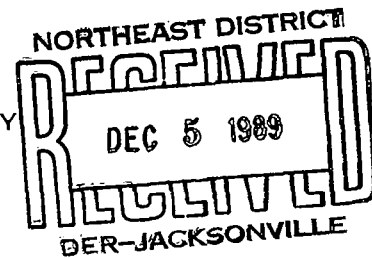




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



JUL 18 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Mr. Robert Bruce
President
Quadrex HPS, Incorporated
1940 N. W. 67th Place
Gainesville, Florida 32601

Dear Mr. Bruce:

Enclosed is a document entitled "Approval to Dispose of Polychlorinated Biphenyls (PCBs)." This document permits Quadrex HPS, Incorporated (Quadrex) to use its solvent extraction method to remove PCBs from mineral oil dielectric fluid (MODEF) transformers; heat transfer and hydraulic fluid systems; PCB askarel transformers; surface contaminated office equipment; and paper contaminated with askarel transformer fluid; subject to the listed conditions of approval. This approval is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA) of 1976 (Public Law 94-469), and the Federal PCB Regulations, 40 CFR Part 761.60(e) (48 FR 13181, March 30, 1983).

The approval is based upon the ability of the Quadrex solvent extraction method to remove PCBs to a level below 2 parts per million (ppm) with no detectable PCB emissions to air or releases to water. (The 2 ppm was chosen because it is the Environmental Protection Agency (EPA)-designated limit of detection of PCBs in oil). In addition, the approval is based upon the Agency's conclusion that the Quadrex solvent extraction method does not present an unreasonable risk of injury to public health or the environment.

This approval shall be effective immediately and shall extend to July 5, 1991. The approval may be withdrawn, or further conditions may be added to it at any time EPA has reason to believe that operation of the Quadrex solvent extraction method presents an unreasonable risk of injury to public health or the environment. Withdrawal of the approval or the imposition of further conditions may also result from future EPA rulemaking with respect to PCBs. Moreover, violation of any condition included as part of this approval may subject Quadrex to enforcement action and/or termination of the approval.

Please be advised that approval for treating higher concentrations of PCBs in the specified matrices (MODEF, heat transfer fluid, hydraulic fluid, and PCB-askarel, office equipment, or askarel contaminated paper products), or for treating PCBs in other matrices, may be considered when Quadrex demonstrates such capability to the satisfaction of EPA. Such a demonstration may be accomplished either during commercial processing or through other controlled experimentation. Authorized EPA representatives may be present to witness the demonstration and obtain split samples for verification of analytical results.

It is the responsibility of you and your company, Quadrex HPS, Incorporated to comply with all applicable provisions of TSCA and the Federal PCB Regulations in treating the matrices specified in this approval. Violation of any of the applicable provisions and/or the conditions of approval may be cause for rescission of this approval. Furthermore, this approval does not relieve you of the responsibility to comply with all other applicable Federal, State and local regulations and ordinances for transportation, siting, operation, and maintenance of the Quadrex solvent extraction method.

EPA reserves the right to inspect Quadrex processes to be used for the disposal of PCBs and the records which Quadrex is required to maintain under the Federal PCB Regulations during operation and at other reasonable times.

Please contact John Smith of my staff at (202) 382-3964 if you have any questions pertaining to this approval.

Sincerely,

for Elizabeth F. Bryan
Martin P. Halper, Director
Exposure Evaluation Division

Enclosure

cc: Regional Administrators
Regions I - X

PCB Coordinators
Regions I - X

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF)	APPROVAL TO DISPOSE
)	
QUADREX HPS, INCORPORATED)	OF POLYCHLORINATED
)	
GAINESVILLE, FLORIDA)	BIPHENYLS (PCBs)

AUTHORITY

This approval is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act of 1976, Public Law No. 94-469, and the Federal PCB Regulations, 40 CFR 761.60(e) (48 FR 13181, March 30, 1983).

EFFECTIVE DATE

This approval shall be effective upon the signature of the Director of the Exposure Evaluation Division.

BACKGROUND

Section 6(e)(1)(A) of the Toxic Substances Control Act (TSCA) requires that EPA promulgate rules for the disposal of polychlorinated biphenyls (PCBs). The rules implementing section 6(e)(1)(A) were published in the Federal Register on May 31, 1979 (44 FR 31514) and recodified in the Federal Register of May 6, 1982 (47 FR 19527). Those rules require, among other things, that various types of PCBs and PCB Articles be disposed of in EPA-approved landfills (40 CFR 761.75), incinerators (40 CFR 761.70), high efficiency boilers (40 CFR 761.60), or by alternative methods (40 CFR 761.60(e)) that demonstrate a level of performance equivalent to EPA-approved incinerators or high efficiency boilers. The May 31, 1979 Federal Register also designated Regional Administrators as the approval authority for PCB disposal facilities.

On March 30, 1983, EPA issued a procedural rule amendment to the PCB rule (48 FR 13181). This procedural rule change transferred the review and approval authority of mobile and other PCB disposal facilities that are used in more than one region to the Office of Pesticides and Toxic Substances (OPTS). The purpose of the amendment is to eliminate duplication of effort in the regional offices and to unify the Agency's approach to PCB disposal. The amendment gives the Assistant Administrator authority to issue nationwide approvals (i.e., approvals which will be effective in all ten EPA regions) to mobile and other PCB disposal facilities that are used in more than one region.

On November 17, 1984, Quadrex HPS, Incorporated (Quadrex) submitted to EPA a permit application and demonstration test plan for nationwide approval to treat the interior of drained mineral oil dielectric fluid (MODEF) transformers, heat transfer fluid and hydraulic fluid systems containing PCBs. The demonstration test plan was approved by the Director of the Office of Toxic Substances on April 19, 1985, and Quadrex commenced the trial demonstration at the Quadrex facility in Gainesville, Florida on April 22, 1985. MODEF, heat transfer fluid, and hydraulic fluid were selected for processing for purposes of the trial demonstration. EPA personnel witnessed the demonstration to verify Quadrex's on-site chemical analysis of the treated MODEF, heat transfer fluid, hydraulic fluid, processed solvent, and to obtain split samples for subsequent analysis and verification. Quadrex completed the demonstration on April 26, 1985.

The results of this April 1985 demonstration indicated that the Quadrex process successfully removed PCBs from a Freon 113 test matrix which included hydraulic fluid, heat transfer fluid, or MODEF containing PCBs. EPA found that the Quadrex process is equivalent to a 40 CFR 761.70 incinerator or 40 CFR 761.60 high efficiency boiler and that the operation of the Quadrex PCB disposal unit does not present an unreasonable risk of injury to human health or the environment. Quadrex was issued a final nationwide PCB disposal approval on July 5, 1985. In this approval, the concentration of PCBs in the Freon/MODEF mixture prior to the distillation process may not exceed 920 ppm. The concentration of PCBs in the Freon/heat transfer fluid or Freon/hydraulic fluid mixtures may not exceed 3,100 ppm.

