to determine compliance with treatment standards.		
C-3a(5)	Radioactive Mixed Waste	270.14(a); 264.13(a); 268.7; 268.35(c),(d); 268.36(d); 268.42(d)	Hazardous debris containing radioactive waste must comply with treatment standards specified in 268.45.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION C. WASTE CHARACTERISTICS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
C-3a(6)	Leachates	270.14(a); 264.13(a); 268.35(a)	Leachate that originates from newly identified waste is not coded as F039 waste, but is labeled with newly listed waste code from which it is derived.		
C-3a(7)	Lab Packs	270.14(a); 264.13(a); 268.7(a)(7),(8); 268.42(c); Part 268 Appendix IV	Lab packs containing California list polychlorinated biphenyls (PCB) or dioxins must be treated according to special incineration requirements detailed in 268.42(a).		
C-3a(8)	Contaminated Debris	270.13(n); 268.2(g); 268.7; 268.9; 268.36; 268.45			
C-3a(9)	Waste Mixtures and Wastes with Overlapping Requirements	270.14(a); 264.13(a)(1); 268.7; 268.9; 268.41; 268.43; 268.45(a)	Waste that carries more than one characteristic or listed waste code must be treated to the most stringent treatment requirement for each hazardous waste constituent of concern.		
C-3a(10)	Dilution and Aggregation of Wastes	270.14(a); 268.3			
C-3b	Notification, Certification, and Recordkeeping Requirements	270.14(a); 264.13; 264.73; 268.7; 268.9(d)			
C-3b(1)	Retention of Generator Notices and Certifications	270.14(a); 264.13; 268.7(a)			
C-3b(2)	Notification and Certification Requirements for Treatment Facilities	270.14(a); 264.13; 268.7(b)			
C-3b(3)	Notification and Certification Requirements for Land Disposal Facilities	270.14(a); 264.13; 268.7(c)(1)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION C. WASTE CHARACTERISTICS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
C-3b(4)	Wastes Shipped to Subtitle C Facilities	270.14(a); 264.13; 268.7(a),(b)(6)			
C-3b(5)	Wastes Shipped to Subtitle D Facilities	270.14(a); 264.13; 268.7(d); 268.9(d)			
C-3b(6)	Recyclable Materials	270.14(a); 264.13; 268.7(b)(7)			
C-3b(7)	Recordkeeping	270.14(a); 264.13; 264.73; 268.7(a)(5),(a)(6),(a)(7),(d)	Recycling facilities must keep records of name and location of each entity receiving hazardous waste-derived product.		
C-3c	Requirement Pertaining to the Storage of Restricted Wastes	270.14(a); 264.73; 268.50			
C-3c(1)	Restricted Wastes Stored in Containers	270.14(a); 264.73; 268.50(a)(2)(i)			
C-3c(2)	Restricted Wastes Stored in Tanks	270.14(a); 264.73; 268.50(a)(2)(ii)			
C-3c(3)	Storage of Liquid PCB Wastes	270.14(a); 264.73; 268.50(f)			
C-3d	Exemptions, Extensions, and Variances to Land Disposal Restrictions				
C-3d(1)	Case-by-Case Extensions to an Effective Date	270.14(b)(21); 268.5			
C-3d(2)	Exemption from Prohibition	270.14(b)(21); 268.6			
C-3d(3)	Variance from a Treatment Standard	270.14(a); 264.73; 268.7; 268.44			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION C. WASTE CHARACTERISTICS					
Section and Requirement		**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
C-3d(4)	Requirements for Surface Impoundments Exempted from Land Disposal Restrictions	270.14(a); 264.13(b)(7); 268.4; 268.14			
C-3d(4)(a)	Exemption for Newly Identified or Listed Wastes	270.14(a); 264.13; 268.14	If owner/operator continues to treat newly listed or characteristic hazardous waste after 48 months from promulgation of new waste listing or characteristic, surface impoundment must be in compliance with 268.4.		
C-3d(4)(b)	Treatment of Wastes	270.14(a); 264.13; 268.4(a)(1),(b)			
C-3d(4)(c)	Sampling and Testing	270.14(a); 264.13(b)(6); 268.4(a)(2)(i),(iv)			
C-3d(4)(d)	Annual Removal of Residues	270.14(a); 264.13(b)(7)(iii); 268.4(a)(2)(ii)			
C-3d(4)(e)	Design Requirements	270.14(a); 264.13; 268.4(a)(3),(4)			

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - CONTAINERS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-1	Containers	270.15; 264.170			
D-la	Containers with Free Liquids	270.15; 264.175(a),(b)	Containers storing waste with free liquids must meet secondary containment requirements of 264.175(b).		
D-1a(1)	Description of Containers	270.14(b)(1); 264.171,172	Specify numbers of containers, sizes, and specifications.		
D-1a(2)	Container Management Practices	270.14(a); 264.173	Containers must be kept closed and must not be handled in any manner which could cause them to rupture or leak. Specify aisle space and stacking height.		
D-1a(3)	Secondary Containment System Design and Operation	270.15(a)(1); 264.175(a),(d)	Provide detailed design and profile drawings showing container storage areas.		
D-1a(3)(a)	Requirement for the Base or Liner to Contain Liquids	270.15; 264.175(b)(1)	Demonstrate that base is impervious to waste stored and precipitation.		
D-1a(3)(b)	Containment System Drainage	270.15(a)(2); 264.175(b)(2)	Containment system must be designed and operated to remove liquids resulting from leaks, spills, or precipitation.		
D-1a(3)(c)	Containment System Capacity	270.15(a)(3); 264.175(b)(3)	Containment system must have capacity to hold 10 percent of container volume or volume of the largest container, whichever is greater.		
D-1a(3)(d)	Control of Runon	270.15(a)(4); 264.175(b)(4)	Runon from storm water must be prevented unless containment system has sufficient excess capacity.		
D-1a(3)(e)	Removal of Liquids from Containment System	270.15(a)(5); 264.175(b)(5)	Accumulated liquids must be removed in timely manner to prevent containment system from overflowing.		
D-1b	Containers without Free Liquids				

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - CONTAINERS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-1b(1)	Test for Free Liquids	270.15(b)(1)	Documentation that waste does not contain free liquids must be provided by test results or other information.		
D-1b(2)	Description of Containers	270.14(a); 264.171; 264.172	Describe numbers, sizes, and specifications of containers.		
D-1b(3)	Container Management Practices	270.14(a); 264.173	Same comment as D-1a(2).		
D-1b(4)	Container Storage Area Drainage	270.15(b)(2); 264.175(c)	Same comment as D-1a(3)(b).		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - TANKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-2	Tank Systems	270.16; 264.191 - 194			
D-2a	Tank Systems Descriptions	270.14(b)(1)	Describe type (aboveground, underground) and specific location of each tank.		
D-2a(1)	Dimensions and Capacity of each Tank	270.16(b)			
D-2a(2)	Description of Feed Systems, Safety Cutoff, Bypass Systems, and Pressure Controls	270.16(c); 264.194(b)			
D-2a(3)	Diagram of Piping, Instrumentation, and Process Flow	270.16(d)			
D-2a(4)	Ignitable, Reactive, and Incompatible Wastes	270.16(j); 264.17(b); 264.198,199	Demonstrate that waste is stored or treated in a way that protects against ignition or reaction.		
D-2b	Existing Tank Systems				
D-2b(1)	Assessment of Existing Tank System's Integrity	270.16(a); 264.191	A written tank assessment must be certified by an independent, qualified, registered professional engineer.		
D-2c	New Tank System				
D-2c(1)	Assessment of New Tank System's Integrity	270.16(a),(e); 264.192(a)	A written tank assessment must be certified by an independent, qualified, registered professional engineer.		
D-2c(2)	Description of Tank System Installation and Testing Plans and Procedures	270.16(f); 264.192(b) - (e)	A new tank installation must be inspected by an independent, qualified, installation inspector or registered professional engineer.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - TANKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-2d	Containment and Detection of Releases	270.16(g); 264.193	Leak detection system must be capable of detecting leaks within 24 hours.		
D-2d(1)	Plans and Description of the Design, Construction, and Operation of the Secondary Containment System	270.16(g); 264.193(b) - (f)			
D-2d(1)(a)	Tank Age Determination	270.16(g); 264.193(a)	Age of each tank must be accurately determined to ascertain when secondary containment requirements apply.		
D-2d(1)(b)	Requirements for Secondary Containment and Leak Detection	270.16(g); 264.193(b),(c); 264.1101(b)(3)(iii)	A detailed description of the construction, installation, and operation of the secondary containment system is required.		
D-2d(1)(c)	Requirements for External Liner, Vault, Double-walled Tank or Equivalent Device	270.16(g); 264.193(d),(e)	Secondary containment must consist of liner, vault, double-walled tank, or equivalent device approved by regional administrator.		
D-2d(1)(d)	Secondary Containment and Leak Detection Requirements for Ancillary Equipment	270.16(g); 264.193(f)	Secondary containment is required for ancillary equipment except as provided in 264.193(f).		
D-2d(1)(e)	Containment Buildings Used as Secondary Containment for Tank Systems	270.16(g); 264.1101(b)(3)(iii)	A containment building can serve as secondary containment for a tank system provided it meets requirements of 264.193(b),(c)(1&2),(d)(1).		
D-2d(2)	Requirements for Tank Systems until Secondary Containment is Implemented	270.16(h); 264.193(i)	Annual leak tests are required until secondary containment is provided.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - TANKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-2d(3)	Variance from Secondary Containment Requirements	270.16(h); 264.193(g)			
D-2d(3)(a)	Variance Based on a Demonstration of Equivalent Protection of Groundwater and Surface Water	270.16(h)(1); 264.193(g)(1),(h)	Detailed plans and engineering and hydrogeologic reports are required to demonstrate equivalent protection of groundwater and surface water.		
D-2d(3)(b)	Variance Based on a Demonstration of No Substantial Present or Potential Hazard	270.16(h)(2); 264.193(g)(2),(h)	Provide detailed assessment of substantial present or potential hazards posed to human health or the environment, should a release enter the environment.		
D-2d(3)(c)	Exemption Based on No Free Liquids and Location Inside a Building	270.16(h); 264.190(a)	Demonstrate that tanks used to treat or store hazardous waste contain no free liquid as defined by Paint Filter Test (SW-846 Method 9095).		
D-2e	Controls and Practices to Prevent Spills and Overflows	270.16(i); 264.194(a),(b); 264.195	Provide detailed description of controls and practices used to prevent spills and overflows.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3	Waste Piles	270.18; 264.250 - 259			
D-3a	List of Wastes	270.18(a)	List all hazardous waste to be placed in waste piles.		
D-3b	Liner Exemption	270.18(b)			
D-3b(1)	Enclosed Dry Piles	270.18(b); 264.250(c)	Demonstrate that neither runoff, nor leachate is generated from the pile.		
D-3b(1)(a)	Protection from Precipitation	270.18(b); 264.250(c)	Demonstrate that pile is inside or under structure that provides complete protection from precipitation.		
D-3b(1)(b)	Free Liquids	270.18(b); 264.250(c)(1)	Demonstrate that neither liquids, nor materials containing free liquids are placed in the pile.		
D-3b(1)(c)	Runon Protection	270.18(b); 264.250(c)(2)	Demonstrate that pile is protected from surface water runon.		
D-3b(1)(d)	Wind Dispersal Control	270.18(b); 264.250(c)(3)	Demonstrate that pile design and operation controls wind dispersal of waste.		
D-3b(1)(e)	Leachate Generation	270.18(b); 264.250(c)(4)	Demonstrate that pile will not generate leachate through decomposition or other reactions.		
D-3b(2)	Exemption for Monofills	270.18(b); 264.251(e)	This exemption applies only to waste generated from foundry furnace emission controls or metal casting molding sand that are not hazardous waste for reasons other than toxicity characteristics.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3b(3)	Alternate Design/No Migration	270.18(c)(1); 264.251(b)	This exemption from liner requirements is based on documenting that design, operating practices, and local aspects will prevent migration of hazardous constituents into groundwater or surface water in the future.		
D-3b(4)	Exemption Based on Alternative Design and Location	270.18(c)(1); 264.251(d)	Document that alternative design and operating practices, together with location characteristics, will prevent migration of any hazardous constituent into groundwater or surface water at least as effectively as a double liner with leachate detection system, and will allow detection of hazardous constituents through the top liner as least as effectively.		
D-3b(5)	Exemption for Replacement Waste Piles	270.18(c); 264.251(f)	Demonstrate (1) that existing unit was constructed in compliance with design standards of Sections 3004(o)(1)(A)(i) and 3004(o)(5) of Resource Conservation and Recovery Act, and (2) there is no reason to believe that liner is not functioning as designed.		
D-3c	Liner System	270.18(c)(1); 264.251(a)(1)(i),(c)	Describe liner system and demonstrate that flow of liquids through liner will be prevented.		
D-3c(1)	Liner Description	270.18(c)(1); 264.251(a)(1)(i),(c)	Describe and draw liner system to demonstrate that any flow of liquids through the liner will be prevented.		
D-3c(1)(a)	Synthetic Liners	270.18(c)(1); 264.251(a)(1),(c)(1)	Describe type, thickness, material, and brand name and manufacturer of liner.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3c(1)(b)	Soil Liner	270.18(c)(1); 264.251(a),(c)(1)(i)(B)	Describe bottom composite liner including its classification, thickness, and hydraulic conductivity.		
D-3c(2)	Liner Location Relative to High Water Table	270.18(c)(1); 264.251(a)(1)(i)	Provide data showing seasonal fluctuations in depth to water table and the location of seasonal high water table in relation to liner system.		
D-3c(3)	Calculation of Required Soil Liner Thickness	270.18(c)(1); 264.251(a)(1)(i)	Calculations using either numerical simulation techniques (unsaturated flow conditions) or Darcy Law-derived transit time equations (saturated flow conditions) must be provided.		
D-3c(4)	Liner Strength Requirements	270.18(c)(1); 264.251(a)(1)(i)	Provide calculations showing minimum strength requirements for liners considering pressure gradients, installation and operating stresses, and climatic change stresses.		
D-3c(5)	Liner Strength Demonstration	270.18(c)(1); 264.251(a)(1)(i)	Demonstrate that liner exceeds minimum strength requirements.		
D-3c(6)	Liner/Waste Compatibility Testing Results	270.18(c)(1); 264.251(a)(1)(i)	Demonstrate that liner material is compatible with both waste and leachate.		
D-3c(7)	Liner Installation	270.18(c)(1); 264.251(a)(1)(i)	Describe procedures for installing liner.		
D-3c(7)(a)	Synthetic Liner Seaming	270.18(c)(1); 264.251(a)(1)(i)	Describe techniques to be used to bond membrane liner seams and the strength and chemical compatibility of seams with waste and leachate.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3c(7)(b)	Soil Liner Compaction	270.18(c)(1); 264.251(a)(1)(i)	Describe procedures for installing soil liner and compacting liner to achieve desired permeability. Include maximum height of lifts to be placed.		
D-3c(7)(c)	Installation Inspection/testing Programs	270.18(c)(1); 264.254(a)	Describe quality assurance/quality control procedures to be used during liner installation.		
D-3c(8)	Liner Coverage	270.18(c)(1); 264.251(a)(1)(iii)	Demonstrate that liner will be installed to cover all surrounding earth likely to be in contact with waste or leachate.		
D-3c(9)	Liner Exposure Prevention	270.18(c)(1); 264.251(a)(1)(i)	Demonstrate that either the liner is protected from, or is resistant to, exposure to climatic conditions.		
D-3c(10)	Synthetic Liner Bedding	270.18(c)(1); 264.251(a)(1)(i)	Demonstrate that sufficient bedding will be provided above and below liner to prevent rupture during installation and operation.		
D-3d	Liner Foundation Report				
D-3d(1)	Liner Foundation Design Description	270.18(c)(1); 264.251(a)(1)(ii)	Describe liner foundation design and materials of construction and ability to withstand expected static and dynamic loadings.		
D-3d(2)	Subsurface Exploration Data	270.18(c)(1); 264.251(a)(1)(ii)	Verify engineering characteristics of foundation materials through subsurface exploration.		
D-3d(3)	Laboratory Testing Data	270.18(c)(1); 264.251(a)(1)(ii)			
D-3d(4)	Engineering Analyses	270.18(c)(1); 264.251(a)(1)(ii)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3d(4)(a)	Settlement Potential	270.18(c)(1); 264.251(a)(1)(ii)			
D-3d(4)(b)	Bearing Capacity and Stability	270.18(c)(1); 264.251(a)(1)(ii)			
D-3d(4)(c)	Potential for Bottom Heave or Blow-Out	270.18(c)(1); 264.251(a)(1)(ii)			
D-3d(4)(d)	Construction and Operational Loading	270.18(c)(1); 264.251(a)(1)(ii)			
D-3d(5)	Foundation Installation Procedures	270.18(c)(1); 264.251(a)(1)(ii)			
D-3d(6)	Foundation Installation Inspection Program	270.18(c)(1); 264.251(a)(1)(ii)	Describe quality assurance/quality control procedures to be used during foundation installation.		
D-3e	Leachate Collection and Removal System	270.18(c); 264.251(a)(2),(c)(2)	Describe design and operation of system to collect and remove leachate from new portions of existing waste piles and from new waste piles.		
D-3e(1)	Upper Leachate Collection and Removal System	270.18(c)(1); 264.251(a)(2),(c)(2)	Describe design and operating conditions to ensure that leachate depth over the liner does not exceed 1 foot.		
D-3e(2)	Leachate Detection System	270.18(c)(1); 264.251(a)(2),(c)(3)	Describe design and operating features of leachate detection system.		
D-3e(2)(a)	Grading and Drainage	270.18(c)(1); 264.251(a)(2); 264.221(c)(2)(ii)	Demonstrate that leak detection system design meets or exceeds specifications described in referenced regulations.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3e(3)	Chemical Resistance	270.18(c); 264.251(a)(2)(i)(A)(c)(3); 264.251(c)(3)	Demonstrate that all leachate collection and removal system components are chemically resistant to waste managed in the pile and the leachate expected to be generated.		
D-3e(4)	Strength of Materials	270.18(c); 264.251(a)(2)(i)(B); 264.251(c)(3)	Demonstrate that system components are of sufficient strength and thickness to prevent collapse under expected static and dynamic loadings.		
D-3e(5)	Prevention of Clogging	270.18(c); 264.251(a)(2)(ii); 264.251(c)(3)	Demonstrate that leachate collection and removal system's design and operation will prevent clogging throughout active life and post-closure period of waste pile.		
D-3e(6)	Installation	270.18(c); 264.251(a)(2)	Describe installation methods and construction quality assurance/quality control procedures.		
D-3e(7)	Maintenance	270.18(c); 264.251(a)(2)	Describe anticipated maintenance activities that will be used to assure proper leachate management system operation throughout pile's expected active life.		
D-3e(8)	Liquid Removal	270.18(c); 264.251(c)(3)	Describe leachate removal system, including sumps and other equipment, and fate of the collected leachate.		
D-3e(9)	Location Relative to Water Table	270.18(c); 264.251(c)(4)	Demonstrate that operation of leak detection system will not be adversely affected by presence of groundwater.		
D-3f	Action Leakage Rate	270.18(c)(1)(v); 264.252	Action leakage rate must be approved by regional administrator based on system design.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3f(1)	Determination of Action Leakage Rate	270.18(c)(1)(v); 264.252(a)	Determine action leakage rate for waste pile units subject to 264.251(c),(d). Include adequate safety margin to allow for uncertainties in design, construction, operation, and location of leak detection system, waste and leachate characteristics, sources of other liquids in system, and proposed response actions.		
D-3f(2)	Monitoring of Leakage	270.18(c)(1)(v); 264.252(b)	Weekly leachate flow rate data must be converted to average daily flow rate.		
D-3g	Leakage Response Action Plan	270.18(c)(1)(v); 264.253			
D-3g(1)	Response Action	270.18(c)(1)(v); 264.253(a)	Provide response action plan to describe actions to be taken if flow rate into leak detection system exceeds action leakage rate.		
D-3g(2)	Leak and/or Remedial Determinations	270.18(c)(1)(v); 264.253(b),(c)	Response action plan must describe actions to be taken to comply with 264.223(b),(c) if the action leakage rate is exceeded.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3g(3)	Notifications	270.18(c)(1)(v); 264.253(b)	Response action plan must indicate that regional administrator will be (1) notified in writing within 7 days of determining that action leakage rate has been exceeded, (2) provided with preliminary assessment and action plan within 14 days of initial determination that action leakage rate has been exceeded, and (3) provided with status report within 30 days after original notification that action leakage rate has been exceeded. Regional administrator must receive monthly status reports for as long as flow rate exceeds action leakage rate.		
D-3h	Runon Control System	270.18(c)(2); 264.251(g)	Describe system that will be used to prevent runon into active portions of piles.		
D-3h(1)	Calculation of Peak Flow	270.18(c)(2); 264.251(g)	Identify peak surface water flow expected to result from 25-year design storm. Describe data sources and methods used to make peak flow calculation.		
D-3h(2)	Design and Performance	270.18(c)(2); 264.251(g)	Demonstrate that runon control system design will prevent runon from reaching active portions of unit.		
D-3h(3)	Construction	270.18(c)(2); 264.251(g)	Describe runon control system construction methods and any construction quality assurance/quality control procedures.		
D-3h(4)	Maintenance	270.18(c)(2); 264.251(g)	Describe any maintenance activities required to assure continued proper runon system operation throughout unit's active life.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3i	Runoff Control System	270.18(c)(3); 264.251(h)	Describe the runoff control system to be used to collect and control runoff from active portions.		
D-3i(1)	Calculation of Peak Flow	270.18(c)(3); 264.251(h)	Identify the total runoff volume expected to result from a 24-hour, 25-year storm, and include data sources and methods used to make peak flow calculation.		
D-3i(2)	Design and Performance	270.18(c)(3); 264.251(h)	Demonstrate that system has sufficient capacity to collect and hold total runoff volume calculated in D-3i(1).		
D-3i(3)	Construction	270.18(c)(3); 264.251(h)	Describe runoff system construction methods and any construction quality assurance/quality control procedures.		
D-3i(4)	Maintenance	270.18(c)(3); 264.251(h)	Describe any maintenance activities required to assure continued proper runoff system operation throughout unit's active life.		
D-3j	Management of Collection and Holding Units	270.18(c)(4); 264.251(i)	Describe how collection and holding facilities will be managed to maintain system design capacity.		
D-3k	Control of Wind Dispersal	270.18(c)(5); 264.251(j)	Describe how pile is covered or otherwise managed to control wind dispersal.		
D-3l	Groundwater Monitoring Exemption	270.18(b); 264.90(b)(2)	To receive exemption from groundwater monitoring requirements of Subpart F, conditions specified in D-3l(1) through D-3l(7) must be met.		
D-3l(1)	Engineered Structure	270.18(b); 264.90(b)(2)(i)	Provide design data showing that unit is engineered structure.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3l(2)	No Liquid Wastes	270.18(b); 264.90(b)(2)(ii)	Describe procedures for ensuring that no liquid waste or waste containing free liquids will be received by, or contained in, unit.		
D-3l(3)	Exclusion of Liquids	270.18(b); 264.90(b)(2)(iii)	Demonstrate how liquids, precipitation, and other runon and runoff will be excluded from unit.		
D-3l(4)	Containment System	270.18(b); 264.90(b)(2)(iv)	Describe containment system (both inner and outer layers) that will enclose waste.		
D-3l(5)	Leak Detection System	270.18(b); 264.90(b)(2)(v)	Describe design and operating data demonstrating leak detection system built into each containment layer.		
D-3l(6)	Operation of Leak Detection System	270.18(b); 264.90(b)(2)(vi)	Demonstrate means for ensuring continuing operation and maintenance of leak detection systems during active life of unit and closure and post-closure care periods.		
D-3(7)	No Migration	270.18(b); 264.90(b)(2)(vii)	Demonstrate to reasonable degree of certainty that unit will not allow hazardous constituents to migrate beyond outer layer of containment system prior to end of post-closure care period.		
D-3m	Treatment Within the Pile	270.18(e)	If any treatment is conducted in pile, provide descriptions specified in D-3m(1) through D-3m(3).		
D-3m(1)	Treatment Process Description	270.18(e)	Describe the process by which wastes are treated and the effect of the treatment on the wastes.		
D-3m(2)	Equipment Used	270.18(e)	Describe any equipment or other materials required to initiate or promote treatment.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - WASTE PILES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-3m(3)	Residuals Description	270.18(e)	Describe nature and quantity of waste remaining in pile after treatment is complete.		
D-3n	Special Waste Management Plan for Piles Containing Wastes F020, F021, F022, F023, F026, and F027	270.18(i); 264.259	If waste pile is not enclosed, provide plan describing how pile will be designed, constructed, operated, and maintained in order to protect human health and environment.		
D-3n(1)	Waste Description	270.18(i)(1); 264.259(a)(1)	Identify volume, physical, and chemical characteristics of waste, including potential to migrate through soil or volatilize or escape into atmosphere.		
D-3n(2)	Soil Description	270.18(i)(2); 264.259(a)(2)	Describe attenuative properties of underlying and surrounding soils or other materials.		
D-3n(3)	Mobilizing Properties	270.18(i)(3); 264.259(a)(3)	Describe mobilizing properties of other materials codisposed of with this waste.		
D-3n(4)	Additional Management Techniques	270.18(i)(4); 264.259(a)(4)	Document effectiveness of additional treatment, design, operating, or monitoring techniques.		
D-3o	Construction Quality Assurance Program	270.18(c)(iv); 264.19	Provide written construction quality assurance program to comply with regulations found in 264.19.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4	Surface Impoundments				
D-4a	List of Wastes	270.17(a)	Provide list of all hazardous waste placed, or to be placed, in surface impoundments.		
D-4b	Liner System Exemption Requests	270.17(b)			
D-4b(1)	Exemption Based on Existing Portion	270.17(b)(1); 264.221(c)	Existing portions of surface impoundments with waste in place on November 8, 1994, and having only vertical expansion are exempted from liner system requirements. New units, lateral expansion of existing units, and replacement units at existing facilities are not exempt. Provide plan indicating limits of existing portions.		
D-4b(2)	Exemption Based on Alternative Design and Location	270.17(b)(1); 264.221(d)			
D-4b(3)	Exemption for Replacement Surface Impoundments	270.17(b); 264.221(f)			
D-4c	Liner System, General Items	270.17(b)(1)	Provides discussion of the following items that apply to liner system as a whole.		
D-4c(1)	Liner System Description	270.17(b)(1)	Provide detailed description of liner system, demonstrating that any flow of liquids into and through liners will be prevented. The liner system includes liner foundation, bottom composite liner, leachate detection system, top synthetic liner, and any protective layer placed to protect top synthetic liner.		
D-4c(2)	Liner System Location Relative to High Water Table	270.17(b)(1), (3); 264.221(a)	Provide geological cross sections showing groundwater levels with seasonal fluctuations and liner foundation elevations.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4c(3)	Load on Liner System	270.17(b)(1); 264.221(a)(1),(b)	Provide results of calculations defining maximum loads or stresses that will be placed on liner system.		
D-4c(4)	Liner System Coverage	270.17(b)(1); 264.221(a)(1), (b)	Demonstrate that liner system will be installed to cover all surrounding earth likely to be in contact with waste or leachate.		
D-4c(5)	Liner System Exposure Prevention	270.17(b)(1); 264.221(a)(1), (b)	Demonstrate that liner system will not be exposed to elements, or that if exposed, exposure will not result in unacceptable degradation of system.		
D-4d	Liner System Foundation				
D-4d(1)	Foundation Description	270.17(b)(1); 264.221(a)(2)	Describe foundation for liner system, including materials, and indicate bearing elevations and any load-bearing embankments placed to support liner system.		
D-4d(2)	Subsurface Exploration Data	270.17(b)(1); 264.221(a)(2)	The engineering characteristics of liner system foundation materials should be verified through subsurface explorations. Provide information to fully describe these efforts.		
D-4d(3)	Laboratory Testing Data	270.17(b)(1); 264.221(a)(2)	Provide index testing results to classify site materials and lab test data to evaluate engineering properties of foundation materials. Provide references to standard test procedures.		
D-4d(4)	Engineering Analyses	270.17(b)(1); 264.221(a)(2)	Provide engineering analyses based on subsurface exploration and laboratory testing data. Include discussion of methods used, assumptions, copies of calculations, and appropriate references.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4d(4)(a)	Settlement Potential	270.17(b)(1); 264.221(a)(2)	Provide estimates of total and differential settlement of liner system foundation.		
D-4d(4)(b)	Bearing Capacity	270.17(b)(1); 264.221(a)(2)	Provide analysis of allowable bearing capacity of liner system foundation.		
D-4d(4)(c)	Potential for Excess Hydrostatic or Gas Pressure	270.17(b)(1); 264.221(a)(2)	Provide estimates of potential or bottom heave or blow-out of liner system or line foundation due to unequal hydrostatic or gas pressures.		
D-4e	Liner System, Liners				
D-4e(1)	Synthetic Liners	270.17(b)(1); 264.221(a),(c)	For each synthetic liner in system or under consideration, provide the following general information: thickness; type; material; brand name; and manufacturer.		
D-4e(1)(a)	Synthetic Liner Compatibility Data	270.17(b)(1); 264.221(a)(1)	Provide summary and discussion of test results and conclusions as to suitability of synthetic liner based on liner/waste compatibility testing.		
D-4e(1)(b)	Synthetic Liner Strength	270.17(b)(1); 264.221(a)(1)	Provide data showing that synthetic liners, including seams, have sufficient strength after exposure to waste and waste leachate.		
D-4e(1)(c)	Synthetic Liner Bedding	270.17(b)(1); 264.221(a)(2)	Demonstrate that sufficient bedding will be provided above and below the synthetic liners to prevent rupture during installation and operation. Synthetic membrane of bottom composite liner should be placed directly on soil portion.		
D-4e(2)	Soil Liners	270.17(b)(1); 264.221(a); (c)(1)	Describe soil portion of bottom composite liner, including classification, thickness, hydraulic conductivity, and material specifications.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4e(2)(a)	Material Testing Data	270.17(b)(1); 264.221(c)	Provide complete results for index tests, laboratory and/or in situ permeability tests, strength tests, consolidation tests, and shrink-swell properties of soil liner material. Discuss potential for dispersion and piping of soil due to flow of liquid through soil liner layer.		
D-4e(2)(b)	Soil Liner Compatibility Data	270.17(b)(1); 264.221(a)(1)	Provide complete results of permeability testing of soil liner material using representative of leachate from surface impoundment.		
D-4e(2)(c)	Soil Liner Strength	270.17(b)(1); 264.221(a)(1)	Demonstrate that soil liner has sufficient strength to support loads/stresses computed in item D-4c(3).		
D-4f	Liner System, Leachate Detection System	270.17(b)(1); 264.221(c)(2)			
D-4f(1)	Systems Operation and Design	270.17(b)(1); 264.221(c)(2),(4)	Describe design features of leachate detection system and how system will function to detect any leakage through either liner in timely manner.		
D-4f(2)	Drainage Material	270.17(b)(1); 264.221(c)(2)(ii)	Describe leachate detection system drainage material.		
D-4f(3)	Grading and Drainage	270.17(b)(1); 264.221(c)(2)	Indicate slopes of leachate detection system and provide contour plan for system along with plan showing layout and spacing of piping system and any sumps, pumps, etc. Demonstrate that leak detection system is appropriately graded to assure that leakage at any point in liner system is detected in timely manner.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4f(4)	System Compatibility	270.17(b)(1); 264.221(c)(2)(iii)			
D-4f(5)	System Strength				
D-4f(5)(a)	Stability of Drainage Layers	270.17(b)(1); 264.221(c)(2)(iii)	Demonstrate that drainage layer of leachate detection system has sufficient soil-bearing capacity to support loads. Provide calculations showing that drainage layer placed on sloped surfaces of surface impoundment or foundations will be stable during construction.		
D-4f(5)(b)	Strength of Piping	270.17(b)(1); 264.221(c)(2)(iii)	Demonstrate that pipes used in piping systems have sufficient strength to support loads as computed in item D-4c(3).		
D-4f(6)	Prevention of Clogging	270.17(b)(1); 264.221(c)(2)(iv)			
D-4f(7)	Liquid Removal	270.17(b)(1); 264.221(c)(2)(v), (c)(3)	Indicate fate of collected leachate, which is considered hazardous waste.		
D-4f(8)	Location Relative to Water Table	270.17(b)(3); 264.221(c)(4)			
D-4g	Liner System, Construction and Maintenance				
D-4g(1)	Material Specifications	270.17(b)(1); 264.221(a)			
D-4g(1)(a)	Synthetic Liners	270.17(b)(1); 264.221(a)	Provide detailed material specifications for specific synthetic liner(s) to be used.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4g(1)(b)	Soil Liners	270.17(b)(1); 264.221(a)	For soil liners constructed of borrowed material, provide specifications; for soil liners using in-place soil, provide specifications to be used to assure that all existing materials meet requirements of liner design.		
D-4g(1)(c)	Leachate Detection System	270.17(b)(1); 264.221(a)	Provide material specifications for drainage layer material, filter fabric or filter layer, piping, and sumps.		
D-4g(2)	Construction Specifications				
D-4g(2)(a)	Liner System Foundation	270.17(b)(1); 264.221(a)	For installed foundations, provide construction specifications of foundation installation procedures. For units that use the in-place material for liner system foundation, provide construction specifications for preparation.		
D-4g(2)(b)	Soil Liner	270.17(b)(1); 264.221(a),(a)(2)	Describe procedures for installing soil liner.		
D-4g(2)(c)	Synthetic Liners	270.17(b)(1); 264.221(a); 264.226(a)(1)	Provide construction specifications for placement of synthetic liners.		
D-4g(2)(d)	Leachate Detection System	270.17(b)(1); 264.221(a)	Provide construction specifications for placement of leachate detection system components, including drainage layers, piping, filter layers, sumps, pumps, etc.		
D-4g(3)	Construction Quality Assurance (CQA) Program	270.17(b)(1),(4); 270.30(k)(2); 264.19; 264.226(a)	Provide complete details of CQA program to be used during construction of liner system to assure that it is built as designed.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4g(4)	Maintenance Procedures for Leachate Detection System	270.17(b)(1); 264.221(a)	Describe anticipated maintenance activities that will be used to assure proper operation of leachate detection systems throughout surface impoundment's expected life.		
D-4g(5)	Liner Repairs During Operations	270.17(b)(1); 264.221(a)	Describe methods that will be used to repair any damage to liner that occurs while surface impoundment is in operation (such as a drag line ripping the liner during cleaning operations).		
D-4h	Action Leakage Rate	270.17(b)(5); 264.222			
D-4h(1)	Determination of Action Leakage Rate	270.17(b)(5); 264.222(a)	Identify action leakage rate for surface impoundment units subject to liner system provisions of 264.221(c) and 264.221(d).		
D-4h(2)	Monitoring of Leakage	270.17(b)(5); 264.222(b)			
D-4i	Leakage Response Action Plan	270.17(b)(5); 264.223			
D-4i(1)	Response Action	270.17(b)(5); 264.223(a)			
D-4i(2)	Leak and/or Remedial Determinations	270.17(b)(5); 264.223(b),(c)			
D-4i(3)	Notifications	270.17(b)(5); 264.223(b)			
D-4j	Prevention of Overtopping	270.17(b)(6); 264.221(g)	Describe design and/or operating procedures that will protect against impoundment overtopping/overflow.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4j(1)	Design Features	270.17(b)(6); 264.221(g)	Describe design features used to prevent overtopping, such as spillways or weirs for flow-through systems, automatic or manual controls, and sensors and alarms.		
D-4j(2)	Operating Procedure	270.17(b)(6); 264.221(g)	If operating procedures are instrumental to preventing overtopping, describe those procedures.		
D-4j(3)	Overtopping Prevention	270.17(b)(6); 264.221(g)	Unless foolproof controls are used to prevent overtopping, provide results of calculations showing that adequate freeboard will be available following 100-year, 24-hour storm event.		
D-4j(4)	Freeboard Requirements	270.17(b); 264.221(g)	Freeboard requirements associated with normal and extreme wind activity should be determined unless automatic controls are used and freeboard equals or exceeds 2 feet.		
D-4j(5)	Outflow Destination	270.17(b); 264.221(g)	Describe fate of liquids released through flow control devices. Identify location to which waste would be moved in event of emergency.		
D-4k	Dike Stability				
D-4k(1)	Engineer's Certification	270.17(d); 264.226(c)			
D-4k(2)	Dike Design Description	270.17(b)(7); 264.221(h)	Provide data and/or drawings specifying design layout of the dikes and their components, including materials of construction. Determine capability of dikes to withstand failure from expected static and dynamic loadings and effects of erosion.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-4k(3)	Erosion and Piping Protection	270.17(b); 264.221(h)	Demonstrate that dikes are designed and constructed to minimize erosion and piping, and to prevent failure due to excessive erosion. Describe procedures for correcting erosion problems identified during unit's operating life.		
D-4k(4)	Subsurface Soil Conditions	270.17(b)(7); 264.221(h)	Engineering characteristics of dike foundation materials should be verified through testing and subsurface explorations, as necessary. These explorations may include: test borings; test pits or trenches; in situ tests; and geophysical exploration methods.		
D-4k(5)	Stability Analysis	270.17(b); 264.221(h)	Describe stability analyses and results for the following conditions, as appropriate: foundation soil bearing failure of settlement; failure in dike slopes; failure of impoundment cut slopes; build-up of hydrostatic pressure due to failure of drainage system, dike cover, and liner; and rapid drawdown.		
D-4k(6)	Strength and Compressibility Test Results	270.17(b); 264.221(h)	Provide results of strength and consolidation tests on dike materials together with description of sampling procedures and test methods.		
D-4k(7)	Dike Construction Procedures	270.17(b); 264.221(h)	Describe methods to be used to construct dikes at new units.		
D-4k(8)	Dike Construction Inspection Program	270.17(b); 264.221(h)	Describe inspection, monitoring, sampling and testing methods, and frequencies to be used during dike construction to assure that new dikes meet design requirements.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION D. PROCESS INFORMATION - SURFACE IMPOUNDMENTS				
Section and Requirement	**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
D-4l Special Waste Management Plan for Surface Impoundments Containing Wastes F020, F021, F022, F023, F026, and F027	270.17(i); 264.231(a)			

