

US EPA ARCHIVE DOCUMENT

## **SECTION 6**

# **OPERATING PLAN**



## OPERATING PLAN

### Introduction

This section describes how the Clinton Landfill No. 3 Chemical Waste Unit ("facility" or "unit") will be operated in order to ensure compliance with the facility's permits and applicable regulations. A separate Operating Plan describes the procedures that will be followed to properly operate and maintain the Clinton Landfill No. 3 Municipal Solid Waste Unit.

This unit will accept for disposal both RCRA-regulated non-hazardous industrial process and pollution control wastes, and TSCA-regulated wastes (collectively, "waste"). In the event of any conflict between the applicable RCRA and TSCA regulations, the more stringent requirement(s) will control.

Municipal solid wastes (MSW) will not be disposed within the Chemical Waste Unit. However, MSW, and other wastes acceptable for disposal in the Clinton Landfill No. 3 Municipal Solid Waste Unit, will be placed above portions of the Chemical Waste Unit. The Chemical Waste Unit and Municipal Solid Waste Unit will be separated by an earthen separation berm as illustrated on the drawings.

### Operating Hours And Personnel

Clinton Landfill No. 3 ("landfill"), including the proposed Chemical Waste Unit, may accept waste on Mondays through Fridays, 6 am to 6 pm, and on Saturdays from 6 am to 3 pm. Facility operations, including application of daily cover, cell development, etc. will occur until no later than 8 pm except under extreme conditions. The hours of operation may be expanded in emergency situations with notice to the Illinois Environmental Protection Agency (IEPA).

The landfill will be fully staffed with personnel to ensure efficient operations in accordance with the applicable regulations and permit conditions. The following sections describe the personnel that will be directly responsible for operating the landfill.

#### *Landfill Director*

The Landfill Director has overall responsibility for development and operation of the facility. The Landfill Director has substantial knowledge of all regulatory requirements pertaining to the landfill. The Facility Manager directly reports to the Landfill Director.

#### *Facility Manager*

The Facility Manager is responsible for the day-to-day operations of the facility. This includes supervising facility personnel, directing equipment and facility maintenance activities, and ensuring that the facility is operated and maintained in accordance with the permit.

#### *Gate Control Officer*

The Gate Control Officer performs load inspections and may be assigned other duties, such as that of the Scale Operator.



### *Scale Operator*

The Scale Operator is responsible for operating the landfill scales and maintaining the scale tickets.

### *Equipment Operators and Laborers*

Equipment Operators and Laborers operate waste and earth handling equipment, perform repairs and maintenance tasks, and conduct other activities as directed by the Facility Manager.

Facility personnel will receive training appropriate for their duties to ensure safe and compliant operation and management of the facility. An outline of the training program is provided in Appendix O.

### **Waste Acceptance Procedures**

CLI will follow all USEPA and IEPA requirements for managing waste materials. The following sections describe the waste management procedures. The facility Operator may impose additional requirements for the transportation, disposal and handling of wastes to ensure protection to the environment, facility employees, and the landfill facility itself. Certain types of non-hazardous industrial process and pollution control wastes (known as Illinois Non-Special wastes) are not subject to the Profile Identification Record, Waste Analysis, Manifest and Load Inspection requirements discussed herein.

### *Signage*

A prominent sign will be maintained at the entrance to the landfill stating that disposal of hazardous waste is prohibited. The sign will also state that Special Waste (which includes TSCA-regulated waste) will be accepted only if accompanied by an identification record and a manifest.

### *Waste Analysis Plan*

A representative sample of each Special Waste stream must, at a minimum, be analyzed for the following parameters:

- ☐ Paint filter,
- ☐ Flashpoint,
- ☐ Reactive sulfide,
- ☐ Reactive cyanide,
- ☐ Total phenols,
- ☐ Total PCBs, with identified Aroclors used for the total calculation reported individually,
- ☐ pH, and



- ☐ The organic and inorganic Toxicity Characteristic Constituents listed in 35 IAC 721.124 by the Toxicity Characteristics Leaching Procedure (TCLP).

The following exceptions apply to the above analytical requirements:

- ☐ Total sulfide analysis may be substituted for reactive sulfide, only if the total sulfide concentration does not exceed 10 parts per million (ppm);
- ☐ Total cyanide analysis may be substituted for reactive cyanide, only if the total cyanide concentration does not exceed 10 parts per million (ppm);
- ☐ Total concentration analyses may be substituted for TCLP analyses except where the total concentrations exceed the TCLP limits specified in 35 IAC 721.124;
- ☐ Analysis of the eight pesticide and herbicide Toxicity Characteristic Constituents (D012, D013, D014, D015, D016, D017, D020, and D031) can be waived if the Generator certifies that they are not expected to be present in the waste based on the nature of the waste and the generator's business;
- ☐ Petroleum-contaminated media and debris from Leaking Underground Storage Tank (LUST) sites subject to corrective action under 35 IAC Parts 731 and 732 are only required to be analyzed for flash point, paint filter test, and TCLP lead;
- ☐ An MSDS for off-specification, unused or discarded commercial or chemical products may be used to determine the presence of hazardous constituents in lieu of analytical results;
- ☐ Complete TCLP analysis is not required in the case of an emergency cleanup provided: 1) the IEPA Emergency Response Unit (ERU) authorizes the waste stream analytical exemption, 2) the Operator obtains assurance that the Generator has received an incident number from the Illinois Emergency Management Agency, and 3) the waste was analyzed for the chemical constituents required by the IEPA ERU.

