UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: NOV 2 1984

SUBJECT: Region V Guidance Manual For Permitting PCB Disposal Facilities

FROM: Basil G. Constantelos, Director
Waste Management Division

TO: William H. Sanders, Director
Environmental Services Division

Attached is a copy of "Region V Strategy For Permitting PCB Disposal Sites" which was developed by my staff in the Technical, Permits and Compliance Section, Waste Management Branch. I am sure the manual will be very useful for your Division to launch a successful permitting program for PCB disposal activities in this Region.

The manual was updated for the last time in January, 1983, approximately two months before publication of the amended PCB rule which transferred a portion of authority to approve certain PCB disposal facilities, e.g., multi-Regional facilities, from the Regional Administrator to the Assistant Administrator for Pesticides and Toxic Substances (March 30, 1983). It is my understanding that the above rule change has not at all affected the usefulness of this manual. A Lexitron diskette which contains the entire text of the manual is also attached for your use.

All inquiries concerning this manual should be directed to Y. J. Kim of my staff who was responsible for its preparation.

Attachment

REGION V STRATEGY FOR PERMITTING

PCB DISPOSAL SITES

United States Environmental Protection Agency

Prepared By:
State Technical Unit #3
Technical, Permits and Compliance Section
Waste Management Branch
Waste Management Division

REVISED JANUARY 1983

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The United States Environmental Protection Agency (U.S. EPA), Region V, Implementation Strategy for Approving and Permitting the Disposal of Polychlorinated Biphenyls (PCBs) and PCB items.

Pursuant to Section 6(e) of the Toxic Substances Control Act (TSCA) and 40 Code of Federal Regulations (CFR) Part 761, any person seeking to destroy PCBs or PCB items must give written notice to the U.S. EPA Regional Administrator (RA) and obtain the RA's written approval when required. It has been the policy of Region V not to solicit notices or applications to destroy PCBs or PCB items, but to accept applications submitted voluntarily and to respond to them within thirty (30) days from the date they are received.

I. Notification Procedures for Burning PCB-Contaminated MODEF in High Efficiency Boilers

Persons seeking to burn, in a high efficiency boiler, mineral oil dielectric fluid (MODEF) from PCB-contaminated tranformers containing a PCB concentration of 50 ppm or greater, but less than 500 ppm, need only give written notice to the U.S. EPA RA for the Region in which the boiler is located. Written approval is not required, but it is the regional policy to issue a consent letter, an example of which appears on page 4. The following information must be included in the notice:

i) the name and address of the owner or operator of the boiler and the address of the boiler;

ii) the boiler rating in units of BTU/hour; (NOTE: The boiler must be rated at a minimum of 50 million BTU/hour.);

iii) the carbon monoxide concentration and the excess oxygen percentage in the stack of the boiler when it is operated in a manner similar to the manner in which it will be operated when MODEF is burned;

(Note: The flow of MODEF to the boiler must be stopped immediately, when gas or oil is the primary fuel, if the carbon monoxide concentration in the stack exceeds 50 ppm or the excess oxygen is less than three percent; unless coal is the primary fuel, in which case, the flow must be stopped whenever the carbon monoxide concentration in the stack exceeds 100 ppm or the excess oxygen is less than three percent. The carbon monoxide concentration and excess oxygen percentage in the stack gas must be continuously monitored and recorded while burning MODEF, unless the boiler will burn less than 30,000 gallons of MODEF per year, in which case the measurements shall be made and recorded at regular intervals of no longer than 60 minutes. These records must be retained at the boiler location for five years); and

iv) the type of equipment, apparatus, and procedures to be used to control the feeding of MODEF to the boiler and to monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack. (Note: The primary fuel feed rates, MODEF feed rates, and total quantities of both primary fuel and MODEF fed to the boiler must be measured and recorded at regular intervals of no longer than 15 minutes while burning MODEF. These records must also be retained at the boiler location for five years as well as records of the quantity of MODEF burned in the boiler each month.

In addition, MODEF must not comprise more than ten percent on a volume basis of the total feed rate or heating valve, nor should MODEF be fed into the boiler unless the boiler is operating at its normal operating temperature so that MODEF is not fed into the boiler during either start-up or shut-down operations.)

EXAMPLE OF CONSENT LETTER

Dear Applicant:

This letter serves to acknowledge the receipt of your notification dated December 16, 1981, to the U.S. Environmental Protection Agency (U.S. EPA) for the disposal of polychlorinated biphenyl (PCB) contaminated mineral oil dielectric fluid (MODEF) by burning in boiler No. 12 at the High Bridge Generating Plant which is located at 501 Shepard Road, St. Paul, Minnesota.

The notification has been reviewed by my staff and found to be adequate in addressing the written notice requirement of 40 Code of Federal Regulations (CFR) 760.60(a)(2)(iii)(B) to burn MODEF containing less than 500 ppm of PCBs.

You have our consent to proceed with the burning of the PCB-contaminated MODEF in the high efficiency boiler referenced above. The burn shall be conducted in accordance with the attached conditions of consent any time after January 18, 1981. It should be noted, however, that the consent does not relieve you from complying with other applicable Federal, State and local regulations and ordinances.

It is the responsibility of you and your company, Northern States Power Company, to ascertain that all applicable provisions of Sections 6(e)(1) and 6(e)(2) of the Toxic Substances Control Act (Public Law No. 94-469) and the Final PCB Rule (40 CFR Part 761) are fully adhered to in conducting the burn.

Pertinent provisions of 40 CFR Part 761 include, but are not limited to the following:

Subpart A - General;

Subpart B - Manufacturing, Processing, Distribution in Commerce, and Use of PCBs and PCB Items;

Subpart C - Marking of PCBs and PCB Items;

Subpart D - Storage and Disposal;

Subpart J - Records and Reports.

U.S. EPA reserves the right to inspect records, the high efficiency boiler and auxiliary equipment used for the disposal of PCB-contaminated MODEF.

Please be advised that a violation of any condition issued as part of this consent will be subject to enforcement action, which may include termination of this consent. Furthermore, this consent may be withdrawn or additional conditions may be added at any time if the U.S. EPA has reason to believe that the operation of your boiler for disposal of PCB-contaminated MODEF presents an unreasonable risk of injury to public health or the environment.

Sincerely,

Basil G. Constantelos, Director
Waste Management Division

Attachment

ATTACHMENT

Conditions of Consent

1. The concentration of PCBs in MODEF to be burned in boiler No. 12. shall not exceed 500 ppm.
2. When coal is the primary fuel, the carbon monoxide concentration in the boiler outlet shall not exceed 100 ppm and the excess oxygen shall be at least three (3) percent when PCBs are being burned.
3. When oil or natural gas is the primary fuel, the carbon monoxide concentration in the boiler outlet shall not exceed 50 ppm and the excess oxygen shall be at least three (3) percent when PCBs are being burned.
4. PCB-contaminated MODEF shall not comprise more than ten (10) percent (on a volume or heating value basis) of the total fuel feed rate.
5. The PCB-contaminated MODEF shall not be fed into the boiler unless the boiler is operating at its normal operating temperature. This authorization condition prohibits burning of PCB-contaminated MODEF during either start-up or shut-down operations.
6. The owner or operator must:
   a) continuously monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning PCB-contaminated liquid; or

   b) measure and record the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes, if the boiler will burn less than 30,000 gallons of PCB contaminated liquid per year.

