ATTACHMENT R

TEXAS INDUSTRIES, INC. DRAFT RCRA PERMIT
AIR QUALITY PROVISIONS

(13 Sheets)

PERMIT SECTION V - OFFICE OF AIR QUALITY PROVISIONS

A. GENERAL AIR QUALITY CONDITIONS

1. This facility shall be constructed and operated in accordance with and subject to the Texas Clean Air Act (TCAA) as amended, Chapter 382 of the TEXAS HEALTH AND SAFETY CODE, (Vernon 1992) and all applicable Rules, Regulations and Orders of the TNRCC in effect at the time of issuance. Said construction and operation is subject to any additional or amended Rules, Regulations, and Orders of the TNRCC adopted pursuant to the TCAA.

[V.A.]

2. The facilities covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Executive Director of the Texas Natural Resource Conservation Commission (TNRCC or Commission) to modify this permit in that regard and such modification is approved pursuant to the requirements of TNRCC Regulation X (30 TAC Chapter 120) and 30 TAC Chapter 335, Subchapter L.

3. Sampling Requirements. If sampling of stacks or process vents is required, the permit holder shall contact the TNRCC Quality Assurance Division prior to sampling to obtain the proper data forms and procedures. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. All sampling and testing procedures must be approved by the Executive Director and coordinated with the regional representatives of the Commission. The TNRCC Arlington Regional Office shall be notified prior to the initial start-up of new or modified facility units authorized by this permit and prior to any required monitoring or sampling in such a manner that a representative of the TNRCC may be present at the time of the initial start-up, monitoring, or sampling.

4. Upon request by the Executive Director of the TNRCC, the permittee shall conduct sufficient sampling or other tests to prove satisfactory equipment performance. All calibration, sampling and testing procedures shall be approved by the Executive Director of the TNRCC and coordinated with the TNRCC Arlington Regional Office representatives.

5. Equivalency of Methods. It shall be the responsibility of the permit holder to demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the Executive Director prior to their use in fulfilling any requirements of the permit.

[V.A.]

6. Recordkeeping. A copy of the permit along with information and data sufficient to demonstrate compliance with the permit shall be maintained in a file at the plant site and made available at the request of personnel from the TNRCC or any air pollution control program having jurisdiction. For facilities that normally operate unattended, this information shall be maintained at the nearest staffed location within Texas specified by the permit holder in the permit application. This information shall include, but is not limited to, production records and operating hours. Additional recordkeeping requirements may be specified in special conditions of this permit. Information in the file shall be retained for at least two years following the date that the information or data is obtained.

7. Maximum allowable emission rates. The total emissions of air contaminants from any of the sources of emissions listed in Attachment H, entitled "Emission Sources - Maximum Allowable Emission Rates" shall not exceed the values stated on the table attached to the permit. The annual rates are based on a calendar year basis. If one emission rate limitation is more stringent than another, then the more stringent limitation shall govern and be the standard by which compliance will be demonstrated.

8. Maintenance of Emission Control. The facilities covered by the permit shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. Notification for upsets and maintenance shall be made in accordance with §101.6 and §101.7 of this title (relating to Notification Requirements for Major Upset and Notification Requirements for Maintenance).

9. Compliance with Rules. Acceptance of a permit by a permit applicant constitutes an acknowledgment and agreement that the holder will comply with all rules, regulations, and orders of the Commission issued in conformity with the Texas Clean Air Act and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition are applicable, then the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of Commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit.

10. Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in Section 382.003(3) of the Texas Clean Air Act (TCAA) or violate Section 382.085 of the TCAA. If the Executive Director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.

[V.A.]

11. Information and data concerning the date, type and quantity of wastes managed, waste analyses, facility inspections, operating hours, sampling, and monitoring data shall be maintained in the operating record at the plant site in a form suitable for inspection and made available at the request of personnel from the TNRCC, or any local government having jurisdiction under the Texas Clean Air Act.

12. A current copy of this permit, the application for this permit and any associated correspondence shall be kept at the plant site and made available at the request of personnel from the TNRCC, or any local government having jurisdiction under the Texas Clean Air Act.

13. At the request of the Executive Director of the Texas Natural Resource Conservation Commission (TNRCC) or his designated representative, the holder of this permit shall provide an analysis of waste-derived fuel (WDF) or clinker quench wastewater (CQW) (cumulatively referred to hereon as pumpable hazardous waste) received from a generator/supplier. The holder of this permit shall allow the Executive Director of the TNRCC, or his designated representative, to obtain samples of these materials for analysis upon request.

B. Federal Applicability

1. The permittee shall operate the facility units in compliance with all applicable requirements relating to air quality in the Resource Conservation and Recovery Act (RCRA) and the rules promulgated thereunder and in 30 TAC Section 335, Subchapter F (relating to Permitting Standards for Owners and Operators of Hazardous Waste Storage, Processing, and Disposal Facilities), promulgated by the TNRCC pursuant to the Solid Waste Disposal Act, Chapter 361 of the TEXAS HEALTH AND SAFETY CODE, (Vernon 1992), as those rules exist as of the date of permit issuance.

2. These facilities shall comply with all requirements of Environmental Protection Agency Regulations on Standards of Performance for New Stationary Sources promulgated pursuant to authority granted under the Federal Clean Air Act, section 111 as amended and contained in Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Subparts A and Kb.

3. These facilities shall comply with all applicable requirements of Environmental Protection Agency Regulations on National Emission Standards for Hazardous Air Pollutants promulgated pursuant to authority granted under the Federal Clean Air Act, section 112 as amended and contained in Title 40 Code of Federal Regulations Part 61 (40 CFR 61), Subparts A, J, and FF.

C. Cement Kiln Performance Standards

1. The permittee shall maintain and operate each kiln unit so that it will meet the following performance standards:

[V.C.1.]

a. The unit shall achieve a destruction and removal efficiency (DRE) of 99.99 % for all organic hazardous constituents in the pumpable hazardous waste feed. DRE shall be determined using the method specified in 40 CFR §266.104(a). Principal organic hazardous constituent (POHC) selection for the purpose of demonstrating compliance with this condition shall require prior approval from the TNRCC.

b. Pursuant to 30 TAC 11.124(2), hydrogen chloride (HCl) emissions from each kiln stack greater than four (4.0) pounds per hour shall be controlled with a minimum removal efficiency of ninety-five (95.0) percent. At no time shall the emissions exceed the maximum allowable emission rates specified for HCl in Attachment H.

c. The unit shall not emit particulate matter (PM) in excess of 0.03 grains per dry standard cubic foot measured in accordance with the EPA Method 5 after correction to a stack gas concentration of seven (7) percent oxygen, using procedures prescribed in 40 CFR 60, Appendix A, methods 1 through 5, and Appendix IX of 40 CFR Part 266.

2. While firing pumpable hazardous waste, opacity of emissions from any stack shall not exceed twenty (20.0) percent on a six-minute average, except for uncombined water, other than for those periods described in 30 TAC Rule 111.111, (Regulation I).

3. Fuels other than WDF shall be defined by Air Permit No. 1360a. Use of any other fuel will require prior approval of the Executive Director of the Texas Natural Resource Conservation Commission.

D. Cement Kiln Continuous Determination of Compliance

1. The holder of this permit shall operate, calibrate, and maintain continuous emission monitoring systems (CEMS) to measure and record the concentrations of oxides of nitrogen (NOx), sulfur dioxide (SO_2), opacity in the kiln stacks and kiln O_2 at the kiln exits of each cement kiln. The holder of this permit shall operate, calibrate, and maintain continuous flow rate sensors to measure and record the exhaust flow rate in each kiln stack. NOx and SO_2 shall be monitored in accordance with the CEMS requirements of State Air Permit 1360A.

[V.D.1.]

a. Each kiln exit O_2 and opacity CEMS shall meet the design and performance specifications, pass the field tests and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specifications in 40 CFR 60, Appendix B (or equivalent procedures specified by the TNRCC Source and Mobile Monitoring Section for kiln exit O_2 CEMS). Each flow rate sensor shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in 40 CFR 60, Appendix B, Performance Specification 6. Written copies of the results shall be submitted within 60 days of completion of the tests to the TNRCC Arlington Regional Office and the TNRCC Source and Mobile Monitoring Manager in Austin.

b. Each kiln exit O_2 and opacity CEMS shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amount specified in 40 CFR 60, Appendix B for opacity or the amount specified by the Source and Mobile Monitoring Section for kiln exit O_2 analyzers. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days, unless the monitor is required by a subpart of NSPS or NESHAPS, in which case zero and span shall be done daily without exception.

c. The opacity monitor shall complete a minimum of one cycle of data recording for each successive 10-second period and one cycle of data recording for each successive six-minute period.

d. The kiln exit O_2 monitoring data shall be reduced to hourly average concentrations at least once every minute using normally at least 60, and a minimum of 30, equally-spaced data points from each one-hour period.

e. Each opacity CEMS shall be operated in accordance with the quality assurance/quality control (QA/QC) plan approved by the TNRCC Regional Manager. The kiln exit O_2 CEMS shall be operated in accordance with a QA/QC plan approved by the TNRCC Regional Manager. The QA/QC plan for O_2 CEMS shall be submitted within 60 days of completion of the tests required in this permit to the TNRCC Arlington Regional Office and the TNRCC Source and Mobile Monitoring Manager in Austin.

f. All CGA exceedances of greater than ±15 percent accuracy and any CEMS downtime shall be reported to the TNRCC Arlington Regional Office Manager, and necessary corrective action shall be taken. The Regional Manager shall be notified as soon as possible after discovery of any CEMS malfunction which is expected to result in more than 24 hours of lost data. Supplemental stack concentration measurements may be required at the discretion of the Regional Manager.

[V.D.1.]

g. For NSPS sources subject to Appendix F, the TNRCC Arlington Regional Office shall be notified at least 30 days prior to each annual relative accuracy testing audit in order to provide the TNRCC staff the opportunity to observe the testing.

h. The hourly average O_2 content of the kiln exhaust as measured at the kiln exit shall be maintained at/or above one (1.0) percent by volume.

E. Storage and Unloading Area Operational Requirements

1. The holder of this permit shall clean up any spills of VOC or inorganic compounds as expeditiously as possible. All collected liquids and spills shall be stored and disposed of in a vapor-tight container such that no detectable emissions to the atmosphere will result. Records of all spills (date of spill, time of spill, and corrective action taken) shall be maintained on-site for a minimum of two years following the date of recorded information and made available to representatives of the TRNCC or local program upon request.

2. Operation without visible liquid leaks or spills shall be maintained at the storage and unloading facility, regardless of vapor pressure. This does not apply to momentary dripping associated with the initial connection or disconnection of fittings. Sustained dripping from fittings during unloading operations is not permitted. Any liquid spills that occur during unloading shall be reported pursuant to 101.6 or 101.7, and shall be cleaned up immediately, to minimize air emissions.

F. Storage and Unloading Area Continuous Determination of Compliance

1. Piping, Valves, Pumps, and Compressors in Hazardous Waste Service

a. Audio, olfactory, and/or visual checks for any piping, valves, pumps, agitator seals or other components in hazardous waste service within the operating area shall be made at least weekly.

b. Immediately, but no later than one hour upon detection of a leak, plant personnel shall take the following actions:

(1) Isolate the leak.
(2) Use a leak collection/containment system to prevent the leak until repair or replacement can be made if immediate is not possible. Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made due to leaks. These records shall be made available to representatives of the Texas Natural Resource Conservation Commission (TNRCC) upon request.

[V.F.]

2. The holder of this permit shall comply with these requirements for all equipment items which contact waste-derived fuel or clinker quench wastewater, except relief valves and sump pumps.

a. These provisions shall not apply (1) where the VOC have an aggregate partial pressure or vapor pressure of less than 0.05 psia at 20°C, or (2) to piping and valves two inches nominal size and smaller, or (3) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this provision shall be identified in a list to be made available upon request.

b. Construction of new and reworked piping, valves, and pump and compressor systems shall conform to applicable ANSI, API, ASME, or equivalent codes.

c. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical.

d. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Nonaccessible valves shall be identified in a list to be made available upon request.

e. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. No later than the next scheduled quarterly monitoring after initial installation or replacement, all new or reworked connections shall be gas-tested or hydraulically-tested at no less than normal operating pressure and adjustments made as necessary to obtain leak-free performance. Flanges shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line, including unloading lines, shall be equipped with a cap, blind flange, plug, or a second valve.

f. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program. Sealless/leakless valves (including, but not limited to, bellows and diaphragm valves) and relief valves equipped with a rupture disc or venting to a control device are not required to be monitored.

A directed maintenance program shall consist of the repair and maintenance of components assisted simultaneously by the use of an approved gas analyzer such that a minimum concentration of leaking VOC is obtained for each component being maintained.

[V.F.2.]

g. All new and replacement pumps and compressors shall be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. These seal systems need not be monitored and may include, but are not limited to, dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic driven pumps) may be used to satisfy the requirements of this provision and need not be monitored.

All other pump and compressor seals emitting VOC shall be monitored with an approved gas analyzer at least quarterly.

h. Damaged or leaking valves, flanges, compressor seals, and pump seals found to be emitting VOC in excess of 500 ppmv or found by visual inspection to be leaking (e.g., dripping liquids) shall be tagged and replaced or repaired. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found. If the repair of a component would require a unit shutdown, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. The Executive Director, at his discretion, may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown.

i. The results of the required fugitive monitoring and maintenance program shall be made available to the Executive Director or his designated representative upon request. Records shall indicate appropriate dates, test methods, instrument readings, repair results, and corrective actions taken. Records of flange inspections are not required unless a leak is detected.

j. Compliance with the requirements of this provision does not assure compliance with requirements of TNRCC Regulation V, any applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

[V.G.]

G. <u>Kiln Sampling Requirements</u>

1. On a two year basis starting with the date of issuance of this permit, sampling and analysis of the waste and exhaust emissions must be conducted to verify that the waste feed composition is consistent with that represented in the permit application and that the emissions from the kiln are consistent with the limitations contained in this permit. The holder of this permit shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the cement kilns resulting from the use of pumpable hazardous waste. Testing shall be conducted while the kiln is utilizing pumpable hazardous wastes within ten (10.0) percent of the maximum permitted feed rates under normal operating conditions. A test plan shall be submitted no less than 60 days prior to the required testing to the Office Air Quality to afford the to opportunity to comment. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense.

a. The TNRCC Arlington Regional Office shall be contacted as soon as testing is scheduled, but not less than 60 days prior to sampling to schedule a pretest meeting.

The notice shall include:
(1) Date for pretest meeting.
(2) Date sampling will occur.
(3) Name of firm conducting sampling.
(4) Type of sampling equipment to be used.
(5) Method or procedure to be used in sampling.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

A written proposed description of any deviation from sampling procedures specified in permit provisions or TNRCC or EPA sampling procedures shall be made available to the TNRCC prior to the pretest meeting. The Regional Manager or the Manager of the Source and Mobile Monitoring Section shall approve or disapprove of any deviation from specified sampling procedures.

Requests to waive testing for any pollutant specified in **(c)** of this provision shall be submitted to the TNRCC Austin New Source Review Program. Test waivers and alternate or equivalent procedure proposals for NSPS testing which must have EPA approval shall be submitted to the TNRCC Source and Mobile Monitoring Section in Austin.

[V.G.1.]

b. Sampling ports and platforms shall be incorporated into the design of the kiln stack according to the specifications set forth in Chapter 2 of the Sampling Procedures Manual. Alternate sampling facility designs may be submitted for approval by the TNRCC Office of Air Quality Regional Manager or the Mobile Source and Monitoring Division in Austin.

c. While firing pumpable hazardous waste, the permittee shall conduct a quantitative analysis of the stack gas for total hydrocarbons (THC), carbon monoxide (CO), HCl, chlorine (Cl_2), O_2, front and back half particulate matter (PM), dioxin/furans (D/F), the specified metals in Attachment H and opacity.

CEMS data for CO, THC, O_2 and opacity taken during the appropriate sampling period may be submitted in lieu of testing.

d. The plant shall operate at the maximum production rates, flue gas flow rates and other parameters established in this permit during stack emission testing. Primary operating parameters that enable determination of production rates shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting.

e. The permittee shall conduct the testing required in this condition on a different kiln for each successive two-year testing period, not to repeat the testing on the same kiln until each other kiln has been tested.

f. The sampling report shall include calculations showing the appropriate detection limits and emission rates concentrations of the contaminants to be tested for. HCl, Cl2 and metals shall be reported in pounds per hour. PM emissions shall be reported in lb/hr and in grains per dry standard cubic foot and corrected to 7 percent oxygen for front half and total catch. The sampling report shall also contain calculations showing the removal efficiencies of HCl. Copies of the final sampling report shall be forwarded to the TNRCC within 60 days after receipt of the sampling results. Sampling reports shall comply with the provisions of Chapter 14 of the TNRCC Sampling Procedures Manual. One copy of the report shall be distributed to each of the following:

- The Office of Air Quality Permits Division - Austin.
- The TNRCC Arlington Regional Office.
- The Mobile Source and Monitoring Division of the TNRCC.

2. Pursuant to the performance testing required by V(G)(1), the following procedures will be used to report and comply with the D/F emission limits in Attachment H:

[V.G.2.]

a. D/F emissions shall be reported speciated by congener and on a TEQ basis for each run in lb/hr and ng/dscm corrected to 7 percent oxygen. The TEQ concentration for each test will be expressed as the sum of the products of the congener concentrations and their toxic equivalency factors, as adopted by the U.S. EPA. Congeners not detected will be assumed not to be emitted and reported as zero.

b. The TEQ reported for the purposes of performance testing required by this permit will be calculated as the average of the TEQ concentrations of each of the valid individual runs. Should performance test TEQ be higher than the emission limit specified in Attachment H, the permittee will retest for D/F emissions only in accordance with the requirements of V(G) of this permit within 60 days of submittal of the performance test which exceeded the permitted limit along with a detailed analysis of operation conditions and a report to the TNRCC describing proposed alternatives and actions that will be necessary to achieve compliance with the emission limit.

3. If based upon the analytical results of the periodic testing, the permittee determines that the kiln failed to achieve any of the performance standards required, the permittee shall notify the Executive Director of the TNRCC within 24 hours of the determination. The Executive Director of the TNRCC may respond to the notification with a directive to the permittee to cease feeding pumpable hazardous waste or to perform such other directive as may be necessary to ensure compliance with this permit.

4. All submittals required by this permit must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application as outlined in 30 TAC Section 305.44.

