DECLARATION FOR THE AMENDMENT TO THE RECORDS OF DECISION

SITE NAME AND LOCATION

The Aluminum Company of America (ALCOA)
Massena Operations
Massena, New York

OPERABLE UNITS/AREAS OF CONCERN:

All hazardous waste remediation areas identified by the Department at the ALCOA, Massena Facility.

STATEMENT OF BASIS AND PURPOSE

This Amendment to the Records of Decision (ROD) presents the selected remedial actions for the above-listed ALCOA sites developed in accordance with the New York State Environmental Conservation Law (ECL) and the Commissioner's Organization and Delegation Memorandum 89-05. It is consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 USL Section 9601, et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). Section IX of the original RODs lists the documents that comprise the Administrative Records for the ALCOA sites. The documents in the Administrative Records and the attached Amendment to the RODs are the basis for the selected remedial actions.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response actions selected in this ROD, present a current or potential threat to public health, welfare and the environment.

DESCRIPTION OF THE AMENDMENT OF THE RECORD OF DECISION

The amendment will allow ALCOA to select an anaerobic thermal treatment process (ATP) to treat PCB contaminated materials in leiu of any of the remedies previously specified in the original Records of Decisions (RODs), such as solvent extraction. The amendment will also allow ALCOA to use an on-site chemical treatment process to destroy PCB waste oil refined during the operation of the primary treatment process. Implementation of the technologies will still need Departmental approval based on performance testing which complies with all applicable and relevant standards, guidelines, and criteria.

DECLARATION

This amendment to the ROD will be protective of human health and the environment, and will comply with applicable State Environmental Quality Standards and the Commissioner's Organization and Delegation memorandum 89-05. This ammendment will satisfy the Department's preference for treatment of hazardous waste to reduce its toxicity, mobility, and/or volume.

February 17, 1994
DATE

Ann DeBarbieri
Deputy Commissioner
Office of Haz. Waste Remediation
NYS Dept. Environmental Cons.

AMENDMENT TO THE
RECORDS OF DECISIONS
ALCOA - MASSENA OPERATIONS
St. Lawrence, County, New York

In March of 1991 and January of 1992, the New York State Department of Environmental Conservation (NYSDEC) issued Records of Decisions (RODs) for fourteen areas of contamination on, and adjacent to, the Aluminum Company of America (ALCOA) Massena Operations in Massena, New York. As part of those RODs, waste with Polychlorinated Byphenyls (PCBs) and volatile organic contamination must be treated, prior to land disposal, to remove these hazardous constituents. The RODs specified waste treatment using a solvent extraction process for some of the waste.

In accordance with NYSDEC Commissioner's Organization and Delegation Memorandum #89-05, Section 9, ALCOA requested that the Department amend the RODs to allow for use of an anearobic thermal desorption process to treat the same waste that the solvent extraction process would have treated according to the RODs. To support that request, ALCOA presented to the NYSDEC a document entitled Focused Feasibility Evaluation for the RCC Solvent Extraction and SoilTech Thermal Desorption Soil Treatment Process dated September, 1993. This document was prepared by ALCOA's consultant, Engineering-Science, Inc.

Also, ALCOA has requested that the ROD amendment include greater flexibility to allow for on-site destruction of the desorbed PCB oil using a chemical dechlorination process, described as base-catalyzed dechlorination. The effectiveness of the disposal process will be proven using bench scale and pilot scale testing in the design stage.

In accordance with the Commissioner's O&D Memorandum, all applications for a ROD amendment should provide for a public comment period on the proposed amendment and a response to significant comments. The public comment period ended on November 1, 1993. The Department has since considered all significant comments and made a final decision to amend the RODs. The public comments and the Department's responses can be found in Appendix A.

The following is a brief description of the SoilTech Thermal Desorption Treatment Process, and an evaluation of the process's ability to meet standards, criteria, and guidelines, and also be protective of public health, safety or welfare, and the environment or natural resources. This information is taken from the consultant's engineering report referenced above.