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - INCINERATORS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-5	Incinerators	270.19; 264.340; 264.351			
D-5a	Justification for Exemption	270.19(a)	To justify exemption under 264.340(b) or (c), document the following: (1) waste contains no, or insignificant, concentrations of Part 261, Appendix VIII materials; and (2) waste is considered hazardous solely because it is (a) ignitable and/or corrosive, or (b) reactive.		
D-5b	Trial Burn	270.19(b)			
D-5b(1)	Trial Burn Plan	270.19(b)	Submit trial burn plan or results of trial burn, including all required determinations.		
D-5b(1)(a)	Detailed Engineering Description of Incinerator	270.62(b)(2)(ii) 270.19(c)(2)	Provide information per regulatory citation. Also, include process and instrumentation diagram.		
D-5b(1)(b)	Sampling and Monitoring Procedures	270.62(b)(2)(iii)	Describe sampling and monitoring procedures during trial burn per regulatory citation. Sampling and analysis methods approved by the U.S. Environmental Protection Agency (EPA) must be used or, alternatively, a demonstration of equivalence with EPA-approved methods must be made.		
D-5b(1)(c)	Trial Burn Schedule	270.62(b)(2)(iv)			
D-5b(1)(d)	Test Protocols	270.62(b)(2)(v)			
D-5b(1)(e)	Pollution Control Equipment Operation	270.62(b)(2)(vi)			
D-5b(1)(f)	Shutdown Procedures	270.62(b)(2)(vii)			
D-5b(1)(g)	Incinerator Performance	270.62(a)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - INCINERATORS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-5b(2)	New Incinerator Conditions	270.62(a)			
D-5b(2)(a)	Startup	270.62(a)			
D-5b(2)(b)	Shakedown	264.344(c)(1)			
D-5b(2)(c)	Post-trial Burn Operation	270.62(c)			
D-5b(2)(d)	Incinerator Performance	270.62(a)			
D-5c	Data Submitted in Lieu of Trial Burn	270.19(c)	Provide information per regulatory citation in lieu of trial burn plan.		
D-5c(1)	Detailed Engineering Description of Incinerator	270.19(c)(2)	Provide information per regulatory citation. Also, include process and instrumentation diagram.		
D-5c(2)	Expected Incinerator Operation	270.19(c)(6)			
D-5c(3)	Design and Operating Conditions	270.19(c)(4)			
D-5c(4)	Previous Trial Burn Results	270.19(c)(5)	Describe results from all previously conducted, approved trial burns.		
D-5d	Determinations	270.62(b)(7)			

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6	Landfills	270.21; 264.300 - 264.317			
D-6a	List of Wastes	270.21(a)			
D-6b(1)	Exemption Based on Existing Portion	270.21(b)(1); 264.301(a)	Existing portions of landfills that have waste in place on November 8, 1984, and will have only vertical expansion are exempted from liner system requirements. Provide plan showing limits of existing portion.		
D-6b(2)	Exemption Based on Alternative Design and Location	270.21(b)(1); 264.301(d)			
D-6b(3)	Exemption for Replacement Landfill Unit	270.21(b)(1); 264.301(f)			
D-6b(4)	Exemption for Monofills	270.21(b)(1); 264.301(e)			
D-6b(5)	Groundwater Monitoring Exemption	270.21(c); 264.90(b)(2)	If exemption from Subpart F groundwater monitoring requirements is sought, provide data demonstrating that the following conditions are met.		
D-6b(5)(a)	Engineered Structure	270.21(c); 264.90(b)(2)(i)	Provide design data showing that unit for which exemption is sought is an engineered structure.		
D-6b(5)(b)	No Liquid Waste	270.21(c); 264.90(b)(2)(ii)	Describe procedures for ensuring that no liquid waste or waste containing free liquids will be received by, or contained, in the unit.		
D-6b(5)(c)	Exclusion of Liquids	270.21(c); 264.90(b)(2)(iii)	Provide design and operating data demonstrating how liquids, precipitation, and other runon and runoff will be excluded from the unit.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6b(5)(d)	Containment System	270.21(c); 264.90(b)(2)(iv)	Describe containment system (both inner and outer layers) that will enclose waste.		
D-6b(5)(e)	Leak Detection System	270.21(c); 264.90(b)(2)(v)	Describe design and operating data demonstrating leak detection system built into each containment layer.		
D-6b(5)(f)	Operation of Leak Detection System	270.21(c); 264.90(b)(2)(vi)	Demonstrate means for ensuring continuing operation and maintenance of leak detection systems during active life of unit and closure and post-closure care periods.		
D-6b(5)(g)	No Migration	270.21(c); 264.90(b)(2)(vii)	Demonstrate that unit will not allow hazardous constituents to migrate beyond outer layer of containment system prior to end of post-closure care period.		
D-6c	Liner System, General Items	270.21(b)(1); 264.301(a),(c)	Discuss the items that apply to liner system as a whole.		
D-6c(1)	Liner System Description	270.21(b)(1); 264.301(a),(c)	Provide detailed description of liner system, demonstrating that any flow of liquids into and through liners will be prevented. Liner system includes liner foundation, bottom composite liner, leachate detection system, top synthetic liner, and any protective layer placed to protect leachate collection system from damage.		
D-6c(2)	Liner System Location Relative to High Water Table	270.21(b)(1); 264.301(a)(1)(i)	Provide geological cross sections showing groundwater levels with seasonal fluctuations and liner foundation elevations.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6c(3) Loads on Liner System	270.21(b)(1); 264.301(a)(1)(i)	Provide results of calculations defining maximum loads or stresses that will be placed on liner system considering: • both static and dynamic loads • stresses due to installation or construction • stresses resulting from operating equipment • stresses due to maximum quantity of waste, cover, and proposed post-closure land use • stresses resulting from settlement, subsidence, or uplift • internal and external pressure gradients.		
D-6c(4) Liner System Coverage	270.21(b)(1); 264.301(a)(1)(iii)			
D-6c(5) Liner System Exposure Prevention	270.21(b)(1); 264.301(a)(1)(i)	Demonstrate that the liner system will not be exposed to wind or sunlight or, if exposure to any part of the system is to be permitted, that such exposure will not result in unacceptable degradation of that portion of the system.		
D-6d Liner System, Foundation				
D-6d(1) Foundation Description	270.21(b)(1); 264.301(a)(1)(ii)	Describe foundation for liner system, including foundation materials and indicate bearing elevations on geological and construction drawings. Indicate any load-bearing embankments placed to support liner system.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6d(2)	Subsurface Exploration Data	270.21(b)(1); 264.301(a)(1)(ii)	Verify engineering characteristics of liner system foundation materials through subsurface explorations. Provide information to fully describe these efforts.		
D-6d(3)	Laboratory Testing Data	270.21(b)(1); 264.301(a)(1)(ii)	Provide index testing results to classify site materials and lab test data to evaluate engineering properties of foundation materials. Provide references to standard test procedures.		
D-6d(4)	Engineering Analyses	270.21(b)(1); 264.301(a)(1)(ii)	Provide engineering analyses based on subsurface exploration and laboratory testing data. Include discussion of methods used, assumptions, copies of calculations, and appropriate references.		
D-6d(4)(a)	Settlement Potential	270.21(b)(1); 264.301(a)(1)(ii)	Provide estimates of total and differential settlement of liner system foundation. Consider stresses imposed by liner system and applicable stresses computed in item D-6c(3).		
D-6d(4)(b)	Bearing Capacity	270.21(b)(1); 264.301(a)(1)(ii)	Provide analysis of allowable bearing capacity of liner system foundation.		
D-6d(4)(c)	Stability of Landfill Slopes	270.21(b)(1); 264.301(a)(1)(ii)	Provide, as appropriate, analyses of stability of: • excavated slopes for units constructed below grade • embankment slopes for units constructed with earthen dikes or berms • landfill slopes consisting of liner system or cover system placed on waste.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6d(4)(d)	Potential for Excess Hydrostatic or Gas Pressure	270.21(b)(1); 264.301(a)(1)(ii)	Provide estimates of potential for bottom heave or blow-out of liner system due to unequal hydrostatic or gas pressures.		
D-6e	Liner System, Liners				
D-6e(1)	Synthetic Liners	270.21(b)(1); 264.301(a)(1)(ii),(c)	For each synthetic liner in system or under consideration, provide following general information: thickness; type; material; brand name; and manufacturer.		
D-6e(1)(a)	Synthetic Liner Compatibility Data	270.21(b)(1); 264.301(a)(1)(i)	Provide summary and discuss test results and conclusions as to suitability of synthetic liner based on liner/waste compatibility testing.		
D-6e(1)(b)	Synthetic Liner Strength	270.21(b)(1); 264.301(a)(1)(i)	Provide data showing that synthetic liners, including seams, have sufficient strength after exposure to waste and waste leachate.		
D-6e(1)(c)	Synthetic Liner Bedding	270.21(b)(1); 264.301(a)(1)(ii)	Demonstrate that sufficient bedding will be provided above and below synthetic liners to prevent rupture during installation and operation. Synthetic membrane of bottom composite liner should be placed directly on soil portion.		
D-6e(2)	Soil Liners	270.21(b)(1); 264.301(a),(c)	Provide description of soil portion of bottom composite liner, including its classification, thickness, hydraulic conductivity, and material specifications.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6e(2)(a)	Material Testing Data	270.21(b)(1); 264.301(c)	Provide complete results for index tests, laboratory and/or in situ permeability tests, strength tests, consolidation tests, and shrink-swell properties of soil liner material. Discuss potential for dispersion and piping of soil due to flow of liquid through soil liner layer.		
D-6e(2)(b)	Soil Liner Compatibility Data	270.21(b)(1); 264.301(a)(1)(i); 264.301(c)(3)(iii)	Provide complete test results of permeability testing of soil liner material using representative of leachate from surface impoundment.		
D-6e(2)(c)	Soil Liner Strength	270.21(b)(1); 264.301(a)(1)(i); 264.301(c)(3)(iii)	Demonstrate that soil liner has sufficient strength to support loads/stresses computed in item D-4c(3).		
D-6f	Liner System, Leachate Collection/Detection Systems	270.21(b)(1); 264.301(a)(2); 264.301(c)(2),(3)			
D-6f(1)	System Operation and Design	270.21(b)(1); 264.301(a)(2); 264.301(c)(2),(3)	Describe design features of leachate detection system and how system will function to detect any leakage through either liner in timely manner.		
D-6f(2)	Drainage Material	270.21(b)(1); 264.301(a)(2),(c)(3)(ii)	Describe leachate detection system drainage material.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6f(3)	Grading and Drainage	270.21(b)(1); 264.301(a)(2),(c)(2),(3)	Indicate slopes of leachate detection system and provide contour plan for system along with plan showing layout and spacing of piping system and any sumps, pumps, etc. Demonstrate that leak detection system is appropriately graded to assure that leakage at any point in liner system is detected in timely manner.		
D-6f(4)	Maximum Leachate Head	270.21(b)(1); 264.301(a)(2),(c)(2)			
D-6f(5)	Systems Compatibility	270.21(b)(1); 264.301(a)(2)(i)(A), (c)(3)(iii)			
D-6f(6)	Systems Strength	270.21(b)(1); 264.301(a)(2)(i)(B), (c)(3)(iii)			
D-6f(6)(a)	Stability of Drainage Layers	270.21(b)(1); 264.301(a)(2)(i)(B), (c)(3)(iii)			
D-6f(6)(b)	Strength of Piping	270.21(b)(1); 264.301(a)(2)(i)(B), (c)(3)(iii)	Demonstrate that pipe used in piping systems have sufficient strength to support loads as computed in item D-6c(3).		
D-6f(7)	Prevention of Clogging	270.21(b)(1); 264.301(a)(2)(ii), (c)(3)(iv)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6f(8)	Liquid Removal	270.21(b)(1); 264.301(c)(3)(v),(4)			
D-6f(9)	Location Relative to Water Table	270.21(b)(1)(iii); 264.301(c)(5)			
D-6g	Liner System, Construction and Maintenance				
D-6g(1)	Material Specifications				
D-6g(1)(a)	Synthetic Liners	270.21(b)(1); 264.301(a)(1)	Provide detailed material specifications for specific synthetic liner or liners to be used.		
D-6g(1)(b)	Soil Liners	270.21(b)(1); 264.301(a)(1)	For soil liners constructed of borrowed material, provide specifications. For soil liners using in-place soil, provide specifications to be used to assure that all existing materials meet requirements of liner design.		
D-6g(1)(c)	Leachate Collection/Detection Systems	270.21(b)(1); 264.301(a),(c)	Provide material specifications for drainage layer material, filter fabric or filter layer, piping, and sumps.		
D-6g(2)	Construction Specifications				
D-6g(2)(a)	Liner System Foundation	270.21(b)(1); 264.301(a)(1); 264.303(a)	Provide construction specifications of foundation installation procedures. For units that use in-place material for liner system foundation, provide construction specifications for preparation of foundation.		
D-6g(2)(b)	Soil Liner	270.21(b)(1); 264.301(a)(1); 264.303(a)(2)	Describe procedures for installing soil liner.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6g(2)(c)	Synthetic Liners	270.21(b)(1); 264.301(a)(1); 264.303(a)(1)	Provide construction specifications for placement of synthetic liners.		
D-6g(2)(d)	Leachate Collection/Detection Systems	270.31(b)(1); 264.301(a),(c)	Provide construction specifications for placement of all components of leachate collection/detection systems.		
D-6g(3)	Certified Quality Auditor (CQA) Program	270.21(b)(1); 270.30(k)(2); 264.19; 264.303(a)	Provide complete details of CQA program to be used during construction of liner system to assure that it is built as designed.		
D-6g(4)	Maintenance Procedures for Leachate Collection/Detection Systems	270.21(b)(1); 264.301(a),(c)	Describe anticipated maintenance activities that will be used to assure proper operation of leachate collection/detection systems throughout landfill's expected life.		
D-6g(5)	Liner Repairs During Operations	270.21(b)(1); 264.301(a)	Describe methods that will be used to repair any damage to liner that occurs while landfill is in operation during placement of waste (such as a dozer ripping the liner).		
D-6h	Action Leakage Rate	270.21(b)(1)(v); 264.302			
D-6h(1)	Determination of the Action Leakage Rate	270.21(b)(1)(v); 264.302(a)			
D-6h(2)	Monitoring the Leakage	270.21(b)(1)(v); 264.302(b)	To determine if action leakage rate has been exceeded, owner/operator must convert required leachate flow rate monitoring data to average daily flow rate for each sump. This average daily flow rate must be calculated weekly during active life of facility and closure period, and monthly during post-closure care period.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6i	Leakage Response Action Plan	270.21(b)(1)(v); 264.304			
D-6i(1)	Response Actions	270.21(b)(1)(v); 264.304(a)			
D-6i(2)	Leak and/or Remedial Determinations	270.21(b)(1)(v); 264.304(b),(c)			
D-6i(3)	Notifications	270.21(b)(1)(v); 264.304(b)			
D-6j	Runon and Runoff Control Systems				
D-6j(1)	Runon Control System	270.21(b)(2); 264.301(g)	Describe system that will be used to prevent runon onto active portions of landfills.		
D-6j(1)(a)	Design and Performance	270.21(b)(2); 264.301(g)	Describe runon control system design and how that design prevents runon from reaching active portions of site. Provide plan view.		
D-6j(1)(b)	Calculation of Peak Flow	270.21(b)(1); 264.301(g)	Identify peak surface water flow expected to result from 2-year design storm. Provide copies of calculations and data.		
D-6j(2)	Runoff Control System	270.21(b)(3); 264.301(h)	Describe runoff control system to be used to collect and control runoff from active portions.		
D-6j(2)(a)	Design and Performance	270.21(b)(3); 264.301(h)	Describe runoff collection and control system design. Indicate fate of collected runoff that is considered hazardous waste until tested and/or treated.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6j(2)(b)	Calculation of Peak Flow	270.21(b)(3); 264.301(h)	Identify total runoff volume expected to result from at least a 24-hour, 25-year storm event. Provide copies of calculations and data.		
D-6j(3)	Management of Collection and Holding Units	270.21(b)(4); 264.301(i)	Describe how collection and holding facilities associated with runon and runoff control systems will be emptied or otherwise managed expeditiously after storms to maintain system design capacity. Describe fate of liquids discharged from these systems.		
D-6j(4)	Construction	270.21(b)(2),(3); 264.301(g),(h)	Provide detailed construction and material specifications for runon and runoff control systems.		
D-6j(5)	Maintenance	270.21(b)(2),(3); 264.301(g),(h)	Describe any maintenance activities required to assure continued proper operations of runon and runoff control systems throughout active life of unit.		
D-6k	Control of Wind Dispersal	270.21(b)(5); 264.301(j)			
D-6L	Liquids in Landfills				
D-6L(1)	Bulk or Noncontainerized Free Liquids	270.21(h); 264.314	Describe procedures that will be used to ensure that no bulk or noncontainerized liquid hazardous waste or waste with free liquids will be placed in landfill. Demonstrate, by paint filter test, Method 9095, that no free liquids will be placed in landfill.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6L(2)	Containers Holding Free Liquids	270.21(h); 264.314(d)	For facilities that intend to dispose of containers holding free liquids, describe how free liquids will be removed from containers or stabilized within container before container is placed in landfill. If liquid is removed, container must be backfilled or crushed.		
D-6L(3)	Restriction to Small Containers	270.21(h); 264.314(d)(2)	If small containers are to be disposed of in landfill, demonstrate by indicating container volume, that containers will be very small (such as ampules).		
D-6L(4)	Nonstorage Containers	270.21(h); 264.314(d)(3)	If nonstorage containers are to be disposed of in landfill, demonstrate by describing the containers designed to hold free liquids for use other than storage (e.g., batteries, capacitors).		
D-6L(5)	Lab Packs	270.21(h); 264.314(d)(4)	Describe how it will be assured that lab packs to be landfilled containing free liquids meet requirements for lab packs.		
D-6L(5)(a)	Inside Containers	270.21(h); 264.314(d)(4); 264.316(a)			
D-6L(5)(b)	Overpack	270.21(h); 264.314(d)(4); 264.316(b)	Demonstrate that overpacking consists of metal, Department of Transportation (DOT) containers, metal DOT containers, with open heads no larger than 110 gallons; and sufficient sorbent material determined to be non-biodegradable to completely sorb all liquid contents of inside container.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LANDFILLS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-6L(5)(c)	Sorbent Material	270.21(h); 264.314(d)(4),(e) 264.316	Demonstrate that sorbent materials used are no capable of reacting dangerously with, being decomposed by, or being ignited by contents of inside containers.		
D-6L(5)(d)	Incompatible Wastes	270.21(h); 264.314(d)(4); 264.316(d)	Demonstrate that incompatible waste will not be placed in same outside containers.		
D-6L(5)(e)	Reactive Wastes	270.21(h); 264.314(d)(4); 264.316(d)	Demonstrate that incompatible waste will not be placed in same outside containers.		
D-6m	Containerized Wastes	270.21(i); 264.315			
D-6n	Special Waste Management Plan for Landfills Containing Wastes F020, F021, F022, F023, F026, and F027	270.21(j); 264.317	Provide plan for waste management in this special facility. Plan must address the following factors.		
D-6n(1)	Waste Descriptions	270.21(j)(1); 264.317(a)(1)	Identify volume, physical, and chemical characteristics of waste, including potential to migrate through soil or volatilize or escape into atmosphere.		
D-6n(2)	Soil Description	270.21(j)(2); 264.317(a)(2)	Describe attenuative properties of underlying and surrounding soils or other materials.		
D-6n(3)	Mobilizing Properties	270.21(j)(2); 264.317(a)(2)	Describe mobilizing properties of other materials codisposed of with this waste.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the

information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LAND TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-7	Land Treatment	270.20; 264.270 - 264.283			
D-7a	Treatment Demonstration	270.20(a); 264.272			
D-7a(1)	Demonstration Wastes	270.20(a)(1); 264.272(a),(c)(1)(i)	Describe waste used in demonstration and waste to be treated during normal operation. Identify concentrations of all hazardous constituents reasonably expected to be present in both wastes.		
D-7a(2)	Demonstration Data Sources	270.20(a)(2); 264.272(b)	Describe source of data used for treatment demonstration and provide available determinations.		
D-7a(2)(a)	Existing Literature	270.20(a)(2); 264.272(b)	If existing literature is used to demonstrate treatment, submit brief written review of scientific literature and previous studies that contain pertinent information. Information sources should be properly referenced. In general, existing literature will not be acceptable as demonstration unless it can be shown that site and waste characteristics are identical to those in literature.		
D-7a(2)(b)	Operating Data	270.20(a)(2); 264.272(b)	Provide any operating data gathered from units to be permitted, including application rate data and operating records.		
D-7a(3)	Laboratory/Field Testing Programs	270.20(a)(3); 264.272(b),(c)	Field and laboratory tests to be used for demonstration must be thoroughly described. Include interpretive discussions as appropriate.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LAND TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-7a(3)(a)	Toxicity Testing	270.20(a)(2); 264.272(b)	Describe acute toxicity test procedures used to estimate impact of waste application or waste constituents on soil biota responsible for waste treatment.		
D-7a(3)(b)	Field Plot Testing	270.20(a)(2),(3); 264.272(b),(c)	Describe field plot studies used to demonstrate treatability of waste(s) or waste constituents.		
D-7a(3)(c)	Laboratory Testing	270.20(b)(2),(3); 264.272(b),(c)	Describe laboratory test methods used to demonstrate treatability of waste(s) or waste constituents.		
D-7b	Land Treatment Program	270.20(b); 264.271	Describe characteristics and operating conditions of land treatment unit(s) to be permitted.		
D-7b(1)	List of Wastes	270.20(b)(1); 264.271(b)			
D-7b(2)	Operating Procedures	270.20(b)(2); 264.273(a)	Describe operating procedures used to assure uniform and complete degradation, transformation, and immobilization.		
D-7b(2)(a)	Waste Application Rates	270.20(b)(2)(i); 264.273(a)(1)	Identify rate and frequency of waste application and concentration of limiting constituents in waste.		
D-7b(2)(b)	Waste Application Methods	270.20(b)(2)(i); 264.273(a)(1)	Describe method(s) used to apply and incorporate waste into treatment zone.		
D-7b(2)(c)	Control of Soil pH	270.20(b)(2)(ii); 264.273(a)(2)	Identify acceptable limits of soil pH and describe rationale for those limits. Describe how soil pH will be measured and adjusted, including a schedule for the same.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LAND TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-7b(2)(d)	Enhancement of Microbial or Chemical Reactions	270.20(b)(2)(iii); 264.273(a)(3)	Describe measures used to enhance treatment, including method and frequency of such measures (e.g., fertilization, microbial inoculations, soil aeration).		
D-7b(2)(e)	Control of Soil Moisture	270.20(b)(2)(iv); 264.273(a)(4)	Identify limits on soil moisture content. Describe how soil moisture will be monitored and adjusted, if necessary.		
D-7c	Unsaturated Zone Monitoring Plan	270.20(b)(3); 264.278	Submit unsaturated zone monitoring plan describing measures used to determine if hazardous wastes have migrated from treatment zone.		
D-7c(1)	Soil-Pore Liquid Monitoring	270.20(b)(3); 264.278	Describe program for sampling and analysis of soil-pore liquid to detect migration of dissolved constituents below treatment zone.		
D-7c(1)(a)	Sampling Location	270.20(b)(3)(ii); 264.278(b), (d)	Identify sampling locations and indicate that samples will be collected immediately below treatment zone.		
D-7c(1)(b)	Sampling Frequency	270.20(b)(3)(i); 264.278(e)	Provide schedule for sampling soil-pore liquid.		
D-7c(1)(c)	Sampling Equipment	270.20(b)(3)(i); 264.278(e)	Identify equipment used to obtain soil-pore liquid samples.		
D-7c(1)(d)	Sampling Equipment Installation	270.20(b)(3)(i); 264.278(e)	Describe procedures used to install soil-pore liquid monitoring devices.		
D-7c(1)(e)	Sampling Procedures	270.20(b)(3)(i); 264.278(e)(1),(2)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LAND TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-7c(1)(f)	Analytical Procedures	270.20(b)(3)(iii); 264.278(e)(3)	Identify analytical procedures used to determine concentration of hazardous constituents in soil-pore liquid samples.		
D-7c(1)(g)	Chain of Custody	270.20(b)(3)(iv); 264.278(e)(4)			
D-7c(1)(h)	Background Values	270.20(b)(3)(v); 264.278(c)	Describe sampling and analytical program used to establish background soil-pore liquid concentrations of hazardous constituents. Provide background data, if available.		
D-7c(1)(i)	Statistical Methods	270.20(b)(3)(vi); 264.278(f)	Describe statistical methods that will be used to determine differences between background and treatment zone concentrations of hazardous constituents.		
D-7c(1)(j)	Justification of Principle Hazardous Constituents	270.20(b)(3)(vii); 264.278(a)(2)	Provide suggested list of 261 Appendix VIII hazardous constituents to be monitored for in soil-pore liquids.		
D-7c(2)	Soil Core Monitoring	270.20(b)(3); 264.278	Describe program for monitoring soil cores to detect migration of hazardous constituents below treatment zone.		
D-7c(2)(a)	Sampling Location	270.20(b)(3)(ii); 264.278(b),(d)	Identify sampling locations and indicate that soil cores will be collected immediately below treatment zone.		
D-7c(2)(b)	Sampling Frequency	270.20(b)(3)(i); 264.278(e)	Provide schedule for sampling soil.		
D-7c(2)(c)	Sampling Equipment	270.20(b)(3)(i); 264.278(e)	Identify equipment used to sample soil cores.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LAND TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-7c(2)(d)	Sampling Procedures	270.20(b)(3)(i); 264.278(e)(1),(2)			
D-7c(2)(e)	Analytical Procedures	270.20(b)(3)(iii); 264.278(e)(3)	Identify analytical methods used to determine concentration of hazardous constituents in soil core samples.		
D-7c(2)(f)	Chain of Custody	270.20(b)(3)(iv); 264.278(e)(4)			
D-7c(2)(g)	Background Values	270.20(b)(3)(v); 264.278(c)	Describe sampling and analytical program used to establish background soil core concentrations of hazardous constituents. Provide background data, if available.		
D-7c(2)(h)	Statistical Methods	270.20(b)(3)(vi); 264.278(f)	Describe statistical methods that will be used to determine differences between background and treatment zone concentrations of hazardous constituents.		
D-7c(2)(i)	Justification of Principal Hazardous Constituents	270.20(b)(3)(vii); 264.278(a)(2)	Provide suggested list of 261 Appendix VIII hazardous constituents to be monitored for in soil core samples.		
D-7d	Treatment Zone Description	270.20(b)(5); 264.271(c)	Identify dimensions of treatment zone.		
D-7d(1)	Horizontal and Vertical Dimensions	270.20(b)(5); 264.271(c)			
D-7d(2)	Soil Survey	270.20(b)(2); 264.272(c)(1)(iv)	Provide map or plat plan delineating horizontal boundaries of treatment zone and all soil series occurring within treatment zone.		
D-7d(3)	Soil Series Descriptions	270.20(b)(2); 264.272(c)(1)(iv)	Submit description of each soil series identified within treatment zone.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LAND TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-7d(4)	Soil Sampling Data	270.20(b)(2); 264.272(1)(iv)			
D-7d(5)	Seasonal High Water Table	270.20(b); 264.271(c)(2)	Identify depth to seasonal high water table and source of that data.		
D-7e	Unit Design, Construction, Operation, and Maintenance	270.20(c); 264.273	Describe design, construction, operation, and maintenance of runon, runoff, and wind dispersal controls.		
D-7e(1)	Runon Control	270.20(c)(1); 264.273(c)	Submit scale drawing of unit showing any runon controls used.		
D-7e(2)	Runoff Control	270.20(c)(1); 264.273(c)	Describe runoff collection and control system.		
D-7e(3)	Minimizing Hazardous Constituent Runoff	270.20(c)(3); 264.273(b)			
D-7e(4)	Management of Accumulated Runon and Runoff	270.20(c)(4); 264.273(e)	Describe fate of collected surface water, including sampling and analysis protocols for determining contaminant levels.		
D-7e(5)	Control of Wind Dispersal	270.20(c)(6); 264.273(f)			
D-7f	Food-Chain Crops	270.20(d); 264.276	Demonstrate that there is no substantial risk to human health or environment caused by growth of food-chain crops on unit.		
D-7f(1)	Food-Chain Crop Demonstration	270.20(d); 264.276(a)(1)			
D-7f(1)(a)	Demonstration Basis	270.20(d)(1),(2); 264.276(a)(3)(i)	Show that demonstration results will be representative of unit to be permitted.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - LAND TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-7f(1)(b)	Test Procedures	270.20(d)(3); 264.276(a)(3)(ii)	Describe procedures used in any tests referenced or conducted.		
D-7f(2)	Cadmium-Bearing Wastes	270.20(e); 264.276(b)			
D-7f(2)(a)	Crops for Human Consumption	270.20(e); 264.276(b)(1)	If crops are to be grown for human consumption, provide: soil pH; soil pH controls; cadmium-loading rate; and soil cation exchange capacity.		
D-7f(2)(b)	Animal Feed	270.20(e); 264.276(b)(2)	If only animal feed is to be grown, provide soil pH and soil pH controls. Provide copy of operating plan demonstrating how animal feed will be distributed to preclude ingestion by humans, including control of alternative land use.		
D-7g	Special Waste Management Plan for Land Treatment Units Containing Wastes F020, F021, F022, F023, F026, and F027	270.20(i); 264.283	Provide plan describing how land treatment units containing referenced waste are, or will be, designed, constructed, operated, and maintained to protect human health and environment.		
D-7g(1)	Waste Description	270.20(i)(1); 264.283(a)(1)			
D-7g(2)	Soil Description	270.20(i)(2); 264.283(a)(2)			
D-7g(3)	Mobilizing Properties	270.20(i)(3); 264.283(a)(3)			
D-7g(4)	Additional Management Techniques	270.20(i)(4); 264.283(a)(4)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION D. PROCESS INFORMATION - LAND TREATMENT				
Section and Requirement	**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
D-7h Incompatible Wastes	270.20(h); 264.282	Indicate that incompatible waste will not be placed in, or on, the same treatment		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - MISCELLANEOUS TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-8	Miscellaneous Units	270.23; 264.601	Identify all miscellaneous units that treat, store, or dispose of hazardous waste at facility, but do not fit current definition of container, tank, surface impoundment, etc. These units may include: • geologic repositories • deactivated missile silos • thermal treatment units other than incinerators, boilers, or industrial furnaces • units open burning and open detonating explosive waste • certain chemical/physical/biological treatment units.		
D-8a	Description of Miscellaneous Units	270.23(a)			
D-8b	Waste Characterization	270.23; 264.601(a)(1), (b)(1),(c)(1)	Provide information on volume and concentration of waste in order to determine release potential.		
D-8c	Treatment Effectiveness	270.23(d)			
D-8d	Environmental Performance Standards for Miscellaneous Units		Environmental performance standards must be established and maintained to protect human health and environment.		
D-8d(1)	Protection of Groundwater and Subsurface Environment	270.23(b),(c); 264.601(a)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - MISCELLANEOUS TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-8d(1)(a)	Environmental Assessment	270.23(b),(c); 264.601(a)	Applicant must conduct assessment of potential for releases to groundwater or the subsurface environment. Both saturated and unsaturated zones must be considered in evaluating potential for subsurface migration.		
D-8d(1)(b)	Performance Standards	270.23(b); 264.601	Based on assessments, performance standards must be developed and maintained.		
D-8d(2)	Protection of Surface Water, Wetlands, and Soil Surfaces	270.23(b),(c); 264.601(b)			
D-8d(2)(a)	Environmental Assessment	270.23(b),(c); 264.601(b)	Applicant must conduct assessment of potential for releases to surface water, wetlands, or soil surface.		
D-8d(2)(b)	Performance Standards	270.23; 264.601	Based on assessments, performance standards must be developed and maintained.		
D-8d(3)	Protection of the Atmosphere	270.23(b),(c); 264.601			
D-8d(3)(a)	Environmental Assessment	270.23(b),(c); 264.601(c)	Applicant must conduct assessment of potential for release to air.		
D-8d(3)(b)	Performance Standards	270.23; 264.601	Based on assessments, performance standards must be developed and maintained.		
D-8e	Monitoring, Analysis, Inspection, Response, Reporting, and Corrective Action	270.23(a); 264.602			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - MISCELLANEOUS TREATMENT

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-8e(1)	Elements of a Monitoring Program	270.23(a); 264.602	Monitoring program must include procedures for sampling, analysis, and evaluation of data, suitable response procedures, and a regular inspection schedule.		
D-8e(2)	Air Monitoring Alternatives	270.23(a); 264.602	For situations in which ambient air monitoring would be unsafe or impractical, possible alternatives may include analysis of waste, emissions measurements, and periodic monitoring with portable detectors.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - BOILERS/INDUSTRIAL FURNACES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-9	Boilers and Industrial Furnaces (BIF)				
D-9a	Waivers/Exemptions	270.22(a)(2)(i); 266.104(a)(4); 266.110	If applying for waiver or exemption, provide information demonstrating compliance with requirements outlined in this section.		
D-9a(1)	Waiver of Destruction and Removal Efficiency (DRE) Trial Burn for Boilers	270.22(a)(2)(i); 266.104(a)(4); 266.110			
D-9a(2)	Low Risk Waste Exemption	270.22(a)(2)(ii); 266.104(a)(5); 266.109(a)	The DRE standard for a BIF may be waived provided certain criteria listed in regulatory citation are met and documented.		
D-9a(3)	Waiver of Particulate Matter Standard	270.22(a)(4); 266.109(b)	The particulate matter standard of 266.105 and trial burn for particulate matter may be waived if: the BIF complies with Tier I or Adjusted Tier I metals feed rate screening limits under 266.106(b) or (e) and submits documentation showing conformance with trial burn waiver under checklist Section D-9a(4) below; and BIF meets requirements of low risk waste exemption under checklist Section D-9a(2) above.		
D-9a(4)	Waiver of Trial Burn for Metals	270.22(a)(3); 266.106(b),(e)			
D-9a(5)	Waiver of Trial Burn for Hydrogen Chloride (HCl)/Cl_2	270.22(a)(5); 266.107(b),(e)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - BOILERS/INDUSTRIAL FURNACES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-9b	Pretrial Burn Requirements for New BIFs	270.66(b)(1); 266.102(d)(4)(i); 266.102(e)	Time required to bring new BIF to point of operational readiness for trial burn must be minimum necessary and cannot exceed 720 hours, or up to 1,440 hours if applicant shows good cause for requiring an extension.		
D-9b(1)	Pretrial Burn Requirements for New BIFs - Organic Emission Standards	270.66(b)(1)(i); 266.102(e)(2); 266.104(d),(e)			
D-9b(2)	Pretrial Burn Requirements for New BIFs - Particle Matter Emissions Standards	270.66(b)(1)(i); 266.105			
D-9b(3)	Pretrial Burn Requirements for New BIFs - Metal Emissions Standards	270.66(b)(1)(i); 266.102(e)(4)(i), (ii); 266.106			
D-9b(4)	Pretrial Burn Requirements for New BIFs - Alternative Metals Approach	270.66(b); 266.102(e)(4)(iii); 266.106(f)	For conformance with alternative metals approach, description of operating conditions must: describe approach that will be used to comply; specify how approach ensures compliance with metals emissions standards of 266.106(c) and (d); specify how approach can be effectively implemented and monitored; and provide such other information as necessary to ensure that the standards of 266.106(c) or (d) are met.		
D-9b(5)	Pretrial Burn Requirements for New BIFs - Hydrogen Chloride/Chlorine Emission Standards	270.66(b)(1)(i); 266.102(e)(5)(i); 266.107			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - BOILERS/INDUSTRIAL FURNACES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-9b(6)	Pretrial Burn Requirements for New BIFs - Fugitive Emissions	270.66(b)(1)(i); 266.102(e)(7)(i)	Description of operating conditions must thoroughly describe method by which fugitive emissions will be controlled.		
D-9b(7)	Pretrial Burn Requirements for New BIFs - Automatic Waste Feed Cutoff	270.66(b)(1)(i); 266.102(e)(7)(ii), (iii)			
D-9b(8)	Pretrial Burn Requirements for New BIFs - Monitoring Requirements	270.66(b)(1)(i); 266.102(e)(8),(10)			
D-9c	Trial Burn Plan Requirements for All BIFs	270.66(b)(2),(c), (e); 266.102(d)(4)(ii)			
D-9d	Trial Burn Results	270.22(a)(6); 270.66(d),(f)	Results of trial burn, as specified in regulatory citation, must be submitted within 90 days of completing trial burn. The submittal must be certified on behalf of applicant by signature of a person authorized to sign a permit application or a report under 270.11.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - BOILERS/INDUSTRIAL FURNACES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-9e	Post-Trial Burn Requirements for New BIFs	270.66(b)(3)(ii); 266.102(d)(4)(iii),(e)	Post-trial burn requirements for new BIFs are the same as pretrial burn requirements for new BIFs with the following exceptions: • No documentation of total burn hours is required; no limit to length of time for burning. • Must submit statement identifying conditions necessary to operate in compliance. • Must submit statement specifying that BIF will stop burning when changes in combustion properties or feed rates or BIF design or operating conditions deviate from approved post-trial burn period.		
D-9f	Data in Lieu of Trial Burn	270.22(a)(6); 270.66(c)(3)	A BIF may seek exemption from trial burn requirements by submitting information provided by previous compliance testing of same device, or from compliance testing or trial or operational burns of similar BIFs burning similar hazardous waste under similar conditions.		
D-9g	Alternative Hydrocarbons (HC) Limit for Industrial Furnaces with Organic Matter in Raw Materials	270.22(b); 266.104(f)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - BOILERS/INDUSTRIAL FURNACES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-9h	Alternative Metals Implementation Approach	270.22(c); 266.106(f)	For conformance with an alternative metals implementation approach, the information must: • Describe approach that will be used to comply. • Specify how approach ensures compliance with the metals emissions standards of 266.106(c) and (d). • Specify how approach can be effectively implemented and monitored. • Provide such other information as necessary to ensure that standards are met.		
D-9i	Monitoring Requirements	270.22; 266.102(e)(6),(8)	Various parameters must be continuously monitored per 266.102(e)(6) while burning hazardous waste. Data must be maintained in operating record until closure of facility.		
D-9j	Automatic Waste Feed Cutoff System	270.22(d); 266.102(e)(7)(ii)	All facilities must submit description of automatic waste feed cutoff system, including any pre-alarm systems that may be used.		
D-9k	Direct Transfer Standards	270.22(e); 266.111; Part 264 Subparts I and J	BIFs that directly feed hazardous waste from a transport vehicle to a BIF without use of a storage unit must submit a description of the direct transfer procedures that will be used, along with other information as specified in regulatory citation.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - BOILERS/INDUSTRIAL FURNACES