H. Record Keeping Requirements

1. Monitoring and Maintenance Records Pursuant to V(F):
   (1) A list of all components affected by this provision;
   (2) Checklists indicating that the required inspections are being performed;
   (3) Checklists indicating the hydrocarbon analyzer inspections are being performed;
   (4) Summaries including date, time, equipment identification, and monitoring results for all leaking items;
   (5) Summaries including date, time, equipment identification, and corrective actions for all isolations, replacements and/or repairs performed, including monitoring results immediately after repairs; and
   (6) Records of the calibration of the portable monitoring instruments.

2. CEMS Records Pursuant to V(D):ords Pursuant to V(F):

(1) Average kiln exit O_2 and six-minute average opacities which are monitored pursuant to this permit; and

[V.H.2]

(2) The holder of this permit shall maintain a raw data file of all measurements, including continuous monitoring systems, monitoring device and performance testing measurements, all continuous monitoring device calibration checks and adjustments, and maintenance performed on these systems or devices. The file shall be kept in a permanent form suitable for inspection.

The records required shall be maintained at the plant site on a rolling two-year retention basis following the data of such measurements, maintenance, reports, or records and shall be made available to the TNRCC, or any local air pollution agency having jurisdiction, upon request.

I. Reporting

1. The holder of this permit shall submit to the TNRCC Arlington Regional Office quarterly CEMS reports. Such reports are required the cement kiln and storage and unloading area required to be monitored pursuant to V(D) and V(F) of this permit. All such reports shall be postmarked by the 30th day following the end of each calendar quarter and shall include the following information:

a. The magnitude of excess emissions and the date and time of commencement and completion of each time period of excess emissions.

b. For each period of excess emissions, the nature and cause of any malfunction (if known), the corrective action taken, or preventive measures adopted.

c. The date and time identifying each period during which each CEMS was inoperative (except for zero and span checks) and the nature of the system repairs or adjustments which occurred during the downtime.

d. When no excess emissions have occurred, or no CEMS has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

e. The reporting of excess emissions required by this provision does not relieve the holder of this permit from the notification requirements of upset conditions or maintenance as required by Rules 101.6 and 101.7 of the General Rules of the TNRCC.

ATTACHMENT S

TEXAS INDUSTRIES, INC. DRAFT RCRA PERMIT
CLOSURE AND FINANCIAL ASSURANCE PROVISIONS

(6 Sheets)

PERMIT SECTION VI - CLOSURE AND FINANCIAL ASSURANCE REQUIREMENTS

A. GENERAL CLOSURE REQUIREMENTS:

1. The permittee shall provide financial assurance for closure of all permitted units covered by this permit in accordance with the form outlined in 40 CFR Part 264, Subpart H. The financial assurance amount shall be not less than $ 1,590,000 (1995 dollars) for Permit Units 1-10, 13 and 14. Financial assurance shall be secured and maintained in compliance with 30 TAC 335.152 and 40 CFR Part 264, Subpart H. Financial assurance is subject to the following:

[VI.A.1.]

a. Increase in Financial Assurance Amount:

The amount of financial assurance required for closure, shall be increased to $2,130,000 as permitted units approved through this permit are constructed. This increase in financial assurance shall be accomplished at least 60 days prior to the management of waste within the newly constructed units. Waste management in newly constructed units cannot take place until the certification requirements of I.F.3. and the financial assurance requirements of this provision have been met. The financial assurance increases listed below shall be corrected for inflation according to the year in which the unit is actually built. Increases in financial assurance shall be as follows:

(1) The amount of financial assurance for closure, shall be increased by $2.00 /gallon (1995 dollars) at least 60 days prior to management of wastes within TNRCC Permit Units Nos. 11, 12, 15 and 16.

b. Inflation Factor Correction

Financial assurance for closure, including any adjustments after permit issuance, shall be corrected for inflation according to the methods described by 40 CFR Part 264, Subpart H. Within 30 days after the close of the firm's fiscal year, for firms using the financial test or corporate guarantee, or within 60 days prior to the anniversary date of the establishment of other financial assurance instruments, the facility's closure cost estimate shall be adjusted for inflation and submitted to the Executive Director. The adjustment shall be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator.

c. Decreases in Financial Assurance

The amount of Financial Assurance required for closure may be decreased by the permittee to deduct costs associated with partial facility closure

2. The permittee shall submit to the Executive Director, upon request, such information as may be required to determine the adequacy of the financial assurance.

B. COMMENCEMENT OF FACILITY CLOSURE

Facility closure shall commence:

1. Upon direction of the TNRCC for violation of the permit, TNRCC Rules, or State Statutes; or

2. Upon suspension, cancellation, or revocation of the terms and conditions of this permit concerning the authorization to receive, store, process, or dispose of waste materials; or

[VI.B.1.]

3. Upon abandonment of the site; or

4. Upon direction of the TNRCC for failure to secure and maintain an adequate bond or other financial assurance as required by Provision VI.A.1.; or

5. When necessary to comply with Provision I.I.2., 40 CFR 264.113, and 40 CFR 266.102(a)(2)(vii).

C. REQUEST FOR PERMIT MODIFICATION OR AMENDMENT

The permittee shall submit a written notification or request for a permit modification or amendment to authorize a change in the approved Closure Plan(s), in accordance with 30 TAC § 305.62, 30 TAC § 305.69, and the time frames of Provision VI.D. The written notification or request shall include a copy of the amended Closure Plan(s) for approval by the Executive Director. The permittee shall submit a written notification or request for a permit modification or amendment to authorize a change in the approved Closure and/or Post-Closure Care Plans whenever:

1. Changes in operating plans or facility design affect the approved Closure Plan(s);

2. There is a change in the expected year of final closure, if applicable;

3. In conducting partial or final closure activities, unexpected events require modification or amendment of the approved Closure Plan;

4. Required by the Executive Director under the conditions described in Provision VI.C.1. through 3. above.

D. TIME FRAMES FOR MODIFICATION\AMENDMENT REQUEST SUBMITTAL

The permittee shall submit a written request for a permit modification or amendment:

1. At least 60 days prior to the proposed change in facility design or operation which will affect the approved Closure Plan(s);

2. No later than 60 days after an unexpected event has occurred which has affected the approved Closure Plan(s);

3. No later than 30 days after an unexpected event has occurred, if the unexpected event occurs during the partial or final closure period;

4. Within 60 days of the Executive Director's requirement pursuant to Provision IV.C.4., or within 30 days if the change in facility conditions occurs during partial or final closure.

[VI.]

E. CLOSURE NOTICE AND CERTIFICATION REQUIREMENTS

1. The permittee shall notify the Executive Director, in writing, at least 45 days prior to the date on which he expects to begin partial or final closure of processing or storage tanks; or at least 45 days prior to the date on which he expects to begin partial or final closure of a cement kiln, whichever is earlier. A copy of the notice shall be submitted to the TNRCC Region 4 Office.

2. Unless the Executive Director approves an extension to the closure period, as per the requirements of 40 CFR 264.113(b), the permittee must complete partial and final closure activities in accordance with the approved Closure Plan identified in Provision I.I.2., and within 180 days after receiving the final volume of hazardous wastes at the hazardous waste management unit or facility.

3. As per the requirements of 40 CFR 264.115, within 60 days of the completion of final closure, the permittee shall submit to the Executive Director, by registered mail, with a copy to the TNRCC Region 4 Office, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved Closure Plan and this permit. The certification, which shall be signed by the permittee and by an independent registered professional engineer, must be in the form described in Provision I.F.3.a. An engineering report shall be submitted with the required certifications which includes a summary of the activities conducted during closure and the results of all analyses performed. The certification report shall contain the information required by Provision I.F.3.b. Documentation supporting the independent registered professional engineer's certification shall be furnished to the Executive Director upon request until the Executive Director releases the permittee from the financial assurance requirements for closure under 40 CFR 264.143(i).

4. Closure activities shall be performed in accordance with the Closure Plan(s) identified in Provision I.I.2., except as modified in Provisions VI.F. and VI.G. of this permit.

5. Final closure is considered complete when all hazardous waste management units at the facility have been closed in accordance with all applicable closure requirements so that hazardous waste management activities under 40 CFR Part 264 and 265 are no longer conducted at the facility, unless such waste management activities are subject to the requirements of 40 CFR 262.34, and all RCRA Corrective Action requirements of this permit are fulfilled.

F. STORAGE AND PROCESSING FACILITY UNITS CLOSURE REQUIREMENTS

The permittee shall close the storage and processing units listed as TNRCC Permit Unit No(s). 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16 in accordance with the Closure Plans referenced in Provision I.I.2., 264.197, and the following requirements.

[VI.F.]

1. All storage and/or processing facility units, sump, pumps, piping and any other equipment or ancillary components which have come in contact with hazardous wastes shall either be decontaminated by removing all waste and waste residues, or be disposed of in a manner authorized at this facility or disposed of at an authorized off-site facility.

2. All wash water generated during decontamination activities shall be disposed of in a manner authorized at this facility or disposed of at an authorized off-site facility.

3. All hard-surfaced areas within the hazardous waste management unit areas shall be decontaminated and the wash water generated disposed of in a manner authorized at this facility or disposed of at an authorized off-site facility.

4. Verification of decontamination shall be performed by analyzing wash water, and as necessary, soil samples for the hazardous waste constituents which have been in contact with the particular item being decontaminated.

5. Sufficiently detailed analyses of samples representative of soils remaining in non-hard-surfaced areas of the storage and processing facility area shall be performed to verify removal or decontamination of all waste and waste residues.

6. Soil and/or wash-water samples shall be analyzed in accordance with the methods specified in the current editions of "Test Methods for the Evaluation of Solid Waste" (SW-846) or other methods which are officially recommended by the EPA.

7. All accessible interior/exterior surface areas of equipment, etc., which are to be decontaminated shall be visually inspected for evidence of waste or waste residues. A unit, including ancillary equipment, shall not be certified closed by decontamination if visible evidence of contamination or waste residues remain.

8. If not all contaminated soils can be removed or decontaminated, the permittee must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (40 CFR 264.310). In addition, the permittee must meet all the requirements specified in Subparts G and H of 40 CFR Part 264.

G. CEMENT KILN CLOSURE REQUIREMENTS

The permittee shall close the Cement Kilns listed as TNRCC Permit Unit No(s). 1, 2, 3, and 4 in accordance with the Closure Plans referenced in Provision I.I.2., and the following requirements.

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a. The cement kiln and all components and structures, piping, pumps, conveyors, air emission control equipment, soils and the unit foundation, shall be decontaminated by removing all hazardous waste and waste residues.

[VI.G.1.]

b. Hazardous waste and waste residues (including wastes generated during closure and/or decontamination activities) shall be removed and disposed of in a manner authorized at this facility or disposed of at an authorized off-site facility.

c. Soil and/or wash-water samples shall be analyzed in accordance with the methods specified in the current editions of "Test Methods for the Evaluation of Solid Waste" (SW-846) or other methods which are officially recommended by the EPA.

d. As applicable, all contaminated equipment/structures (i.e., debris) intended for decontamination shall be decontaminated in a manner which meets or exceeds the debris treatment standards contained in 40 CFR 268.45 or removed and managed at an authorized industrial solid waste management facility.

e. The permittee shall perform sufficient sampling and analysis to reasonably assure that all waste and waste residues have been removed during decontamination activities. In addition, the permittee shall perform visual inspections of the equipment/structures for visible evidence of contamination. Decontamination shall be deemed complete when no visible evidence of contamination is observed and when the results from verification sampling and analysis indicate that all waste and waste residues have been removed.

ATTACHMENT U

TRADITIONAL VS. RISK-BASED PERMITTING APPROACH:
PERMIT TO MANAGE RISKS
BY DAVID WEEKS

(8 Sheets)

Traditional vs. Risk-Based Permitting Approach: Permit to Manage Risks

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ABSTRACT

Although the use of risk assessments to support the permitting of hazardous waste combustion facilities, including incinerators, has become common; typical permit conditions based on the results of risk assessment have yet to be developed. The traditional six step process used to develop permit conditions must be enhanced in order to incorporate the results of the risk assessment into the process. Steps one (evaluation of trial burn plan) and five (selection of permitting strategy) are particularly impacted by the risk assessment process. Step one must be enhanced to ensure that all necessary data is collected during the trial burn, and that the conditions under which the unit is operated during the test fully consider the potential permit conditions. The facility must decide whether it will collect risk data during worst case (traditional) destruction and removal efficiency (DRE) burns, or during normal operating conditions (a.k.a. risk burn). In choosing the permitting strategy, the permitting agency must consider a range of possible conditions, including conditions that are not necessarily based on operational parameters, in order to ensure protection of human health and the environment.

INTRODUCTION

Hazardous waste combustion facilities are required to obtain a permit to burn hazardous waste under the authority of the Resource Conservation and Recovery Act. In 1993 and 1994, the U. S. Environmental Protection Agency (EPA) announced its draft and final Hazardous Waste Minimization and Combustion Strategy. The Strategy called for hazardous waste combustion facilities to complete multi pathway risk assessments as part of the permitting process as necessary to ensure protection of human health and the environment.

In response to the Strategy and the needs to ensure protection of public health and the environment, risk assessments have become an integral part of the hazardous waste combustion permitting process. However, due to the difficulty in completing assessments caused by unfamiliarity

with the methods and models used in the process, and the rapid evolution of the guidance, not enough assessments have been completed to clearly establish how the risk assessment process may be used to support actual permitting decisions. Information which explains how the risk assessment process can be used to effectuate the development of permit conditions is needed in order to ensure consistent and effective use of this powerful tool.

TRADITIONAL PERMIT CONDITIONS

Traditionally, hazardous waste incinerator permit conditions have been developed around regulatory performance standards and incinerator unit operating conditions (USEPA 1989). Existing regulations for incinerators codified at 40 CFR § 264 Subpart O limited performance standards to destruction and removal efficiency of principle organic hazardous constituents (POHCs), removal of hydrochloric acid, and control of particulate emissions. Since methods to continuously monitor compliance with these performance standards did not exist, process operating conditions were used to establish permit conditions. Methods do exist to continuously monitor compliance with many operating conditions. Some process operating conditions typically used to develop permit conditions include carbon monoxide concentration in the stack gas, waste feed rate, combustion temperature, and pressure differentials. Permit conditions based on process operating conditions limit the operation of combustion units to the conditions under which a combustion unit is operated during tests conducted to demonstrate compliance with the regulatory performance standards.

Under the traditional approach, permitting authorities developed permit conditions for hazardous waste incinerators through a six step process centered around the evaluation of a trial burn plan (TBP) and review of data from the trial burn as presented in a trial burn report (TBR) (USEPA 1989). Step one of the process begins during the review of the TBP and involves the evaluation and selection of the relevant operating parameters (referred to as control parameters) that are anticipated to form the basis of the permit. Step two includes evaluation of the TBP to determine whether the selected control parameters are consistent with the design of the incineration system and whether or not operation of the incinerator during the test will present an imminent hazard to public health or the environment. In step three, control parameters are established for the incinerator consistent with the hazard evaluation completed in step two.

Step four of the process is initiated after the TBR has been approved by permitting authority, and usually includes an evaluation of whether or not the regulatory performance standards were met during the trial burn. Step five is the heart of permit condition development where permit conditions for the incinerator are established. A permitting strategy, based on the complexity of the wastes and incineration system, is selected in order to organize the control parameters into a consistent set of enforceable permit conditions., The process operating data collected during the trial burn is used to develop the permit conditions. Finally, in step six, inspection and maintenance requirements are

established in the permit in order to ensure that the monitoring systems and hardware remain in good condition throughout the life of the permit.

The permitting approach described above was used to permit the majority of incinerators in operation today with the exception of some of the more recent permits which contain limits (base primarily on the composition waste feed constituents) based on risk to humans from the direct inhalation pathway. However, the six step process has been rendered obsolete by the public's increasing concern over the safety of hazardous waste combustion and the indirect (food chain) risks to human health and the environment associated with emissions of products of incomplete combustion (PICs) and metals. Establishing permit conditions based on compliance with regulatory performance standards alone may not be protective of human health and the environment because the existing regulatory performance standards do not consider indirect and ecological risks.

RISK BASED PERMIT CONDITIONS

The reliance by permitting authorities on multi pathway risk assessments to address the public's increased concerns about emissions from hazardous waste incinerators, and the complexity and uncertainty inherent in the use of these assessments, require permitting authorities to consider the permit conditions based on risk in addition to simple regulatory performance standards and process control parameters. Although it is anticipated that the eventual promulgation of Clean Air Act Maximum Achievable Control Technology standards for incinerators will lessen the permitting authorities reliance on multi pathway risk assessments, it is not known if these standards will meet the Resource Conservation and Recovery Act (RCRA) risk based standard of protection for every hazardous constituent, emitted by every incinerator, at every location. Thus, permitting authorities must give some consideration to the need for, and development of, risk based permit conditions.

Risk based permit conditions enhance, rather than replace, the traditional six step permitting approach. Steps one and five are most impacted by the use of risk based permit conditions. Step one is affected because the permitting authority must ensure that execution of the TBP will result in the development of both the data necessary to determine whether a multi pathway risk assessment is necessary to ensure protection of human health and the environment, and the data required to complete the risk assessment. The facility and permitting authority must also ensure that the TBP test conditions are structured such that control parameters can be established for containment emissions. Step five is affected because the permitting authority may need to develop permit conditions other than those based on control parameters in order to address risk above regulatory levels of concern, the uncertainty of the risk assessment process, and to ensure that the conditions under which the incinerator is tested are representative of the conditions under which the incinerator is routinely operated.

Step One Enhancements

The permitting authority must ensure that the TBP provides for the collection of the appropriate information necessary to make risk management decisions about the combustion unit. Additional information beyond that traditionally provided includes: (1) dioxin and non-dioxin PIC emissions; (2) metal and inorganic contaminant emissions; (3) full scans for volatile and semivolatile organics in the waste feed; and (4) particle size distribution of particulate emissions. Emissions of PICs and metals will be evaluated and possibly used in a multi pathway risk assessment. Results of the waste feed analysis may be used to help select contaminants of potential concern in the risk assessment. For example, if the stack gas concentration of a particular contaminant is less than the detection limit, but the same contaminant was identified in the waste feed, then the contaminant should be carried through the risk assessment process at a concentration equal to one-half the detection limit from the stack gas analysis. Particle size distribution is one of the key, source specific, inputs required to run the Industrial Source Complex Short term (ISCST)3 air dispersion model.

