Department of Environmental Conservation

Division of Environmental Remediation

Amended Record of Decision

Stauffer Management Co.- Skaneateles Falls Site

Skaneateles (T), Onondaga County

Site Number 7-34-010

DECEMBER 2001

New York State Department of Environmental Conservation
GEORGE E. PATAKI, ***Governor*** **ERIN M. CROTTY,** ***Commissioner***

Amended Record of Decision
Stauffer Management Co. - Skaneateles Falls Site
Town of Skaneateles Falls, Onondaga County, New York
Site No. 7-34-010

Statement of Purpose and Basis

The Amended Record of Decision (ROD) presents the selected remedial action for the Stauffer Management Co. - Skaneateles Falls Site, which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is consistent 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 Stauffer Management Co.- Skaneateles Falls Site and upon public input to the Proposed Amended ROD presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the Amended 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 Amended ROD, presents a current or potential significant threat to public health and the environment**.**

Description of Amended Remedy

Based upon the evaluation presented in the May 2001, Focused Feasibility Study (FFS) and the Proposed Amended Record of Decision (ROD), the Department has amended the remedy for this site to include excavation of additional volumes of soil and waste, remediation of Areas of Environmental Concern (AECs) 6, 7 and 8, and of off-site disposal instead of excavation with on-site disposal, containment and treatment in a Corrective Action Management Unit (CAMU) cell, as originally specified in the 1996 ROD. The groundwater remediation components will not change.

The 1996 ROD requires that the excavated material exceeding Standards, Criteria and Guidance (SCGs) be encapsulated on-site for treatment in a CAMU cell. The long-term management and maintenance of these materials on-site are not believed to be as cost effective as originally anticipated due to increased long-term operation and maintenance costs and the increased volume of contaminated soils and wastes found at the site.

Implementation of the original ROD may be more difficult to operate and maintain, and also limits the long-term reuse of the property. Consequently, the off-site disposal alternative technology was re-evaluated based upon its' ability to permanently mitigate the observed impacts, limit the degree of post-closure care, promote beneficial re-use of the property, and be equally or more protective of human health and the environment than the original ROD remedy.

The summary for the Amended Remedy is listed below:

1. Excavate contaminated soils and waste from the Landfill Area (AEC-1) that exceed Standards, Criteria and Guidance (SCGs), characterize, then dispose off-site at an appropriate disposal facility.

2. Excavate contaminated soils and waste from the North Plant Area (AEC-2) that exceed SCGs, characterize, then dispose off-site at an appropriate disposal facility.

3. Excavate contaminated sediments from the Skaneateles Creek (AEC-5) that exceed SCGs, characterize, then dispose off-site at an appropriate disposal facility. Excavate and dispose of off-site identified abandoned pipe in the Skaneateles Creek.

4. Excavate contaminated soils and waste from newly identified remedial areas: Main Plant Building as AEC-6, Area in Front of Main Plant Building as AEC-7, and South Plant Area as AEC-8, that exceed SCGs, characterize, then dispose off-site at an appropriate disposal facility.

5. Excavate PCBs that exceed site cleanup SCGs, characterize, then dispose off-site at an appropriate disposal facility.

6. Establish Site Specific Remedial Goals (SSRGs) for confirmatory sampling of metals contaminated soils.

7. Remediate residual metals contaminated soils that exceed SSRGs by excavation with off-site disposal or on-site isolation/treatment technologies.

8. Demolition of Main Plant Building and remediation of impacted soils underneath the building.

9. Design, construct and operate a shallow groundwater extraction and treatment system for AEC-3. Treated water will be discharged to Skaneateles Creek through SPDES permitted outfalls and monitored for compliance by the NYSDEC Division of Water.

10. No action for deep groundwater (AEC-4), but monitoring will be conducted to assess expected improvements.

11. Contingency for future extraction and treatment of deep groundwater (AEC-4), if source removal and natural attenuation fails to promote adequate improvements.

12. De-watering operations and subsequent treatment of water generated from excavation activities.

13. Ensure and implement truck traffic safety protocols as well as implement appropriate decon and emergency spill procedures for disposal trucks along designated transportation route.

14. Institutional controls, including restricting future site use to only Industrial/Commercial purposes and restricting on site groundwater usage.

Institutional controls under the amended remedy will include: deed restrictions to protect remedial features and restrict on-site groundwater use; deed restriction to prohibit the site from ever being used for purposes other than for appropriate industrial or commercial enterprises, as explained below, without the express written waiver of such prohibition by the Department and the NYSDOH ; restricted site access; long term monitoring of site conditions; and routine maintenance operations, such as, fence repairs and lawn mowing. Appropriate industrial or commercial uses of the property would have to be consistent with any applicable zoning ordinances, but would not include enterprises that draw susceptible portions of the community to the property for activities that may lead to exposures to residual site contamination (e.g. day care, child care, medical treatment facilities, some recreational enterprises).
Site monitoring will include a periodic survey of groundwater use in the area and efforts for early identification of any future threats to drinking water wells.

New York State Department of Health Acceptance

The New York State Department of Health 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 preference for remedies that reduce toxicity, mobility, or volume as a principal element.

_____ _____

Date

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

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Town of Skaneateles, Onondaga County, New York
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December 2001

SUMMARY AND PURPOSE OF THE AMENDMENT

The New York State Department of Environmental Conservation, ("The Department"), in consultation with the New York State Department of Health, is amending the selected remedy for the Stauffer Chemical Inactive Hazardous Waste Disposal Site to address the significant threat to human health and the environment created by the presence of hazardous waste. The site (also known as the Stauffer Skaneateles Falls Site, or, the ICI Americas, Inc. Site), is a Class 2 inactive hazardous waste disposal site located in the Town of Skaneateles, Onondaga County. A Record of Decision (ROD) documenting the site remedy was previously completed in March 1996. Since 1996, a portion of the remedy has been implemented, but the major waste removal effort has not yet commenced.

As more fully described in Sections 2 and 3 of this document, past chemical processing and manufacturing operations at the site have resulted in the disposal of hazardous waste at the site, primarily xylene (F003 and U239 listed waste), some of which was released and has migrated into soils, groundwater and sediments at the site. These disposal activities have resulted in the following threats to human health and the environment:

1. a significant threat to human health associated with potential exposure to: wastes in the landfill and north plant areas, contaminated soils throughout the plant site, and groundwater beneath the site.
2. a significant environmental threat associated with the impact of site contaminants on Skaneateles Creek and the

groundwater.

In order to eliminate or mitigate the significant threats to the public and the environment, the following components of and amendments to the previously selected remedy are:

Retained 1996 ROD Components:

1. Removal of contaminated soil, sediment and waste from the landfill, north plant area, and Skaneateles Creek.
2. Installation, operation and monitoring of a shallow groundwater extraction system, and on-site treatment and discharge of treated water to Skaneateles Creek.
3. On-site treatment of construction water.
4. Monitoring to evaluate remedy effectiveness.
5. A contingency for extraction and treatment of deep groundwater if source removal and natural attenuation fail to reduce contamination.
6. Institutional controls, including restricting future site usage to only Industrial/Commercial purposes and restricting on site groundwater usage.

Components Added to the 1996 ROD:

1. The main plant building will be demolished, and the debris disposed off-site.
2. Additional areas of contaminated soil will be removed: additional volume of soils associated with the landfill and north plant areas; soils around and beneath the main plant building foundation; soils in the area in front of the main plant building; and soils in the south plant area.
3. Cleanup objectives for PCBs added for site soils.
4. Establish site specific remedial goals (SSRG's) to control residual metals contamination in the soils.
5. Excavated contaminated soils and waste exceeding soil cleanup guidance will be disposed at a permitted off-site disposal facility.
6. Sediments to be removed from the Skaneateles Creek will be identified pursuant to a Skaneateles Creek Habitat Assessment and Map prepared by the NYSDEC Fish and Wildlife, and when such sediments are excavated, that they be disposed at a permitted off-site disposal facility. Restoration of the Creek will be guided by the Habitat Assessment and Map.
7. Metals contaminated soils containing residuals above SSRG's will be removed from the site for off-site disposal or be remediated on-site by capping, isolation and/or stabilization technologies.
8. Institutional controls under the amended remedy will include: deed restrictions to protect remedial features and restrict on-site groundwater use; deed restriction to prohibit the site from ever being used for purposes other than for appropriate industrial or commercial enterprises, as explained below, without the express written waiver of such prohibition by the Department and the NYSDOH; restricted site access; long term monitoring of site conditions; and routine maintenance operations, such as fence repairs and lawn mowing. Appropriate industrial or commercial uses of the property would have to be consistent with any applicable zoning ordinances, but would not include enterprises that draw susceptible portions of the community to the property for activities that may lead to exposures to residual site contamination (e.g. day care, child care, medical treatment facilities, some recreational enterprises). Site monitoring will include a periodic survey of groundwater use in the area and efforts for early identification of any future threats to drinking water wells.