7. The primary fuel feed rates, PCB-contaminated MODEF feed rates, and total quantities of both primary fuel and PCB-contaminated MODEF fed to the boiler shall be measured and recorded to regular intervals of no longer than 15 minutes while burning PCB-contaminated MODEF.
8. The quantity of PCB-contaminated MODEF burned in the boiler each month and the information required to be collected under conditions (6) and (7) shall be retained at the boiler location for five (5) years.
9. The carbon monoxide concentration and the excess oxygen percentage shall be continuously monitored and recorded while burning PCB-contaminated MODEF. If either measurement falls below the levels specified in condition (2), if coal is the primary fuel, or condition (3), if oil or natural gas is the primary fuel, the flow of the PCB-contaminated MODEF to the boiler shall be stopped immediately.
10. The flow of PCB-contaminated MODEF to the boiler shall be immediately stopped if any of the following occurs: boiler or turbine failure; the steam generation falls below 825,000 pounds per hour; or the PCB-contaminated MODEF flow exceeds 20 ppm.
11. All containers, storage tanks, and other articles which have been in direct contact with PCB-contaminated MODEF shall not be used or reused for any other purpose, unless they are decontaminated in accordance with 40 CFR 761.79. The pumps, pipes and other hardware used for handling the PCB-contaminated MODEF may be decontaminated by rinsing continuously with an amount of clean No. 2 grade fuel oil that is approximately ten (10) times the total internal volume of the contaminated components. The contaminated rinsate may be disposed of by burning in the No. 12 boiler.
12. When burning PCB-contaminated MODEF, the boiler operation shall be consistent with the information and data included in the notification.

II. Approval Procedure Applicable to Burning PCB-Contaminated Liquids, Other than MODEF, in a High Efficiency Boiler.

A. Persons seeking to burn, in a high efficiency boiler, liquids other than MODEF, containing a PCB concentration of 50 ppm or greater, but less than 500 ppm, must submit an approval request to the RA for the U.S. EPA Region in which the boiler is located. In addition to the information required in Section I, the following items must be included in the approval request:

i) the type of waste to be burned, the concentration of PCBs and of any other chlorinated hydrocarbons in the waste, and the results of analyses using the American Society of Testing and Materials (ASTM) methods as referenced below: carbon and hydrogen content using ASTM D-3178, nitrogen content using ASTM D-258, sulfur content using ASTM D-2784, D-1266, or D-129, chlorine content using ASTM D-808, water and sediment content using either D-2709 or D-1796, ash content using D-482, calorific value using ASTM D-240, carbon residue using either ASTM D-2158 or D-524, and flash point using ASTM D-93;

ii) the quantity of wastes estimated to be burned in a thirty (30) day period;

iii) an explanation of the procedures to be followed to insure that burning the waste will not adversely affect the operation of the boiler such that combustion efficiency will decrease.

B. Following receipt of the approval request, the RA shall determine if a trial burn is required and notify the person who submitted the approval request whether a trial burn of PCBs must be conducted. The RA may require the submission of any other information* that is reasonably necessary to determine the need for a trial burn. Such other information shall be restricted to the type of information required in the approval request.

If the RA determines that a trial burn must be held, the person who submitted the approval request shall submit to the RA a detailed plan for conducting and monitoring a trial burn. At a minimum, the plan must include the following information:

(i) the time, date, and location of the trial burn;

(ii) quantity and type of PCBs to be burned;

(iii) parameters to be monitored and location of sampling points;

(iv) sampling frequency, methods and schedules for sample analyses; and

(v) name, address, and qualifications of persons who will review analytical results and other pertinent data, and who will perform a technical evaluation of the effectiveness of the trial burn.

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*Note: All pages containing proprietary information may be labeled "CONFIDENTIAL." Documents marked accordingly must be treated by the U.S. EPA as Confidential Business Information, unless a determination to deny the claim of confidentiality has been made by the Regional Counsel.

Following receipt of the trial burn plan, the RA will approve the plan, require additions or modifications to the plan, or disapprove the plan. If the plan is disapproved, the RA will notify the person who submitted the plan of such disapproval, together with the reasons why it is disapproved. That person may thereafter submit a new plan. If the plan is approved (with any additions or modifications which the RA may prescribe), the RA will notify the person who submitted the plan of the approval. Thereafter, the trial burn shall take place at a date and time to be agreed upon between the RA and the person(s) who submitted the plan. If the trial burn is successful, then the permit writer will draft a memo to the RA from the Director of the Waste Management Division recommending approval. The memo must contain a complete line-by-line analysis of how the applicant satisfied the applicable 40 CFR 761 requirements, including any other pertinent data that justifies the recommendation of approval and/or approval conditions.

C. The RA will grant or deny approval based on a comprehensive review of the approval request, trial burn results, and other submitted information. Prior to making a final decision, the RA will conduct a public participation program (See Appendix I titled, Public Hearings) regarding the proposed approval.

If the public participation program is successful and the RA decides that this disposal method will provide adequate protection to the public health and the environment, the RA will issue written approval that will contain all of the requirements necessary to ensure that operation of the boiler will not present an unreasonable risk of injury to the public health or the environment from PCBs. Such requirements may include a fixed period of time for which the approval is valid. The following letter and attachment serves as an example of the final written approval of the RA to dispose of PCBs in a high efficiency boiler.

Example of Approval by RA to Dispose of PCBs in High Efficiency Boiler

Dear Applicant:

Your application to the United States Environmental Protection Agency (U.S. EPA) for the disposal of liquids contaminated with polychlorinated biphenyls (PCBs) in your high efficiency boiler has been reviewed for completeness and adequacy by the staff of the Technical, Permits, and Compliance Section, Waste Management Branch, Waste Management Division, U.S. EPA, Region V.

Based on this review, a determination has been made to approve, with conditions, the disposal of PCB-contaminated liquids in your high efficiency boiler. The approval conditions are enclosed as an attachment to this letter. It should be noted that this approval applies only to the Federal regulations titled, PCBs Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions which were promulgated on May 31, 1979, under 40 Code of Federal Regulations (CFR) Part 761, and the applicable sections of the Toxic Substances Control Act (TSCA), Public Law Number 94-469. This approval does not affect the responsibility of your company to fully comply with all other applicable, Federal, State or local regulations or ordinances. The pertinent provisions of 40 CFR Part 761 include, but are not limited to, the following:

Subpart A - General

Subpart B - Manufacturing, Processing, Distribution in Commerce, and Use of PCBs and PCB Items

Subpart C - Marking of PCBs and PCB items

Subpart D - Storage and Disposal

Subpart J - Records and Reports

Please be advised that a violation of any condition issued as part of this approval will be subject to enforcement action, which may include termination of the approval. Furthermore, this approval may be withdrawn or additional conditions may be added at any time if the U.S. EPA has reason to believe that the operation of your boiler presents an unreasonable risk of injury to public health or the environment. This approval shall become effective on _____ , 19___.

If you have any questions, please contact _____ of my staff at _____.

Sincerely yours,

Valdas V. Adamkus
Regional Administrator

Attachment

Attachment/Conditions

1. The boiler is rated at a minimum of 50 million BTU hours.
2. If the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned.
3. If the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is 100 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned.
4. The PCB-contaminated liquid does not contain a PCB concentration greater than 500 ppm and does not comprise more than ten (10) percent (on a volume or heating value basis) of the total fuel feed rate.
5. The PCB-contaminated liquid is fed into the boiler only when the boiler is operating at its normal operating temperature (steady-state operating conditions) so that the fluid is not fed during either start-up or shut-down operations.
6. The owner or operator of the boiler must:
   a) continuously monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning PCB-contaminated liquid; or

   b) measure and record the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes, if the boiler will burn less than 30,000 gallons of PCB-contaminated liquid per year.