The permitting authority must also carefully consider the conditions of the test as related to the conditions of a permit and how these conditions impact the risk assessment. As discussed previously, trial burns have traditionally been conducted at "worst case" operating conditions for either DRE (low temperature) or metals emissions (high temperature). However, estimating risk based on emissions from worst-case operating conditions could be overly conservative, given that a facility will not operate at worst-case conditions all of the time, and given that the risk process itself may already be conservative with respect to exposure parameters and other assumptions. From a risk assessment standpoint, a case can be made for utilizing emissions data generated during "normal" operation of the combustion device (instead of the extreme ranges which have been required during DRE and metals tests). Site-specific risk assessments assess the protectiveness of operations over the long-term ($\geq$ 30 years), and the emissions during normal operation may related more directly to the risk posed by the combustion device over its operating life.

For every facility, at least one trial burn test condition must be performed at "worst-case" conditions for determining compliance with the applicable RCRA performance standards. For some facilities, such as commercial incinerators or cement kilns, multiple test conditions will likely be needed. If a facility wishes for emissions data collected under "normal" operations to be considered in the risk assessment, then testing over and above the worst-case test will be necessary. However, if testing is conducted at normal conditions for purposes of the risk assessment, the permitting authority may require additional limitations in the permit to ensure that conditions represented as normal during the test are, in fact, normal over the long-term operation of the facility.

Step Five Enhancements

The selection of a permitting strategy had traditionally focused on one of three approaches: a single point, multiple point, or universal (USEPA 1989) . One set of operating parameters and one set of data from typically one trial burn test is used to specify permit limits under the single point approach. The single point has been typically used for incinerators with well-defined waste streams with consistent

characteristics. The multiple point approach is the same as the single point approach, except that multiple single points are set based on the types of wastes being burned. The third, or universal, approach is designed to provide a facility with the flexibility of burning a broad range of wastes while meeting one set of permit conditions. The universal approach requires that the trial burn be carefully designed to represent the worst case mix of wastes and operating conditions that the incinerator could possibly encounter during operation. One of these three approaches will always be used by the combustion facility in order to address the traditional DRE and other regulatory performance standards.

In order to ensure proper management of risk, a fourth, risk based strategy is required by the permitting authority. Use of a risk based strategy may involve testing at either worst case or normal operating conditions depending on the wastes being burned, the characteristics of the combustion unit, and permitted operation as it relates to potential permit conditions. The "permitted" operation to be evaluated in the site-specific risk assessment means operation at the maximum extreme of the emissions limitations and operating limitations which will be conditions of the permit, assuming that the facility operates at these extremes continuously over the life of the facility. However, this does not necessarily rule out the possibility of using emissions data collected during "normal" operating conditions in the risk assessment provided that an extra layer of permit conditions can be developed to ensure that the facility does not operate in excess of normal conditions over the long term. In the context of the "normal" versus "worst-case" testing, the "permitted" operation to be evaluated in the site-specific risk assessment are as follows:

For Testing Performed Under the Worst-Case Conditions

If testing is performed under only worst-case conditions, then emissions levels at least as high as the resulting worst-case/maximum emissions from the test must be evaluated in the risk assessment (i.e., the risk assessment will conservatively assume that the facility operates at worst-case conditions all of the time). If those maximum emissions are determined to be protective, then the permit may establish corresponding not-to-be-exceeded maximum emissions limits. Ongoing compliance will be assured by establishing short-term (e.g., instantaneous or hourly rolling average) permit limits on operating and feed control parameters based upon the operation demonstrated during the trial burn.

For Testing Performed Under Normal Conditions

If testing is also performed at normal conditions (in addition to the worst-case test), then the normal/average emissions may be considered on a case-by-case basis for use in the risk assessment in lieu of the worst-case/maximum emissions. However, the facility would have to provide sufficient information to define "normal" operating conditions, and will have to propose additional record keeping requirements and permit limitations (over and above those discussed for worst-case operation) to ensure that the facility does not operate in excess of the normal conditions over the long term. These limitations might take the form of monthly, quarterly, or

annual averages, or waste inventory tracking. In general, the use of "normal" waste is discouraged. Waste burned for purposes of the testing should be "worst-case" for PIC formation regardless of combustion temperatures and other process control parameters.

In both cases, the emissions levels (and related operating conditions) which are evaluated in the site-specific risk assessment must clearly correspond to the permit terms and must be constrained from going outside the boundaries established by those terms. An example of a situation which does not meet the criteria for the development of permit conditions based on "normal" operations, is a commercial facility with a diverse customer list who simply burned the waste that was available on the test day. If the facility cannot make a case as to why the specific waste represented "worst-case" for PIC information and its operations are "normal, or will not commit to a waste inventory tracking scheme and long-term averaging to assess whether the test waste and operating condtions remained representative, then emissions data from a worst-case test should be evaluated in the risk assessment.

If a facility chooses to conduct testing at normal conditions, and the resulting risk is below regulatory levels of concern, additional conditions will be specified in the permit to ensure that the combustion unit operates in a manner consistent with the conditions represented as being normal during the test. As discussed above, these additional limits may take the form of monthly, quarterly, or annual conditions. Some possible examples are presented as follows:

- Waste Feed Rate - Annual average waste feed rate as defined by the average of the hourly rolling average for the specified reporting period (excluding times when the unit is not burning hazardous waste). The annual average waste feed rates shall be less than the average of the maximum hourly rolling average feed rates for the three runs reported for the risk burn test. (Note: use of this limit assumes that the waste feed rates reported in the risk burn are not extremely variable.)

- Combustion Chamber Temperature - Annual average combustion temperature as defined by the average of the hourly rolling average combustion temperatures for the specified reporting period (excluding times when the unit is not burning hazardous waste). The annual average combustion chamber temperature shall be greater than the average of the least hourly rolling average temperatures for the three runs reported during the risk burn test.

- Stack Gas Velocity - Annual average stack gas velocity as defined by the average of the hourly rolling average velocities for a specified reporting period (excluding times when the unit is not burning hazardous waste). The annual average stack gas velocity shall be less than the average of the maximum hourly rolling average stack gas velocities for the three runs reported during the risk burn test.

If the risk assessment indicates that stack emissions result in risk above regulatory levels of concern, the permitting authority and the facility may take several actions to ensure protection of human health and the environment. For example, the permitting agency may consider refinement of the risk assessment process if a pathway can be eliminated (e.g., the facility changes its practice of leasing land to local farmers and ranchers) at a specific exposure point with relatively high contaminant deposition rates. The permitting agency may back-calculate acceptable, risk based, constituent-specific, permit limits, and require the facility to test at some very short interval (once/day) to show that risks are below regulatory levels of concern. The permitting agency may specify direct environmental monitoring (e.g., air, soil, water) with review of the permit conditions against the data at some predetermined frequency, with an option to reopen and adjust the permit conditions as more data becomes available. The facility may install new air pollution control equipment and then retest to show that risks are below regulatory levels of concern. In summary, a number of very site-specific approaches are available which can be used to manage the risk at each specific facility. The approach used will vary depending on the requirements of the permitting authority, the physical limitations of the facility, and the concerns of the public.

CONCLUSIONS

The traditional six step approach to developing permit conditions for hazardous waste incinerators is obsolete because it does not consider the impact of multi pathway risk assessment results on the permitting process. A risk based approach to the development of permit conditions is more appropriate because it allows the permitting authority to manage the risks from the incinerator via the permitting process. A risk based approach to the development of permit conditions is an enhancement, rather than a replacement, of the traditional six step approach. Steps one (review and evaluation of the TBP) and five (selection of a permitting strategy) of the traditional approach are the steps most impacted by the application of risk based permit conditions.

ACKNOWLEDGMENTS & DISCLAIMER

The author acknowledges the work and ideas offered by Mr. Val De la Fuente (Office of Solid Waste), Ms. Beth Antley (Region 4), and the U. S. Environmental Protection Agency's Combustion Permit Writers Work Group, in the development of the concepts outlined by this paper. The risk based permitting approach presented in this paper reflects the author's ideas and does not necessarily reflect an official position by the U. S. Environmental Protection Agency's Office of Solid Waste or Region 6.

REFERENCES

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2. U.S. EPA. 1991. *Guidance Manual for Hazardous Waste Incinerator Permits.* Office of Solid Waste. Revised Draft. August.

3. U.S. EPA. 1992. *Technical Implementation Document for EPA's Boiler and Industrial Furnace Regulations.* Office of Solid Waste and Emergency Response. EPA/530/R/92/011. March.

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ATTACHMENT V

ENVIRONMENTAL APPEALS BOARD RULING ON THE ASH GROVE CEMENT COMPANY RCRA PERMIT

(34 Sheets)

(Slip Opinion)

NOTICE: This opinion is subject to formal revision before publication in the Environmental Administrative Decisions (E.A.D.). Readers are requested to notify the Environmental Appeals Board, U.S. Environmental Protection Agency, Washington, D.C. 20460, of any typographical or other formal errors, in order that corrections may be made before publication.

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)	
Ash Grove Cement Company	)	RCRA Appeal Nos. 96-4 & 96-5
Permit No. KSD 031 203 318	)	

[Decided November 14, 1997]

ORDER DENYING REVIEW IN PART AND REMANDING IN PART

Before Environmental Appeals Judges Ronald L. McCallum, Edward E. Reich and Kathie A. Stein.

ASH GROVE CEMENT COMPANY

RCRA Appeal Nos. 96-4 & 96-5

ORDER DENYING REVIEW IN PART AND REMANDING IN PART

Decided November 14, 1997

Syllabus

On August 15, 1996, the United States Environmental Protection Agency Region VII ("Region") issued a Resource Conservation and Recovery Act ("RCRA") permit for hazardous waste combustion to the Ash Grove Cement Company ("Ash Grove") for its Portland cement plant located in Chanute, Kansas. Petitions for review of the final permit were filed by Ash Grove and a coalition of petitioners ("Rollins et al."), including Rollins Environmental Services, Inc., a national incineration company that is a competitor of cement companies such as Ash Grove.

Most of the issues presented in the petitions filed by Ash Grove and Rollins et al. pertain to the Region's conduct of an indirect exposure risk assessment during the permitting process. The petitioners challenge the risk assessment process and the Region's ultimate decisions on permit conditions that were based upon the results of the risk assessment.

Ash Grove challenges the Region's authority to conduct an indirect exposure risk assessment during the RCRA permitting process for this facility because the recommendation to conduct this type of risk assessment came from Agency guidance documents. Ash Grove also claims that the results of the risk assessment are invalid and unreliable due to errors in the risk assessment methodology. Ash Grove's principal objection, however, is to the permit conditions requiring it to conduct environmental monitoring for mercury (in fish, water, and soil) and for thallium (in soil).

Rollins et al. claim that several errors and oversights in the risk assessment process represent hazards to human health or the environment that were not adequately addressed by the Region during the permitting process. Rollins et al. also specifically challenge the protectiveness of the permit limits on mercury and thallium in light of the risk assessment results. In addition to challenges related to the risk assessment, Rollins et al. raise several miscellaneous issues in their petition for review.

HELD:

With regard to the risk assessment and related issues:

- The Region's performance of an indirect exposure risk assessment during the permitting process for the Ash Grove plant was neither improper nor illegal. The Region may draw upon Agency guidance documents in the permitting context, provided that any particular application of guidance is supported by a permit-specific analysis. Here, the Region's decision to conduct an indirect

exposure risk assessment was appropriately based on a finding specific to Ash Grove. (Section II.B.2.)

- The Board declines to review any of the risk assessment methodology issues raised by Ash Grove and Rollins *et al*. These issues involve matters of technical judgment on the part of the Region, and the petitioners have failed to sustain the heavy burden of persuasion that applies to requests for review of technical issues. (Section II.B.3.)

- The Board orders a remand of the permit limits for mercury and thallium and the permit conditions requiring environmental monitoring of these substances. The Region is directed to reopen the permit proceedings for the limited purposes of: (1) providing a sufficient explanation of how the permit's mercury and thallium feed rate limits adequately protect human health and the environment, in accordance with the Region's obligation under RCRA's omnibus provision; and (2) providing a revised explanation of the authority to include environmental monitoring conditions for mercury and thallium in the permit. (Section II.B.4.)

With regard to miscellaneous issues raised by Rollins *et al.*:

- Review is denied with regard to the permit limits on dioxins and furans. (Section II.C.1.)

- Review is denied with regard to the permit conditions on waste analysis. (Section II.C.2.)

- Review is denied with regard to the need for consultation with the Fish and Wildlife Service and/or authorities in Oklahoma. (Section II.C.3.)

- Review is denied with regard to the request to reopen the public comment period, except as specifically noted in the context of the limited remand. (Section II.C.4.)

- Review is denied with regard to the possibility of incorporating into the Ash Grove permit proposed standards for incinerators and industrial furnaces under the Clean Air Act's Maximum Achievable Control Technology ("MACT") program prior to the final promulgation of those standards. (Section II.C.5.)

Before Environmental Appeals Judges Ronald L. McCallum, Edward E. Reich and Kathie A. Stein.

Opinion of the Board by Judge McCallum:

I. *BACKGROUND*

A. *The Ash Grove Permit and Appeals*

These appeals arose after the United States Environmental Protection Agency Region VII ("Region") issued a Resource Conservation and Recovery Act ("RCRA") permit for hazardous waste combustion to an Ash Grove Cement Company ("Ash Grove") Portland cement plant located in Chanute, Kansas. However, the appeals are only partially about Ash Grove's Chanute facility and its permit. The appeals also reflect the national debate on hazardous waste combustion. Certain aspects of the appeals

clearly emanate from the competitive interests of the incineration and cement industries at the local and national levels.

The Ash Grove plant in Chanute, Kansas dates back to 1907. The operations of particular relevance to these appeals, however, are of a more recent origin. In 1986, Ash Grove began using hazardous waste as a fuel in its cement kilns. In accordance with EPA rules, Ash Grove initiated the process for obtaining a RCRA permit for hazardous waste combustion at Chanute in 1991. The Region issued the federal portion of a permit for the Chanute facility on August 15, 1996, pursuant to the 1984 Hazardous and Solid Waste Amendments ("HSWA") to RCRA, 42 U.S.C. §§ 6901-6992k.[1]

In September 1996, the Environmental Appeals Board received two petitions for review of the Ash Grove permit pursuant to the permit appeals procedure at 40 C.F.R. § 124.19.

RCRA Appeal No. 96-4 is a petition for review filed by the permittee, Ash Grove. Ash Grove challenges the Region's decision to impose permit conditions requiring the company to conduct certain environmental monitoring activities in the vicinity of the Chanute plant.

RCRA Appeal No. 96-5 is a petition for review of the Ash Grove permit filed by a coalition of petitioners (collectively "Rollins *et al.*") comprised of twenty-five private individuals living in the vicinity of the Ash Grove facility, the Sierra Club, the National Citizens Alliance,[2] Adans for a Clean Environment, Earth Concerns of Oklahoma,[3] and Rollins Environmental Services, Inc., a national incineration company that joined this petition on behalf of a commercial hazardous waste incinerator located approximately 40 miles south of Chanute near the Kansas/Oklahoma border. Rollins *et al*. seek review of a variety of issues, including specific conditions of Ash Grove's permit that they contend are not adequate to protect human health and the environment.

The Cement Kiln Recycling Coalition ("CKRC"), a trade association of cement companies that burn hazardous waste as fuel, of which Ash Grove is a member, filed an amicus brief in RCRA Appeal No. 96-5. The brief supports many of Ash Grove's arguments and serves as a rebuttal to the petition filed by Rollins *et al*.

B. *Competition in the Hazardous Waste Combustion Industry and Regulatory Background*

In part, these permit appeals reflect the ongoing industry battle between hazardous waste incineration companies and cement companies that burn hazardous waste as fuel. Combustion is a form

[1]The federal portion of the permit (Part II) covers HSWA elements of the RCRA program, such as hazardous waste combustion, that are administered by the EPA. Other RCRA program elements are covered by Part I of the permit, issued by the Kansas Department of Health and Environment ("KDHE") pursuant to authorization by EPA under RCRA § 3006(b), 42 U.S.C. § 6926(b). These appeals solely relate to Region VII's issuance of Part II.

[2]The National Citizens Alliance is identified as a non-profit organization "dedicated to * * * bring[ing] about regulatory equity to the nation's hazardous waste combustion policies." Rollins Petition for Review at 3.

[3]Adans for a Clean Environment and Earth Concerns of Oklahoma are identified only as "organizations located in Oklahoma." Rollins Petition for Review at 3.

of hazardous waste treatment under RCRA regulations.[4] Hazardous waste combustion occurs at a variety of facilities, including incinerators, boilers, and industrial furnaces.[5] There is competition among the various companies engaged in hazardous waste combustion. In addition to direct economic competition in the hazardous waste market, industry groups have engaged in regulatory competition.

Face-offs between incinerators and cement kilns in the regulatory arena can be explained in part by the different regulatory standards that historically have applied to various types of hazardous waste combustion facilities. Hazardous waste combustion at incinerators became subject to federal regulatory standards in the early 1980s.[6] During this time, facilities such as cement kilns that burned hazardous waste as a fuel were exempt from regulations on hazardous waste combustion. See 46 Fed. Reg. 7666, 7668 (Jan. 23, 1981) (combustion of wastes primarily for recovery of thermal value is exempt from incinerator standards); 40 C.F.R. § 261.2(c)(2) (1981) (material burned for the purpose of energy recovery was not a solid waste). In 1991, EPA promulgated regulations specifically governing hazardous waste combustion at boilers and industrial furnaces (including cement kilns). 56 Fed. Reg. 7134, 7208 (Feb. 21, 1991) (codified at 40 C.F.R. Part 266, Subpart H) ("BIF rule"). More recently, EPA Regions have "called in" permit applications from boilers and industrial furnaces ("BIFs") nationwide. U.S. EPA, *Strategy for Hazardous Waste Minimization and Combustion* at 22 (Nov. 1994) ("Combustion Strategy"). The purpose of the permit application "call in" is so that Regions may develop (or, as may be necessary, deny) individual facility permits for BIFs. *See* Combustion Strategy app. C at 4. The Ash Grove permit was the first BIF permit issued by the EPA. Ash Grove Petition for Review at 2; Response to Ash Grove Petition at 24.

C. *Issues Raised in the Appeals*

The Ash Grove and Rollins petitions for review set forth divergent views of the Ash Grove permit. Ash Grove contends that the permit conditions are either adequate or too onerous; Rollins *et al*. contend that permit conditions are too permissive and that Ash Grove ought to be subject to additional or more stringent controls. Despite different characterizations of the permit overall, both petitions express dissatisfaction with one particular element of the permit process. Ash Grove and Rollins *et al*. all contend that the Region's conduct of a risk assessment for Ash Grove was flawed. The petitioners challenge both the risk assessment process and the Region's ultimate decisions on permit conditions that were based upon the results of the risk assessment.