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-9k(1)	Direct Transfer Standards - Containment System	270.22(e); 264.175	In areas where direct transfer vehicles are located, a complete description of containment system must be provided.		
D-9k(2)	Direct Transfer Standards - Condition of Containers	270.22(e); 264.171			
D-9k(3)	Direct Transfer Standards - Compatibility of Waste with Container	270.22(e); 264.172			
D-9k(4)	Direct Transfer Standards - Management of Containers	270.22(e); 264.173			
D-9k(5)	Direct Transfer Standards - Special Requirements of Ignitable or Reactive Waste	270.22(e); 264.176	Provide documentation of location of all containers holding ignitable/reactive waste.		
D-9k(6)	Direct Transfer Standards - Special Requirements of Incompatible Wastes	270.22(e); 264.177	Provide statement and description of procedures to ensure compliance with management standards for incompatible waste.		
D-9k(7)	Direct Transfer Standards - Closure	270.22(e); 264.178	Describe how all hazardous waste and hazardous waste residues will be removed from containment system at closure.		
D-9k(8)	Direct Transfer Standards - Secondary Containment Requirements	270.22(e); 266.111(e)	Owners/operators must submit documentation demonstrating conformance with secondary containment requirements of 265.193(b),(c), and (f) - (h).		
D-9L	Bevill Residues	270.22(f); 266.112; Part 266 Appendices VII			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - CONTAINMENT BUILDINGS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-10	Containment Buildings	270.14(a),(b) 264.1100 - 264.1102			
D-10a	Containment Building Description	270.14(a),(b) 264.1100(a); 264.1101(a)			
D-10a(1)	Construction	270.14(a),(b) 264.1100(a); 264.1101(a)	Provide description of unit, include dimensions and materials of construction.		
D-10a(2)	Strength Requirements	270.14(a),(b) 264.1100(a); 264.1101(a)	Provide results of calculations defining maximum loads or stresses that will be placed on containment building system.		
D-10a(3)	Design Requirements for Units Not Managing Liquids	270.14(a),(b) 264.1100(b); 264.1101(d)			
D-10a(3)(a)	Primary Barrier	270.14(a),(b) 264.1100(a),(b); 264.1101(a)(4)	Provide detailed description of primary barrier, and demonstrate that it is sufficiently durable to withstand movement of personnel, waste, and handling equipment within unit.		
D-10a(4)	Design Requirements for Units Managing Liquids	270.14(a),(b) 264.1100(c); 264.1101(a)(4),(b)			
D-10a(4)(a)	Primary Barrier	270.14(a),(b) 264.1100(c)(1); 264.1101(b)(1)	Describe how primary barrier is designed and constructed to prevent migration of hazardous constituents into barrier.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - CONTAINMENT BUILDINGS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-10a(4)(b)	Liquid Collection System	270.14(a),(b) 264.1100(c)(2); 264.1101(b)(3)	Describe in detail liquid collection system that must be designed and constructed of materials to minimize accumulation of liquid on primary barrier.		
D-10a(4)(c)	Secondary Containment System	270.14(a),(b) 264.1100(c)(3)			
D-10a(4)(c)(i)	Leak Detection System	270.14(a),(b) 264.1100(c)(3); 264.1101(a),(b)(3)	Describe design and operating features of leak detection system.		
D-10a(4)(C)(ii)	Secondary Barrier	270.14(a),(b) 264.1100(b)(3); 264.1101(b)(3)	Describe how secondary barrier is designed and constructed to prevent migration of hazardous constituents into barrier.		
D-10a(4)(d)	Temporary Variance from Secondary Containment Requirements	270.14(a),(b) 264.1101(b)(4)			
D-10a(4)(e)	Waiver of Secondary Containment Requirements	270.14(a),(b) 264.1101(e)			
D-10a(5)	Design of Units Managing Both Liquids and Nonliquids in the Same Unit	270.14(a),(b) 264.1101(d)	Identify areas of containment building that are constructed both with and without secondary containment, if applicable.		
D-10a(6)	Compatibility of Structure with Wastes	270.14(a),(b) 264.1101(a)(2), (b)(3)(iii)	Demonstrate that all surfaces in contact with hazardous waste, collected liquids, or leachate must be chemically compatible with those waste.		
D-10a(7)	Fugitive Dust Emissions	270.14(a),(b) 264.1100(d); 264.1101(c)(1)(iv) ; Part 60 Appendix A			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - CONTAINMENT BUILDINGS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-10a(8)	Structural Integrity Requirements	270.14(a),(b) 264.1101(a)(2)			
D-10a(9)	Certification of Design	270.14(a),(b) 264.1101(c)(2)			
D-10b	Containment Building Operations	270.14(a),(b) 264.1101(c)			
D-10b(1)	Primary Barrier Integrity	270.14(a),(b) 264.1101(b)(2)(ii), (c)(1)(i)			
D-10b(2)	Volume of Waste	270.14(a),(b) 264.1101(c)(1)(ii)	Describe how owner/operator will maintain level of stored and/or treated hazardous waste within containment walls of unit so that height of any containment wall is not exceeded.		
D-10b(3)	Tracking of Waste Out of Unit	270.14(a),(b) 264.1100(e); 264.1101(c)(1)(iii)			
D-10b(4)	Liquids Removal	270.14(a),(b) 264.1101(b)(2)(ii), (b)(3)	Describe sumps and liquid removal methods for liquids collection and leak detection systems. Indicate fate of collected liquids and leachates, which are considered hazardous waste.		
D-10b(5)	Management of Incompatible Wastes	270.14(a),(b) 264.1101(a)(3)	Indicate whether incompatible waste or treatment reagents will be placed in the unit or its secondary containment system.		
D-10b(6)	Management of Liquids and Nonliquids in the Same Unit	270.14(a),(b) 264.1101(d)(2),(3)	For containment buildings that contain areas both with and without secondary containment, describe measures to prevent release of liquids or wet materials into areas without secondary containment.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - CONTAINMENT BUILDINGS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-10b(7)	Fugitive Dust Emissions	270.14(a),(b) 264.1100(d); 264.1101(c)(1)(iv) ; Part 60 Appendix A			
D-10b(8)	Treatment of Wastes	270.14(a),(b) 264.1101(b)(3)(ii)	If treatment of waste is conducted in containment building, describe how treatment will be conducted to prevent release of liquids, wet materials, or liquid aerosols to other portions of building.		
D-10b(9)	Equipment Decontamination	270.14(a),(b) 264.1101(c)(1)(iii)	Identify area used to decontaminate equipment and collect and manage any rinsate from decontamination. Identify fate of decontamination residues.		
D-10c	Containment Buildings as Tank Secondary Containment	270.14(a),(b) 264.1101(b)(3)(iii)	Indicate whether containment building is intended to serve as a secondary containment system for a tank placed in the building. The unit must meet the requirements of 264.193(b), 264.193(c)(1), 264.193(c)(2), and 264.193(d)(1).		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - DRIP PADS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-11	Drip Pads	270.26; 264.570 - .575			
D-11a	Drip Pad Description	270.26(c); 264.573(a)			
D-11a(1)	Construction	270.26(c); 264.573(a)(1) - (4);264.573(b)(1) - (3)	Provide a description of the unit including dimensions and materials of construction. Drip pads must: be constructed of nonearthen materials; be sloped to free-drain treated wood drippage, rain and other waters or wastes to the associated collection system; and, have a curb or berm around the perimeter.		
D-11a(1)(a)	Existing Drip Pads	270.26(c); 264.572(a); 264.573(a)(4)	Existing drip pads must have a hydraulic conductivity of less than or equal to $1x10^{-7}$ centimeters per second. Provide a copy of the most recent written assessment of the drip pad. This assessment must be reviewed and certified by an independent, qualified registered professional engineer (PE). The assessment must be reviewed, updated and recertified annually.		
D-11a(1)(b)	New Drip Pads	270.26(c); 264.572(b); 264.573(b)	New drip pads must have a synthetic liner installed below the pad. The liner must be constructed of materials that will prevent waste from being absorbed into the liner. A leakage detection system and a leakage collection system are also required.		
D-11b(1)	Preventive Maintenance	270.26(c); 264.573(c)	Drip pads must be maintained to remain free of cracks, gaps, corrosion, etc., that could cause a release of hazardous waste.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION D. PROCESS INFORMATION - DRIP PADS

Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
D-11b(2) Prevent Runon and Runoff	270.26(c); 264.573(d), (e), (L)	The drip pad and associated collection system must be operated to prevent runoff. Unless protected by a structure, the runon and runoff control systems must have the capacity to prevent flow onto the drip pad from a 24-hour, 25-year storm. All collection systems must be emptied as soon as possible after storms to maintain design capacity.		
D-11b(3) Certification	270.26(c); 264.573(g)	Provide certification from a qualified, registered PE stating the drip pad meets the requirements of section 264.573.		
D-11b(4) Maintaining Collection System	270.26(c); 264.573(h)	Provide plan for removal of drippage and accumulated precipitation from collection system as necessary to prevent overflow.		
D-11b(5) Cleaning Drip Pad Surface	270.26(c); 264.573(i),(j)	Drip pad surface must be cleaned appropriately to allow weekly inspection of the entire surface and to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad.		
D-11b(6) Recordkeeping	270.26(c); 264.573(k)	Maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with the requirements of this section.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION E. GROUNDWATER MONITORING

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
E-1	Exemption from Groundwater Protection Requirements	270.14(c)			
E-1a	Waste Piles	270.18(b); 264.90(b)(2), (5)			
E-1b	Landfill	270.14(c); 264.90(b)(2)			
E-1c	No Migration	270.14(c); 264.90(b)(4)			
E-1d	Drip Pad	270.26(b); 264.90(b)(2)			
E-2	Interim Status Groundwater Monitoring Data	270.14(c)(1)			
E-2a	Description of Wells	270.14(c)(1)	A copy of topographic map provided for 270.14(b) on which location and identification of each interim status monitoring well is indicated. Details of design and construction of each interim status monitoring well.		
E-2b	Description of Sampling and Analysis Procedures	270.14(c)(1); 265.92	A copy of facility's groundwater sampling and analysis plan.		
E-2c	Monitoring Data	270.14(c)(1); 265.92	Provide all interim status monitoring results.		
E-2d	Statistical Procedures	270.14(c)(1); 265.93	Provide information relating to statistical procedures.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION E. GROUNDWATER MONITORING

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
E-2e	Groundwater Assessment Plan	270.14(c)(1); 265.93(d)(2)	If required, based on statistical comparison results, provide specific plan for groundwater quality assessment program along with results obtained from implementation of plan.		
E-3	General Hydrogeologic Information	270.14(c)(2)	Include description of regional and site-specific geologic and hydrogeological setting.		
E-4	Topographic Map Requirements	270.14(c)(2), (3),(4)(i)			
E-5	Contaminant Plume Description	270.14(c)(2), (4),(7)	In some cases, contaminant plumes may be defined under groundwater quality assessment programs carried out during interim status period which may not address complete list of Appendix VIII constituents as required under 270.14(c)(4). Additional monitoring may be required to identify concentration of each Appendix VIII constituent in plume.		
E-6	General Monitoring Program Requirements	270.14(c)(5); 264.90(b)(4); 264.97			
E-6a	Description of Wells	270.14(c)(5); 264.97(a),(b),(c)			
E-6b	Description of Sampling and Analysis Procedures	270.14(c)(5); 264.97(d),(e),(f)			
E-6c	Procedures for Establishing Background Quality	270.14(c)(5); 264.97(a)(1),(g)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION E. GROUNDWATER MONITORING					
Section and Requirement		**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
E-6d	Statistical Procedures	270.14(c)(5); 264.97(h), (i)(1),(5),(6)			
E-6d(1)	Parametric Analysis of Variance (ANOVA)	270.14(c)(5); 264.97(h)(1), (i)(2)			
E-6d(2)	Nonparametric ANOVA (based on ranks)	270.14(c)(5); 264.97(h)(2), (i)(2)			
E-6d(3)	Tolerance or Prediction Interval Procedure	270.14(c)(5); 264.97(h)(3), (i)(4)			
E-6d(4)	Control Chart Approach	270.14(c)(5); 264.97(h)(4), (i)(3)			
E-6d(5)	Alternative Approach	270.14(c)(5); 264.97(h)(5),(i)			
E-7	Detection Monitoring Program	270.14(c)(6); 264.91(a)(4); 264.98			
E-7a	Indicator Parameters, Waste Constituents, Reaction Products to be Monitored	270.14(c)(6) (i); 264.98(a)			
E-7b	Groundwater Monitoring System	270.14(c)(6) (ii); 264.97(a) (2),(b),(c); 264.98(b)	Identify number, location, and depth of each well, and describe well construction materials.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION E. GROUNDWATER MONITORING					
Section and Requirement		**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
E-7c	Background Groundwater Concentration Values for Proposed Parameters	270.14(c)(6)(iii); 264.97(g); 264.98(c),(d)			
E-7d	Proposed Sampling and Analysis Procedures	270.14(c)(6)(iv); 264.97(d),(e),(f); 264.98(d),(e),(f)			
E-7e	Statistically Significant Increase in any Constituent or Parameter Identified at any Compliance Point Monitoring Well	270.14(c)(6); 264.98(g); Part 264 Appendix IX			
E-8	Compliance Monitoring Program	270.14(c)(7); 264.99			
E-8a	Waste Description	270.14(c)(7)(i)	Description must include historical records of volumes, types, and chemical composition of waste placed in units in waste management areas.		
E-8b	Characterization of Contaminated Groundwater	270.14(c)(7)(ii)	For each well at point of compliance and for each background well, provide concentrations of each constituent in 261 Appendix VIII, major cations and anions, and constituents listed in Table 1 of 264.94, if not already mentioned above.		
E-8c	Hazardous Constituents to be Monitored in Compliance Program	270.14(c)(7)(iii); 264.98(g)(3); 264.99(a)(1)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION E. GROUNDWATER MONITORING					
Section and Requirement		**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
E-8d	Concentration Limits	270.14(c)(7)(iv); 264.94, 264.97(g),(h); 264.99(a)(2)			
E-8e	Alternate Concentration Limits	270.14(c)(7)(iv); 264.94(b); 264.99(a)(2)	Provide justification for establishing alternate concentration limits. Justification must address the following two factors.		
E-8e(1)	Adverse Effects on Groundwater Quality	270.14(c)(7)(iv); 264.94(b)(1)			
E-8e(2)	Potential Adverse Effects	270.14(c)(7)(iv); 264.94(b)(2)			
E-8f	Engineering Report Describing Groundwater Monitoring Systems	270.14(c)(7)(v); 264.95; 264.97(a)(2),(b),(c); 264.99(b)	Provide details supporting representative nature of groundwater quality at background monitoring points and compliance monitoring point.		
E-8g	Proposed Sampling and Statistical Analysis Procedures for Groundwater Data	270.14(c)(7)(vi); 264.97(d),(e),(f); 264.99(c) - (g)			
E-8h	Groundwater Protection Standard Exceeded at Compliance Point Monitoring Well	270.14(c)(8); 264.99(h),(i)			
E-9	Corrective Action Program	270.14(c)(8); 264.99(j); 264.100			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION E. GROUNDWATER MONITORING

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
E-9a	Characterization of Contaminated Groundwater	270.14(c)(8)(i)	For each well at point of compliance and for each background well, provide concentrations of each constituent in 261 Appendix VIII, major cations and anions, and constituents listed in Table 1 of 264.94, if not already determined by the above.		
E-9b	Concentration Limits	270.14(c)(8)(ii); 264.94; 264.100(a)(2)			
E-9c	Alternate Concentration Limits	270.14(c)(8)(ii); 264.94(b); 264.100(a)(2)	Provide justification for establishing alternate concentration limits. Justification must address the following two factors.		
E-9c(1)	Adverse Effects on Groundwater Quality	270.14(c)(8); 264.94(b)(1)			
E-9c(2)	Potential Adverse Effects	270.14(c)(8); 264.94(b)(2)			
E-9d	Corrective Action Plan	270.14(c)(8)(iii); 264.100(b)	Provide detailed plans and engineering report on corrective actions proposed for facility, including maps of engineered structures, construction details, plans for removing waste, description of treatment technologies, effectiveness of correction program, description of reinjection system, additional hydrogeologic data, operation and maintenance plans, and closure and post-closure plans.		
E-9e	Groundwater Monitoring Program	270.14(c)(8)(iv); 264.100(d)			
E-9e(1)	Description of Monitoring System	270.14(c)(7)(v),(8)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION E. GROUNDWATER MONITORING					
Section and Requirement		**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
E-9e(2)	Description of Sampling and Analysis Procedures	270.14(c)(7)(v),(8)			
E-9e(3)	Monitoring Data and Statistical Analysis Procedures	270.14(c)(7)(v),(8)			
E-9e(4)	Reporting Requirements	270.14(c)(7); 264.100(g)			

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-1	Security	270.14(b)(4); 264.14			
F-1a	Security Procedures and Equipment	270.14(b)(4); 264.14	Unless waiver is granted, facility must have surveillance system or a barrier to entry.		
F-1a(1)	24-Hour Surveillance System	270.14(b)(4); 264.14	Monitor/camera, guards, or personnel must continuously monitor or control access to active parts of facility.		
F-1a(2)(a)	Barrier	270.14(b)(4); 264.14	This item required if 24-hour surveillance system is not feasible. Describe artificial or natural barrier.		
F-1a(2)(b)	Means to Control Entry	270.14(b)(4); 264.14	This item required if 24-hour surveillance system is not feasible.		
F-1a(3)	Warning Signs	270.14(b)(4); 264.14	Signs in english must be posted at each entrance, and be legible from 25 feet.		
F-1b	Waiver	270.14(b)(4); 264.14	Owner/operator must prevent unknowing entry, and minimize unauthorized entry of persons or livestock unless can demonstrate:		
F-1b(1)	Injury to Intruder	270.14(b)(4); 264.14	Assure physical contact with waste, structure, or equipment will not injure unknowing intruder.		
F-1b(2)	Violation Caused by Intruder	270.14(b)(4); 264.14	Assure disturbance of waste or equipment by unauthorized intruder will not cause a violation.		
F-2	Inspection Schedule	270.14(b)(5); 264.15	Inspection is required for monitoring equipment, safety emergency equipment, communication and alarm systems, decontamination equipment, security devices, and operating and structural equipment.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-2a	General Inspection Requirements	270.14(b)(5); 264.15(a),(b); 264.33			
F-2a(1)	Types of Problems	270.14(b)(5); 264.15(b)(3)	Inspection checklist must identify types of problem.		
F-2a(2)	Frequency of Inspections	270.14(b)(5); 264.15(b)(4)	Based on rate of deterioration of equipment and probability of environmental or human health incident.		
F-2a(3)	Schedule of Remedial Action	270.14(b)(5); 264.15(c)	Owner/operator must immediately remedy any deterioration or malfunction of equipment or structures to ensure problem does not lead to environmental or human health hazard.		
F-2a(4)	Inspection Log	270.14(b)(5); 264.15(d)	Provide example log or summary.		
F-2b	Specific Process Inspection Requirements	270.14(b)(5)			
F-2b(1)	Container Inspection	270.14(b)(5); 264.174	Inspect at least weekly.		
F-2b(2)	Tank System Inspection	270.14(b)(5); 264.195	Owner/operator must develop schedule and inspect at least once daily.		
F-2b(2)(a)	Tank System External Corrosion and Releases	270.14(b)(5); 264.195(b)(1)	Owner/operator must inspect that aboveground portion and check for corrosion.		
F-2b(2)(b)	Tank System Construction Materials and Surrounding Area	270.14(b)(5); 264.195(b)(3)	Observe construction materials and area around external portion for signs of release of hazardous waste.		
F-2b(2)(c)	Tank System Overfilling Control Equipment	270.14(b)(5); 264.195(a)	Develop and follow schedule for inspection of overfill controls.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-2b(2)(d)	Tank System Monitoring and Leak Detection Equipment	270.14(b)(5); 264.195(b)(2)	Analyze data gathered from monitoring equipment to ensure tank is operating according to design.		
F-2b(2)(e)	Tank System Cathodic Protection	270.14(b)(5); 264.195(c)	Inspect according to schedule.		
F-2b(3)	Waste Pile Inspection	270.14(b)(5); 270.18(d); 264.254(b)	Describe how waste pile will be inspected daily and after storms.		
F-2b(3)(a)	Runon and Runoff Control System	270.14(b)(5); 264.254(b)(1)	Inspections should identify deterioration, malfunction, or improper operation of control system.		
F-2b(3)(b)	Wind Dispersal System	270.14(b)(5); 264.254(b)(2)	Facility should inspect proper function of wind dispersal system.		
F-2b(3)(c)	Leachate Collection and Removal System	270.14(b)(5); 270.18 (d); 264.254(b)(3), (c)	Determine whether there is leachate present in functioning double liner system.		
F-2b(4)	Surface Impoundment Inspection	270.14(b)(5); 270.17(c); 264.226(b),(c)	Describe how each surface impoundment will be inspected to meet requirements of monitoring and inspection and waiver requirement.		
F-2b(4)(a)	Condition Assessment	270.14(b)(5); 264.226(b)	Describe how surface impoundment will be inspected weekly and after storms.		
F-2b(4)(a)(1)	Overtopping Control System	270.14(b)(5); 264.226(b)(1)	Inspect for deteriorating, malfunction, or improper operation of control system.		
F-2b(4)(a)(2)	Impoundment Contents	270.14(b)(5); 264.226(b)(2)	Inspect for sudden drop in level of impoundment contents.		
F-2b(4)(a)(3)	Dikes and Containment Devices	270.14(b)(5); 264.226(b)(3)	Inspect for severe erosion in containment devices.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-2b(4)(b)	Structural Integrity	270.14(b)(5); 264.226(c)	Specify procedure for assessing integrity of surface impoundments.		
F-2b(4)(c)	Leak Detection System	270.14(b)(5); 270.17(c); 264.226(d)	Describe how double liner system and leak detection system will be inspected.		
F-2b(5)(a)	Incinerator and Associated Equipment	270.14(b)(5); 264.347(b)	Describe procedures for daily visual inspection of incinerator and associated equipment.		
F-2b(5)(b)	Incinerator Waste Feed Cutoff System and Alarms	270.14(b)(5); 264.347(c)	Describe procedure and frequency of testing emergency waste feed cutoff system.		
F-2b(6)	Landfill Inspection	270.14(b)(5); 264.303(b)	For operating landfill, describe how it will be inspected weekly and after storms.		
F-2b(6)(a)	Runon and Runoff Control System	270.14(b)(5); 264.303(b)(1)	Deterioration, malfunction, or improper operation of runon and runoff control system.		
F-2b(6)(b)	Wind Dispersal Control System	270.14(b)(5); 264.303(b)(2)	Proper functioning of wind dispersal control systems, where present.		
F-2b(6)(c)	Leachate Collection and Removal System	270.14(b)(5); 264.303(b)(3), (c)	In properly functioning double liner system, is there a presence of leachate? Leak detection required under 264.301(c) or 264.301(d) must record amount of leakage from each system weekly.		
F-2b(7)	Land Treatment Facility Inspection	270.14(b)(5); 264.273(g)	Describe how land treatment facility will be inspected weekly and after storms.		
F-2b(7)(a)	Runon and Runoff Control System	270.14(b)(5); 264.273(g)(1)			
F-2b(7)(b)	Wind Dispersal Control System	270.14(b)(5); 264.273(g)(2)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-2b(8)	Miscellaneous Unit Inspections	270.14(b)(5); 264.602	Provide inspection program that ensures compliance with standards in 264.601 and 270.23.		
F-2b(9)	Boilers and Industrial Furnaces (BIF) Inspection	270.14(b)(5); 264.15; 266.102(a)(2)(ii),(e)(8); 266.111(e)(3)	Demonstrate that BIF will be visually inspected daily, automatic waste feed cutoff inspected at least weekly, and direct transfer area at least once an hour when waste is being transferred.		
F-2b(10)	Containment Building Inspection	270.14(b)(5); 264.1101(c)(3), (4)	Demonstrate owner/operator will inspect and document at least weekly, monitoring equipment, leak detection equipment, containment building, and surrounding areas for waste releases.		
F-2b(11)	Drip Pad Inspection	270.14(b)(5); 264.574	Demonstrate that the drip pad owner/operator will inspect and document at least weekly and after storms, the leak detection and collection equipment, the drip pad surface, and the runon and runoff control systems for evidence of deterioration, malfunction, improper operation, or leakage of hazardous waste.		
F-3	Waiver or Documentation of Preparedness and Prevention Requirements	270.14(b)(6) 264.32(a) - (d)	Facility must submit justification for any waiver to requirements of this section.		
F-3(a)	Equipment Requirements	270.14(b); 264.32			
F-3(a)(1)	Internal Communication	270.14(b); 264.32(a)	Describe internal communication or alarm system used to provide immediate emergency instruction to personnel.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-3(a)(2)	External Communication	270.14(b); 264.32(b)	Describe device for summoning emergency assistance from local police, fire, or state/local emergency response.		
F-3(a)(3)	Emergency Equipment	270.14(b); 264.32(c)	Demonstrate that portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment are available.		
F-3(a)(4)	Water and Fire Control	270.14(b); 264.32(d)	Demonstrate facility has adequate fire control systems, water volume and pressure, foaming equipment, automatic sprinklers, etc.		
F-3(a)(5)	Testing and Maintenance of Equipment	270.14(b); 264.33	Demonstrate communication, alarm, fire control equipment, spill control equipment, and decontamination equipment are tested and maintained.		
F-3(a)(6)	Access to Communication or Alarm System	270.14(b); 264.34	When waste is being hauled, all personnel must have access to internal alarm or communication device.		
F-3(b)	Aisle Space Requirement	270.14(b); 264.35	Aisle space is required for unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment in case of emergency.		
F-3(c)	Documentation of Arrangements with:	270.14(b); 264.37	Owner/operator must make arrangements, as appropriate, with type of waste and hazard potential, for the potential need for services.		
F-3(c)(1)	Police/Fire Department	270.14(b); 264.37(a)(1)	Arrange to familiarize local fire department and police with facility.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-3(c)(2)	Emergency Response Teams	270.14(b); 264.37(a)(2), (a)(3)			
F-3(c)(3)	Local Hospitals	270.14(b); 264.37(a)(4)	Arrange to familiarize local hospital with properties of hazardous waste and possible types of injury or illness to expect.		
F-3(c)(4)	Document Agreement Refusal	270.14(b); 264.37(b)	Document refusal to enter into a coordination agreement.		
F-4	Prevention Procedures, Structures, and Equipment	270.14			
F-4(a)	Unloading Procedures	270.14(b)(8)(i)	Describe procedure used to prevent hazards in unloading operations. Identify possible loading and unloading hazards, and document steps taken to minimize or eliminate possibility of these hazards.		
F-4(b)	Runoff	270.14(b)(8)(ii)	Describe procedure used to prevent runoff from hazardous waste handling areas.		
F-4(c)	Water Supplies	270.14(b)(8)(iii)	Describe procedure, structures, equipment used to prevent contamination of water supply.		
F-4(d)	Equipment and Power Failure	270.14(b)(8)(iv)	Describe procedure used to mitigate the effects of equipment failure and power outages.		
F-4(e)	Personnel Protection Procedures	270.14(b)(8)(v)	Describe procedure, structures, equipment used to prevent contamination of personnel to hazardous waste.		
F-4(f)	Procedures to Minimize Releases to the Atmosphere	270.14(b)(8)(vi)	Describe procedure, structures, equipment used to prevent hazardous waste releases to the atmosphere.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-5	Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste	270.14(b)(9)			
F-5a	Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes	270.14(b)(9); 264.17(a),(b)	Waste must be protected from sources of ignition or reaction. Describe precautions taken by facility to prevent actual ignition, including sources of spontaneous ignition and radiant heat. Owner/operator must designate safe areas for smoking and open flames. Post signs where hazard exists.		
F-5b	General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste	270.14(b)(9); 264.17(a)	Describe precautions taken by facility to prevent reactions that generate heat, produce flammable byproducts, cause risk of fire or explosion, threaten structural integrity, or pose threat to human life or the environment.		
F-5b(1)	Documentation of Adequacy of Procedures	270.14(b); 264.17(c)	Published literature, trial test, waste analyses, or similar processes may be used.		
F-5c	Management of Ignitable or Reactive Wastes in Containers	270.15(c); 264.176	Demonstrate that ignitable containers are at least 15 meters from facility property line.		
F-5d	Management of Incompatible Wastes in Containers	270.15(d); 264.177	Describe procedures that ensure incompatible wastes and materials are not placed in same container.		
F-5e	Management of Ignitable or Reactive Wastes in Tank Systems	270.16(j); 264.198	Describe operation procedures and how facility treats waste so it is no longer ignitable or how facility stores ignitable or reactive waste.		
F-5f	Management of Incompatible Wastes in Tank Systems	270.16(j); 264.199	Demonstrate that incompatible waste and materials are not stored in same tank.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION F. PROCEDURES TO PREVENT HAZARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
F-5g	Management of Ignitable or Reactive Wastes Placed in Waste Piles	270.18(g); 264.256	If waste is reactive or ignitable, describe how handling process will render waste pile nonreactive and/or nonignitable.		
F-5h	Management of Incompatible Wastes Placed in Waste Piles	270.18(h); 264.257	Document how hazardous waste piles of incompatible materials are separated to render them nonreactive.		
F-5i	Management of Ignitable or Reactive Wastes in Surface Impoundments	270.17(h); 264.229	If waste is reactive or ignitable, describe how handling process will render surface impoundments nonreactive and/or nonignitable.		
F-5j	Management of Incompatible Wastes in Surface Impoundments	270.17(h); 264.230	Document how hazardous surface impoundments of incompatible materials are separated to render them nonreactive.		
F-5k	Management of Ignitable or Reactive Wastes Placed in Landfills	270.21(f); 264.312	If waste is reactive or ignitable, describe how handling process will prevent reaction or ignition to landfills.		
F-5l	Management of Incompatible Wastes Placed in Landfills	270.21(g); 264.313	Document how hazardous landfills of incompatible materials are separated to render them nonreactive.		
F-5m	Management of Ignitable or Reactive Wastes Placed in Land Treatment Units	270.20(g); 264.281	If waste is reactive or ignitable, describe how handling process will render land treatment units nonreactive and/or nonignitable.		
F-5n	Management of Incompatible Wastes Placed in Land Treatment Units	270.20(h); 264.282	Document how land treatment unit piles of incompatible materials are separated to render them nonreactive.		
F-5o	Management of Incompatible Wastes Placed in Containment Buildings	270.14(a); 264.1101(a)(3)	Subsections include design, primary and secondary containment, barriers to prevent migration, leak detection, and facility logs.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION G. CONTINGENCY PLAN

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
G-1	Contingency Plan	270.14(b)(7)			
G-2	Emergency Coordinators	270.14(b)(7); 264.52(d); 264.55	There must at least be one primary emergency coordinator available at all times.		
G-3	Implementation	270.14(b)(7); 264.52(a); 264.56(d)	Emergency coordinator to determine that facility has had a release, fire, or explosion that could threaten human health or the environment outside facility.		
G-4	Emergency Actions	270.14(b)(7); 264.56			
G-4a	Notification	270.14(b)(7); 264.56(a)	Describe the method for immediate notification of facility personnel and necessary state and local agencies.		
G-4b	Identification of Hazardous Materials	270.14(b)(7); 264.56(b)	Observation, records or manifest, or chemical analysis may be used by emergency coordinator.		
G-4c	Assessment	270.14(b)(7); 264.56(c),(d)	Direct and indirect effects must be considered.		
G-4d	Control Procedures	270.14(b)(7); 264.52(a)	Contingency plan must describe actions facility personnel must take in response to fires, explosions, or any unplanned release of hazardous waste to air, soil, or surface water.		
G-4e	Prevention of Recurrence of Spread of Fires, Explosions, or Releases	270.14(b)(7); 264.56(e)	Measures must include stopping processes and operations, collecting and containing release of waste, and removing or isolating containers.		