Special Waste streams will be reanalyzed at least once every 5 years and whenever the composition of the waste changes. A generator recertification will be obtained annually between analyses to ensure that the current analytical data continues to properly represent the waste.

Test methods employed for detailed analysis to characterize and to identify waste are provided in the following reference materials:

- ☐ EPA-600/4-79-020: "Methods for Chemical Analysis of Water and Wastes,"
- ☐ SW-846: "Test Procedures for Evaluating Solid Waste, Physical/Chemical Methods", and
- ☐ "Standard Methods for the Examination of Water and Waste Water," 15th Edition, American Public Health Association, 1980.
- ☐ The PDC Laboratories, Inc, "QA/QC Procedures for Waste Analysis,".



### *Acceptance Criteria*

These criteria are general and apply to most wastes received at the facility. If specific regulatory exemptions or variances exist or are promulgated in the future, the company Waste Acceptance Committee may modify these criteria accordingly.

Waste shall meet the following criteria prior to acceptance:

- ☐ PCB wastes must be tested as described above and determined to contain total PCB concentrations no greater than 500 ppm.
- ☐ Does not exhibit the characteristics of ignitability, reactivity, corrosivity, or toxicity as defined by 35 IAC 721 Subpart C, and is not a listed hazardous waste as defined in 35 IAC 721 Subpart D.
- ☐ Does not contain total phenol concentrations greater than 1,000 parts per million, unless specific information demonstrates that the material is not a threat to human health or the environment.
- ☐ Does not contain reactive cyanide concentrations greater than 250 parts per million unless specific information to show it does not present danger to human health or the environment is provided. Wastes with between 10 and 250 parts per million reactive cyanide can only be accepted if the Generator provides a signed certification that none of the following have occurred:
  1. The waste has never caused injury to a worker because of Hydrogen Cyanide (HCN) generation,
  2. That the OSHA work place air concentration limits of HCN have not been exceeded in areas where the waste is generated, stored, or otherwise handled, and
  3. That air concentrations of HCN above 10 parts per million have not been encountered in areas where the waste is generated, stored, or otherwise handled.
- ☐ Does not contain reactive sulfide concentrations greater than 500 parts per million unless specific information to show it does not present danger to human health or the environment is provided. Wastes with between 10 and 500 parts per million reactive cyanide can only be accepted if the Generator provides a signed certification that none of the following have occurred:
  1. The waste has never caused injury to a worker because of H2S generation;
  2. That the OSHA work place air concentration limits of H2S have not been exceeded in areas where the waste is generated, stored, or otherwise handled; and
  3. That air concentrations of H2S above 10 parts per million have not been encountered in areas where the waste is generated, stored, or otherwise handled.



### *Foundry Wastes*

The following additional requirements apply to wastes generated from foundries. Prior to first time acceptance, a CLI representative will tour the foundry facility and question knowledgeable foundry representatives to:

- ☐ Review the waste generation processes to identify all hearths where metal is melted, where dusts are generated, and identify all baghouses to ensure that hazardous wastes are not commingled with nonhazardous wastes,
- ☐ Review how waste streams are sampled at the point of generation to ensure that representative samples are collected, and
- ☐ Review the waste stream analytical data to confirm that all appropriate parameters have been analyzed.

CLI will not accept wastes that have been commingled with other wastes unless each waste stream was individually characterized and determined to be nonhazardous prior to being commingled.

### *RCRA Empty Containers*

RCRA empty containers shall meet the following criteria:

- ☐ Have a rated capacity less than 110 gallons,
- ☐ Meet the definition of empty as provided in 35 IAC 721.107(b), and
- ☐ For drums, at least one end must be removed and the drums must be intact, or both ends must be removed and the drums must be crushed flat prior to disposal.

Where possible, a copy of the material safety data sheet for products last contained in the drum shall be obtained and kept on file. Compressed gas cylinders will not be accepted.

### *Recordkeeping*

The Operator will retain copies of all waste profile identification sheets, recertifications, certifications of representative sample, laboratory analyses, analysis plans, and any waivers of requirements (prohibitions, management authorization, and operating requirements) at the facility until the end of the post-closure care period, unless a document-specific requirement exists or is promulgated that requires less or more retention time.

### *Waste Manifests*

All Special Wastes accepted for disposal shall be accompanied by a manifest. Manifests shall include the following information as a minimum:

- ☐ The name of the waste generator,
- ☐ When and where the waste was generated,
- ☐ The name of the waste hauler,



- ☐ The name of the solid waste management unit (i.e. Clinton Landfill No. 3 Chemical Waste Unit),
- ☐ The date of delivery to the landfill,
- ☐ The name, waste stream permit number, and quantity of waste delivered,
- ☐ The signature of the person who delivered the waste to the hauler, acknowledging such delivery,
- ☐ The signature of the waste hauler, acknowledging receipt of the waste, and
- ☐ The signature of the person who accepted the waste at the landfill, acknowledging acceptance of the waste.

Clinton Landfill No. 3 Chemical Waste Unit will be designated on the manifests as the final destination point. Any subsequent delivery of the waste or any portion or product thereof to a waste hauler will be conducted under a manifest initiated by Clinton Landfill No. 3.