Components Deleted from the 1996 ROD:

1. Eliminate the on-site treatment and containment cell (Corrective Action Management Unit, or CAMU, cell).
2. Eliminate the installation of the 5-acre clay cap over the

north plant area and vertical cutoff wall between the north plant area and Skaneateles Creek.

SECTION 1:

INTRODUCTION

In March of 1996, the New York State Department of Environmental Conservation ("the Department") issued a Record of Decision (ROD) which selected a remedy to address contamination in soils, sediments and groundwater associated with the Stauffer Management Co.-Skaneateles Falls Site. The 1996 ROD called for remediation of several areas of environmental concern (AECs), including excavation of the landfill area (AEC-1), the north plant area (AEC-2), and Skaneateles Creek sediments (AEC-5). Contaminated soil and wastes were to be disposed and treated in a permanent, on-site treatment and containment cell (Corrective Action Management Unit, or CAMU, cell). Included in the 1996 ROD remedy was extraction of contaminated groundwater from overburden and shallow bedrock beneath the site (AEC-3), followed by treatment in an on-site facility. The ROD also provided for the continued monitoring of the deep groundwater aquifer (AEC-4).

After the ROD was issued, the Department and Stauffer Management Company (Stauffer) entered into a legal order for designing and implementing the selected remedy. An Order on Consent was signed in March of 1997 and then Stauffer began the remedial design. Stauffer's design was approved by the Department in December 1998. The waste water treatment facility was constructed and became operational in 1999 and is currently operating under a State Pollution Discharge Elimination System (SPDES) Permit with the NYSDEC Division of Water.

Prior to the start of construction of the CAMU cell, Stauffer and the Town of Skaneateles discussed potential future site redevelopment, and the impact that the remedy may have on this activity. The CAMU cell, because of its large size and the on-site area it would need to occupy, was a concern for possible future site redevelopment efforts.

In 1999, Stauffer, approached the Department with a proposal for a Low Temperature Thermal Desorption (LTTD) pilot test program, to see if this technology would be appropriate for the destruction of site contaminants and thus eliminate the need for the CAMU cell. After agreement was reached on the how to evaluate this technology, two separate pilot studies were conducted in late 1999 and early 2000. The pilot tests and the technology were unsuccessful in fully meeting the required Standards, Criteria and Guidance (SCG's) limits established in the 1996 ROD. Therefore, this technology was abandoned.

In 2000, Stauffer again approached the Department and proposed to re-evaluate off-site disposal in lieu of on-site treatment and disposal in the CAMU cell. An off-site disposal option was originally evaluated in Stauffer's 1995 Feasibility Study and rejected, mainly due to cost considerations. However, since 1996, the costs for off-site disposal have dropped significantly.

In early 2000, Stauffer submitted a letter to the Department supporting its contention that the xylene contaminated wastes at the site are solid wastes which should not be regulated as listed hazardous wastes. Based on the Departments' regulatory review, and Federal testing methods approved in 1998, it was determined that, although the xylene was a listed F003 and U239 hazardous waste at the time of disposal, soils and wastes which contain the listed F003 and U239 hazardous wastes but which do not exhibit the characteristic of

ignitability when excavated could be disposed off-site at a Part 360 (Solid Waste) permitted disposal facility as long as they exhibit no other hazardous waste characteristics. Based upon this determination, Stauffer then applied to the Department to amend the 1996 ROD to change the method of disposal of the excavated wastes from the CAMU cell to an appropriate off-site disposal facility. The amendment also included demolition of the main plant building and the excavation of additional areas of contaminated soils. The groundwater extraction and treatment components of the 1996 ROD would remain unchanged and installation of the extraction system would be completed as per the 1998 approved remedial design.

Stauffer submitted a Focused Feasibility Study (FFS) at the end of February 2001 to re-evaluate the off-site disposal alternative and compare it to the selected 1996 ROD remedy. The FFS was revised in April and May 2001 and subsequently approved by the Department in May 2001. Based on the evaluations presented in the FFS, the Department has prepared this Amended ROD.

The Department has issued this Amended ROD as a component of the citizen participation plan developed pursuant to the New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in greater detail in the March 1996 ROD, the approved remedial designs, the approved May 2001 FFS, and other reports and documents which are available for review at the document repositories.

To better understand the site and the investigations conducted, the public is encouraged to review the project documents at the following repositories:

Town of Skaneateles, Town Hall
24 Jordan Street
Attn: Town Clerk
Skaneateles, New York, 13152
Call (315) 685-3473 for hours

NYSDEC - Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7017
Salvatore F. Priore, P.E., Project Manager
(518) 402-9669

NYSDEC - Region 7 Office
615 Erie Boulevard West
Syracuse, New York 13204-2400
Attn: Gina Brown
(315) 851-7220
Mon.-Fri., 8:30 am to 4:45 pm (by appointment)

The Department obtained input from the community on this ROD Amendment. A public comment period was established from August 20, 2001 to September 28, 2001, and provided an opportunity for public participation in the remedy selection process for this site. A public meeting was held on August 30, 2001, at the American Legion Hall, Jordan Road, Skaneateles Falls.

At the meeting, the FFS was presented along with a summary of the remedy. After the presentation, a question-and-answer period was held, during which the public commented on the Amended ROD. A Responsiveness Summary was prepared and a summary of comments received and answers to those

comments are presented in Appendix A. Based on the comments received, the Department is not modifying the preferred alternative remedy presented in this Amended ROD, since no new information was revealed during the public comment period.

SECTION 2:

SITE LOCATION AND DESCRIPTION

The Stauffer Site is located in central New York State in the Town of Skaneateles, Onondaga County, as shown in Figure 1. The Stauffer property encompasses an area of approximately 120 acres, of which the identified site occupies an area of approximately 68 acres and is located at 4512 Jordan Road, approximately three miles north of Skaneateles Lake and approximately 20 miles west of the city of Syracuse. The site is bounded to the west and north by a mix of residential and commercial property. The east and south areas of the site are bounded by undeveloped property.

Stauffer Chemical Company purchased the facility from Cowles Chemical Company in 1968 and continued operations until 1985, when it shut down all operations. There are currently no manufacturing activities conducted at the facility.

The property is divided into two unequal portions by Skaneateles Creek. The focus of this Amended Remedy is the former manufacturing operation areas and the previously closed landfill (AEC-1). The site landfill is located along the east side of Skaneateles Creek and was closed in the early 1980's. There are also several settling ponds and evaporation ponds located on the eastern portion of the property.
The ponds were evaluated and closed under existing permits in the early 1980's. The conditions of these ponds were re-evaluated during design investigations under the site remedial program and no apparent contaminant problems that pose concern for human health or the environment were discovered.

The previous manufacturing areas are located to the west of Skaneateles Creek and include the inactive main plant manufacturing building, which is still present, and the previously removed chemical operations plant which is referred to as the north plant area (AEC-2). The chemical operations plant was previously demolished, although numerous foundations and floor slabs remain in the area.

SECTION 3:

SITE HISTORY AND CONTAMINATION

3.1: Site History

In the March 1996 ROD, a remedy for this site was selected to address site soils contaminated with volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) and contaminated groundwater present beneath the site. Contaminated soils were to be excavated, disposed and treated in an on-site, engineered treatment and disposal cell, designated as a Corrective Action Management Unit (CAMU). Groundwater would be extracted and treated via an on-site groundwater treatment system. Based upon data available at the time, the ROD called for the excavation and treatment/disposal of approximately 60,000 cubic yards (CY) of contaminated soil.

The primary Areas of Environmental Concern (AECs) addressed by the 1996 ROD were delineated in 1991- 1994 Remedial Investigation and 1995 Feasibility Study (RI/FS) reports by EA Engineering, Science and Technology.

