Department of Environmental Conservation

Division of Hazardous Waste Remediation — Region 6

ALCOA - STORAGE TANK NO. 51
Town of Massena, St. Lawrence County, New York
Site No. 645023

RECORD OF DECISION

August 1996

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* MICHAEL D. ZAGATA, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

ALCOA - Storage Tank No. 51 Inactive Hazardous Waste Site
Town of Massena, St. Lawrence County, New York
Site No. 645023

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the ALCOA - Storage Tank No. 51 (ST 51) inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40 CFR 300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the ST 51 inactive hazardous waste disposal site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for ST 51 and the criteria identified for evaluation of alternatives, the NYSDEC has selected closure of the tank in place and excavation of contaminated soils from around the tank for disposal in ALCOA's on-site Secure Landfill. The components of the remedy are as follows:

- The tank and associated pipe have been emptied of all remaining liquid and sludge, and the interior surfaces have been pressure-washed.
- The tank and pipe chase will be backfilled with flowable fill.
- Soils in the vicinity of the tank with PCB concentrations above 10 ppm will be excavated for disposal in ALCOA's on-site Secure Landfill.
- The excavation will be backfilled and paved.
- A post-closure groundwater monitoring program will be implemented to assess the effectiveness of the remedial work.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the statutory preference for remedies that reduce toxicity, mobility, or volume as a principal element.

8/13/96

Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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SECTION 1: SITE DESCRIPTION

ALCOA's Massena Operations are situated on 2,700 acres in the Town of Massena, St. Lawrence County, New York, less than half a mile north of NYS Route 37. The plant is bordered on the north by the St. Lawrence River, on the southwest by the Massena Power Canal, and on the southeast by the Grasse River. The village of Massena (population 15,000) is located to the west and to the south.

To date, the NYSDEC and the NYSDOH have identified 17 hazardous waste disposal areas at the plant, including ST 51 (Site No. 645023).

ST 51 is a below-grade, 70,000-gallon concrete vault located in the southwest portion of the Wire, Rod, and Bar facility within Area I of the plant (Figure 1). It is bordered on three sides by a paved parking area, while Building 140 is located approximately 18 feet to the south.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

ST 51 was constructed in 1941 as a wet well for soluble oils utilized in the Building 140 rolling mill. Rolling mill operations were discontinued in the 1970s, after which time the vault was used for the temporary storage of soluble oils associated with the Building 140 continuous mill during maintenance shutdown periods. At one point, it was also utilized to store sediment and liquid that had been cleaned from Storage Tank No. 56, which contained #6 fuel oil. The vault was drained in 1990, and has not been used since.

2.2: Remedial History

A series of subsurface investigations were performed in the vicinity of ST 51 during 1991 and 1992. The results indicated that the soils surrounding the vault contained elevated levels of PCBs. The local groundwater was also found to be impacted by PCBs.

SECTION 3: CURRENT STATUS

The NYSDEC, under the State Superfund Program, initiated a Remedial Investigation/ Feasibility Study (RI/FS) in September 1995 to address the contamination at the site.

3.1: Summary of the Remedial Investigation

The purpose of the RI was to gather the data necessary to evaluate various remediation alternatives for the site.

The RI was conducted between October 1995 and January 1996. A May 1996 report entitled, *Remedial Investigation/Feasibility Study for Storage Tank 51* has been prepared describing the field activities and findings of the RI in detail. The RI activities consisted of the following:

- Coring through the vault bottom and collecting soil samples to determine the extent of contamination beneath the vault;
- Completing soil borings around the vault to visually classify the subsurface stratigraphy and determine the lateral extent of contamination;
- Installing monitoring wells around the vault to evaluate hydrogeologic conditions.

The analytical data obtained from the RI was compared to applicable Standards, Criteria, and Guidance (SCGs) in determining remedial alternatives. Groundwater SCGs identified for the site include NYSDEC Groundwater Quality Standards and Guidance Values. NYSDEC soil cleanup guidelines for the protection of human

health and groundwater were used to develop cleanup goals for soil.