On September 4, 1985, EPA received a demonstration test plan from Quadrex outlining procedures for demonstrating the process to remove PCBs from solid surfaces and a liquid matrix. Specifically, Quadrex proposed to use its decontamination/disposal method to clean PCB-contaminated office items and to process the PCB/Freon solvent matrix that will be generated during the cleaning operations. The demonstration was conducted September 12-13, 1985 at the New Mexico State Highway Department General Office Building in Santa Fe, New Mexico.

On August 4, 1986, EPA received a demonstration test plan from Quadrex for the separation of PCBs from an additional proprietary solvent. The demonstration was performed on August 25-29, 1986 at the Quadrex facility located in Gainesville, Florida. EPA personnel witnessed the September 1985 and August 1986 demonstrations to monitor the Quadrex operations and verify the on-site chemical analysis of the treated materials. In addition, split samples were obtained for subsequent analysis and verification.

EPA received an application dated January 11, 1988 from Quadrex to clean air compressor pipeline and air compressor pressurized receiver tanks, which were associated with natural gas pipeline compressor stations, as a decontamination

process. EPA also received supplemental procedures dated February 5, 1988. From January 26-28, 1988 and February 12-14, 1988 Quadrex demonstrated the process on air compressor pipeline and air compressor pressurized tanks at a United Gas Pipeline natural gas compressor station in Sligo, Louisiana. This demonstration was evaluated on-site by EPA technical specialists. The condensate in the pressurized tanks had been measured at approximately 1,000 parts per million (ppm) PCBs at an earlier compliance monitoring inspection conducted by EPA Region VI. The Office of Toxic Substances (OTS), after consultation with the EPA Regions, had established a cleanup up level of less than one hundred micrograms per one hundred square centimeters on the surfaces on which Quadrex used the rinse process. EPA collected split samples of the treated and untreated rinse solvent to verify the analytical results from the off site Quadrex laboratory in Gainesville, Florida.

The findings presented below are for the Quadrex PCB disposal demonstrations conducted during September 1985, August 1986, January 1988, and February 1988. Complete, acceptable demonstration test reports for both of these demonstrations are in EPA's files.

FINDINGS

1. Quadrex HPS, Incorporated of Gainesville, Florida, has demonstrated a solvent extraction process whereby items contaminated with PCB askarel are washed with a solvent, trichlorotrifluoroethane (Freon 113_{TM}, and PCBs are subsequently removed from solvent using filters and a distillation method. In addition, Quadrex has demonstrated removal of PCBs from a proprietary solvent using filters and a distillation method. This distillation method is effective in removing PCBs from the Freon 113_{TM} or proprietary solvent to a concentration of PCBs less than 2 parts per million (ppm) (total concentration). The concentrated PCB still bottoms are then prepared for removal and sent to an EPA-approved PCB disposal facility. The distillation process has already been approved by EPA for treatment of MODEF transformers, heat transfer and hydraulic fluid systems using Freon 113_{TM}. This permit only applies to PCB decontamination/disposal units operated by Quadrex personnel. Quadrex-manufactured PCB decontamination/disposal units under lease to other companies or persons are not approved for operation under this permit.

2. The Quadrex PCB decontamination/disposal unit is a completely enclosed mobile process that is designed to prevent release of PCBs to air, water, or to surfaces. The Quadrex PCB decontamination/disposal unit was developed by Quadrex and is analogous to similar units developed for clean-up of radioactive materials. From the results of a demonstrations conducted during September 1985, August 1986, January 1988, and February 1988, the distillation process is effective in removing PCBs from either Freon 113_{TM} or the proprietary solvent to below the level of 2 ppm total concentration, as compared to an external standard.

3. In the September 1985 demonstration, PCB-contaminated items (e.g., typewriters, computers, tools, and other equipment) were placed on a movable table in a closed cleaning chamber. The table was rotated back and forth as Freon 113_{TM} was sprayed on the items. In the August 1986 demonstration, proprietary solvent was spiked with PCB askarel fluid. In the January 1988 and February 1988 demonstrations, Freon 113_{TM} was high-pressure sprayed on the interior surfaces or pressurized tank vessels and pipes running from air compressors to the pressurized tanks. The PCB-contaminated Freon 113_{TM} generated from the cleaning operations or PCB-contaminated proprietary solvent were filtered first for PCB removal via canistered filtration media and/or placed in a distillation unit where the temperature was elevated to permit the Freon 113_{TM} or proprietary solvent to vaporize. The Freon 113_{TM} or proprietary solvent were then cooled and allowed to return to the liquid state for reuse. After complete distillation of the Freon 113_{TM} or proprietary solvent, the distillation unit was thermostatically turned off and the remaining PCB material was drained and packaged for disposal at an EPA-approved incinerator. Filtration canisters were also prepared for transfer to a disposal site (incineration). Further details of the methods and equipment used in distillation for the separation of PCBs from Freon 113_{TM} and proprietary solvent are included in the permit application and process demonstration test plans on file at EPA Headquarters.

4. The Quadrex PCB decontamination/disposal unit operates as a batch process which uses a variable amount of Freon 113_{TM} or proprietary solvent to remove PCBs from surfaces and from PCB liquids such as askarel, MODEP, heat transfer fluid or hydraulic fluid which adhere to surfaces. After cleaning the PCB items, the Freon 113_{TM} or proprietary solvent were then run through the distillation process until Quadrex personnel determined through on-site analysis (off-site for the September 1985, January 1988, and February 1988 demonstrations) that the total concentration of PCBs in the Freon 113_{TM} or proprietary solvent were less than 2 ppm. The Freon 113_{TM} or proprietary solvent recovered were then ready for reuse. PCB still bottoms were removed, along with any contaminated filters, for disposal by incineration. All records of chemical analysis conducted during the demonstrations were submitted to EPA in accordance with the procedures and schedules outlined in the process demonstration test plans.

5. The Quadrex decontamination unit is designed with shut-off valves at key locations and other safety features that will act to prevent spills into the environment. The decontamination/disposal unit is under low pressure, and is designed with automatic shut-off devices should pressure or temperature exceed specified safety limits.

6. The Quadrex decontamination/disposal unit is a closed system, and does not emit harmful materials into the air, water, soils, or other surfaces. The process demonstration test plans state that operators of the unit, and persons conducting sampling of the unit use specified safety procedures and have proper protective clothing to minimize worker exposure. Liquid still bottom residues will be drained, then packaged in Department of Transportation (DOT) and EPA acceptable packaging to include appropriate liquid transport drums of 55 gallon or 30 gallon size and/or 1 to 5 gallon placed in an overpack 55 gallon or 30 gallon drum with absorbent materials sufficient to absorb twice the volume of the liquid present. These liquid wastes will be disposed of by incineration at an EPA-approved disposal site.

7. The Quadrex disposal process was shown to have a level of performance equivalent to that of thermal destruction methods (incinerators and high efficiency boilers). Under EPA regulations (40 CFR 761.60(e)) many factors are used to determine the appropriate destruction equivalency goals for alternate PCB destruction methods. Submissions from Quadrex during the permit application process have indicated that the decontamination method used to remove PCBs from Freon 113_{TM} and a proprietary solvent meet the standards set by EPA for an approved incinerator or high efficiency boiler, in terms of the efficiency of removal. Furthermore, the Quadrex PCB decontamination/disposal unit is designed to protect workers from PCB exposure and precludes any apparent release of PCBs to the environment.