PROJECT DESCRIPTION:

SOILTECH ANAEROBIC THERMAL PROCESS (ATP) - The SoilTech thermal desorption process, hereafter called the SoilTech ATP, heats and mixes contaminated materials in a special rotary kiln that uses indirect heat for processing. The unit desorbs, collects, and recondenses hydrocarbons, PCBs,
and other contaminants desorbed from solids. The unit contains four zones: preheat, reaction (or pyrolysis), combustion, and cooling. Low-temperature volatiles, such as water and light oils, are extracted in the preheat zone at

temperatures up to 500°F. Oils and other heavy volatiles are distilled in the reaction zone at temperatures of 700°F and 1150°F under anaerobic (oxygen depleted) conditions. Vaporized contaminants are removed by vacuum to a retort gas handling system. After cyclones remove dust from gases, the gases are cooled, and condensed oil is separated into its various fractions. Non-condensable gases then pass into the combustion zone which provides the indirect heat for the kiln. Flue gases from the combustion zone are treated prior to discharge. The flue gas treatment system consists of the following units set up in series: (1) cyclone and baghouse for particle removal, (2) wet scrubber (if needed) for removal of acid gases, and (3) carbon adsorption bed for removal of trace organic compounds. Soiltech's full-scale system for the ALCOA project would have a nominal capacity of 600 tons per day.

EVALUATION OF THE SOILTECH THERMAL DESORPTION PROCESS, AND COMPARISON TO THE SOLVENT EXTRACTION PROCESS APPROVED IN THE RECORD OF DECISION

SHORT-TERM IMPACTS AND EFFECTIVENESS

This evaluation criterion addresses the following effects during the construction and implementation phase until remedial response objectives are met:

- Protection of the community during remedial construction activities.
- Environmental impacts during remedial construction activities.
- Time until remedial response objectives are achieved.
- Protection of workers during remedial construction activities.

Both processes occur in controlled systems and have proven worker safety records at pilot- and full-scale. The RCC and SoilTech processes both have potential safety concerns (i.e. triethylamine flammability and high temperatures, respectively) which can be addressed with reliable process controls. Treated solids would be stored temporarily in a field-constructed storage structure and subsequently transferred to the on-site Secure Landfill. The oil fraction would be stored temporarily in a railroad tank car and subsequently transported by the contractor to its off-site disposal location. Temporary storage of the treated solids and oil would occur within the contractor's exclusion zone. The water fraction would be sent directly to ALCOA's wastewater treatment facility.

LONG-TERM EFFECTIVENESS AND PERMANENCE

This evaluation criterion addresses the results of a remedial action in terms of:

- Permanence of the remedial alternative.
- Magnitude of the risk remaining after remediation.
- Adequacy of controls.
- Reliability of controls, if any, used to manage treatment residuals or untreated wastes that remain at the site following remediation.

NYSDEC considers destruction, separation/ treatment, or solidification/chemical fixation of inorganic wastes as permanent remedies.

Both technologies are considered to treat PCB-contaminated soils and sludges permanently. In addition, differences in residual risks following treatment and adequacy and reliability of controls can not be distinguished for the two processes although more test results with ALCOA Massena solids are available from RCC than from SoilTech.

REDUCTION OF TOXICITY, MOBILITY, OR VOLUME

Reduction of toxicity, mobility, and volume criterion includes consideration of the following:

- Amounts of hazardous materials that are destroyed or treated, including how principal threat(s) are addressed;
- Degree of expected reduction in toxicity, mobility, or volume estimated as an approximate percentage of reduction;
- Degree to which treatment is irreversible; and
- Types and quantities of treatment residuals that remain following treatment.

Solvent extraction and thermal desorption have demonstrated in bench-scale and pilot-scale testing on materials from ALCOA sites that they irreversibly treat the PCBs in the solids to two ppm PCBs or less. In addition, both processes appear to generate solids residuals that are similar in contaminant concentrations and volumes, although more test results with ALCOA Massena solids are available for the RCC solvent extraction than for the SoilTech ATP. The SoilTech ATP has extensive experience at full scale at other sites.