Based upon the results of the site investigations in comparison to the SCGs and potential public health and environmental exposure rates, certain areas and media of the site require remediation.

Soils

PCB concentrations in the soil surrounding the vault range from non-detectable to 260 ppm, with levels greater than 10 ppm (the site-specific cleanup goal) limited to the western side and northeast corner of the vault. The maximum depth of this contamination is approximately 10 feet below ground surface.

PCB concentrations in the soil beneath the vault range from non-detectable to 2.28 ppm at a depth of 1 foot.

Groundwater

Groundwater in the shallow overburden (Stratum I) flows from south to north, and appears to be discharging along a 12-inch storm drain which extends through the area from Building 140. PCBs have been detected in a number of Stratum I monitoring wells located downgradient of the vault at concentrations exceeding the NYSDEC Groundwater Quality Standard of 0.1 ppb.

In addition, 1,1-dichloroethane was detected above the NYSDEC Groundwater Quality Standard of 5.0 ppb in a deeper downgradient monitoring well screened in Stratum IIB. This suggests that a hydraulic connection exists between Stratum I and Stratum IIB where an intermediate clay layer (Stratum IIA) is absent, or where the drain line penetrates into Stratum IIB.

3.2: Summary of Human Exposure Pathways:

This section describes the types of human exposure that may present added health risks to persons at or around the site.

An exposure pathway is how an individual comes in contact with contamination. The five elements of an exposure pathway are: 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. All of these elements must be present to form a completed pathway.

Based upon this criteria and data in the RI/FS Report, there are currently no completed pathways at this site. Possible future pathways include:

- Inhalation of dust during excavation activities.
- Skin contact with contaminated soil during excavation activities.

ST 51 is within a secured industrial facility, thus eliminating any threat to the general public. In addition, the area surrounding the tank is paved, preventing direct contact with the contamination by plant employees. The threat to workers associated with excavation activities would be minimized through use of a site-specific Health and Safety Plan.

3.3: Summary of Environmental Exposure Pathways:

Exposure pathways for environmental receptors are possible through contact with, and ingestion of contaminated soils and groundwater. There is no significant aquatic or wildlife population which could come into contact with the affected media.

SECTION 4: ENFORCEMENT STATUS

The NYSDEC and ALCOA entered into a Consent Order on January 16, 1985. The Order obligates the responsible parties to implement a full remedial program.

The following is the chronological enforcement history of remediation activities at ALCOA.

Date	Index No.	Subject of Order
1/16/85	T112184	RI/FS, RD/RA
9/14/89	T112184	RI/FS, RD/RA, IRM
11/22/89	T112184	IRMs
8/16/90	T112184	IRM
10/31/90	A6-0234-90-05	RI/FS, RD/RA, ROD
11/4/91	A6-0275-91-09	ROD
4/92	A6-0280-92-04	ROD

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR 375-1.10. These goals are established under the guideline of meeting all standards, criteria, and guidance (SCGs) and protecting human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Reduce, control, or eliminate the contamination present within the soils on site.
- Eliminate the threat to surface waters by eliminating any future contaminated surface water run-off from the contaminated soils on site.
- Eliminate the potential for direct human or animal contact with the contaminated soils on site.
- Prevent, to the extent possible, the migration of contaminants to groundwater.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

Potential remedial alternatives for ST 51 were identified, screened, and evaluated in the May 1996 RI/FS Report. A summary of the detailed analysis follows.

6.1: Description of Alternatives

The potential remedies are intended to address the contaminated soils and groundwater at the site.

Alternative 1 - No Action

The No Action alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state.

This is an unacceptable alternative as the site would remain in its present condition, and human health and the environment would not be adequately protected.