7. The primary fuel feed rates, PCB-contaminated liquid feed rates, and total quantities of both primary fuel and PCB-contaminated liquid fed to the boiler are measured and recorded at regular intervals of no longer than 15 minutes while burning PCB-contaminated liquid.
8. The quantity of PCB-contaminated liquid burned in the boiler each month and the information required to be collected under conditions (6) and (7) be retained at the boiler location for five (5) years.
9. The carbon monoxide concentration and the excess oxygen percentage are checked at least once every hour that PCB-contaminated liquid is burned. If either measurement falls below the levels specified in condition (2), if natural gas or oil is the primary fuel, or condition (3), if coal is the primary fuel, the flow of the PCB-contaminated liquid to the boiler shall be stopped immediately.
10. When burning PCB-contaminated liquid, the boiler must operate at a level of output no less than the output at which the measurements stated in the application for the carbon monoxide concentration and excess oxygen percentage in the stack of the boiler when it was operated in a manner similar to which it will be operated when PCB-contaminated liquid is burned.
11. Each owner or operator of a facility used for the storage or disposal (high efficiency boiler) of PCBs and PCB items shall, by each July 1 prepare and maintain a document that includes the following information for PCBs and PCB items that were handled at the facility during the previous calendar year.
    i) the date when any PCBs and PCB items were received by the facility for storage and disposal, and the identification of the facility from whom the PCBs were received;

ii) the date when any PCBs and PCB items were disposed at the disposal facility or transferred to another disposal or storage facility, including the identification of the specific types of PCBs and PCB items that were stored or disposed;

iii) a summary of the total weight in kilograms of PCBs and PCB articles in containers and the total weight of PCBs contained in PCB transformers, that have been handled at the facility during the previous calendar year;* and

iv) the total number of any PCB articles or PCB equipment not in PCB containers, received during the calendar year, transferred to other storage or disposal facilities during the calendar year.**

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*This summary shall provide totals of the PCBs and PCB items which have been:

a. received during the year;

b. transferred to other facilities during the year; and

c. retained at the facility at the end of the year. In addition, the contents of PCB containers shall be identified. When PCB containers and PCBs contained in a transformer are transferred to other storage or disposal facilities, the identification of the facility to which such PCBs and PCB items were transferred shall be included in the document.

**The identification of the specific types of PCB articles and PCB equipment received, transferred or remaining on the facility shall be indicated. When PCB articles and PCB equipment are transferred to other storage and disposal facilities, the identification of the facility to which the PCB articles and PCB equipment were transferred must be included.

III. Approval Procedures to Dispose of PCB items and PCBs in an Incinerator which Complies with the Standards Delineated in 40 CFR 761.70.

A. Persons seeking approval of an incinerator to incinerate PCBs must submit, to the RA of the Region in which the incinerator is located, an initial report which contains the following information:

i) the location of the incinerator;

ii) a detailed description of the incinerator including general site plans and design drawings of the incinerator;

iii) engineering reports or other information on the anticipated performances of the incinerator;

iv) sampling and monitoring equipment and facilities available;

v) waste volumes expected to be incinerated;

vi) any local, State, or Federal permits or approvals; and

vii) schedules and plans for complying with the approval requirements of 40 CFR Section 761.70.

Following receipt of the initial report, the RA shall determine if a trial burn is required and notify the person who submitted the report whether a trial burn of PCBs and PCB items must be conducted. The RA may require the submission of any other information* that is reasonably necessary to determine the need for a trial burn. Such other information shall be restricted to the type of information required in the initial report.

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*Note: All pages containing proprietary information may be labeled "CONFIDENTIAL." Documents marked accordingly must be treated by the U.S. EPA as Confidential Business Information, unless a determination to deny the claim of confidentiality has been made by the Regional Counsel.

B. If the RA determines that a trial must be held, the person who submitted the initial report shall submit to the RA a detailed plan for conducting and monitoring the trial burn. At a minimum, the plan must include the following information:

i) the time, date, and location of the trial burn;

ii) quantity and type of PCBs and PCB items to be incinerated;

iii) parameters to be monitored and location of sampling points;

iv) sampling frequency, methods and schedules for sample analyses; and

v) name, address, and qualifications of persons who will review analytical results and other pertinent data, and who will perform a technical evaluation of the effectiveness of the trial burn.

C. Following receipt of the trial burn plan, the RA will approve the plan, require additions or modifications to the plan, or disapprove the plan. If the plan is disapproved, the RA will notify the person who submitted the plan of such disapproval, together with the reasons why it is disapproved. That person may thereafter submit a new plan. If the plan is approved (with any additions or modifications which the RA may prescribe), the RA will notify the person who submitted the plan of the approval. Thereafter, the trial burn shall take place at a date and time to be agreed upon between the RA and the person(s) who submitted the plan. If the trial burn is successful, the permit writer will draft a memo to the RA from the Director of the Waste Management Division recommending approval.

The memo must contain a complete line-by-line analysis of how the applicant satisfies the applicable 40 CFR Part 761 requirements, including any other pertinent data that justifies the recommendation of approval and/or approval conditions.

D. The RA will grant or deny the approval based on a comprehensive review of the approval request, trial burn results, and other submitted information. Prior to making a final decision, the RA will conduct a public participation program (See Appendix I titled, Public Hearings) regarding the proposed approval.

If the public participation program is successful and the RA decides that this disposal method will provide adequate protection to the public health and the environment, the RA will issue written approval which will contain all of the requirements necessary to ensure that operation of the incinerator will not present an unreasonable risk of injury to the public health or the environment. Such requirements may include a fixed period of time for which the application is valid.

The following letter and attachment serve as an example of the final written approval of the RA to dispose of PCBs and PCB items in an incinerator. The conditions listed in the attachment are the minimum that an incinerator must satisfy if it is to be successful in obtaining the RA's approval.

Example of Approval by RA to Dispose of PCBs in an Incinerator

Dear Applicant:

Your application to the United States Environmental Protection Agency (U.S. EPA) for approval to dispose of polychlorinated biphenyls (PCBs) in your incinerator has been reviewed for completeness and adequacy by the staff of the Technical, Permits, and Compliance Section, Waste Management Branch, Waste Management Division, U.S. EPA, Region V.

Based on this review, a determination has been made to approve, with conditions, the disposal of PCBs in your incinerator. The approval conditions are enclosed as an attachment to this letter. It should be noted that this approval applies only to the Federal regulations titled, PCBs Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions which were promulgated in the Federal Register on May 31, 1979, 40 Code of Federal Regulations (CFR) Part 761, and the applicable sections of the Toxic Substances Control Act (TSCA), Public Law Number 94-469. This approval does not affect the reponsibility of your company to fully comply with all of the other requirements of the TSCA, the Resource Conservation and Recovery Act (RCRA), or any other applicable Federal, State or local regulations or ordinances.

The pertinent provisions of 40 CFR Part 761 include, but are not limited to the following:

Subpart A - General

Subpart B - Manufacturing, Processing, Distribution in Commerce, and Use of PCBs and PCB items

Subpart C - Marking of PCBs and PCB items

Subpart D - Storage and Disposal

Subpart J - Records and Reports

Please be advised that a violation of any condition issued as part of this approval may be subject to enforcement action, which may include termination of this approval. Furthermore, this approval may be withdrawn or additional conditions may be added at any time if the U.S. EPA has reason to believe that the operation of the incinerator presents an unreasonable risk of injury to public health or the environment. This approval shall become effective on _____, 19____.

If you have any questions, please contact _____ of my staff at _____.

Sincerely yours,

Valdas V. Adamkus
Regional Administrator

Attachment

Attachment/Conditions

The owner or operator of a PCB incinerator is subject to the following conditions unless after examining the evidence and other submitted information, the Regional Administrator waives any of the following conditions in writing because the condition(s) are not necessary to protect against an unreasonable risk of injury to health or the environment.

A. An incinerator used for incinerating liquid PCBs shall meet the following conditions:

1. Combustion criteria shall be either of the following:

   i) maintenance of the introduced liquids for a two (2) second dwell time at 1200°C ($\pm$ 100°C) and three (3) percent excess oxygen in the stack gas; or

   ii) maintenance of the introduced liquids at a one and one half (1.5) second dwell time at 1600°C ($\pm$ 100°C) and two (2) percent excess oxygen in the stack gas.

2. Combustion efficiency shall be at least 99.9 percent computed as follows:

   Percent combustion efficiency = $100 \times [CO_2]/([CO_2] + [CO])$

   where = $[CO_2]$ = Concentration of carbon dioxide

   $[CO]$ = Concentration of carbon monoxide

3. The rate and quantity of PCBs which are fed into the combustion system shall be measured and recorded at regular intervals of no longer than fifteen (15) minutes.

4. The temperature of the incinerator process shall be continuously measured and recorded. The combustion temperature of the incineration process shall be based on either direct (pyrometer) or indirect (wall thermocouple-pyrometer correlation) temperature readings.

5. The flow of PCBs to the incinerator shall stop automatically whenever the combustion temperature drops below the temperature specified in condition A(1).