IMPLEMENTABILITY

This evaluation criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of the services and materials required during its implementation. The implementability criterion considers:

- Construction and operation requirements.
- Reliability of the technology.
- Ease of undertaking additional remedial action.
- Monitoring considerations.
- Permitting and other activities needed to coordinate with offices and agencies.
- Availability of adequate off-site treatment, storage capacity and disposal services.
- Availability of necessary equipment, specialists, skilled operators and provisions to ensure any necessary additional resources.
- Availability of services and materials.

Bench scale or pilot scale tests, using waste inputs from the ALCOA site indicate that both processes should perform well. Neither process has pre- or post-treatment requirements that inhibit their implementability. Both processes generate oil, water, and solid fractions that require similar post-treatment efforts. The SoilTech ATP also generates an air fraction that requires treatment.

COMPLIANCE WITH APPLICABLE STANDARDS, CRITERIA, AND GUIDELINES

Needed permits or approvals are anticipated to conform to TSCA requirements under 40 CFR 761.60(e), RCRA requirements under 6 NYCRR 373, air emission controls based on 6 NYCRR 212 and New York State Air Guide-1, and hazardous chemical notifications under SARA Title III. Implementation of the SoilTech ATP will also need to include an on-site performance test per NYSDEC requirements. SPDES approval may also be needed unless the product water can be added to a discharge already approved to handle multiple, unspecific wastewaters. RCC has been through the approval process for their 1991 pilot test at ALCOA Massena.

PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

This assessment is based on a composite of factors assessed under other evaluation criteria,

especially long-term effectiveness and permanence; short-term effectiveness; and compliance with standards, criteria, and guidelines.

Both solvent extraction and anearobic thermal desorption provide a high level of protection of human health and the environment. Controls on equipment provide protection for workers, nearby residents, and the environment, assuming the controls operate effectively. Treatment via either process results in removal of PCBs. The oil and water fractions that are generated can be treated via incineration off site. The solids can be placed in the on-site secure landfill.

COSTS

According to estimates by ALCOA the cost of operating the Soil Tech process is two-thirds that of operating the RCC process.

EVALUATION SUMMARY

Both the solvent extraction process and the anaerobic thermal treatment process have demonstrated abilities to meet standards, criteria, and guidelines. The solvent extraction process has a greater potential safety concern because of the use of highly flammable solvents in the process, whereas the anaerobic thermal desorption process has a greater potential for air emissions. However, using proper operating procedures greatly reduces these risks. The two processes are considered comparable in all other respects except for cost. In that regard, ALCOA has stated the anaerobic thermal desorption process has a clear advantage.

Based on the engineering evaluation, and comparison of solvent extraction and anaerobic thermal desorption, the Department will amend the RODs to allow for the addition of the latter. Actual full scale operation will be contingent upon performance testing on site specific waste which satisfies the Department that all applicable and relevant standards, guidelines, and criteria are met, including air emission limitations which will include a health risk assessment. Prior to implementation of pilot or full scale treatment operations, the Department will require ALCOA to submit Operation and Maintenance (O&M) plans, including contingency plans, for review. Departmental approval of the plans is required prior to system activation. The Amendment will be protective of human health and the environment.

Regarding ALCOA's request that the ROD amendment include greater flexibility to allow for on-site destruction of the desorbed PCB oil using the chemical dechlorination process, the Department will allow ALCOA to further study the applicability of this process through the use of bench scale and pilot scale treatability studies subject to Department and USEPA approval. These studies must demonstrate that the proposed treatment process will meet all applicable and relevant State and Federal standards, guidelines, and criteria, and will have no significant impact on public health or the environment. The public has been given an opportunity to review and comment on this treatment process during the comment period. The public's comments and the Department's responses are included in Appendix A.

APPENDIX A
RESPONSIVE SUMMARY

COMMENT:

There was expressed a desire to have additional, on site testing of the SoilTech process which would provide more useful data in determining the effectiveness of this process given the site specific conditions present at the ALCOA site.