All deliveries of Special Waste must be accompanied by three copies of the manifest. The hauler shall retain one copy of the manifest. Facility personnel will send one copy of the completed manifest to the person who delivered the waste to the hauler (typically the generator). Facility personnel will maintain one copy of the completed manifest on file for at least three years. Completed manifests will be made available to the IEPA at reasonable times for inspection and photocopying pursuant to Section 4(d) of the Illinois Environmental Protection Act.

#### *Profile Identification Record*

Generators of Special Waste must obtain the facility's written agreement to accept the waste prior to transporting the Special Waste to the facility.

The first step in Special Waste acceptance consists of the generator providing to the Operator a Special Waste profile identification sheet. The Special Waste profile identification sheet shall be supplied by the generator and certify the following:

- ☐ The generator's name and address,
- ☐ The transporter's name and telephone number,
- ☐ The name of the waste,
- ☐ The process generating the waste,
- ☐ Physical characteristics of the waste (e.g. color, odor, solid or liquid, and flashpoint),
- ☐ The chemical composition of the waste,
- ☐ The metals content of the waste,
- ☐ Absence of hazardous characteristics, including identification of wastes deemed hazardous by the USEPA or the IEPA,



- ☐ Absence of 2,3,7,8-tetrachlorodibenzodioxin (2,3,7,8-TCDD) above regulated concentrations, and
- ☐ Any other information, such as the results of tests performed in accordance with 35 IAC 811.202, that can be used to determine whether 1) the Special Waste is regulated as a hazardous waste as defined by 35 IAC 721, 2) the Special Waste is of a type that is permitted for, or has been classified in accordance with 35 IAC 809, for disposal at the facility, and 3) whether the method of disposal at the facility is appropriate for the waste.

Each subsequent shipment of a Special Waste from the same generator must be accompanied by a transportation record in accordance with 35 IAC 811.403(b), a copy of the original Special Waste profile identification sheet, and either:

- ☐ A Special Waste recertification by the generator describing whether there have been changes in the following: laboratory analysis (copies to be attached), raw material in the waste-generating process, the waste-generating process itself, the physical or hazardous characteristics of the waste, and new information on the human health effects of exposure to the waste, or
- ☐ Certification indicating that any change in the physical or hazardous characteristic of the waste is not sufficient to require a new Special Waste profile.
- ☐ Load Inspection Procedures

#### *Load Inspection Procedures*

All loads of Special Waste will be inspected for the presence of unacceptable materials. The Gate Control Officer will:

- ☐ Inspect the manifest and the load to confirm that the waste appearance is similar to that described on the Waste Material Data Sheet, and perform fingerprint analysis consisting of a pH measurement, radioactivity scan, volatile organic vapor scan, and water reactivity screen. Some waste streams undergo additional, more extensive gate control testing prior to acceptance, as may be required by regulations or deemed necessary by the Waste Acceptance Committee.
- ☐ Evaluate whether the load is acceptable and conforms to the USEPA and/or IEPA permit and facility pre-authorization.
- ☐ Notify the Administrative Compliance Manager if the load is suspected to be unacceptable, and obtain authorization to reject the load. The generator is notified and arrangements are made to return the load to the generator. Information regarding rejected Special Waste loads will be reported to the IEPA on a quarterly, or more frequent basis.
- ☐ If the load is deemed acceptable, direct the waste load to the appropriate landfill destination. Sign the manifest. The manifests are then distributed appropriately.



## Waste Solidification

CLI plans to accept liquid wastes for solidification prior to disposal. Liquids accepted for solidification from incidental sources, such as precipitation, condensation, leachate, or load separation that are associated with PCB Articles or non-liquid PCB will exhibit less than 500 parts per million (ppm) PCBs. All other liquids accepted for solidification will exhibit less than 50 parts per million (ppm) PCBs. In any instance of conflict between the RCRA and TSCA regulations governing the acceptability of liquids, the more stringent requirement(s) will control.

The liquid wastes will be transported to CLI by licensed Special Waste haulers and will be subject to the Special Waste management requirements described in 35 IAC 812.318.4. The pre-acceptance analysis for Total PCBs specified above under Waste Analysis Plan will be used to verify that liquid PCBs accepted for solidification and disposal do not exceed 500 ppm.

Wastes to be solidified will be transported to a designated solidification area near the active face. The designated solidification area will be within an area that is developed and permitted (including Operating Permit) to accept waste. Because of the in-place environmental controls, the permitted landfill area is suitable for use as a site to conduct waste solidification. The solidification area location will vary, but will be at least 10 feet above the landfill floor, and at least 30 feet from the landfill sidewall liner system. Berms will be constructed around the solidification area to prevent storm water run-off from the area.

### *Testing Requirements*

Prior to acceptance for solidification, each waste stream will be analyzed for the following:

- ☐ Total organic halogens (TOX) using the test method specified in 35 IAC Part 729. Any waste containing 10,000 parts per million (ppm) or more TOX will be analyzed for volatile organic compounds,
- ☐ Total PCBs,
- ☐ pH, and
- ☐ Bench-scale reactivity (wastes to be solidified using a reagent only), in general conformance with the following procedures:
  1. Weigh and place approximately 100 grams of waste into a stainless steel mixing bowl. For TSCA-regulated PCB liquids, record the initial temperature in degrees Fahrenheit.
  2. Slowly mix in the reagent to be used to solidify the waste until the mixture becomes crumbly, record the amount of reagent used.
  3. Observe for evidence of reactivity, such as fumes, vapors, smoke, excessive temperature rise, etc. Immediately discontinue the test if excessive reactivity is noted. For TSCA-regulated PCB liquids, record the temperature of the mixture in degrees Fahrenheit. A temperature increase of more than 10oF is unacceptable and an alternative quantity of reagent or different reagent must be utilized.