8. The Quadrex PCB disposal unit is applicable to cleaning surfaces contaminated with PCBs to acceptable levels without destruction of that surface. Therefore, EPA finds that the Quadrex PCB disposal method is equivalent to a 40 CFR 761.70 incinerator or 40 CFR 761.60 high efficiency boiler and that operation of the Quadrex PCB disposal unit does not pose an unreasonable risk of injury to human health or the environment.

CONDITIONS OF APPROVAL

1. Advance Notification

Quadrex shall provide a non-confidential, advance notification to be received by the addressee (as described below) prior to the conduct of a permitted PCB disposal activity. The addressees shall be at a minimum: EPA Headquarters' Office of Toxic Substances (Mail Code: TS-798), the appropriate EPA Regional Office, the appropriate State Agency, and the appropriate county/local/town official(s).

The written advance notification requirements shall be divided into three (3) categories based on the length of time Quadrex is at a single site. In general, categories are defined below and advance written notification requirements follow:

Category 1 - Mobile Operations

Location of the mobile unit at a particular site for less than 90 days requires at least 30 days (but no more than 90 days) advance written notification.

Category 2 - Temporary Operations

Location of the mobile unit at a particular site for at least 90 days, but less than 3 years, requires at least 120 days advance written notification.

Category 3 - Permanent Operations

Location of the mobile unit at a particular site for 3 years or longer requires at least 180 days advance written notification.

The information which must be included in the advance written notification for each category is described below. Advance notification requirements may be waived at Superfund sites according to Comprehensive Environmental Response Compensation and Liability (CERCLA) provisions.

Category 1

The following information must be included in a 30-day advance written notification where Quadrex is located at a particular site for less than 90 days:

(A) Company identification; company, client and government officials responsible for disposal operations and oversight. The name and telephone number of the Quadrex home office contact shall also be included.

(B) The nature of the PCB disposal activity, including the amount of PCB material to be treated and the concentration of PCBs in the material.

(C) The location(s), such as street address of a facility where the PCB disposal will occur (or, if there is no street address, the plant site location with a telephone contact such that the exact location(s) may be determined by telephone inquiry).

(D) The exact time(s) and date(s) the PCB disposal will take place. If a disposal operation is scheduled to begin after business hours, before 8:00 a.m. or after 5:00 p.m. local time on weekdays (except for official U.S. Government holidays) at the site of operations, the notice should indicate the start up is on the following weekday.

For mobile PCB disposal operations under Category 1 where there are frequent site changes, i.e., situations where the Quadrex unit is at a site one week or less, the following additional notification is required:

(E) Every week, Quadrex shall provide by telephone facsimile transmission to the OTS and each of the Regional EPA Contacts below, a notification of all disposal activities for the following two weeks and the expected duration of treatment at each site. Quadrex must either (a) submit the operations information for all ten EPA Regions to each of the ten EPA Regions and OTS, or (b) submit information for each EPA Region only to the appropriate EPA Region. If Quadrex chooses (b), to submit EPA Region-specific information only the appropriate EPA Region, then Quadrex must also submit a copy of the information from all ten EPA Regions to OTS.

If Quadrex changes the date, location, or scale of operations after EPA has received its weekly update, Quadrex must telephone OTS and the appropriate Regional Contact, whose jurisdiction includes the location where the operations were previously scheduled to occur and provide notification as follows:

(1) When the change is known more than 48 hours in advance of the originally scheduled date/time, the message must be sent at least 48 hours in advance of the previously scheduled date/time; and

(2) When the change is known less than 48 hours in advance of the originally scheduled date/time, the message must be made as soon as the change is known or at the first opportunity during business hours, 8:00 a.m. to 5:00 p.m. local time, on weekdays except official U.S. Government holidays, at the appropriate EPA Regional office where the operations had been originally scheduled.

(F) For operations where the Quadrex mobile PCB disposal unit is at a different site one week or less per site, Quadrex shall set up a recorded telephone message system accessible 24 hours a day by EPA Regional compliance monitoring staff and OTS staff. The recorded message, which will be changed every work day, will include the exact location, including street address, of all of the Quadrex's mobile treatment operations until the next message update. The message shall be updated at 8:00 a.m. and 5:00 p.m. EST/EDT on weekdays (except for official U.S. Government holidays). If this recorded message is considered confidential business information, the message may be accessed by a code distributed to the EPA Regional Contacts and OTS officials above.

Should an Quadrex mobile PCB disposal unit which is originally projected to be located at a single site for less than 90 days under Category 1, and at some point before 90 days into the operations it is determined that the unit will be located at the site for 90 days or greater, Quadrex must immediately provide written and telephone notification of this change to the EPA Headquarters' Office of Toxic Substances (OTS) and the appropriate EPA Regional Office. Upon receipt of this notification, EPA will decide if (1) PCB disposal operations must cease until additional information (akin to Category 2 below) can be provided; or (2) in the case of a very small increase of no more than 5 additional days at the site, to allow completion of the disposal activity without submission of additional information.

An example form for transmitting notification under Category 1 is included as Appendix 1.

Category 2 - Temporary Operations

The following information must be included in a 120-day advance written notification where Quadrex is projected to be at a single location for at least 90 days but less than 3 years. This advance written notification shall include a complete site evaluation performed and submitted by Quadrex and EPA will publish a public notice regarding the proposed operations. In addition, a public meeting may be held at the discretion of EPA, based on comments resulting from the public notification. The advance written notification must include the following:

- (A) All information required under items 1 through 4 of Category 1 above.
- (B) Limited site evaluation which includes:
 - (1) Estimates of fugitive emissions of PCBs and any other hazardous materials;

- (2) Amounts of waste generated during the entire operation and how that waste will be disposed;
- (3) Plans of action in case of an emergency (including arrangements with local fire fighters, law enforcement personnel, and public health officials);
- (4) Any special site-specific spill prevention control and countermeasures (SPCC) plan or containment installations and procedures; and,
- (5) Site cleanup/restoration procedures and bonds.

After Quadrex has given the EPA Regional Office and the State and local governments a notice of intent to locate at a site for at least 90 days but less than 3 years, and once OTS and the local EPA Region are satisfied that the site specific information submitted in this notice meets the general requirements, a 120 day public notification review process shall begin.

The first part of the notice period shall be a 30-day notice of a public meeting. The public meeting will be hosted by the EPA Region. The public meeting shall be held to (a) discuss comments made by the public during the 30-day notification period for the public meeting, (b) allow the public to make comments on the proposed operations at the site, and (c) allow the public to ask questions of EPA representatives on the proposed operations.

Based on the comments and questions received during the 30-day comment period, the EPA Region may determine that a public meeting is not necessary. EPA has no more than 90 days after the public meeting, or in the event that there is no public meeting, 120 days after the 30-day notice of public meeting, to issue a decision on authorization of Temporary Operations. The decision will be based on a review of comments during the 30-day notice of public meeting period, and comments made during the public meeting, if applicable. The decision could be that the Quadrex may begin Temporary Operations without additional permit conditions, or the decision could be made to require additional site-specific permit conditions which must be met before Temporary PCB Disposal Operations may begin PCB disposal at the site.