RESPONSE:

SoilTech submitted a TSCA R&D permit application to the EPA for review. The permit was signed by the EPA on December 30, 1993. This permit was for an on site bench scale test. Prior to Department approval to operate a full scale treatment operation, ALCOA is required to conduct pilot scale testing which will demonstrate protection of human health and the environment and attain clean-up goals. This is outlined in the Evaluation Summary section of the Amendment to the RODs.

COMMENT:

High waste oil content of some sludge may inhibit good PCB recovery.

RESPONSE:

This concern will be addressed in the site specific waste testing which is required prior to full scale implementation of the anaerobic thermal desorption process. The Department requires that pilot scale testing show protection of human health and the environment prior to full-scale implementation at the ALCOA site. If for any reason the system does not provide protection of human health or the environment and corrective measures are ineffective in the testing stage, the process will not be allowed to be implemented for operation at the ALCOA facility. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

A contingency plan for both the bench scale test and the operation of the SoilTech process should be developed to address any releases to the environment if any part of the system should fail to operate properly.

RESPONSE:

Operation and maintenance (O&M) plans of the testing and full scale operations will contain contingency plans which will protect human health and the environment. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

When the lagoon sludge is dewatered by gravity draining, what will be done with waste water generated?

RESPONSE:

The contaminated water will need to be treated to NYSDEC SPDES Permit standards prior to discharge to the environment for both the testing stages and full scale implementation. ALCOA is responsible for compliance with the SPDES discharge limitations. This will be addressed in the pilot scale (O&M) plan. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

A concern was expressed that once a system for treatment was installed, waste generated at other sites would be imported and treated at ALCOA.

RESPONSE:

The Amendment to the ROD specifies that only waste from sites identified by the Department at the ALCOA, Massena facility will be treated at any of the treatment options specified in the Amendment to the RODs. This is addressed in the Operable Units/Areas of Concern section of the Declaration for the Amendment to the RODs.

COMMENT:

How well will the Base Catalyzed Destruction (BCD) technology work? It has only been conducted on an experimental basis. One citizen stated that she was not in favor of PCB incineration on site or off and is in favor of the BCD technology. Another claims that the latest technologies should be employed at this site. Conversely, the Mohawk tribe objects to the use of the BCD technology because it is untried on a full scale operation.

RESPONSE:

The overall objective of this project is to remediate the site while protecting human health and the environment. The BCD Technology must demonstrate it's ability to meet treatment standards on a bench scale and pilot scale basis prior to Departmental approval for full scale operation. If the technology fails, off-site incineration may still be employed. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

A concern was raised over the seismic activity in the Massena area and if this was or will be taken into account.

RESPONSE:

The Department is sensitive to the seismic activity in the Massena area. Emergency shut-down procedures will be addressed in the contingency plans, a part of the O&M plans, which will be submitted to the Department for review and approval prior to implementation of the pilot scale and full scale operations of any technologies specified in the Amendment to the RODs. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

Does Canada have more stringent air emissions standards than the US, and if it does will these be considered when the air discharge limitations are considered?

RESPONSE:

The Department will require air quality discharge limits which will protect human health and the environment. In addition, NYS is obligated to comply with the Boundary Waters Act of 1909, which addresses inter-boundary pollution, both air and water. Air emission limitations will be based on applicable State and Federal regulations and a health risk assessment. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

A prevalent comment was that very low or even non-detectable discharge limits for air and water must be enforced at this site. Some people would like to see continuous stack testing with real time data presented to the NYSDEC office in Watertown for monitoring. In addition, others would like the borders of the treatment site monitored for harmful pollutants from the process. These monitoring points should be located by air flow modeling to choose the best locations.