4. Allow the mix to set for at least 6 hours, then weigh the final mix and perform a paint filter test.
5. Record the initial weight of the waste, the weight of reagent used, the weight of the final waste/reagent mix, observations for reactivity, and paint filter test results. Calculate the percentage of reagent used to solidify the waste (reagent weight/initial waste weight).
6. Solidified waste will be tested for liquids (paint filter test) prior to disposal.

#### *Waste Solidification Containers and Methods*

Wastes will be solidified in liquid-tight and structurally sound containers, such as steel drums, roll-off containers, or larger steel containers. Solidification containers will be adequately spaced to allow inspections and equipment access. Up to 10 drums and 10 containers will be used at any one time. A process flow diagram and conceptual plan of the treatment area are provided as Figures 1 and 2, respectively. The goal of the treatment is to solidify the waste such that the waste passes the paint filter test.

The wastes will be directly dumped or pumped from the waste transport trucks into the solidification containers. Alternatively, solidification will occur in the drums in which the wastes are transported (provided adequate freeboard is available for the solidification adsorbents/reagents and mixing operations). Solidification agents (reagents and/or adsorption materials) will be placed in the containers and thoroughly mixed with the wastes. The amount of solidification agent will vary, but is expected to typically range from 5 to 10 percent by weight.

When solidifying non-TSCA-regulated wastes, adsorbents (e.g. soil, "Oil-Dry", sawdust, and/or corn cobs) will primarily be used for the solidification process. However, depending upon waste characteristics, reagents might also be used. Reagents may include lime, pozzalime, fly ash, bottom ash, and/or other appropriate, lime-based materials. Fly ash and bottom ash that are to be used as reagents may only originate from coal combustion. Pozzalime is simply a mixture of lime and a pozzalanic material. Market conditions, availability, and waste characteristics will dictate which solidification agents will be used.

When solidifying TSCA-regulated PCB liquids, adsorbents (e.g. soil, "Oil-Dry", sawdust, and/or corn cobs) will primarily be used for the solidification process. However, depending upon waste characteristics, reagents might also be used. Reagents may include cements, bentonite, or other products demonstrated during the bench-scale study to not increase the waste temperature by more than 10oF to maintain worker protection and ensure that any reduction in PCB concentrations correlates directly with the reagent quantity added and not from volatilization.

Adsorbents and reagents will be stockpiled on site in accordance with the facility's Storm Water Pollution Prevention Plan (SW3P). The facility's SW3P specifies sediment controls for the site. Adsorbent stockpiles are expected to contain less than 500 cubic yards of adsorbent materials. Reagent stockpiles will be protected from storm water run-on, and will be covered to protect the reagents from precipitation. Reagent stockpiles will contain no more than 120 cubic yards of reagents.

Up to about 50 percent (by weight) of reagent could be required to solidify some anticipated wastes. It is unlikely that more than five batches per day will require solidification using a



reagent. Therefore, it is currently estimated that, at most, 75 cubic yards of reagent will be used in a day.

The waste/solidification agent mix will be allowed to cure as required. Following curing, the waste will be tested for free liquids using the paint filter test. Wastes that pass the paint filter test will be removed from the containers using a backhoe or excavator. Material that cannot be removed using the mechanical equipment will be manually removed using shovels. The waste will be direct-loaded into a transport vehicle for delivery to the landfill's active face and disposed.

Wastes that do not pass the paint filter test will be allowed to cure longer and/or additional solidification agent will be mixed in with the waste.

It is currently estimated that up to 10 loads per day will be solidified. Wastes requiring solidification will be solidified on the day received. Solidified wastes are intended to be disposed the same day; however, depending upon the length of curing time that is required and the time of day that the waste was solidified, in some instances solidified waste may have to remain in the solidification container until the next business day. In these instances, such waste will be covered before the end of the day and disposed during the next business day. The solidification process is not expected to result in residual waste that cannot be properly managed at the facility.

### **Phasing Of Operations**

The Chemical Waste Unit will be developed in phases in order to minimize the open disposal area footprint and to minimize leachate generation. The initial phase will be constructed in the southwestern corner of the unit as illustrated on Drawing No. D23. This corresponds to the Upper-Most Aquifer downgradient corner of the facility. Each subsequent phase will be immediately adjacent to, and tied into, a previously developed phase.

### **Manner Of Waste Placement**

Waste will be landfilled in lifts, each having a thickness of approximately 5 to 10 feet. Prior to waste placement, previously placed daily or intermediate cover will be at least partially removed to allow leachate to drain into the leachate collection system. Waste placement will generally occur in the lowermost portion of the active cell. However, higher tiers within the landfill may be designated for waste placement during inclement weather in order to ensure operating safety and efficiency.

Waste will generally be placed at the toe of the active face and pushed upwards in relatively thin lifts using a compactor, bulldozer, or other appropriate heavy equipment. Heavy equipment will not be allowed to operate directly above the liner and leachate drainage and collection system until at least 5 feet of waste covers the landfill floor in order to not overstress these landfill components. Therefore, the initial lift of waste over the landfill floor will be pushed over the top of the active face.