6. Monitoring of stack emission products shall be conducted when an incinerator is first used for the disposal of PCBs under the provisions of this regulation; or after the incinerator has been modified in any manner which may affect the characteristics of the stack emission products.

7. At a minimum the monitoring described in (6) shall be conducted for the following parameters:

   i) oxygen (O_2);

   ii) carbon monoxide (CO);

   iii) carbon dioxide (CO_2);

   iv) oxides of nitrogen (NO_x);

   v) hydrochloric acid (HCl);

   vi) total chlorinated organic content (RCl);

   vii) PCBs; and

   viii) total particulate matter.

8. At a minimum monitoring and recording of combustion products and incineration operations shall be conducted for the following parameters whenever the incinerator is incinerating PCBs:

   i) oxygen (O_2)

   ii) carbon monoxide (CO); and

   iii) carbon dioxide (CO_2).

   The monitoring for oxygen and carbon monoxide shall be continuous. The monitoring of carbon dioxide shall be periodic, at a frequency specified by the Regional Administrator.

9. The flow of PCBs to the incinerator shall stop automatically when any one or more of the following conditions occur, unless a contingency plan is submitted by the incinerator owner or operator and approved by the Regional Administrator, and the contingencv plan indicates what alternative measures the incinerator owner or operator will take if any of the following conditions occur:

   i) failure of the monitoring operations specified in condition A(8);

   ii) failure of the PCB rate and quantity measuring and recording equipment specified in condition A(3); or

   iii) excess oxygen falls below the percentage specified in condition A(1).

10. Water scrubbers shall be used for HCl control during PCB incineration and shall meet any of the performance requirements specified by the Region V Administrator. Scrubber effluent shall be monitored and shall comply with applicable effluent or pretreatment standards and any other State and Federal laws and regulations. An alternative method of HCl control may be used if the alternate method has been approved by the Regional Administrator.

B. An incinerator used for incinerating nonliquid PCB, PCB articles, PCB equipment, or PCB containers shall meet the following conditions:

1. mass air emissions from the incinerator shall be no greater than 0.001 gram PCB/kilogram of the PCB into the incinerator;

2. condition A(2);

3. condition A(3);
4. condition A(4);
5. condition A(6);
6. condition A(7);
7. condition A(8);
8. condition A(9); and
9. condition A(10).

C. Each owner or operator of a PCB incinerator shall collect and maintain for a period of five (5) years from the date of collection the following information:

1. continuous and short interval data as described below:
   i) rate and quantity of PCBs fed to the combustion system as required by conditions A(3) and/or B(3);
   ii) temperature of the combustion process as required by conditions A(4) and/or B(4);
   iii) stack emissions including oxygen, carbon monoxide, and carbon dioxide as required by conditions A(8) and/or B(7);
2. data and records on the monitoring of stack emissions as required by conditions A(6), A(7), and/or B(5) when PCBs are being incinerated; and
3. the total weight in kilograms of any solid residues generated by the incineration of PCBs and PCB items during the calendar year, the total weight in kilograms of any solid residues disposed by the facility in chemical waste landfills, and the total weight in kilograms of any solid residues remaining on the facility site.

4. Upon any suspension of the operation of the incinerator pursuant to conditions A(9), and/or B(8), the owner or operator shall prepare a document which shall include, at a minimum, the date and time of the suspension and explanation of the circumstances causing the suspension of operation. The document shall be sent to the Region V Regional Administrator within thirty (30) days of any such suspension.

5. Each owner or operator of a facility used for the storage or disposal (incineration) of PCBs and PCB items shall by July 1 of each year, prepare and maintain a document that includes the following information for PCBs and PCB items that were handled at the facility during the previous calendar year:

   i) the date when any PCBs and PCB items were received by the facility for storage or disposal (incineration), and the identification of the facility from whom the PCBs were received;

   ii) the date when any PCBs and PCB items were disposed (incinerated) at the disposal facility (incinerator) or transferred to another disposal or storage facility, including the identification of the specific types of PCBs and PCB items that were stored or disposed;

   iii) a summary of the total weight in kilograms of PCBs and PCB articles in containers and the total weight of PCBs contained in PCB transformers, that have been handled at the facility during the previous calendar year. This summary shall provide totals of the PCBs and PCB items which have been:

      a. received during the year;

      b. transferred to other facilities during the year; and

c. retained at the facility at the end of the year.

(In addition, the contents of PCB containers shall be identified. When PCB containers and PCBs contained in a transformer are transferred to other storage or disposal facilities, the identification of the facility to which such PCBs and PCB items were transferred shall be included in the document.)

iv) the total number of any PCB articles or PCB equipment not in PCB containers, received during the calendar year, transferred to other storage or disposal facilities during the calendar year, or remaining on the facility site at the end of the calendar year. (The identification of the specific types of PCB articles and PCB equipment received, transferred, or remaining on the facility shall be indicated. When PCB articles and PCB equipment are transferred to other storage or disposal facilities, the identification of the facility to which the PCB articles and PCB equipment were transferred must be included.)

IV. Approval Procedure for Alternate Methods of Destroying Polychlorinated Biphenyls (PCBs).

Pursuant to 40 Code of Federal Regulations (CFR) Paragraph 761.60(e), any person who is required to incinerate any PCBs and PCB items under 40 CFR 761 Subpart D and who can demonstrate that an alternative method of destroying PCBs and PCB items exists and that this alternative method can achieve a level of performance equivalent to PCB incinerator or high efficiency boiler as provided in 40 CFR Paragraphs 761.60(a)(2)(iv) and 761.60(a)(3)(iv), may submit a written request to the Regional Administrator (RA) for an exemption from the incineration requirements. The applicant must show that his method of destroying PCBs will not present an unreasonable risk of injury to health or the environment. On the basis of such information and any available information, the RA may, in his discretion, approve the use of the alternate method, if he finds that the alternate disposal method provides PCB destruction equivalent to disposal to a PCB incinerator or high efficiency boiler and will not present an unreasonable risk of injury to health or the environment. Any approval must be stated in writing and may contain such conditions and provisions as the RA deems appropriate. The person to whom such a waiver is issued must comply with all limitations contained in such determination.

Persons seeking to conduct research and development into alternative methods of destroying PCBs, on bench or pilot plant scale, must obtain a written temporary authorization from the U.S. EPA Region in which the testing will take place.

The duration of this temporary authorization should not exceed six (6) months. Persons seeking such temporary authorization must provide the Regional Office with information on their system design, the location of of facility, amount, concentration, and type of PCBs to be destroyed, the maximum human exposure which would result if the test were a complete failure under the worst case conditions, the precautions taken to minimize human exposure to PCBs, and the testing methodologies to be employed.

The information required will enable U.S. EPA to evalute the proposed test conditions to ensure that the test will be conducted in a safe manner. Furthermore, the submission of information at this time, concerning the disposal method under development, will facilitate a more expeditious U.S. EPA action on any subsequent application for approval of a full scale unit. The Regional Office will grant permission for conducting the testing provided that the tests will produce data by which the applicant can attempt to show that his method of destroying PCBs will not present an unreasonable risk of injury to health or the environment and that the tests themselves will not present unreasonable risks.

The authorization will be contained in the letter sent acknowledging receipt of the information. Persons to whom the approval is issued must submit a summary of the test results within ninety (90) days of completing the tests. At a minimum, this report should summarize the testing results, quantities of PCBs used, disposal of residues and leftover PCBs, and procedures used to decontaminate the testing equipment.

Application Process Applicable to Chemical Processing Mobile Units.

A. The owner or operator shall submit to the Regional Administrator (RA) an initial report which contains the following:

(i) the location of the center of organization from which the mobile unit originates and the location where the mobile unit would be stored and serviced when not engaged in commercial activity;

(ii) a detailed description of the mobile unit including general plans and design drawings;

(iii) engineering report or other information on the anticipated performance of the mobile unit;

(iv) sampling and monitoring equipment and facilities available;

(v) waste volumes expected to be handled, process design capacity, process control, reagent-to-waste feed ratios, and safety features;

(vi) any local, State or Federal permits or approvals;

(vii) schedules and plans for complying with the approval requirements;

(viii) a contingency plan which describes steps taken in case of process failure, spill or overflow;

(ix) environmental impact, including process emissions, toxicity and disposal of process products, and steps taken to protect the health of operators; and

(x) name, address and phone number of the mobile unit contact.