(C) If Quadrex operations are occurring at a site based on an earlier projection of less than 90 days location at a site under Category 1, and Quadrex expects to be at the site for 90 days or greater, then at the discretion of OTS, disposal operations may be suspended until Quadrex submits an acceptable site evaluation, a comment period is completed, and an EPA review of the site evaluation and the comments is completed. This site evaluation, comment, and review period shall be no longer than 120 days after receipt by EPA of acceptable site evaluation information from Quadrex.

Should a Quadrex mobile PCB disposal unit which is originally projected to be located at a single site for at least 90 days but less than 3 years under Category 2, and at some point before 3 years into the operations it is determined that the unit will be located at the site for 3 years or greater, Quadrex must immediately provide written and telephone notification of this change to OTS and the appropriate EPA Regional Office. Upon receipt of this notification, EPA will decide if (1) disposal operations must cease until additional information (akin to Category 3 below) can be provided; or (2) in the case of a very small increase in the location time at the site, to allow completion of the disposal activity without submission of additional information.

Please be advised that under Category 2 - Temporary Operations, it is assumed there will be only minimal transportation of PCB wastes onto the site, and minimal on-site storage of unprocessed PCB wastes from other sites. If these assumptions do not apply to certain proposed Temporary Operations, Quadrex may be required to provide additional information.

Details of the requirements for Temporary Operations appear in Appendix 2.

Category 3 - Permanent Operations

- The written notification must be received by the addresses at least 180 days in advance of the operation at a particular site. Note that before operations under this category can commence, a mandatory public meeting will be held.

Where Quadrex is located at a particular site for 3 years or more, the following information must be included the notification an approve by EPA before the official 180 day review period can begin:

(A) Quadrex shall meet all notifications requirements described above for Category 2 - Temporary Operations.

(B) In addition, for Permanent Operations, Quadrex must meet additional notification requirements; the public must have an opportunity to review and comment on Quadrex's submissions of site evaluation information; EPA must review and evaluate the submissions and public comments; and EPA must decide on the appropriateness of the proposed Permanent Quadrex mobile disposal unit operations. Therefore, Quadrex shall submit information detailed in Appendix 3 prior to a 30-day notification of a public meeting. The site evaluation information required in Appendix 3 shall include an assessment of:

(1) Lifetime exposure to process operations;

- (2) Risks from the transport of PCB waste to the site;
and,
- (3) Risks from on-site storage of PCB waste for
disposal.

For proposed Permanent Operations, there shall always be a public meeting, hosted by the local EPA Region. OTS and the local EPA Region shall collectively determine what the schedule and the agenda for the public meeting shall be. The public meeting shall be held to (a) discuss comments made by the public during the thirty days of notification for the public meeting; (b) allow the public to make comments on the proposed operations and site; and (c) allow the public to ask questions of EPA representatives on the proposed operations. Within 150 days following the public meeting, EPA shall make a decision on what additional conditions, if any, shall be imposed for Quadrex Permanent Operations. The decision will be based on a review of comments during the 30 day notice of public meeting period and comments made during the public meeting. The decision, made no later than 150 days after the close of the meeting, could be that Quadrex may begin operations without additional permit conditions or the decision could be that additional site-specific permit conditions must be met before Quadrex Permanent MOBILE UNIT Operations may begin.

If Quadrex operations are already occurring at a site based on an earlier assessment and assuming a lesser duration of location at the site (i.e. less than 3 years), then at the discretion of OTS, Quadrex operations may be suspended until Quadrex submits an acceptable site evaluation, a comment period is completed, and EPA review of the site evaluation and the comments is completed.

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EPA REGIONAL CONTACTS

<u>Name, Region</u>	<u>Telefax Number</u>	<u>Contact Number</u>
Andy O'Palko, EPA Headquarters	(202) 382-7884	(202) 382-3962
Tony Palermo, Region I	(617) 565-3468	(617) 565-3279
Dan Kraft, Region II	(201) 321-6622	(201) 321-6669
Ed Cohen, Region III	(215) 597-7906	(215) 597-7668
Bob Stryker, Region IV	(404) 347-4702	(404) 347-3222
Sheldon Simon, Region V	(312) 886-9096	(312) 886-6087
Jim Sales, Region VI	(214) 655-2142	(214) 655-6785
C.E. Poindexter, Region VII	(913) 236-2845	(913) 236-2835
Kay Modi, Region VIII	(303) 293-1647	(303) 293-1738
Greg Czajkowski, Region IX	(415) 974-7361	(415) 974-7295
Gil Haselberger, Region X	(206) 442-4672	(206) 442-1094

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2. Quadrex must obtain all necessary environmental approvals and/or permits from the appropriate Federal, State and local agencies prior to the treatment of PCBs at any site.

3. The Quadrex mobile PCB disposal unit has been authorized for three distinct functions. For each of these functions the solvent used is either Freon 113_{TM} or the Quadrex proprietary solvent (QPS). Neither solvent may be reused unless the concentration in the distilled solvent is less than two micrograms PCBs per gram of solvent. Quantitation is based on the original formulation of PCBs in the material rinsed (Aroclor_{TM} quantitation).

A. The rinsing with Freon 113_{TM} of individual drained transformers which had contained PCB askarel or MODEP and drained systems containing heat transfer and hydraulic fluid.

Prior to treatment, the systems or transformers must be drained of all free-flowing fluids. The drained fluids must be disposed of in accordance with 40 CFR 761.60. In addition, Quadrex must advise its customers that transformers treated with the Quadrex process and returned to service cannot be reclassified unless the replacement dielectric fluid is tested following a minimum of ninety days of in-service use. In-service use is defined as use under electrically loaded conditions in which the dielectric fluid is raised to a minimum of 50°C.

B. The use of Freon 113_{TM} to spray clean office equipment such as:

(1) telephones, desk calculators, typewriters, tools, metal parts, printed circuit boards, and other similar articles, and

(2) paper, filefolders, and other cellulose-based documents and small document containers (excluding cardboard boxes) when these items have become surface contaminated with askarel transformer fluids.

The contaminated Freon 113_{TM} resulting from this spray cleaning must be distilled and the still bottoms disposed of in accordance with 40 CFR 761.60.

C. The use of Freon 113_{TM} to rinse natural gas pipeline air compressor systems, as an alternative to disposal of the system in a TSCA approved incinerator or TSCA approved chemical waste landfill, which includes: air compressors; compressed air receiver tanks; the piping between the air compressor and the compressed air receiver tanks; and the piping between the receiver and other natural gas pipeline compressor station equipment such as instruments and tools driven by compressed air. This authorization is in accordance with procedures documented in applications to EPA

dated January 11, 1988 and February 5, 1988.