The first 5 feet of waste on the landfill floor will be free of construction and demolition debris and other debris that could damage the underlying geotextile. The first lift will be carefully placed in order to prevent tears and excessive wrinkles in the geotextile.

The waste may be compacted using compactors or bulldozers to minimize void space and settlement. The steepness of the waste slopes has a significant impact on overall landfill



stability. In order to provide the required factors of safety against slope instability, waste slopes will be maintained no steeper than 3 horizontal to 1 vertical (3:1).

In addition to the above, certain temporary interior waste slopes may be constructed as steep as 2:1 provided that each of the following criteria are met:

- ☐ The toe of the 2:1 slope is underlain by at least 20 feet of waste,
- ☐ The toe of the 2:1 slope is at least 40 feet horizontally from the crest of the surrounding perimeter slope, and
- ☐ The 2:1 slope is in an area being filled and will not remain for more than 60 days.

PCBs and PCB Items will be placed in a manner that will prevent damage to containers or articles. The facility will not accept other wastes that are incompatible with PCBs and PCB Items, such as organic solvents. Similarly, the facility will not accept any waste that could be incompatible with the geomembrane. PDC believes that most wastes that could prove chemically incompatible with PCB wastes and/or the geomembrane would be RCRA hazardous wastes precluded from acceptance as specified above under Waste Acceptance Criteria. Other wastes with properties that could prove incompatible with PCB wastes would not be approved by the Waste Acceptance Committee, or would receive only conditional approval based upon complete segregation from PCB wastes in the landfill unit.

PCB waste will not be placed in contact with any other wastes that exhibit a temperature greater than ambient, e.g., solidified liquid wastes.

#### **Daily and Intermediate Cover**

The waste will be covered with daily cover, consisting of at least 6-inches of clean soil, and/or an alternative daily cover (ADC) at the end of each operating day. Areas with daily cover will be graded to prevent storm water runoff from the active area.

Daily cover soil will be derived from onsite excavations and/or stockpiles and will primarily consist of fine-grained silty and clayey soils (e.g. ML, CL, CH, SM, and SC). Daily cover soils will be compacted using a bulldozer or compactor. The compacted hydraulic conductivity of daily cover soils is expected to range from about  $10^{-5}$  to  $10^{-7}$  centimeters per second. Daily cover soil will be partially removed prior to subsequent waste placement to facilitate leachate drainage.

Commercially available polypropylene non-woven or woven geotextile such as Fabrisoil, Typar 3601, Amoco 2002 or their equivalents may be used at suitable times as determined by the Site Manager. At any one time, no more than 2,500 square yards of waste will be covered by ADC. ADC will not serve as daily cover at a specific area for more than 6 consecutive days.

ADC will only be used when weather conditions are conducive to its ability to prevent blowing litter, odors and access of waste materials to vectors. Geotextile ADC will be adequately anchored to prevent wind damage and ADC displacement. Any damage to the geotextile ADC will be repaired prior to continued use, or the damaged area will be covered with at least 6 inches of soil. ADC materials previously used as daily cover will not be reused for any purpose outside the waste boundaries.



A written record of ADC usage will be maintained. The record will include the date, weather conditions, ADC material used, and a description of its performance. A summary of this information will be included in the Facility's annual reports.

Areas which have been filled, but which have not reached final grade, and which will not receive additional waste deposits for more than 60 days, will receive an intermediate cover of at least 12 inches of clean soil. At least 18 inches of intermediate cover will be placed on perimeter slopes that are susceptible to erosion, such as those which are steeper than 20% and have uninterrupted drainage lengths longer than 200 feet. Furthermore, erosion control measures, such as temporary vegetation, drainage terraces, erosion control blankets (ECB), turf reinforcement mats (TRM), or other appropriate methods shall be incorporated as necessary on perimeter intermediate cover slopes that are susceptible to erosion and that remain in place longer than 12 months.

The intermediate cover soil will be graded and compacted to facilitate drainage of runoff, minimize standing water, and minimize infiltration. Intermediate cover soil will be derived from onsite excavations, and will primarily consist of fine-grained silty and clayey soils (e.g. ML, CL, CH, SM, and SC). The intermediate cover soils are expected to exhibit a hydraulic conductivity in the range of  $10^{-5}$  to  $10^{-7}$  centimeters per second. All or a portion of previously placed intermediate cover soils may be removed immediately prior to placing additional waste in the previously covered area.

The intermediate cover will be periodically inspected. All cracks, rills, gullies, and depressions will be repaired as necessary to maintain positive drainage and the minimum 12-inch thickness.

### **Liner Freeze Protection**

The liner system shall be covered with at least 5 feet of solid waste, or a suitable thickness of other material (soil, straw, etc.) prior to onset of freezing weather in order to prevent the Earth Liner from freezing. Earth Liner suspected of being damaged by freezing temperatures shall be tested in accordance with sampling and laboratory hydraulic conductivity testing requirements provided in the Construction Quality Assurance (CQA) Plan to demonstrate that the Earth Liner retains its specified maximum hydraulic conductivity and/or shall be reconstructed in accordance with the specifications. Such reconstruction shall be subject to the requirements of the CQA Plan. Floor liner covered by at least 2 feet of waste (above the 12-inch sand drainage layer) may be presumably assumed to be sufficiently protected from freeze damage. Considering the insulating effects of the sidewall geotextile and geonet, sidewall liner covered with at least 18-inches of soil or soil-like waste may be presumably assumed to be sufficiently protected from freeze damage.