Additional AECs were later delineated on the basis of subsequent site investigation activities completed on behalf of Stauffer (EA - 1996; O'Brien and Gere Engineers- 1997; IT Corporation - 1999). The principal areas of environmental concern (AEC) identified in the 1994-5 RI/FS reports and in the 1996 ROD, are as follows:

1. AEC-1 Existing Landfill
2. AEC-2 North Plant Area (former organics plant)
3. AEC-3 Shallow Groundwater (overburden and upper bedrock)
4. AEC-4 Deep Groundwater (deep bedrock)
5. AEC-5 Skaneateles Creek (seeps, surface water and sediments)

The primary Contaminants of Concern (COC) as highlighted in the RI report (EA 1994) and the Hydrogeologic Investigation (OBG 1997) were organic chemicals, primarily xylene and toluic acid isomers. These organic chemicals were found in the highest concentrations at the site. Metals (lead, chromium, cobalt, mercury, et.al.) were also found to be above the anticipated background levels and above the identified Standards Criteria and Guidance (SCG's) levels at several locations across the site. During the Remedial Investigation (RI) phase of the project, the areas of soil and sediment contamination were defined as follows:

1. AEC-1 Existing Landfill
2. AEC-2 North Plant Area (former organics plant)
3. AEC-5 Skaneateles Creek sediments

During the RI, the limits of AEC-1 and AEC-2 were delineated as shown in Figure 2. The landfill (AEC-1) waste was found to consist of a mixture of numerous crushed metal and fiber drums, debris (wood, scrap metal, brick, concrete, etc.), general waste (plastic, paper, glass), manufacturing waste, black soil-like fill (presumably carbon) and soil fill. The black material was less than 2% of the landfill volume (EA 1994). Waste samples collected by EA showed xylene concentrations ranging from non-detect to 25,000 ppm with an average of 2,700 ppm and toluic acid concentrations ranging from non-detect to 8,500 ppm with an average of 500 ppm.

The observed concentrations of metals in the perimeter soil samples of the landfill were generally consistent with typical background concentrations (ROD 1996). Some metal concentrations from the interior landfill samples were above New York State background levels, such as, cobalt 710 to 4,230 ppm, chromium 15.2-164 ppm, mercury 0.2-0.8 ppm, and lead, 2.4 to 160 ppm.

The area north of the main plant building (AEC-2) was found to consist of concrete pads, paved and gravel parking areas, grassy areas, an access road, an entrance gate, and the sanitary sewage leach field (EA 1994). Samples in this area showed xylene concentrations ranging from non-detect to 2,200 ppm with an average of 130 ppm and toluic acid concentrations ranging from non-detect to 46 ppm with an average of 5 ppm. Several metals including: mercury, nickel, zinc, arsenic, cadmium and lead were detected above background concentrations.

Creek seep and landfill seep sediments had elevated levels of VOCs and SVOCs. All the metal concentrations detected in seep sediment samples were within levels anticipated as background in New York State soils. The creek sediments (AEC-5) were found to have some polynuclear aromatic hydrocarbons (PAHs) and metals significantly above levels of concern for aquatic sediment [cadmium max 1.9 ppb; lead max

293 ppb; mercury max 2.0 ppb; nickel max 48.7 ppb].

The analytical data is also summarized in Table(s) 1.1-1.6, and detailed in the Final RI/FS Reports by EA Engineering, Science and Technology dated 1994 and 1995.

The 1996 ROD considers the landfill (AEC-1) and north plant area (AEC-2) to be the predominant contaminant source area(s). These source areas have had impacts on both the shallow and deep groundwater aquifers as well as impacting Skaneateles Creek.

The remedy selected by the 1996 ROD includes a combination of no-action with monitoring, containment, removal, treatment and on-site disposal. The specific components of the ROD Remedy selected in 1996 include:

1. Construction and operation of an on-site, engineered treatment and disposal cell. The cell would be considered a Corrective Action Management Unit (CAMU) under Federal and State regulations that govern hazardous waste disposal. Treatment would consist of Soil Vapor Extraction (SVE) and Bio-venting for treatment of organic contaminants.

2. Removal of waste source areas and contaminated soils from the landfill (AEC-1) and north plant area (AEC-2), with treatment and disposal of the wastes in the on-site engineered treatment cell.
3. Containment of residual metal contaminated soils in the north plant area.

4. Excavation of sediments from Skaneateles Creek (AEC-5), with disposal and treatment in the on-site engineered treatment cell.

5. Extraction and treatment of the shallow groundwater aquifer affected by the source area(s).

6. Groundwater monitoring of both on and off-site wells to evaluate the effectiveness of remedial operations.

7. No action for deep groundwater (AEC-4), with monitoring to assess improvements expected to result from removing site sources areas and natural attenuation.

8. Contingency for future extraction and treatment of deep groundwater (AEC-4) should source removal and natural attenuation not promote adequate improvements to the deep bedrock groundwater aquifer.

9. Institutional controls, including restricting future site usage to only Industrial/Commercial purposes and restricting on-site groundwater usage.

The 1996 ROD remedy was selected based upon the information contained in the 1995 Feasibility Study prepared by EA Engineering, Science and Technology (EA) for Stauffer and took into consideration Stauffer's intention to indefinitely retain the property and main plant building. On-site treatment and long-term management of the waste was considered to be a preferable remedial alternative over off-site disposal. Due primarily to cost, it was determined at the time the FS and ROD were issued that off-site disposal would be a less feasible alternative. Fundamental changes have occurred with regards to intended future property use and cost projections subsequent to issuance of the 1996 ROD. These changes have caused Stauffer to re-evaluate and recommend off-site disposal over the previously selected on-site treatment and disposal in the CAMU cell. As outlined in the May 2001 FFS

report, off-site disposal has now been identified as a remedial alternative that could cost effectively and permanently address the soil contamination at the site.

3.2: Site Geology and Hydrogeology:

The Stauffer site consists of approximately 68 acres located in the Eastern Lakes Plain Forestry sub-region of central New York State Region (Stout. 1958). The former manufacturing area consists of approximately 20 acres and includes a main plant building, former chemical operations area, a former landfill, former tank areas, parking areas, driveways, and lawn areas. The soil types in this area are of the Cazenovia Series (Cfb) or are Made Land (ML). The Cazenovia Series is well suited for all but wetlands habitats (EA 1995).

3.2.1: Site Geology

The overburden soil at the site consists of unstratified glacial deposits and recent aged alluvial deposits. Two types of glacial deposits are present at the site. Over most of the site area, a red clay till is present consisting of a sticky reddish clay with no visible stratification.

A brown till consisting of a poorly sorted mixture of clay, silt, sand, gravel and boulders is present below the southern portion of the landfill and the areas immediately to the south and southwest of the landfill (ROD 1996).

A layer of course sand, angular gravel, and cobbles, ranging in thickness from 4 to 7 ft., is present directly overlying bedrock south, southwest, and west of the landfill. This layer appears to be associated with a low bedrock surface in this portion of the site (ROD 1996). Further details on the site geology are included in the 1996 ROD, RI/FS (EA 1994, 1995), and O'Brien and Gere Engineers (OBG), "Final Remedial Design Report" dated December 1998 (OBG 1998).

3.2.2: Site Hydrogeology

There are three distinct zones of groundwater at the Stauffer site: a shallow zone present in the overburden, an intermediate zone present in the upper bedrock just below the overburden, and a deep groundwater zone present 60 to 70 feet below ground surface. The shallow overburden and upper groundwater zones together comprise AEC-3. The deep bedrock zone comprises AEC-4.

Lateral migration of groundwater through the overburden is through the pore spaces in the soil and is controlled by horizontal hydraulic gradients across the site. These gradients are influenced by both the local topography and surface water drainage.

A general downward vertical hydraulic gradient between the overburden and upper bedrock persists across most of the site. Hydraulic communication between overlying soils and the upper bedrock exists via fractures and/or joints in the upper bedrock. Groundwater movement from the upper zone bedrock to the deep zone is controlled by the southerly dip of the bedrock strata, with some deviation along the east-west strike of the bedrock plane.

SECTION 4:
COMPLETED WORK AND DESIGN ACTIVITIES

Additional site investigations were completed subsequent to the 1996 ROD. In 1997 O'Brien & Gere Engineers (OBG) completed investigations during soil remediation design activities and in 1999 IT Corporation completed investigations as part of the construction phase of the groundwater treatment system. A supplemental field investigation was also conducted by SPEC Consulting in 2000 and is summarized in the "Test Pit Summary Report" dated January 5, 2001.