The petitioners raise the following arguments relating to the risk assessment:

By Ash Grove:

- The Region improperly relied upon an EPA guidance document in deciding to conduct an indirect exposure risk assessment during the BIF permitting process.

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[4]The regulatory term for combustion is "thermal treatment," which is defined as "the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste." 40 C.F.R. § 260.10 *Thermal treatment*.

[5]Cement kilns are a type of "industrial furnace." 40 C.F.R. § 260.10 *Industrial furnace*.

[6]The incinerator regulations at 40 C.F.R. Part 264, Subpart O, 6 were originally promulgated in 1981. 46 Fed. Reg. 7666 (Jan. 23, 1981).

- Errors in the risk assessment methodology render the results of the risk assessment invalid and unreliable.
- Permit conditions requiring environmental monitoring programs for mercury and thallium are not justified by the risk assessment results.

By Rollins *et al.*:

- Errors in the risk assessment methodology represent hazards to human health or the environment that were not adequately addressed by the Region. Alleged errors include: (1) failure to strictly adhere to applicable risk assessment guidelines; (2) failure to perform risk calculations for certain chemicals in portions of the risk assessment; (3) failure to evaluate risks from cement kiln dust; (4) failure to evaluate risks posed by accidents or transportation of wastes to the Ash Grove facility; (5) failure to evaluate cumulative risks from chemicals in emissions from the Ash Grove facility; (6) failure to evaluate risks from upset conditions; and (7) failure to evaluate risks to Native American populations in northern Oklahoma.
- Permit limits on mercury and thallium are inadequate in light of the risk assessment results.

Rollins *et al*. also raise a number of miscellaneous issues that do not directly pertain to the risk assessment, including:

- Protectiveness of permit limits on emissions of dioxins and furans.
- Adequacy of Ash Grove's waste analysis plan.
- Failure to consult with certain federal and state agencies during permit development.
- Adequacy of the public comment period.
- Incorporation of proposed emissions standards for BIFs into Ash Grove's permit.

Our consideration of these issues begins with a brief discussion of the standard for obtaining review in RCRA permit appeals. We then address issues from both petitions that relate to the risk assessment. The miscellaneous issues raised by Rollins *et al*. that do not directly pertain to the risk assessment are addressed individually following the risk assessment discussion.

II. *DISCUSSION*

A. *Standard for Obtaining Review of a RCRA Permit Decision*

The Board's role in reviewing final permit decisions is delineated in 40 C.F.R. Part 124. Under these regulations, Board review will not be granted unless an issue being raised on appeal involves:

> (1) A finding of fact or conclusion of law which is clearly erroneous, or
> (2) An exercise of discretion or an important policy consideration which the Environmental Appeals Board should, in its discretion, review.

40 C.F.R. § 124.19(a). The preamble to this regulation indicates a preference for issues to be resolved at the Regional level and notes that the Board's "power of review should be only sparingly exercised." 45 Fed. Reg. 33,290, 33,412 (May 19, 1980). The burden of demonstrating that review is warranted is on the petitioner. Petitioners must clearly identify their objections and "explain why the Region's previous

response to those objections is clearly erroneous or otherwise worthy of review."[7] *In re EcoEléctrica, L.P.*, PSD Appeal Nos. 96-8 and 96-13, slip op. at (EAB, Apr. 8, 1997), 7 E.A.D. __. We have consistently applied these standards in our consideration of permit appeals. *See, e.g., In re Austin Powder Co.*, RCRA Appeal No. 95-9, slip op. at 4 (EAB, Jan. 6, 1997), 6 E.A.D. __; *In re Laidlaw Envt'l Services*, 4 E.A.D. 870, 876 (EAB 1993); *In re Beazer East, Inc. and Koppers Indus., Inc.*, 4 E.A.D. 536, 538 (EAB 1993).

B. *Risk Assessment Issues*

As previewed in the Background section, the majority of issues raised by the petitioners relate to the risk assessment conducted by the Region during the permitting process. The challenges include the Region's decision to perform a risk assessment, the methodology used to conduct the risk assessment, and the ultimate permitting decisions that were based on the results of the risk assessment.

The issues raised in Ash Grove's petition for review begin with a challenge to the Region's authority to perform and use the particular type of risk assessment involved here. Ash Grove claims that the Region was inappropriately motivated to perform an indirect exposure risk assessment by Agency guidance documents regarding permit procedures for hazardous waste combustion facilities. Ash Grove Petition for Review at 5-6. The CKRC echoes Ash Grove's challenges. CKRC Amicus Brief at 13 ("*any* use of *any* indirect exposure risk assessment in BIF permitting at this time is illegal and inappropriate") (emphasis in original). Ash Grove also questions the validity of the risk assessment methodology. Ultimately, Ash Grove challenges the Region's use of the risk assessment results as justification for environmental monitoring requirements in the final permit. Ash Grove objects to permit conditions requiring environ-mental monitoring of: I) mercury concentrations in fish and water in two local lakes, and ii) mercury and thallium concentrations in soil in the vicinity of its plant. Ash Grove Petition for Review at 2.

The petition filed by Rollins *et al*. contains a wide array of challenges pertaining to the risk assessment. Rollins *et al*. support the idea of a risk assessment, but identify a number of alleged inadequacies in the risk assessment methodology. However, they do not indicate how each of the identified failures impacted the Agency's permit decisions. Presumably, some element(s) of the permit would be different had the Agency conducted the risk assessment according to the parameters suggested by Rollins *et al*. Rollins *et al*. also pose direct challenges to the permit's control of mercury and thallium emissions. The permit limits selected by the Region for these substances were based in part on the results of the risk assessment.

In addressing this myriad of challenges relating to the risk assessment, many of which are technical in nature, we first offer some background on the BIF rule and permit conditions for cement kilns that burn hazardous waste. This discussion describes the role of risk assessment in BIF permitting generally and provides an outline of the risk assessment process used in the development of this permit (Section II.B.1). Second, we analyze the Region's authority to perform the risk assessment in this case

[7]There are a few issues mentioned in the petition from Rollins *et al.* that are so lacking in specificity that they do not meet the Board's standards for review and are not discussed further in this decision. Such issues include criticisms of: arsenic feed rate limits, Rollins Petition for Review at 8 n.1; fugitive emissions, *Id.* at 13 n.3; ambient air monitoring, *Id.* at 16 n.5; lead emissions limit, *Id.* at 18 n.8.

(Section II.B.2). Third, we consider challenges to the risk assessment methodology presented by Ash Grove and Rollins *et al*. (Section II.B.3). We conclude the risk assessment discussion by looking at the specific permitting decisions that were influenced by the risk assessment results (Section II.B.4).

1. *The Role of Risk Assessment in the Ash Grove Permitting Process*

a. *Risk Considerations Within the BIF Rule*

The regulatory context for the Region's risk assessment effort in this case begins with the BIF rule. The BIF rule establishes emissions standards and other permit conditions for cement kilns that burn hazardous waste. The emissions standards in the BIF rule were derived from a risk assessment that considered adverse health effects from exposure to kiln emissions through inhalation. *See* 56 Fed. Reg. 7134, 7171 (Feb. 21, 1991). Inhalation of air containing chemicals and substances from kiln emissions is considered a "direct exposure pathway."[8] Consequently, the risk assessment performed during the development of the BIF rule was a "direct exposure risk assessment."

Emissions standards for facilities subject to the BIF rule are thus "risk-based." The BIF rule contains tables of ambient air concentrations for various substances that are calculated not to pose an unacceptable risk of cancer or other adverse health effects when inhaled. *Id*. at 7232-33 (codified at 40 C.F.R. Part 266 app. IV & V). Emissions limits for a particular facility are back-calculated from the acceptable ambient air concentrations, taking into account dispersion of stack emissions. *Id*. at 7173-7175 (describing three-tier system for determining metals emissions standards). Ultimately, the emissions standards for individual BIFs are implemented through limits on waste feed rates and specified operating parameters. *Id*. at 7136.

The risk assessment conducted by Region VII during the Ash Grove permit process was supplemental to the BIF rule risk assessment and different in scope. The Ash Grove risk assessment was an "indirect exposure risk assessment," designed to estimate risks of adverse health effects from non-inhalation exposures (*i.e.*, in this context, indirect exposures) to Ash Grove emissions.[9] An indirect

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[8]An exposure pathway is a description (expressed through mathematical equations) of how released substances (*e.g.*, chemicals in cement kiln emissions) ultimately reach receptors of interest (*e.g.*, humans). An exposure pathway includes information about how a particular chemical or substance moves through the environment after release from its source, chemical or physical transformations that occur while in the environment, and ultimately, the mechanism by which the chemical or substance is taken up by humans (*e.g.*, through inhalation, ingestion, or dermal contact).

[9]Indirect exposure pathways involve intermediate steps after the release of a substance into an environmental medium (*e.g.*, air) and before ultimate human contact. Indirect exposure pathways often involve deposition of substances onto the ground or water and uptake by plants or animals that are ultimately consumed by humans. The indirect exposure pathways considered in the Ash Grove risk assessment included: I) consumption of fish; ii) ingestion of soil; iii) consumption of above-ground vegetables; iv) consumption of below-ground (root) vegetables; v) consumption of beef; vi) consumption of milk; vii) ingestion of water; viii) dermal contact with soil; ix) dermal contact with water; and x) consumption of breast milk. Science Applications International Corporation, *A Multi- Pathway Risk Assessment for the Ash Grove Cement Kilns in Chanute, Kansas* at 50 & 57 (1995) ("SAIC Report").

Indirect exposure pathways are coupled with profiles of hypothetical populations in an "exposure scenario." The exposure scenarios of particular importance in this case are those of a hypothetical recreational fisher (who has indirect exposures to emitted substances through consumption of fish and vegetables, ingestion of water and soil, and

(continued...)

exposure risk assessment is not required by the BIF rule, although the preamble to the rule recognizes that risks from indirect exposures contribute to overall risk in conjunction with the direct exposure (inhalation) risks that are the primary focus of the BIF rule. See *Id*. at 7169 ("EPA recognizes that the contribution of indirect pathways may be significant"). Ultimately, the results from the indirect exposure risk assessment performed by the Region were used to justify conditions in Ash Grove's permit that are not specifically mandated by the BIF rule.

The BIF rule is presumed to be protective of human health and the environment by virtue of its status as a final regulation promulgated under the authority of RCRA section 3004(a). 42 U.S.C. § 6924(a) (EPA is charged with establishing standards "as may be necessary to protect human health and the environment"); see *In re Chemical Waste Management, Inc.*, 2 E.A.D. 575, 580 (Adm'r 1988) (it is reasonable to presume that final RCRA regulations protect human health and the environment unless there have been material changes or other special circumstances since promulgation), *aff'd sub nom. Alabama ex rel. Siegelman v. EPA*, 911 F.2d 499 (11th Cir. 1990). Despite the presumption of protectiveness that accompanies the BIF rule standards, both RCRA and the BIF rule contemplate situations in which the permitting agency may impose permit conditions that go beyond the requirements and standards of the BIF rule.

RCRA requires the permitting agency to include any terms and conditions necessary to protect human health and the environment in each permit for a hazardous waste treatment, storage, or disposal facility. RCRA § 3005(c)(3), 42 U.S.C. § 6925(c)(3). This statutory provision, known as RCRA "omnibus authority" or the "omnibus provision," has been interpreted and applied as authorizing permit conditions that are more stringent than those specified by a substantive regulation such as the BIF rule. *See* 40 C.F.R.§ 270.32(b) (section 270.32(b)(1) requires RCRA permits to contain such conditions as necessary to comply with specific statutory requirements and regulations; section 270.32(b)(2) sets forth the additional requirement that permits contain such terms and conditions as necessary to protect human health and the environment); *In re Morton Int'l, Inc.*, 3 E.A.D. 857, 864 (Adm'r 1992) ("[t]he legislative history of § 3005(c)(3) shows an intent to authorize the Administrator to impose permit conditions beyond those mandated by the applicable regulations") (emphasis in original); *In re Amoco Oil Co.*, 4 E.A.D. 954, 971 n.23 (EAB 1993) (same).

The preamble to the BIF rule recognizes that RCRA's omnibus authority may be invoked to apply stricter emissions limits or additional permit conditions where necessary to ensure protection of human health and the environment. *See* 56 Fed. Reg. at 7145 (regarding use of omnibus authority in setting permit standards for particulate matter); *Id*. at 7147 (regarding standards for destruction of toxic organic compounds); *Id*. at 7173 (regarding metals standards). The preamble also notes the prerequisites that must be met in order to invoke RCRA's omnibus authority. The permitting agency must specifically justify the need for additional or alternative conditions in the administrative record and must accept and respond to comment regarding the exercise of omnibus authority. *Id*. at 7173 n.56.

Application of omnibus authority involves the exercise of discretion on the part of the Agency, and acts of discretion must be adequately explained and justified. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 48 (1983) ("[w]e have frequently reiterated that an agency must cogently

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[9](...continued)
dermal contact with water and soil) and a hypothetical resident child (who has indirect exposures through ingestion of soil and water, consumption of vegetables, and dermal contact with soil and water). SAIC Report at 35-36, 44, 48.

explain why it has exercised its discretion in a given manner"). The importance of providing proper support in the administrative record for an exercise of omnibus authority has also been emphasized by the Board. *In re Chemical Waste Management of Indiana, Inc.*, RCRA Appeal No. 95-4, slip op. at 22 (EAB, Aug. 23, 1995), 6 E.A.D. __ (although the substantive standards for exercise of omnibus authority may be met, the administrative record must contain "a properly supported finding" to that effect); *In re Amoco Oil Co.*, 4 E.A.D. 954, 970-71 (EAB 1993) (the Agency's bare assertion that a permit condition is authorized by RCRA's omnibus provision is insufficient; the Agency must "provide a properly supported finding that the * * * provisions are necessary to protect human health and the environment"); *In re Sandoz Pharm. Corp.*, 4 E.A.D. 75, 80 (EAB 1992) (omnibus authority may not be invoked "unless the record contains a properly supported finding that an exercise of that authority is necessary to protect human health or the environment").

b. *Documentation of the Ash Grove Risk Assessment*

The Region's documentation of the Ash Grove risk assessment and the conclusions reached therefrom are found in several places in the administrative record. The Region's *Summary of Comments and Responses, EPA Part II Permit for the Ash Grove Cement Company Chanute, Kansas* (Aug. 1996) ("Responsiveness Summary") contains textual descriptions of the risk assessment calculations and conclusions. Science Applications International Corporation, *A Multi-Pathway Risk Assessment for the Ash Grove Cement Kilns in Chanute, Kansas* (1995) ("SAIC Report") is the technical risk assessment report which contains actual calculations and tables of risk estimates. However, the SAIC Report does not contain all of the calculations discussed in the Responsiveness Summary.[10] Technical documentation for other risk calculations described in the Responsiveness Summary was not provided to us for review. We are thus faced with the descriptive passages from the Responsiveness Summary and the technical documentation as it appears in the SAIC Report as our principal source documents.

The Responsiveness Summary states that the process of assessing potential risks associated with various levels of emissions from Ash Grove began as follows: "The risk assessment which EPA conducted of the Chanute facility evaluated potential health impacts, through mathematical calculations, assuming the kilns emitted the maximum amount of toxic metals currently allowable. Our conclusion was that these emissions were not acceptable." Responsiveness Summary at 14-15. The maximum metals emissions referenced in this statement are the allowable emissions under the BIF rule. The Region concluded that the allowable emissions under the BIF rule were *not* acceptable because those emissions levels yielded elevated risk estimates for indirect exposure pathways. The Responsiveness Summary makes this point more fully in a later discussion:

> EPA conducted risk calculations for mercury and thallium, using * * * the hourly feed rate limits for these two metals contained in the BIF regulations. These calculations, which are included in the administrative record, resulted in a hazard index due to *ingestion of mercury in fish*, of

[10]Despite the fact that the SAIC Report does not completely document the Region's risk assessment effort, the Region refers to the SAIC Report as the "Risk Assessment" in its responses to the petitions for review. The Region also submitted copies of the SAIC Report to the Board with representations that the document was the "Risk Assessment." *See* Response to Ash Grove Petition at 3 & Ex. 2; Response to Rollins Petition at 3 & Ex. 2. We have discerned, however, that the risk assessment exercise was broader than what is reflected in the SAIC Report and we therefore use the term "risk assessment" in this decision to refer to the entire risk assessment process evidenced in the materials provided for review.

> 6400, and a hazard index due to *ingestion of thallium in fish* of 33. In addition, at those mercury and thallium emission rate levels, hazard indices for *soil ingestion by a resident child* would be 460 and 34, respectively. EPA's "benchmark" hazard index is 0.25. [11][11]

Id. at 67 (emphasis added to indicate indirect exposure pathways).

Based on the predicted hazard indices, the Region determined that the BIF rule limits on mercury and thallium "may not be protective of human health and the environment, and that more restrictive * * * limits for mercury and thallium are therefore necessary to protect human health and the environment." *Id*. at 67. Thus, the Region set alternative mercury and thallium limits in the draft permit that were stricter than the limits allowable under the BIF rule. Notably, however, the stricter limits in the draft permit still did not yield risk estimates below EPA's benchmark hazard index of 0.25. The draft permit limits for mercury and thallium resulted in risk estimates as displayed in the following table:

Exposure Scenario	Hazard Index Based on Draft Permit Limits	
	Mercury	Thallium
Recreational Fisher (consumption of fish)	49	0.29
Resident Child (ingestion of soil)	3.6	0.3

Id. at 118. The Region acknowledged the effect of the risk estimates derived from the draft permit limits: "[e]ven with the addition of the [stricter limits], calculations of the hazard indices for mercury and thallium are still above EPA's 'benchmark' level of 0.25." *Id*. at 67.

Despite the elevated risk estimates, the draft permit limit for mercury was retained in the final permit. The permit limit for thallium was actually increased fourfold in the final permit. The Region noted that the increased thallium limit yielded hazard indices greater than 1.0 for both fish consumption by a recreational fisher and ingestion of soil by a resident child. *Id*. at 118. Because the selected permit limits resulted in elevated risk estimates for indirect exposures to mercury and thallium, the Agency added permit conditions mandating Ash Grove to conduct environmental monitoring of fish and soil. *Id*. at 49 & 119.