Reviewer: _____

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION G. CONTINGENCY PLAN

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
G-4e(1)	Monitor for Leaks, Pressure Buildup, Gas Generation or Ruptures of Released Material	270.14(b)(7); 264.56(f)	This item applies if facility stops operations.		
G-4f	Storage, Treatment, and Disposal of Released Material	270.14(b)(7); 264.56(g)	After emergency, emergency coordinator must provide for treating, storing, and disposing of recovered waste.		
G-4g	Incompatible Waste	270.14(b)(7); 264.56(h)(1)	Until cleanup is complete, assure that incompatible waste is not stored together.		
G-4h	Post-Emergency Equipment Management	270.14(b)(7); 264.56(h)(2)	Decontamination is required for emergency equipment.		
G-4h(1)	Notification of Federal, State and Local Authorities before Resuming Operations	270.14(b)(7); 264.56(i)	Federal or state authorities must be notified within 15 days of occurrence.		
G-4i	Container Spills and Leakage	270.14(b)(7); 264.52; 264.71	Specify procedures to be used when responding to container spills and leakage.		
G-4j	Tank Spills and Leakage		For a tank or containment system from which there has been a leak or spill:		
G-4j(1)	Stopping Waste Addition	270.14(b)(7); 264.196(a)	Document that the owner/operator will immediately stop the flow of hazardous waste.		
G-4j(2)	Removing Waste	270.14(b)(7); 264.196(b)	Owner/operator will, within 24 hours after leak detected, remove waste and allow inspection and repair of the tank system to be performed.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION G. CONTINGENCY PLAN

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
G-4j(3)	Containment of Visible Releases	270.14(b)(7); 264.196(c)	Specify that a visual inspection of a release will be conducted, demonstrate further mitigation of leak will be prevented, and visible contamination will be removed and disposed of properly.		
G-4j(4)	Notification Reports	270.14(b)(7); 264.196(d)	Demonstrate that any release to the environment will be reported to regional administrator within 24 hours of detection.		
G-4j(5)	Provisions of Secondary Containment, Repair, or Closure	270.14(b)(7); 264.196(e)	Provision of secondary containment repair, otherwise closure is required.		
G4-k	Surface Impoundment Spills and Leakage	270.14(b)(7); 264.227	Surface impoundments must be removed from service when:		
G4-k(1)	Emergency Repairs	270.14(b)(7); 264.227	Describe procedures for removing surface impoundments from service.		
G4-k(1)(a)	Stopping Waste Addition	270.14(b)(7); 264.227(b)(1)	Procedures for stopping waste addition to the impoundment.		
G4-k(1)(b)	Containing Leaks	270.14(b)(7); 264.227(b)(2)	Procedures for containing leak.		
G4-k(1)(c)	Stopping Leaks	270.14(b)(7); 264.227(b)(3)	Procedures for stopping leak.		
G4-k(1)(d)	Preventing Catastrophic Failure	270.14(b)(7); 264.227(b)(4)	Procedures to stop or prevent catastrophic failure.		
G4-k(1)(e)	Emptying the Impoundment	270.14(b)(7); 264.227(b)(5)	Procedures for emptying impoundment, if necessary.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION G. CONTINGENCY PLAN

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
G4-k(2)	Certification	270.14(b)(7); 264.226 (c); 264.227(d)(1)	Procedures for recertifying a dike's structural integrity if impoundment is removed from service due to actual or imminent failure.		
G4-k(3)	Repairs as a Result of Sudden Drop	270.14(b)(7); 264.227(d)(2)	Procedures to follow if impoundment is removed from service due to sudden drop in liquid level of the following:		
G4-k(3)(a)	Existing Portions of Surface Impoundment	270.14(b)(7); 264.227(d)(2)(i)	Installation of liner for any existing portion of impoundment.		
G4-k(3)(b)	Other Portions of the Surface Impoundment	270.14(b)(7); 264.227(d)(2)(ii)	Certification by qualified engineer for other than existing portions of the impoundment.		
G4-l	Containment Building Leaks	270.14(b)(7); 264.1101(c)(3)	Through active life of building if owner/operator detects condition that could lead to release of hazardous waste.		
G-4l(1)	Repair of Containment Building	270.14(b)(7); 264.1101(c)(3)	Within 7 days of detection, owner/operator must contact regional administrator. Enter record of discovery, remove contaminated portion of building from service, determine repair steps, and establish schedule for repair.		
G-4l(2)	Certification Following Repair	270.14(b)(7); 264.1101(c)(3)(iii)	Upon completion of repairs owner/operator must notify regional administrator.		
G-4m	Drip Pad Spills and Leakage	270.14(b)(7); 264.573(m)	Throughout the active life of the drip pad, if a condition is detected that may have or has caused a release of hazardous waste, it must be repaired within a reasonably prompt period of time.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION G. CONTINGENCY PLAN

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
G-4m(1)	Stopping Waste Addition	270.14(b)(7); 264.573(m)(1)(ii)	Upon detection of leakage in the leak detection system, immediately remove the affected portion of the drip pad from service.		
G-4m(2)	Determine Appropriate Cleanup and Repair	270.14(b)(7); 264.573(m)(1)(iii)	Establish a schedule for accomplishing the repairs.		
G-4m(3)	Notification	270.14(b)(7); 264.573(m)(1)(iv)	Within 24 hours after discovery of the condition, notify the Regional Administrator or state director. Within 10 working days, provide written notice and a description of the repairs to be made to the drip pad.		
G-4m(4)	Certification	270.14(b)(7); 264.573(m)(3)	Upon completing all repairs and clean up, provide certification signed by an independent, qualified registered PE.		
G-5	Emergency Equipment	270.14(b)(7); 264.52(e)			
G-6	Arrangements with Local Authorities	270.14(b)(7); 264.37; 264.52(c)	Police and fire departments, hospitals, and emergency response teams must be notified by owner/operator. Document refusal to enter into a coordination agreement.		
G-7	Evacuation Plan for Facility Personnel	270.14(b)(7); 264.52(f)	Evacuation plans must include evacuation signals and primary and alternate evacuation routes.		
G-8	Required Report Procedures for Recordkeeping and Reporting to Federal Authority	270.14(b)(7); 264.56(j)	Owner/operator must note on operation record the time, date and details of incidents which require implementation of contingency plan.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION G. CONTINGENCY PLAN

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
G-9	Location and Distribution of Contingency Plan	270.14(b)(7); 264.53	Copy of contingency plan must be maintained at facility and submitted to local		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION H. PERSONNEL TRAINING

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
H-1	Outline of Introductory and Continuing Training Programs	270.14(b)(12) ; 264.16(a)(1)	Facility personnel must successfully complete classroom or on-the-job training which will allow them to responsibly perform in their positions.		
H-1a	Job Title/Job Description	270.14(b)(12) ; 264.16(d)1), (d)(2)	Owner or operator must maintain records of job titles, names of employees, job descriptions, and types and amounts of training given to employees.		
H-1b	Description of How Training will be Designed to Meet Actual Job Tasks	270.14(b)(12) ; 264.16(c),(d)(3)	Training must be conducted by a qualified person; there must also be an annual review of the training.		
H-1c	Training Director	270.14(b)(12) ; 264.16(a)(2)	Program must be directed by person trained in hazardous waste procedures.		
H-1d	Relevance of Training to Job Position	270.14(b)(12) ; 264.16(a)(2)	Training must include instruction on hazardous waste procedures relevant to each employee's position.		
H-1e	Training for Emergency Response	270.14(b)(12) ; 264.16(a)(3)	Personnel must minimally be familiar with emergency procedures, emergency equipment, and emergency systems.		
H-2	Maintenance of Training Records/Copy of Personnel Training Documents	270.14(b)(12) ; 264.16(b),(d)(4),(e)	Training records on current personnel must be kept until closure of facility. Training must be completed within 6 months after date of employment.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-1	Closure Plans	270.14(b)(13)			
I-1a	Closure Performance Standard	270.14(b)(13); 264.111	Describe how closure: minimizes the need for further maintenance; controls, minimizes, or eliminates the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and complies with the closure requirements of Subpart G and unit-specific closure requirements.		
I-1b	Time and Activities Required for Partial Closure and Final Closure Activities	270.14(b)(13); 264.112(b)(1) through 264.112(b)(7)	Describe the time and all activities required for: partial closure, if applicable; final closure; and maximum extent of operation that will be active during life of facility.		
I-1c	Maximum Waste Inventory	270.14(b)(13); 264.112(b)(3)			
I-1d	Schedule for Closure	270.14(b)(13); 264.112(b)(6)			
I-1(d)(1)	Time Allowed for Closure	270.14(b)(13); 264.112(b)(2); 264.113(a) and (b)			
I-1d(1)(a)	Extension for Closure Time	270.14(b)(13); 264.113(a) and (b)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-1e	Closure Procedures	270.14(b)(13); 264.112; 264.114			
I-1e(1)	Inventory Removal	270.14(b)(13); 264.112(b)(3)	Discuss methods for removing, transporting, treating, storing, or disposing of all hazardous wastes and identify the type(s) of off-site hazardous waste management units to be used.		
I-1e(2)	Disposal or Decontamination of Equipment, Structure, and Soils	270.14(b)(13); 264.112(b)(4); 264.114	Provide a detailed description of the steps needed to decontaminate or dispose of all facility equipment and structures. Demonstrate that any hazardous constituents (i.e., Appendix VII) left at the unit will not impact any environmental media in excess of Agency-established exposure levels and that direct contact will not pose a threat to human health and the environment.		
I-1e(3)	Closure of Disposal Units/Contingent Closures	270.14(b)(13)			
I-1e(3)(a)	Disposal Impoundments	270.14(b)(13); 264.228(a)(2)			
I-1e(3)(a)(i)	Elimination of Liquids	270.14(b)(13)			
I-1e(3)(a)(ii)	Waste Stabilization	270.14(b)(13); 264.228(a)(2)(ii)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-1e(3)(b) Cover Design	270.14(b)(13); 264.228(a)(2)(iii);264.310(a)			
I-1e(3)(c) Minimization of Liquid Migration	270.14(b)(13); 264.228(a)(2)(iii)(A); 264.310(a)(1)	Draft RCRA Guidance Document entitled Landfill (Design--Liner Systems and Final Cover (1982), suggests the following design for landfill cover systems (from top to bottom): a vegetated top cover, with a minimum of 24 inches of topsoil; a middle drainage layer (at least one foot thick with a saturated conductivity of not less than 1 x 10^{-3} cm/sec) overlain by a geotextile filter fabric or graded granular filter; and a low permeability bottom layer consisting of two components: an upper component of at least a 20 mil synthetic membrane protected above and below by at least six inches of bedding material, a lower component of at least 24 inches of low permeability (maximum hydraulic conductivity of 1 x 10^{-7} cm/sec) soil emplaced in lifts not exceeding six inches. For cover designs different than EPA-recommended designs, provide engineering calculations showing the proposed cover will provide long-term minimization of liquid migration through the cover.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-1e(3)(d) Maintenance Needs	270.14(b)(13); 264.228(a)(2)(iii)(B); 264.310(a)(2)			
I-1e(3)(e) Drainage and Erosion	270.14(b)(13); 264.228(a)(2)(iii)(C); 264.310(a)(3)	The following information should be provided: data demonstrating that the proposed final slopes will not cause significant cover erosion; description of drainage materials and their permeabilities; engineering calculations demonstrating free drainage of precipitation off of and out of the cover; and estimation of the potential for drainage-layer clogging.		
I-1e(3)(f) Settlement and Subsidence	270.14(b)(13); 264.228(a)(2)(iii)(D); 264.310(a)(4)	Include the following information: potential foundation compression; potential soil liner compression; and potential waste consolidation and compression resulting from waste dewatering, biological oxidation and chemical conversion of solids to liquids.		
I-1e(3)(g) Cover Permeability	270.14(b)(13); 264.228(a)(2)(iii)(E); 264.310(a)(5)			
I-1e(3)(h) Freeze/Thaw Effects	270.14(b)(13); 264.228(a)(2)(iii); 264.310(a)	Identity the average depth of frost penetration and describe the effects of freeze/thaw cycles on the cover.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-1e(4)	Closure of Containers	270.14(b)(13); 264.178; 264.112(b)(3); 270.14(b)(13	Address the following: hazardous waste removal and disposal; container decontamination and disposal; site decontamination and disposal including linings, soil, and washes; maximum inventory.		
I-1e(5)	Closure of Tanks	270.14(b)(13); 264.197; 264.112(b)(3)	The description should address the following: waste removal from tanks and equipment; decontamination of all components; verification of decontamination; disposal of wastes and residues; and maximum inventory.		
I-1e(6)	Closure of Waste Piles	270.14(b)(13); 270.18(h); 264.258	The description must address the following: procedure and criteria for determining whether or not decontamination has been successful; and sampling and analytical techniques.		
I-1e(7)	Closure of Surface Impoundments	270.14(b)(13); 270.17(f); 264.228(a)(1), (2), and (b)	Surface impoundments without liners or with liners that do not meet the requirements must also provide contingent plans for closure in place and a contingent post-closure plan, except for impoundments requesting a liner exemption in accordance with D-4b.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-1e(8)	Closure of Incinerators	270.14(b)(13); 264.351	Describe how, at closure, all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) will be removed from the incinerator, associated ductwork, piping, air pollution control equipment, sumps, and any other structures or operating equipment such as pumps, valves, etc., that have come into contact with the hazardous waste. Alternatively, describe how the incinerator and associated units and equipment will be dismantled and disposed of as a hazardous waste.		
I-1e(9)	Closure of Landfills	270.14(b)(13); 270.21(e); 264.310(a)	Provide detailed plans and engineering report that describes the final cover components in detail. Cover installation and construction quality assurance procedures should be thoroughly described.		
I-1e(10)	Closure of Land Treatment Facilities	270.14(b)(13); 264.280(a); 270.20(f)			
I-1e(10)(a)	Continuance of Treatment	270.14(b)(13); 264.280(a)(1) through (7)			
I-1e(10)(b)	Vegetative Cover	270.14(b)(13); 270.20(f); 264.280(a)(8)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-1e(11)	Closure of Miscellaneous Units	270.14(b)(13); 270.23(a)(2)			
I-1e(12)	Closure of Boilers and Industrial Furnaces	270.14(b)(13); 266.102(a)(2)(vii)	Describe how, at closure, all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) will be removed from the BIF unit, associated ductwork, piping, air pollution control equipment, sumps and any other structures or operating equipment such as pumps, valves, etc., that have come into contact with hazardous wastes. Alternatively, describe how the BIF and associated equipment will be dismantled and disposed of. If any wastes, waste residues, contaminated components, subsoils, structures or equipment remain after closure, provide plans for closing the BIF unit as a landfill and provide a post-closure care plan.		
I-1e(13)	Closure of Containment Buildings	270.14(b)(13); 264.1102	Show that at closure all hazardous waste, hazardous waste residues, contaminated containment system, contaminated subsoils, and all structures and equipment contaminated with waste and leachate will be removed. If any wastes, waste residues, contaminated components, subsoils, structures or equipment remain after closure, provide plans for closing the containment building as a landfill and provide a post-closure care plan.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-2	Post-Closure Plans	270.14(b)(13)			
I-2a	Inspection Plan	270.14(b)(13); 264.118(a); 264.197(b); 264.197(c)(2); 264.226(d)(2); 264.228(b); 264.228(c)(1)(ii); 264.258(b); 264.258(c)(1)(ii); 264.303(c); 264.310(b)	Rationale for determining the length of time between inspections should be provided.		
I-2b	Monitoring Plan	270.14(b)(13); 264.118(b)(1); 264.197(b); 264.197(c)(2); 264.226(d)(2); 264.228(b); 264.228(c)(1)(ii); 264.258(b); 264.258(c)(1)(ii); 264.303(c); 264.310(b)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-2c	Maintenance Plan	270.14(b)(13); 264.118(b)(2); 264.197(b); 264.197(c)(2); 264.228(b); 264.228(c)(1)(ii); 264.258(b); 264.258(c)(1)(ii); 264.310(b)	Describe the preventative and corrective maintenance procedures, equipment procedures, equipment requirements and material needs.		
I-2d	Land Treatment	270.14(b)(13); 264.280(c)	Describe the operation, inspection, and maintenance programs to be used at the closed facility.		
I-2e	Post-Closure Care for Miscellaneous Units	270.14(b)(13); 270.23(a)(3); 264.603			
1-2f	Post-Closure Security	270.14(b)(13); 264.117(b) and (c)	Demonstrate that for property where hazardous wastes remain after partial or final closure, post-closure use must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring system.		
I-2g	Post-Closure Contact	270.14(b)(13); 264.118(b)(3)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-3	Notices Required for Disposal Facilities	270.14(b)(13)			
I-3a	Certification of Closure	270.14(b)(13); 264.115; 264.280			
I-3b	Survey Plat	270.14(b)(13); 264.116			
I-3c	Post-Closure Certification	270.14(b)(13); 264.120			
I-3d	Post-Closure Notices	270.14(b)(13); 270.14(b)(14); 264.119			
I-4	Closure Cost Estimate	270.14(b)(15); 264.142	Estimate must equal final cost estimate. Estimate must be based on third party closing facility and may use on-site disposal if capacity will exist over life of facility. Estimate must be adjusted for annual inflation as stated in 264.142(b). Estimates may not assume zero cost for hazardous waste handling, and may not incorporate salvage value, facility structures/equipment, land, or other facility assets as offsets.		
I-5	Financial Assurance for Closure	270.14(b)(15); 264.143; 264.151			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-5a	Closure Trust Fund	270.14(b)(15); 264.143(a); 264.151(a)(1)	Provide copy of fund agreement.		
I-5b	Surety Bond	270.14(b)(15); 264.143(b), (c); 264.151 (b),(c)			
I-5b(1)	Surety Bond Guaranteeing Payment into a Closure Trust Fund	270.14(b)(15); 264.143(b); 264.151(b)	Must provide bond or standby trust agreement. Bond must guarantee owner/operator will fund standby trust fund or provide financial assurance equal to penal sum.		
I-5b(2)	Surety Bond Guaranteeing Performance of Closure	270.14(b)(15); 264.143(c); 264.151(c)	Guarantee owner/operator will perform closure required as worded in 246.151(c) and Subpart G.		
I-5(c)	Closure Letter of Credit	270.14(b)(15); 264.143(d); 264.151(d)	Requires letter of credit for 1 year equal to amount of closure.		
I-5(d)	Closure Insurance	270.14(b)(15); 264.143(e); 264.151(e)	Provide copy of certificate of insurance, wording requirement found in 264.151(e).		
I-5(e)	Financial Test and Corporate Guarantee for Closure	270.14(b)(15); 264.143(f); 264.151(f),(h)	Signed letter by owner/operator or chief financial officer as specified in 264.151(f),(h) of applicant financial statement. If a parent corporation is guaranteeing closure care, corporate guarantee must accompany.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-5(f)	Use of Multiple Financial Mechanism	270.14(b)(15); 264.143(g)	Financial assurance instruments must meet requirements stated in 264.143 (a),(b),(c),(d) or (e) that include trust funds, surety bonds, letter of credit, and insurance, respectively.		
I-5(g)	Use of Multiple Financial Mechanism for Multiple Facilities	270.14(b)(15); 264.143(h)	Provide financial assurance mechanism showing amount of funds assured.		
I-6	Post-Closure Cost Estimate	270.14(b)(16); 264.144	Estimate must be based on third party closing facility and may use on-site disposal if capacity will exist over life of facility. Estimate must be adjusted for annual inflation as stated in 264.142(b).		
I-7	Financial Assurance Mechanism for Post Closure Care	270.14(b)(16); 264.145; 264.151			
I-7a	Post-Closure Trust Fund	270.14(b)(16); 264.145(a); 264.151(a)(1)	Provide copy of post-closure fund agreement. Wording requirements outlined in 264.151(a)(1).		
I-7b	Surety Bond	270.14(b)(16); 264.145(b),(c) ; 264.151(b),(c)	264.145(b),(c) spells out requests for owner/ operator for adjusting estimates, inflation, and reporting to regional administrator. 264.151(b),(c) outlines wording for bond agreement.		
I-7b(1)	Surety Bond Guaranteeing Payment into a Post-Closure Trust Fund	270.14(b)(16); 264.145(b); 264.151(b)	Must provide bond or standby trust agreement before beginning final closure of the facility. Bond must guarantee owner/operator will fund a standby trust fund or provide financial assurance equal to penal sum.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-7b(2)	Surety Bond Guaranteeing Performance of Closure	270.14(b)(16); 264.145(c); 264.151(c)	Guarantee owner/operator will perform closure required as stated in 246.151(c) and Subpart H.		
I-7(c)	Post-Closure Letter of Credit	270.14(b)(16); 264.145(d); 264.151(d)	Requires letter of credit for 1 year equal to amount of post-closure cost.		
I-7(d)	Post-Closure Insurance	270.14(b)(16); 264.145(e); 264.151(e)	Provide copy of certificate of insurance, wording requirement found in 264.151(e).		
I-7(e)	Financial Test and Corporate Guarantee for Post-Closure Care	270.14(b)(16); 264.145(f); 264.151(f),(h)	Signed letter by owner/operator or chief financial officer as specified in 264.151(f),(h) of applicant financial statement. If parent corporation is guaranteeing post-closure care, corporate guarantee must accompany.		
I-7(f)	Use of Multiple Financial Mechanism	270.14(b)(16); 264.145(g)	Provide copy of financial assurance mechanisms. Combined financial assurance must be at least equal to post-closure cost estimate.		
I-7(g)	Use of Multiple Financial Mechanism for Multiple Facilities	270.14(b)(16); 264.145(h)	Provide copy of financial assurance mechanisms for more than one facility. Amount must be no less than sum of funds that would be available if separate mechanism had been established and maintained for each facility.		
I-8	Liability Requirements	270.14(b)(17); 264.147			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-8a	Coverage for Sudden Accidental Occurrences	270.14(b)(17); 264.147(a)	Coverage must be maintained for sudden accidental occurrences in the amount of $1 million per occurrence with an annual agreement of at least $2 million.		
I-8a(1)	Endorsement of Certification	270.14(b)(17); 264.147(a)(1)	Submit original Hazardous Waste Facility Liability Endorsement wording pursuant to 264.151(i), or Certificate of Liability wording pursuant to 264.151(j).		
I-8a(2)	Financial Test and Corporate Guarantee for Liability Coverage	270.14(b)(17); 264.147(a)(2),(f),(g); 264.151(f),(g)	Requires signed letter by owner or chief financial officer worded as outlined in 264.151(g) outlining applicant financial statement. 264.151(g) used if applicant is using financial test to cover cost for closure or post closure. Alternatively, owner/operator may submit corporate guarantee specified in 264.151(h)(2).		
I-8a(3)	Use of Multiple Financial Mechanism	270.14(b)(17); 264.147(a)(3)	Submit items demonstrating liability coverage specified in I-8a(1) and I-8a(2). Amount of coverage must total at least minimum amount required by 264.147(a).		
I-8b	Coverage for Nonsudden Accidental Occurrences	270.14(b)(17); 264.147(b)	For high risk storage facilities, surface impoundments, land disposal, land treatment facilities, liability coverage must be maintained in the amount of at least $3 million per occurrence. Annual aggregate at least $6 million.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-8b(1)	Endorsement or Certification	270.14(b)(17); 264.147(b)(1)	Submit signed duplicate original of Hazardous Waste Facility Liability Endorsement.		
I-8b(2)	Financial Test or Corporate Guarantee for Liability Coverage	270.14(b)(17); 264.147(b)(2); 264.151(f),(g)	Requires signed letter by owner or chief financial officer worded as outlined in 264.151(g) outlining applicant financial statement. 264.151(g) used if applicant is using financial test to cover cost for closure or post closure. Alternatively, owner/operator may submit corporate guarantee specified in 264.151(h)(2).		
I-8b(3)	Use of Multiple Insurance Mechanism	270.14(b)(17); 264.147(b)(3)	Submit items demonstrating liability coverage specified in I-8a(1) and I-8a(2). Amount of coverage must total at least minimum amount required by 264.147(b).		
I-8c	Requests for Variance	270.14(b)(17); 264.147(c)	Request for adjusted level of required liability must be supported by information which demonstrates 264.147(a) or (b) are not consistent with degree and duration of risk associated with treatment, storage, or disposal at facility or group of facilities.		
I-9	Use of State Required Mechanisms	270.14(b)(18)			
I-9a	Use of State Required Mechanisms	270.14(b)(18); 264.149	When state has regulations equivalent or greater liability requirements for financial assurance for closure post-closure submit copy of state-required financial mechanism.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION I. CLOSURE POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
I-9b State Assumption of Responsibility	270.14(b)(18); 264.150	If state assumes legal responsibility for compliance with closure, post-closure, or liability requirements there must be a letter submitted from state specifying assumption of responsibilities and amounts of liability.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION J. SOLID WASTE MANAGEMENT UNITS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
J-1	Characterize the Solid Waste Management Unit (SWMU)	270.14(d)(1)	Describe methodology used to determine that no existing or former SWMUs exist at facility if applicable.		
J-2	Releases	270.14(d)(2)	Provide following information concerning releases: date of release; type, quantity, and nature of release; groundwater monitoring and other analytical data; physical evidence of stressed vegetation; historical evidence of releases; any state, local, or federal enforcement action that may address releases; any public citizen complaints that indicate a release; and any other information showing the migration of the release. Describe methodology used to determine that releases from		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION K. OTHER FEDERAL LAWS				
Section and Requirement	**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See attached Comment Number[c]**
K-1 Other Federal Laws	270.14(b)(20), 270.3	Demonstrate compliance with requirements of applicable Federal laws such as the Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, and Fish and Wildlife Coordination Act.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION L. PART B CERTIFICATION				
Section and Requirement	**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
L-1 Part B Certification	270.11			

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION M. SUBPART AA PROCESS VENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
M-1	Definition of Process Vent	270.14(a); 264.1030; 264.1031	A process vent is any open-ended pipe or stack that is vented to atmosphere either directly, through a vacuum-producing system, or through a tank.		
M-2	Applicability—Process Vents Associated with the Following Six Operations that Manage Hazardous Waste with Organic Concentrations of at Least 10 Parts per Million by Weight if these Operations are Conducted in; a Unit Subject to the Permitting Requirements of 270; a Unit (including a Hazardous Waste Recycling Unit) that is Not Exempt from Permitting Under 262.34(a) and is Located at a Hazardous Waste Management Facility Otherwise Subject to Permitting Requirements; and a Unit that is Exempt from Permitting Under 262.34(a)	270.14(a); 264.1030(b); 264.1031	Concentrations should be determined by a time-weighted average annually or when waste or process changes.		
M-2a	Distillation—a Batch or Continuous Operation Which Separates One or More Feed Stream(s) into Two or More Exit Streams, Each Exit Stream Having Component Concentrations Different from Those in the Feed Stream(s)	270.24(b)(3); 264.1030(b); 264.1031	Include process description.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION M. SUBPART AA PROCESS VENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
M-2b	Fractionation—a Distillation Operation or Method Used to Separate a Mixture of Several Volatile Components of Different Boiling Points in Successive Stages	270.24(b)(3); 264.1030(b); 264.1031	Include process description.		
M-2c	Thin-Film Evaporation—a Distillation Operation that Employs a Heating Surface Consisting of a Large Diameter Tube that May be Either Straight or Tapered, Horizontal or Vertical	270.24(b)(3); 264.1030(b); 264.1031	Include process description.		
M-2d	Solvent Extraction—an Operation or Method of Separation in Which a Solid or Solution Contacts a Liquid Solvent (The Two Being Mutually Insoluble) to Preferentially Dissolve and Transfer One or More Components into the Solvent	270.24(b)(3); 264.1030(b); 264.1031	Include process description.		
M-2e	Air Stripping—a Desorption Operation Employed to Transfer One or More Volatile Components from a Liquid Mixture into a Gas (Air) Either with or Without the Application of Heat to the Liquid	270.24(b)(3); 264.1030(b); 264.1031	Include process description.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION M. SUBPART AA PROCESS VENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
M-2f	Stream Stripping—a Distillation Operation in Which Vaporization of the Volatile Constituents of a Liquid Mixture Takes Place by the Introduction of Steam Directly into the Charge.	270.24(b)(3); 264.1030(b); 264.1031	Include process description.		
M-3a	Reduce Total Organic Emission below 1.4 Kilogram per Hour (3 Pounds per Hour) and 2.8 Million Grams per Year (3.1 Tons per Year), <u>or</u>	270.24(b); 264.1032(a)(1),(c)	Engineering calculations or performance tests may be used to determine vent emissions and emissions reductions or total organic compound concentrations achieved by add-on control devices.		
M-3b	Reduce Total Organic Emissions of 95 Percent by Weight with the Use of a Control Device	270.24(b); 264.1032(a)(2),(b)	Engineering calculations or performance tests may be used to determine vent emissions and emissions reductions or total organic compound concentrations achieved by add-on control devices.		
M-3c	Reduce Emissions for Various Control Devices with Closed-vent Systems under the Following Operational Conditions:	270.24(b); 264.1032(a - b); 264.1033 (b - j)	Closed-vent systems are optional devices, but shall comply with regulations if they are used.		
M-3c(1)	Control Device Involving Vapor Recovery (Condenser or Adsorber) Shall Recover at Least 95 Percent by Weight of the Organic Vapors	270.24(b); 264.1032(a)(1),(b)	A less than 95 percent recovery is permissible if control devices meet emission limits set in 264.1032(a)(1).		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION M. SUBPART AA PROCESS VENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
M-3c(2)	Enclosed Combustion Device (A Vapor Incinerator, Boiler, or Process Heater) Shall Recover at Least 95 Percent by Weight of Organic Emissions	270.24(d); 264.1033(c)	The device shall achieve 20 parts per million by weight or 1/2 second residence time at 760 °C.		
M-3c(3)	A Flare Shall Operate under the Following Four Conditions: (1) No Visible Emissions, (2) a Flame Present at all Times, (3) an Acceptable Net Heating Value, and (4) Appropriate Exit Velocity	270.24(d); 264.1033(d)			
M-4	Inspection Readings Shall Be Conducted at Least Daily. Vent Stream Flow Information Shall be Provided at Least Hourly.	270.24(d); 264.1033(f) (1),(3)			
M-4a	Continuous Monitoring for the Following Control Devices:	270.24(d); 264.1033(f)(2)			
M-4a(1)	Thermal Vapor Incinerator (One Temperature Sensor).	270.24(d); 264.1033(f)(2)(i)	Sensor shall have accuracy of ± 1 percent °C or ± 0.5 °C, whichever is greater.		
M-4a(2)	Catalytic Vapor Incinerator (Two Temperature Sensor)	270.24(d); 264.1033(f)(2)(i)	Sensor shall have accuracy of ± 1 percent °C or ± 0.5 °C, whichever is greater.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION M. SUBPART AA PROCESS VENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
M-4a(3)	Flare (Heat Sensing Device)	264.1033(f)(2)(iii)			
M-4a(4)	Boiler or Process Heater with Heater Input Capacity Equal or Greater than 44 Megawatts (Recorder Which Indicates Good Combustion Practices)	270.24(d); 264.1033(f)(2)(v)			
M-4a(5)	Condenser (Device with Recorder to Measure the Concentration of Organic Compounds in the Condenser Exhaust Vent Stream or Temperature Monitoring Device Equipped with Recorder to Measure Temperature in the Condenser Exhaust Vent Stream)	270.24(d); 264.1033(f)(2)(vi)	Sensor shall have accuracy of ± 1 percent °C or ± 0.5 °C, whichever is greater.		
M-4a(6)	Carbon Adsoprtion System (Device to Measure Organic Vapors or a Recorder that Verifies Predetermined Regeneration Cycle)	270.24(d); 264.1033(f)(2)(vii)			
M-4b	Alternate Monitoring of Control Device	270.24(c); 264.1033(i)	Describe measurement of applicable monitoring parameters.		
M-4c	Inspection of the Following Control Devices:	270.24(d); 264.1033(g - h)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION M. SUBPART AA PROCESS VENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
M-4c(1)	Regenerable Carbon Adsorption System	270.24(d); 264.1033(g)	Carbon replacement schedule must be acceptable.		
M-4c(2)	Nonregenerable Carbon Adsoprtion System	270.24(d); 264.1033(h)	Carbon shall be replaced when breakthrough is observed or on an acceptable schedule.		
M-5	Basic Design and Operation				
M-5a	The Closed-Vent System Shall be Designed to Operate According to Either of the Following:	270.24(d); 264.1033(k)			
M-5a(1)	With No Detectable Emissions	270.24(d); 264.1033(k)(1)	Emissions shall be less than 500 parts per million above background.		
M-5a(2)	At a Pressure below Atmospheric Pressure	270.24(d); 264.1033(k)(2)	System shall be equipped with at least one pressure gauge or other measurement device that can be read from a readily accessible location to verify negative pressure is being maintained in system during operation.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION M. SUBPART AA PROCESS VENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
M-5b	Owner/operator Shall Monitor and Inspect Each System	270.24(d); 264.1033(1)	The monitoring and inspection shall be done: (1) by date the system is subject to regulation, (2) annually, and (3) other times requested by the U.S. Environmental Protection Agency regional administrator. Various inspection and monitoring requirements apply depending upon the type of closed-vent system employed. All detected defects shall be repaired according to the schedule prescribed in 264.1033(l)(3).		
M-5c	Closed-Vent System Shall be Operated at all Times When Emissions May be Vented to Them.	270.24(d); 264.1033(m)			
M-5d	Carbon Adsorption System Used to Control Air Pollutant Emissions	270.24(d); 264.1033(n)	Owner/operator must document that all carbon that is a hazardous waste and removed from the control device is managed in one of these approved manners: 264.1033(n)(1), (2), or (3).		
M-6	Any Components of a Closed-Vent System that are Designated as Unsafe to Monitor are Exempt from the Monitoring Requirements of 1033(l)(1)(i)(B) if Certain Conditions are Met.	270.24(d); 264.1033(o)	Applies to system if its components are unsafe to monitor and it adheres to written plan that requires monitoring using the procedures in 264.1033(l)(1)(ii)(B) as frequently as practicable during safe-to-monitor times.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION M. SUBPART AA PROCESS VENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
M-7a	Owner/operator Complies with Record Keeping Requirements	270.24(d); 264.1033; 264.1035	Depending on the type of control devices and closed vent systems used, various records must be maintained in the facility operating record.		
M-7b	Semiannual Report is Submitted According to Subpart AA Requirements	270.14(a); 264.1036	A semiannual report is only required if a control device operates outside the design specifications.		
M-7c	Implementation Schedule is Provided	270.24(a); 264.1033(a)(2)	A schedule shall be provided when facilities cannot install a closed-vent system and control device to comply with Part 264 on date facility is subject to requirements.		
M-7d	Performance Test Plan is Provided	270.24(c); 264.1035(b)(3)	A performance test plan shall be provided where owner/operator applies for permission to use control device other than thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, and chooses to use test data to determine organic removal efficiency achieved by control device.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION N. SUBPART BB EQUIPMENT LEAKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
N-1a	Applicability	270.14(a); 270.25; 264.1050(b),(d)	Except as otherwise specified, this subpart applies to equipment that contains or contacts hazardous waste with organic concentrations of at least 10 percent by weight that are managed in one of the following: if these operations are conducted in; a unit subject to the permitting requirements of 270; a unit (including a hazardous waste recycling unit) that is not exempt from permitting under 262.34(a) and is located at a hazardous waste management facility otherwise subject to permitting requirements; and a unit that is exempt from permitting under 262.34(a) such as a 90-day tank or container.		
N-1b	Definition of Equipment	270.14(a); 270.25; 264.1031; 264.1051	Examples include: valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION N. SUBPART BB EQUIPMENT LEAKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
N-1c	Equipment in a Vacuum or Equipment that Contains or Contacts Hazardous Waste with an Organic Concentration of at Least 10 Percent by Weight for a Period of Less than 300 Hours per Calendar Year is Excluded from Requirements at 264.1052 to 264.1060.	270.14(a); 270.25; 264.1050(f)	Equipment shall be identified in a log in facility's operating record as required by 264.1064(g) in order to qualify for exclusion.		
N-2a	Monthly Monitoring for Leaks	270.25(d); 264.1052(a)(1)			
N-2b	Visual Inspection for Pump Seal Leakage on a Weekly Basis	270.25(d); 264.1052(a)(2)			
N-2c	Leak Detection	270.25(d); 264.1052(b); 264.1063	Leak detected if: (1) leak detection instrument reads 10,000 parts per million (ppm) or greater, or (2) there are indications of liquid dripping from the pump seal.		
N-2d	Leak Repair as Soon as Practicable	270.25(d); 264.1052(c); 264.1059	Repairs are to be made within 15 calendar days after detection. Repair extensions are allowed under conditions specified in 264.1059.		
N-2e	Specific Exceptions to these Standards	270.25(d); 264.1052(d - f)	Exceptions to these standards are dual mechanical seal systems or no detectable emissions.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION N. SUBPART BB EQUIPMENT LEAKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
N-3a	Barrier Fluid Pressure Greater than the Compressor Stuffing Box Pressure	270.25(d); 264.1053(b)(1)			
N-3b	Barrier Fluid System Connected by a Closed-Vent System to a Control Device as Described in Subpart AA	270.25(d); 264.1053(b)(2)			
N-3c	No Detectable Atmospheric Emissions of Hazardous Contaminants from the Barrier System	270.25(d); 264.1053(b)(3)			
N-3d	Sensors Checked Daily or an Audible Alarm Checked Monthly	270.25(d); 264.1053(d - c)			
N-3e	Leak Detection	270.25(d); 264.1053(f)	A leak is detected if sensor indicates failure of: (1) seal system, or (2) barrier fluid system.		
N-3f	Leak Repair as Soon as Practicable	270.25(d); 264.1053(g)(1); 264.1059	Repairs are to be made within 15 calendar days after detection. Repair extensions are allowed under conditions specified in 264.1059.		
N-3g	Specific Exceptions to these Standards	270.25(d); 264.1053(h - i)	Exceptions to these standards are certain closed vent systems or no detectable emissions.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION N. SUBPART BB EQUIPMENT LEAKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
N-4a	Except During Pressure Releases, No Pressure Relief Device Shall Release Detectable Emissions	270.25(d); 264.1054(a)	Emissions shall be less than 500 ppm above background levels.		
N-4b	Within 5 Calendar Days after a Pressure Release, No Detectable Emissions Shall Emanate from Pressure Released Device	270.25(d); 264.1054(b)	Emissions shall be less than 500 ppm above background levels.		
N-4c	Specific Exceptions to These Standards	270.25(d); 264.1054(c)	Exceptions to these standards are certain closed vent systems.		
N-5a	Each Sampling Connecting System Shall Be Equipped with a Closed-Purge, Closed Loop, or Closed-Vent System. Closed-Vent Systems and Control Devices are also Subject to 264.1033	270.25(d); 264.1055(a - b); 264.1060	Each closed-purge, closed-loop, or closed-vent system shall either: (1) return purged process fluid directly to process line, (2) collect and recycle purged process liquid, or (3) be designed and operated to capture and transport all purged process fluid to a waste management unit or control device that satisfies applicable requirements.		
N-5b	Exemption for Qualified Sampling Systems	270.25(d); 264.1055(c)	In situ sampling systems and sampling systems without purges are exempt from requirements of 264.1055(a),(b).		
N-6a	Open-Ended Valve or Line	270.25(d); 264.1056(a), (c)	A double block or bleed system must comply with the open-ended valve or line requirements.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION N. SUBPART BB EQUIPMENT LEAKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
N-6b	Second Valve	270.25(d); 264.1056(b)	A second valve shall be operated such that primary valve shall be closed before second valve is opened.		
N-7	Monitoring Schedule Based on Detection of Leaks and Predetermined Schedule	270.25(d); 264.1057(a - e)	A reading of 10,000 ppm denotes a detected leak.		
N-7d	Specific Exceptions to the Monitoring Schedule	270.25(d); 264.0157(f - h); 264.1061; 264.1062	Exceptions to schedule include unsafe-to-monitor valves, no detectable emissions, and difficult-to-monitor valves.		
N-8a	Monitoring	270.25(d); 264.1058(a); 264.1063(b)	Monitoring is required within 5 days after leak is found by sight, sound, smell, or other detection method.		
N-8b	Leak Detection	270.25(d); 264.1058(b)	A leak is detected if a leak detection instrument reads 10,000 ppm or greater.		
N-8c	Leak Repair as Soon as Practicable	270.25(d); 264.1058(c); 264.1059	Repairs are to be made within 15 calendar days after detection. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. Repair extensions are allowed under conditions specified in 264.1059.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION N. SUBPART BB EQUIPMENT LEAKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
N-8d	Any Connector that is Inaccessible or is Ceramic or Ceramic-Lined is Exempt from the Monitoring Requirements of 264.1058(a) and 264.1064	270.25(d); 264.1058(e)	Examples of ceramic-lined connectors include porcelain, glass, or glass-lined connectors.		
N-9	Specific Allowances for Delay of Repair for Various Types of Equipment	270.25(d); 264.1059			
N-10	When Closed-Vent Systems and Control Devices are Used, they Must Comply with the Requirements in Subpart AA	270.25(e); 264.1033; 264.1060			
N-11	An Owner/Operator may Elect to Comply with this Alternative Monitoring Program	270.25(e); 264.1061	No greater than 2 percent of the valves are allowed to leak per monitoring period.		
N-12	An Owner/Operator may Elect to Comply with this Alternative Work Practice	270.25(e); 264.1062	Relief of monitoring frequency is allowed if less than 2 percent of the valves are leaking.		
N-13	Owner Complies with Recordkeeping Requirements	270.25(a); 264.1064	Depending on the type of requirement, various records must be maintained in the facility operating record.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION N. SUBPART BB EQUIPMENT LEAKS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
N-13a	Semiannual Report	270.25(a); 264.1065	A semiannual report is only required if leaks from equipment have gone unrepaired or a control device operates outside the design specifications.		
N-13b	Implementation Schedule	270.25(b)	An implementation schedule shall be provided if facility cannot install closed-vent system and control device to comply with provisions of Part 264, Subpart BB on the effective date that facility becomes subject to provisions of Parts 264 and 265.		
N-13c	Performance Test Plan	270.25(c)	A performance test plan shall be provided if the owner/operator applies for permission to use a control device for other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system and chooses to use test data to determine the organic removal efficiency achieved by the control device.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

	Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-1	Standards Apply to All Facilities That Treat, Store, or Dispose of Hazardous Waste in Tanks, Surface Impoundments, or Containers Subject to 264, Subparts I, J, or K, Except as Provided Otherwise	270.14(a); 270.27; 264.1080 (a) - (d)	Exclusions from 264.1080(a) are listed at 264.1080(b) (e.g., a container that has a design capacity less than or equal to 0.1 cubic meters [m^3]).		
O-2	Following is a List of Units that are Exempt from the 264.1084-264.1087 Standards:	270.14(a); 270.27; 264.1082(c)			
O-2a	A Tank, Surface Impoundment, or Container for Which All Hazardous Waste Entering the Unit Has an Average Volatile Organic Concentration at the Point of Waste Origination of less than 500 Parts per Million by Weight (ppmw)	270.14(a); 270.27; 264.1082(c)(1)	Waste determination procedures are specified at 264.1083.		
O-2b	A Tank, Surface Impoundment, or Container for Which the Organic Content of all the Hazardous Waste Entering the Waste Management Unit has been Reduced by an Organic Destruction or Removal Process that Achieves Specified Criteria	270.14(a); 270.27; 264.1082(c)(2)	Waste determination procedures are specified at 265.1084(b)(2)-(b)(9).		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-2c	A Tank Used for Biological Treatment of Hazardous Waste that Destroys or Degrades the Organics Contained in the Hazardous Waste such that the Requirements of 264.1082(c)(2)(iv) are Met	270.14(a); 270.27; 264.1082(c)(3)	Waste determination procedures are specified at 264.1083(b) and 264.1083(a).		
O-2d	A Tank, Surface Impoundment or Container for Which all Hazardous Waste Placed in the Unit Meets Applicable Organic Concentration Limits or has been Treated by Appropriate Treatment Technology	270.14(a); 270.27; 264.1082(c)(4)	Waste determination procedures are specified at Part 268.		
O-2e	A Tank Located Inside an Enclosure Vented to a Control Device that is Used for Bulk Feed of Hazardous Waste to a Waste Incinerator that Meets Specified Criteria	270.14(a); 270.27; 264.1082(c)(5)	Design and operation of the control device and enclosure shall satisfy Part 61, Subpart FF; 52.741, Appendix B; and other conditions as specified.		
O-3	Several Waste Determination Procedures are Explained in Detail and Must be Followed in Order to Demonstrate the Various Subpart CC Exemptions and/or Control Requirements	270.14(a); 270.27; 264.1083; 265.1084	In general, an owner or operator need not undergo waste determination procedures unless they are pursuing an exemption from the Subpart CC regulations.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-4	Tanks that Satisfy the Conditions at 264.1084(b)(1)(i-iii) Can Use Tank Level 1 or Tank Level 2 Controls. Tanks that do not Satisfy Conditions Shall Use Tank Level 2 Controls	270.14(a); 270.27; 264.1084(b)(1), (2)			
O-5a	The Conditions at 264.108(b)(1)(i-iii) Provide that Hazardous Waste in the Tank Shall:	270.14(a); 270.27; 264.1084(b)(1)			
O-5a(1)	Have Maximum Organic Vapor Pressure Which is less than Maximum Organic Vapor Pressure Limit for Tank's Design Capacity Category	270.14(a); 270.27; 264.1084(b)(1)(i)			
O-5a(2)	Not be Heated to Temperature Greater than Temperature at Which Maximum Organic Vapor Pressure of Waste is Determined for Purposes of Compliance	270.14(a); 270.27; 264.1084(b)(1)(ii)			
O-5a(3)	Not be Treated Using a Waste Stabilization Process, as Defined in 265.1081	270.14(a); 270.27; 264.1084(b)(1)(iii)	A waste stabilization process includes mixing hazardous waste with binders or other materials, and curing resulting hazardous waste and binder mixture.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-5b	Maximum Organic Vapor Pressure Determination	270.14(a); 270.27; 264.1084(c) (1)	Must be determined before first time waste placed in tank, and retested whenever changes could cause it to increase above the maximum vapor pressure limit [264.1084(b)(1)(i)].		
O-5b(1)	Tank Level 1. Owner/Operator Shall Equip Tanks with Fixed Roof and Closure Devices as Needed	270.14(a); 270.27; 264.1084(c) (2), (3)	Fixed roof/closure devices shall form continuous barrier over entire waste in tank; contain no visible open spaces between roof section joints or between interface of roof edge and tank wall; contain openings with closure devices or closed-vent system; and be made of suitable materials.		
O-5b(2)	Tank Level 2. Owner/Operator Shall Use One of the Following Tanks:	270.14(a); 270.27; 264.1084(d)			
O-5b(2)(i)	Fixed Roof Tank Equipped with Internal Floating Roof	270.27(a)(1); 264.1084(d)(1) (e)	Internal floating roof shall be designed to float on liquid surface, except when supported by leg supports; be equipped with continuous seal between tank wall and floating roof edge; and meet other design specifications.		
O-5b(2)(ii)	Tank Equipped with an External Floating Roof	270.27(a)(1); 264.1084(d)(2), (f)	External floating roof shall be designed to float on all liquid surface, except when supported by leg supports; be equipped with two continuous seals; and meet other design specifications.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-5b(3)	Tank Vented Through Closed-Vent System to a Control Device	270.14(a); 270.27; 264.1084(d)(3), (g)	Fixed roof/closure devices shall form continuous barrier over entire liquid surface; be made of suitable materials; and satisfy 264.1087 standards.		
O-5c	Pressure Tank	270.14(a); 270.27; 264.1084(d)(4), (h)	Tank shall be designed not to bend to atmosphere as result of compression of vapor headspace in tank, and be equipped with closure devices as needed.		
O-5d	Tank Located Inside an Enclosure that is Vented Through a Closed-Vent System to an Enclosed Combustion Control Device	270.14(a); 270.27; 264.1084(d)(5), (1)	Tank shall be located in enclosure that is vented through closed vent system to enclosed combustion device, and enclosure shall be equipped with safety devices as needed.		
O-5e	Tank Level 1. Owner/Operator Shall:	270.14(a); 270.27; 264.1084(c) (1),(3)			
O-5e(1)	Determine Maximum Organic Vapor Pressure for Hazardous Waste Initially and Whenever Changes could Cause the Vapor Pressure to Increase Above the Maximum Organic Vapor Pressure Limit	270.14(a); 270.27; 264.1084(c)(1)	Maximum organic vapor pressure shall be determined using 264.1083(c) procedures.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-5e(2)	Ensure that, Whenever Hazardous Waste is in Tank, the Fixed Roof is Installed with Each Closure Device Secured in Closed Position		Exceptions are listed at 264.1084(c)(3)(i-iii).		
O-5e(3)	Inspect the Air Emission Control Equipment	270.14(a); 270.27; 264.1084(c)(4)			
O-5f	Tank Level 2. Owner/Operators Shall Adhere to the Following Operating Procedures for Each Unit Type:	270.14(a); 270.27; 264.1084(e)(i)			
O-5f(1)	Fixed Roof Tank Equipped with Internal Floating Roof	270.14(a); 270.27; 264.1084(e)(2),(3)	When floating roof is resting on leg supports, filling, emptying, or refilling shall be continuous and completed as soon as practical; when roof is floating, automatic bleeder vents shall be set closed; and prior to filling, openings in roof shall be secured. Inspect the floating roof.		
O-5f(2)	Tank Equipped with an External Floating Roof	270.14(a); 270.27; 264.1084(f)(2),(3)	When floating roof is resting on leg supports, filling, emptying, or refilling shall be continuous and completed as soon as practical; when closure device is open for access, equipment and devices shall be closed and secured as specified; and seals shall provide a continuous and complete cover as specified. Inspect the floating roof.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-5f(3)	Tank Vented Through Closed-Vent System to a Control Device	270.14(a); 270.27; 264.1084(g)(2), (3)	When hazardous waste is in tank, fixed roof shall be installed with closure devices secured in closed position and vapor headspace underneath fixed roof vented to control device, except as specified. Inspect and monitor the air emission control equipment.		
O-5f(4)	Pressure Tank	270.14(a); 270.27; 264.1084(h)(2), (3)	When hazardous waste is in tank, it shall be operated as closed system that does not vent to atmosphere, except to avoid an unsafe condition.		
O-5f(5)	Tank Located Inside an Enclosure that is Vented Through a Closed-Vent System to an Enclosed Combustion Control Device	270.27(a)(3), 264.1084(i)	Enclosure shall be operated in accordance with 52.741, Appendix B, and comply with applicable closed-vent requirements. Safety devices may be operated as needed. Inspect and monitor the system and control device.		
O-5f(6)	Shall be Conducted Using Continuous Hard-Piping or Another Closed System that Does Not Allow Exposure of Hazardous Waste to Environment	270.14(a); 270.27; 264.1084(j)(1)	Requirements do not apply under the conditions specified at 264.1084(j)(2).		
O-6a	Owner/Operators Shall Install Either of the Following Controls:	270.14(a); 270.27; 264.1085(b)(d)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-6a(1)	Floating Membrane Cover	270.27(a)(4); 264.1085 (b)(1), (c)(1)	Floating membrane cover shall float on liquid surface and form continuous barrier over entire liquid; be made of synthetic membrane material; contain no visible open spaces; and be equipped with closure devices and cover drains as needed.		
O-6a(2)	Cover That Is Vented Through a Closed-Vent System to a Control Device	270.14(a); 270.27; 264.1085 (b)(2) and (d)(2)	Cover/closure devices shall form continuous barrier over entire liquid surface; be equipped with closure device; be made of suitable material; and be designed in compliance with 264.1087.		
O-6b	Owner/Operators Shall Adhere to the Following Operating Procedures for Each Control Type:	270.14(a); 270.27; 264.1085 (c), (d)			
O-6b(1)	Floating Membrane Cover	270.14(a); 270.27; 264.1085(c) (2), (3)	When hazardous waste is in surface impoundment, floating membrane cover shall float on liquid, and each closure device shall be secured in closed position, except as specified. Inspect the cover.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-6b(2)	Cover that is Vented Through a Closed-Vent System to a Control Device	270.14(a); 270.27; 264.1085(d)(2), (3)	When hazardous waste is in surface impoundment, cover shall be installed with each closure device secured in closed position and vapor headspace underneath the cover vented to control device, except as specified. Closed-vent system and control device shall be operated in accordance with 264.1087. Inspect and monitor the control device.		
O-7	Shall be Conducted Using Continuous Hard-Piping or Another Closed System	270.14(a); 270.27; 264.1085(c)(1)	Requirements do not apply under conditions specified at 264.1085(e)(2).		
O-8a	Container Level 1 Standards Apply to:	270.14(a); 270.27; 264.1086(b)(1)			
O-8a(1)	Container with Design Capacity Greater than 0.1 m^3 and less than or Equal to 0.46 m^3	270.14(a); 270.27; 264.1086(b)(1)(i)			
O-8a(2)	Container with Design Capacity Greater than 0.46 m^3 that is not in Light Material Service	270.14(a); 270.27; 264.1086(b)(1)(ii)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-8ab	Container Level 2 Standards Apply to Container with a Design Capacity Greater than 0.46 m^3 that is in Light Material Service	270.14(a); 270.27; 264.1086(b)(1)(iii)			
O-8c	Container Level 3 Standards Apply to Container with Design Capacity Greater than 0.1 m^3 that is Used for Stabilization	270.14(a); 270.27; 264.1086(b)(2)	Level 3 standards apply at those times during waste stabilization process when hazardous waste in container is exposed to atmosphere.		
O-9	Identify Each Container Area Subject to Subpart CC	270.27(a)(2)			
O-9a	Container Level 1. A Container Using Level 1 Controls is Defined as One of the Following:	270.27(a)(2); 264.1086(c)(1)			
O-9a(1)	Container that Meets Department of Transportation Regulations on Packaging	270.27(a)(2); 264.1086(c)(1)(i),(f)	Container shall meet Part 178 or Part 179 and be managed in accordance with Parts 107, 172, 173, and 180.		
O-9a(2)	Container Equipped with Cover and Closure Devices	270.27(a)(2); 264.1086(c)(1)(ii),(2)	Container shall be equipped with covers and closure devices, as needed.		
O-9a(3)	Open-Top Container Equipped with Organic-Vapor Suppressing Barrier	270.27(a)(2); 264.1086(c)(1)(iii),(2)	Container shall be equipped with covers and closure devices, as needed.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-9b	Container Level 2. A Container Using Level 2 Controls is Defined as One of the Following:	270.27(a)(2); 264.1086 (d)(1)(f),(g)			
O-9b(1)	Container that Needs Department of Transportation (DOT) Regulations on Packaging	270.27(a)(2); 264.1086(d)(1)(i),(f)	Containers shall meet Part 178 or Part 179, and be managed in accordance with Parts 107, 172, 173, and 180.		
O-9b(2)	Container that Operates with No Detectable Organic Emissions	270.27(a)(2); 264.1086(d)(1)(ii),(g)	Owner/operator shall follow the procedures at 264.1086(g) and 265.1084(d) to determine no detectable organic emissions.		
O-9b(3)	Container that has been Demonstrated Within the Preceding 12 Months to be Vapor-Tight	270.27(a)(2); 264.1086(d)(1)(iii) and (h)	Owner/operator shall follow procedures at 264.1086(h) and Part 60, Appendix A, Method 27 to demonstrate container is vapor-tight.		
O-9c	Container Level 3. A Container Using Level 3 Controls is Defined as One of the Following:	270.27(a)(2); 264.1086(e)(1), (2)			
O-9c(1)	Container that is Vented Directly Through a Closed-Vent System to a Control Device	270.27(a)(2); 264.1086(e)(1)(i)	The closed-vent system and control device shall be designed in accordance with 264.1087. Safety devices may be installed as needed.		
O-9c(2)	Container that is Vented Inside an Enclosure Which is Exhausted Through a Closed-Vent System to a Control Device	270.27(a)(2); 270.27(a)(3); 264.1086(e)(1)(ii)	The container/enclosure must be designed in accordance with 52.741, Appendix B and 264.1087. Safety devices may be installed as needed.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-10a	Container Level 1. Owner/Operators Shall Install Covers and Closure Devices for the Container and Secure and Maintain Each Closure Device in Closed Position, Except as Specified	270.14(a); 270.27; 264.1086(c)(3), (4)	The closure device or cover may be opened for the purpose of adding or removing hazardous waste or for maintenance or to avoid unsafe conditions.		
O-10b	Container Level 2. Owner/Operator Shall Install All Covers and Closure Devices for the Container and Maintain and Secure Each Closure Device in Closed Position, Except as Specified	270.14(a); 270.27; 264.1086(d)(2), (3)	Transfer of hazardous waste in or out of container shall be conducted in such a manner as to minimize exposure to atmosphere, as practical. The closure device or cover may be opened for the purpose of adding or removing hazardous waste or for maintenance or to avoid unsafe conditions.		
O-10c	Container Level 3. Owner/Operators Shall Operate the System in Accordance with 52.741, Appendix B; 264.1087; and 265.1081, as Needed	270.14(a); 270.27; 264.1086(e)(3),(4), (5)			
O-11a	Standards Apply to Each Closed-Vent System and Control Device Used to Control Air Emissions under Part 264; Subpart CC	270.14(a); 270.27; 264.1087(a)			
O-11(b)	Closed-Vent Systems Shall:	270.27(a)(5); 264.1087(b)			
O-11b(1)	Route Gases, Vapors, and Fumes to Control Device	270.27(a); 264.1087(b)(1)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-11b(2)	Be Designed and Operated in Accordance with 264.1033(k)	270.27(a); 264.1087(b)(2)	The Subpart AA standards for closed-vent systems must be satisfied.		
O-11b(3)	Meet the Requirements for Bypass Devices, if Applicable	270.27(a); 264.1087(b)(3)	Each bypass device shall be equipped with either a flow indicator or a seal or locking device.		
O-12a	The Control Device Shall be One of the Following:	270.27(a)(5); 264.1087(c)(1)			
O-12a(1)	A Control Device Designed and Operated to Reduce Total Organic Content on Inlet Vapor Stream Vented to the Control Device by at Least 95 Percent by Weight	270.27(a)(5); 264.1087(c)(1)(i)	Owner/operator shall demonstrate compliance using either performance test or design analysis, except as specified.		
O-12a(2)	An Enclosed Combustion Device	270.27(a)(5); 264.1087(c)(1)(ii)	Owner/operator shall demonstrate compliance using either performance test or design analysis, except as specified. Control device shall be designed and operated in accordance with 264.1033(c).		
O-12a(3)	A Flare	270.27(a)(5); 264.1087(c)(1)(iii)	Owner/operator shall demonstrate compliance using either performance test or design analysis, except as specified.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-12b	Each Closed-Vent System and Control Device Shall Comply with the Operating Requirements of 264.1087(c)(2)	270.27(a)(5); 264.1087(c)(2)	Planned routine maintenance of control device shall not exceed 240 hours per year; system malfunctions shall be corrected as soon as practicable; and system shall be operated such that gases, vapors, or fumes are not actively vented to control device during planned maintenance or system malfunction, except as specified.		
O-12c	A Carbon Adsorption System	270.27(a)(5); 264.1087(c)(3)	Carbon replacement and removal shall follow prescribed requirements in 264.1033(g), (h), and (n).		
O-12d	Each Control Device Shall be Operated and Maintained in Accordance with 264.1033(j), Except for Certain Devices Identified (e.g., Flare)	270.27(a)(5); 264.1087(c)(4)	264.1033(j) requires the owner/operator to prepare documentation describing the control device's operation and to identify the process parameter(s) that indicate its proper operation and maintenance.		
O-12e	The Owner/Operator Shall Demonstrate that a Control Device Achieves the Performance Requirements Using a Performance Test or Design Analysis, Except for Specific Devices Identified (e.g., flare)	270.27(a)(5); 264.1087(c)(5)	For performance test, owner/operator shall use the test specified at 264.103(c). For design analysis, owner/operator shall use an analysis that meets requirements specified at 264.1035(b)(4)(iii). In addition, the U.S. Environmental Protection Agency (EPA) prescribes unit-specific performance demonstration requirements for certain unit types at 264.1087(c)(5).		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-12f	If Design Analysis is Not Sufficient, then a Performance Test is Required	270.27(a)(5); 264.1087(c) (6)	The EPA regional administrator shall determine if a performance test is required to demonstrate control device's performance.		
O-12h	Inspect and Monitor the Control Device	270.27(a)(5); 264.1087(c) (7)	Control devices shall be inspected and monitored at least once a day.		
O-13	Each Tank, Surface Impoundment and Container Shall be Inspected, Monitored, and Repaired in Accordance with the 264 Subpart CC Requirements	270.27; 264.1088	Inspection, monitoring and repair requirements specific to each unit are located in the standards sections of the regulation 264.1084 through 264.1087. Owner/operator shall develop and implement written plan and schedule to perform inspections and monitoring required. The plan and schedule shall be incorporated into facility's inspection plan.		
O-14	Each Owner/Operator Shall Comply with the Recordkeeping Requirements Specified at 264.1089	270.27; 264.1089	Except as specified, records shall be maintained in facility's operating record for a minimum of 3 years. Various records are required depending on the type of unit and control device.		
O-14a	Each of the Following Owner/Operators Shall Comply with the Reporting Requirements at 264.1090:	270.27; 264.1090			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION O. SUBPART CC AIR EMISSION STANDARDS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
O-14a(1)	Each Owner/Operator Managing Hazardous Waste in a Tank, Surface Impoundment, or Container Exempted from Using Air Emission Controls under 264.1082(c)	270.27; 264.1090(a)	Owner/operator shall report to EPA each noncompliance identified under 264.1082(c).		
O-14a(2)	Each Owner/operator Using Air Emission Controls on a Tank in Accordance with 264.1084(c)	270.27; 264.1090(b)	Owner/operator shall report to EPA each noncompliance identified under 264.1084(B).		
O-14a(3)	Each Owner/operator Using a Control Device in Accordance with 264.1087	270.27; 264.1090 (c),(d)	Owner/operator shall submit semiannual written report to EPA, except as specified.		
O-14b	Each Owner/Operator shall Provide an Emission Monitoring Plan	270.27(a)(6)	Applies to Method 21 and control device monitoring methods.		
O-14c	Subpart CC Implementation Plan	270.27(a)(7)	Required when facility cannot comply with Subpart CC by date of permit issuance.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

Note: This checklist may be used for review of a permit application for a postclosure facility with no active hazardous waste management units. It provides a guideline to the basic requirements of a Part B postclosure permit application. Optional elements (contingency plan and personnel training) are indicated by italics. If a postclosure unit is present at a facility seeking a permit for active hazardous waste management units, the postclosure unit must be incorporated in the permit application like an operating unit in all appropriate sections. For elements that may repeat for both operating units and postclosure units, this checklist references elements of the general checklist in parenthesis.

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-1	General Part A Information Requirements		(Section A)		
P-1a	Description of Activities Conducted which Require Facility to Obtain a Permit under the Resource Conservation and Recovery Act (RCRA) and Brief Description of Nature of the Business	270.13(a),(m)	(A-1)		
P-1b	Name, Mailing Address, and Location of Facility for which the Application is Submitted, including a Topographic Map	270.13(b),(l)	(A-2)		
P-1c	Up to four Standard Industrial Classification Codes which Best Reflect the Products or Services Provided by the Facility	270.13(c)	(A-3)		
P-1d	Operator/Owner's Name, Address, Telephone Number, and Ownership Status	270.13(d),(e)	(A-4) Ownership status must include status as federal, state, private, public, or other entity.		
P-1e	Facility is New, Existing, or Located on Indian Lands	270.13(f),(g)	(A-5) Description must include information on whether this is a first or revised application with date of last signed permit application.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-1f	Description of Processes to be Used for Treating, Storing, and Disposing of Hazardous Waste	270.13(i)	(A-6) Description must include design capacity for these items.		
P-1g	Specification of the Hazardous Wastes Listed or Designated Under 261	270.13(j)	(A-7) Specifications must include estimate on quantity of waste to be treated, stored, or disposed of.		
P-1h	Listing of all Permits or Construction Approvals Received or Applied for	270.13(k)	(A-8) Permits include the following programs: Hazardous Waste Management under RCRA; Underground Injection Control under Solid Waste Disposal Act; Prevention of Significant Deterioration, Nonattainment Program, and National Emissions Standards for Hazardous Pollutants under the Clean Air Act; ocean dumping permits under the Marine Protection Research and Sanctuaries Act; dredge and fill permits under Section 404 of the Clean Water Act; or other relevant environmental permits including state permits.		
P-2	Part B General Description	270.14(b)(1)	(Section B)		
P-3	General Requirements	270.14	(B-1)		
P-3a	Topographic Map	270.14(b)(19)	(B-2a) Show distance of 1,000 feet around unit at a scale of 1 inch to not more than 200 feet (multiple maps may be submitted at this scale), and should be similar to Part A topographic map.		
	Scale and Date	270.14(b)(19)(i)	Other scales may be used if justified.		
	The 100-Year Flood Plain Area	270.14(b)(19)(ii)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
	Surface Waters	270.14(b)(19)(iii)			
	Surrounding Land Use	270.14(b)(19)(iv)			
	Wind Rose	270.14(b)(19)(v)			
	Map Orientation	270.14(b)(19)(vi)			
	Legal Boundaries	270.14(b)(19)(vii)			
	Access Control	270.14(b)(19)(viii)			
	Injection and Withdrawal Wells (on site and off site)	270.14(b)(19)(ix)			
	Buildings and Other Structures	270.14(b)(19)(x)			
	Drainage and Flood Control Barriers	270.14(b)(19)(xi)			
P-3b	Additional Information on the Topographic Map for Land Disposal Facilities	270.14(c)(3)	(B-2b)		
	Uppermost Aquifer and Hydraulically Connected Aquifers Beneath Facility Property	270.14(c)(2)			
	Groundwater Flow Direction	270.14(c)(2)			
	Waste Management Areas	270.14(c)(3)			
	Property Boundaries	270.14(c)(3)			
	Location of Groundwater Monitoring Wells	270.14(c)(3); 264.97			
	Extent of any Groundwater Contaminant Plume	270.14(c)(4)(i)			

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-3c	Facility Location Information	270.14(b)(11); 264.18	(B-3)		
P-3c(1)	Political Jurisdiction in which Facility is Located	270.14(b)(11)(i)	(B-3a)		
P-3c(2)	Flood Plain Requirements	270.14(b)(11)(iii), (iv); 264.18(b)	(B-3b) Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Copy of Federal Insurance Administration or other Flood Map	270.14(b)(11)(iii)	Reference source used to determine whether facility is located in 100-year flood plain.		
	Concentration of Hazardous Constituents Remaining in the Unit that Would Potentially Affect Surface Waters as a Result of Washout	270.14(b)(11); 264.18(b)(ii)(B)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Impact of such Concentration on Current or Potential uses of, and Water Quality Standards Established for, the Affected Surface Waters	270.14(b)(11); 264.18(b)(ii)(C)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Impact of Hazardous Constituents on the Sediments of Affected Surface Waters, or the Soils of the 100-Year Flood Plain, that could Result from Washout	270.14(b)(11); 264.18(b)(ii)(D)	Flood plain requirements applicable if facility is located in 100-year flood plain.		
	Plan and Schedule for Future Compliance	270.14(b)(11)(v)	Flood plain requirements applicable if facility is located in 100-year flood plain and not in compliance with 264.18(b).		
P-4a	*Chemical and Physical Analyses*	*270.14(b)(2); 264.13(a)*	*(C-1) Data generated by testing the waste, published data on the waste, or data gathered from similar processes may be used.*		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION P. POST-CLOSURE FACILITY REQUIREMENTS					
Section and Requirement		**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
P-4b	*Waste Analysis Plan*	*270.14(b)(3); 264.13(b),(c) 266.102(a)(2)(ii); 266.104(a); (2), 268.7*	*(C-2) Address how for closed units/facilities, a waste analysis plan is not applicable. Discuss previous waste stream and/or current management of the waste, if applicable. Discuss whether or not leachate or runoff collection and analysis are necessary.*		
P-5	General Hydrogeologic Information	270.14(c)(2)	(E-3) Include description of the regional and site-specific geologic and hydrogeological setting.		
P-5a	Topographic Map Requirements	270.14(c)(2), (3), (4)(i)	(E-4)		
P-5b	Contaminant Plume Description	270.14(c)(2), (4), (7); Part 261, Appendix VIII	(E-5) In some cases, contaminant plumes may be defined under groundwater quality assessment programs carried out during the interim status period which may not address the complete list of Appendix VIII constituents as required under 270.14(c)(4). Additional monitoring may be required to identify the concentration of each Appendix VIII constituent in the plume.		
P-5c	General Monitoring Program Requirements	270.14(c)(5); 264.90(b)(4); 264.97	(E-6) Describe the monitoring to be conducted during the post-closure care period, including as applicable, the procedures for conducting the following operations and evaluating the data gathered: groundwater monitoring; and leachate collection/detection and removal.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-5d	Description of Wells	270.14(c)(6)(ii); 264.97(a), (b), (c)	(E-6a) Identify the number, location, and depth of each well, and describe the well construction materials to be used.		
P-5e	Proposed Sampling and Statistical Analysis Procedures for Groundwater Data	270.14(c)(7)(vi); 264.97(d), (e), (f); 264.99(c) - (g)	(E-6b)		
P-5f	Corrective Action Program	270.14(c)(8); 264.99(j); 264.100	(E-a) If hazardous constituents have been detected in the groundwater, an owner or operator must submit sufficient information, supporting data, etc., to establish a corrective action program that meets the requirements of 264.100.		
P-5g	Characterization of Contaminated Groundwater	270.14(c)(8)(i)	(E-9a) For each well at point of compliance and for each background well, provide concentrations of each constituent in 261 Appendix VIII, major cations and anions, and constituents listed in Table 1 of 264.94, if not already determined by the above.		
P-5h	Concentration Limits	270.14(c)(8)(ii); 264.94; 264.100(a)(2)	(E-9b) Specify the proposed concentration limits for each hazardous constituent in groundwater.		
P-5i	Alternate Concentration Limits	270.14(c)(8)(ii); 264.94(b); 264.100(a)(2)	(E-9c) Provide a justification for establishing alternate concentration limits. This justification must address each of the following two factors.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-5j	Corrective Action Plan	270.14(c)(8)(iii); 264.100(b); 264.101	(E-9d) Provide detailed plans on the corrective actions proposed for the facility, including maps of engineered structures, construction details, plans for removing waste, description of treatment technologies, effectiveness of correction program, operation and maintenance plans, closure and post-closure plans, and a schedule for corrective action requirements. Also, include plan for corrective action at solid waste management units (SWMU).		
P-6	Security	270.14(b)(4); 264.14	(F-1) Indicate whether hazardous waste remains exposed after completion of partial or final closure or access by the public or domestic livestock may pose a hazard to human health. Demonstrate that this type of property post-closure use must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring system.		
P-6a	Security Procedures and Equipment	270.14(b)(4); 264.14	(F-1a) Unless waiver is granted, facility must have surveillance system or barrier or other means to control entry.		
P-6a(1)	Warning Signs	270.14(b)(4); 264.14(c)	(F-1a(3)) Signs in English must be posted at each entrance, and be legible from 25 feet.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-6b	Inspection Schedule	270.14(b)(5); 264.15	(F-2) Include where applicable, as part of the post-closure inspection schedule, specific requirements for each type of treatment, storage, and disposal facility. These specific requirements and the schedule should be included as part of the post-closure plan.		
P-6b(1)	General Inspection Requirements	270.14(b)(5); 264.15(a), (b); 264.33	(F-2a) Describe the inspections to be conducted during the post-closure care period, their frequency, the inspection procedure, and the logs to be kept. Inspection is required for monitoring equipment, safety emergency equipment, communication and alarm systems, decontamination equipment, security devices, and operating and structural equipment. Should be included as part of post-closure plan.		
	Types of Problems	270.14(b)(5); 264.15(b)(3)	Inspection checklist should be included as part of post-closure plan and must identify types of problem.		
	Frequency of Inspections	270.14(b)(5); 264.15(b)(4)	The rationale for determining the length of time between inspections should be provided as part of the post-closure plan.		
	Schedule of Remedial Action	264.15(c)	Owner/operator must immediately remedy any deterioration or malfunction of equipment or structures to ensure problem does not lead to environmental or human health hazard.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
	Inspection Log	264.15(d)	Provide example log or summary. Should be included as part of the post-closure plan.		
P-7a	Waiver or Documentation of Preparedness and Prevention Requirements	270.14(b)(6) 264.32(a) - (d)	(F-3) Facility must submit justification for any waiver to requirements of this section.		
P-7b	Emergency Equipment	270.14(a); 264.32(c)	(F-3(a)(3)) Demonstrate that portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment are available.		
P-7c	Water and Fire Control	270.14(a); 264.32(d)	(F-3(a)(4)) Demonstrate facility has adequate fire control systems, water volume and pressure, foaming equipment, automatic sprinklers, etc.		
P-7d	Testing and Maintenance of Equipment	270.14(a); 264.33	(F-3(a)(5)) Demonstrate communication, alarm, fire control equipment, spill control equipment, and decontamination equipment are tested and maintained.		
P-7e	Documentation of Arrangements with Emergency Agencies	270.14(a); 264.37	(F-3(c)) Owner/operator must make arrangements, as appropriate, with type of waste and hazard potential, for the potential need for services.		
P-7f	Document Agreement Refusal	270.14(a); 264.37(b)	(F-3(c)(4)) Document refusal to enter into a coordination agreement.		
P-7g	Equipment and Power Failure	270.14(b)(8)(iv)	(F-4(d)) Describe procedure used to mitigate the effects of equipment failure and power outages.		
P-8	*Contingency Plan General Information*	*270.14(b)(7); 264.52*	*(G-1) Provide facility name and location, operator, site plan, and describe facility operations.*		