B. Following receipt of the initial report, the RA shall determine if a process demonstration is required and notify the person who submitted the report whether a demonstration of the chemical destruction process for detoxifying PCBs and PCB items must be conducted.

The RA may require the submission of any other information that the RA finds to be reasonably necessary to determine the need for a process deaonstration. Such other information shall be restricted to the types of information required in the initial report.*

If the RA determines that a process demonstration must be held, the person who submitted the initial report shall submit to the RA a detailed plan for conducting and monitoring. The process demonstration plan must include the following information:

(i) time, date, and location of the process demonstration;

(ii) quantity and type of PCBs and PCB items to be processed;

(iii) parameters to be monitored and location of sampling points;

(iv) sampling frequency and methods and schedules for sample analysis; and

(v) name, address and qualifications of persons who will review analytical results and other pertinent data, and who will perform a technical evaluation of the effectiveness of the process demonstration.

C. Following receipt of the process demonstration plan, the RA will approve the plan, require additions or modifications to the plan, or disapprove the plan. If the plan is disapproved, the RA will notify the person who submitted the plan of such disapproval, together with the reasons why it is disapproved.

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*Note: All pages containing proprietary information may be labeled "CONFIDENTIAL." Documents marked accordingly must be treated bv the U.S. EPA as Confidential Business Information, unless a determination to deny the claim of confidentiality has been made by the Regional Counsel.

That person may, thereafter, submit a new plan in accordance with Part B of this Section. If the new plan is approved (with any additions or modifications which the RA may prescribe), the RA will notify the person, who submitted the plan, of the approval.

Thereafter, the process demonstration shall take place at a date, time, and location to be agreed upon between the RA and the person(s) who submitted the plan. If the process demonstration is successful, the permit writer will draft a memo to the RA from the Director of the Waste Management Division recommending approval. The letter must contain a complete line-by-line analysis of how the applicant satisfies the applicable 40 CFR Part 761 requirements, including any other pertinent data that justifies the recommemdation of approval and/or approval conditions.

At least thirty (30) days prior to conducting the process demonstration, the owner or operator of the mobile unit shall give written notice of the demonstration to the State and local governments within whose jurisdiction the demonstration is to take place.

D. The RA will grant or deny approval based on a comprehensive review of the application package, demonstration results, and other submitted information.

E. Thermal-destruction processes which are equivalent to the PCB incinerator or high efficiency boiler will also be reviewed under alternative technologies.

V. Chemical Waste Landfills

All liquid wastes with less than 500 ppm PCBs and nonliquid PCBs at any concentration may be disposed in chemical waste landfills that comply with the requirements of 40 CFR Paragraph 761.75.

Prior to the disposal of any PCBs and PCB items in a chemical waste landfill, the owner or operator of the landfill shall receive written approval of the U.S. EPA Regional Administrator (RA) for the Region in which the landfill is located. The approval shall be obtained in the following manner:

A. The owner or operator shall submit to the RA an initial report which contains the following information:

(i) the location of the landfill;

(ii) a detailed description of the landfill including general site plans and design drawings;

(iii) an engineering report describing the manner in which the landfill complies with the requirements for chemical waste landfills specified in 40 CFR Paragraph 761.75(b).

(iv) sampling and monitoring equipment and facilities available;

(v) expected waste volumes of PCBs;

(vi) general description waste materials other than PCBs that are expected to be disposed in the landfill;

(vii] landfill operations plan as required in 40 CFR Paragraph 761.75(b);

(viii) any local, State or Federal permits or approvals;

(ix) any schedules or plans for complying with the approval requirements of 40 CFR 761; and

(x) any other information that the RA finds to be reasonably necessary to determine whether a chemical waste landfill should be approved.

B. The RA may not approve a chemical waste landfill for the disposal of PCBs and PCB items, unless he finds that the landfill meets all of the requirements of 40 CFR Paragraph 761.75(b) except those waived in writing by the RA. An owner or operator of a chemical waste landfill may submit evidence to the RA that operation of the landfill will not present an unreasonable risk of injury to public health or the environment from PCBs when one or more of the requirements of Paragraph 761.75(b) are not met. On the basis of such evidence and any other available information, the RA may in his discretion find that one or more of the requirements of Paragraph 761.75(b) is not necessary to protect against such a risk and may waive the requirements in any approval for that landfill. Any finding and waiver must be stated in writing and included as part of the approval.

C. Prior to issuing final approval, the RA will conduct a public participation program (See Appendix I titled, Public Hearings) regarding the proposed approval. If the public participation program is successful and the RA decides that this disposal method will provide adequate protection to the public health and the environment, the RA will issue written approval which will contain all of the requirements necessary to ensure that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs.

Such provisions may include a fixed period of time for which the approval is valid, a stipulation that the operator of the landfill report to the RA any instance when PCBs are detected during monitoring activities, and any waiver of the Paragraph 761.75(b) requirements.

Introduction to Appendix I

Interim final and final regulations promulgated pursuant to the Resource Conservation and Recovery Act (RCRA) indicate that the PCB regulations will be incorporated into the Phase II RCRA regulations. (it is not known how the incorporation will be accomplished or what changes in the PCB regulations will be made. It seems likely that when the incorporation is made, most RCRA regulations will apply to PCB disposal operations, particularly those portions that establish standards for treatment, storage, and disposal facilities and permits for these facilities (40 CFR Parts 264 and 265). Thus, after incorporation, a PCB disposal facility may have to be evaluated for compliance with RCRA requirements for waste receiving and storage areas, chemical analysis capability, inspection schedules, security, preparedness for and prevention of hazards, contingencv plans, emergency procedures, manifest systems, and recordkeeping procedures.

The PCB regulations do not explicitly discuss public notification or participation in the approval process; however, 40 CFR Part 124 of the RCRA does include this discussion; hence, when the incorporation occurs, PCB facilities will probably be subject to the RCRA requirements. The Region V policy has been to provide for public participation activities so that the public may contribute in the decision-making process of approving facilities for disposal of PCBs and PCB items. Appendix I, which follows, delineates Region V policies with respect to public participation. These policies are similar to those for RCRA and disposal facilities so that when incorporation occurs, minimum disruption should result.

Appendix I

Public Hearings

The Director may hold a public hearing whenever he or she finds, on the basis of request(s), that there is public interest in the action. The Director may also hold a public hearing at his or her discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the (permit) decision.

The public notice for a hearing will contain at a minimum the date, time, and location of the public hearing, the purpose of the public hearing, the location of documents germane to the public hearing, and the name and address of a U.S. EPA contact person for additional information. In addition, the notice will state that anyone wishing to give testimony at the hearing should submit his testimony in writing to the following:

Karl J. Klepitsch, Jr., Chief
Waste Manageaent Branch
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Whenever a public hearing is held, the Regional Administrator (RA) will designate a Presiding Officer for this hearing who shall be responsible for its scheduling and orderly conduct. The Director of Waste Management Division will make recommendations to the RA to schedule a hearing. The public notice must be released at least 45 days prior to the date of the hearing. However, where U.S. EPA determines that there are no substantial documents which must be reviewed for effective participation and that there are no complex or controversial matters to be addressed by the hearing, the notice requirements may be reduced to no less than 30 days.

U.S. EPA may further reduce or waive the hearing notice requirements in an emergency where U.S. EPA determines that there is an imminent danger to public health.