The SAIC Report provides a different picture of the indirect exposure risks associated with Ash Grove emissions than the account described in the Responsiveness Summary. The numerical risk estimates in the SAIC Report are not based on either the maximum emissions permitted under the BIF rule or emissions associated with draft or final permit conditions. Instead, the SAIC Report presents risk

[11]A hazard index is a standard measure of risk for non-cancer health effects. Typically, the EPA considers a hazard index of 1.0 as an "acceptable" risk level. *See* Response to Ash Grove Petition at 13. Under the risk assessment guidance used in this case however, EPA selected a more conservative (*i.e.*, more protective) benchmark hazard index of 0.25. *Draft Implementation Guidance for Conducting Indirect Exposure Analysis at RCRA Combustion Units* at 15 (Apr. 1994); *see also* Responsiveness Summary at 67.

estimates calculated from actual emissions data from Ash Grove's trial burn. The risk estimates derived from the trial burn only indicate an elevated risk for mercury exposure through the fish consumption pathway for the recreational fisher.[12] The risk estimates for thallium (all exposure scenarios) and other mercury exposure scenarios (including ingestion of soil by a resident child) all have hazard indices less than EPA's benchmark of 0.25. *See* SAIC Report Tables III.15 through III.26. There is no mention of the SAIC Report risk estimates in the Responsiveness Summary or in the Region's responses to the petitions for review.

In sum, the administrative record on the Ash Grove risk assessment contains a few disconnects. Although the Responsiveness Summary contains careful explanations of the use of the risk assessment in the Region's decisionmaking, there are some gaps regarding how the permit limits for mercury and thallium were selected and why the Region chose to include environmental monitoring conditions in the permit. The SAIC Report contains very different risk estimates from those discussed in the Responsiveness Summary. The Responsiveness Summary does not indicate if or how the risk estimates in the SAIC Report factored into the Region's decisions on permit conditions. These jagged edges in the record become pertinent to our review of the challenges to the permit limits on mercury and thallium and the environmental monitoring conditions, discussed *infra* Section II.B.4.

2. *The Region's Authority to Conduct an Indirect Exposure Risk Assessment for Ash Grove*

Ash Grove, with support from CKRC, challenges the Region's decision to conduct an indirect exposure risk assessment in this case. CKRC states that the performance of the risk assessment may even be illegal. CKRC Amicus Brief at 13. Ash Grove and CKRC oppose the Region's risk assessment effort because the Region allegedly relied upon an Agency guidance document in determining the need to conduct the risk assessment. Ash Grove Petition for Review at 6; CKRC Amicus Brief at 10. They argue that because the impetus for the risk assessment was improper, the permit conditions derived from the risk assessment results, *i.e.*, the environmental monitoring conditions, are invalid. Ash Grove and CKRC take issue with EPA's *Strategy for Hazardous Waste Minimization and Combustion* (Nov. 1994) ("Combustion Strategy"), a published policy document that addresses the use of combustion as a hazardous waste treatment technology. One of the goals of the Combustion Strategy is to "ensure that permits are issued at facilities in a manner that protects against unacceptable risks to human health and the environment." Combustion Strategy at 3. In describing how this particular goal could be realized, the Combustion Strategy adopts a "general policy that risk assessments, which include *indirect exposure pathways*, should be performed prior to final permit determinations for all hazardous waste combustion facilities." Combustion Strategy at 23 (emphasis added). Because the Combustion Strategy is merely policy rather than a promulgated rule, Ash Grove and CKRC argue that the Region may not rely on the Combustion Strategy as a basis for its decision to conduct an indirect risk assessment. Ash Grove Petition for Review at 6; CKRC Amicus Brief at 13.

In response to Ash Grove's petition, the Region states that it did not rely on the Combustion Strategy in deciding to conduct the Ash Grove risk assessment, although it admits that its actions were consistent with the Strategy. Response to Ash Grove Petition at 11-12. Despite the Region's claim to the

[12]The hazard index for a hypothetical recreational fisher's exposure to mercury through consumption of fish as reported in the SAIC Report is 1.44. SAIC Report at 44. The SAIC Report further indicates that the recreational fisher's hazard index for mercury when *all* indirect exposure pathways are added together is 1.52. *Id.* Notably, the SAIC Report risk estimates are lower than any of the mercury risk estimates discussed in the Responsiveness Summary.

contrary, the Responsiveness Summary makes clear that the Combustion Strategy was an important factor in the Region's decision to conduct the risk assessment:

> [I]t is the EPA's general policy to evaluate site-specific factors to determine whether to require an indirect risk assessment at a particular facility.
>
> * * * * * * *
>
> This policy was most clearly announced as part of Administrator Browner's "Combustion Strategy" * * *. It is EPA's position that the Combustion Strategy itself does not impose regulatory requirements, but is a policy statement expressing how the EPA plans to exercise its discretionary authorities under RCRA in the future. Specifically, the Combustion Strategy recommends that indirect exposure pathways be examined in order to assure that individual permits meet RCRA's mandate to protect human health and the environment.

Responsiveness Summary at 68.

Thus, it appears from the Responsiveness Summary that the Combustion Strategy was indeed a principal reason for conducting the risk assessment. However, the Combustion Strategy's status as Agency policy does not invalidate either the risk assessment or the permit decisions founded on the risk assessment. Contrary to Ash Grove and CKRC's insistence, policy and guidance have a legitimate role in the permitting process. The Board has recognized that "the Agency's proposed regulations and guidance documents do not have the force of law" but a Region may nevertheless draw upon such sources when writing an individual permit, provided that the Region "perform[s] a permit-specific analysis" for any particular application of the guidance. *In re Environmental Waste Control, Inc.*, 5 E.A.D. 264, 273 (EAB 1994). Agency policy and guidance may be "followed if appropriate in the circumstances of the individual permit." *In re Allied-Signal, Inc. (Frankford Plant)*, 4 E.A.D. 748, 760 (EAB 1993).[13] We thus reject Ash Grove and CKRC's argument that application of the Combustion Strategy is always improper and that consequently, performance of the risk assessment is illegal per se.

When relying on policy or guidance documents, the Region must justify the application of a particular policy or guidance on a case-by-case basis and must be prepared to address counterarguments raised by others. *Allied-Signal*, 4 E.A.D. at 760; *In re Envirosafe Services of Idaho, Inc.*, 3 E.A.D. 165, 168 (Adm'r 1990). *Environmental Waste Control* and Allied-Signal addressed the propriety of permit terms and conditions that were taken directly from proposed regulations or guidance. In this case, the permit terms being challenged by Ash Grove (*i.e.*, the environmental monitoring conditions) are not found in the Combustion Strategy, but result from the Region's application of the policy therein. The aforementioned standards for application of policy and guidance apply whether a Region incorporates permit terms and

[13]One key feature of policy and guidance documents is that such documents leave room for discretion on the part of agency decisionmakers who are applying the guidance. *Troy Corp. v. Browner*, 120 F.3d 277, 287 (D.C. Cir. 1997) (discussing features of "general statements of policy" that render them exempt from notice and comment rulemaking under the Administrative Procedure Act, 5 U.S.C. § 553).

conditions directly from guidance or uses a technique suggested by guidance to derive permit terms and conditions.

Here, the Region identified site-specific factors that support the Combustion Strategy's recommendation for an indirect exposure risk assessment. The Region states that it reviewed information on Ash Grove's previous emissions tests and metals feed rates during the permit process, but did not find information regarding the effects of emissions "on the people and the environment in the Chanute area." Response to Ash Grove Petition at 10. Due to the lack of data, the Region decided to conduct a multi-pathway (indirect exposure) risk assessment.[14] *Id*.

We thus reject Ash Grove and CKRC's challenge to the environmental monitoring conditions in Ash Grove's permit to the extent that the challenge is based on the Region's application of the Combustion Strategy.[15] The Agency's permitting process should be able to make use of any and all appropriate analytical tools, whether such tools are required by rule or suggested by policy. To hold that a Region must abstain from a particular type of inquiry simply because a procedure is not mandated by rule would attack the core of the permitting process. The Board's standard for application of policy and guidance in the permitting process preserves the necessary flexibility for the permitting agency while ensuring that the views of the permittee and others are carefully and adequately addressed.

3. *Challenges to the Risk Assessment Methodology*

Ash Grove and Rollins *et al*. identify aspects of the risk assessment methodology that they believe are erroneous or improper. All petitioners contend that the results of the risk assessment are unreliable.[16] *See* Ash Grove Petition for Review at 7; Rollins Petition for Review at 7. Risk assessment is a multi-disciplinary and technical exercise, and consequently, most of the petitioners' criticisms are technical in nature. The Board traditionally assigns a heavy burden to persons seeking review of issues that are quintessentially technical. *In re Chemical Waste Management of Indiana, Inc*. RCRA Appeal Nos. 95-2 & 95-3, slip op. at 17 (EAB, June 29, 1995), 6 E.A.D. __. The significance of that burden is manifested by the Board's inclination to defer to a Region on technical issues. "[A]bsent compelling circumstances, the Board will defer to a Region's determination of issues that depend heavily upon the Region's technical expertise and experience." *In re Envotech, L.P.*, UIC Appeal Nos. 95-2 through 95-37, slip op. at 29 (EAB, Feb. 15, 1996), 6 E.A.D. __; see also *In re General Electric Co.*, 4 E.A.D. 358, 375 (EAB 1992).

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[14]Even in the absence of the Combustion Strategy, the Region's observations in this case might well have resulted in a decision to conduct an indirect exposure risk assessment in light of the Region's obligation to reach a permit decision that adequately protects human health and the environment.

[15]We separately address Ash Grove's criticisms of: I) the risk assessment methodology, and ii) the Region's justification of its decision to include environmental monitoring conditions in the permit, *infra* Sections II.B.3.a. and II.B.4.b., respectively.

[16]The petitioners' complaints about the unreliability of the risk assessment methodology can be addressed apart from the petitioners' claims that the risk assessment results (even if correct) do not justify the Region's decisions on permit conditions. A discussion of specific permit conditions and the Region's justification of such conditions can be found *infra* Section II.B.4.

The type of risk assessment at issue in this case has been described as "state of the science" work and "at the edge of our scientific knowledge."[17] The Supreme Court of the United States has suggested that an assignment of burden, such as is reflected by the Board's standard, is appropriate when considering cutting edge science in the regulatory context. In *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, 435 U.S. 519, 553 (1978), the Court required participants in administrative proceedings who wished to promote "exploration of uncharted territory" to not only identify mistakes on the part of an agency, but also to demonstrate why a particular mistake was significant to the results of the agency's action. The Board has applied this rule from *Vermont Yankee* in denying review of issues raised in permit appeals. *See In re Broward County, Florida*, NPDES Appeal No. 95-7, slip op. at 23-24 (EAB, Aug. 27, 1996), 6 E.A.D. __ (review denied on petitioner's unsubstantiated and contrary conclusion regarding test species for toxicity testing); *In re Spokane Regional Waste-to-Energy*, 2 E.A.D. 809, 817 (Adm'r 1989) (review denied on challenge to Agency's rejection of air pollution control methods that are "new and evolving" and for which there is a "paucity of knowledge"). In part, the present appeals raise general allegations of error in the conduct of the Ash Grove risk assessment. General allegations of error, without a more specific showing regarding the impact of the alleged error, are not sufficient to obtain Board review.

In addition, many of the risk assessment methodology issues in these appeals were raised and addressed during the public comment period on the draft permit. To obtain Board review of issues raised during the notice and comment period, "a petitioner must demonstrate why the Region's response * * * is clearly erroneous or otherwise warrants review." *In re LCP Chemicals-New York*, 4 E.A.D. 661, 664 (EAB 1993); *see also In re EcoEléctrica, L.P.*, PSD Appeal Nos. 96-8 and 96-13, slip op. at 7 (EAB, Apr. 8, 1997), 7 E.A.D. __. "[A] petitioner may not simply reiterate its previous objections to the draft permit." *In re Austin Powder Co.*, RCRA Appeal No. 95-9, slip op. at 12 (EAB, Jan. 6, 1997), 6 E.A.D. __. Petitioners must provide compelling arguments as to why the Region's technical judgments or its previous explanations of those judgments are clearly erroneous or worthy of discretionary review.

a. *Challenges to the Risk Assessment Methodology by Ash Grove*

Ash Grove claims that errors in the multi-pathway risk assessment methodology identified by the EPA's Science Advisory Board and other experts make the results of the Ash Grove risk assessment unreliable. Ash Grove Petition for Review at 8-11.[18] Therefore, Ash Grove argues, the risk assessment results cannot serve as justification for permit conditions. Ash Grove ultimately states that the risk assessment methodology yielded estimates of offsite impacts (*i.e.*, risks) that are too high. *Id.* at 13. Ash Grove claims that an error-free risk assessment would have predicted exposures "well below levels of regulatory concern" and would not have induced the Region to include environmental monitoring conditions in the permit. *Id.* at 7.

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[17]U.S. EPA Science Advisory Board, *Review of Draft Addendum to the Methodology for Assessing Health Risks Associated with Indirect Exposure to Combustor Emissions* at 8 (July 1994).

[18]Ash Grove also claims that the uncertainties and data limitations identified in the SAIC Report are evidence of the inherent unreliability of the risk assessment. Ash Grove Petition for Review at 7-8. Uncertainties are an unavoidable component of risk assessments. Risk assessments yield risk *estimates*, and some level of uncertainty is a component of all estimations. Identification and explanation of uncertainties is an expected and essential component of valid risk assessment reports. The fact that the SAIC Report contains a section identifying uncertainties is not an indication of error in the risk assessment.

Most of Ash Grove's complaints about risk assessment methodology are not linked to particular elements of the risk assessment as conducted by the Region in this case. Instead, Ash Grove quotes or references comments from two expert reviews of the methodology for indirect exposure risk assessments generally. One expert review was prepared by EPA's Science Advisory Board, *Review of Draft Addendum to the Methodology for Assessing Health Risks Associated with Indirect Exposure to Combustor Emissions* (July 1994) ("SAB Report"). Another review was conducted by a panel of scientists who looked at the methodology as it was proposed for use in an upcoming rule on hazardous waste combustion. *Review and Comments of the EPA's Peer Review Panel on the Risk Assessment in Support of a Proposed Rule for Technical Standards for Emissions from Combustion Units Burning Hazardous Wastes* (Aug. 1996) ("Peer Review Report"). Both the SAB Report and the Peer Review Report were prepared outside of the context of the Ash Grove permitting process. The experts' comments in those reports were not specifically intended to apply to the Ash Grove risk assessment. Ash Grove reiterates comments from the SAB Report and the Peer Review Report over nearly five pages of its petition for review, but it does not explain how those comments apply to this permitting process. At a minimum, we expect Ash Grove to present some argument linking the abstract observations of the expert panels to the specifics of the Region's risk assessment in this case. Ash Grove has largely failed to provide such a connection.

Out of Ash Grove's mostly irrelevant presentation of quotations, we discern two issues regarding the risk assessment methodology that arguably have been raised with sufficient linkage to this permitting process. First, Ash Grove claims that the Region failed to make use of site-specific data in performing the risk assessment. Ash Grove Petition for Review at 7 & 13. Unfortunately, Ash Grove does not identify exactly what site-specific information it is referring to. In its discussion of this issue, Ash Grove mentions "known, site-specific information," and "Region VII's site-specific data." *Id*. at 7. From these very general phrases, we can only presume that the site-specific information that Ash Grove has in mind is the same site-specific information discussed by the Region. The Region's information consists of: I) identification of realistic exposure pathways in the Chanute area, and ii) water quality and fish tissue data from Sante Fe lake in Chanute. Responsiveness Summary at 25; SAIC Report at 105; Response to Ash Grove Petition at 14.

In reviewing the Region's treatment of this site-specific information, it appears that site-specific parameters were indeed incorporated into the Ash Grove risk assessment. First, site-specific information was used in selecting appropriate exposure pathways and exposure scenarios. Responsiveness Summary at 25. For example, the Region evaluated risks associated with a recreational fisher rather than a subsistence fisher after determining, through consultation with the Kansas Department of Wildlife and Game and the Chanute Chamber of Commerce, that the existence of subsistence fishers in the Chanute area is unlikely. Responsiveness Summary at 27. Second, the Region considered actual data on mercury levels in local fish in its evaluation of the risk assessment results. Responsiveness Summary at 118. Ash Grove's objection regarding site-specific information does not explain why the Region's previous responses on this issue are inadequate. As such, Ash Grove has not sustained its burden of showing the existence of clear error or a basis for discretionary review.

The second issue that is arguably raised with sufficient linkage to this permitting process involves the estimation of health risks associated with mercury emissions. The inference from Ash Grove's selection of excerpts from the Peer Review Report is that some scientists question the existence and magnitude of adverse health effects from certain types of mercury exposure. *See* Ash Grove Petition for Review at 11-13. However, commenters on the draft permit, including Ash Grove, apparently did not question the existence of adverse health effects associated with mercury. This issue is raised for the first time in the context of Ash Grove's appeal. Regulations governing the permit appeals process require that

issues raised on appeal also must have been raised during the public comment period. "The petition [for review] shall include * * * a demonstration that any issues being raised were raised during the public comment period * * *." 40 C.F.R. § 124.19(a). Therefore, we decline to grant review due to a failure to preserve this issue for review.

In summary, Ash Grove's objections to the risk assessment methodology do not warrant additional review. In large part, Ash Grove's Petition for Review lacks an explanation of how the experts' abstract comments on risk assessment methodology are linked to the methodology as specifically applied in this case. With regard to the use of site-specific data and information, Ash Grove fails to explain why the Region's prior explanations of how such information was actually used are inadequate. Finally, Ash Grove's challenge regarding mercury health effects was not preserved for review.

b. *Challenges to the Risk Assessment Methodology by Rollins et al*.

The methodology used for the Ash Grove risk assessment was derived from two related EPA guidance documents that set forth the procedures for conducting the indirect exposure risk assessment recommended by the Combustion Strategy. *Draft Implementation Guidance for Conducting Indirect Exposure Analysis at RCRA Combustion Units* (Apr. 1994)("Implementation Guidance"); *Draft Guidance for Performing Screening Level Risk Analyses at Combustion Facilities Burning Hazardous Wastes* (Apr. 1994) ("Screening Guidance"). These guidance documents were designed for a specialized purpose; they guide risk assessments of chronic (long-term) human exposure to emissions from a hazardous waste combustion facility. Because the risk assessment methodology derived from these documents focuses on emissions, it is not necessarily the appropriate tool to use in addressing, for example, accidental releases of pollutants or certain types of land disposal techniques. The methodology in the guidance documents also reflects limitations of risk assessment science such as information gaps in chemistry or toxicology for certain substances. The methodology is nonetheless useful, because it addresses the types of risks from hazardous waste combustion facilities that EPA believes are most important (*i.e.*, those associated with emissions) and includes a broad range of chemicals that may be present in emissions. As a general proposition, risks that merit consideration during the RCRA permitting process must be addressed by a permitting authority. However, a permitting authority has multiple tools available to it to analyze and address various types of risks. The risk assessment methodology set forth in the Implementation Guidance and Screening Guidance is appropriate for use in understanding certain, but not all, types of potential risks.