The work completed by OBG during design activities consisted of the installation of 11 soil borings and the excavation of 73 test pits/trenches. The soil borings were installed along the perimeter of the landfill and north plant areas and along the future location of the groundwater collection trench through the north plant area. The test pits and trenches were excavated in the landfill, north of the landfill and in the north plant area. Soil samples were collected and analyzed for VOCs and SVOCs. The results of the sampling showed xylene concentrations ranging from non-detect to 140 ppm. A detailed summary of the OBG investigation, including the laboratory results, is presented in the OBG "Final Remedial Design Report", dated December 1998 (OBG 1998).

In 1999, the IT Corporation was retained by Stauffer for the purpose of addressing any potential data gaps that would impede the implementation of the 1996 ROD, or an alternative remedy. IT Corporation installed 31 test pits across the property, and collected soil samples from the test pits for laboratory analysis. As a result of this investigation, the limits of contamination were found to be larger than originally delineated in the RI. The new limits of contamination determined by IT Corporation are shown in Figure 2. A summary of the investigation activities and the laboratory results are outlined in IT Corporation's Report titled "Results of Additional Site Assessment Activities", dated January 1999 (IT 1999).

Other work completed since the 1996 ROD includes:

- Groundwater Treatment Facility and SPDES Permit
- Lead and asbestos survey for the main plant building
- Installation of the de-watering system for the landfill
- Installation of staging and decon pads
- Installation of some groundwater extraction wells
- Installation and operation of air monitoring stations
- LTTD Pilot Tests
- Removal and disposal of old tanks from the main plant building and drums from the landfill area and north plant during LTTD Pilot Tests excavations
- Infrastructure work to utilities, roadways and drainage structures
- Additional PCB sampling,(soils and SPDES outfalls)
- Re-sampling of monitoring wells

SECTION 5:

SUMMARY OF NEW INFORMATION

The primary changes in the identified amended remedy include the addition of new areas to be remediated, a significant increase in the volume of contaminated soils requiring excavation and disposal, and the replacement of the on-site treatment and containment cell with off-site disposal in permitted landfills. The newly identified site areas that require remediation and have been added to the amended remedy are located on the west side of Skaneateles Creek and include the main plant building (AEC-6), the area in front of the main plant building (AEC-7), and the south plant area (AEC-8), (See Figure 2).

Subsequent to the 1996 ROD, Stauffer decided that it no longer intended to market or otherwise reuse the main plant building. As such, demolition of the building and evaluation and possible excavation of contaminated soils from beneath and around the building foundation has been included as part of the amended remedy for AEC-6. AECs - 7 and - 8 (the areas in front of the main plant building and south of it) were found to be contaminated in sampling events completed subsequent to the 1996 ROD. AEC-7, the area in front of the main plant building, is the former location of underground oil tanks used for boiler fuel storage during plant operations. AEC-8, the area just south of the main plant building is the location of the former above ground storage tank farm. Excavation and off-site disposal of contaminated soils from these AECs has been added to the amended remedy.

The estimated volume of soils requiring excavation has grown from 60,000 cubic yards to an estimated range of 100,000 to 150,000 cubic yards. The increased volume arises from the newly added areas to be remediated, and from a substantial increase in the volume of waste & soils expected to be excavated from the landfill (AEC-1) and north plant area (AEC-2).

The most significant new information leading to this proposed amendment is not directly related to the site contamination but to the feasibility of off-site disposal. Since the 1996 ROD was issued, changes have taken place to both the testing procedures for disposal purposes, and to the costs of off-site disposal. New Federal testing procedures provide for removing certain solid hazardous wastes from regulation as hazardous waste if the results of this test proves the solids are no longer ignitable. This procedure has been determined to be applicable to the F003 and U239 listed hazardous wastes found in the soils and waste at the Stauffer site. Site waste and soils that pass this testing would be allowed to be disposed in a non-hazardous, but permitted solid waste landfill
(6 NYCRR Part 360). This change in the regulatory status of site wastes containing F003 and U239 listed wastes, combined with the substantial drop in tipping fees for permitted landfills that has occurred since 1996, makes the off-site disposal option much more cost effective than in 1995 when it was rejected because of high costs.

The excavated soils and wastes will also be tested for the remaining hazardous waste characteristics, namely corrosivity, reactivity and toxicity. Soils and wastes must also pass these tests in order to be disposed in a 6 NYCRR Part 360 (Solid Waste) landfill. In all instances, the results of the characteristic testing, including ignitability, will determine the ultimate off-site disposal facility, either a
6 NYCRR Part 360 (Solid Waste) or a 6 NYCRR Part 373 (Hazardous Waste) facility.

SECTION 6:

SUMMARY OF REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to meet all Standards, Criteria and Guidance (SCGs) and be protective of human health and the environment. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment through the proper application of scientific and engineering principles.

The goals established for this site are unchanged from those set forth in the 1996 ROD, except that they are extended to apply to the newly identified AECs 6, 7 and 8. The goals

established for this site are as follows:

- *Eliminate to the extent practicable the potential for direct human or animal contact with site related contaminants.*
- *Reduce, control, or eliminate to the extent practicable the contamination within soils and wastes on the site and the generation of leachate from AECs 1, 2, 6, 7 and 8.*
- *Mitigate environmental threats to Skaneateles Creek by eliminating to the extent practicable further inflows of any contaminated runoff, contaminated groundwater, and leachate from contaminated soils and waste.*
- *Mitigate site related contamination within creek sediments to levels that will not impair aquatic organisms and promote unimpaired use by aquatic organisms.*
- *Prevent to the extent practicable, migration of contaminants from AECs 1, 2, 6, 7, and 8 to groundwater.*
- *Mitigate the impacts of contaminated groundwater on the environment.*
- *Provide for the attainment of SCGs for groundwater quality at the limits of AEC 3, the shallow groundwater, and AEC 4, the deep groundwater, and to the extent practicable, provide for SCG attainment within these AECs.*

6.1: Standards, Criteria and Guidance (SCGs)

SCG's for soils and wastes at this site are based on the recommended soil cleanup guidelines in the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046, and are set forth in Table 1.1 for the volatile, semi-volatile and PCB contaminants found in site soils and waste. SCGs for creek sediments are based on the sediment screening criteria from NYSDEC Technical Guidance for Screening Contaminated Sediments, and are set forth in Table 1.2.

Site Specific Remedial Goals (SSRGs) are guidelines for control of soils that do not exceed SCGs for organic contaminants, but contain metals at residual levels. The SSRGs were proposed by Stauffer to identify soils that contain metals at levels of concern for direct human exposure. The SSRGs were reviewed and accepted on a site specific basis by the Department and the New York State Department of Health, and are to be used to ensure no soils are left where human exposure to residual metal contaminants could be a concern. This acceptance was premised on the fact that any future site usage would be restricted to only Industrial/Commercial purposes. The SSRGs are set forth in Table 1.1.

SCGs for surface water and groundwater quality are based on NYSDEC Ambient Water Quality Standards and Guidance Values and on Part V of the New York State Sanitary Code. SCGs for water quality are set forth in Table 1.4, Table 1.5 and Table 1.6.

SECTION 7:

EVALUATION OF THE AMENDED REMEDY

7.1: Summary of the 1996 ROD Remedy

The remedy selection process leading to the March 1996

Record of Decision (ROD) considered the detailed evaluation of technologies and the six Site Wide Alternatives (SWAs) developed in the final Feasibility Study (FS) submitted by Stauffer (EA 1995). SWA-6, Removal with On-site Treatment and Disposal, was recommended in this Feasibility Study and was ultimately selected by the Department, with some revision, as the remedy for the site. SWA-6 was incorporated into the 1996 ROD for the Stauffer site.

Due primarily to costs, the 1995 FS screened out the off-site disposal alternative. Because of the new information discussed in Section 5, this alternative was re-evaluated in the 2001 Final Focused Feasibility Study (FFS) submitted by Stauffer.