RESPONSE:

As stated previously, the Department's primary concern is for the protection of human health and the environment. Both air and water discharge limitations will be established to reflect this. The water effluent stream from both pilot and full scale operations will be required to meet NYSDEC SPDES discharge limitations. The air effluent stream of both the pilot and full scale operations will be required to meet air discharge limitations which will be based on applicable

State and Federal regulations and a health risk assessment. Monitoring locations and the frequency, type, and number of samples to be collected to ensure discharge limitations are consistently being met will be specified in the O&M plan which will be subject to Department approval. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

The Hazardous Waste Treatment Council indicated that the SoilTech process should be permitted and monitored as an incinerator. This was expressed at the meeting and in a letter to Mr. Gregg Townsend of the NYSDEC dated November 1, 1993. This letter can be found in Appendix B, which is available for public review at the Alcoa plant in Massena and at the NYSDEC office in Watertown.

RESPONSE:

A petition to consider all units which heat soil in an oxidized environment as an incinerator was presented to the USEPA. On October 6, 1993 the USEPA Chemical Management Division denied the above petition stating that when oxidation is only incidental to the waste treatment process, it is not appropriate to regulate the thermal unit as an incinerator. A copy of the petition and the USEPA denial are in Appendix B. The Department concurs with the USEPA interpretation. The unit will be regulated by 6 NYCRR 373-2.24 and will be monitored to assure that emissions are within limitations which are protective of human health and the environment. The monitoring program will be specified in the O&M plans which will undergo Departmental review and approval. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

The Mohawk Tribe requested that the air discharge limits be non detect for dioxins and furans.

RESPONSE:

As stated previously, the Department's primary concern is for the protection of human health and the environment. Emission limitations will be based on applicable State and Federal regulations and include risk based standards which will be derived from a health risk assessment. ALCOA will have to demonstrate the ability to meet the standards in pilot scale testing. The monitoring requirements for the pilot scale testing will be specified in the O&M plan which will undergo Departmental review and approval prior to implementation. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

The Mohawk Tribe indicates that the effluent levels observed at the Waukegan site are unacceptable at the ALCOA site.

RESPONSE:

The Department believes that levels attained near completion of the Waukegan site can be obtained at the ALCOA site prior to full scale operation. Prior to implementation of a full scale process, effluent limitations will be specified in the O&M plan to reflect protection of human health and the environment. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

A citizen believes that Dioxins and Furans should be sampled for in the feed material for the SoilTech process. If the compounds are detected, pretreatment may be a viable option for eliminating the compounds from the air effluent.

RESPONSE:

The above will be one of the objectives of the pilot scale testing of the anaerobic thermal desorption process on ALCOA's site specific waste. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

COMMENT:

Although the Resources Conservation Company (RCC) claims that the SoilTech process has an air discharge and RCC's doesn't, one citizen pointed out that RCC's process allows for the solvent saturated treated soil to air dry. They contend that this unregulated air discharge may be more dangerous than the permitted SoilTech process air effluent.

RESPONSE:

Both processes will be required to meet air emission limitations during all phases of the treatment process. Since the RCC process does not have a point source discharge, accurately measuring the air emissions would be difficult. If the solvent extraction process is selected as a treatment option, potential emissions from the non-point source air discharge will be considered. If pilot scale operation of the solvent extraction process showed that the non-point source air discharge was an area of concern, it will have to be adequately addressed in the proposed full scale O&M plan for the solvent extraction process prior to Departmental approval of the plan. This concern is addressed in the Evaluation Summary of the Amendment to the RODs.

Specific comments from Resources Conservation Company (RCC)

1. RCC disputes scoring via TAGM 90-4030.

(a) The long term effectiveness of both technologies received the same score. RCC contends that more on site test data is available for the RCC process.

RESPONSE:

The SoilTech process has been implemented on a full scale basis at other sites. SoilTech has performed bench scale testing on ALCOA waste. The EPA issued a TSCA permit for on site bench scale testing of the SoilTech process on December 30, 1993. SoilTech should be afforded the same opportunity to demonstrate the ability of their unit as RCC had. Further testing on a pilot scale basis with ALCOA site specific waste will be required before the SoilTech process will be considered for full scale implementation. This would give equal scores for long term effectiveness. The Department agrees with Engineering Science's (ES) assessment of long term effectiveness.

(b) Both SoilTech and RCC receive identical scores for the reduction of toxicity, mobility, or volume, although more data is available for RCC.