Reviewer: _____

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
	Actions to Take in Case of Emergency	*270.14(b)(7); 264.52(a)*	*(G-4(d)) Describe actions to be taken in response to any unplanned release of hazardous waste to air, soil, or surface water.*		
P-8a	*Emergency Coordinators*	*270.14(b)(7); 264.52(d); 264.55*	*(G-2) There must at least be one primary emergency coordinator available at all times.*		
P-8b	*Implementation*	*270.14(b)(7); 264.52(a); 264.56(d)*	*(G-3) Emergency coordinator to determine that facility has had a release, fire, or explosion that could threaten human health or the environment outside facility.*		
P-8c	*Emergency Actions*	*270.14(b)(7); 264.56*	*(G-4)*		
P-8c(1)	*Notification*	*270.14(b)(7); 264.56(a)*	*(G-4a) Describe the method for immediate notification of facility personnel and necessary state and local agencies.*		
P-8c(2)	*Identification of Hazardous Materials*	*270.14(b)(7); 264.56(b)*	*(G-4b) Observation, records or manifest, or chemical analysis may be used by emergency coordinator.*		
P-8c(3)	*Assessment*	*270.14(b)(7); 264.56(c),(d)*	*(G-4c) Direct and indirect effects must be considered.*		
P-8c(4)	*Control Procedures*	*270.14(b)(7); 264.52(a)*	*(G-4d) Contingency plan must describe actions facility personnel must take in response to fires, explosions, or any unplanned release of hazardous waste to air, soil, or surface water.*		
P-8c(5)	*Storage, Treatment, and Disposal of Released Material*	*270.14(b)(7); 264.56(g)*	*(G-4f) After emergency, emergency coordinator must provide for treating, storing, and disposing of recovered waste.*		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-8c(6)	*Incompatible Waste*	*270.14(b)(7); 264.56(h)(1)*	*(G-4g) Until cleanup is complete, assure that incompatible waste is not stored together.*		
P-8c(7)	*Post-Emergency Equipment Management*	*270.14(b)(7); 264.56(h)(2)*	*(G-4h) Decontamination is required for emergency equipment.*		
P-8d	*Evacuation Plan for Facility Personnel*	*270.14(b)(7); 264.52(f)*	*Evacuation plans must include evacuation signals and primary and alternate evacuation routes.*		
P-8e	*Notification of federal, State and Local Authorities before Resuming Post-Closure Care*	*270.14(b)(7); 264.56(i)*	*Federal or state authorities must be notified within 15 days of occurrence.*		
P-8f	*Notification Reports*	*270.14(b)(7); 264.196(d)*	*Demonstrate that any release to the environment will be reported to regional administrator within 24 hours of detection.*		
P-9	*Outline of Introductory and Continuing Training Programs*	*270.14(b)(12); 264.16(a)(1)*	*(H-1) Facility personnel must successfully complete classroom or on-the-job training which will allow them to responsibly perform in their positions for post-closure care. The training program is limited to post-closure activities.*		
P-9a	*Job Title/Job Description*	*270.14(b)(12); 264.16(d)1), (d)(2)*	*(H-1a) Owner or operator must maintain records of job titles, names of employees, job descriptions, and types and amounts of training given to employees.*		
P-9b	*Description of How Training will be Designed to Meet Actual Job Tasks*	*270.14(b)(12); 264.16(c),(d)(3)*	*(H-1b) Training must be conducted by a qualified person; there must also be an annual review of the training.*		
P-9c	*Training Director*	*270.14(b)(12); 264.16(a)(2)*	*(H-1c) Program must be directed by person trained in hazardous waste procedures.*		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-9d	*Relevance of Training to Job Position*	*270.14(b)(12); 264.16(a)(2)*	*(H-1d) Training must include instruction on hazardous waste procedures relevant to each employee's position.*		
P-9e	*Training for Emergency Response*	*270.14(b)(12); 264.16(a)(3)*	*(H-1e) Personnel must minimally be familiar with emergency procedures, emergency equipment, and emergency systems.*		
P-9f	*Maintenance of Training Records/Copy of Personnel Training Documents*	*270.14(b)(12); 264.16(b),(d)(4),(e)*	*(H-1f) Training records on current personnel must be kept until the post-closure care period is completed. Training must be completed within 6 months after date of employment or assignment to the facility, whichever is later.*		
P-10	Closure Plans	270.14(b)(13); 264.112(a)(1),(2)	(I-1) Include an approved closure plan consistent with the requirements of 264.112. This plan is included for post-closure facilities as a description of how the facility was closed.		
P-11	Post-Closure Plan	270.14(b)(13)	(I-2) Submit a copy of the approved post-closure plan.		
P-11a	Post-Closure Care Contact	270.14(b)(13); 264.118(b)(3)	(I-2g) Provide the name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.		
P-12	Notices Required for Disposal Facilities	270.14(b)(14)	(I-3a through d) Provide a certification of closure, a survey plat, and a post-closure certification. Also include a statement that the post-closure notices required by 270.149(b)(14) will be filed and submitted appropriately.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-13	Post-Closure Cost Estimate	270.14(b)(16) 264.144	(I-6) Provide a copy of the most recent post-closure cost estimate, calculated to cover the cost, in current dollars, of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure plan. Estimate must be based on third party performing the post-closure activities. The cost estimate must be adjusted annually for inflation pursuant to 264.144(b).		
P-14	Financial Assurance Mechanism for Post-Closure Care	270.14(b)(16); 264.145; 264.151	(I-7) Provide a copy of the established financial assurance mechanism for post-closure care of the facility. The mechanism must be one of the following: • trust fund • surety bond • letter of credit • insurance • financial test and corporate guarantee for post-closure care • use of multiple financial mechanisms • use of financial mechanism for multiple facilities.		
P-15	Use of State Required Mechanisms	270.14(b)(18); 264.149	(I-9) When state has regulations equivalent or greater liability requirements for financial assurance for closure post-closure submit copy of state-required financial mechanism.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement		Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-16	State Assumption of Responsibility	270.14(b)(18); 264.150	(I-9b) If state assumes legal responsibility for compliance with closure, post-closure, or liability requirements there must be a letter submitted from state specifying assumption of responsibilities and amounts of liability coverage assured by state.		
P-17	SWMUs	270.14(d)(1); 264.101	(J-1) Identify all SWMUs at the facility including hazardous and nonhazardous waste units, as well as active and inactive units, if known.		
P-17a	Characterize the SWMU	270.14(d)(1)	(J-1) Submit SWMU information including: type of each unit; location on a topographic map; engineering drawings, if available, dimensions; dates of operation; description of wastes in each unit; and quantity or volume of waste, if known.		
P-17b	No SWMUs		(J-1) Describe methodology used to determine that no existing or former SWMUs exist at the facility.		
P-17c	Releases	270.14(d)(2)	(J-2)		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS

SECTION P. POST-CLOSURE FACILITY REQUIREMENTS

Section and Requirement	Federal Regulation	Review Consideration[a]	Location in Application[b]	See Attached Comment Number[c]
P-17c(1) Characterize Releases	270.14(d)(3)	(J-2) Provide following information concerning releases: date of release; type, quantity, and nature of release; groundwater monitoring and other analytical data; physical evidence of stressed vegetation; historical evidence of releases; any state, local, or federal enforcement action that may address releases; any public citizen complaints that indicate a release; and any other information showing the migration of the release.		
P-17c(2) No Releases		(J-1) Describe methodology used to determine that releases from SWMUs are not present.		
P-18 Part B Certification	270.11	(L-1)		
P-19 Information on the Potential for the Public to be Exposed to Releases. At a Minimum, this must include: • reasonably foreseeable potential releases • potential pathways of human exposure • potential magnitude and nature	270.10(j)	(Q-1) The federal requirement is for surface impoundments and land disposal units.		

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

CHECKLIST FOR REVIEW OF FEDERAL RCRA PERMIT APPLICATIONS SECTION Q. EXPOSURE INFORMATION				
Section and Requirement	**Federal Regulation**	**Review Consideration[a]**	**Location in Application[b]**	**See Attached Comment Number[c]**
Q Information on the Potential for the Public to be Exposed to Releases. At a Minimum, this must include: • reasonably foreseeable potential releases • potential pathways of human exposure • potential magnitude and nature of exposure	270.10(j)	The federal requirement is for surface impoundments and land disposal units.		

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

RCRA I.D. No.: _____ Facility Name: _____

Notes:

[a] Considerations in addition to the requirements presented in the regulations.

[b] For each requirement, this column must indicate one of the following: NA for not applicable, IM for information missing, or the exact location of the information in the application.

[c] If application is deficient in an area, prepare a comment describing the deficiency, attach it to the checklist, and reference the comment in this column.

US EPA ARCHIVE DOCUMENT

ATTACHMENT C

PERMIT PROCESS STEPS FOR INTERIM STATUS AND NEW HAZARDOUS WASTE COMBUSTION FACILITIES

(6 Sheets)

EPA530-F-94-036

PERMIT PROCESS STEPS
For Interim Status Hazardous Waste Combustion Facilities

* Represents proposed new requirements from the RCRA Expanded Public Participation and Revisions to Combustion Permitting Procedures; Proposed Rule (June 2, 1994).

1.* **Pre-Application Meeting.** The facility would give notice to the public and hold a meeting with the affected community prior to submitting their RCRA permit application. This meeting is the first opportunity for the facility to have a dialogue with the community.

2. **Submit Part A.** The applicant submits a Part A permit application, which includes such information as the name and location of the facility, its owner, type of waste accepted, maximum capacity, and other environmental permits governing the facility. This step is required to obtain interim status. Existing facilities are required to submit the Part A permit application as a condition for obtaining interim status.

3. **Submit Part B.** The applicant submits the Part B permit application, which includes the trial burn plan, closure plan, waste analysis plan, and other facility documents. This detailed facility-specific information enables the permitting authority to evaluate the proposed design and operation of a combustion facility.

4.* **Application Notice.** When an application is received by the permitting authority, a notice will be published. This notice will allow the public the opportunity to review and comment on the permit application at the same time as the permitting authority.

5. **Review of Application.** The permitting authority reviews the application. The application must adequately describe how the combustion facility will be operated to comply with the RCRA permitting requirements and protect human health and the environment. The trial burn plan is evaluated to see if it would adequately test the performance of the unit. During this period, the permitting authority may ask for more information in a "Notice of Deficiency".

US EPA ARCHIVE DOCUMENT

6.* **Information Repository.** The permitting authority would make a case-by-case determination on whether to require the applicant to establish and maintain an information repository. This determination can occur anytime during the permitting process. The repository would contain all public information that is determined to be relevant to public understanding of permitting activities at the facility. The repository would be open for public viewing throughout the permitting process.

7.* **Trial Burn Notice.** Prior to a trial burn, the permitting agency would publish a public notice announcing that a trial burn will be conducted, along with the proposed schedule of the burn.

8. **Trial Burn.** The applicant conducts the trial burn with representatives from the permitting authority in attendance. Emissions and operating conditions are monitored to determine if performance standards are met.

9. **Trial Burn Analysis and Review.** The applicant submits data and information on the facility's performance during the trial burn. The permitting authority reviews the information, and may request additional data from the applicant. The applicant submits a risk assessment, which includes the emissions data from the trial burn.

10. **Preparation of Draft Permit Determination.** If a facility conducts a successful trial burn and the risk assessment shows no adverse impacts to human health or the environment, the permitting authority will prepare a draft permit. The permit will include operating conditions based on the results of the trial burn and risk assessment. If it appears that the facility is unable to meet statutory or regulatory standards, a "Notice of Intent to Deny" will be issued.

11. **Public Comment on Draft Permit Determination.** The permitting authority provides notice to the public that the draft permit is available for public comment. The comment period is at least 45 days. If requested, a public hearing is held. The permitting authority formally responds to comments received in writing and at the public hearing.

12. **Permit Determination.** The final permit will be issued or denied depending on public comment and the facility's ability to meet RCRA regulations. The final permit will describe operating conditions for the facility, and is effective for up to ten years. If denied a permit, a facility must comply with closure requirements.

US EPA ARCHIVE DOCUMENT

13. **Permit Appeal.** After a permit decision is made, any person who filed comments on the draft permit or participated in the public hearing on the draft permit may petition the Environmental Appeals Board (EAB) to review any condition of the permit decision. Petitions for review are to be filed within 30 days of the permit decision. For interim status facilities, the permit conditions under appeal are stayed pending a decision by the EAB.

14. **Judicial Appeal.** Once the administrative permit appeals process has been completed, the petitioner could then seek judicial review in federal court. The decision of the EAB is final pending a final decision by the federal court. However, the petitioner has the right to request a stay of the EAB's decision pending a final decision.

US EPA ARCHIVE DOCUMENT

PERMIT PROCESS STEPS
For New Hazardous Waste
Combustion Facilities

* Represents proposed new requirements from the RCRA Expanded Public Participation and Revisions to Combustion Permitting Procedures; Proposed Rule (June 2, 1994).

1.* **Pre-Application Meeting.** The facility would give notice to the public and hold a meeting with the affected community prior to submitting their RCRA permit application. This meeting is the first opportunity for the facility to have a dialogue with the community.

2. **Submits Parts A and B.** The applicant submits Parts A and B of the permit application including a preliminary risk assessment. Part A includes such information as the name and location of the facility, its owner, type of waste accepted, maximum capacity, and other environmental permits governing the facility. Part B contains detailed facility-specific information that enables the permitting authority to evaluate the proposed design and operation of a combustion facility. The Part B permit application includes the trial burn plan, closure plan, waste analysis plan, and other facility documents.

3.* **Application Notice.** When an application is received by the permitting authority, a notice will be published. This notice will allow the public the opportunity to review and comment on the permit application at the same time as the permitting authority.

4. **Review of Application.** The permitting authority reviews the application. The application must adequately describe how the combustion facility will be operated to comply with the RCRA permitting requirements and protect human health and the environment. The trial burn plan is evaluated to see if it would adequately test the performance of the unit. During this period, the permitting authority may ask for more information in a "Notice of Deficiency".

5.* **Information Repository.** The permitting authority would make a case-by-case determination on whether to require the applicant to establish and maintain an information repository. This determination can occur anytime during the permitting process. The repository would contain all public information that is determined to be relevant to public understanding of permitting activities at the facility. The repository would be open for public viewing throughout the permitting process.

US EPA ARCHIVE DOCUMENT

6. **Preparation of Draft Permit Determination.** If the application is complete and acceptable and the preliminary risk assessment shows no adverse impacts to human health or the environment, the permitting authority will prepare a draft permit that includes a trial burn plan and facility design specifications. The draft permit also includes operating conditions under which the facility is expected to meet the performance standards. If the permitting authority determines that the facility will be unable to meet statutory or regulatory standards, a "Notice of Intent to Deny" will be issued.

7. **Public Comment on Draft Permit Determination.** The permitting authority provides notice to the public that the draft permit is available for public comment. The comment period is at least 45 days. If requested, a public hearing is held. The permitting authority formally responds to comments received in writing and at the public hearing.

8. **Four-Phase Permit.** After the public comment period has ended, the permitting authority will either issue a four-phase permit or a "Notice of Intent to Deny". The four-phase permit would establish the facility design and the conditions to be met by the facility following construction.

9. **Permit Appeal.** After a permit decision is made, any person who filed comments on the draft permit or participated in the public hearing on the draft permit may petition the Environmental Appeals Board (EAB) to review any condition of the permit decision. Petitions for review are to be filed within 30 days of the permit decision. For new facilities, the entire permit is stayed pending a decision by the EAB.

10. **Judicial Appeal.** Once the administrative permit appeals process has been completed, the petitioner could then seek judicial review in federal court. The decision of the EAB is final pending a final decision by the federal court. However, the petitioner has the right to request a stay of the EAB's decision pending a final decision.

11. **Start-Up/Shake-Down Period (Phase One).** This phase allows limited burning of wastes to help stabilize the new facility's operation.

12.* **Trial Burn Notice.** Prior to a trial burn, the permitting agency would publish a public notice announcing that a trial burn will be conducted, along with the proposed schedule of the burn.

13. **Trial Burn (Phase Two).** The applicant conducts the trial burn with representatives from the permitting authority in attendance. Emissions and operating conditions are monitored to determine if performance standards are met.

US EPA ARCHIVE DOCUMENT

14. **Post-Trial Burn (Phase Three).** In this phase, the facility may operate under specified permit limits, while trial burn results are reviewed. The permitting authority may request additional data from the applicant. The risk assessment is revised to include the emissions data from the trial burn.

15. **Final Operating Conditions (Phase Four).** If a facility conducts a successful trial burn and the risk assessment shows no adverse impacts to human health or the environment, the facility is allowed to operate under the final operating conditions in the permit. In some cases, modifications to these permit conditions may be necessary based on the trial burn or risk assessment results. If the facility does not pass the trial burn, the permitting authority may initiate proceedings to terminate the permit, or may modify the permit to allow a trial burn retest. A significant modification of the permit, such as the addition of a second trial burn, would require a new public comment period.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

ATTACHMENT D

DRAFT GUIDANCE ON INCINERATOR CLOSURE

(14 Sheets)

US EPA ARCHIVE DOCUMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Draft Guidance on Incinerator Closure

FROM: Lionel Vega, Chemical Engineer
Alternative Technology Section

TO: Addressees

Attached is the draft guidance on incinerator closure for your review and comment. As described in the agenda, I will be asking for your comments on this eight-page draft guidance in our workgroup meeting scheduled for November 7-9 in Denver, Colorado.

Attachment

Addressees:

Stephen Yee, Region I
John Brogard, Region II
Gary Gross, Region III
Betty Willis, Region IV
Glen May, Region IV
Hugh Hazen, Region IV
Y.J. Kim, Region V
Mardi Klevs, Region V
Stan Burger, Region VI
Joe Galbraith, Region VII
Nat Miullo, Region VIII
Larry Bowerman, Region IX
Cathy Massimino, Region X

Larry Johnson, ORD
Joe McSorley, ORD
C.C. Lee, ORD
Donald Oberacker, ORD
George Huffman, ORD
Justice Manning, ORD
Bob Mouringham, ORD

cc: Lionel Vega
Sonya Sasseville
Bob Holloway
Shiva Garg
Dwight Hlustick
Kate Anderson, OWPE
Charles Perry, OWPE
Winston Lue, OTS
Cristina Gaines, OWEP

Printed on Recycled Paper

DRAFT OF GUIDANCE OF INCINERATOR CLOSURE

Draft Final Report

For U.S. Environmental Protection Agency

Submitted by:

Midwest Research Institute
5109 Leesburg Pike
Suite 414
Falls Church, Virginia

EPA Contract No. 68-01-7310
Work Assignment 134
MRI Project No. 8962-34

June 29, 1990

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

PREFACE

This draft document was prepared by Midwest Research Institute (MRI) for the U.S. Environmental Protection Agency (EPA) under subcontract to NUS Corporation on EPA Contract No. 68-01-7310. The document was developed by Bruce Boomer.

MIDWEST RESEARCH INSTITUTE

Andrea C. Hall, Ph.D.
Program Manager

June 29, 1990

US EPA ARCHIVE DOCUMENT

DRAFT

GUIDANCE ON CLOSURE PROCEDURES FOR HAZARDOUS WASTE INCINERATOR FACILITIES

INTRODUCTION

This memo provides RCRA permit writers with recommended procedures for the incinerator-specific portion of a closure plan. Owners and operators of a hazardous waste incinerator facility must develop a plan for closing the facility and must keep the plan on file at the facility until closure is completed and certified. The closure plan is a required portion of a RCRA Part B permit application and is thus subject to the approval of RCRA permit writers.

This memo addresses closure of the incinerator and ancillary equipment. Issues addressed below include initial decontamination and burnout of any residual organic contamination, further decontamination methods, confirmatory sampling methods, and criteria for closure certification. This memo does not address tank closure or other general facility closure requirements such as the cleanup of any spills or contaminated soils.

Typically, the closure of a permitted RCRA incinerator is not an issue with significant environmental impact. If the facility had been operating in compliance with permit conditions prior to closure, the amount and extent of residual contamination within the incinerator and ancillary equipment is expected to be minimal; the recommendations discussed in this memo address this expectation of minimal contamination.

US EPA ARCHIVE DOCUMENT

EPA PRECEDENT

An issue associated with incinerator closure is defining an "acceptable" level of residual contamination to allow material previously in contact with hazardous wastes to be recycled or disposed as a nonhazardous waste. In a letter to Mr. Thomas Jorling dated June 19, 1989, Jonathan Cannon, Acting Assistant Administrator of EPA (see Attachment 1), noted that contaminated environmental media must be managed as if they were hazardous until they no longer contain the listed wastes. Options mentioned in the letter include: (1) delisting, (2) removing the contamination by treatment, or (3) decontamination to an acceptable minimal level of contamination. The letter notes that for the third option, EPA is investigating de minimus levels for hazardous constituents, below which materials (such as contaminated environmental media) would no longer have to be managed as hazardous wastes.

The sections below provide a closure approach for potentially contaminated incinerator media that involves, to some extent, options number two and three above.

APPROACH TO INCINERATOR CLOSURE

Residual contamination of environmental concern within an incineration system will result from the organic and metals content of the wastes fed to the incinerator. The following steps (summarized in Table 1) provide a basis for organic decontamination and determination of residual metal contamination.) The first step of incinerator closure involves the incineration of all existing hazardous waste inventories and proper treatment, disposal, or removal of residual wastes such as incinerator ash, scrubber effluents, and baghouse ash. For most facilities, this step effectively removes the most significant source of residual contamination for closure.

The second step involves the active decontamination of waste feed mechanisms by use of chemical and/or physical action. This step may be coordinated with affiliated storage tank or drum closure activities, which parallel and inter-relate to incinerator closure.

During the second step, feed mechanisms (e.g., liquid/sludge feed lines, solid feed mechanisms) are rinsed with kerosene or other appropriate solvents to remove surface contaminants. Table 2 provides a general guide to the solubility of several contaminant categories in water, dilute acids, dilute bases, and organic solvents. Feed mechanisms also may be scrubbed or scraped using brushes, scrapers, or sponges and water-compatable solvent cleaning solutions. All rinsate is to be collected and incinerated prior to step 3.

The third step is a burnout of any residual organic contamination within the incinerator. Following the completion of step 2, the incinerator will be operated with only auxiliary fuel for an appropriate time period not less than 4 hr, maintaining at least the minimum temperature specified in the permit for each combustion chamber. This is expected to combust any remaining organic contaminants within the incinerator system.

After the completion of step 3, the incinerator and its ancillary equipment may be considered to be organically decontaminated. Organic contamination is not expected downstream from the combustion chambers (e.g., air pollution control devices). However, residual contamination with metals remains a concern. Step 4 addresses the decontamination and wipe sampling of incinerator components in regard to metals. The following are examples of components of concern:

- Feed mechanisms (piping, pumps, conveyors, etc.);
- Refractory of combustion chambers;
- Gas ducts;
- Ash handling system;
- Internal surfaces of air pollution control equipment; and,
- Stack.

(Excluded from the decontamination procedures are fabric filter bags and scrubber packing materials which can be disposed as hazardous wastes.)

The recommendations for step 4 include:

- Optional rinse/scrub of above equipment with detergent;
- Wipe sampling (minimum 10 locations scattered throughout above).

US EPA ARCHIVE DOCUMENT

The optional rinse/scrub may involve a combination of both physical and chemical means to remove contaminants. As previously discussed for step 2, individual components (detached as appropriate) may be scrubbed or scraped using brushes, scrapers or sponges, and water-compatible solvent cleaning solutions. Contaminants may be removed with a water or solvent rinse using pressurized or gravity flow, or using steam jets. On metal surfaces, pressurized cleaning may present problems with metals etching compounding the effective removal of contaminants. In addition, caution should be exercised to ensure that pressurized or steam cleaning sprays/emissions are appropriately contained (i.e., curtains, enclosures, or spray booths may be necessary to reduce or eliminate cross-contamination).

Wipe sampling will involve sampling surfaces exposed to either hazardous wastes or the exhaust gases/residuals derived from waste incineration in the above equipment. Samples are collected by applying deionized water or a detergent (e.g., household liquid cleaner) to a piece of 11-cm diameter filter paper (e.g., Whatman 40 ashless, Whatman "50" smear tabs, or equivalent) or gauze pad. This moistened filter paper or gauze pad is used to thoroughly swab a 100-cm^2 area, as can be measured by a sampling template.

The use of a template can assist the sampler in the collection of a 100-cm^2 sample. Different templates may be used for the variously shaped areas which must be sampled (e.g., a 10 cm x 10 cm square). When a template is used, it should be thoroughly cleaned between samples to prevent contamination of subsequent samples by the template.

The wipes and the liquid used to wet the wipes should be tested for residual metals before use in taking samples from the incinerator. The wipe samples should be stored in precleaned glass jars and stored no longer than the allowable holding times stated in SW-846. Samples will be digested and analyzed for As, Be, Cd, Cr, Sb, Ba, Hg, Pb, Tl, and Ag (the metals regulated in incinerator emissions). Samples can be composited if desired, but compositing reduces opportunities for identifying localized contamination areas. At least one blank sample per sampling day must be prepared. Wiping only gives an indication of surface contamination which can easily be removed. Incinerator components with a large amount of strongly entrained

US EPA ARCHIVE DOCUMENT

residuals might need to be scraped with a paint scraper and the scrapings analyzed. Criteria for acceptable levels of residual contamination are discussed below.

As an alternative to step 4, an incinerator owner may elect to dispose all incineration equipment as a hazardous waste.

CERTIFICATION OF ADEQUATE CLOSURE

The effectiveness of the closure decontamination process for organic contamination may be estimated by visual observation of any discolorations, stains, or gross pockets of apparent organic solids. This visual assessment is anticipated to be a suitable measure of possible organic contamination when followed by a rinse or cleanup of the affected areas with an appropriate solvent.

Effectiveness of metals decontamination may be determined by wipe sampling (as previously discussed), or by analyzing rinsate for contaminants left in the solvent solution. However, analysis of rinsate should be evaluated with regards to the total amount of rinsate in contact with the total area of the incinerator surfaces. Rinsate values could be elevated due to a leaching effect on the metallic surfaces of the incinerator. Evidence of elevated levels of contaminants in the wipe samples (as discussed below) suggest that additional cleaning and rinsing is necessary. Elevated contaminate concentrations also may indicate that an alternative contaminate removal method (e.g., sand-blasting, surface sealing, etc.) is necessary to remove or permanently contain contaminates.

Until EPA develops de minimus levels for the metals of concern, a suggested guide is to compare the results of incinerator wipe sampling with background levels as indicated by taking wipe samples of exterior building surfaces on or near the incineration site. This wipe sample should reflect background ambient air quality, including the impact of local mineralogy. An incinerator wipe sample that demonstrates a surface concentration at least 100 times greater than the background value for any metal should serve as an indicator that additional decontamination is needed prior to closure. Failure

US EPA ARCHIVE DOCUMENT

to meet the criteria would require a repeat of the optional rinse/scrub of equipment (in step 4) followed by a repeat of wipe sampling; disposal of contaminated material as a hazardous waste is another alternative. Care should be taken in selecting areas for background sampling since such materials as painted surfaces and stainless steel may contain significant levels of some of the analytes.

The incinerator owner/operator will submit full documentation of the closure process to the permitting agency to receive certification of closure. A report should be submitted to the Agency describing each step of closure activities and the results of wipe sampling. Certification will allow the owner/operator to recycle the incinerator materials or dispose of the materials as a nonhazardous waste. Alternatively, closure certification may note the adequate disposal of incinerator equipment as a hazardous waste.

DELAY OF CLOSURE

The above approach assumes that the incineration facility is being closed and dismantled. If a facility is being closed as a RCRA facility but will either continue to operate as a nonhazardous waste facility or remain intact in storage for indefinite future operation, step 4 above could be delayed until dismantling occurs. However, the incineration facility will be subject to RCRA security requirements and, ultimately, RCRA closure requirements.

US EPA ARCHIVE DOCUMENT

Table 1. SUMMARY OF RCRA INCINERATOR CLOSURE RECOMMENDATIONS

Step 1	Incineration of all remaining waste feeds and removal of all ash and scrubber effluent wastes
Step 2	Flush waste feed lines and mechanisms with kerosene or an equivalent solvent and incinerate rinsate
Step 3	Operate incinerator for at least 4 hr at the minimum permitted temperature with auxiliary fuel only, to provide burnout of any organic residues
Step 4	Optional decontamination of incinerator components with detergent, followed by mandatory wipe sampling of surfaces potentially contaminated with toxic metals (additional decontamination and wipe sampling would be conducted if needed)
Step 5	Certification of adequate closure based upon analytical results

US EPA ARCHIVE DOCUMENT

Table 2. GENERAL GUIDE TO SOLUBILITY OF CONTAMINANTS IN FOUR SOLVENT TYPES

Solvent	Soluble contaminants
Water	Low-chain hydrocarbons. Soluble inorganic compounds. Salts. Some organic acids and other polar compounds.
Aqueous Detergents	Many water soluble contaminants and insoluble particulates.
Dilute Acids	Basic (caustic) compounds. Amines. Hydrazines.
Dilute Bases For example: -detergent -soap	Acidic compounds. Phenols. Thiols. Some nitro and sulfonic compounds.
Organic Solvents For example: -alcohols -ethers -ketones -aromatics -straight-chain alkanes (e.g., hexane) -common petroleum products (e.g., fuel oil, kerosene) -chlorinated solvents	Many nonpolar or polar organic compounds.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

Attachment 1

US EPA ARCHIVE DOCUMENT

THIS LETTER WAS REKEYED TO BE ELECTRONICALLY AVAILABLE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

June 19, 1989

Mr. Thomas C. Jorling
Commissioner
Department of Environmental Conservation
State of New York
Albany, New York 12233-1010

Dear Mr. Jorling:

I am writing in response to your letter of May 5, 1989, in which you ask numerous questions concerning the regulatory status, under the Resource Conservation and Recovery Act (RCRA), of environmental media (ground water, soil, and sediment) contaminated with RCRA-listed hazardous waste.

As you point out in your letter, it is correct that the Agency's "contained-in" interpretation is that contaminated environmental media must be managed as if they were hazardous wastes until they no longer contain the listed waste, or are delisted. This leads to the critical question of when an environmental medium contaminated by listed hazardous waste ceases to be a listed hazardous waste. In your letter, you discuss three possible answers (based on previous EPA positions and documents) which you believe address this question, and request the Agency to clarify its interpretation. Each of these is discussed below.

The first possible answer you cite would be that the contaminated media would be a hazardous waste unless and until it is delisted, based on the "mixture" and "derived-from" rules. As you correctly state in your letter, a waste that meets a listing description due to the application of either of these rules remains a listed hazardous waste until it is delisted. However, these two rules do not pertain to contaminated environmental media. Unlike our regulations, contaminated media are not considered solid wastes in the sense of being abandoned, recycled, or inherently waste-like as those terms are defined in the regulations. Therefore, contaminated environmental media cannot be considered a hazardous waste via the "mixture" rule (i.e., to have a hazardous waste mixture, a hazardous waste must be mixed with a solid waste per 40 CFR 261.3(a)(2)(iv). Similarly, the "derived" from" rule does not apply to contaminated media. Our basis for stating that contaminated environmental media must be managed as hazardous wastes is that they "contain" listed hazardous waste. These environmental media must be managed as hazardous waste because, and only as long as, they "contain" a listed hazardous waste, (i.e., until decontaminated).

The second possibility you mention is that environmental media contaminated with a RCRA listed waste no longer have to be managed as a hazardous waste if the hazardous constituents are completely removed by treatment. This is consistent with the Agency's "contained-in" interpretation and represents the Agency's current policy.

THIS LETTER WAS REKEYED TO BE ELECTRONICALLY AVAILABLE

The third possibility you discuss comes from Sylvia Lawrence's January 24, 1989, memorandum that you cited in your letter. This memorandum indicates that OSW has not issued any definitive guidance as to when, or at what levels, environmental media contaminated with listed hazardous waste are no longer considered to contain that hazardous waste. It also states that until such definitive guidance is issued, the Regions may determine these levels on a case-specific basis. Where this determination involves an authorized State, such as New York, our policy is that the State may also make such a determination.

Related to such a determination, you ask whether a risk assessment approach that addressed the public health and environmental impacts of hazardous constituents remaining in treatment residuals would be acceptable. This approach would be acceptable for contaminated media provided you assumed a direct exposure scenario, but would not be acceptable for "derived-from" wastes under our current rules. Additionally, consistent with the statute, you could substitute more stringent standards or criteria for contaminated environmental media than those recommended by the Federal EPA if you determined it to be appropriate.

The Agency is currently involved in a rulemaking effort directed at setting de minimis levels for hazardous constituents below which eligible listed wastes, treatment residuals from those wastes, and environmental media contaminated with those listed wastes would no longer have to be managed as hazardous wastes. This approach being contemplated in the De Minimis program would be similar to that used in the proposed RCRA Clean Closure Guidance in terms of the exposure scenario (direct ingestion), the management scenario (not in a waste management unit), and the levels (primarily health-based).

Your final question related to whether the "remove and decontaminate" procedure set forth in the March 19,1987 Federal Register preamble to the conforming regulations on closing surface impoundments applies when making complete removal determinations for soil. These procedures do apply when one chooses to clean close a hazardous waste surface impoundment by removing the waste. The preamble language states that the Agency interprets the term "remove" and "decontaminate" to mean removal of all wastes, liners, and/or leachate (including ground water) that pose a substantial present or potential threat to human health or the environment (52 FR 8706). Further discussion of these requirements is provided in a clarification notice published on March 28, 1988, (53 FR 1144) and in OSWER Policy Directive # 9476.00-18 on demonstrating equivalence of Part 265 clean closure with Part 264 requirements (copy enclosed).

I hope that this response will be helpful to you in establishing and implementing New York's hazardous waste policies on related issues. Should you have additional questions, please contact Bob Dellinger, Chief of the Waste Characterization Branch at (202) 475-8551.

Sincerely yours,

(original letter was signed by a representative of Jonathan Cannon)
Jonathan Z. Cannon
Acting Assistant Administrator

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

ATTACHMENT E

PART A PERMIT APPLICATION

(33 Sheets)

ATTACHMENT E

PART A PERMIT APPLICATION

(33 Sheets)

State governments may be authorized by EPA to administer hazardous waste management programs in lieu of the Federal RCRA program. You should contact your State hazardous waste management agency to determine whether your State is authorized (see Table 1). If so, you will need to comply with the specific permit application requirements of that State.

The enclosed instructions show the specific steps on how to apply for a RCRA permit. If after reading the instructions you have any questions regarding the permit application process, please contact the EPA Regional Office in your area for assistance (see Table 2).

I. Who Must File a RCRA Permit Application

The Resource Conservation and Recovery Act of 1976 (RCRA), as amended, requires each person owning or operating a facility for the treatment, storage, or disposal of hazardous waste to have a permit. This includes individuals, trusts, firms, joint stock companies, corporations (including government corporations), partnerships, associations, State, municipalities, commissions, interstate bodies, Indian tribes (or an authorized Indian tribe organization), and Federal Agencies. If you treat, store, or dispose of hazardous waste without obtaining a permit, you may be subject to a civil or criminal penalty.

II. How to Determine if You Handle Hazardous Waste

OFF-SITE FACILITIES. Owners and operators of off-site treatment, storage, or disposal facilities are encouraged to obtain waste information from the generators they serve. If the generators will not supply this information, you are still responsible for determining if you handle a hazardous waste and should follow the procedures below for on-site facilities.

ON-SITE FACILITIES. Solid waste generators who treat, store, or dispose of their own waste on-site should follow the following procedures for determining if their waste is a hazardous waste. This determination is made as follows:

1. First, determine if the solid waste handled is excluded from regulation as a hazardous waste. The list of exclusions can be found in the regulation titled "Identification and Listing of Hazardous Waste," 40 CFR Sections 261.4 and 261.5. If the solid waste handled is excluded, a RCRA hazardous waste permit is not needed to treat, store, or dispose of these wastes.

2. If the solid waste handled is not excluded by Sections 261.4 or 261.5, determine if the waste is listed in Subpart D of Lists of Hazardous Wastes. Persons owning or operating facilities where listed hazardous waste is treated, stored, or disposed are subject to regulation and must file a RCRA permit application.

3. If the waste handled is not listed in Subpart D of Lists of Hazardous Wastes, the waste may still be hazardous because it possesses

certain characteristics or contains certain contaminants. These characteristics and contaminants are contained in Subpart C of "Identification and Listing of Hazardous Waste." A determination that a waste possesses these characteristics or contaminants may be made either based on:

(a) Your knowledge of the hazard characteristic of the waste in light of the materials or the processes used; or (b) The results of testing the waste according to the methods in Subpart C of "Identification and Listing of Hazardous Waste."

Certain persons who handle hazardous waste are not required to obtain a RCRA permit. They are:

1. Generators who accumulate their own hazardous waste on-site for less than 90 days as provided in 40 CFR 262.34;

2. Farmers who dispose of hazardous waste pesticides from their own use as provided in 40 CFR 262.70; and

3. Owners and operators of totally enclosed treatment facilities as defined in 40 CFR 260.10.

III. What Information Should be Filed and When

There are two parts to the RCRA permit application -- Part A and Part B. Part A defines the processes to be used for treatment, storage, and disposal of hazardous wastes; the design capacity of such processes; and the specific hazardous wastes to be handled at a facility. Part B requires detailed site specific information such as geologic, hydrologic, and engineering data. 40 CFR Section 270, Subpart B, specifies the information that will be required from hazardous waste management facilities in Part B of the permit application.

A. Operation During Interim Status

As provided in 40 CFR 270.13, Part A of the application defines the processes to be used for treatment, storage, and disposal of hazardous wastes; the design capacity of such processes; and the specific hazardous wastes to be handled at a facility during the interim status period. Once Part A is submitted to EPA, changes in the hazardous wastes handled,

changes in design of facilities, changes in processes, and changes in ownership or operational control at a facility during the interim status period may only be made in accordance with the procedures in 40 CFR 270.72. Changes in design capacity and changes in processes require prior EPA approval. Changes in the quantity of waste currently specified on the Part A can be made without submitting a revised Part A, provided the quantity does not exceed the design capacities of the processes specified in Part A of the permit application. Failure to furnish all information required to process a permit application is grounds for termination of interim status.

B. How Many Applications Should be Filed

You need submit only one RCRA permit application (Part A and Part B) per site or location, provided that you describe all of the activities at that site or location. If you conduct hazardous waste activity(ies) at more than one site or location, you must submit a separate application for each site or location.

C. Where to File

The application forms should be mailed to the EPA Regional Office whose Region includes the State in which the facility is located (see Table 2).

If the State in which the facility is located administers a Federal permit program under which you need a permit, you should contact the appropriate State agency for the correct forms (see Table 1). Your EPA Regional Office (Table 2) can tell you to whom to apply and can provide the appropriate address and phone number.