The remedy selected in the 1996 ROD included the following components:

- AEC-1: excavation of approximately 45,000 CY of contaminated soil and waste that exceed soil SCGs from the former landfill and bordering area.
- AEC-2: excavation of approximately 4,100 CY of contaminated soil and waste that exceed soil SCGs, and installing a 5-acre clay cap and slurry wall to isolate the remaining residual metals contaminated soils.
- AEC-3: pump and treat system for shallow groundwater.
- AEC-4: monitoring with contingency to pump and treat deep groundwater if source removal and natural attenuation fails to adequately reduce contaminants in the deep groundwater.
- AEC-5, dredge affected sediments (approximately 2,737 CY).
- All removed soils and waste would be placed into an on-site treatment and disposal cell. The cell would treat VOC and SVOC contaminants via SVE/Bio-venting mechanisms.
- Contaminated groundwater and construction generated water would be treated in on-site treatment system, with discharge of treated water via a permitted outfall to the Skaneateles Creek.

7.2: Explanation of the Amended Remedy

Based upon the new information available for the site and, a reevaluation of the alternatives available, the remedy set forth in the March 1996 Record of Decision (ROD) would be amended to include remediation of additional areas of environmental contamination and to provide for off-site disposal in lieu of on-site treatment and disposal.

The amended remedy will include the excavation of contaminated soils and wastes from the former landfill area (AEC-1), the north plant area (AEC-2), the main plant building (AEC-6), the front of the main plant building (AEC-7), and the area south of the main plant building (AEC-8) as shown in Figure 2. Excavation would include removal of all soils and waste that contain contaminants in excess of the SCGs listed in Table 1.1. Stauffer's current estimate of the volume of soils to be removed and disposed provides a range of from 100,000 to 150,000 cubic yards.

Excavation of site soils and wastes would be based on the presence of SCGs for organic contaminants. However, the site soils also contain several metal contaminants of concern and it is expected that small volumes of soil exceeding site background levels will remain. To ensure that no unacceptable levels of metals contamination remains, the amended remedy will also require confirmatory sampling for metals. Soils containing residual metals that exceed the SSRGs listed in Table 1.1 would pose a concern for long term direct human

exposure in an Industrial/Commercial setting. Depending on the location and volume of soils above SSRG levels that remain following excavation, the Department will direct that the soils either be: removed for off-site disposal; capped in place; placed below finished grade and covered with clean fill; or subject to stabilization treatment prior to capping or isolation on-site. Any metals contaminated soils that fail the required tests for hazardous waste characteristics will be removed for off-site disposal at a permitted facility.

The remedy for Skaneateles Creek (AEC-5) remains unchanged from the 1996 ROD, and will require removal of creek sediments that exceed the SCGs listed in Table 1.2 from the creek bed in the vicinity of the site to the Mill Pond at Madison Filter. Also identified was the discovery of and abandoned pipe in the creek bed that will require excavation and off-site disposal. Removal of the sediments would extend downstream as far as the mill pond west of Jordan Road, adjacent to Madison Filter and would include removal of the side-cast material present on the banks of the mill pond. Where feasible, sediment removal will be completed in a "surgical" manner to minimize disruption to the creek habitat. A Habitat Assessment and map will be prepared by the NYSDEC Fish and Wildlife identifying sediment depositional areas, thereby minimizing impacts to the creek and its' habitat.

Sampling and analyses of soils, waste and sediments will be performed as deemed necessary,during removal to properly characterize the excavated material for off-site disposal. Additional sampling and analyses will be performed after removal to provide confirmation that excavation did not leave behind any material that exceeds the SCGs.

Excavated material originally planned to be disposed of in the on-site treatment cell will be properly characterized and transported to an appropriate off-site disposal facility. It is expected that, using federal testing procedures, the large majority of excavated soils and wastes will be disposed as non-hazardous, solid waste in a 6 NYCRR Part 360 permitted solid waste landfill. It is also expected that the testing procedures will identify some wastes that will have to be disposed as a regulated hazardous waste, either in a 6 NYCRR Part 373 permitted hazardous waste landfill, or at an out of state facility with an equivalent hazardous waste permit.

Because the amended remedy would involve transportation of a large volume of contaminated material off-site, extra care would be taken in planning and implementation to ensure safety on public highways and to ensure that contaminated material is not tracked or inadvertently spilled along the designated transportation route.

The 1996 ROD remedy for AEC-3 (shallow groundwater) and AEC-4 (deep groundwater) will not change and will be implemented according to the approved remedial design. The existing groundwater extraction system installed for AEC-3 will be operated as long as the Department determines it is necessary. Also, the NYSDEC Division of Water will be continuously monitoring the permitted SPDES outfalls to ensure compliance as required by the SPDES Permit issued to SMC. Corrective action may be required as necessary, if SMC is out of compliance. A pump and treatment contingency for AEC-4 would be adopted should source removal efforts and natural attenuation fail to adequately reduce contamination in AEC-4. Evaluation of AEC-4 would be based on the expectation of a significant decrease in the concentration of target compounds after source removal and the continued operation of the pump and treat system for AEC-3, shallow

groundwater.

The amended remedy would also include the demolition of the main plant building (AEC-6) and evaluation of soils around and beneath the building foundation to determine if they exceed the SCGs listed in Table 1.1 and require excavation. Demolition would be preceded by an asbestos abatement and removal program. Debris from the building demolition would be removed from the site for disposal in a permitted 6 NYCRR Part 360 solid waste landfill.

Institutional controls under the amended remedy will include: deed restrictions to protect remedial features and restrict on-site groundwater use; deed restriction to prohibit the site fromever being used for purposes other than for appropriate industrial or commercial enterprises, as explained below, without the express written waiver of such prohibition by the Department and NYSDOH ; restricted site access; long term monitoring of site conditions; and routine maintenance operations, such as, fence repairs and lawn mowing. Appropriate industrial or commercial uses of the property would have to be consistent with any applicable zoning ordinances, but would not include enterprises that draw susceptible portions of the community to the property for activities that may lead to exposures to residual site contamination (e.g. day care, child care, medical treatment facilities, some recreational enterprises). Site monitoring will include a periodic survey of groundwater use in the area and efforts for early identification of any future threats to drinking water wells.

7.3 Evaluation of the Amended Remedy

The criteria used to compare the amended remedy against the remedy selected in the March 1996 Record of Decision (ROD) are defined in the regulation that directs the remediation of inactive hazardous waste disposal sites in New York State (6 NYCRR Part 375).

For each of the criteria, a brief description is provided, followed by an evaluation of the alternative.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

7.3.1 Compliance with New York State Standards, Criteria, and Guidance (SCGs)

Compliance with SCGs addresses whether or not a remedy would meet all Federal and State environmental laws, regulations, standards and guidance.

The most significant SCGs that apply to this remedial program are presented in Section 6.2.1. They are:

- SCGs for soil and waste removal, Table 1.1
- SSRGs for residual metal contaminants in soils, Table 1.1
- Sediment Criteria for creek sediments, Table 1.2
- Ambient Water Quality Standards for surface and ground water quality, Tables 1.3, 1.4, 1.5 & 1.6

In overall comparison, the amended remedy would better meet all the SCGs that are applicable to this site.

The amended remedy provides for soil removal from additional areas in front of the main plant building (AEC-7) and south of the building (AEC-8). As needed, soils from around and beneath the main building foundation would also be removed. This would provide for attainment of soil cleanup SCGs from a significantly larger area than the original remedy.

The amended remedy and the 1996 ROD remedy provide for identical groundwater efforts. However, because of the

additional areas of contaminated soil to be removed under the amended remedy, it is expected that attainment of groundwater quality SCGs would be met more readily under the amended remedy than under the 1996 ROD remedy.

7.3.2: Protection of Human Health and the Environment

This criterion is an overall evaluation of each alternative's ability to protect human health and the environment.

In overall comparison, the amended remedy would be more protective of human health and the environment over the long term.

The amended remedy is considered to be more protective of human health and the environment than the original remedy, in that it permanently removes more contaminated soils from the site. The amended remedy would also permanently remove the high level sources of organic contamination from the site. The original remedy would contain and treat the waste on-site and would be dependent on the long-term maintenance of the CAMU cell and the effectiveness of the SVE/Bio venting system to permanently destroy the contaminants. Disposing of the waste off-site eliminates the need for an on-site CAMU treatment cell, therefore, the amended remedy does not rely on the effectiveness of treatment or long term maintenance of the cell.

The original remedy and the amended remedy would both protect the environment by eliminating uncontrolled sources.