Present Worth:	$168,867
Capital Cost:	$ 0
Annual O & M:	$ 15,000
Time to Implement:	Immediate

Alternative 2 - Tank Closure in Place, Remove Soils

Under this alternative, the tank and associated pipe chase would be backfilled in place with flowable fill. Soils surrounding the tank with PCB concentrations above 10 ppm would be excavated for disposal in the SLF. The area would then be backfilled and paved. Long-term activities would include groundwater monitoring.

Present Worth:$432,527
Capital Cost:$141,900
Annual O & M:$ 15,000
Time to Implement:1 week

Alternative 3 - Remove Tank and Soils

This alternative is similar to Alternative 2, except that the tank and pipe chase would be excavated along with the contaminated soil for disposal in the SLF.

Present Worth:	$721,783
Capital Cost:	$344,390
Annual O & M:	$ 15,000
Time to Implement:	1 week

6.2: Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives is defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). For each of the criterion, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the RI/FS Report.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance (Table 1).

Alternative 1 would not meet the requirements of chemical-specific SCGs because soils with PCB concentrations greater than 50 ppm would be left in place, and because the potential for PCBs to leach into the surrounding groundwater and cause exceedances of NYS water quality standards would remain. Alternatives 2 and 3 would meet the requirements of chemical-specific SCGs since the contaminated soil would be removed and isolated in the SLF.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

Alternative 1 would not provide long-term protection to the environment due to the potential for groundwater impacts. Alternatives 2 and 3 are both effective in protecting human health and the environment since potential groundwater impacts would be mitigated by isolating the contaminated soil in the SLF.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

Alternative 1 would be effective in the short term because there would be no construction and, therefore, no short-term disturbances to the environment. Alternatives 2 and 3 would also be effective in the short term. Short-term effects of construction activities associated with Alternatives 2 and 3 could be easily mitigated through dust control and other measures.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on site after the selected remedy has been

implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Alternative 1 would not be effective in the long term since potential impacts to groundwater would not be mitigated. Alternatives 2 and 3 would both be effective since each reduces the potential impacts to groundwater.

5. Reduction of Toxicity, Mobility, or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 1 would not reduce the toxicity, mobility, or volume of the contaminated soil in the ST 51 area. Alternatives 2 and 3 would significantly reduce the mobility of the contaminants through isolation in the SLF.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated with the construction, the reliability of the technology, and the ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary personal and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

Each of the alternatives is technically feasible. Alternatives 2 and 3 would be administratively feasible since cleanup goals would be met. Alternative 1 would require extensive administrative effort since it would not meet regulatory requirements.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 2.

8. Community Acceptance. Concerns of the community regarding the RI/FS Report and the Proposed Remedial Action Plan have been evaluated. A "Responsiveness Summary" has been prepared that describes public comments received and how the Department will address the concerns raised.

SECTION 7: SUMMARY OF THE SELECTED ALTERNATIVE

Based upon the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC has selected Alternative 2 as the remedy for this site.

This selection is based upon the fact that while Alternatives 2 and 3 were considered equally effective, the present worth cost of Alternative 2 was considerably less than that of Alternative 3. (Alternative 1 did not satisfy the evaluation criteria.)

The estimated present worth cost to implement the remedy is $432,527. The cost to construct the remedy is estimated to be $141,900 and the estimated average annual operation and maintenance cost for 30 years is $15,000.

The elements of the selected remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Uncertainties identified during the RI/FS will be resolved.

2. The tank and pipe chase have been emptied of all remaining liquid and sludge, and the interior surfaces have been pressure-washed. Verification sampling will be conducted to document the concentration of any residual contamination.

3. The tank and pipe chase will be backfilled in place with flowable fill. Flowable fill is a low-strength, self-compacting, cementitious material used in lieu of compacted soil.

4. Soil surrounding the tank with PCB concentrations above 10 ppm will be excavated for disposal in the SLF. The area will then be backfilled with clean fill and paved.