### **Operating Equipment**

Appropriate and sufficient numbers of equipment will be stationed at the site to ensure compliance with the facility permit and applicable regulations. The following equipment is expected to be stationed at the site on a routine basis:

- ☐ Waste compactor, such as Caterpillar 836,
- ☐ Bulldozer, such as Caterpillar D8,
- ☐ Excavator or backhoe,



- ☐ Scrapers or articulated trucks, and
- ☐ Pick-up truck.

Additional equipment will be mobilized to the site as needed.

## **Operation Controls**

### *Boundary Control*

Access to the facility for vehicles hauling waste and/or construction equipment and vehicles shall be limited to the gated entrance off U.S. Route 51. At least one other facility access point may be constructed to provide emergency and other limited access from Ethal Road to the east. This access is limited to specifically authorized small vehicles (e.g. automobiles and pick-up trucks) and emergency vehicles. All entrances will be locked at all times that the facility is not open.

A six-foot woven mesh fence or similar device will be constructed around the perimeter of the Chemical Waste Unit to prevent unauthorized persons or animals from entering. The fence is depicted on Drawing Nos. D4, D5, D6 and D11.

Facility personnel will direct landfill customers, vendors, and visitors to the appropriate areas during operating hours. Unauthorized access to the open face and other areas within the facility boundary will be prevented at all times. Salvaging will not be allowed.

A permanent sign will be posted in a conspicuous location near the facility entrance with the following, and/or other information as required by the USEPA or IEPA:

- ☐ A statement that disposal of hazardous waste is prohibited,
- ☐ A statement that Special Wastes must be permitted and must be accompanied by a manifest,
- ☐ The facility permit number issued by the IEPA Bureau of Land and the USEPA,
- ☐ The facility hours of operation,
- ☐ The prohibition of unauthorized dumping and trespassing,
- ☐ The name and telephone number of who to call in case of an emergency, and
- ☐ The name, address and telephone number of the Landfill Operator.

### *Survey Control*

A grid coordinate system has been established at the facility for horizontal control as shown on the facility drawings. Vertical control references established elevation control benchmarks. Survey monuments will be established as appropriate to maintain the onsite horizontal and vertical control. Permanent survey monuments will be inspected annually, and resurveyed no less frequently than once every five years by a Licensed Surveyor.



### *Air Quality, Dust, and Odor Control*

The facility will be operated in a manner that minimizes the impact to air quality by:

- ☐ Prohibiting open burning of waste,
- ☐ Watering access roads, adding dust palliatives, and sweeping paved roads as necessary to control dust,
- ☐ Confining the active face to the smallest practical area,
- ☐ Covering all waste by the end of the day that the waste is received,
- ☐ Promptly covering odorous waste (i.e. before the end of the day if necessary), and
- ☐ Implementing an effective dust control program to minimize dust emissions and migration.

### *Road Maintenance*

Facility roadways will be maintained such that they support the operation and maintenance of the site without causing safety or nuisance problems or hazardous conditions. All weather roads will provide truck access directly to the landfill active face. Trucks will discharge waste at the edge of designated unloading area, and heavy equipment will grade the waste into the active face as described elsewhere in this Operating Plan. At no time will waste hauling trucks enter the active face or travel directly on landfilled waste.

### *Mud Tracking*

CLI will maintain a paved road from the Route 51 entrance to the scales. The road beyond this point to the landfill boundary will be either paved or gravel to provide all-weather access. Although the travel distance from the active face to the Route 51 entrance (1/2 mile, minimum) is expected to eliminate potential mud tracking onto Route 51, CLI will inspect the entrance road each day for excessive mud and dust accumulation. Accumulated mud and dust will be promptly removed to prevent potential tracking onto the public highway.

### *Noise Control*

The facility will be operated in accordance with the noise restrictions imposed by 35 IAC Part 900. Noise will be controlled by using equipment with functional mufflers and confining landfill operations to normal working hours. The unit is located in a rural area and surrounded on all sides by farmland, timber, or municipal solid waste landfills (Clinton Landfill No. 2 and Clinton Landfill No. 3 Municipal Solid Waste Unit). Therefore, noise from facility construction and operations is not expected to negatively affect the surrounding population.

### *Vector Control*

Application and maintenance of daily cover will serve as the primary means for controlling vectors. Should a vector problem occur, the services of a professional pest control firm will be utilized.



### *Fire Protection*

The facility Hazard Prevention and Emergency Response Plan, provided in Appendix O describes the equipment and activities that will be implemented to provide adequate fire protection for the facility and surrounding areas.

### **Leachate Management System**

#### *Extraction System Operations*

The landfill is designed to include a system for collecting, monitoring, extracting, and storing leachate. The system is depicted on Drawing Nos. D6 through D8 and D10.

The leachate extraction pumping system is designed to operate automatically. Electrical controls will automatically active the extraction pump within each leachate collection sump when the liquid level within the sump rises to the design elevation (i.e. no more than 12-inches above the liner system). The system will rely upon mechanical and electrical components that will require routine system checks and maintenance to ensure satisfactory performance. Routine checks will include recording the volume of leachate extracted and pump diagnostics (pressure head, flow rate, etc.). This information will be used to ensure that the leachate pumps and controls are operating properly and forewarn of the need for pump cleaning and/or replacement. Other specific checks and maintenance will depend upon the specific components that are selected, but will be performed in accordance with the manufacturers' recommendations.