There are no significant difference between the original and amended remedies in the potential short-term exposure of workers and nearby residences to VOCs and dust. Both remedies require invasive construction activities that would increase dust during excavation and material handling and both will require similar control measures to minimize this potential.

The remaining five criteria are considered "primary balancing criteria". These criteria are used to weigh major trade-offs among alternatives and are discussed below.

7.3.3: Short-term Impacts and Effectiveness

The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment are evaluated. The length of time needed to achieve the remedial objectives is estimated.

The original and amended remedies involve the excavation and handling of soils and waste materials with chemical concentrations exceeding the SCGs and SSRGs. The ROD remedy and amended remedy would both present a high potential for short-term impacts to nearby residents and site workers. The site workers involved in the excavation, staging and handling would be exposed to dust and VOC emissions and will be required to wear appropriate personal protective equipment (PPE). Nearby residents would also have a potential to be exposed to dust and VOC emissions. However, extensive air monitoring coupled with the implementation of prudent excavation procedures and corrective measures and engineering controls, including but not limited to, foam suppressants, covers, and structural enclosures with associated treatment and ventilation systems, to control dust and VOC emissions should minimize these risks.

The short-term impact of additional off-site truck traffic, from the amended remedy would be greater than the original remedy due to the transportation of the waste off-site, but result in fewer on-site short-term impacts than the original remedy, due to minimal handling of the waste stream. This is because the excavated soils, after being properly characterized, will be placed directly into trucks, and disposed at an appropriate off-site facility, whereas the original ROD remedy had an incremental increase in the risk of exposure to dust and VOC emissions that would arise from the additional step of placing the soils and waste into the on-site CAMU treatment cell. However, the adoption of appropriate prudent excavation procedures, stringent air monitoring and the implementation of dust and volatilization controls, as described above, will all serve to minimize these impacts.

A traffic study for the amended remedy was conducted for the FFS and entitled "Traffic Impact Analysis SMC Contaminant Transport". This study concluded that there would be no significant impact on adjacent transportation systems during the life of the project. A site generated trip analysis, in the study, had a peak hour Level of Service (LOS) rating of very good (LOS B) to excellent (LOS A) at each intersection approach along the recommended haul route, Jordan Road, with only minor delays anticipated. Although Jordan Road is the primary route from the site, the final haul route to be utilized will be dependent on many factors, including securing required highway permits and assessing roadway conditions prior to the remedy being implemented. If conditions necessitate a change in the recommended haul route, the public will be notified prior to the commencement of the remedy.

In order to mitigate impacts from the on-site and off-site generated truck traffic, it is anticipated that an on-site staging area for truck circulation and waiting periods will be designated. Ground mounted construction signs would also be installed at each approach to all selected driveways and along the haul route to minimize these impacts.

Both the ROD remedy and the Amended ROD remedy would have similar short term impacts on the disruption of the Skaneateles Creek due to the actions of sediment dredging.

The time to implement the amended remedy has been estimated at one and one half to two years. This is approximately the same schedule that was estimated for the construction phase of the original ROD remedy, and therefore they are comparable.

7.3.4: Long-Term Effectiveness and Permanence

This criterion evaluates the long term effectiveness of alternatives after implementation. If wastes or residuals remain at the site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude and nature of the risk presented by the remaining wastes; 2) the adequacy of the controls intended to limit the risk to protective levels; and 3) the reliability of these controls.

The amended remedy will be more effective for the elimination of the high-level organic contamination source areas in that it would permanently remove from the site the contaminated soils and wastes through off-site disposal. The ROD remedy would also provide for long-term effectiveness and permanence, through excavation, containment and treatment of the high-level organic contamination source areas in the CAMU treatment cell, which would remain on-site.

Both remedies would be expected to permanently reduce groundwater contaminants in AEC-3 and AEC-4 in a relatively reasonable time frame. However, the amended remedy will also include the remediation of AEC-6,7& 8, which would help to improve the groundwater remediation of AEC-3 and AEC-4.

The implementation of the original ROD remedy would have potential effects on the future use and development of the site, due primarily to the construction of the CAMU treatment cell. The available area at the site for future development/reuse would be limited. The implementation of the amended remedy will make available more area for possible future beneficial reuse. Also, with the demolition of the Main Plant building, more area of the site could be available for such use. The amended remedy could also possibly generate a greater interest in the use of the site for future light Industrial use and thus have a beneficial social and economic impact on the community.

Deed restrictions limiting the type of reuse are the same for both remedies.

7.3.5: Reduction of Toxicity, Mobility, or Volume

Preference is given to alternatives that permanently, and by treatment, significantly reduce the toxicity, mobility, or volume of the wastes at the site. The evaluation included assessing the fate of the residues generated from treating the wastes at the site.

The amended remedy would reduce the mobility and volume of the contaminants at the site more effectively than the original ROD remedy, due to removal of the wastes off-site, however the toxicity would remain the same because no treatment would occur at the off -site facility. The receiving off-site facility would isolate and eliminate the potential contaminant mobility due to its fundamental design, construction, and operations required under its construction and operations permits.

The original ROD remedy would have the ability to reduce the toxicity of the wastes due to treatment capabilities (SVE/Bio-venting processes)built into the design of the CAMU treatment cell. However, the overall reduction of toxicity, mobility and volume may be effected due to the challenges of implementing a CAMU treatment cell for the increased waste volume, which is estimated to be over 100,000 cubic yards. Also, a significant challenge to the successful operation and effectiveness of the CAMU treatment cell would be the silt-like physical characteristic of some of the waste stream, which could cause problems with the SVE system.

Both remedies would significantly reduce the groundwater contamination in AEC-3 and AEC-4. However, the propo amended remedy would also include the remediation of AEC-6, 7 & 8, thus helping to improve the remediation of the groundwater in AECs 3 & 4.

The amended and original remedy would both reduce the mobility and volume of contaminants in the Skaneateles Creek sediments, and both would pose a similar potential for short-term re-mobilization of contaminants during dredging activities.

7.3.6: Implementability

The technical and administrative feasibility of carrying out the alternative is evaluated. Technical feasibility issues include the difficulties associated with the construction and operation

of the alternative, the reliability of the technology, and the ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary personnel and equipment is evaluated along with potential difficulties in obtaining special permits, rights-of-way for construction, etc.

The amended remedy is expected to be more implementable than the original remedy as there are no significant obstacles envisioned during its' implementation. The original remedy would have posed difficulties associated with the construction and operation of the CAMU treatment cell based on the additional information obtained since the 1996 ROD, such as increased volumes and the physical characteristics of the waste stream.

The amended remedy of off-site disposal is a widely used and accepted remedial technology. The waste would be disposed at one of the many appropriate permitted landfills operated in New York State as well as other nearby states. Material and debris handling, processing and disposal would be clearly defined in the revised Remedial Design. Construction water from the excavation activities would be collected and treated through the on-site groundwater treatment system as it was in the original ROD remedy.

The truck traffic will be controlled and maintained to ensure that there are no significant impacts to the community. The amended remedy also may require transportation permits from local municipal and state agencies, however, they should not be difficult to secure since off-site disposal is commonly practiced throughout the state.

The availability of qualified contractors and equipment for both the original and amended remedies is comparable and would not expect to impede the implementation of the remedial construction.

The original remedy requires the construction of the CAMU treatment cell with a SVE/Bio-venting system. The innovative combination of these technologies could pose some design and operations uncertainties. The SVE/Bio-venting system of the CAMU treatment cell are dependent on the ability to maintain air flow through the containment cell

.

Additional information has since been obtained during design activities, that identified increased waste volumes requiring treatment and containment and also defined the consistency of the waste material in the landfill containing a significant amount of silty soils. The additional volume combined with the silt-like material characteristics could create considerable operation and maintenance challenges as well as minimizing the SVE treatment. Also, it could minimize the effectiveness of the bio-remediation of the cell, due to the low porosity of these waste soils, which then could potentially plug up the system and make it ineffective.

A properly constructed CAMU treatment cell has limited flexibility for major expansion for additional capacity and subsequent remediation if increased volumes of waste are identified and thus require treatment. The additional volume of material identified in the FFS report requiring excavation, has the potential to significantly increase the design volume of the cell. The increased waste volumes combined with the physical characteristics of the waste would make the implementation and operation and maintenance of the CAMU treatment cell more difficult than was originally anticipated in the 1996 ROD.