In order for previously contaminated surfaces to be unregulated for further distribution in commerce, use, or disposal, residual PCBs on the cleaned surfaces of the entire air compressor system must be below 100 micrograms per 100 square centimeters, which is the same as one microgram per square centimeter (1 ug/cm^2). Failure to adhere to these levels (or lower levels) of cleanup subject the equipment to TSCA requirements based on the measured concentration of PCBs in the system prior to decontamination. It is recognized that an EPA consent agreement/deed may require or allow other surface levels or other residual PCB levels in a solvent rinse. In order for Quadrex to determine whether the Quadrex process has met the 1 ug/cm^2 surface level requirements, Quadrex must proceed as follows:

(1) When Quadrex decides to conduct the surrogate surface area rinse test,

a. Quadrex shall drain any previous wash/flush solvent from the receiver(s) and the Quadrex processing system. Next Quadrex shall make three passes through the receiver(s) with solvent containing less than 2 ppm PCBs. A pass is defined by the procedure described in the Quadrex application and includes spraying the solvent under high pressure on all interior surfaces of the receiver(s).

b. Quadrex shall estimate the interior surface area (ESA) of the receiver(s) being rinsed,

c. Quadrex shall obtain the total weight, in grams, of the rinse solvent (W_{RS}) used to for the three rinse passes over the air compressor receiver(s), and

d. Quadrex shall calculate the theoretical concentration in micrograms per gram (ug/g), which is equivalent to parts per million, of residual PCBs in the rinse solvent using the weight in grams (W_{RS}) in b. (above), the estimated surface area (ESA) in a above, and 1 ug/cm^2 surface requirement, as follows:

$$\text{Theoretical PCB Concentration} = \frac{(\text{ESA}) (1 \text{ ug/cm}^2)}{(W_{RS})}$$

If the calculated Theoretical PCB Concentration of the rinse solvent is four parts per

million or less, Quadrex shall rinse the air compressor system clean until the PCB concentration in the rinse solvent is less than four parts per million as measured by definitive gas chromatographic analysis. If the calculated theoretical rinse solvent concentration is greater than four parts per million, Quadrex shall rinse the air compressor system clean until the PCB concentration in the rinse solvent is equal to or less than the calculated theoretical PCB concentration as determined by definitive gas chromatographic analysis.

e. The collected rinse solvent is then weighed or the weight is calculated by multiplying total volume times density. Quadrex shall then take representative sample of this rinse and analyze the sample for the presence of PCBs. The analytical procedures used are described in previous Quadrex applications. A representative sample may be collected by either of the following:

- o Collect all of the rinse in a single container. Circulate the solvent by pumping out of the bottom of the container and into the top until at least three total volumes of the solvent that has been pumped. Stop the pumps and immediately sample the solvent, or
- o Using a small peristaltic pump, over the entire time of the three or more passes, continuously sample a small portions of the solvent at the point where the solvent flows out of the receiver(s) into the pump. The sample shall be collected before any filters. The peristaltic pump rate shall be sufficient to collect a sample large enough for the Quadrex chemical analysis procedure.

f. If the measured concentration of the rinse solvent is less than the requirements in d. above the receiver would be unregulated for distribution in commerce, use or disposal.

If Quadrex does not reach the desired cleanup level in the receiver(s) using the above procedures in a-e, Quadrex may rerinse and repeat the determination process (a-e above), or merely repeat the determination process. In either case the Theoretical PCB Concentration requirements in d. above must be met in order for the receiver(s) to be unregulated.

(2) For the remainder of the air compressor system

including the air compressors themselves; the piping between the air compressor and the compressed air receiver tanks; and the piping between the receiver and other natural gas pipeline compressor station equipment such as instruments, and compressed air driven tools, there are somewhat different requirements. The differences arise because the cleaning process involves filling the entire air compressor system and Quadrex processing system with solvent and pumping all of this solvent through both systems. Some of the solvent will occupy/rinse surfaces which were not originally contaminated (the Quadrex process surfaces). This additional solvent would force the Theoretical PCB Concentration (see d. above) below the practical limit of quantitation for the approved Quadrex chemical analysis procedures. Therefore Quadrex shall use a performance oriented system for cleaning these systems. Quadrex shall provide data and other information as indicated below.

a. Quadrex shall first fill the entire air compressor system, exclusive of the receiver tank(s) with solvent containing less than 2 ppm PCBs. The solvent shall be circulated through the system with the circulating pump for one hour. This time period should provide at least three volumes of solvent to pass through the system. Quadrex shall then drain the solvent

b. Next Quadrex shall take a representative sample of the solvent and, on the same day the sample is collected, send a split sample of this solvent with appropriate identifying information to the Chief of the PCB Disposal Section for analysis. Quadrex shall then analyze the sample and provide a description of the physical configuration of each air compressor system with the chemical analysis results to EPA within thirty days of the end of the treatment process for each air compressor system.

c. Repeat a.

d. Repeat b

e. Repeat a

f. Repeat b

g. Next Quadrex shall refill the entire air compressor system, exclusive of the receiver tank(s) and recirculate three total volumes through the system of pump for fifteen minutes whichever is longer.

h. Repeat b.

i. Quadrex shall use the chemical analysis procedures used are described in previous Quadrex applications. A representative sample shall be collected by either of the following:

- o Collect all of the rinse in a single container. Circulate the solvent by pumping out of the bottom of the container and into the top until at least three total volumes of the solvent that has been pumped. Stop the pumps and immediately sample the solvent, or

- o Using a small peristaltic pump, over the entire time of the circulation of rinse solvent thorough the air compressor system being tested and the Quadrex processing system, continuously sample a small portion of the solvent at the point where the solvent flows into a pump. The sample shall be collected before any filters. The peristaltic pump rate shall be sufficient to collect a sample large enough for the Quadrex chemical analysis procedure.

Quadrex shall repeat this procedure for all air compressor systems. Following treatment of no fewer than ten systems Quadrex may request a major modification to this condition.

4. The PCB concentration of the Freon 113_{TM} mixture in the still may not exceed the following levels:

- o MODEP, 920 ppm total PCBs;
- o Heat transfer fluid, 3,100 ppm total PCBs;
- o Hydraulic fluid, 3,100 ppm total PCBs; and
- o Askarel dielectric fluid, 5,000 ppm total PCBs.

The PCB concentration in a the QPS mixture in the still may not exceed the following levels:

- o 920 ppm Aroclor 1242
- o 4,200 ppm Aroclor 1260
- o A total of no more than 5,120 ppm Aroclors 1242, 1254, and 1260 where the Aroclor 1242 concentration is no more than 920 ppm, the Aroclor 1254 concentration is no more than 920 ppm, and the Aroclor 1260 concentration is no more than 4,200 ppm.

Prior to treatment, samples of the Freon 113_{TM} or QPS mixture

must be obtained from the still and analyzed using gas chromatography procedures specified in EPA approved procedures outlined in the following documents:

"Guidelines for PCB Destruction Permit Applications and Demonstration Test Plans for PCB Disposal by Non-Thermal Alternative Methods," August 21, 1986;

"Recommended Analytical Requirements for PCB Data Generated On Site During Non-Thermal PCB Destruction Tests," USEPA, March 19, 1986 (Draft);

"Quality Assurance and Quality Control Procedures for Demonstrating PCB Destruction in Filing for PCB Disposal Permit," USEPA, June 28, 1983 (Draft); and

"Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," QAMS-005/80, Office of Research and Development, USEPA, December 29, 1980.