Extracted leachate will be transmitted to the underground storage tank via double-wall pipe. The interstitial space between the primary and secondary containment pipe will be routinely monitored for evidence of leakage. In the event a leak in the primary pipe is detected, the piping system will be immediately repaired and/or replaced.

#### *Response Plan to Potential Leachate Seeps*

The Operator shall immediately respond to leachate seeps to prevent leachate from commingling with storm water runoff. Response procedures shall include the following as appropriate:

- ☐ Identify the source of the leachate and take action to prevent additional leachate from escaping.
- ☐ Contain leachate runoff prior to being discharged beyond the site boundary. Containment can consist of placing earthen berms, constructing diversion ditches, adsorbing the leachate with soil or other adsorbents, etc.
- ☐ Remove and properly dispose soil contaminated by leachate. Spills will be cleaned up following the USEPA Spill Cleanup Policy at 40 CFR 761, Subpart G.

#### *Leachate Storage and Offsite Transfer*

Leachate from the Chemical Waste Unit will be pumped directly to an underground storage tank that is dedicated for storing leachate from the Chemical Waste Unit. Tank design details are provided in Section 3 of this Application.



The Operator will check the liquid level within, and evidence of leakage from, the leachate storage tank each operating day. Automatic leak detection systems will be checked for proper function at least annually.

Leachate will be transferred from the underground storage tank into tank trucks that are positioned on a concrete containment pad (Leachate Load-out Facility). The following procedures shall be followed during each transfer of leachate from a storage tank into a tank truck:

- ☐ Position the tank truck such that the fill is at least 10 feet from the ends of the containment pad and, insert the fill nozzle into the fill port,
- ☐ Properly ground the truck as appropriate,
- ☐ Ensure that the containment pad storm water drain valve is closed, and the leachate tank return valve is open,
- ☐ Pump leachate into the tank truck,
- ☐ Continuously monitor the pumping and liquid level within the tank truck to ensure that the tank truck is not overfilled,
- ☐ Upon completion of the transfer, inspect the containment pad for any spills or overfills. Report any spills or overfills to the Facility Manager for proper cleanup,
- ☐ Once spills or overfills are confirmed to not have occurred, or have been properly remediated, close the leachate return valve and open the storm water drain valve.

Leachate will be transported to an off-site Publicly Owned Treatment Works (POTW) or private industrial wastewater treatment plant (pretreatment facility). The selected POTW or pretreatment facility will possess all required State and Federal permits required for operations and discharge prior to receipt of Clinton Landfill leachate. One such facility is the pretreatment facility owned and operated by Peoria Disposal Company in Peoria, Illinois.

#### **Landfill Gas Collection and Control System**

A portion of the Chemical Waste Unit will be overlain with municipal solid waste (MSW) to the final elevations depicted on Drawing No. D14. An earthen separation layer, shown on Drawing No. 9 will separate the Chemical Waste Unit from the MSW. Although significant quantities of landfill gas will not be generated by the wastes that will be disposed in the Chemical Waste Unit, significant quantities of landfill gas might be generated in any overlying MSW. Therefore, landfill gas collection and controls will likely be required for this "piggybacked" MSW fill. The landfill gas collection and control system will require routine attention to ensure that landfill gas is adequately controlled in compliance with applicable regulations, the system is functioning properly, and the system operations do not contribute to a landfill fire. Routine system monitoring and operations will include the following:

- ☐ Landfill gas quality and pressure (vacuum) monitoring at each gas extraction wellhead. Measurements, at a minimum will include methane content, nitrogen content, oxygen content, temperature, and pressure.



- ☐ Wellfield balancing to ensure that nitrogen or oxygen, temperature, and pressure are within acceptable ranges.
- ☐ Control system inspections and monitoring, including gas transmission header pipe vacuum and flow. Additional monitoring activities will depend upon the specific control system equipment.
- ☐ Control system maintenance, as recommended by the equipment manufacturer.

### **Inspection and Maintenance Plan**

The Operator will maintain the facility to ensure efficient operations and compliance with the applicable regulations and permits. For instance, mechanical equipment, such as earthmoving equipment, landfill compactors, and pumps, will be subjected to a preventative maintenance program that will include routine inspections and scheduled maintenance items. In addition to maintaining mechanical equipment, the Operator will routinely inspect and maintain the access roads and boundary control, storm water management system, landfill cover, liner protective cover, leachate management systems, groundwater monitoring wells, landfill gas control system, waste stabilization area, and survey monuments to proper operating conditions. The inspection and maintenance plan for these features is provided in Appendix O.

### **Personnel Monitoring and Protection**

The primary routes of exposure for PCBs are via skin contact and ingestion, for which appropriate Personal Protective Equipment (PPE) and work practices will be established. Airborne exposure is not considered to be a significant risk due to the low vapor pressure of PCBs. However, exposure monitoring will be conducted to verify airborne levels of concern are not present and to determine the appropriate level of PPE, if any.

Personal air monitoring will be performed to measure the exposure of site workers to airborne PCBs to ensure the exposure levels do not exceed the published occupational exposure limit (i.e., OSHA PEL). Personal exposure levels will be determined by conducting sampling and analysis in accordance with NIOSH Method 5503. Sampling will be conducted utilizing glass fiber filter and florasil sampling media and portable, personal sampling pumps capable of maintaining the recommended flow rate. Sample analysis will be conducted by an accredited laboratory.