5. ALCOA will submit a long-term groundwater monitoring plan to the NYSDEC for approval. The plan will assess the effectiveness of the remedial work, and include contingencies for additional action in the event that groundwater conditions do not improve.

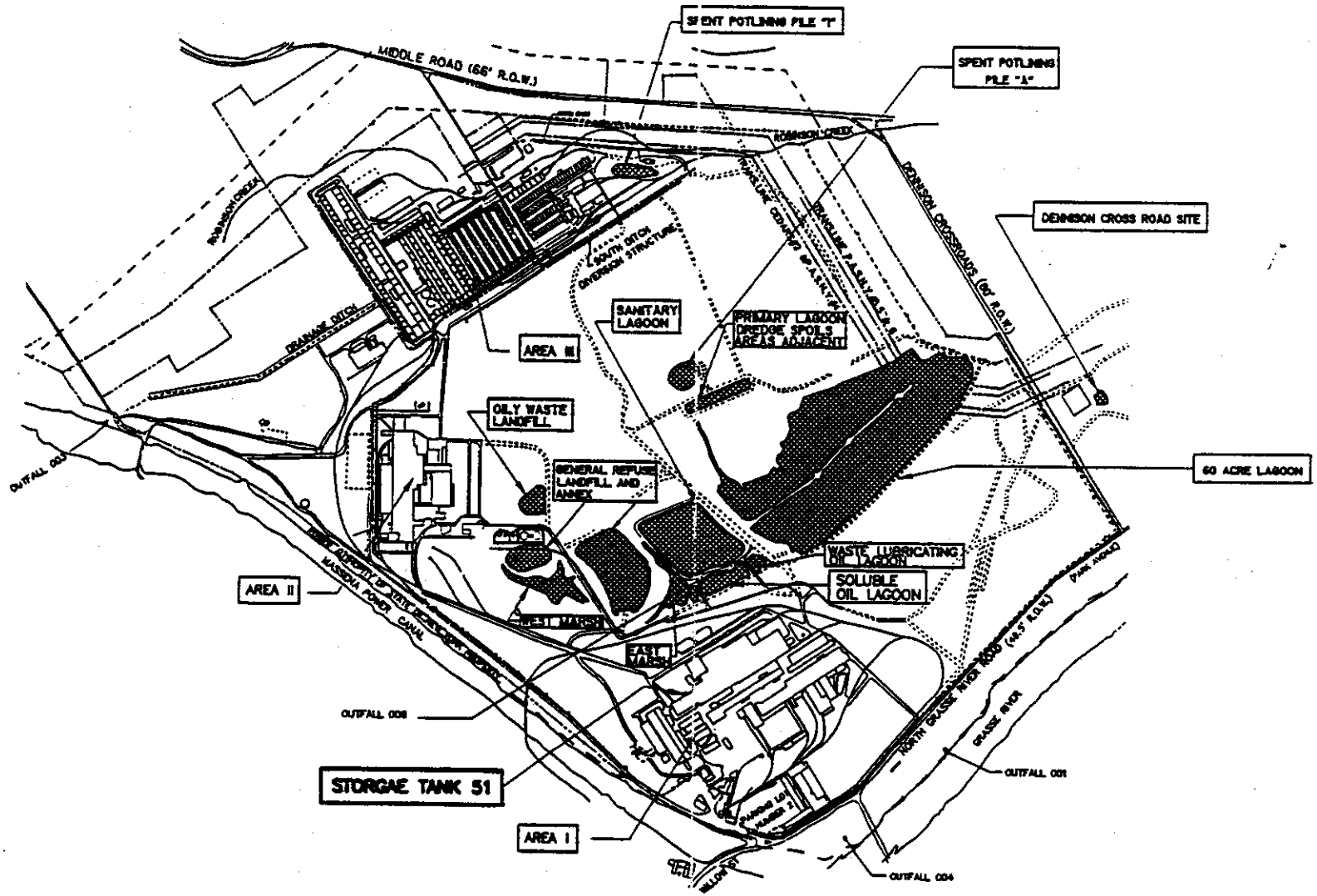
SECTION 8: HIGHLIGHTS OF COMMUNITY PARTICIPATION

On June 11, 1996, copies of the PRAP were distributed for public review and comment. An informational session was held on June 27, 1996 to provide interested parties with an opportunity to ask questions or express concerns regarding the proposed remedy.