The implementability and reliability of remediation for AECs 3 and 4 would be the same under each remedy, therefore each

would be equally effective in remediation of the groundwater aquifers.

7.3.7: Cost

Capital costs are estimated for the amended and original remedy. Although cost is the last criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for final selection. The estimated costs and comparisons for each remedy are provided in Table 1.7.

The previous estimates presented in Table 1.7 are present worth costs taken from the 1995 Feasibility Study and summarized in the 1996 ROD, include costs associated with AEC-1, AEC-2 and AEC-5. The 1996 ROD estimated the cost to be $11,600,000 (SWA-6). The cost estimates for the 100,000 and 150,000 CY scenarios include all previous AECs, (AEC-1,AEC-2 &AEC-5) plus the newly identified AECs, (AECs 6 through 8).

The amended remedy cost is approximately $16,555,000. This is $21,000,000 less than that was estimated in the FS (EA 1995). This is due to the option of utilizing a 6 NYCRR Part 360 landfill for the off-site disposal for the majority of the soils and waste. Although the amended remedy has a higher capital cost over the original remedy by $2,024,000 and $2,979,000 for 100,000 and 150,000 CY scenarios, respectively, it has a lower Operational and Maintenance (O&M) cost over the original ROD remedy by $775,000 and $822,000 for the 100,000 and 150,000 CY scenarios, respectively. The lower O&M cost savings for the amended remedy is primarily due to not having to maintain and operate the CAMU treatment cell over a long term period of at least 30 years.

The estimated costs presented in Table 1.7, are also based on recent prices obtained for off-site disposal and the inclusion of the revised volumes of soil and sediment expected to be excavated that were identified during pre-design and design activities. As illustrated below, the soil and waste volumes have increased significantly from the original remedy.

- Soil and waste targeted for excavation in original remedy - 60,000 cubic yards (AEC-1,2&5).

- Soil and waste targeted for excavation in amended remedy - > 100,000 cubic yards (AEC-1,2 & AEC 5-8).

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Amended ROD have been received.

7.3.8: Community Acceptance

Concerns of the community regarding the Amended ROD were evaluated. A "Responsiveness Summary" was prepared that summarizes public comments received and addresses the questions and concerns raised. There were no significant differences that were identified in the public comments that would change the Final Amended Remedy.

SECTION 8:

DESCRIPTION OF THE AMENDED REMEDY

Based upon the evaluation presented in Section 7, the Department has amended the Remedy for this site to include excavation of additional volumes of soil and waste, remediation of AECs 6, 7 and 8, and use of off-site disposal

instead of excavation with on-site disposal, containment and treatment in a CAMU cell, as originally specified in the 1996 ROD. The groundwater remediation components will not be amended.

As stated previously, the current 1996 Record of Decision (ROD) requires that the excavated material exceeding SCGs be encapsulated on-site for treatment in the CAMU cell. The long-term management and maintenance of these materials on-site are not believed to be as cost effective as originally anticipated due to increased long-term operation and maintenance costs and increased volume of contaminated soils and wastes found at the site.

Implementation of the original ROD may be more difficult to operate and maintain, and also limits the long-term reuse of the property. Consequently, the off-site disposal alternative technology once evaluated in the FS was re-evaluated based upon its' ability to permanently mitigate the observed impacts, limit the degree of post-closure care, promote beneficial re-use of the property, and be equally or more protective of human health and the environment than the original ROD remedy. Therefore, off-site disposal rather than an on-site CAMU treatment cell is now considered the preferred effective remedial technology for this site.

The summary for the Amended Remedy is listed below:

1. Excavate contaminated soils and waste from the Landfill area (AEC-1) that exceed SCGs and dispose off-site at an appropriate disposal facility.

2. Excavate contaminated soils and waste from the North Plant Area (AEC-2) that exceed SCGs and dispose off-site at an appropriate disposal facility.

3. Excavate contaminated sediments from the Skaneateles Creek (AEC-5) that exceed SCGs and dispose off-site at an appropriate disposal facility. Excavate and dispose of off-site identified abandoned pipe in the Skaneateles Creek..

4. Excavate contaminated soils and waste from newly identified remedial areas: Main Plant Building as AEC-6, Area in Front of Main Plant Building as AEC-7, and South Plant Area as AEC-8 that exceed SCGs and dispose off-site at an appropriate disposal facility.

5. Excavate PCBs that exceed site cleanup SCGs and dispose off-site at an appropriate disposal facility.

6. Establish SSRGs for confirmatory sampling of metals contaminated soils.

7. Remediate residual metals contaminated soils that exceed SSRGs by excavation with off-site disposal or on-site isolation/treatment technologies.

8. Demolition of Main Plant Building and remediation of impacted soils underneath the building.

9. Design, construct and operate a shallow groundwater extraction and treatment system, for AEC-3. Treated water will be discharged to Skaneateles Creek through SPDES permitted outfalls and monitored for compliance by the NYSDEC Division of Water.

10. No action for deep groundwater (AEC-4), but monitoring will be conducted to assess expected improvements.

11. Contingency for future extraction and treatment of deep groundwater (AEC-4), if source removal and natural attenuation fails to promote adequate improvements.

12. De-watering operations and subsequent treatment of water generated from excavation activities.

13. Ensure and implement truck traffic safety protocols as well as implement appropriate decon and emergency spill procedures for disposal trucks along designated transportation route.

14. Institutional controls, including restricting future site use to only Industrial/Commercial purposes and restricting on site groundwater usage.

Institutional controls under the amended remedy will include: deed restrictions to protect remedial features and restrict on-site groundwater use; deed restriction to prohibit the site fromever being used for purposes other than for appropriate industrial or commercial enterprises, as explained below, without the express written waiver of such prohibition by the Department and the NYSDOH ; restricted site access; long term monitoring of site conditions; and routine maintenance operations, such as, fence repairs and lawn mowing. Appropriate industrial or commercial uses of the property would have to be consistent with any applicable zoning ordinances, but would not include enterprises that draw susceptible portions of the community to the property for activities that may lead to exposures to residual site contamination (e.g. day care, child care, medical treatment facilities, some recreational enterprises). Site monitoring will include a periodic survey of groundwater use in the area and efforts for early identification of any future threats to drinking water wells.

SECTION 9:

HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the ROD Amendment process, Citizen Participation activities were undertaken in an effort to keep the public informed as to the status and progress of this process. The following public participation activities were conducted:

- A fact sheet was distributed to the mailing list of the start of LTTD pilot tests.
- Department Staff attended Town Board Meetings to keep the Town Board and public informed on the status of the ROD Amendment process.
- Monthly Progress reports were submitted to the Town Supervisor, regarding status of on-going site activities and ROD Amendment.
- A public meeting notice and fact sheet was distributed to the mailing list upon publication and release of the Proposed Amended ROD.
- A public meeting was held on August 30, 2001and a public comment period was established to present the Proposed Amended ROD, answer the public's questions and receive public comments.
- A Responsiveness Summary was prepared and made available to the public, to address the comments received during the public meeting and public comment period.

Table 1.1

Soils and Wastes
(AEC-1,2,6,7 &8)

Contaminants of Concern	Soils SCG's (ppm)	Cleanup Goals (ppm)	Landfill and Interior Soil Samples Results (AEC-1) ppm	Area North of Main Plant Building Soil Sample Results (AEC-2) ppm
Volatiles:				
Toluene	1.5	1.5	ND-1,000	ND-0.037
Xylenes (total)	1.2	1.2	ND-25,000	ND-2,200
Semi Volatiles:				
Benzo(a)anthracene	0.224	0.224	ND-1.5	ND-6.7
Chrysene	0.4	0.4	ND-1.6	ND-6.6
Benzo(b)fluroanthene	1.1	1.1	ND-2.0	ND-5.6
Benzo(k)fluroanthene	1.1	1.1	ND-1.0	ND-7.9
Benzo(a)pyrene	0.061	0.061	ND-1.3	ND-7.9
o-Toluic Acid	50	50	ND-81	ND-19.0
m-Toluic Acid	50	50	ND-8,500	ND-46.0
p-Toluic Acid	50	50	ND-1,600	ND-14.0
PCBs	1.0 (10)	1.0 (10)	† ND-0.23	† ND-0.059
	SCG's	**SSRG's		
Inorganics:	(ppm)	(ppm)		
Chromium	*	100	4.2-164	9.0-162
Cobalt	*	60	5.7-4,230	4.2-30.3
Lead	*	500	1.9-160	5.6-3,030
Mercury	*	5	ND-17.2	ND-25.2
Nickel	*	100	14.0-99.2	13.5-166
Zinc	*	750	26.4-1,170	22.5-15,600

Notes:

ND- Not Detected

PCBs: 1.0 ppm for surface and 10 ppm for sub-surface.