Should Quadrex HPS, Incorporated successfully demonstrate to EPA through controlled experimentation or actual demonstration that the Quadrex process is capable of treating higher concentrations of PCBs in a particular fluid, this condition may be modified accordingly. Authorized EPA representatives may witness the demonstration and obtain split samples for verification of analytical results.

5. A sample of each batch of treated Freon 113_{TM} or QPS must be drawn, and analyzed in duplicate (i.e., duplicate analysis) by gas chromatography for the concentration of PCBs at each site where the Quadrex PCB Disposal Process is being used. If the concentration of PCBs in the treated sample is 2 ppm or greater, the Freon 113_{TM} or QPS must be reprocessed and reanalyzed to show less than 2 ppm per peak before the next transformer or system is treated.

6. If the quality control testing, as described in Condition (5), reveals that the PCBs have not been adequately removed after repeated processing (not to exceed three times the estimated theoretical time necessary for complete reaction), the affected unit shall cease operation. The facility operator must notify the PCB Disposal Site Coordinator in the appropriate EPA region immediately and file a written report with that region within seven (7) days. The affected unit shall not resume operation until the problem has been corrected to the satisfaction of the appropriate EPA region.

7. Provisions must be made to assure that the following process elements are suitably monitored and recorded for each transformer or system processed, such that materials harmful to health or the environment are not inadvertently released:

a. name, address, and telephone number of the Quadrex

disposal unit operator and supervisor;

- b. the name and business address of the person or firm whose PCB containing transformer/air compressor system is being processed;
- c. the location, manufacturer, rated capacity and identification (serial) number of the transformer, heat transfer system or hydraulic system;
- d. a description of the air compressor system including the estimated dimensions of all receivers and the estimated dimensions of the air compressor system exclusive of the receivers, including the diameter and length of the all pipe in the system;
- e. the date the transformer/system is received by Quadrex, the date(s) processed, and the date returned to the custody of the owner (if applicable);
- f. estimated quantity and quality of solvent charged into the transformer, heat transfer system, hydraulic fluid system, and/or air compressor system;
- g. estimated quantity and quality of treated solvent and other treated materials produced;
- h. date, time and duration of treatment per transformer or system;
- i. a copy of the gas chromatograph and/or other records from tests conducted to determine the final concentration of the treated solvent;
- j. estimated quantity and quality of wastes produced, the method of disposal and location of the disposal facility for each waste must be documented; and
- k. temperature of separation process in at least one-half hour intervals.

Disposal recordkeeping documents must be compiled within 60 days of the testing date, must be kept at one centralized location, and must be made available for inspection by authorized representatives of the EPA. Such documents shall be maintained for a least five years. Quadrex must also maintain the records required by 40 CFR 761.180(f). If Quadrex or its authorized agents terminate business, these records or their copies must be submitted to the Director of the Exposure Evaluation Division.

In addition, Quadrex must maintain, aboard the mobile unit, a record of the PCB disposal services performed by the unit during the previous month. These records must be available for inspection by authorized representatives of EPA.

8. In the event Quadrex or an authorized facility operator of the Quadrex mobile unit believes, or has reason to believe, that a release of PCBs has or might have occurred, the facility operator must inform the appropriate EPA region by telephone immediately.

A written report describing the incident must be submitted to the appropriate EPA Region within five (5) business days. No PCBs may be processed in that facility until the release problem has been corrected to the satisfaction of the appropriate EPA region.

9. Any spills of PCBs or other fluids shall be promptly controlled and cleaned up as provided in Quadrex's spill prevention plan, and in accordance with the PCB spill cleanup procedures of the appropriate EPA region. In addition, a written report describing the spill, operations involved, cleanup actions and changes in operation to prevent such spills in the future must be submitted to the appropriate EPA region within seven (7) business days.

PCB spills must be reported in accordance with the PCB spill reporting requirements prescribed under Part 311 of the Clean Water Act for discharges to navigable waters and under the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) for discharges to other media.

10. Quadrex must take all necessary precautionary measures to ensure that operation of the Quadrex mobile unit(s) is in compliance with the applicable safety and health standards, as required by Federal, State and local regulations and ordinances.

11. The Quadrex mobile unit shall be secured (e.g., fence, alarm system, etc.) at each commercial site to restrict public access to the area. Any bodily injury occurring as a result of the Quadrex PCB Disposal Process must be reported to the PCB Disposal Site Coordinator in the appropriate EPA region by the next regular business day.

12. Any reports required by Conditions (6), (8), (9), and (11) are to be submitted by telephone to the appropriate regional PCB Disposal Site Coordinator within the time frame specified. In addition, Quadrex shall file written reports with the Regional Administrator of the appropriate EPA region, and the Director of the Exposure Evaluation Division within the time frame specified in the aforementioned conditions.

13. Quadrex shall be responsible for ensuring that personnel directly involved with the handling or disposal of PCB-contaminated fluid using the Quadrex PCB Disposal Process are demonstrably familiar with the general requirements of this approval. At a minimum, this must include:

- a. the type of materials which may be treated using the Quadrex PCB Disposal Process, and the upper limit of PCB

contamination which may be treated;

- b. basic recordkeeping requirements under this approval and the location of records;
- c. notification requirements;
- d. waste disposal requirements for process and by-product wastes generated during the operation of the Quadrex PCB Disposal Process; and
- e. reporting requirements.

In this regard, Quadrex must maintain on-site during the operation of its mobile unit a copy of this approval; the spill prevention and cleanup plan; and sampling and analytical procedures used to determine PCB concentrations in untreated and treated materials.

14. Untreated PCB fluids may not be transported off-site on the Quadrex mobile unit. Process equipment (i.e., reactors, pumps, hoses, etc.) on the mobile unit must be decontaminated in accordance with procedures described in Quadrex's permit application and test plan, prior to transporting off-site. PCB-contaminated equipment must be transported in accordance with 40 CFR 761.40 and the U.S. Department of Transportation (USDOT) requirements of Title 49, CFR Part 172, including placarding the mobile facility and labelling all PCBs.

15. The carbon entrapment cannister must be replaced every six (6) months or immediately after 600 hours of unit operation.

16. All wastes generated by the Quadrex PCB Disposal Process other than the successfully cleaned Freon 113TM or QPS solvent, (i.e., filter media, sludges, water or other effluents, etc.) must be disposed of as if it contains the original PCB feedstock concentration. EPA will consider amending this condition only after such waste has been fully characterized to determine all components, and gas chromatography analysis of the waste demonstrates that the PCB concentration is below 2 ppm.

17. Quadrex shall incorporate financial assurance of closure and liability coverage provisions into its closure plan. These provisions must be equivalent to those specified in 40 CFR Part 264, Subpart H of the Resource Conservation and Recovery Act (RCRA), and provide funds for:

- a. proper closure of the mobile PCB disposal units, and
- b. compensating others for bodily injury and property damage caused by accidents arising from operations of the mobile disposal units.