The public comment period concluded on July 15, 1996. A summary of the comments received can be found in Appendix C, along with the NYSDEC's responses.

APPENDIX A

FIGURES



ALCOA – MASSENA, NEW YORK

SITE PLAN

2000 0 2000 4000

APPENDIX B

TABLES

TABLE 1

STANDARDS, CRITERIA, AND GUIDANCE

Regulation	Jurisdiction (Agency)	Matrix	PCB Threshold	Reference/Comments
1. Hazardous Waste Site Cleanup Goals	New York State (NYSDEC)	Soil	1 ppm (surface) 10 ppm (subsurface)	TAGM HWR-94-4046
2. Water Quality Standards	New York State (NYSDEC)	Surface Water	0.01 µg/l	6 NYCRR 701 and 702 (surface)
		Groundwater	0.01 µg/l	6 NYCRR 703 (ground)
3. Surface Water Discharge (SPDES)	New York State (NYSDEC)	Surface Runoff	001-750 ppt/ 002-300 ppt/ Aroclor	Existing ACO limits. May be revised in future consent order.
4. Hazardous Waste Regulations	New York State (NYSDEC)	Soil	>50 ppm	Defined as hazardous waste, 6 NYCRR 371.4(e)
		Liquid	>50 ppm	Land Disposal Restrictions apply; use Paint Filter Test to determine liquid content
5. Underground Storage Tank (UST)	New York State NYSDEC	Underground Storage Tanks	Not Applicable	6 NYCRR 373-2 6 NYCRR 613.9
6. TSCA	U..S Government (EPA)	All	>50 ppm	Material containing PCBs above 50 ppm is subject to TSCA (40 CFR 761)
		Soil	>50 ppm	Contaminated soil above 50 ppm must be disposed of in a chemical waste landfill, treated via incineration, or equivalent
		Liquids	>500 ppm	Treatment options include incineration or "equivalent alternate," i.e., residuals <2 ppm PCB
		Liquids	50 to 500 ppm	Treatment via incineration, high-efficiency boiler, or equivalent alternate method
7. TSCA Spill Cleanup Policy (Cleanup Goals)	U.S. Government (EPA)	Drinking Water	MCLG - 0 ppb MCL - 0.5 ppb	Maximum Contaminant Level Goal (MCLG) is zero or carcinogens Maximum Contaminant Level (MCL) is set based on excess cancer risk of 1E-04 to 1E-06. MCLs must be attained by public water supplies and may be relevant to groundwater that is or could be drinking water.

SPDES = State Pollutant Discharge Elimination System
TSCA = Toxic Substances Control Act (40 CFR 761)
RCRA = Resource Conservation and Recovery Act
HOCs = Halogenated Organic Compounds
NYCRR = New York Codes of Rules and Regulations
CFR = Code of Federal Regulations
ppt = parts per trillion (µg/ml)

* Unlisted and Non-characteristic wastes only.

TABLE 2

COSTS OF ALTERNATIVES

Alternative 1 - No Action

Item Description	Units	Quantity	Unit Price ($)	Total Cost ($)	Duration (yrs)	Present Worth ($)
Long Term Groundwater Monitoring Costs (1)				$15,000	30	$168,867
TOTAL ESTIMATED COST						$168,867

Notes:

1. Longterm monitoring includes monitoring of 4 wells
   - Compliance monitoring for 2 years
   - Semi-annual sampling performed for years 3 through 30.
   - Assumes surface water monitoring and stormwater management is covered under plant activities.