RESPONSE:

As stated above, SoilTech should be afforded the same opportunity to demonstrate the ability of their unit as RCC had.

(c) Regarding implementability: SoilTech has never received operating permits at the ALCOA site, and the SoilTech process will discharge 20,000 SCFM during operation at ALCOA. Both of these points would give RCC an advantage in implementing their technology at the site.

RESPONSE:

SoilTech has received approval from the EPA to conduct on site bench scale testing. This is an equivalent permit to what RCC has already obtained. Both RCC and SoilTech will need to apply for a TSCA permit from the EPA to operate their full scale processes. The SoilTech air discharge will have to meet discharge limits that will be established based on a health risk assessment. As stated earlier in the Responsive Summary, any solvent extraction process will be given consideration for air discharge limitations from non-point discharge sources. RCC will have to take special precautions against fires and/or explosions, where SoilTech does not. Comparisons between each incremental step of any two processes are not as appropriate as other

aspects may be to assess implementability. The Department believes that other important factors to consider in implementability would be the time involved in mobilizing to the site, setting the equipment up, and the time spent with test runs to ensure the equipment is operating correctly and will discharge below the limits specified. It should be noted that the anaerobic thermal desorption process has a better record for full scale operation than the solvent extraction process. Therefore, both processes are considered relatively equal at this time for implementability.

(d) (i & ii) The RCC process produces distilled water with less than 10 ppb PCB's and ND for Oil & Grease. The SoilTech process produces waste water at over 300 ppm.

RESPONSE:

Since the effluent stream from either process will have to meet the same waste water discharge limitations prior to release to the environment, both processes would have equal scores for protection of human health and the environment. The Department believes that the SoilTech process can meet this criteria. Pilot testing will answer the question definitively.

(d) iii. Sand and gravel have to be added to the SoilTech feed stream to provide better mixing of the contaminated soil. This would add to the volume of soil to be disposed of and add to the cost of disposal.

RESPONSE:

The material to be added would be 6"-12" river rocks and 3/8"-2" gravel. Most of the material would then be recovered at the end of the treatment process and recycled to the feed stream. However, it is not possible to anticipate at this time whether the addition of the gravel and rocks with a recycle stream will significantly increase the volume of the waste material. Pilot scale testing will provide more accurate data to address this concern. To the extent this will add to the on site disposal cost is an issue that ALCOA needs to determine. As mentioned above, if the SoilTech process does not remain cost effective, technologically feasible, or protective of human health and the environment, an alternative method such as solvent extraction may still be selected.

(e) Regarding protection of human health and the environment: RCC does not have an air discharge. The SoilTech process has stack gas emissions of Dioxins and Furans.

RESPONSE:

RCC does not have a point source air discharge. ES stated that the dioxins and furans found in the stack gas emissions previously were in the feed material at a higher level than the air effluent. In later EPA documents it was indicated that dioxins and furans were likely produced by the SoilTech process, however a mass balance was not conducted. A mass balance will be produced for the site specific ALCOA waste pilot scale testing. The production of dioxins and furans can be minimized or eliminated by altering the process streams, such as returning the retort fines to the feed stream instead of sending the fines to the combustion zone. Pilot scale

testing on ALCOA site specific waste will be the most accurate way of assessing if dioxins and furans are a by-product of the SoilTech process, and if it is a by-product, does it pose a threat to human health and the environment. This will be one of the main objectives of the pilot scale test at the ALCOA site. As mentioned above, if the pilot scale tests show that any selected process is not protective of the human health and the environment an alternative process will be required.

(f) The SoilTech process incinerates PCBs in the combustion zone. Fines from the retort zone are separated in a pair of cyclones and fed to the combustion zone. At Wide Beach these fines had up to 85 ppm PCBs.

RESPONSE:

This was true at the Wide Beach operation, however at the Waukegan site the fines were sent back to the feed hopper to go through the process again. The pilot scale test will sample for PCBs in the fines and in the feed in order to construct a mass balance. Also, the feed material will be sampled for Dioxins and Furans prior to entering the SoilTech process. The entire process will be assessed for compliance of discharge limitations and protection of human health and the environment. This is the purpose of the pilot scale tests. This concern is addressed in the Evaluation Summary of the Amendment to the RODs. If the pilot scale tests fail to demonstrate the emissions are acceptable, another technology will be required.