Initial exposure determination will be conducted during the initial receipt of PCB-contaminated waste materials. Additional or ongoing exposure monitoring will be conducted if warranted by initial sample results, a significant change (increase) in waste PCB concentrations, or if indicated by on-site observations (e.g., dust conditions, employee complaint, etc.). Likewise, additional evaluations to determine the appropriate level of PPE, if any, will be performed in conjunction with each monitoring event. Employees will be notified in writing of all exposure monitoring results.



## Operating Record

The Operator will maintain at the facility, or in an alternative location specified by the USEPA or IEPA, an Operating Record. The Operating Record will include a copy of all information detailed below.

At a minimum, the USEPA operating record will contain the following information as required by 40 CFR 761.75:

- ☐ Records of the PCB concentrations in liquid wastes, and
- ☐ The three dimensional burial coordinates for PCBs and PCB items.
- ☐ The written annual records required by 40 CFR 761.180 will be maintained at the facility for at least 20 years after the Chemical Waste Unit is no longer used for the disposal of PCBs and PCB items, and contain the following information:
  - ☐ All signed manifests generated or received at the facility during the calendar year,
  - ☐ All Certificates of Disposal generated or received by the facility during the calendar year, and
  - ☐ Records of inspections and cleanups performed in accordance with 40 CFR 761.65.

The written annual document log required by 40 CFR 761.180 will be prepared each year by July 1 for the previous calendar year, maintained at the facility for at least 20 years after the Chemical Waste Unit is no longer used for the disposal of PCBs and PCB items, and contain the following information:

- ☐ The name address, and USEPA identification number of the facility and the calendar year covered;
- ☐ For bulk PCB waste, its weight in kilograms, the first date PCB waste placed in the tanker or truck was removed from service for disposal, the date it was placed in transport for off-site disposal, and the date of disposal;
- ☐ The serial number (if available) or other means of identifying each PCB Article not in a PCB Container or PCB Article Container, the weight in kilograms of the PCB waste in the PCB Article, the date it was removed from service for disposal, the date it was placed in transport for off-site disposal, and the date of disposal; and
- ☐ A unique number assigned by the generator identifying each PCB Container, a description of the contents of each PCB Container, such as liquid, soil, cleanup debris, etc., including the weight of the material in kilograms, the first date the material was removed from service for disposal, the date the PCB Container was placed in transport for off-site disposal, and the date of disposal.

The facility will submit an annual report to the USEPA Region V Administrator. The annual report will summarize the annual records and annual document log and be submitted each year by July 15 for the previous calendar year. The annual report will contain the following information:



- ☐ The name address, and USEPA identification number of the facility;
- ☐ A list of the numbers of all signed manifests of PCB waste generated or received at the facility during the calendar year;
- ☐ The total weight in kilograms of bulk PCB waste, PCB waste in PCB Transformers, PCB waste in PCB Large High or Low Voltage Capacitors, PCB waste in PCB Article Containers, and PCB waste in PCB Containers disposed of at the facility during the calendar year; and
- ☐ The total number of PCB Transformers, PCB Large High or Low Voltage Capacitors, PCB Article Containers, and PCB Containers disposed of at the facility during the calendar year.

For purposes of the annual report, PCB Voltage Regulators will be recorded and reported as PCB Transformers.

Annual report submittals will continue until the submission of the annual report for the calendar year during which the facility ceases PCB disposal operations.

In addition to the above recording and reporting requirements, the facility will collect and maintain for 20 years after the facility is no longer used for the disposal of PCBs and PCB Items, the following information:

- ☐ All documents, correspondence, and data that have been provided to the facility by any State or local government agency and that pertain to the disposal of PCBs and PCB Items at the facility;
- ☐ All documents, correspondence, and data that have been provided by the facility to any State or local government agency and pertain to the disposal of PCBs and PCB Items at the facility;
- ☐ Any applications and related correspondence sent by the facility to any local, State, or Federal authorities in regard to waste water discharge permits, solid waste permits, building permits, or other permits or authorizations such as those required by 40 CFR 761.75©.
- ☐ Electrical equipment reclassification will not be conducted at the facility.

In addition to the above, the Chemical Waste Unit Operating Record will include all information submitted to, and received by, the IEPA pursuant to 35 IAC 812 and 813 as it becomes available. At a minimum, the Operating Record will contain the following information, even if such information is not required by 35 IAC 812 or 813:

- ☐ Any location restriction demonstration required by 35 IAC 811.302(e), 812.109, 812.110, 812.303, and 812.305,
- ☐ Inspection records, training procedures, and notification procedures required by 35 IAC 811.323,
- ☐ Gas monitoring results and any remediation plans required by 35 IAC 811.310 and 811.311,
- ☐ Documentation of the design of the leachate extraction system,



- ☐ Any demonstration, certification, monitoring results, testing, or analytical data relating to the groundwater monitoring program required by 35 IAC 811.319, 811.324, 811.325, 811.326, 812.317, 813.501, and 813.502,
- ☐ Closure and post-closure care plans and any monitoring, testing, or analytical data required by 35 IAC 811.110, 811.111, 812.114(h), 812.115 and 812.313, and
- ☐ Any cost estimates and financial assurance documentation required by 35 IAC 811 Subpart G.