With this understanding of the purposes and limitations of the risk assessment methodology as background, we analyze the criticisms by Rollins *et al*. as to several aspects of the risk assessment methodology. Rollins *et al.* primarily focus on factors and considerations that were not incorporated into the risk calculations. Rollins *et al*. argue that the following defects in methodology yield underestimates of risk or represent potential hazards to human health or the environment that were not adequately addressed:

(1) Performance of a "hybrid" risk assessment. Rollins Petition for Review at 7.
(2) Failure to perform risk calculations for certain chemicals in portions of the risk assessment. Rollins Petition for Review at 8.
(3) Failure to evaluate risks from cement kiln dust. Rollins Petition for Review at 9.
(4) Failure to evaluate risks posed by accidents or transportation of wastes to the Ash Grove facility. Rollins Petition for Review at 10.
(5)) Failure to evaluate cumulative effects of Ash Grove emissions. Rollins Petition for Review at 12.

(6) Failure to evaluate risks from upset conditions. Rollins Petition for Review at 13.
(7) Failure to evaluate risks to Native American populations in northern Oklahoma. Rollins Petition for Review at 20-21.

As will be demonstrated in the following discussion, many of these arguments fail because we are not persuaded that the risk assessment is the only means available to the Region to address these issues. In most cases, the issues of underlying concern have been adequately addressed by the Region outside of the risk assessment. For other issues, Rollins *et al*. have not persuaded us that the Region's explanations of its technical decisions regarding the risk assessment methodology are clearly erroneous or otherwise warrant review.

(1) *"Hybrid" Risk Assessment Methodology*

Rollins *et al*. initially assert that the Region deviated from the methodology set forth in the Implementation Guidance and Screening Guidance because the Region's own description of the risk assessment process states that a "hybrid" approach was followed. Rollins Petition for Review at 7; see Responsiveness Summary at 25. The Region claims that its approach is not a deviation from the guidance documents. Response to Rollins Petition at 12-13. The Ash Grove risk assessment is a "hybrid" risk assessment in that it supplements a pure screening analysis with site-specific information on exposure pathways and populations. Responsiveness Summary at 25; Response to Rollins Petition at 14. The consequence of such an approach is that certain default assumptions in the guidance may be modified to better reflect site-specific information. Both the Implementation Guidance and the Screening Guidance endorse this approach. The guidance documents specifically suggest that site-specific information be incorporated into the published methodology where such information is available. Implementation Guidance at 11; Screening Guidance at C-1-1. Such modifications do not amount to impermissible deviations from the prescribed methodology. Rollins *et al*. clearly do not care for the Region's "hybrid" approach but they do not demonstrate why the Region's explanation of the "hybrid" procedure is either clearly erroneous or should be subject to discretionary review.

(2) *Exclusion of Chemicals from the Risk Assessment*

Rollins *et al*. take issue with the treatment of certain chemicals in the risk assessment methodology. Rollins *et al*. note that certain chemicals were not evaluated in all exposure pathways and they claim that the exclusion of those chemicals from certain risk equations is a violation of Agency policy as reflected in the Screening Guidance. Rollins Petition for Review at 8. We disagree with Rollins *et al*. for two reasons. First, the characterization of this issue as a "violation of policy" is inaccurate. The Screening Guidance itself does not provide risk equations for all chemicals in all exposure pathways. *See* Screening Guidance at C-4-4 through C-4-7 (charts illustrating which equations can be used for particular chemicals). The record demonstrates that the Region performed risk calculations for the so-called "excluded" chemicals exactly as recommended by the Screening Guidance. *See* SAIC Report Tables III.15 through III.22. Although certain chemicals were evaluated in fewer than all of the exposure pathways, those chemicals were not "excluded" from the standpoint of the Screening Guidance. Thus, there was no inconsistency with the guidance, much less a violation of policy, with regard to the chemicals mentioned by Rollins *et al*. Second, Rollins *et al*. have not made a convincing showing as to why the alleged exclusions should be of concern. Although Rollins *et al*. may be saying in effect that the Screening Guidance methodology is inadequate, they do not specifically explain how the methodology might be modified or what the effect of the exclusions might be on the risk assessment results. More importantly, Rollins *et al*. do not suggest what impact the exclusions might have on the permit terms and conditions.

Thus, Rollins *et al*. do not persuade us that the Region's treatment of these chemicals was either clearly erroneous or involved an important policy matter worthy of review.

(3) *Risks Associated with Exposure to Cement Kiln Dust*

In an argument related to the previous one regarding exclusion of certain chemicals from various risk scenarios, Rollins *et al.* note that the Ash Grove risk assessment did not contain an evaluation of risks from cement kiln dust ("CKD"). Rollins Petition for Review at 9. CKD is a byproduct of the combustion process that is often disposed of in piles, quarries, or landfills. *See Regulatory Determination on Cement Kiln Dust*, 60 Fed. Reg. 7366, 7368 (Feb. 7, 1995). The petitioners' concern about CKD is particularly focused on CKD lead levels. Rollins Petition for Review at 9. It is true that the Region did not provide a quantitative estimate of risk associated with CKD or the lead therein. However, we are not convinced that it is necessary to generate a numerical risk estimate for CKD as long as CKD is adequately addressed by other means.

The Region addressed the issue of risks associated with CKD lead levels during its review of the draft permit. The Region noted that lead levels in CKD generated during the trial burn were abnormally high in comparison to lead levels in CKD from Ash Grove's regular operations. The lead levels in CKD generated from Ash Grove's regular operations were lower than EPA's soil screening level for lead. Responsiveness Summary at 59. The Region also described CKD control measures found in a solid waste permit issued to Ash Grove by KDHE[19] and EPA's general policy on CKD.[20] *See* Responsiveness Summary at 55-58. Thus, the Region addressed potential CKD hazards and control of those hazards even though it did not perform risk calculations for CKD. Given that the Region specifically considered expected CKD lead levels and was assured of CKD controls through the state solid waste permit, we are not persuaded that a failure to generate a numerical risk estimate for exposures to CKD amounts to error or an important policy issue worthy of review.[21]

(4) *Accident and Transportation Risks*

Rollins *et al*. claim that the risk assessment methodology is inadequate because it yields risk estimates that do not take into account risks associated with accidents and hazardous waste transportation. Rollins Petition for Review at 10. Rollins *et al.* request a "site-specific quantitative" analysis of accident and transportation risks for the Ash Grove facility. *Id*. at 11. Again, we note that the risk assessment

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[19]The KDHE permit is an Industrial Solid Waste ("ISW") Landfill permit that is separate from the RCRA Part I permit issued by KDHE and the RCRA Part II permit under consideration in this case. The KDHE ISW permit requires control of fugitive dust, containment of stormwater that comes into contact with CKD, and control of leachate from Ash Grove's landfill used for CKD disposal. Responsiveness Summary at 55; Response to Rollins Petition at 33-34.

[20]EPA's regulatory determination on CKD concluded that full RCRA Subtitle C regulation of CKD is not feasible. 60 Fed. Reg. at 7376. The Agency is currently developing a tailored regulatory program for CKD under RCRA and Clean Air Act authorities. *See* 62 Fed. Reg. 22,296, 22,355 (Apr. 25, 1997) (EPA's semiannual regulatory agenda).

[21]We also decline to review the claims of Rollins *et al.* alleging that the Region failed to include a corrective action schedule for CKD. Rollins Petition for Review at 26. The corrective action section of Ash Grove's RCRA permit addresses this issue on its face. Solid waste management units associated with CKD disposal are specifically listed in the corrective action section of the permit. Ash Grove Permit Part II ¶ C.6.f. This section also contains provisions on timing and scheduling for corrective action.

methodology, as outlined in the Implementation Guidance and the Screening Guidance, is designed to provide quantitative risk estimates for exposures to stack emissions. This particular methodology is not necessarily appropriate for use in estimating risk from other types of sources such as accidental releases.

The Region nonetheless addressed accident and transportation risks.[22] It noted that accident prevention associated with hazardous waste storage and handling at the Chanute facility is covered by Part I of Ash Grove's permit, issued by KDHE. *See* Response to Rollins Petition at 35. The Region also reviewed Department of Transportation safety standards and statistics on hazardous waste transportation. Responsiveness Summary at 64. Because the Region has adequately addressed the actual issues of concern, we are not persuaded that the lack of a quantitative risk analysis warrants review.

(5) *Cumulative Risks/Cumulative Effects*

Rollins *et al*. set forth an ambiguous argument regarding the treatment of cumulative risk in the Ash Grove risk assessment. Rollins *et al*. argue that "a cumulative effects analysis" was required for purposes of the permitting process but not performed. Rollins Petition for Review at 12. Rollins *et al*. do not specify what they mean by a "cumulative effects analysis." The context of their argument, and their use of the terms "risks" and "effects" in an interchangeable fashion elsewhere in their petition however, suggest that "cumulative effects analysis" is something akin to an assessment of cumulative risk. The term "cumulative risks" can take on a variety of meanings and should be specifically defined. *See* U.S. EPA, Science Policy Council, *Guidance on Cumulative Risk Assessment, Part I - Planning and Scoping* at 7 (June 1997) ("Cumulative Risk Assessment Guidance"). The very nature of the Ash Grove risk assessment reflects the values and approach described in the recent Cumulative Risk Assessment Guidance. The Ash Grove risk assessment was a multiple pathway, multiple chemical, multiple population assessment. These features are some of the recommended characteristics of risk assessments mentioned in the Cumulative Risk Assessment Guidance.

Cumulative risks and effects were specifically addressed in the Ash Grove permitting process as follows. First, the potential for exposure to emissions from sources other than Ash Grove was considered through air dispersion modeling. The air model considered the contributions from other hazardous waste burning facilities in southeast Kansas to regional ambient air concentrations. The analysis showed that the Ash Grove facility contributes 93%-97% of the emissions in the Chanute area. SAIC Report app. C at 4-28 & 4-29; Responsiveness Summary at 17-18. Therefore, contributions of risk from other sources were considered insignificant and were not quantified in the risk assessment exercise. Response to Rollins Petition at 36. Cumulative risk was also taken into account in the risk assessment by considering additivity of effects from multiple chemicals in Ash Grove's emissions. SAIC Report at 98.

Rollins *et al*. are not clear about what other type of "cumulative effects analysis" is lacking from the Ash Grove permitting process. In light of the ambiguity in the presentation of this issue by Rollins *et*

[22]The petition by Rollins *et al.* suggests that the Region's only response to comments regarding accident and transportation risks at Ash Grove was to reference a study regarding accident and transportation risks for the Waste Technologies Industries ("WTI") incinerator in East Liverpool, Ohio. Rollins Petition for Review at 10-11. We do not interpret the Region's reference to the WTI analysis in the Responsiveness Summary as an endorsement of that analysis for purposes of the Ash Grove permit. Therefore, the claims of Rollins *et al.* that the Region relied upon the WTI are misplaced.

al. and the evidence in the record of the Region's actual consideration of cumulative risks and effects, we find neither clear error nor a matter worthy of discretionary review.

(6) *Upset Conditions*

Rollins *et al*. criticize the Ash Grove risk assessment because it does not take into account emissions from upset conditions in the kilns. Rollins Petition for Review at 13. However, the Region specifically included permit conditions that address the underlying potential for upset conditions. The potential for upset conditions in the kiln is controlled through use of an automatic waste cut-off mechanism that activates when any one of several operating conditions are not within permit limits. Ash Grove Permit Part II ¶¶ E.7.h.(11) & E.7.i.(11); Response to Rollins Petition at 36- 37 n.33. We decline to grant review of this issue.

(7) *Environmental Justice*

The final criticism of Rollins *et al*. with regard to the risk assessment methodology is a claim that the federal government policy on environmental justice was violated by the Region's failure to use the risk assessment to evaluate risks to Native American populations in northern Oklahoma. Rollins Petition for Review at 20-21.

The federal environmental justice mandate, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994) ("Executive Order"), requires federal agencies to identify and address "disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority populations and low-income populations * * *." *Id*. § 1-101. The Executive Order further requires each federal agency to develop an environmental justice strategy in order to carry out the directives of the Executive Order. *Id*. § 1-103. *See, e.g., The EPA's Environmental Justice Strategy* (Apr. 1995). Neither the Executive Order nor EPA's strategy specifically requires that quantitative risk assessment, as opposed to other means, be used to identify the potential for disproportionate impacts on minority populations. Thus, despite the characterization by Rollins *et al.*, the failure to perform such calculations is not a "violation" or even a deviation from federal environmental justice policy.

In this case, the Region responded to comments regarding environmental justice and the potential for disproportionate impacts upon Native American populations in Oklahoma during the comment period on the draft permit. The Region noted that the principal areas impacted by Ash Grove emissions (via any exposure pathway) are in the Chanute, Kansas area within zero to five miles of the Ash Grove facility. Responsiveness Summary at 23. Demographic data indicate very low percentages of minorities in Neosho County, where Ash Grove is located, and in surrounding Kansas counties. Average per capita income in Neosho County is similar to that of surrounding counties. The Region thus concluded that there was no evidence of disproportionate impacts on low-income or minority populations from Ash Grove operations. *Id*. at 22. The Region recognized that the percentage of minorities in the population is higher in areas of northern Oklahoma, and the average per capita income there is lower than in the Kansas counties, but given the distance from Ash Grove (approximately 45 miles away), the Region concluded that Ash Grove emissions would not "be a significant contributor to environmental problems in Northern Oklahoma." *Id*. at 23.

In light of the Region's conclusion that the minority and/or low-income populations identified are outside the area principally impacted by Ash Grove emissions, it was not unreasonable to choose not to

generate a quantitative risk estimate applicable to those populations. Moreover, the unsubstantiated assertions of Rollins *et al*. regarding possible exposures of minority populations are not compelling. Rollins *et al*. claim that "the northern Oklahoma area is populated by a significant number of Native Americans who may well consume enough fish to fit EPA's definition of subsistence fisher," and thus, the exposures of a subsistence fisher should have been quantified in the risk assessment. Rollins Petition for Review at 21. Regardless of whether the statement regarding the number of subsistence fishermen among Native Americans in northern Oklahoma is true or not, it does not affect the Region's conclusion that impacts from Ash Grove are not likely to be significant in northern Oklahoma. The allegations of Rollins *et al*. do not persuade us that generation of a quantitative risk estimate as requested might disclose any disproportionate impacts as to minority or low-income populations. *See In re EcoEléctrica, L.P.*, PSD Appeal Nos. 96-8 and 96-13, slip op. at 18 n.17 (EAB, Apr. 8, 1997), 7 E.A.D. __ (review denied with regard to environmental justice issues where petitioners did not suggest how an additional analysis might "disclose the kind of disproportionate impact that the environmental justice Executive Order seeks to address"). Therefore, we decline to grant review of this issue.

In summary, although Rollins *et al*. enumerate specific "defects" in the risk assessment methodology for Ash Grove, none of the identified issues warrant review.

4. *Challenges to Particular Permit Conditions*

In addition to the objections to the risk assessment process discussed above, the petitioners also challenge certain conditions that were incorporated into the permit because of the risk assessment results. Rollins *et al*. appeal the permit limits for mercury and thallium. Ash Grove appeals permit conditions requiring it to conduct environmental monitoring of the same substances. These appeals, and the Region's responses to them, interrelate. In both cases, the Region uses RCRA's omnibus authority to justify the challenged permit conditions. As will be seen, however, the Region's stated rationales in the record presently before us are insufficient to support the permit limits on mercury and thallium and the environmental monitoring requirements for these substances.

a. *Appeal of Rollins et al. Regarding Mercury and Thallium Permit Limits*

Rollins *et al*. directly challenge the final permit limits on mercury and thallium. They claim that the permit limits are inadequate to protect human health and the environment. Rollins Petition for Review at 18. Rollins *et al*. also object to what they view as the use of environmental monitoring requirements in lieu of strict limits on mercury and thallium emissions. *Id*. at 16. The Region claims that the permit provisions pertaining to metals reflect an appropriate exercise of RCRA omnibus authority. Response to Rollins Petition at 22.

The Ash Grove permit controls mercury, thallium, and other metals in the cement plant's emissions by limiting the amount of each metal in the cement plant's hazardous waste feed. These limits are called "feed rates." *See* Ash Grove Permit Part II ¶ E.6. The permit does not contain direct emissions limits on mercury or thallium, but by controlling feed rates, the permit indirectly limits metals emissions. Annual average feed rates for mercury and thallium are specified in ¶ E.6.b. of Ash Grove's permit. The annual average feed rates are purportedly more stringent than the feed rates required by the BIF rule. Responsiveness Summary at 90. Thus, the feed rates in the permit must satisfy the standards for an exercise of RCRA's omnibus authority.

The omnibus provision imposes an affirmative obligation on the permitting authority to ensure adequate protection of human health and the environment through the permit terms and conditions that it selects. *In re Ecolotec, Inc*. 2 E.A.D. 691 (Adm'r 1988). As we review the mercury and thallium permit limits here, we analyze whether the administrative record supports the conclusion that the feed rates, either alone or in combination with other permit terms and conditions, provide adequate protection of human health and the environment.

The record indicates that the feed rate limits for mercury and thallium in the final permit were derived in the following manner. First, in light of "site-specific circumstances of Ash Grove's operations," the Region determined that the feed rate limits from the BIF rule alone would not be protective of human health and the environment. Responsiveness Summary at 67. The Region reached this conclusion by performing risk calculations on Ash Grove emissions associated with BIF rule feed rate limits and observing that resulting risk estimates for certain indirect exposure pathways exceeded the 0.25 benchmark hazard index selected by the Region. *Id*. Based on its findings at this stage of the process, the Region concluded that "more restrictive feed rate limits for mercury and thallium are therefore necessary to protect human health and the environment." *Id*. "[A]dditional feed rate controls on metals, beyond those specified in the regulations, are justified." *Id*. at 115. These statements, coupled with the Region's findings in support, are the type of evidence in the administrative record that justifies an exercise of omnibus authority. However, it is not enough to simply recognize when an exercise of omnibus authority is appropriate. The Region must also exercise that authority in such a way that human health and the environment are adequately protected. "The omnibus provision provides not only the *authority* but the *obligation*, to ensure that every RCRA permit adequately protects human health and the environment * * *." *Ecolotec*, 2 E.A.D. at 695 (emphasis in original).