(g) In regards to cost: RCC was given a score of 0 and SoilTech was given a score of 15. RCC believes that they should have received a higher score than SoilTech because RCC was less expensive.

RESPONSE:

The scoring system gives a 15 to the least expensive and a 0 to the most expensive. In this case ES only considered two technologies. As to which one was more expensive, ALCOA made this determination based on all of their available data. Considering that cost is one of ALCOA's primary concerns, the Department is willing to accept their assessment of which remedial technology is least expensive. If, after additional testing, it is apparent that another technology specified in the Amendment to the RODs is less expensive than the SoilTech process, one of the alternative technologies may be selected as long as it is equally protective of human health and the environment.

2. ES's Table 2-2 reflects associated costs for RCC and SoilTech. RCC does not believe the costs are based on the same scope of work.

RESPONSE:

As stated above all concerns in relation to cost were assessed by ALCOA. If at a later date ALCOA determines that another technology specified in the Amendment to the RODs is more economical, another technology may be selected if it is equally protective of human health and the environment.

3. RCC has proposed taking the recovered PCB oil to an off-site incinerator. SoilTech proposed utilizing a Catalyst Base Destruction (BCD) technology. RCC contends that if they were to use the same technology the RCC process would be cheaper for them.

RESPONSE:

ES has confirmed with ALCOA that SoilTech was not credited a cost savings for utilization of the BCD technology.

4. Gravity draining of the feed material for the SoilTech process provided a reduction in the feed volume, thereby giving SoilTech a cheaper cost due to less material to treat.

RESPONSE:

ES admitted that the reduction in cost due to the gravity draining was applied to both technologies. This however may off-set the increase in waste from the addition of rocks and gravel to allow for better mixing. Pilot scale data would provide better insight as to the net reduction or addition to the volume of waste.

5. The SoilTech cost does not reflect waste water treatment.

RESPONSE:

The waste water discharge of either system to the environment will be the same. ALCOA should have incorporated secondary waste water treatment in their estimate for SoilTech. As stated previously, the Department will allow ALCOA to assess costs if two technologies are equally feasible in regards to protection of human health and the environment.

6. There was a transposition error in a table constructed by ES. The units of several metals listed on a table were given in ppm and should have been ppb. RCC contends that this would reduce the cost estimation for the RCC process.

RESPONSE:

According to ES, the transposition error was not used in the actual calculation process.

7. A weighted average of all sites gives a 2 ppb effluent for PCBs with the RCC process. SoilTech had over 300 ppm PCBs in the effluent.

RESPONSE:

As stated previously, discharge limitations of the waste water to the environment will be the same for either process. If secondary treatment of the waste water is necessary this is a cost item that ALCOA will have to take into account.

8. The data used in cost estimates for the RCC process were from process decant water, not from the waste water effluent. This would give RCC a cost savings.

RESPONSE:

ES responded that this had no affect on the cost estimation. The Department's position is that this should have been accounted for by ALCOA. If an error was made, it will be reflected in the pilot scale tests. If the error is significant another technology may be selected as long as it is equally protective of human health and the environment.

RCC'S CONCLUSIONS

RCC believes the shortcomings, inconsistencies and clear errors should be corrected before a final decision is made to amend the ROD. RCC reminds the Department of the importance of the protection of the public health and the environment and the community acceptance of a remedial technology.

RESPONSE:

The Department is satisfied that ALCOA and it's consultants have clarified any inconsistencies and corrected any errors. At this time the Department believes that both the solvent extraction and anaerobic thermal desorption technologies are technologically feasible of meeting the standards, criteria, and guidance established for this project.

A copy of all written comments and a copy of the public meeting transcripts are contained in Appendix B to this document and are available for public review at the ALCOA facility in Massena and at the NYSDEC office in Watertown.