18. Quadrex must file a written pre-operation report with the

Director of the Exposure Evaluation Division within thirty (30) days from the date of manufacture of each additional Quadrex mobile unit which is to be operated in the United States. This report shall contain the following information:

- a. date of manufacture of the unit;
- b. identification and/or serial number of the new Quadrex mobile unit;
- c. certification by an independent, registered professional engineer to the effect that the Quadrex mobile unit is substantially identical to the original unit in terms of engineering design, hardware, process capacity, quality and workmanship;
- d. certification by the chief executive officer of Quadrex HPS, Incorporated signifying that the Quadrex mobile unit construction has been completed in such manner; and
- e. a list of all substantive and nonsubstantive changes made to the design and construction of any new Quadrex mobile unit which is not identical to the original Quadrex mobile unit.

19. No major modifications may be made to the Quadrex unit design, as described in the application and demonstration plan for this approval, without written approval of the Director of the Exposure Evaluation Division. For the purpose of this approval, "major modification" shall be defined as any change to capacity, design, efficiency, waste type, or any other changes affecting overall performance or environmental impact.

20. Quadrex must notify EPA at least 30 days before transferring ownership in the Quadrex PCB Disposal Process. Quadrex must also submit to EPA, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by Quadrex's EPA approval. Within thirty days of receiving such notification and affidavit, EPA will issue an amended approval substituting the transferee's name for the Quadrex name, or EPA may require the transferee to apply for a new PCB disposal approval. In the latter case, the transferee must abide by Quadrex's EPA approval until EPA issues the new approval to the transferee.

21. Quadrex shall comply with all applicable requirements of the Federal PCB Regulation, 40 CFR Part 761, in the operation of the mobile Quadrex PCB Disposal unit(s). Particular note shall be given to:

- a. 40 CFR, section 761.65 - storage for disposal;
- b. 40 CFR, section 761.79 - decontamination; and

c. 40 CFR, section 761.180 - records and monitoring.

22. The conditions of this approval are severable, and if any provision of this approval or any application of any provision is held invalid, the remainder of this approval shall not be affected thereby.

23. This approval shall supersede all previous U.S. EPA Headquarters and/or U.S. EPA Regional PCB disposal approvals or amendments for the Quadrex PCB Disposal Process.

24. This approval shall expire on July 5, 1991. For a renewal approval, EPA may require additional information and/or testing of the Quadrex PCB Disposal Process. In order to continue the effectiveness of this approval pending EPA action on reissuance, Quadrex must submit a renewal request letter to EPA at least 90 days, but not more than 180 days, prior to the expiration date of this approval.

APPROVAL

1. Approval to dispose of PCBs is hereby granted to Quadrex HPS, Incorporated of Gainesville, Florida subject to the conditions expressed herein, and consistent with the material and data included in the application filed by the company. EPA reserves the right to impose additional conditions when it has reason to believe that the continued operation of the Quadrex mobile unit presents an unreasonable risk to public health or the environment, new information requires changes, or EPA issues new regulations or standards for issuing permits.

Any departure from the conditions of this approval or the terms expressed in the application must receive prior written authorization from the Director of the Exposure Evaluation Division. In this context, "application" shall be defined as all data and materials which have been received by this Agency from Quadrex HPS, Incorporated regarding the Quadrex PCB Disposal Process.

2. This approval to dispose of PCBs does not relieve Quadrex HPS, Incorporated of the responsibility to comply with all applicable Federal, State and local regulations. Violation of any applicable regulations will be subject to enforcement action, which may include termination of this approval. This approval may be rescinded at any time for failure to comply with the terms and conditions herein, or for other reasons which the Director of the Exposure Evaluation Division deems necessary to protect the public health and the environment.

3. Quadrex HPS, Incorporated shall be responsible for the actions of any authorized Quadrex PCB Disposal Process employees when those actions are within the scope of operating or moving the Process, and shall assume full responsibility for compliance with all applicable Federal, State and local regulations including, but not limited to, any advance or emergency notification and accident reporting requirements.

4. EPA reserves the right for its employees or agents to inspect Quadrex PCB disposal activities at any location or reasonable time.

7/18/88
Date

Elizabeth F. Bryan
for Martin P. Halper, Director
Exposure Evaluation Division

Appendix 1

EXAMPLE THIRTY DAY NOTIFICATION FORM FOR PART A

Company Name, Address, Phone Number, and Contact Person:

Person, Organizational Affiliation/Title, and Phone Number for:

EPA Regional Contact:

State Contact:

Local (Town/City/County) Contact:

Nature of the Disposal Activity:

Kind of PCB Disposal Process:

Kinds of Material Containing PCBs:

Numbers and Sizes of Pieces of Equipment Containing PCBs:

Quantity of Solids and/or Volume of Liquid(s) Containing PCBs:

Concentration(s) of PCBs in the Material Treated:

Location

Street Address or Other Identifier for All Sites:

Telephone Contact and Address for Site Manager:

Time of Processing

Date(s):

Time(s):

Appendix 2

PART B OF PCB DISPOSAL PERMIT NOTIFICATION REQUIREMENTS:

Site Evaluation Requirements for Temporary Mobile Disposal Unit (MDU) Operations

The following information must be submitted to the Office of Toxic Substances and the appropriate EPA Region as part of an application to operate a permitted MDU at a site for from ninety days to three years. A public meeting notice will not be generated until a complete submission of these requirements has been received and approved by EPA.

There are a number of details which were submitted to EPA as part of the original PCB disposal permit application which must be updated/revised for Temporary MDU Operations. All of these details are related to the site of operations directly or indirectly.

Project Personnel

The first requirement is a list of names and an organizational chart, brief job description, and responsibilities for all staff to be employed by the permittee at the proposed site. In addition, names, mailing addresses, and telephone numbers of primary parent organization contacts with EPA, such as environmental affairs officers or government liaison contacts must be given. Job qualifications and training, including the time, frequency and content, required must be included.

Facility Description

Details of the disposal operations as they apply to the physical layout at the disposal site. To be included are (1) a to scale, site layout, of where operations will occur, and (2) the location of: safety equipment, fire protection equipment, disposal equipment, supplies, waste handling equipment, process/waste loading/unloading points for transportatin, flood proofing/protection structures, security structures, etc..

If the disposal operation will be at a previously developed site, in addition to the above requirements, other site modifications must be described and justified. Buildings for personnel, construction, maintenance and laboratories are exempted, unless there are discharges to the environment. Laboratory vents, sewer discharges from the laboratory or any area that may be associated with any contact with PCBs or any hazardous waste handled/generated as the result of PCB disposal must be discussed. Included should be discussions of all storage facilities and their containment, process water systems, and other waste stream processing.

Disposal Activities to Be Conducted On-Site

A summary of the process operations as described in detail in the original permit application, not to exceed one typewritten single spaced page. The permittee shall discuss activities and the amount of time involved in setting up (taking down) disposal operations following arrival (prior to departure) of the MDU at (from) the site. Also, the permittee shall provide a discussion of monthly and annual: amounts and concentrations of waste and amount of PCBs to be processed; amounts and concentrations of PCBs and other hazardous materials stored on site; amounts and concentrations of contained, controlled, and fugitive emissions of toxic and non-toxic materials and how contained materials will be disposed of; proposed hours of operations; expected duration of disposal activities at the site.