Hearings will be held at times and places which are convenient for the public to the maximum extent feasible. Use of evening and weekend hearings and availability of public transportation are considered. Suggestions for public hearing locations include college or university lecture halls or auditoriums, high school auditoriums, and village hall conference rooms. The meeting room should seat approximately 150 persons. Signs will be appropriately posted to identify the location of the public meeting. The following items will be made available by the facility or by U.S. EPA: placards, head table, registration table, podium, microphone(s), extension cords, movie screen, projector, overhead projector, tape recorder, sign-in sheet for hearing attendees, and copies of available information. A list will be made of those persons who have expressed an interest in presenting testimony at the hearing and/or who wish to receive a copy of the transcript of the hearing. An acknowledgement will be sent to these people expressing their intent to present testimony and notifying them of the time allowed for their presentation. Some time will be reserved for unscheduled testimony. Presentations will be given in the order in which the comments/requests to testify were received. In order to schedule a court reporter for a public hearing, a Court Reporter Services form should be completed and delivered to the General Services Branch of Planning and Management Division. Upon receipt, transcripts will be distributed by State Programs and Information Section (SPIS) to those parties which requested them.

The public has 30 days to comment on proposals referenced in the Public Notice. Comments will be sent to a U.S. EPA contact person as indicated in the Public Notice. Comments will be received by Chief, SPIS, and will be subsequently forwarded to Public Notice Specialist. Incoming comments will be logged in; copies will be made of the incoming correspondence, and an acknowledgement of receipt will be sent to the commentors.

Copies of the correspondence will be forwarded to Chief, Technical, Permits, and Compliance Section (TPCS), who will assign personnel to respond to specific inquiries as necessary. Copies of the response should be sent to SPIS who will attach responses to the original letters in files.

At the close of the 30-day comment period, SPIS will prepare a Responsiveness Summary. A Responsiveness Summary will include the following information:

A. all relative/significant issues (pro and con) raised by the commentors; and

B. a detailing of the Agency's response to various appropriate Public comments, an explanation of whether changes or modifications were made, and the reason for the Agency's subsequent action.

The Responsiveness Summary should be sent to the following:

A. applicant;

B. Regional Administrator;

C. Division Director;

D. Branch Chief;

E. SPIS & TPCS Chiefs;

F. authors of replies to comments;

G. commentors;

H. public upon request; and

I. official file.

The public notice will be written by a designated person in the State Programs and Information Section based on information provided by a designated person from the Technical, Permits, and Compliance Section. At a minimum, the public notice will contain the following information:

1. name and address of the office processing the action for which the notice is being given;
2. name and address of the applicant;
3. a brief description of the activity (TSCA approval) which precipitated the requirement for the public notice;
4. a brief summary of the basis for approval/denial including references to applicable statutory or regulatory provisions and appropriate supporting references;
5. name, address, telephone number of a contact from whom interested persons may obtain further information;
6. the beginning and ending date of the 30-day comment period;
7. procedures for commenting or requesting a public hearing;
8. the date, time, and place of the hearing, if scheduled;

9. the location of the administrative record the times at which the record will be open for public inspection, and a statement that all data submitted by the applicant is available as part of the administrative record; and
10. the date of the public notice to approximate the date of the actual publication.

A public notice is more than a mechanism to meet certain legal requirements. It is a mechanism to involve the public in the decision-making process. Therefore, the public notice must emphasize the reasons the public meeting, or a hearing is taking place. Such as the economic and environmental issues and decisions of concern to the public. The notice must indicate how participation at the meeting or hearing will relate to subsequent decisions and the resolution of issues.

Public notices should be sent to the following:

1. applicant;
2. any Federal Agency having related interest;
3. State Pollution Control Agencies;
4. U.S. EPA Headquarters;
5. U.S. Congressmen;
6. selected State Legislators;
7. persons on a mailing list developed by:
    a. adding the names of persons requesting to be placed on a mailing list;
    b. soliciting persons for "area lists" from participants in past proceedings in that area; and

c. notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as Regional-and State-funded newsletters, environmental bulletins, or State law journals;

8. selected environmental organizations; and

9. Region V Library.

The agencies, organizations or individuals should receive a cover letter written by a designated person in the SPIS and signed by the Regional Administrator. The cover letter should include:

1. notice that the attached is an advance copy of the public notice;

2. the date the notice is scheduled to appear in the local newspaper;

3. a brief synopsis of the reason for the public notice; and

4. the U.S. EPA contact person.

Any technical documents, references or other materials that have been designated to accompaqy the public notice and cover letter shall be provided to SPIS from TPCS.

Cost estimates for publishing a public notice in newspapers may be based on the number of lines appearing on 8 1/2-by-11 inch paper. This estimate can be obtained from the newspaper's legal notice department and should be annotated in the "account classification" which appears at the bottom of the public voucher for advertising. The specifications for advertisement shall specify the public notice that will appear in the legal notice section of the paper. The SPIS person completing the notice will request the newspaper to confirm the date of publication, number and specify that the billing be made to the U.S. Enironmental Protection Agency, Regional Office in Chicago. The original Public Voucher for advertising shall be retained in SPIS. Three additional copies as well as three copies of the public notice for each newspaper will be sent to Financial Management, 14th Floor, 230 South Dearborn. The voucher will be forwarded to General Services which will send the voucher to the newspaper. Ten days are allowed for processing once the materials have been submitted to Financial Management.

The public notices and other documents may be copied in the duplicating room on the 14th Floor at 230 South Dearborn. Written or verbal approval must be given by Paul Lee (353-2025). When mailing advance copies of the public notice, the EPA frank will be copied on the back side of the last sheet of paper to eliminate the need for envelopes. The return address should be designated as follows:

U.S. Environmental Protection Agency
Waste Management Branch
230 South Dearborn Street
Chicago, Illinois 60604

Appendix II - Checklists for Evaluating PCB Disposal Approval Requests.

The following checklists are used as aids in reviewing approval requests for disposing of PCBs and PCB items. Figure 1 illustrates the disposal requirements for PCBs and PCB items. Prior to using the checklist, the applicant's waste characteristics are checked with the disposal requirements listed in Figure 1, to verify that the applicant is requesting approval for the correct type of disposal method.

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Appendix II - Checklist for Storage at a Disposal Facility

	YES	NO	REMARKS
1. Are the roof and walls adequate to prevent rain water from reaching the stored PCBs and PCB items?	☐	☐	
2. Does the floor have continuous curbing which is a minimum of six inches high?	☐	☐	
3. Are the floor and curbing constructed of continuous smooth and impervious materials, such as Portland cement concrete or steel, to prevent or minimize penetration of PCBs?	☐	☐	

4. Are any of the following openings present, which would permit liquids to flow from the curbed areas:

	YES	NO	REMARKS
a. drain valves;	☐	☐	
b. floor drains;	☐	☐	
c. expansion joints;	☐	☐	
d. sewer lines; or	☐	☐	
e. other openings (describe)?	☐	☐	

5. List the following volumes:

   a. two times the internal volume of the largest PCB article or PCB container stored therein; _____

   b. 25 percent of the total internal volume of all PCB articles or PCB containers stored therein; and _____

   c. the containment volume that the floor and curbing provide. _____

	YES	NO	REMARKS
6. Is the containment volume adequate? (Note: If the volume listed in 5(c) is equal to or greater than the larger of 5(a) or 5(b), then the containment volume is adequate.)	☐	☐	_____
7. Is the storage area located at a site that is below the 100-year flood water elevation?	☐	☐	_____
8. Are spill clean-up equipment and supplies provided such as the following items: sorbents, portable pumps, and empty containers?	☐	☐	_____

9. Does the storage area contain the following:

	YES	NO	REMARKS
a. Gloves, respirators, goggles, etc.	☐	☐	
b. H - C detectors or sniffers, or	☐	☐	
c. Fence and warning signs?	☐	☐	

	YES	NO	REMARKS
10. Is the Spill Prevention, Control, and Countermeasure Plan adequate?	☐	☐	

	YES	NO	REMARKS
11. Does the operator check all PCB articles and PCB containers for leaks at least once every 30 days?	☐	☐	

12. Are records available for the storage containers subject to the 29 CFR 1910.106 OSHA Standards (surface tanks larger than 660 gallons and underground tanks larger than 42,000 gallons), that include the following information:

	YES	NO	REMARKS
a. PCB batch,	☐	☐	
b. quantity,	☐	☐	
c. date batch was added to container, and	☐	☐	
d. date, quantity, and disposition of PCBs removed?	☐	☐	

	YES	NO	REMARKS
13. Do all containers used for the storage of liquid PCBs comply with the Shipping Container Specifications of the Department of Transportation (DOT) 49 CFR 178 or the OSHA Standards 29 CFR 1910.106, whichever applies?	☐	☐	
14. Were the PCB articles and the PCB containers dated when they were placed in storage?	☐	☐	
15. Can the PCB articles and the PCB containers be located by the date they entered storage?	☐	☐	
16. Are the following items established and maintained in the records of the storage facility:			
A. the date when any PCBs and PCB items were received by the facility for storage or disposal and the identification of the facility from whom the PCBs were received; and	☐	☐	

	YES	NO	REMARKS
B. the date when any PCBs and PCB items were disposed at the disposal facility or transferred to another disposal or storage facility, including the identification of the specific types of PCBs and PCB items that were stored or disposed?	☐	☐	

C. A summary of the total weight in kilogram of PCBs and PCB articles in containers and the total weight of PCBs contained in PCB transformers, that have been handled at the facility during the previous calendar year. This summary shall provide totals of the PCBs and PCB items which have been:

	YES	NO	REMARKS
i. received during the year;	☐	☐	
ii. transferred to other facilities during the year; and	☐	☐	

	YES	NO	REMARKS
iii. retained at the facility at the end of the year. In addition, the contents of PCB containers shall be identified. When PCB containers and PCBs contained in a transformer are transferred to other storage or disposal facilities, the identification of the facility to which such PCBs and PCB items were transferred shall be included in the document.	☐	☐	

	YES	NO	REMARKS
D. The total number any PCB articles or PCB equipment not in PCB containers, received during the calendar year, transferred to other storage or disposal facilities during the calendar year, or remaining on the facility site at the end of the calendar year. The identification of the specific types of PCB articles and PCB equipment received, transferred, or remaining on the facility shall be indicated. When PCB articles and PCB equipment are transferred to other storage or disposal facilities, the identification of the facility to which the PCB articles and PCB equipment were transferred must be included.	☐	☐	

Checklist for Burning PCB-Contaminated (less than 500 ppm PCBs) Mineral Oil Dielectric Fluid (MODEF) in a High Efficiency Boiler.

	YES	NO	REMARKS
1. Is the boiler rated at a minimum of 50 million BTU/hours?	☐	☐	
2. If the boiler uses natural gas or oil as the primary fuel, is the carbon monoxide concentration in the stack 50 ppm or less and is the excess oxygen in the stack at least three percent when PCBs are being burned?	☐	☐	
3. If the boiler uses coal as the primary fuel, is the carbon monoxide concentration in the stack 100 ppm or less and is the excess oxygen at least three percent when PCBs are being burned?	☐	☐	
4. Does the mineral oil dielectric fluid comprise less than ten percent (on a volume or heating value basis) of the total fuel feed rate?	☐	☐	
5. Is the mineral oil dielectric fluid (MODEF) fed into the boiler only when the boiler is operating at its normal operating temperature?	☐	☐	

6. Does the owner or operator of the boiler:

	YES	NO	REMARKS
A. continuously monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning MODEF; or	☐	☐	
B. if the boiler will burn less than 30,000 gallons of MODEF per year, measure and record the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning MODEF?	☐	☐	

	YES	NO	REMARKS
7. Are the primary fuel feed rates, MODEF fluid feed rates, and total quantities of both primary fuel and MODEF fed to the boiler measured and recorded at regular intervals of no longer than 15 minutes while burning MODEF?	☐	☐	

	YES	NO	REMARKS
8. Are the carbon monoxide concentration and the excess oxygen percentage checked at least once every hour that MODEF is burned and if either measurement falls below the specified levels, is the MODEF flow to the boiler immediately stopped?	☐	☐	

9. Has the person who gave written notice, regarding the burning of MODEF in a high efficiency boiler, made arrangements to obtain the following information and to retain it at the boiler location for at least five years:

	YES	NO	REMARKS
A. the data required to be collected under 6(A) or 6(B) and 7; and	☐	☐	_____
B. the quantity of MODEF burned in the boiler each month?	☐	☐	_____

Checklist for Burning PCB-Contaminated (Less than 500 ppm) Liquids Other Than MODEF, in a High Efficiency Boiler

	YES	NO	REMARKS
1. Is the boiler rated at a minimum of 50 million BTU/hour?	☐	☐	
2. If the boiler uses natural gas or oil as the primary fuel, is the carbon monoxide concentration in the stack 50 ppm or less and is the excess oxygen in the stack at least three percent when the waste fluid is being burned?	☐	☐	
3. If the boiler uses coal as the primary fuel, is the carbon monoxide concentration in the stack 100 ppm or less and is the excess oxygen at least three percent when the waste fluid is being burned?	☐	☐	
4. Does the waste fluid comprise less than ten percent (on a volume and heating value basis) of the total fuel feed rate?	☐	☐	
5. Is the waste fed into the boiler only when the boiler is operating at its normal operating temperature so that the waste fluid is not fed into the boiler during either start-up or shut-down operations?	☐	☐	

6. Does the owner or operator of the boiler:

A. continuously monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning the waste fluid; or

YES ☐ NO ☐ REMARKS _____

B. if the boiler will burn less than 30,000 gallons of waste fluid per year, measure and record the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning the waste fluid?

YES ☐ NO ☐ REMARKS _____

7. Are the primary fuel feed rate, waste fluid feed rate, and total quantities of both primary fuel and waste fluid fed to the boiler measured and recorded at regular intervals of no longer than 15 minutes while burning the waste fluid?

YES ☐ NO ☐ REMARKS _____

8. Are the carbon monoxide concentration and the excess oxygen percentage checked at least every hour that the waste fluid is burned and if either measurement falls below the specified levels, is the waste fluid flow to the boiler immediately stopped?

YES ☐ NO ☐ REMARKS _____

9. Does the request for approval to burn the waste fluids in the boiler adequately address the following items:

A. the name and address of the owner or operator of the boiler and the address of the boiler;

YES ☐ NO ☐ REMARKS _____

B. the type of equipment, apparatus, and procedures to be used to control the feed of the waste fluid to the boiler, and to monitor and record the carbon monoxide concentration and excess oxygen in the stack;

YES ☐ NO ☐ REMARKS _____

C. the type of waste to be burned (e.g., hydraulic fluid, contaminated fuel oil, heat transfer fluid, etc.);

YES ☐ NO ☐ REMARKS _____

D. the concentration of PCBs and of any other chlorinated hydrocarbon in the waste and the results of analyses using the American Society of Testing Materials (ASTM) methods as referenced below:

i) concentration of PCBs;

YES ☐ NO ☐ REMARKS _____

		YES	NO	REMARKS
ii)	concentration of other chlorinated hydrocarbons;	☐	☐	
iii)	carbon and hydrogen content using ASTM D - 3178;	☐	☐	
iv)	nitrogen content using ASTM D - 258;	☐	☐	
v)	sulfur content using ASTM D - 2784, D - 1266, or D - 129;	☐	☐	
vi)	chlorine content using ASTM D - 808;	☐	☐	
vii)	water and sediment content using either ASTM D - 2709 or D - 1796;	☐	☐	
viii)	ash content using D - 482;	☐	☐	
ix)	calorific value using ASTM D - 240;	☐	☐	
x)	carbon residue using either ASTM D - 2158 or D - 524;	☐	☐	
xi)	flash point using ASTM D - 93?	☐	☐	

E. the quantity of waste fluids estimated to be burned in a thirty-day period; YES ☐ NO ☐ REMARKS _____

F. an explanation of the procedures to be followed to insure that burning the waste fluid will not adversely affect the operation of the boiler such that combustion efficiency will decrease; YES ☐ NO ☐ REMARKS _____