The "more restrictive feed rates" developed by the Region are the annual average feed rates for mercury and thallium; these rates are the subject of the challenge by Rollins *et al*. It appears from the record that the annual average feed rates were calculated from the metals content of Ash Grove's past hazardous waste stream. *See* Responsiveness Summary at 67 ("annual average feed rate limits for mercury and thallium [were] based * * * in part on Ash Grove's past operations with respect to metal content in the hazardous waste burned by Ash Grove"). The Region proposed those feed rates as limits in the draft permit. The Region also performed risk calculations on the emissions associated with the draft permit feed rates and compared the results to the benchmark hazard index. The Region noted:

> Even with the addition of the annual average feed rate limits, calculations of the hazard indices for mercury and thallium are still above EPA's "benchmark" level of 0.25.

Id. at 67.[23]

[23]The hazard indices calculated from the draft permit limits were:

- A recreational fisher's exposure to mercury through consumption of fish — hazard index = 49
- A child's exposure to mercury through ingestion of soil — hazard index = 3.6
- A recreational fisher's exposure to thallium through consumption of fish — hazard index = 0.29
- A child's exposure to thallium through ingestion of soil — hazard index = 0.3

Responsiveness Summary at 118.

Notwithstanding these results, the Region did not lower the proposed feed rates further[24] or explain why further reductions were unnecessary. Instead, the Region included environmental monitoring conditions in the permit, asserting in general terms that such conditions are "necessary to ensure the continued protection of human health and the environment in the Chanute area." Responsiveness Summary at 67-68. This reference to the environmental monitoring conditions, however, does not explain how the permit limits for mercury and thallium are sufficiently protective, either alone or in combination with the monitoring conditions. For instance, it is not obvious to us how the requirement for environmental monitoring either limits the quantity of mercury and thallium emitted from the facility or mitigates the effects of emissions. We acknowledge that the selected mercury and thallium permit limits are more restrictive than the BIF rule limits, but simply being more restrictive does not establish that the permit limits are adequately protective. The record must demonstrate that the selected permit limits, either alone or in combination with other controls and conditions, adequately protect human health and the environment.

The "administrative record must reflect the 'considered judgment' necessary to support the Region's permit determination." *In re Austin Powder Co.*, RCRA Appeal No. 95-9, slip op. at 10 (EAB, Jan. 6, 1997), 6 E.A.D. __ (citing *In re GSX Services of South Carolina, Inc.*, 4 E.A.D. 451, 454 (EAB 1992)). Specifically, the Region "must articulate with reasonable clarity the reasons for [its] conclusions and the significance of the crucial facts in reaching those conclusions." *In re Carolina Power & Light Co.*, 1 E.A.D. 448, 451 (Act'g Adm'r 1978) (citation omitted). The administrative record regarding the basis for the Region's selection of permit limits for mercury and thallium is not clear and therefore does not appear to reflect considered judgment. The record indicates that the Region chose a method to test the protectiveness of feed rate limits. That method compared the risk assessment results to a benchmark hazard index. We note that both the method of assessing protectiveness (*i.e.*, comparison of risk estimates to a benchmark) and the particular benchmark used in this case (*i.e.*, hazard index of 0.25) are not mandated by RCRA or its regulations. We are respectful of the Region's choice of tools to guide its permitting decisions under the omnibus provision, but the Region's ultimate decisions must then follow logically from its chosen method. If the permitting decisions cannot be justified by the method chosen, the Region must either supply an alternative justification or modify the selected permit terms and conditions.

In this case, the Region's method of choice was the indirect exposure risk assessment described previously in this decision. When viewed through the prism of this risk assessment, the selected permit limits for mercury and thallium, either alone or in combination with the monitoring conditions, do not satisfy the Region's test for protectiveness. The Region has not provided an alternative explanation of how these limits satisfy the omnibus provision. Perhaps the Region has reasons for believing that the feed rates for mercury and thallium in the final permit provide adequate protection of human health and the environment, but those reasons are not clearly explained in the record.[25] Therefore, we remand the

[24]In fact, in the case of thallium, the Region raised the annual average feed rate in the final permit.

[25]The Region's response to Ash Grove's petition suggests one possibility as to why the Region might believe that the feed rate limits in the permit are adequately protective. It appears that the Region does not have full confidence in the results of the risk assessment. The Region states, "due to the very conservative assumptions used in the Risk Assessment, the potential risks estimated as a result of mercury emissions are likely overstated." Response to Ash Grove Petition at 4. This justification does not appear to be included in the administrative record before us. The record does contain some discussion of the uncertainties regarding mercury risks, see SAIC Report at 106, but it is not clear that the uncertainties err on the side of being overprotective. If the Region believes that the risk estimates for mercury and thallium are too high, it should provide a cogent explanation of the reasons for that conclusion on the record.

(continued...)

mercury and thallium permit limits (Ash Grove Permit Part II ¶ E.6.b.). On remand, the Region must provide a rational explanation as to why the limits as written (either alone or in combination with other permit conditions) adequately protect human health and the environment. If such an explanation cannot be provided for the limits as written, the Region must: 1) revise the limits so that they adequately protect human health and the environment, and 2) provide a sufficient explanation of the protectiveness of the revised limits. The Region should supplement the record as necessary during the remand process. *See In re Broward County, Florida*, 4 E.A.D. 705, 721 (EAB 1993) (ordering remand and supplementation of the record in support of certain permit conditions). The Region must also reopen the record for public comment following its decision to either revise or retain the existing limits.

b. *Ash Grove's Appeal of the Environmental Monitoring Conditions*

The permit conditions on environmental monitoring referenced in the previous section are the subject of Ash Grove's appeal. The conditions require monitoring of: I) mercury concentrations in fish and water in two local lakes, and ii) mercury and thallium concentrations in soil in the vicinity of its plant. Ash Grove asserts that the monitoring conditions are not required by the BIF rule nor have they been justified as necessary for protection of human health and the environment. Ash Grove Petition for Review at 3.

The fish and water monitoring for mercury requires Ash Grove to collect fish tissue and water samples on a periodic basis from two lakes located approximately three kilometers from the cement plant. The Region states that the fish and water monitoring is to be conducted at a minimum on an annual basis. Responsiveness Summary at 51. The stated purpose of the monitoring program is to establish "baseline" concentrations of mercury in fish tissue in the lakes and to identify any trends in mercury concentrations over time. Ash Grove Permit Part II ¶ E.15.a.

The soil monitoring requirements call for soil sampling and analyses for mercury and thallium at locations representative of both the area of maximum impact from stack emissions and background conditions in Chanute. The soil sampling is to be conducted quarterly for the first two years and annually thereafter. Ash Grove Permit Part II ¶ E.15.b.

The results of both the fish and soil monitoring are to be evaluated against "benchmark" concentrations specified in the permit.[26] If the Region determines that soil or fish concentrations are at or

[25](...continued)

There are also some inferences of possible alternative justifications that can be drawn from the somewhat jumbled presentation of the risk assessment results in the Responsiveness Summary and the SAIC Report, as described *supra* Section II.B.1.b. The risk assessment results on thallium found in the SAIC Report do not exceed the benchmark hazard index and the results on mercury in the SAIC Report indicate a far smaller risk exceedance than the corresponding results in the Responsiveness Summary. We cannot tell if the lower estimates of risk reported in the SAIC Report influenced the Region's decisionmaking when setting feed rate limits for mercury and thallium. Regardless, mere inferences in the record do not satisfy the requirement that exercises of omnibus authority be properly explained and supported.

[26]The "benchmark" level for mercury in fish tissue is 0.5 mg/kg. This value has been used as an action level for mercury fish advisories in at least two States. Responsiveness Summary at 53. The Region also cites EPA guidance on fish advisories in support of its selection of the 0.5 mg/kg level. *Id.* at 54. The Region selected the 0.5 mg/kg level after considering recommendations in the guidance regarding limits on fish consumption at different fish tissue (continued...)

above the benchmark, or are trending towards the benchmark, Ash Grove may be required to undertake an additional study to quantify Ash Grove's contribution to the observed metals concentrations.[27] Ash Grove may also be required to reduce 27 metals emissions from its stack. Ash Grove Permit Part II ¶¶ E.15.a.(3) & E.15.b.(4). Conversely, if the results of the fish or soil monitoring establish that levels of mercury and thallium are below the benchmark levels, the Region may terminate one or both of the monitoring conditions. Ash Grove Permit Part II ¶¶ E.15.a.(4)(b) & E.15.b.(5)(b).

As a preliminary matter, we note that the BIF rule does not require or suggest that environmental monitoring conditions such as those at issue in this case be incorporated into a BIF permit. The BIF rule provides for permit conditions requiring many other types of monitoring, including monitoring of: feed rates, feed composition, carbon monoxide, hydrocarbons, oxygen, residues, and exhaust emissions. 40 C.F.R. §§ 266.102(e)(8)(I)(A)-(C). Environmental monitoring for mercury and thallium, as required by paragraph E.15 of Ash Grove's permit, is not one of the types of monitoring specifically authorized by the BIF rule. The environmental monitoring conditions at issue here must be otherwise authorized by RCRA or its regulations in order to be included in this permit.

In its response to Ash Grove's petition, the Region offers multiple explanations of the authority justifying the inclusion of the environmental monitoring conditions. The Region contends that the monitoring requirements are authorized pursuant to RCRA's omnibus provision because they are necessary to ensure protection of human health and the environment. RCRA § 3005(c)(3), 42 U.S.C. § 6925(c)(3). The Region also claims that 40 C.F.R. sections 270.10(k) and 270.30(h) independently authorize the Region to require collection and submission of environmental monitoring data. As discussed below, it may be possible to require this type of permit condition, but the administrative record in this case does not provide an adequate explanation of the Region's basis for doing so.

(1) *RCRA Omnibus Authority as Rationale for Environmental Monitoring Requirements*

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[26](...continued)
concentrations.

The benchmark levels for mercury and thallium in soil are 5.6 mg/kg and 1.5 mg/kg respectively. Responsiveness Summary at 45. These levels were calculated to yield a hazard index of 0.25 (the target hazard index used in this permit process) for risks from a child's ingestion of soil. The Region noted that the soil benchmark levels are higher than naturally occurring surface soil concentrations of mercury and thallium nationwide. *Id.*

The benchmark levels for purposes of the environmental monitoring conditions are not to be confused with the benchmark hazard index discussed in the context of the risk assessment. The monitoring benchmarks are concentrations of mercury and thallium in various media (*i.e.*, fish and soil). The benchmark hazard index is a generic measure of risk for non-cancer health effects.

[27]This additional study is referred to in the permit as a "source to receptor" study, the purpose of which is to distinguish Ash Grove's contributions to environmental levels of mercury and thallium from those from other sources. *See* Ash Grove Permit Part II ¶¶ E.15.a.(3)(b)(1) & E.15.b.(4)(b); Response to Ash Grove Petition at 22-23. Inclusion of the source to receptor study appears to adequately address Ash Grove's concern that the environmental monitoring permit conditions are vague and ambiguous with regard to how the Region will determine Ash Grove's contribution to environmental levels of mercury and thallium.

The administrative record on the environmental monitoring requirements principally relies upon the omnibus authority as justification for these conditions. For example, the environmental monitoring section of the permit itself contains a paraphrase of the omnibus standard:

> Based on the results of [the multi-pathway risk assessment], and pursuant to EPA's statutory mandate to assure protection of human health and the environment, EPA has determined that the Permittee must conduct an environmental monitoring program * * *.

Ash Grove Permit Part II ¶ E.15. The Responsiveness Summary explicitly states that the environmental monitoring requirements were imposed pursuant to omnibus authority. Responsiveness Summary at 66. Finally, the Region invokes the omnibus provision in its response to Ash Grove's petition:

> [T]he environmental monitoring requirements were included in the Permit, pursuant to EPA's "omnibus" authority * * *.

Response to Ash Grove Petition at 8.

The Board addressed use of the RCRA omnibus provision as authority for environmental monitoring conditions in *In re Chemical Waste Management of Indiana, Inc.*, RCRA Appeal No. 95-4 (EAB, Aug. 23, 1995), 6 E.A.D. __ ("*CWMII*").[28] *CWMII* involved permit conditions requiring ambient air monitoring at the perimeter of a hazardous waste treatment and landfill facility. The Board noted that regulation of air emissions through techniques such as monitoring is authorized by the RCRA omnibus provision "provided the record contains a properly supported finding that such regulation is necessary to protect human health or the environment and provided there is an adequate nexus between the air emissions and the hazardous waste management activities carried on at the facility." CWMII, slip op. at 30-31. The Board remanded the monitoring conditions in CWMII, instructing the Region to clarify its explanation of authority in the record. *Id.* at 34.

In this case, the Region's on-the-record explanation of the necessity for the environmental monitoring conditions pursuant to the omnibus provision appears to be intertwined with its explanation of the feed rate limits for mercury and thallium. As discussed in the previous section, the Region noted that the permit limits on mercury and thallium yielded excess risk estimates for consumption of fish and ingestion of soil due to predicted mercury and thallium concentrations in fish and soil. The Region's explanation of its need to include environmental monitoring conditions in the permit principally relied upon these risk assessment results. "The requirement to perform a monitoring program of mercury concentrations in water and fish is based upon the results of the risk assessment." Responsiveness Summary at 49. *See* also *Id.* at 118-19 (noting that the thallium feed rates in the final permit have the effect of increasing the risk estimate for thallium; therefore, a soil monitoring condition was added in the final permit).

[28]Other cases in which the omnibus provision was used to authorize permit conditions calling for environmental sampling include: *In re Morton Int'l, Inc.*, 3 E.A.D. 857, 864 (Adm'r 1992) (upholding permit conditions requiring soil sampling and preliminary detection activities in process areas where releases may have occurred); *In re Amerada Hess Corp. Port Reading Refinery*, 2 E.A.D. 910, 911 (Adm'r 1989) (soil sampling in area of suspected release was authorized by the omnibus provision).

Other portions of the administrative record suggest that the results of the risk assessment may be overstated. The Region compared the predicted concentrations of mercury in fish tissue against actual measurements of mercury in fish from Sante Fe lake, a local water body. Responsiveness Summary at 15. The actual mercury levels in fish from Sante Fe lake turned out to be much lower than the mercury levels predicted by the risk assessment calculations. *Id*. at 15, 67, 118; see also Response to Ash Grove Petition at 16. If the actual mercury concentrations in fish are lower than the predicted concentrations, a logical inference is that the risk associated with consumption of fish may also be lower than the Region's estimate from the risk assessment. The Region is apparently in tentative agreement with this inference, but believes additional data are required before committing to such a position:

> EPA still believes *that more data is necessary to confirm EPA's conclusion - that the Risk Assessment may overstate the estimated risk to human health and the environment from mercury and thallium*.

Response to Ash Grove Petition at 12 (emphasis in original).

It appears to us from the above cited portions of the Responsiveness Summary that the purpose of the environmental monitoring requirements is to settle some uncertainty in the Region's original assessment of the risks posed by the facility. This justification of the environmental monitoring conditions causes us to further doubt the adequacy of the direct permit limits for mercury and thallium. As noted in the discussion of the mercury and thallium permit limits, *supra* Section II.B.4.a., the record currently before us is insufficient to support a conclusion that the permit limits are adequately protective of human health and the environment. The addition of monitoring conditions does not appear to rectify this deficiency because the use of monitoring does not exempt the Region from having to justify the protectiveness of the permit limits for the substances being monitored. Nor does the record's explanation of the monitoring requirements amount to a sufficient justification under the omnibus provision to support the monitoring conditions.

Perhaps the Region is trying to assert that the *combination* of the selected permit limits and the environmental monitoring conditions yields adequate protection for human health and the environment. If this is the case, the record does not provide a clear explanation or a "properly supported finding" to that effect. *See CWMII*, slip op. at 30; *In re Sandoz Pharm. Corp.*, 4 E.A.D. 75, 81 (EAB 1992). There may also be other reasons, not evident in the record here, that would provide a "sufficient factual basis" to support an exercise of omnibus authority in connection with environmental monitoring.[29] *See Sandoz Pharm.*, 4 E.A.D. at 81. However, based on the explanations in the record before us, we do not believe that the Region has adequately justified the use of the omnibus authority for the mercury and thallium monitoring conditions. The inescapable suggestion from the administrative record is that the purpose of the monitoring provisions is to avoid having to resolve uncertainties regarding the protectiveness of the underlying permit limits at the present time. Further, there is an inadequate explanation of how the underlying permit limits for mercury and thallium, either alone or in combination with other conditions, are protective of human health and environment. Under these circumstances, where the record suggests that the environmental monitoring conditions may be intended as a substitute for adequately protective

[29]In *CWMII*, for example, the monitoring was designed in part to provide data regarding the effectiveness of pollution control measures at the facility. *CWMII*, slip op. at 29. Compliance assurance activities are just one possible rationale for including monitoring conditions pursuant to the omnibus provision, provided that such a justification enjoys adequate factual support in the administrative record.

limits on thallium and mercury, we are unwilling to uphold the monitoring requirements without a fuller explanation of their basis and purpose and their interrelationship with the underlying permit limits.[30]

We are remanding the environmental monitoring conditions so that the Region may provide an adequate explanation of how the omnibus authority justifies these permit conditions. The Region is invited to supplement the record as necessary during the remand process. The Region must also reopen the record for public comment on its decision regarding the environmental monitoring conditions.

(2) *40 C.F.R. §§ 270.10(k) and 270.30(h) as Rationales for Environmental Monitoring Requirements*

The Region raises 40 C.F.R. sections 270.10(k) and 270.30(h) as justifications for the environmental monitoring conditions for the first time on appeal. If the Region intends to rely on these regulatory authorities, they must be asserted and explained in the record. The Board has remanded justifications for permit conditions raised for the first time on appeal when there is ambiguity between the record and the arguments advanced on appeal. *See CWMII*, slip op. at 10 (explanation for permit condition advanced for the first time on appeal; Board remanded for an explanation of why the challenged condition was reasonable); *Austin Powder*, slip op. at 9-10 (lack of clarity in Region's two justifications for permit condition, one of which was raised for first time on appeal, was grounds for remand); *In re Amoco Oil Co.*, 4 E.A.D. 954, 964 (EAB 1993) (Board ordered remand when Region's rationale for a particular permit decision was articulated for first time on appeal and was not supported by evidence in the administrative record; Region ordered to provide a detailed explanation of the permit decision and to reopen the permit proceedings to supplement the administrative record if necessary). Here, the administrative record focuses on the omnibus provision and makes no mention of 40 C.F.R. section 270.10(k) or section 270.30(h) as grounds for the environmental monitoring conditions. Thus, if these authorities are to serve as the Region's justification of the monitoring conditions, the Region should first allow public notice and comment on these issues.