Safety Measures

The permittee must describe systems and/or structures for the detection and/or containment of leaks and hazardous wastes/by-products must be described, as should process shutdowns resulting from automated monitoring of process emissions. A brief discussion of the automatic process controls, such as those which control extreme temperature and pressure fluctuations or departure from a permitted range, must be included. The location and action plans for all other emergency equipment shall be provided. Maintenance plans and schedules shall be provided. Safety and/or quality control/quality assurance inspection schedules, procedures, and recordkeeping must be detailed.

Emergency Preparedness and Contingency Plans

Emergency preparedness plans must be completed and reviewed by local authorities and approved by the EPA Region. These plans shall include (1) exactly what actions take place for each level of problem, (2) who the responsible permittee parties are for expected problems, and (3) facility personnel names and appropriate phone numbers for 24-hours a day contact in the event of an emergency. Frequent problems and reasonable worst case problem scenarios such as: spills during processing, storage, and transportation; fires; floods; and equipment malfunction resulting in personal injury must be addressed. The information shall include (1) names and phone numbers of fire, police, medical emergency contacts, and (2) training sessions, documents, or other information provided to these services.

Transportation Routes and Volumes to be Transported to the Site

Transportation route information is to be detailed if such routes include any roads other than interstate highways. Information is to include residential or commercial areas associated with the roads to be used by hazardous waste transporters. List all amounts/volumes of PCB materials located near the site (minimal transportation and storage associated).

Financial Assurance and Closure

The permittee shall summarize the financial assurance and closure provisions from the permit application including exactly what situations are covered by insurance or other financial backing and the amount of the backing. Additional financial assurance and closure provisions for the time of extended PCB disposal operations at a single site must be described in detail.

Exposure Assessment

An exposure and risk assessment shall be provided for activities included in normal operations and in the event of reasonable worst case accidents/problems. The exposures shall include those resulting from storage; contained and fugitive emissions; handling and processing PCBs and other hazardous waste/process materials; operation of industrial equipment; and transportation related releases such as spills and collisions.

Situations which are not considered reasonable worst case situations, are a double tornado, a terrorist attack, a nuclear strike, a plane crash into the facility, a meteor strike, and damage from an earthquake when there is not an active major geological fault near enough to expect major plant facility damage and release of PCB material.

Appendix 3

PART B OF PCB DISPOSAL PERMIT NOTIFICATION REQUIREMENTS:

Site Evaluation Requirements for Permanent Mobile Disposal Unit (MDU) Operations

The following information must be submitted to the Office of Toxic Substances and the appropriate EPA Region as part of an application to operate a permitted MDU at a site for longer than three years. A public meeting notice will not be generated until a complete submission of these requirements has been received and approved by EPA.

There are a number of details which were submitted to EPA as part of the original PCB disposal permit application which must be updated/revised for Permanent MDU Operations. All of these details are related to the site of operations directly or indirectly.

The information shall be in the same general categories as information required for Temporary MDU Operations, but the information for permanent MDU operations shall be based on the increased period of disposal operations during the time period of the permanent operations. The required submissions with respect to financial assurance, amounts of material treated, emissions, exposure assessment, and risk/benefit must reflect the longer period and the expected increased amount of material processed during operations.

Project Personnel

The first requirement is a list of names and an organizational chart, brief job description, and responsibilities for all staff to be employed by the permittee at the site. In addition, names, mailing addresses, and telephone numbers of primary parent organization contacts with EPA, such as environmental affairs officers or government liaison contacts must be given. Job qualifications and training, including the time, frequency and content, required must be included.

Facility Description

Details of the disposal operations as they apply to the physical layout at the disposal site. To be included are (1) a to scale, site layout, of where operations will occur, and (2) the location of: safety equipment, fire protection equipment, disposal equipment, supplies, waste handling equipment, process/waste loading/unloading points for transportation, flood proofing/protection structures, security structures, etc..

include (1) names and phone numbers of fire, police, medical emergency contacts, and (2) training sessions, documents, or other information provided to these services.

Transportation Routes and Volumes to be Transported to the Site

Transportation route information is to be detailed if such routes include any roads other than interstate highways. Information is to include residential or commercial areas associated with the roads to be used by hazardous waste transporters). List all amounts/volumes of PCB materials located near the site (minimal transportation and storage associated).

Financial Assurance and Closure

The permittee shall summarize the financial assurance and closure provisions from the permit application including exactly what situations are covered by insurance or other financial backing and the amount of the backing. Additional financial assurance and closure provisions for the time of extended PCB disposal operations at a single site must be described in detail.

Exposure Assessment

An exposure and risk assessment shall be provided for activities included in normal operations and in the event of reasonable worst case accidents/problems. The exposures shall include those resulting from storage; contained and fugitive emissions; handling and processing PCBs and other hazardous waste/process materials; operation of industrial equipment; and transportation related releases such as spills and collisions.

Situations which are not considered reasonable worst case situations, are a double tornado, a terrorist attack, a nuclear strike, a plane crash into the facility, a meteor strike, and damage from an earthquake when there is not an active major geological fault near enough to expect major plant facility damage and release of PCB material.

If the disposal operation will be at a previously developed site, in addition to the above requirements, other site modifications must be described and justified. Buildings for personnel, construction, maintenance and laboratories are exempted, unless there are discharges to the environment. Laboratory vents, sewer discharges from the laboratory or any area that may be associated with any contact with PCBs or any hazardous waste handled/generated as the result of PCB disposal must be discussed. Included should be discussions of all storage facilities and their containment, process water systems, and other waste stream processing.

Disposal Activities to Be Conducted On-Site

A summary of the process operations as described in detail in the original permit application, not to exceed one typewritten single spaced page. The permittee shall discuss activities and the amount of time involved in setting up (taking down) disposal operations following arrival (prior to departure) of the MDU at (from) the site. Also, the permittee shall provide a discussion of monthly and annual: amounts and concentrations of waste and amount of PCBs to be processed; amounts and concentrations of PCBs and other hazardous materials stored on site; amounts and concentrations of contained, controlled, and fugitive emissions of toxic and non-toxic materials and how contained materials will be disposed of; proposed hours of operations; expected duration of disposal activities at the site.

Safety Measures

The permittee must describe systems and/or structures for the detection and/or containment of leaks and hazardous wastes/by-products must be described, as should process shutdowns resulting from automated monitoring of process emissions. A brief discussion of the automatic process controls, such as those which control extreme temperature and pressure fluctuations or departure from a permitted range, must be included. The location and action plans for all other emergency equipment shall be provided. Maintenance plans and schedules shall be provided. Safety and/or quality control/quality assurance inspection schedules, procedures, and recordkeeping must be detailed.

Emergency Preparedness and Contingency Plans

Emergency preparedness plans must be completed and reviewed by local authorities and approved by the EPA Region. These plans shall include (1) exactly what actions take place for each level of problem, (2) who the responsible permittee parties are for expected problems, and (3) facility personnel names and appropriate phone numbers for 24-hours a day contact in the event of an emergency. Frequent problems and reasonable worst case problem scenarios such as: spills during processing, storage, and transportation; fires; floods; and equipment malfunction resulting in personal injury must be addressed. The information shall