D. When to File

As required by 40 CFR 270.1(b), the deadlines for filing applications are as follows:

- **Existing facility:** six months following publication of regulations listing hazardous wastes.
- **New facility:** 180 days before commencing physical construction.

IV. Confidential Information

All information submitted in this form will be subject to public disclosure, to the extent provided by the Freedom of Information Act, 5 U.S.C. Section 552, and EPA's Business Confidentiality Regulations, 40 CFR Part 2 and 40 CFR 270.12. Claims of confidentiality for the name and address of any permit applicant or permittee will be denied. Persons filing this form may make claims of confidentiality for certain information. Such claims must be clearly indicated by submitting an attachment listing the specific information for which confidential treatment is requested at the time of filing. This attachment must include a written substantiation of the claim for confidentiality, that answers the following questions:

1. Which sections of the Part A form contain the information you claim is entitled to confidential treatment?

2. For how long is confidential treatment desired for the information?

3. What measures have you taken to guard against undesired disclosure of the information to others?

4. To what extent has the information been disclosed to others, and what precautions have been taken in connection with that disclosure?

5. Has EPA or any other Federal agency made a pertinent confidentiality determination? If so, include a copy of such determination or reference to it, if available.

6. Will disclosure of the information be likely to result in substantial harmful effects on your competitive position? If so, what would those harmful effects be and why should they be viewed as substantial? Explain the causal relationship between disclosure and the harmful effects.

Information covered by a confidentiality claim and the above substantiation will be disclosed by EPA only to the extent and by means of the procedures set forth in 40 CFR Part 2 and 40 CFR 270.12.

If no claim of confidentiality or no substantiation accompanies the information when it is submitted, EPA may make the information available to the public without further notice to the submitter.

Table 1
Alphabetized State Listing of Contacts for Obtaining and Submitting the Part A Permit

Alabama
Obtain information or forms from, and mail completed forms to:
Land Division
Alabama Department of
Environmental Management
P.O. Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700

Alaska
Obtain information or forms from:
Department of Environmental Conservation
410 Willoughby Avenue
Suite 105
Juneau, Alaska 99801-1795
(907) 465-5158
Mail completed forms to:
U.S. EPA Region 10
Waste Management Branch, HW-105
1200 Sixth Avenue
Seattle, Washington 98101
(206) 533-1253

American Samoa
Obtain information or forms from, and mail completed forms to:
U.S. EPA Region 9
Hazardous Waste Management Division
75 Hawthorne Street, Attn: H-2-3
San Francisco, California 94105
(415) 495-8895

Arizona
Obtain information or forms from, and mail completed forms to:
Office of Waste Programs
Arizona Department of
Environmental Quality
3033 N. Central Avenue
Phoenix, Arizona 85012
(602) 207-4146

Arkansas
Obtain information or forms from, and mail completed forms to:
Arkansas Department of Pollution
Control and Ecology
8001 National Drive
P.O. Box 8913
Little Rock, Arkansas 72209
(501) 682-0833

California
Obtain information or forms from:
CA Region 1
Department of Toxic Substances Control
10151 Croydon Way, Suite 3
Sacramento, CA 95827
(916) 255-3618
CA Region 2
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
(510) 540-3958
CA Region 3
Department of Toxic Substances Control
1011 North Granview Avenue
Glendale, CA 91201
(818) 551-2830
CA Region 4
Department of Toxic Substances Control
245 W. Broadway, Suite 350
Long Beach, CA 90802
(310) 590-4968
Mail completed forms to:
U.S. EPA Region 9
Hazardous Waste Management Division
75 Hawthorne Street, Attn: H-3-4
San Francisco, California 94105
(415) 495-8895

Colorado
Obtain information or forms from, and mail completed forms to:
Colorado Department of Health
4300 Cheny Creek Drive, South
HMWMD-HWC-B2
Denver, Colorado 80222-1530
(303) 692-3300

Table 1 (continued)

Connecticut
Obtain information or forms from, and mail completed forms to:
Hazardous Material Management Unit
Department of Environmental Protection
State Office Building
165 Capitol Avenue
Hartford, Connecticut 06106
(203) 565-3848

Delaware
Obtain information or forms from, and mail completed forms to:
Delaware Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Hazardous Waste Management Branch
P.O. Box 1401, 89 Kings Highway
Dover, Delaware 19903
(302) 739-3689
(302) 739-3672
Send courtesy copy to:
U.S. EPA Region 3
RCRA Programs Branch (3 HW50)
841 Chestnut Street
Philadelphia, PA 19107
(215) 566-3080 (PA, DC)
(215) 597-3070 (VA, WV, MD, DE)

District of Columbia
Obtain information or forms from, and mail completed forms to:
Department of Consumer and Regulatory Affairs
Environmental Regulation Administration
Hazardous Waste Branch
2100 Martin Luther King Jr. Ave. S.E.
Washington, D.C. 20020
(202) 645-6080
Send courtesy copy to:
U.S. EPA Region 3
RCRA Programs Branch (3 HW50)
841 Chestnut Street
Philadelphia, PA 19107
(215) 566-3080 (PA, DC)
(215) 566-3070 (VA, WV, MD, DE)

Florida
Obtain information or forms from, and mail completed forms to:
Hazardous Waste Regulation Section
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
(904) 488-0300

Georgia
Obtain information or forms from, and mail completed forms to:
Land Protection Branch
Industrial and Hazardous Waste Management Program
1154 East Tower
205 Butler Street, S.E., Suite 1154
Atlanta, Georgia 30334
(404) 656-7802

Guam
Obtain information or forms from, and mail completed forms to:
Guam Environmental Protection Agency
Harmon Plaza
Complex Unit B-107
103 Orjas Street
Harmon, Guam 96911

Hawaii
Obtain information from:
Hawaii Department of Health
Solid and Hazardous Waste Branch
Five Waterfront Plaza, Suite 250
500 Ala Moana Boulevard
Honolulu, Hawaii 96813
Obtain forms from and mail completed forms to:
U.S. EPA Region 9
Hazardous Waste Management Division
Attn: H-2-3
75 Hawthorne Street
San Francisco, California 94105
(415) 495-8895

Table 1 (continued)

Idaho
Obtain information or forms from, and mail completed forms to:
Department of Environmental Quality
1410 N. Hilton, Third Floor
Boise, Idaho 83706
(208) 334-5879

Illinois
Obtain information or forms from, and mail completed forms to:
Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706
(217) 782-6761

Indiana
Obtain information or forms from, and mail completed forms to:
Indiana Department of
Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206
(317) 232-3242

Iowa
Obtain information or forms from, and mail completed forms to:
U.S. EPA Region 7
RCRA Branch, Permitting Section
Attn: WSTM/RCRA/PRMT
726 Minnesota Avenue
Kansas City, Kansas 66101
(913) 551-7020

Kansas
Obtain information or forms from, and mail completed forms to:
Department of Health and Environment
Attn: Hazardous Waste Section
Forbes Field, Building 740
Topeka, Kansas 66620
(913) 296-1600

Kentucky
Obtain information or forms from, and mail completed forms to:
Division of Waste Management
Department of Environmental Protection
Cabinet for Natural Resources
and Environmental Protection
Fort Boone Plaza, Building No. 2
14 Reilly Road
Frankfort, Kentucky 40601
(502) 564-6716

Louisiana
Obtain information or forms from, and mail completed forms to:
Louisiana Department of
Environmental Quality
Department of Solid and Hazardous Waste
P.O. Box 82178
Baton Rouge, Louisiana 70884-2178
(504) 765-0261

Maine
Obtain information or forms from, and mail completed forms to:
Bureau of Oil and Hazardous
Materials Control
Department of Environmental Protection
State House Station #17
Augusta, Maine 04333
(207) 287-2651

Maryland
Obtain information or forms from, and mail completed forms to:
Maryland Department of the Environment
Waste Management Administration
Hazardous Waste Program
2500 Broening Highway
Baltimore, Maryland 21224
(410) 631-3343
(410) 631-3344
Send courtesy copy to:
U.S. EPA Region 3
RCRA Programs Branch (3 HW50)
841 Chestnut Street
Philadelphia, PA 19107
(215) 566-3080 (PA, DC)
(215) 566-3070 (VA, WV, MD, DE)

Table 1 (continued)

Massachusetts
Obtain information or forms from, and mail completed forms to:
Division of Solid and Hazardous Waste
Massachusetts Department of
Environmental Protection
One Winter Street, 5th Floor
Boston, Massachusetts 02109
(617) 292-5854

Michigan
Obtain information or forms from, and mail completed forms to:
Waste Management Division
Michigan Department of Natural Resources
Box 30241
Lansing, Michigan 48909
(517) 373-2730

Minnesota
Obtain information or forms from, and mail completed forms to:
Solid and Hazardous Waste Division
Minnesota Pollution Control Agency
520 Lafayette Road, North
St. Paul, Minnesota 55155
(612) 297-8330

Mississippi
Obtain information or forms from, and mail completed forms to:
Department of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385
(601) 961-5171

Missouri
Obtain information or forms from, and mail completed forms to:
Waste Management Program
Department of Natural Resource
Jefferson Building
205 Jefferson Street (13/14 floor)
P.O. Box 176
Jefferson City, Missouri 65102
(314) 751-3176

Montana
Obtain information or forms from, and mail completed forms to:
Solid and Hazardous Waste Bureau
Department of Health and
Environmental Sciences
Cogswell Building
Helena, Montana 59620
(406) 444-1430

Nebraska
Obtain information or forms from, and mail completed forms to:
Hazardous Waste Management Section
Department of Environmental Quality
State House Station
P.O. Box 98922
Lincoln, Nebraska 68509-8922
(402) 471-4218

Nevada
Obtain information or forms from, and mail completed forms to:
Waste Management Program
Division of Environmental Protection
333 West Nye Lane
Carson City, Nevada 89710
(702) 687-5872

New Hampshire
Obtain information or forms from, and mail completed forms to:
Division of Public Health Services
Office of Waste Management
Bureau of Hazardous Waste
Classification & Manifests
Department of Health and Welfare
Health and Welfare Building
6 Hazen Drive
Concord, New Hampshire 03301
(603) 271-2900

New Jersey
Obtain information from:
New Jersey Department of
Environmental Protection
Attn: Environmental Regulation
Bureau of Hazardous Waste Engineering
120 South Stockton
Trenton, New Jersey 08625
(609) 292-9880

Table 1 (continued)

Obtain forms from and mail completed forms to:
U.S. EPA Region 2
Air and Waste Management Division
Hazardous Waste Facilities Branch
290 Broadway, 21st Floor
New York, NY 10007-1866
(212) 637-4100

New Mexico
Obtain information or forms from:
Hazardous Waste Bureau
525 Camino De Loss Marquez
Sante Fe, New Mexico 87501
(505) 827-1557
Mail completed forms to:
U.S. EPA Region 6
Hazardous Waste Management Division
First Interstate Bank Tower
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
(214) 665-7200

New York
Obtain information from:
NY Regions 1-5:
New York Department of
Environmental Conservation
Division of Hazardous Waste
Substances Regulation
Bureau of Eastern Hazardous
Waste Programs
P.O. Box 7252
Albany, NY 12233-7252
(518) 457-9257
NY Regions 6-9:
New York Department of
Environmental Conservation
Division of Hazardous Waste
Substances Regulation
Bureau of Western Hazardous
Waste Programs
50 Wolf Road
Albany, NY 12233-7252
(518) 457-9236
Obtain forms from and mail completed forms to:
U.S. EPA Region 2
Air and Waste Management Division
Hazardous Waste Facilities Branch
290 Broadway, 21st Floor
New York, NY 10007-1866
(212) 637-4100

North Carolina
Obtain information or forms from, and mail completed forms to:
Solid and Hazardous Waste
Management Branch
Division of Health Services
Department of Human Resources
P.O. Box 27687
Raleigh, North Carolina 27611-7687
(919) 733-2178

North Dakota
Obtain information or forms from, and mail completed forms to:
Division of Waste Management
Department of Health and
Consolidated Laboratories
1200 Missouri Avenue
P.O. Box 5520
Bismarck, North Dakota 58506-5520
(701) 328-5166

Northern Mariana Islands
Obtain information or forms from, and mail completed forms to:
U.S. EPA Region 9
Hazardous Waste Management Division
Attn: H-2-3
75 Hawthorne Street
San Francisco, California 94105
(415) 495-8895

Ohio
Obtain information or forms from, and mail completed forms to:
Ohio Environmental Protection Agency
1800 WaterMark Drive
Columbus, Ohio 43215-1099
(614) 644-2977

Oklahoma
Obtain information or forms from:
Department of Environmental Quality
Hazardous Waste Management Service
1000 Northeast 10th Street
Oklahoma City, Oklahoma 73117-1212
(405) 271-5338

Table 1 (continued)

Mail completed forms to:
U.S. EPA Region 6
Hazardous Waste Management Division
First Interstate Bank Tower
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
(214) 665-7200

Oregon
Obtain information or forms from, and mail completed forms to:
Oregon Department of
Environmental Quality
Hazardous Waste Operations
811 Southwest 6th Avenue
Portland, Oregon 97204
(503) 229-5913

Pennsylvania
Obtain information or forms from, and mail completed forms to:
Pennsylvania Department of
Environmental Resources
Bureau of Waste Management
Market Street State Office Building
400 Market Street, 14th Floor
Harrisburg, Pennsylvania 17105-8471
(717) 787-6239
Send courtesy copy to:
U.S. EPA Region 3
RCRA Programs Branch (3 HW50)
841 Chestnut Street
Philadelphia, PA 19107
(215) 566-3080 (PA, DC)
(215) 566-3070 (VA, WV, MD, DE)

Puerto Rico
Obtain information from:
Puerto Rico Environmental Quality Board
Land Pollution Control Area
Inspection, Monitoring and Surveillance
P.O. Box 11488
Santurce, Puerto Rico 00910-1488
(787) 763-4448
Obtain forms from, and mail completed forms to:
U.S. EPA Region 2
Air and Waste Management Division
Hazardous Waste Facilities Branch
290 Broadway, 21st Floor
New York, New York 10007-1866
(212) 637-4100

Rhode Island
Obtain information or forms from, and mail completed forms to:
Solid Waste Management Program
Department of Environmental Management
204 Canon Building 75 Davis Street
Providence, Rhode Island 02908
(401) 277-2797

South Carolina
Obtain information or forms from, and mail completed forms to:
Bureau of Solid and Hazardous
Waste Management
Department of Health and Environmental
Control
2600 Bull Street
Columbia, South Carolina 29201
(803) 896-4000

South Dakota
Obtain information or forms from, and mail completed forms to:
Department of Environment and
Natural Resources
Office of Waste Management
319 Coteau
c/o 500 E. Capital Avenue
Pierre, South Dakota 57501-5070
(605) 773-3153

Tennessee
Obtain information or forms from, and mail completed forms to:
Division of Solid Waste Management
Tennessee Department of Public Health
401 Church Street
LNC Tower, 5th Floor
Nashville, Tennessee 37243-1535
(615) 532-0780

Texas
Obtain information or forms from, and mail completed forms to:
Industrial and Hazardous Waste Division
Waste Evaluation Section
P.O. Box 13087, Capitol Station
Austin, Texas 78711-3087
(512) 239-6595

Table 1 (continued)

Utah
Obtain information or forms from, and mail completed forms to:
Division of Solid an Hazardous Waste
Department of Environmental Quality
P.O. Box 144880
Salt Lake City, Utah 84114-4880
(801) 538-6170

Vermont
Obtain information or forms from, and mail completed forms to:
Waste Management Division
Agency of Environmental Conservation
103 South Main Street
Waterbury, Vermont 05676
(802) 241-3888

Virgin Islands
Obtain information from:
Virgin Islands Department of
Planning and Natural Resources
Division of Environmental Protection
179 Altona and Welgunst
St. Thomas, Virgin Islands 00801
(809) 693-0114
Obtain forms from and mail completed forms to:
U.S. EPA Region 2
Air and Waste Management Division
Hazardous Waste Facilities Branch
290 Broadway, 21st Floor
New York, New York 10007-1866
(212) 637-4100

Virginia
Obtain information or forms from, and mail completed forms to:
Virginia Department of Environmental
Quality
Attn: Division of Waste
P.O. Box 10009
Richmond, Virginia 23240-0009
(804) 698-4000
Send courtesy copy to:
U.S. EPA Region 3
RCRA Programs Branch (3 HW50)
841 Chestnut Street
Philadelphia, PA 19107
(215) 566-3080 (PA, DC)
(215) 566-3070 (VA, WV, MD, DE)

Washington
Obtain information or forms from:
Department of Ecology
P.O. Box 47658
Olympia, Washington 98504-7658
(206) 459-6316
Mail completed forms to:
U.S. EPA Region 10
Waste Management Branch, HW-105
1200 Sixth Avenue
Seattle, WA 98101
(206) 553-1253

West Virginia
Obtain information or forms from, and mail completed forms to:
Department of Commerce, Labor, and
Environmental Protection
Division of Environmental Protection
Office of Waste Management
1356 Hansford Street
Charleston, West Virginia 25301
(304) 558-5393
Send courtesy copy to:
U.S. EPA Region 3
RCRA Programs Branch (3 HW50)
841 Chestnut Street
Philadelphia, PA 19107
(215) 566-3080 (PA, DC)
(215) 566-3070 (VA, WV, MD, DE)

Wisconsin
Obtain information or forms from, and mail completed forms to:
Bureau of Waste Management
Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707
(608) 266-2111

Wyoming
Obtain information or forms from, and mail completed forms to:
Wyoming Departemt of Environmental
Quality
Solid and Hazardous Waste Division
Hazardous Waste Permitting and Corrective
Action
122 West 25th Street
Herschler Building, 4th Floor West
Cheyenne, Wyoming 82002
(307) 777-7752

Table 2
U.S. EPA Regional Contacts for the Part A Application

U.S. EPA Region 1
RCRA Support Section
JFK Federal Building
Boston, MA 02203-2211
(617) 565-3420
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

U.S. EPA Region 2
Air and Waste Management Division
Attn: RCRA Notifications
290 Broadway
21st Floor
New York, NY 10007-1866
(212) 637-4100
New Jersey, New York, Puerto Rico, Virgin Islands

U.S. EPA Region 3
RCRA Programs Branch (3 HW50)
841 Chestnut Street
Philadelphia, PA 19107
(215) 566-3080 (PA, DC)
(215) 566-3070 (VA, WV, DE, MD)
Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia

U.S. EPA Region 4
Hazardous Waste Management Division
RCRA Permitting Section
345 Courtland Street, NE
Atlanta, GA 30365
(404) 347-3433
Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

U.S. EPA Region 5
RCRA Activities
P.O. Box A3587
Chicago, IL 60690
(312) 886-4001
Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

U.S. EPA Region 6
Hazardous Waste Management Division
First Interstate Bank Tower
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
(214) 665-7200
Arkansas, Louisiana, New Mexico, Oklahoma, Texas

U.S. EPA Region 7
RCRA Branch, Permitting Section
726 Minnesota Avenue
Attn: WSTIN/RCRA/PRMT
Kansas City, KS 66101
(913) 551-7020
Iowa, Kansas, Missouri, Nebraska

U.S. EPA Region 8
Hazardous Waste Management Division
999 18th Street, Suite 500
Denver, CO 80202-2405
(303) 312-6319
Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

U.S. EPA Region 9
Hazardous Waste Management Division
75 Hawthorne Street, H-3-4
San Francisco, CA 94105
(415) 495-8895
Arizona, California, Hawaii, Nevada, American Samoa, Guam, Northern Mariana Islands

U.S. EPA Region 10
Waste Management Branch, HW-105
1200 Sixth Avenue
Seattle, WA 98101
(206) 553-1253
Alaska, Idaho, Oregon, Washington

V. Part A -- Line-By-Line Instructions

This form must be completed by all applicants.

Please type or print in the unshaded area only leaving a blank box between words. The boxes are spaced at 1/4" intervals which accommodate elite type (12 *characters per inch)*. When typing, hit the space bar twice between characters. If you print, place each character in a box. Abbreviate if necessary to stay within the number of boxes allowed for each item. If you must use additional sheets, indicate clearly the number of the Item on the form to which the information on the separate sheet applies.

Unless otherwise specified in the instructions to the form, each item must be answered. To indicate that each item has been considered, enter "NA" for not applicable if a particular item does not fit the circumstances or characteristics of your facility or activity.

If you have previously submitted information to EPA or to an approved State agency which answers a question, you may either repeat the information in the space provided or attach a copy of the previous submission. Some items in the form require narrative explanation. If more space is necessary to answer a question, attach a separate sheet entitled "Additional Information."

Note: When submitting a revised application, applicants must resubmit in their entirety each item on the application for which changes are requested. In addition, Items I, II, III, VI, VII, VIII and XVIII must be completed. All other sections may be left blank.

Estimated Burden: Public reporting burden for this collection of information is estimated to be 27.1 hours, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Director, Regulatory Information Division, 2136, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

Item I - ID Number(s):

A. **First Part A Submission:** Place an "X" in this box if this is the facility's first Part A submission under a current or previous ownership.

B. **Part A Amendment:** Place an "X" in this box if this is an amendment to a prior Part A application for this facility. Enter the amendment number, if known.

C. **EPA ID Number:** Space is provided on Form A for insertion of your EPA Identification Number. If you have an existing facility, enter your Identification Number. If you don't know your EPA Identification Number, please contact your EPA Regional Office (see Table 2), which will provide you with your number, or send you an application (Notification of Regulated Waste Activity (EPA Form 8700-12)) to apply for an EPA Identification Number. If your facility is new (not yet constructed) or you do not have an Identification Number, leave this item blank.

D. **Secondary ID Number:** Enter any non-EPA ID number that your facility has been issued. For example, for wastes regulated by a State or local authority, give the ID number that the other authority issued.

Item II - Name of Facility:

Enter the facility's official or legal name. Do not use a colloquial name.

Item III - Facility Location:

A. **Location:** Give the address or location of the facility identified in Item II of this form. Please note that the address you give for Item III must be a physical address, *not a post office box or route number*. If the facility lacks a street name give the most accurate alternative geographic information (e.g., section number or quarter section number from county records or at intersection of Rts. 425 and 22).

County Name and Code: Give the county code, if known. If you do not know the county code, enter the county, township, borough, parish, or other local government entity name, from which EPA can automatically generate the county code. To obtain a list of county codes, contact the National Technical Information Service, U.S.

Department of Commerce, Springfield, Virginia, 22161 or at (703) 487-4650. The list of codes is contained in the Federal Information Processing Standards Publication (FIPS PUB) number 6-3.

B. Land Type: Using the codes listed below, indicate in III. B. the code which *best describes* the current legal status of the land on which the facility is located:

F = Federal
S = State
I = Indian
P = Private
C = County
M = Municipal*
D = District
O = Other

**Note: If the Land Type is best described as Indian, County or District, please use those codes. Otherwise, use Municipal.*

C. Geographic Location: Enter the latitude and longitude of the facility in degrees, minutes, and seconds. For larger facilities, enter the latitude and longitude at the approximate mid-point of the facility. You may use the map you provide for Item XV to determine latitude and longitude. Latitude and longitude information is also available from Regional Offices of the U.S. Department of Interior, Geological Survey, and from State Natural Resource or Environmental Agencies.

D. Facility Existence Date: Enter the appropriate date that applies to your facility from the following:

1. The date that hazardous waste operations at the facility commenced;

2. The date construction on the facility commenced; or

3. The date operation is expected to begin.

Item IV - Facility Mailing Address:

Please enter the Facility Mailing Address. If the Mailing Address and the Facility Location (Item III) are the same, you can print "same" in the space for Item IV.

Item V - Facility Contact:

Give the name, title, and work telephone number of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by reviewing offices if necessary.

Item VI - Facility Contact Address:

A. **Code:** If the contact address is the same as the facility location address listed in Item III or the facility mailing address listed in Item IV, place an "X" in the appropriate box to indicate where the contact may be reached. If the facility location address, the facility mailing address, and the facility contact address are all the same, mark the "Location" box. If the contact is *not* the same as those addresses in either Item III or IV, place an "X" in the "Other" box and complete Item VI.B. If an "X" is entered, in either the location or mailing box, Item VI.B. should be left blank.

B. **Address:** Enter the facility contact address only if the contact address is different from either the facility location address (Item III) or the facility mailing address (Item IV) and Item VI.A. was left blank.

Item VII - Operator Information:

A. **Name:** Give the name, as it is legally referred to, of the person, firm, public organization, or any other entity which operates the facility described in this application. This may or may not be the same name as the facility. The operator of the facility is the legal entity which controls the facility's operation rather than the plant or site manager. Do not use a colloquial name. Also enter the telephone number and address where the operator can be contacted.

B. Operator Type: Using the codes listed below, indicate in VII.B. the code which best describes the legal status of the current operator of the facility:

F = Federal
S = State
I = Indian
P = Private
C = County
M = Municipal*
D = District
O = Other

**Note: If the Operator Type is best described as Indian, County or District, please use those codes. Otherwise, use Municipal.*

C. Operator Indicator: *(If this is your installations first Part A application, leave VII.C. blank and skip to Item VIII. If this is a subsequent Part A application, complete Item VII.C. as directed below.)*

If the operator of this facility has changed since the facility's previous Part A was submitted, place an "X" in the box marked "Yes" and enter the date the operator changed.

If the operator of this facility has not changed since the facility's previous Part A was submitted, place an "X" in the box marked "No" and skip to Item VIII.

If any additional operators have been added or replaced since the facility's previous Part A was submitted, place an "X" in the box marked "Yes." Use the comment section in XIX to list any additional operators, the dates they became operators, and which operator(s) (if any) they replaced. If necessary attach a separate sheet of paper.

Item VIII - Facility Owner:

A. Name: Enter the name of the legal owner(s) of the installation, including the property owner. Also enter the address and phone number where this individual can be reached. Use the comment section or additional sheets if necessary to list more than one owner.

B. **Owner Type:** Using the codes listed below, indicate in VIII.B. the code which best describes the legal status of the current owner of the facility:

F = Federal
S = State
I = Indian
P = Private
C = County
M = Municipal*
D = District
O = Other

**Note: If the Operator Type is best described as Indian, County or District, please use those codes. Otherwise, use Municipal.*

C. **Owner Indicator:** *(If this is your installations first Part A application, leave VIII. C. blank and skip to Item IX. If this is a subsequent Part A application, complete Item VIII.C. as directed below.)*

If the owner of this facility has changed since the facility's previous Part A was submitted, place an "X" in the box marked "Yes" and enter the date the owner changed.

If the owner of this facility has not changed since the facility's previous Part A was submitted, place an "X" in the box marked "No" and skip to Item IX.

If any additional owners have been added or replaced since the facility's previous Part A was submitted, place an "X" in the box marked "Yes." Use the comment section in XIX to list any additional owner(s), the dates they became owners, and which owner(s) (if any) they replaced. If necessary attach a separate sheet of paper.

Item IX - SIC Codes:

List, in descending order of significance, the four digit standard industrial classification (SIC) codes which best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words. These classifications may differ from the SIC codes describing the operation generating the hazardous wastes.

SIC code numbers are descriptions which may be found in the Standard Industrial Classification Manual prepared by the Executive Office of the

President, Office of Management and Budget, which is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual. If you have any questions concerning the appropriate SIC code for your facility, contact your EPA Regional office (see Table 2).

Item X - Existing Environmental Permits:

A. **Permit Type:** Using the codes listed below, enter a letter on the form for all other environmental permits the facility has received, or for which the facility has filed an application, even if the permit has not yet been received.

- N = NPDES (National Pollutant Discharge Elimination System, Clean Water Act)
- P = PSD (Prevention of Significant Deterioration, Clean Air Act)
- R = RCRA (Resource Conservation and Recovery Act)
- U = UIC (Underground Injection Control, Safe Drinking Water Act)
- F = EPA 404 (Dredge or Fill Permits under Section 404 of the Clean Water Act)
- E = Other relevant environmental permits. List any other relevant Federal (e.g., permits under the Ocean Dumping Act), State (e.g., State permits for new air emission sources in nonattainment areas under Part D of the Clean Air Act or State permits under Section 404 of the Clean Water Act), or local environmental permits or applications.

B. **Permit Number:** Give the number of each presently effective permit issued to the facility for each program, or if you have previously filed an application, but have not yet received a permit, give the number of the application. If you have more than one currently effective permit for your facility under a particular permit program, you may list additional permit numbers on a separate sheet of paper.

C. **Description:** Use the space provided for any additional information identifying or describing the permits.

Item XI - Nature of Business:

Briefly describe the nature of your business (e.g., products produced or services provided). If more space is needed, please attach additional sheets.

Item XII - Process Codes and Design Capacities:

The information in Item XII describes all the processes that will be used to treat, store, or dispose of hazardous waste at the facility. The design capacity of each process must be provided as part of the description. The design capacity of injection wells and landfills at existing facilities should be measured as the remaining, unused capacity. Tank storage should refer to each tank, not each tank farm. Please indicate the location of each process listed in Item XII on either the map provided for Item XV or the photographs provided for Item XVII. Use the line number from Item XII to indicate where the process(es) are located. See the form for the detailed instructions to Item XII.

Note: Process codes T80-T93 are designated for Boilers and Industrial Furnaces (BIFs) as regulated under 40 CFR Part 266, Subpart H.

Item XIII - Other Processes:

Use this space to describe other processes that did not have a specific process code listed in Item XII.A. of the form. Follow the instructions in Item XII.A. on the form for other process codes (i.e., D99, S99, T04, and X99 process codes).

Item XIV - Description of Hazardous Wastes:

The information in Item XIV describes all the hazardous waste that will be treated, stored, or disposed at the facility. In addition, the processes that will be used to treat, store, or dispose of each waste and the estimated annual quantity of each waste must be provided. See the form for the detailed instructions to Item XIV.

Item XV - Map:

Provide a topographic map or maps of the area extending to at least one mile beyond the property boundaries of the facility. The map must clearly show the following:

- The legal boundaries of the facility;
- The location and serial number of each of your existing and proposed intake and discharge structures;
- All hazardous waste management facilities;
- Location of all processes listed in Items XII and XIII identified by process code;
- Each well where you inject fluids underground; and
- All springs and surface water bodies in the area, plus all drinking water wells within 1/4 mile of the facility which are identified in the public record or otherwise known to you.

If an intake or discharge structure, hazardous waste disposal site, or injection well associated with the facility is located more than one mile from the plant, include it on the map, if possible. If not, attach additional sheets describing the location of the structure, disposal site, or well, and identify the U.S. Geological Survey (or other) maps corresponding to the location.

On each map, include the map scale, a meridian arrow showing north, and latitude and longitude at the nearest whole second. On all maps of rivers, show the direction of the current, and in tidal waters, show the directions of the ebb and flow tides. Use a 7-1/2 minute series map published by the U.S. Geological Survey, which may be obtained through the U.S. Geological Survey Office listed below. If a 7-1/2 minute series map has not been published for your facility site, then you may use a 15 minute series map from the U.S. Geological Survey. If neither a 7-1/2 nor 15 minute series map has been published for your facility site, use a plant map or other appropriate map, and include all the requested information; in this case, briefly describe land uses in the map area (e.g., residential, commercial).

You may trace your map from a geological survey chart, or other map meeting the above specifications. If you do, your map should bear a note showing the number or title of the map or chart it was traced from. Include the names of nearby towns, water bodies, and other prominent points.

To obtain map indexes contact one of the following Earth Science Information Centers (ESIC):

Anchorage - ESIC
4230 University Dr., Rm. 101
Anchorage, AK 99508-4664
(907) 786-7011

Fairbanks - ESIC
Box 12, New Federal Building
101 Twelfth Avenue
Fairbanks, AK 99701
(907) 474-7487
(907) 474-7598

Lakewood - ESIC
Box 25046, MS 504
Denver Federal Center
Denver, CO 80225
(303) 236-5829

Menlo Park - ESIC
Room 3128, Building 3, MS 532
345 Middlefield Road
Menlo Park, CA 94025
(415) 329-4390

Reston - ESIC
507 National Center
Reston, VA 22092
(703) 648-6045

Rolla - ESIC
1400 Independence Road, MS 231
Rolla, MO 65401
(573) 308-3500

Salt Lake City - ESIC
8105 Federal Building
125 S. State Street
Salt Lake City, UT 84138
(801) 975-3742

Sioux Falls - ESIC
EROS Data Center
Sioux Falls, SD 57198-0001
(605) 594-6151

Spokane - ESIC
U.S. Post Office Building, Room 135
West 904 Riverside Avenue
Spokane, WA 99201-1088
(509) 353-2524

Stennis Space Center - ESIC
Building 3101
Stennis Space Center, MS 39529
(601) 688-3541

Washington, D.C. - ESIC
Department of the Interior Building
18th & C Streets, NW, Room 2650
Washington, D.C. 20240
(202) 208-4047

Item XVI - Facility Drawing:

All existing facilities must include a drawing showing the general layout of the facility. This drawing should be approximately to scale and fit on an 8 1/2" x 11" sheet of paper. This drawing should show the following:

1. The property boundaries of the facility;

2. The areas occupied by all storage, treatment, or disposal operations that will be used during interim status;

3. The name of each operation (e.g., multiple hearth incinerator, drum storage area, etc.);

4. Areas of past storage, treatment, or disposal operations;

5. Areas of future storage, treatment, or disposal operations; and

6. The approximate dimensions of the property boundaries and all storage, treatment, and disposal areas. (Note: where applicable, use the process codes listed in Items XII and XIII to indicate the location of all storage, treatment, and disposal areas.)

New facilities do not have to complete Item XVI.

Item XVII - Photographs:

All existing facilities must include photographs that clearly delineate all existing structures, all existing areas for storing, treating, or disposing of hazardous waste; and all known sites of future storage, treatment, or disposal operations. Photographs may be color or black and white, ground-level or aerial. Indicate the date the photograph was taken on the back of each photograph. Use the process codes listed in Items XII and XIII to indicate the location of all storage, treatment, and disposal areas.

Item XVIII - Certification(s):

All facility owners must sign Item XVIII. If the facility will be operated by someone other than the owner, then the operator must also sign Item XVIII. Federal regulations require the certification to be signed as follows:

A. For a corporation, by a principal executive officer at least the level of vice president;

B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

C. For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official.

The Resource Conservation and Recovery Act provides for severe penalties for submitting false information on this application form.

Section 3008(d) of the Resource Conservation and Recovery Act provides that "Any person who knowingly makes any false statement or representation in any application. ...shall, upon conviction be subject to a fine of not more than $25,000 for each day of violation, or to imprisonment not to exceed one year, or both."

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-01

For EPA Regional Use Only

Date Received (Month Day Year)

EPA

United States Environmental Protection Agency
Washington, DC 20460

Hazardous Waste Permit Application Part A

(Read the Instructions before starting)

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

☐ A. First Part A Submission

☐ B. Part A Amendment #

C. Installation's EPA ID Number

D. Secondary ID Number (If applicable)

II. Name of Facility

III. Facility Location (Physical address not P.O. Box or Route Number)

A. Street

Street (Continued)

City or Town | State | Zip Code

County Code (If known) | County Name

B. Land Type (Enter code) | C. Geographic Location: LATITUDE (Degrees, minutes & seconds) | LONGITUDE (Degrees, minutes & seconds) | D. Facility Existence Date: Month Day Year

IV. Facility Mailing Address

Street or P.O. Box

City or Town | State | Zip Code

V. Facility Contact (Person to be contacted regarding waste activities at facility)

Name (Last) | (First)

Job Title | Phone Number (Area Code and Number)

VI. Facility Contact Address (See Instructions)

A. Contact Address: Location ☐ Mailing ☐ Other ☐

B. Street or P.O. Box

City or Town | State | Zip Code

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

EPA I.D. Number *(Enter from page 1)*	Secondary ID Number *(Enter from page 1)*

VII. Operator Information *(See Instructions)*

Name of Operator			
Street or P.O. Box			
City or Town		State	ZIP Code
Phone Number *(Area Code and Number)*	B. Operator Type	C. Change of Operator Indicator	Date Changed Month Day Year

VIII. Facility Owner *(See Instructions)*

A. Name of Facility's Legal Owner			
Street or P.O. Box			
City or Town		State	ZIP Code
Phone Number *(Area Code and Number)*	B. Owner Type	C. Change of Owner Indicator	Date Changed Month Day Year

IX. SIC Codes *(4-digit, in order of significance)*

Primary	Secondary
(Description)	(Description)
Secondary	Secondary
(Description)	(Description)

X. Other Environmental Permits *(See Instructions)*

A. Permit Type *(Enter code)*	B. Permit Number	C. Description

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 10/31/99
GSA No. 3248-EPA-OT

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

XI. Nature of Business (Provide a brief description)

XII. Process Codes and Design Capacities

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item XIII.