We are remanding the environmental monitoring conditions. On remand, the Region must revise the explanation of its authority to include the environmental monitoring conditions in Ash Grove's permit. The Region should address the disconnects in the record regarding its justification of these conditions under the omnibus provision. The Region may also choose to supplement the record in the course of revising its omnibus authority explanation or to provide an alternate explanation of authority. If it is not possible to provide an adequate explanation of the authority for the environmental monitoring conditions as written, the Region must revise or remove the conditions. The Region must also reopen the record for public comment on its action regarding the environmental monitoring conditions.

5. *Conclusion on Risk Assessment Issues*

[30]Although we are remanding the monitoring conditions, we are not suggesting that environmental monitoring can never be justified pursuant to RCRA's omnibus authority. Neither are we foreclosing the possibility of using monitoring in combination with permit limits or other permit conditions. However, in order to meet the standards of the omnibus provision, environmental monitoring must be justified with a rational explanation and proper support in the record that the requirement is "necessary to protect human health and the environment." is an inadequate explanation of how the underlying permit limits for mercury and thallium, either alone or in combination with other conditions, are protective of human health and the environment .

We decline to grant review of most of the issues on appeal pertaining to the risk assessment. We decline to review the Region's authority to perform and use an indirect exposure risk assessment in the context of the permitting process. The use of a special analytical tool such as a risk assessment was not clearly erroneous, nor did it raise an important policy issue that merits Board review. We also decline review of the risk assessment methodology issues raised by the petitioners. The petitioners have failed to sustain the burden of persuasion applicable to issues involving technical judgment. Finally, we order a remand of the permit's feed rate limits for mercury and thallium and the environmental monitoring conditions for those substances.

C. *Miscellaneous Issues*

In addition to the issues related to the performance of the risk assessment and permit decisions arising out of the risk assessment, Rollins *et al.* also raise a variety of miscellaneous issues in their petition for review. We address those issues briefly now.

1. *Dioxin and Furan Permit Limits*

Rollins *et al*. assert, in conclusory fashion, that the Region failed to set an emissions limit for dioxins and furans. Rollins Petition for Review at 14 n.4. This claim is completely unsubstantiated and thus, barely merits discussion here. However, a similar issue was raised during the public comment period and we presume that Rollins *et al*. are seeking review of the same issue. *See* Responsiveness Summary at 79.

The record shows that the permit does include controls on emissions of dioxins and furans by specifying a maximum inlet temperature for the electrostatic precipitators ("ESPs").[31] Ash Grove Permit Part II ¶¶ 31 E.7.h.(8) & E.7.i.(8); see also Responsiveness Summary at 80. At certain temperatures, dioxins and furans can be formed in the ESPs due to the reaction of chemicals in the flue gas and the particulates captured by the device. 56 Fed. Reg. 7134, 7163 (Feb. 21, 1991). Consequently, control of the temperature in the ESPs can limit dioxin and furan formation and emissions. Ash Grove's permit requires an automatic waste feed cut off device to activate immediately if the temperature limit is exceeded. Ash Grove Permit Part II ¶¶ E.7.h.(11) & E.7.i.(11). Rollins *et al.* have not explained why the Region's previous response regarding dioxin and furan controls was erroneous or otherwise deserving of review.

2. *Adequacy of Permit Conditions on Waste Analysis*

Rollins *et al*. argue that Ash Grove's waste analysis plan, which sets the parameters for sampling and characterizing incoming hazardous waste feed, is inadequate and does not comply with 40 C.F.R. section 266.102. Rollins Petition for Review at 18-19. Specifically, Rollins et al. claim that the waste analysis plan does not ensure representative sampling of wastes. RCRA regulations require waste analyses, including the method used to obtain a representative sample, to be conducted in accordance with a sampling method specified in the regulations or an alternative sampling method which meets or exceeds the capabilities of the specified method. 40 C.F.R. §§ 266.102(b) & 264.13(b)(3).

[31]Electrostatic precipitators are air pollution control devices used to capture particulate matter in emissions from an industrial furnace.

In the course of the Ash Grove permitting process, the Region reviewed Ash Grove's proposed waste analysis plan and concluded, in a rather detailed memorandum, that the plan exceeds the requirements of the specified method.[32] The Responsiveness Summary references the Region's "review" of the waste analysis plan and summarizes the Region's conclusion as follows:

> EPA concluded that Ash Grove's proposal to sample one container per pallet exceeded EPA's sampling criteria as described in [the specified test method].

Responsiveness Summary at 133. The Responsiveness Summary also indicates that the Region's "review" of the waste analysis plan was added to the administrative record. *Id*. However, the Responsiveness Summary does not identify the review memorandum by title, author, or date, and the memorandum does not appear in the certified index to the administrative record. Therefore, it is not clear whether the Region's justification of Ash Grove's waste analysis plan as reflected in its detailed review memorandum was made available prior to the appeal process.

The Board addressed a similar situation involving the omission of a report from the certified index in *In re Mayaguez Regional Sewage Treatment Plant*, 4 E.A.D. 772, 776 n.7 (EAB 1993), *aff'd sub nom. Puerto Rico Aqueduct & Sewer Authority v. EPA*, 35 F.3d 600 (1st Cir. 1994). The Board noted that an item becomes part of the administrative record once it is cited in a response to comments document (here, the response to comments document is the Responsiveness Summary). While all items referenced in a response to comments document certainly should appear on the certified index, an omitted item is nonetheless a part of the administrative record and may be considered by the Board on appeal.[33]

The documents omitted from the certified index in this case present a more difficult question than the report omitted in *Mayaguez*. The waste analysis plan review memorandum is not actually cited by name in the Responsiveness Summary and there is no indication that Rollins *et al*. were aware of this specific memorandum prior to receipt of the Region's response to their petition. At the same time, however, Rollins *et al*. have not specifically challenged the Region's conclusion, as expressed in the Responsiveness Summary, that Ash Grove's waste analysis plan exceeded the requirements of the specified sampling method. Rollins *et al*. have not alleged any deficiencies in the record on this issue, nor have they alleged that they unsuccessfully attempted to review the items relating to the waste analysis plan referenced in the Responsiveness Summary. Therefore, we find that Rollins *et al*. have not adequately supported their request for review of the waste analysis plan.

3. *Consultation with Other Agencies*

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[32]Memorandum from Robert B. Dona, Environmental Engineer, U.S. EPA Region VII, to John J. Smith, Project Manager, U.S. EPA Region VII (Jun. 23, 1995). This memorandum and accompanying documentation were filed with the Region's response to the petition by Rollins *et al*. Response to Rollins Petition Ex. 8.

[33]Preparation of a certified index is not requirement of the regulations governing the permit appeal process. *See* 40 C.F.R. § 124.19. The Board generally requests that a Region prepare and submit a certified index with its response to a petition for review as a matter of convenience for the Board. The Board views the certified index as evidence of the contents of the administrative record, but the index is not a substitute for 40 C.F.R. § 124.18. Section 124.18 specifies the items that make up the administrative record. The listed items include "[t]he response to comments required by § 124.17 and any new material placed in the record under that section." 40 C.F.R. § 124.18(b)(4).

Rollins *et al*. claim that the Region failed to conduct required consultations with federal and state agencies before issuing the Ash Grove Permit. Rollins Petition for Review at 19-20. Specifically, Rollins *et al*. state that consultation with the United States Fish and Wildlife Service ("FWS") is required under the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531-1544, and that "appropriate Oklahoma agencies" should have been consulted due to the potential for transport of emissions from Ash Grove, which is located in Kansas, across the state line into Oklahoma. We address each of these contentions regarding interagency consultation in turn.

a. *Consultation Regarding Endangered Species*

Rollins *et al*. seek review of the Ash Grove permit on the basis that the Region failed to comply with section 7(a) of the ESA, 16 U.S.C. § 1536(a), which requires federal agencies to consult with the Secretary of the Interior (whose authority has been delegated to the FWS) regarding the effect of agency actions on threatened or endangered species.[34] Rollins *et al*. assert that the Ash Grove permit cannot become effective until the Region completes the consultation process. Rollins Petition for Review at 19.

The Region claims that the issue of FWS consultation was not raised during the public comment period on the Ash Grove permit. Response to Rollins Petition at 10. Although the Region appears to be correct on this point of procedure, we also note that the issue raised by Rollins *et al*. is now moot.

The regulations implementing ESA section 7(a) and the regulations governing the RCRA permitting process both require the Region to consult with the Secretary of the Interior (whose authority has been delegated to the FWS) to ensure that the Region's action in issuing a permit is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect critical habitat. *See* 50 C.F.R. § 402.01(a) (regulations on interagency consultations under the ESA); 40 C.F.R. § 270.3(c) (RCRA permit regulations requiring ESA consultations). Informal consultation may be used to initiate the consultation process, and in certain cases, informal consultation is sufficient to satisfy statutory obligations:

> If during informal consultation it is determined by the Federal agency, *with the written concurrence of the [FWS],* that the action is not likely to adversely affect listed species or critical habitat, the consultation process is terminated, and no further action is necessary.

50 C.F.R. § 402.13(a) (emphasis added). As emphasized above, written concurrence from the FWS is necessary in order to forego formal consultation procedures.

It appears from the record in this case that the Region did not seek or receive written concurrence from the FWS on endangered and threatened species issues until well after the permit was issued by the Regional Administrator and the present appeals were filed. On January 15, 1997, the Region filed a motion with the Board seeking leave to supplement the administrative record to include written concurrence from the FWS indicating that formal consultation pursuant to ESA section 7(a) is not required for the Ash Grove permit. The FWS letter of concurrence is dated December 20, 1996, over four months after the Regional Administrator issued the Ash Grove permit.

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[34]The regulations implementing ESA section 7(a) include "the granting of * * * permits" in the definition of agency action. 50 C.F.R. § 402.02 Action. *See In re Dos Republicas Resources Co*., NPDES Appeal No. 96-1 (EAB, Dec. 2, 1996), 6 E.A.D. __ for a more detailed discussion of the ESA consultation process in the context of EPA permitting.

Although it appears that the Region failed to satisfy the regulatory requirements for endangered species consultation prior to issuance of the permit, the materials submitted with the Region's Motion to Supplement the Record indicate that the required consultation process is now complete. Thus, the challenge by Rollins *et al*. with regard to ESA consultation is moot.[35] Rollins *et al*. do not allege any substantive deficiencies in the permit terms or conditions regarding endangered or threatened species.

b. *Consultation with Oklahoma Authorities*

Rollins *et al*. cite no authority for their contention that the Region was required to consult with Oklahoma agencies regarding the Ash Grove permit. Although the Region was obligated to coordinate the permitting process with Kansas, the State in which Ash Grove is located, neither RCRA nor its regulations require coordination or consultation with state agencies from neighboring States when issuing a federally authorized RCRA permit.[36] To the extent that persons or agencies in Oklahoma were interested in the Ash Grove permit, they were of course welcome to participate in the permitting process by submitting comments or taking part in one of the public meetings. The Region's failure to actively seek input from Oklahoma authorities is not a matter of clear error subject to review.

Neither are we persuaded that the lack of interagency consultation with Oklahoma in this case presents an important policy consideration that merits Board review. Rollins *et al*. argue that the impacts of Ash Grove's emissions may be magnified in Oklahoma waters. Rollins Petition for Review at 20. However, the Region's emissions modeling indicates that deposition of Ash Grove emissions decreases by two to three orders of magnitude within a few miles of the plant, well inside the Kansas border. Responsiveness Summary at 23; SAIC Report app. C at 4-10 through 4-26.[37] In addition, pollutant concentrations in the Neosho River, which flows through southeast Kansas in the vicinity of Chanute and ultimately into Oklahoma, are expected to decrease with distance from Ash Grove due to additional flows from downstream tributaries. Response to Rollins Petition at 12. In light of the Region's explanations regarding the minimal potential for impacts in Oklahoma, the petitioners' conclusory allegations to the contrary do not present an issue that warrants review under the Board's discretionary authority.

4. *Adequacy of the Public Comment Period*

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[35]The situation regarding ESA section 7 consultation in this case is similar to that *in Southern Utah Wilderness Alliance v. Smith*, 110 F.3d 724 (10th Cir. 1997) ("SUWA"). In SUWA, the Bureau of Land Management ("BLM") engaged in informal consultation with the FWS prior to implementing an agency action covered by the ESA, but had not obtained written concurrence from the FWS until after SUWA filed a citizens' suit under the ESA. Because evidence of consultation was before the court, the court agreed that SUWA's "claim was moot because the relief sought [had] been obtained." *Id.* at 727 (citation omitted).

[36]A neighboring State may be entitled to receive specific notice at certain stages of the permitting process if such a State is an "affected State" under 40 C.F.R. § 124.10(c)(1)(iii). Rollins *et al.* have not made any allegations regarding compliance with this notice requirement. Moreover, the notice requirement is not equivalent to mandatory consultation.

[37]We note with interest that the Region's modeling of emissions deposition from multiple sources in southeast Kansas indicates that the Aptus incinerator, with which Rollins is affiliated, is located in Coffeyville, Kansas, approximately five miles from the Oklahoma border. According to the Region's modeling, the incinerator contributes more emissions to the areas immediately adjacent to Oklahoma than does Ash Grove.

Rollins *et al*. seek a reopening of the public comment period for purposes of evaluating materials added to the administrative record during and after the comment period on the draft permit. Rollins Petition for Review at 21-22. To the extent that this request pertains to materials relevant to the final permit limits on mercury and thallium or the environmental monitoring conditions for those substances, we have ordered a limited reopening of the public comment period. *See supra* Section II.B.4. However, to the extent that Rollins *et al*. seek a general reopening of the comment period, their request is rejected.

The regulations governing the permitting process do not call for a new comment period simply because the Region adds materials to the administrative record during its review of comments on the draft permit. 40 C.F.R. section 124.17(b) specifically contemplates supplementation of the administrative record during the Region's preparation of the response to comments.[38] The purpose of the response to comments and any supplementation of the administrative record at that time is to ensure that interested parties have full notice of the basis for final permit decisions and can address any concerns regarding the final permit in an appeal to the Board pursuant to 40 C.F.R. section 124.19. *In re Amoco Oil Co.*, 4 E.A.D. 954, 980 (EAB 1993). A reopening is generally at the discretion of the Region and is only appropriate where information received during the comment period raises "substantial new questions" regarding the permit. 40 C.F.R. § 124.14(b). Except as noted above, Rollins *et al*. have not justified a reopening of the comment period. Thus, the opportunity for Rollins *et al*. to review items added to the administrative record occurred after the Region issued its final permit decision and before the deadline for filing petitions for review with the Board. The request for a general reopening of the public comment period is denied.

5. *Overall Protectiveness of Emissions Limits in the Final Permit*

The final argument presented by Rollins *et al*. is a challenge to the overall protectiveness of the permit conditions in the final permit for Ash Grove. Rollins *et al*. cite decisions from permit appeals in which the Board and its predecessors have upheld the use of the RCRA omnibus authority to impose permit conditions on hazardous waste incinerators that were more stringent than the published regulations. Rollins Petition for Review at 22-24. Similarly, Rollins *et al*. would like the Region to invoke its omnibus authority in this case and incorporate emissions standards from a proposed regulation into Ash Grove's permit. *Id*. at 26. The proposed regulation at issue involves revisions to the BIF rule and the RCRA regulations for incinerators, as well as establishment of Maximum Achievable Control Technology ("MACT") standards under the Clean Air Act for most types of hazardous waste combustion facilities.[39] The proposal has been generically referred to as the "proposed MACT standards."

RCRA's omnibus authority has been successfully invoked to incorporate standards from proposed regulations into individual permits in appropriate circumstances. *See, e.g., In re Thermal Oxidation Corp.*, 3 E.A.D. 261, 262 n.4 (Adm'r 1990); *In re Envirosafe Services of Idaho, Inc.*, 3 E.A.D. 165, 167 (Adm'r 1990). However, it is not appropriate for a Region to make use of proposed regulations in the context of an individual permit unless a permit-specific analysis supports such an application. *In re Allied-Signal, Inc. (Frankford Plant)*, 4 E.A.D. 748, 761 (EAB 1993). During the comment period on the draft Ash Grove permit, the Region addressed the potential for use of the proposed MACT standards in the context of the

[38]In this case, the response to comments document was referred to as the "Responsiveness Summary."

[39]*See Revised Standards for Hazardous Waste Combustors*, 61 Fed. Reg. 17,358 (Apr. 19, 1996) (original proposal); 62 Fed. Reg. 24,212 (May 2, 1997) (revised proposal).

Ash Grove permit. The Region noted that the proposed MACT standards were still under development and were scheduled to be finalized sometime in 1997. Responsiveness Summary at 5 & 35. Due to the nature of the rulemaking process, the Region determined that it was not appropriate to incorporate the proposed MACT standards into the Ash Grove permit at this time. However, due to comments on this issue, the Region included language in Ash Grove's final permit expressly stating that the permit will be modified as necessary to comply with MACT once the rule is finalized. *Id*. at 5; see Ash Grove Permit Part II ¶ E.1. The Region's decision with regard to the MACT proposal is neither clearly erroneous or otherwise deserving of review.

III. *CONCLUSION*

Review of the Ash Grove Permit Part II is denied with respect to the following issues: (1) the Region's authority to perform and use an indirect exposure risk assessment in the context of the permitting process; (2) the risk assessment methodology employed by the Region in this case; (3) permit limits on dioxins and furans; (4) permit conditions on waste analysis; (5) consultation with the FWS and/or Oklahoma authorities during the permitting process; (6) adequacy of the public comment period in general; and (7) incorporation of proposed MACT standards into Ash Grove's permit.

The permit is remanded with respect to the permit limits on mercury and thallium (Ash Grove Permit Part II ¶ E.6.b.) and the environmental monitoring conditions pertaining to these substances (Ash Grove Permit Part II ¶ E.15.).[40] The Region is directed to reopen the permit 40 proceedings for the limited purposes of: (1) providing a sufficient explanation of how the permit's mercury and thallium feed rate limits adequately protect human health and the environment; and (2) revising its explanation of the authority to include environmental monitoring conditions for mercury and thallium in the permit. If the Region cannot justify the permit conditions as written, it should revise them and provide a justification for the revised conditions. The Region must accept and respond to public comment on its decisions. Any party who participates in the remand process on these two issues and is not satisfied with the Region's decision on remand may file an appeal with the Board pursuant to 40 C.F.R. § 124.19.

So ordered.

[40]Although 40 C.F.R. § 124.19(c) contemplates that additional briefing typically will be submitted upon a grant of a petition for review, a direct remand without additional submissions is appropriate where, as here, it does not appear as though further briefs on appeal would shed light on the issues to be addressed on remand.