TABLE 2, *continued*

COSTS OF ALTERNATIVES

Alternative 2 - Tank Closure In Place/Remove Soil

Item Description	Units	Quantity	Unit Price ($)	Total Cost ($)	Duration (yrs)	Present Worth ($)
Site Preparation						
Mobilization/Demobilization	L.S.	1	$10,000	$10,000		$10,000
Excavation						
Excavate Soil (1)	c.y.	600	$20	$12,000		$12,000
Material Placement						
Construct SLF Space	c.y.	600	$75	$45,000		$45,000
Place Residuals in SLF	c.y.	600	$5	$3,000		$3,000
Cover Excavation Area						
Place Fill in Excavation Area	c.y.	600	$13.50	$8,100		$8,100
Place Asphalt (3 inches)	sq. yd.	600	$12	$7,200		$7,200
Other						
Fill Tank with Flowable Fill	c.y.	440	$70	$30,800		$30,800
Cleanup Verification Testing (2)	L.S.	1	$10,000	$10,000		$10,000
Treat Construction Waters	gal	216,000	$0.05	$10,800		$10,800
Seal Existing Tunnel	L.S.	1	$5,000	$5,000		$5,000
SUBTOTAL				$141,900		$141,900
Contingency (30%)				$42,570		$42,570
Engineering Design Cost (10%)				$14,190		$14,190
Construction Quality Control/Assurance Cost				$45,000		$45,000
Additional Engineering (3)				$20,000		$20,000
Long Term Groundwater Monitoring Costs (4)				$15,000	30	$168,867
TOTAL ESTIMATED COST						$432,527

Notes:

1. Assumes 10 mg/kg PCB cleanup soil cleanup level
2. Includes on-site immunoassay tests and chemical laboratory tests for 2 PCB confirmation tests and 5 VOC tests.
3. Includes Post Closure Monitoring Report.
4. Longterm monitoring includes monitoring of 4 wells
   - Compliance monitoring for 2 years (quarterly sampling).
   - Semi-annual sampling performed for years 3 through 30.
   - Assumes surface water monitoring and stormwater management is covered under plant activities.

TABLE 2, *continued*

COSTS OF ALTERNATIVES

Alternative 3 - Remove Tank and Soil

Item Description	Units	Quantity	Unit Price ($)	Total Cost ($)	Duration (yrs)	Present Worth ($)
Site Preparation						
Mobilization/Demobilization	L.S.	1	$50,000	$50,000		$50,000
Excavation						
Excavate Soil (1)	c.y.	1,840	$20	$36,800		$36,800
Demolish Tank	c.y.	210	$45	$9,450		$9,450
Material Placement						
Construct SLF Space	c.y.	2,050	$75	$153,750		$153,750
Place Residuals in SLF	c.y.	2,050	$5	$10,250		$10,250
Cover Excavation Area						
Place Fill in Excavation Area	c.y.	2,540	$13.50	$34,290		$34,290
Place Asphalt (3 inches)	sq yd	800	$12	$9,600		$9,600
Other						
Building 140 Foundation Support	L.S.	1	$20,000	$20,000		$20,000
Cleanup Verification Testing (2)	L.S.	1	$10,000	$10,000		$10,000
Treat Construction Waters	gal	216,000	$0.05	$10,800		$10,800
SUBTOTAL				$344,940		$344,940
Contingency (30%)				$103,482		$103,482
Engineering Design Cost (10%)				$34,494		$34,494
Construction Quality Control/Assurance Cost				$50,000		$50,000
Additional Engineering (3)				$20,000		$20,000
Long Term Groundwater Monitoring Costs (4)				$15,000	30	$168,867
TOTAL ESTIMATED COST						$721,783

Notes:

1. Assumes 10 mg/kg PCB soil cleanup level
2. Includes on-site immunoassay tests and chemical laboratory tests for 2 PCB confirmation tests and 5 VOC tests.
3. Includes Post Closure Monitoring Report.
4. Longterm monitoring includes monitoring of 4 wells
   - Compliance monitoring for 2 years (quarterly sampling).
   - Semi-annual sampling performed for years 3 through 30.
   - Assumes surface water monitoring and stormwater management is covered under plant activities.