B. PROCESS DESIGN CAPACITY - For each code entered in column A, enter the capacity of the process.

1. AMOUNT - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

C. PROCESS TOTAL NUMBER OF UNITS - Enter the total number of units used with the corresponding process code.

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	Disposal:	
D79	Underground Injection	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet or Hectare-meter
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment	Gallons or Liters
D99	Other Storage	Any Unit of Measure Listed Below
	Storage:	
S01	Container (Barrel, Drum, Etc.)	Gallons or Liters
S02	Tank	Gallons or Liters
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment	Gallons or Liters
S05	Drip Pad	Gallons or Liters
S06	Containment Building	Cubic Yards or Cubic Meters
S99	Other Disposal	Any Unit of Measure Listed Below
	Treatment:	
T01	Tank	Gallons Per Day or Liters Per Day
T02	Surface Impoundment	Gallons Per Day or Liters Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Btu's Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
T80	Boiler	Gallons or Liters
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, Or Refining Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
T88	Titanium Dioxide Chloride Process Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed in 40 CFR §260.10	
T94	Containment Building	Cubic Yards or Cubic Meters
	Miscellaneous (Subpart X):	
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
X04	Geologic Repository	Cubic Yards or Cubic Meters
X99	Other Subpart X	Any Unit of Measure Listed Below

UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G
Gallons Per Hour	E
Gallons Per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V

UNIT OF MEASURE	UNIT OF MEASURE CODE
Short Tons Per Hour	D
Metric Tons Per Hour	W
Short Tons Per Day	N
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	R

UNIT OF MEASURE	UNIT OF MEASURE CODE
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu's Per Hour	I

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 10/31/99
GSA No. 0246-EPA-OT

EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)

XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line number X-1 below): A facility has a storage tank, which can hold 500,788 gallons.

Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY 1. Amount (Specify)	2. Unit Of Measure (Enter code)	C. Process Total Number Of Units	For Official Use Only
X 1	S 0 2	5 3 3 7 8 8	G	0 0 1	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item XIII.

XIII. Other Processes (Follow instructions from Item XII for D99, S99, T04 and X99 process codes)

Line Number (Enter as in seq w/XII)	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY 1. Amount (Specify)	2. Unit Of Measure (Enter code)	C. Process Total Number Of Units	D. Description Of Process
X 1	T 0 4				In-situ Vitrification
1					
2					
3					
4					

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 10/31/99
GSA No. 0248-EPA-OT

EPA I.D. Number *(Enter from page 1)* | Secondary ID Number *(Enter from page 1)*

XIV. Description of Hazardous Wastes

A. **EPA HAZARDOUS WASTE NUMBER** - *Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.*

B. **ESTIMATED ANNUAL QUANTITY** - *For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

C. **UNIT OF MEASURE** - *For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. **PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of Item XIV-D(1).*
3. *Enter in the space provided on page 2, Item XIV-E, the line number and the additional code(s).*

2. **PROCESS DESCRIPTION:** *If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).*

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. *Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number		A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESS (1) PROCESS CODES (Enter)								D. PROCESS (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
X	1	K	0	5	4	900	P	T	0	3	D	8	0			
	2	D	0	0	2	400	P	T	0	3	D	8	0			
X	3	D	0	0	1	100	P	T	0	3	D	8	0			
X	4	D	0	0	2											Included With Above

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 10/31/99
GSA No. 0246-EPA-01

EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)

XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

EPA I.D. Number *(Enter from page 1)*	Secondary ID Number *(Enter from page 1)*

XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (See instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature	Date Signed
Name and Official Title (Type or print)	
Owner Signature	Date Signed
Name and Official Title (Type or print)	
Operator Signature	Date Signed
Name and Official Title (Type or print)	
Operator Signature	Date Signed
Name and Official Title (Type or print)	

XIX. Comments

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

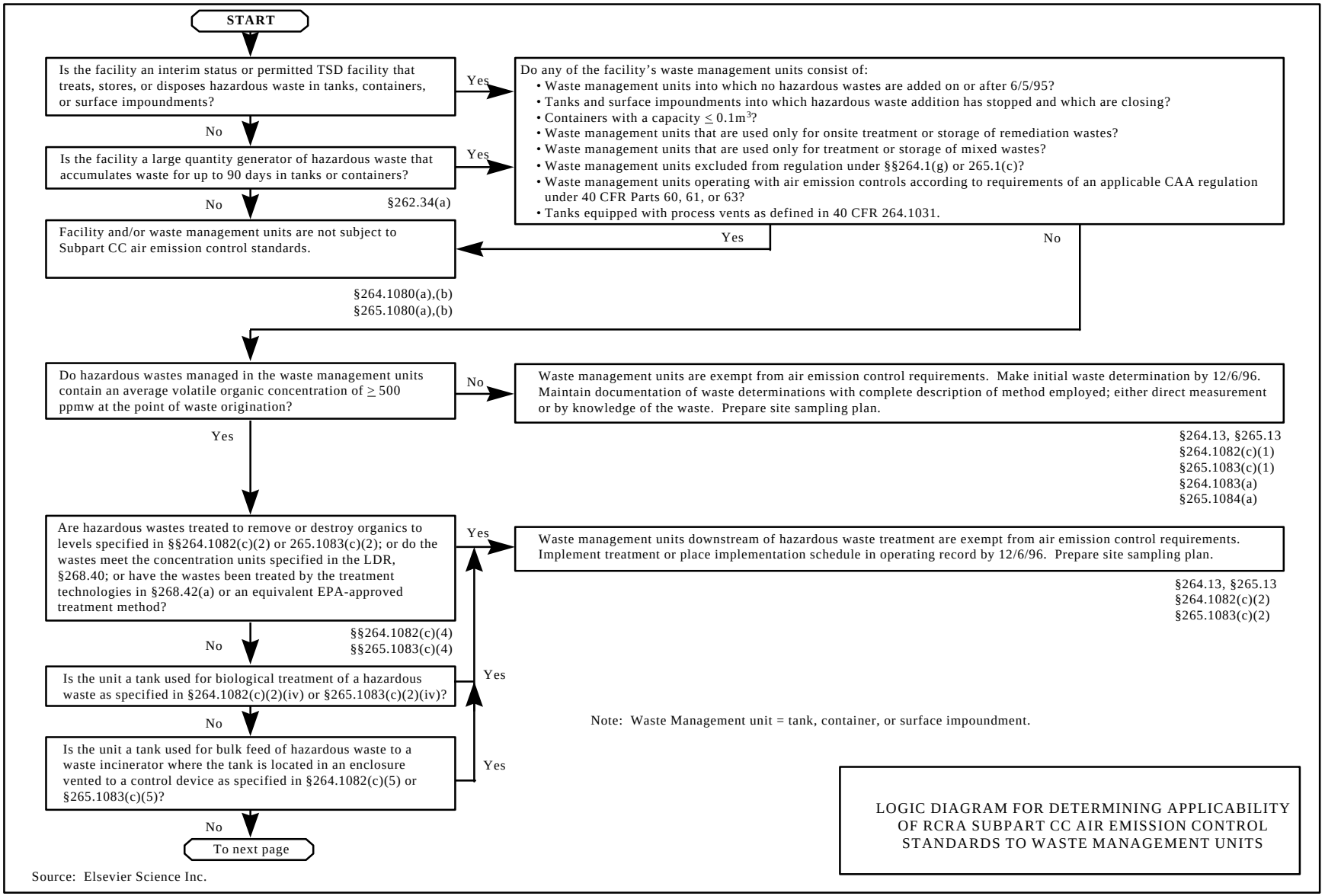
US EPA ARCHIVE DOCUMENT

ATTACHMENT F

LOGIC DIAGRAM FOR DETERMINING APPLICABILITY OF SUBPART CC STANDARDS

(2 Sheets)

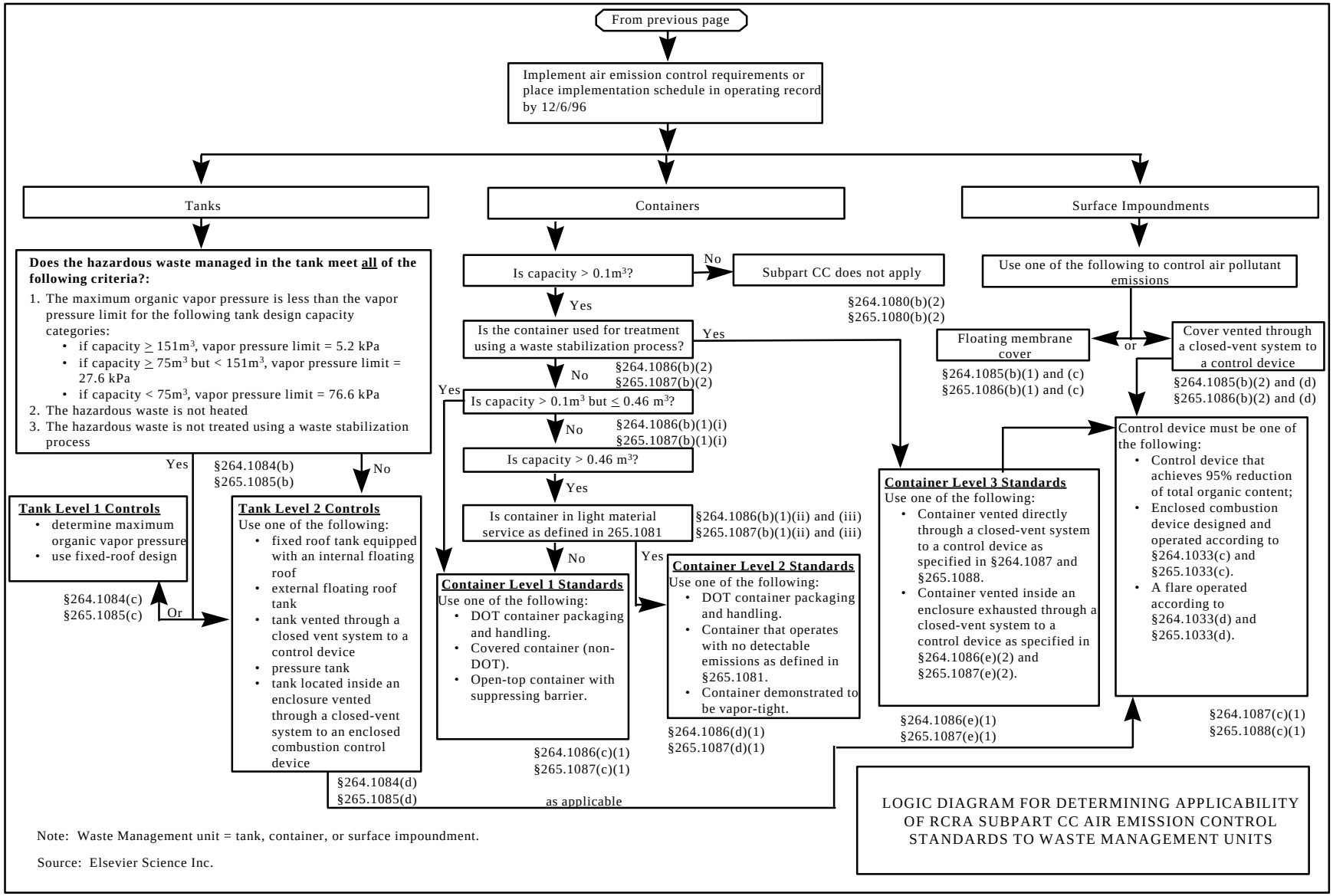
US EPA ARCHIVE DOCUMENT



LOGIC DIAGRAM FOR DETERMINING APPLICABILITY OF RCRA SUBPART CC AIR EMISSION CONTROL STANDARDS TO WASTE MANAGEMENT UNITS

Source: Elsevier Science Inc.

US EPA ARCHIVE DOCUMENT



Note: Waste Management unit = tank, container, or surface impoundment.

Source: Elsevier Science Inc.

LOGIC DIAGRAM FOR DETERMINING APPLICABILITY OF RCRA SUBPART CC AIR EMISSION CONTROL STANDARDS TO WASTE MANAGEMENT UNITS

US EPA ARCHIVE DOCUMENT

ATTACHMENT G

EXAMPLE CLOSURE PLAN AND FINANCIAL REQUIREMENTS

(20 Sheets)

ATTACHMENT G

EXAMPLE CLOSURE PLAN AND FINANCIAL REQUIREMENTS

(20 Sheets)

SECTION I
CLOSURE PLAN AND FINANCIAL REQUIREMENTS

The information in this section is submitted in accordance with 40 CFR 270.14(b)(13). The purpose of this Closure Plan is to ensure that the Lafarge Fredonia plant BIF units will be closed pursuant to 40 CFR 264.111 through 264.115, 266.102, and K.A.R. 28-31-8a. Two additional waste handling units: the pyrolyzer and the dry fuels handling have been closed under a separate plan. Soil sampling for these units will be covered in this plan. The discussion of financial requirements is in accordance with 40 CFR 264.142, 264.143, 264.147, and K.A.R. 28-31-8a. The Closure Plan is designed to ensure that, after closure, the Lafarge Fredonia plant kilns will:

- Not require further maintenance and control;
- Minimize or eliminate threats to human health and the environment; and
- Prevent the escape of hazardous waste, hazardous waste constituents, or contaminated runoff to soil, groundwater, surface water, or the atmosphere.

The subjects discussed in this section include the:

- Closure Plan;
- Closure cost estimate;
- Financial assurance mechanism for closure; and
- Test for financial responsibility.

A copy of this Closure Plan, and all revisions to it, will be maintained at the plant until completion of closure certification has been submitted and accepted. In accordance with 40 CFR 264.112(c), Lafarge will submit a written notification to EPA

Region VII to obtain authorization to amend the closure plan if 1) changes in the operation plans or facility design affect the plan; 2) the year of expected closure changes; or 3) modifications to the plan become necessary because of partial or final closure activities. All requests for modifications to the Closure Plan will be made in writing to EPA Region VII.

The Plant Manager, or his/her designee, is responsible for ensuring that the Closure Plan is updated. He/she will ensure that all copies of the Closure Plan are updated as necessary by sending out any amendments that have been incorporated into the copies of the Plan.

EPA Region VII and the Kansas Department of Health and Environment (KDHE) will be notified in writing of the intent to close the Lafarge BIF units at least 45 days before the initial date of final closure activities. In accordance with 40 CFR Part 264, Subpart G and K.A.R. 28-31-8a, within 60 days of completion of final closure, Lafarge Corporation and an independent, registered Professional Engineer will submit certification to EPA Region VII and the KDHE that the Lafarge Fredonia plant BIF units have been closed in accordance with the specifications in the approved Closure Plan.

A Post-Closure Plan is not required since the waste management activities at the plant do not include the land disposal of hazardous waste. The kiln and all ancillary equipment would be decontaminated, and all waste residues would be removed from the premises. Therefore, no waste inventory would remain at the plant following closure.

If the Systech facility is to be closed simultaneously, then closure of that facility will occur according to the closure plan in the Systech permit.

I.1 Final Closure Activities

The procedures for final closure of the kilns at the Lafarge Fredonia plant, including waste removal, cleanup, and decontamination activities, are described in this Plan. The closure cost estimates are based on using third-party, outside contractors. However, it is more reasonable to assume that the majority of the activities would be conducted by plant employees. The closure procedures and cost estimates have been established for both kilns currently operating at the Lafarge Fredonia plant.

I.1.1 Disposal of Maximum Inventory of Hazardous Liquid Waste-Derived Fuel

All hazardous liquid waste-derived fuels burned in the Lafarge Fredonia plant's kilns are stored at an adjacent storage facility operated by Systech under RCRA permit #KSD980633259. At closure, Lafarge will receive no additional waste fuels from Systech so that no inventory of hazardous waste will remain on Lafarge property. The disposal of the maximum inventory of hazardous liquid waste-derived fuel is covered in the Systech Closure Plan and closure cost estimate for that facility.

No hazardous waste will be burned during shut down. The kilns will burn only coal for 4 hours and then be shut down one at a time so that the refractory brick from the closed kiln can be processed as raw material in the other kiln. The refractory brick from the remaining kiln will be contract-hauled to another Lafarge plant, where the brick will be utilized as raw material. If no other Lafarge kiln is available to burn the brick, the material will be hauled to a properly permitted disposal facility. The inside of the kiln and all ancillary equipment in contact with hazardous waste will be decontaminated by steam cleaning. All waste residues will be removed from the premises. Therefore, no hazardous waste inventory will remain at the plant following closure.

I.1.2 Sampling and Analysis of Contaminated Soil

The Lafarge Fredonia plant was designed and is operated to eliminate the possibility of soil contamination in the event of a spill or leak. However, should a spill or leak affect unprotected soil, samples will be collected and analyzed to determine the extent of contamination.

If necessary at the time of closure, a detailed soil sampling and analysis plan will be prepared and submitted to the KDHE and EPA Region VII for review, comment, and approval. The plan will be prepared in accordance with the prevailing regulations applicable to the identification of soil contamination at the plant, to determine appropriate remedial actions, if any, that will need to be completed before certification of closure. If necessary, soil sampling for the pyrolyzer and dry fuels facility will be incorporated into the soil sampling and analysis plan.

The soil sampling, analysis, and remedial activities will include, but not be limited to, the following general procedures:

- Soil core sampling to a depth of approximately 2 feet from 10 locations;
- Sample analysis by a certified laboratory for approximately 10 analytical parameters x 30 samples (3 samples per boring site);
- Removal or on-site treatment of approximately 100 cubic yards (100 tons) of soil; and
- Resampling and analysis to verify effectiveness of remedial activities (assuming 10 samples x 10 analytical parameters).

All technical details are subject to approval by the KDHE and EPA Region VII before initiation of any remedial activities.

I.2 Closure Schedule

The KDHE and EPA Region VII will be notified of the intent to close the Lafarge Fredonia plant BIF units at least 45 days before the beginning of final closure activities. Within 90 days after receipt of the final shipment of waste materials, all hazardous waste inventories will have been treated or disposed. Within 180 days after receipt of the final shipment of waste materials, all closure activities will have been completed in accordance with the approved Closure Plan. In accordance with 40 CFR 265.115 and K.A.R. 28-31-8a, within 60 days of completion of final closure, Lafarge Corporation and an independent, registered Professional Engineer will submit certification to the KDHE and EPA Region VII that the Lafarge Fredonia plant kilns have been closed in accordance with the specifications in the approved Closure Plan. The proposed closure schedule is presented in Table I-1.

I.3 Closure Cost Estimate

An estimate of the closure cost for the Lafarge Fredonia plant has been developed, and the major cost factors are detailed in Table I-2. In all situations, the worst-case scenario has been assumed; for example, all costs have been based on hiring third-party contractors. The use of third-party contractors might be required if all operations, technical, and engineering staff have been dismissed, leaving only management personnel to supervise environmental contractors. In addition, this Closure Plan assumes that the kilns being closed would not have any salvage value.

Table I-1

Projected Schedule of Closure Activities

Closure Activity - Kiln #1	Start Date	Completion Date
1. Disposal of existing waste	Day 1	Day 90
2. Decontamination of cement kilns	Day 30	Day 120
3. Decontamination of ancillary equipment	Day 90	Day 120
4. Disposal of decontamination residuals and rinses	Day 60	Day 120
5. Completion of closure and submission of certification to KDHE and EPA Region VII	Day 120	Day 180

Closure Activity - Kiln #2	Start Date	Completion Date
1. Disposal of existing waste	Day 1	Day 90
2. Decontamination of cement kilns	Day 30	Day 120
3. Decontamination of ancillary equipment	Day 90	Day 120
4. Disposal of decontamination residuals and rinses	Day 60	Day 120
5. Completion of closure and submission of certification to KDHE and EPA Region VII	Day 120	Day 180

Table I-2

Projected Closure Costs (1994 Dollars)

	Quantity	Cost/Unit	Cost	Total
Contracted Refractory Brick Disposal:				
Refractory Brick Removal	2	$12,300	$24,600	
Transportation for Incineration	1,100 miles	$460 + $4.35/mile	$5,245	
Refractory Brick Disposal				
Subtotal				$29,845
Contracted Decontamination Services:				
Steam Cleaning	2	$10,700	$21,400	
Sampling and Analysis	2	$5,300	$10,600	
Subtotal				$32,000
Soil Sampling and Analysis	1	$51,200	$51,200	$51,200
Disposition of Contaminated Soil:				
Labor	100 hrs	$51	$5,100	
Transport	100 tons	$26	$2,600	
Disposal	100 tons	$537	$53,700	
Subtotal				$61,400
Closure Certificate:				
Labor	80 hrs	$107	$8,560	
Expenses	10 days	$102	$1,020	
Subtotal				$9,580
SUBTOTAL				$184,025
10% Administrative				$18,403
10% Contingencies				$18,403
TOTAL				$220,831

The costs for removal of the refractory brick and transportation of the brick to another Lafarge plant, or outside contractor for incineration, as well as contractor decontamination of the kilns and ancillary equipment, have been generously estimated. Contractor decontamination costs include decontamination activities, and sampling, analysis, transportation, and disposal of decontamination residuals and rinse waters. Table I-2 details these costs and the balance of the costs associated with soil sampling, analysis, and removal of any contaminated soil, as well as administrative costs and contingency funds. The closure cost estimate is based on a low-probability, worst-case scenario.

I.4 Financial Test for Financial Responsibility

Lafarge Corporation has chosen the Financial Test and Corporate Guarantee for Closure option specified in 40 CFR 264.143(f) and K.A.R. 28-31-8a to establish financial assurance for closure of the Lafarge Fredonia plant BIF units. Lafarge has chosen the Financial Test for Liability Coverage option specified in 40 CFR 264.147(f), 264.151(g); and K.A.R. 28-31-8a, to satisfy the liability requirements for sudden accidental occurrences. Financial assurance and compliance with liability requirements for closure of the Lafarge Fredonia plant kilns are demonstrated by the documents included in Attachment I-1.

Attachment I-1

FINANCIAL ASSURANCE AND LIABILITY DOCUMENTATION

LAFARGE CORPORATION

March 31, 1996

Dr. Stanley C. Grant, Secretary
Kansas Department of Health and Environment
Attention: Mr. John Ramsey
Hazardous Waste Section
Bureau of Air and Waste Management
Forbes Field, Building 470
Topeka, Kansas 66620

Subject: Updated Financial Assurance Documents
Lafarge Corporation
U.S. EPA I.D. No. KSD007148034

Dear Dr. Grant:

Enclosed are the Financial Assurance documents to demonstrate continued financial responsibility for closure cost and also an Irrevocable Standby Letter of Credit for our facility. They demonstrate continued financial responsibility for liability and closure costs. Also enclosed is a copy of the Lafarge Corporation Annual Report and a copy of the letter from Arthur Andersen & Company concerning their audit.

Please contact me at (703) 264-3600 if you have any questions.

Sincerely,

LAFARGE CORPORATION

David Carroll
Vice President Environmental & Governmental Affairs

Enclosure

cc: Horace Compton - Lafarge
Mr. Dennis Grams- USEPA

CORPORATE OFFICE
11130 Sunrise Valley Drive, Suite 300, Reston, Virginia 22091
Office: (703) 264-3600 Fax: (703) 264-0634

Printed on Recycled Paper

LAFARGE CORPORATION

January 25, 1996

Dr. Stanley C. Grant, Secretary
Kansas Department of Health and Environment
Attention: Mr. John Ramsey
Hazardous Waste Section
Bureau of Air and Waste Management
Forbes Field, Building 470
Topeka, KS 66620-0002

Subject: Letter from Chief Financial Officer
To Demonstrate Both Liability Coverage
and Assurance of Closure or Post-Closure Care
U.S. EPA I.D. No. KSD007148034

Dear Dr. Grant:

I am the chief financial officer of Lafarge Corporation, 11130 Sunrise Valley Drive, Suite 300, Reston, Virginia 22091-4332. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and closure and/or post-closure care, as specified in Subpart H of 40 CFR Parts 264 and 265.

The firm identified above is the owner or operator of the following facilities for which liability coverage for sudden accidental occurrences is being demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265: None.

The firm identified above guarantees, through the guarantee specified in Subpart H of 40 CFR Parts 264 and 265, liability coverage for sudden accidental occurrences at the following facilities owned or operated by the following:

a. Systech Environmental Corporation
Systech Environmental
U.S. EPA I.D. No. KSD980633259
P.O. Box 111
South Cement Road
Fredonia, Kansas 66736

b. Systech Environmental Corporation
Los Robles Resource Recovery Facility
U.S. EPA I.D. No. CAT080031628
P.O. Box 837
County Road 138
Lebec, California 93243

CORPORATE OFFICE
11130 Sunrise Valley Drive, Suite 300, Reston, Virginia 22091
Office: (703) 264-3600 Fax: (703) 264-0634

Printed on Recycled Paper

c. Systech Environmental Corporation
Alpena Waste Fuel Facility
U.S. EPA I.D. No. MID981200835
P.O. Box 588
Ford Avenue
Alpena, Michigan 49707

d. Lafarge Corporation
Fredonia Plant
U.S. EPA I.D. No. KSD007148034
P.O. Box 479
South Cement Road
Fredonia, Kansas 66736

e. Lafarge Corporation
Alpena Plant
U.S. EPA I.D. No. MID005379607
P.O. Box 396
1430 Ford Avenue
Alpena, Michigan 49707

f. Lafarge Corporation
Paulding Plant
U.S. EPA I.D. No. OHD 987048733
P.O. Box 160
County Road 176
Paulding, Ohio 45879

The firm identified above is the direct or higher-tier parent corporation of the owner or operator.

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or post-closure care or liability coverage is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimate covered by the test are shown for each facility: None.

2. The firm identified above guarantees, through the guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure and post-closure care or liability coverage of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: None.

3. In States where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 or 265, this firm is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure or post-closure cost estimates covered by such a test are shown for each facility:

a. Systech Environmental Corporation
Demopolis Waste-Derived Fuel Facility
U.S. EPA I.D. No. ALD981019045
P.O. Box 1097
Arcola Road
Demopolis, Alabama 36732

Current Closure Cost Estimate is: $1,737,558.
Current Post-Closure Cost Estimate is: None.

b. Systech Environmental Corporation
Los Robles Resource Recovery Facility
U.S. EPA I.D. No. CAT080031628
P.O. Box 837
County Road 138
Lebec, California 93243

Current Closure Cost Estimate is: $748,526.
Current Post-Closure Cost Estimate is: None.

c. Systech Environmental Corporation
U.S. EPA I.D. No. KSD980633259
P.O. Box 111
South Cement Road
Fredonia, Kansas 66736

Current Closure Cost Estimate is: $1,441,056.
Current Post-Closure Cost Estimate is: None.

d. Systech Environmental Corporation
Alpena Waste Fuel Facility
U.S. EPA I.D. No. MID981200835
P.O. Box 588
Ford Avenue
Alpena, Michigan 49707

Current Closure Cost Estimate is: $522,410.
Current Post-Closure Cost Estimate is: None.

e. Systech Environmental Corporation
Paulding Co-Processing Facility
U.S. EPA I.D. No. OHD005048947
Ohio EPA Permit No. 03-63-0595
P.O. Box 160
County Road 176
Paulding, Ohio 45879

Current Closure Cost Estimate is: $1,412,369.
Current Post-Closure Cost Estimate is: None.

f. Lafarge Corporation
Fredonia Plant
U.S. EPA I.D. No. KSD007148034
P.O. Box 479
South Cement Road
Fredonia, Kansas 66736

Current Closure Cost Estimate is: $517,846.
Current Post-Closure Cost Estimate: None.

Inert Landfill
CKD Landfill Current Closure Cost Estimate is: $312,602
CKD Landfill Post-Closure Cost Estimate is: $903,600
Letter of Credit : $296,600

g. Lafarge Corporation
Alpena Plant
U.S. EPA I.D. No. MID005379607
P.O. Box 396
1430 Ford Avenue
Alpena, Michigan 49707

Current Closure Cost Estimate is: $499,072.
Current Post-Closure Cost Estimate: None.

Inert Landfill
CKD Landfill Current Closure Cost Estimate is: $8,789,400
CKD Landfill Post-Closure Cost Estimate is: $9,705,300
Letter of Credit issued in 1994: $1,000,000

h. Lafarge Corporation
Paulding Plant
U.S. EPA I.D. No. OHD987048733
P.O. Box 160
County Road 176
Paulding, Ohio 45879

Current Closure Cost Estimate is: $293,263.
Current Post-Closure Cost Estimate is: None.

Inert Landfill
CKD Landfill Current Closure Cost Estimate is: $639,800
CKD Landfill Post-Closure Cost Estimate is: $916,400

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanisms specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: None.

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under 40 CFR Part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility: None.

This firm is required to file a Form 10-K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on December 31. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1995.

ALTERNATIVE I

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above)	$ 28,439,202
2. Amount of annual aggregate liability coverage to be demonstrated	$ 14,000,000
3. Sum of lines 1 and 2	$ 42,439,202
* 4. Total liabilities (if any portion of your cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6)	$732,875,000
* 5. Tangible net worth	$959,676,000
* 6. Net worth	$980,978,000
* 7. Current assets	$718,503,000
* 8. Current liabilities	$269,928,000
9. Net working capital (line 7 minus line 8)	$448,575,000
* 10. The sum of net income plus depreciation, depletion, and amortization	$223,934,000
* 11. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.)	$868,274,000

	YES	NO
12. Is line 5 at least $10 million?	x	
13. Is line 5 at least 6 times line 3	x	
4. Is line 9 at least 6 times line 3	x	
* 15. Are at least 90% of assets located in the U.S.? If not, complete line 16.		x
16. Is line 11 at least 6 times line 3?	x	
17. Is line 4 divided by line 6 less than 2.0?	x	
18. Is line 10 divided by line 4 greater than 0.1?	x	
19. Is line 7 divided by line 8 greater than 1.5?	x	

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(g), as such regulations were constituted on the date shown immediately below.

Larry Waisanen
Senior Vice President and
Chief Financial Officer

January 25, 1996

Independent Public Accountant's Report on Applying Agreed Upon Procedures

To Lafarge Corporation:

We have audited, in accordance with generally accepted auditing standards, the consolidated financial statements of Lafarge Corporation and subsidiaries for the year ended December 31, 1995, and have issued our report thereon dated January 25, 1996. We have not performed any auditing procedures since that date.

We have performed the procedures enumerated below, which were agreed to by Lafarge Corporation, the Ohio Environmental Protection Agency, Kansas Department of Health and Environment, Department of Toxic Substances Control State of California, Alabama Department of Environmental Management, and the Michigan Department of Natural Resources (collectively the "Regulatory Agencies"), with respect to the letters dated January 25, 1996, from the chief financial officer of Lafarge Corporation to the Regulatory Agencies solely to assist the Regulatory Agencies in assessing Lafarge Corporation's compliance with financial tests required by the Regulatory Agencies. This engagement to apply agreed-upon procedures was performed in accordance with standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of the specified users of the report. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

We have read the letters dated January 25, 1996, from the chief financial officer of Lafarge Corporation to the Regulatory Agencies and compared the data therein that are specified as having been derived from the audited financial statements for the year ended December 31, 1995, referred to above, with the corresponding amounts in the financial statements referred to above. We found these amounts to be in agreement.

We were not engaged to perform an audit of the data contained in the letters referred to above, the objective of which would be the expression of an opinion. Accordingly, we do not express such an opinion. Had we been engaged to perform additional procedures, other matters might have come to our attention that would have been reported to you.

This report is furnished solely for the use of Lafarge Corporation and the Regulatory Agencies and should not be used by those who have not agreed to the procedures and taken responsibility for the sufficiency of the procedures for their purposes.

Arthur Andersen LLP

Washington, DC
January 25, 1996

CREDIT COMMERCIAL DE FRANCE
NEW YORK BRANCH

JULY 13, 1995

IRREVOCABLE LETTEROF CREDIT NO. 93/901

STATE OF KANSAS
DEPT. OF HEALTH AND ENVIROMENT - BWM
FORBES FIELD, BUILDING 740
TOPEKA, KANSAS 66620-0001
ATTN: KEN POWELL

REFERENCE: PERMIT 479
LAFARGE CORPORATION FREDONIA PLANT

GENTLEMEN:

WE HEREBY AMEND OUR IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER 93/901 IN FAVOR OF YOURSELVES, BY ORDER AND FOR ACCOUNT OF LAFARGE CORPORATION - FREDONIA PLANT, CEMENT PLANT ROAD, FREDONIA, KS 66736 AS FOLLOWS:

-EXPIRATION DATE IS NOW TO READ: "JUNE 10, 1996".

-L/C AMOUNT IS INCREASED TO A NEW TOTAL AMOUNT OF USD296,600.00 (TWO HUNDRED NINETY SIX THOUSAND SIX HUNDRED U S. DOLLARS).

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

WD-LAF/STA-1901/SB

AUTHORIZED SIGNATURE

Credit Commercial de France • 450 Park Avenue, New York, NY 10022 • Tel (212) 486-3080 • Fax (212) 832-7469 • Telex 236772

CREDIT COMMERCIAL DE FRANCE

DECEMBER 6, 1993

IRREVOCABLE LETTER OF CREDIT NO. 93/901

STATE OF KANSAS
DEPT. OF HEALTH AND ENVIRONMENT - BWM
FORBES FIELD, BUILDING 740
TOPEKA, KANSAS 66620-0001
ATTN: KEN POWELL

REFERENCE: PERMIT 479
LAFARGE CORPORATION FREDONIA PLANT

GENTLEMEN:

WE HEREBY ISSUE OUR IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER 93/901 IN FAVOR OF YOURSELVES BY ORDER AND FOR ACCOUNT OF LAFARGE CORPORATION - FREDONIA PLANT, CEMENT PLANT ROAD, FREDONIA, KS 66736 FOR AN AMOUNT UP TO BUT NOT EXCEEDING THE AGGREGATE SUM OF TWO HUNDRED NINETY THOUSAND U.S. DOLLARS (USD290,000.00), AVAILABLE BY DRAFTS DRAWN ON US AT SIGHT, EFFECTIVE IMMEDIATELY, AND EXPIRING AT THE OFFICES OF CREDIT COMMERCIAL DE FRANCE, NEW YORK BRANCH (THE BANK) ON DECEMBER 6, 1994 UNLESS RENEWED AS HEREINAFTER PROVIDED.

FUNDS UNDER THIS LETTER OF CREDIT ARE AVAILABLE TO YOU AGAINST YOUR SIGHT DRAFT(S) DRAWN ON US BEARING THE CLAUSE: "DRAWN UNDER LETTER OF CREDIT NUMBER 93/901" WHEN ACCOMPANIED BY:

1. BENEFICIARY'S WRITTEN STATEMENT, PURPORTEDLY SIGNED BY ONE OF ITS AUTHORIZED REPRESENTATIVES, READING AS FOLLOWS:

   "WE HEREBY CERTIFY THAT LAFARGE CORPORATION HAS FAILED TO COMPLY WITH THE FACILITY CLOSURE AGREEMENT."

SPECIAL CONDITIONS:

-PARTIAL DRAWINGS ARE PERMITTED.

THIS LETTER OF CREDIT WILL BE AUTOMATICALLY RENEWED FOR A ONE YEAR PERIOD UPON THE EXPIRATION DATE SET FORTH ABOVE AND UPON EACH ANNIVERSARY OF SUCH DATE, UNLESS AT LEAST THIRTY (30) DAYS PRIOR TO SUCH EXPIRATION DATE, OR PRIOR TO ANY ANNIVERSARY OF SUCH DATE, WE NOTIFY BOTH YOU AND YOUR CLIENT IN WRITING BY REGISTERED MAIL THAT WE ELECT NOT TO SO RENEW THIS LETTER OF CREDIT.

CREDIT COMMERCIAL DE FRANCE

DECEMBER 3, 1993

WE HEREBY AGREE WITH THE DRAWERS, ENDORSER(S) AND BONA FIDE HOLDERS OF DRAFTS DRAWN UNDER AND IN COMPLIANCE WITH THE TERMS OF THIS CREDIT THAT SUCH DRAFTS WILL BE DULY HONORED UPON PRESENTATION TO THE DRAWEE. THE OBLIGATION OF CREDIT COMMERCIAL DE FRANCE, NEW YORK BRANCH UNDER THIS LETTER OF CREDIT IS THE INDIVIDUAL OBLIGATION OF CREDIT COMMERCIAL DE FRANCE, NEW YORK BRANCH, AND IS IN NO WAY CONTINGENT UPON REIMBURSEMENT WITH RESPECT THERETO.

EXCEPT AS OTHERWISE EXPRESSLY STATED HEREIN, THIS CREDIT IS SUBJECT TO THE UNIFORM CUSTOMS AND PRACTICE FOR COMMERCIAL DOCUMENTARY CREDITS (1983 REVISION) INTERNATIONAL CHAMBER OF COMMERCE PUBLICATION NO. 400.

NOTWITHSTANDING ARTICLE 19 OF SAID PUBLICATION, IF THIS CREDIT EXPIRES DURING AN INTERRUPTION OF BUSINESS AS DESCRIBED IN ARTICLE 19, WE AGREE TO EFFECT PAYMENT IF THE CREDIT IS DRAWN AGAINST WITHIN THIRTY (30) DAYS AFTER RESUMPTION OF BUSINESS.

PAGE TWO OF TWO

WP-LAF/STA-901/SB

Werner Schmitt