G. arrangements made to obtain the following information and to retain it at the boiler location for at least five years:

i) the data required to be collected under 6(A) or 6(B) and 7; YES ☐ NO ☐ REMARKS _____

ii) the quantity of low concentration PCB liquid (waste fluid) burned in the boiler each month; and YES ☐ NO ☐ REMARKS _____

iii) the analysis of the waste fluid as per item 9(D) which is required to be taken at least once a month for each month during which the low concentration PCB liquid is burned in the boiler? YES ☐ NO ☐ REMARKS _____

Checklist for Annex I Incinerators

1. Does the Initial Report adequately address the following items:

	YES	NO	REMARKS
A. the incinerator location;	☐	☐	
B. a detailed description of the incinerator including general site plans and design drawings of the incinerators;	☐	☐	
C. engineering reports or other information on the anticipated performance of the incinerator;	☐	☐	
D. sampling and monitoring equipment and facilities available;	☐	☐	
E. waste volumes expected to be incinerated;	☐	☐	
F. any local, State, or Federal permits or approvals; and	☐	☐	
G. schedules and plans for complying with the approval requirements?	☐	☐	

2. Does the Trial Burn Plan adequately address the following items:

	YES	NO	REMARKS
A. the date the trial burn is to be conducted;	☐	☐	
B. quantity and type of PCBs and PCB items to be incinerated;	☐	☐	
C. parameters to be monitored and location of sampling points;	☐	☐	
D. sampling frequency and methods and schedules for samples analyses; and	☐	☐	
E. name, address, and qualifications of persons who will review analytical results an other pertinent data, and who will perform a technical evaluation of the effectiveness of the trial burn?	☐	☐	

3. If liquid PCBs are to be incinerated, have the following requirements been satisfied:

A. combustion criteria shall be either of the following:

	YES	NO	REMARKS
(i) maintenance of the introduced liquids for a two second dwell time at 1200°C (± 100°C) and three percent excess oxygen in the stack gas; or	☐	☐	

	YES	NO	REMARKS
(ii) maintenance of the introduced liquids for a 1.5 second dwell time at 1600°C (± 100°C) and two percent excess oxygen in the stack gas;	☐	☐	
B. combustion efficiency shall be at least 99.9 percent computed as follows: 100 $[CO_2]$ / ($[CO_2]$ + [CO]);	☐	☐	
C. the rate and quantity of PCBs which are fed to the combustion system shall be measured and recorded at regular intervals of no longer than 15 minutes;	☐	☐	
D. the temperatures of the incineration process shall be continuously measured and recorded, and based on either direct (pyrometer) or indirect (wall thermocouple-pyrometer correlation) temperature readings;	☐	☐	
E. the flow of PCBs to the incinerator shall stop automatically whenever the combustion temperature drops below the applicable temperature specified in either 3(A)(i) or 3(A)(ii);	☐	☐	

F. monitoring of stack emission products when an incinerator is first used for the disposal of PCBs or when an incinerator is first used for the disposal of PCBs after the incinerator has been modified in a manner which may affect the characteristics of the following stack emission products:

	YES	NO	REMARKS
(i) oxygen;	☐	☐	_____
(ii) carbon monoxide;	☐	☐	_____
(iii) carbon dioxide;	☐	☐	_____
(iv) oxides of nitrogen;	☐	☐	_____
(v) hydrochloric acid;	☐	☐	_____
(vi) total chlorinated organi content;	☐	☐	_____
(vii) PCBs;	☐	☐	_____
(viii) total particulate matter;	☐	☐	_____

G. at a minimum monitoring and recording of combustion products and incineration operations shall be conducted for the following parameters whenever the incinerator is incinerating PCBs:

	YES	NO	REMARKS
(i) oxygen;	☐	☐	_____
(ii) carbon monoxide;	☐	☐	_____
(iii) carbon dioxide;	☐	☐	_____

H. the flow of PCBs to the incinerator shall stop automatically when any one or more of the following conditions occur:

(i) failure of monitoring operations specified in 3(G); YES ☐ NO ☐ REMARKS _____

(ii) failure of the PCB rate and quantity measuring and recording equipment specified in 3(C); or YES ☐ NO ☐ REMARKS _____

(iii) excess oxygen falls below the percentage in 3(A); YES ☐ NO ☐ REMARKS _____

I. water scrubbers shall be used for HCl control during PCB incineration and shall meet any performance requirements specified by the RA. (Note: Scrubber effluent shall be monitored and shall comply with applicable effluent or pretreatment standards and any other State and Federal laws and regulations. An alternative method of HCl control may be used if the alternate method has been approved by the RA.) YES ☐ NO ☐ REMARKS _____

4. If non-liquid PCBs are incinerated, have the following requirements been satisfied:

A. the mass air emissions from the incinerator shall be no greater than 0.001 g PCB/kg of the PCB introduced into the incinerator;

YES ☐ NO ☐ REMARKS _____

B. combustion efficiency shall be at least 99.9 percent computed as follows: 100 $[CO_2]$ / ($[CO_2]$ + [CO]);

YES ☐ NO ☐ REMARKS _____

C. the rate and quantity of PCBs which are fed to the combustion system shall be measured and recorded at regular intervals of no longer than 15 minutes;

YES ☐ NO ☐ REMARKS _____

D. the temperature of the incinerator process shall be continuously measured and recorded and based on either direct (pyrometer) or indirect (wall thermocouple-pyrometer correlation) temperature readings;

YES ☐ NO ☐ REMARKS _____

E. monitoring of stack emission products when an incinerator is first used for the disposal of PCBs or when an incinerator is first used for the disposal of PCBs after the incinerator has been modified in a manner which may affect the characteristics of the following stack emission products:

	YES	NO	REMARKS
(i) oxygen;	☐	☐	_____
(ii) carbon monoxide;	☐	☐	_____
(iii) carbon dioxide;	☐	☐	_____
(iv) oxides of nitrogen;	☐	☐	_____
(v) hydrochloric acid;	☐	☐	_____
(vi) total chlorinated organic content;	☐	☐	_____
(vii) PCBs;	☐	☐	_____
(viii) total particulate matter;	☐	☐	_____

F. at a minimum monitoring and recording of combustion products and incineration operations shall be conducted for the following parameters whenever the incinerator is incinerating PCBs:

	YES	NO	REMARKS
(i) oxygen;	☐	☐	_____
(ii) carbon monoxide;	☐	☐	_____
(iii) carbon dioxide;	☐	☐	_____

G. the feeding of PCBs to the incinerator shall stop automatically when any one or more of the following conditions occur:

(i) failure of monitoring operations specified in 4(F);

YES ☐ NO ☐ REMARKS _____

(ii) failure of the PCB rate and quantity measuring and recording equipment specified in 4(C);

YES ☐ NO ☐ REMARKS _____

H. water scrubbers shall be used for HCl control during PCB incineration and shall meet any performance requirements specified by the RA. (Note: Scrubber effluent shall be monitored and shall comply with applicable effluent or pre-treatment standards and any other State and Federal laws and regulations. An alternative method of HCl control may be used if the alternate method has been approved by the RA.)

YES ☐ NO ☐ REMARKS _____

Checklist for Chemical Waste (PCB) Landfills

1. Does the initial report adequately address the following items:

	YES	NO	REMARKS
A. the location of the landfill;	☐	☐	
B. a detailed description of the landfill including general site plans and design drawings;	☐	☐	
C. an engineering report describing the manner in which the landfill complies with the following items, (Federal Register, 5/31/79, pp. 31553 - 31554):	☐	☐	

	YES	NO	REMARKS
(i) soils, [761.41(b)(1)]	☐	☐	
(ii) synthetic membranes, [761.41 (b)(2)];	☐	☐	
(iii) hydrologic conditions, [761.41(b)(3)];	☐	☐	
(iv) flood protection, [761.41(b)(4)];	☐	☐	
(v) topography, [761.41 (b)(5)];	☐	☐	
(vi) monitoring systems, [761.41(b)(6)];	☐	☐	
(vii) leachate collection, [761.41(b)(7)];	☐	☐	
(viii) chemical waste landfill operations, [761.41(b)(8)]; and	☐	☐	
(ix) supporting facilities, [761.41(b)(9)]?	☐	☐	