APPENDIX C

EXHIBITS

EXHIBIT 1

RESPONSIVENESS SUMMARY
TO ORAL AND WRITTEN COMMENTS

COMMENT: On the federal level and in many states, PCB cleanup levels have been set higher for industrial and brownfield remedial actions. A cleanup level consistent with the federal policy would be more appropriate.

RESPONSE: The PCB-contaminated soil surrounding the tank is contributing to a contravention of groundwater quality standards. Accordingly, the NYSDEC has selected a cleanup level of 10 ppm, which will be protective of the groundwater. This is consistent with the cleanup level that is being utilized to remediate other hazardous waste disposal areas throughout the ALCOA facility, as well as the nearby General Motors plant, a federal Superfund site.

COMMENT: It is recommended that the tank be removed, rather than contained in place. This would result in a more thorough cleanup of the site, and be more protective of human health and the environment.

RESPONSE: The tank and associated pipe chase will be emptied of all remaining liquid and sludge, and the interior surfaces will be pressure-washed. Future activities will include backfilling the tank and pipe chase with flowable fill. This is intended to preclude the movement of groundwater into and out of the structures, which would have the potential to mobilize contaminants that may be present in cracks along the floors and walls. A post-closure groundwater monitoring program will also be implemented to assess the effectiveness of the remedial work. While removal of the tank and pipe chase would result in a 65% increase in remedial costs, the NYSDEC does not believe that any further protection of human health and the environment would be realized.

COMMENT: There is no discussion of the basis of the decision to landfill the material.

RESPONSE: The regulations governing the management of PCB-contaminated materials are administered by the USEPA's TSCA program and the NYSDEC. According to these regulations, PCB-contaminated soil may be placed directly into an approved chemical waste landfill, regardless of the concentration of PCBs. ALCOA's on-site Secure Landfill is a TSCA and NYSDEC-approved facility.

COMMENT: Will this material be solidified prior to landfilling?

RESPONSE: A minimum long-term bearing strength of 16 psi has been specified for all material entering the Secure Landfill to insure the integrity of the final cover system. While solidification is typically necessary for materials such as sludge and sediment to satisfy this requirement, the physical properties of most soil, including that associated with ST 51, are inherently suitable for disposal.

COMMENT: The groundwater in this area eventually flows to the St. Lawrence River, and this should be considered a pathway for exposure to humans and the environment. Any remedial action should reduce or eliminate discharges of PCBs to the St. Lawrence River via groundwater, and any additional remedies to control and/or treat groundwater should be provided.

RESPONSE: Based upon the current understanding of site conditions, it is unlikely that the contamination has migrated away from the immediate vicinity of the tank. Nonetheless, the remedial program has been designed to eliminate further releases of contaminants to the groundwater. In addition, a post-closure groundwater monitoring program will be implemented to assess the effectiveness of the remedial work. In the event that conditions do not improve, then additional remedial actions, such as groundwater recovery, will be considered. The remedy description has been modified in the ROD to reflect this concern.

EXHIBIT 2

ADMINISTRATIVE RECORD

1. *Phase 1 Assessment of Storage Tank 51*, Engineering-Science, 1991.

2. *ST-51 Phase 2 Site Investigation Report*, Engineering-Science, 1992.

3. *Remedial Investigation/Feasibility Study Work Plan for Storage Tank 51*, Camp Dresser & McKee, November 9, 1995.

4. *Remedial Investigation/Feasibility Study Report for Storage Tank 51*, Camp Dresser & McKee, May 1996.

5. *Proposed Remedial Action Plan*, NYSDEC, June 1996

6. *Record of Decision*, NYSDEC, July 1996