† PCBs were detected in two of the total 34 samples analyzed.

* Imported soils used for clean backfill will meet NYS Department of Transportation registered quarry standards and approval by NYSDEC.

** Site Specific Remedial Goals (SSRG's).

Table 1.2

Skaneateles Creek Sediments (AEC-5)

Contaminants of Concern	Sediments SCG's (ppb)	Cleanup Goals (ppb)	Skaneateles Creek Sediments Round 1 (ppb)	Skaneateles Creek Sediments Round 2 (ppb)
Volatiles:				
Tetrachloroethene	9	9	ND-16	ND
Xylenes (total)	--	--	ND-2	ND-3,600
Toluene	--	--	ND	ND-48
1,2 Dichloroethene	–	--	ND	ND-1,100
Semi Volatiles:				
Benzo(a)anthracene	15	15	ND-4,700	ND-980
Benzo(b)fluroanthene	15	15	ND-3,800	ND-705
Benzo(k)fluroanthene	15	15	ND-3,500	ND-1,100
Benzo(a)pyrene	15	15	ND-4,600	ND-490
Chrysene	15	15	ND-4,500	ND-780
Inorganics:*	(ppm)	(ppm)		
Antimony	2-25	2-25	60.4-91.7	ND
Cadmium	0.6-9.0	0.6-9.0	1.3-1.9	1.4-2.2
Copper	16-110	16-110	16.7-56.8	23.2-351
Lead	31-110	31-110	12.8-293	28.4-215
Mercury	0.15-1.3	0.15-1.3	ND	0.19-2.0
Nickel	16-50	16-50	15.8-23.6	14.3-48.7
Zinc	120-270	120-270	44.1-155	44.5-229

* SCG's for Metals (Inorganics) lists the range from the Lowest Effects Level to the Severe Effects Level

Table 1.3

Summary of Analytes Identified

In Landfill Piezometers (AEC 3)

Contaminants of Concern	SCG's (ppb)	Round 1 *u*g/L (ppb) Range
Volatiles:		
Toluene	5	140 – 1,600
Xylenes (total)	5	7,900 – 73,000
Semi Volatiles:		
o-Toluic Acid	31,000	30,000 – 40,000
m-Toluic Acid	31,000	78,000 – 100,000
p-Toluic Acid	31,000	23,000 – 42,000
4,4'DDE	ND	0.053 – 0.19
Inorganics:		
Arsenic	25	3.8 – 33.2
Chromium	50	21.3 – 76.7
Cobalt	-----	50.6 – 992
Zinc	2,000	146 – 747

Table 1.4

Summary of Analytes Identified

In Overburden Groundwater (AEC 3)

Contaminants of Concern	SCG's (ppb)	Round 1 *u*g/L (ppb) Range	Round 2 *u*g/L (ppb) Range
Volatiles:			
Toluene	5	ND – 2	ND – 270
Xylenes (total)	5	ND – 19	ND – 28,000

Table 1.5

Summary of Analytes Identified

In Upper Bedrock Groundwater (AEC 3)

Contaminants of Concern	SCG's (ppb)	Round 1 *ug*/L (ppb) Range	Round 2 *ug*/L (ppb) Range
Volatiles:			
Vinyl Chloride	2	ND – 3	ND – 21
1,2-Dichloroethene (total)	5	ND – 160	ND – 1,500
Trichloroethene	5	ND – 180	ND – 54
Tetrachloroethene	5	ND – 2,900	ND – 190
Toluene	5	ND – 63	ND – 37
Xylenes (total)	5	ND – 2,100	ND – 1,900
Semi Volatiles:			
Phenol	1	ND – 140	ND – 2,400
o-Toluic Acid	31,000	ND – 690,000	ND – 220,000
m-Toluic Acid	31,000	ND – 450,000	ND – 150,000
p-Toluic Acid	31,000	ND – 32,000	ND – 240,000
4,4'-DDE	ND	ND	ND – 0.61
Inorganics:			
Aluminum	-----	107 – 10,700	36 – 32,500
Arsenic	25	ND – 910	ND – 631
Cobalt	-----	ND – 42.4	ND – 73
Lead	25	ND – 122	ND – 128

Table 1.6

Summary of Analytes Identified

In Deep Bedrock Groundwater (AEC 4)

Contaminants of Concern	SCG's (ppb)	Round 1 *u*g/L (ppb) Range	Round 2 *u*g/L (ppb) Range
Volatiles:			
1,2-Dichloroethene (total)	5	ND – 94	ND – 4
Toluene	5	ND – 23	ND – 4
Xylenes (total)	5	ND – 520	ND – 330
Semi Volatiles:			
Phenol	1	ND – 22	ND – 35
o-Toluic Acid	31,000	ND – 47,000	ND – 17,000
m-Toluic Acid	31,000	ND – 37,000	ND – 17,000
p-Toluic Acid	31,000	ND – 3,900	ND – 1,300
4,4'-DDE	ND	ND	ND – 0.14
Inorganics:			
Aluminum	-----	ND – 289	789 – 2,240
Arsenic	25	ND – 90.5	ND – 149
Nickel	-----	ND – 134	ND - 68

Table 1.7

Preliminary Cost Analysis of the Amended and Original Remedies.

	1996 ROD	100,000 CY	150,000 CY
Original Remedy (SWA- 6) [On-site Treatment and Disposal]			
Capital Cost	$ 6,072,000	$ 10,138,000	$ 13,504,000
O&M	$ 818,000	$ 847,000	$ 894,000
Present Worth (30 years)	$ 6,890,000	$ 10,985,000	$ 14,398,000
Amended Remedy - [Off-site Disposal]			
Capital Cost	$ 38,018,000 *	$ 12,162,000	$ 16,483,000
O&M	$ 0	$ 72,000	$ 72,000
Present Worth (30 years)	$ 38,018,000 *	$ 12,234,000	$ 16,555,000
Additional Cost for Amended Remedy			
Capital Cost	$ 31,946,000	$ 2,024,000	$ 2,979,000
O&M	$ (818,000)	$ (775,000)	$ (822,000)
Present Worth (30 years)	$ 31,128,000	$ 1,249,000	$ 2,157,000

Notes:

Bracket values ( ) represent a negative amount.

SWA is Site Wide Remedial Alternative.

Costs associated with remedial activities for AEC 3 and AEC 4 were not included in this analysis.

SWA- 3 and OBG values were used for 1996 costs for Proposed amended remedy.

The proposed amended remedy has a slightly higher capital cost with minimum long term operational and maintenance (O&M) costs, demonstrating it is a cost effective remedial alternative.

* 1996 ROD Off-site disposal option (SWA-3) costs does not include the 2 million dollar O&M costs originally included in the ROD for the groundwater treatment component, since it did not change. Additionally, this estimate was based on the assumption that all the wastes would be disposed at a permitted hazardous waste facility.

Appendix A
Stauffer Management Co.- Skaneateles Falls Site #7-34-010
Responsiveness Summary

The Proposed Amended ROD for the Stauffer Management Co. - Skaneateles Falls Site was prepared by the New York State Department of Environmental Conservation and issued to the local document repository on August 15, 2001. This Proposed Amended ROD outlined the preferred off-site disposal alternative over the 1996 remedy of on-site containment and treatment of site wastes that was previously selected.

The release of the Proposed Amended ROD was announced via a notice to the public mailing list, informing the public of the availability of the Proposed Amended ROD. The amended remedy is described in Section 8 of the Amended ROD.

A public meeting was held on August 30, 2001at the American Legion Hall in Skaneateles, which included a presentation of the 1996 remedy as well as a discussion of the proposed amended remedy and newly identified Areas of Environmental Concern. The meeting provided an opportunity for the public to discuss their concerns, ask questions and comment on the Proposed Amended ROD. These comments have become part of the Administrative Record for this site.

Written comments were received from Stauffer Management Company on September 27, 2001. The formal public comment period ended on September 28, 2001.

This Responsiveness Summary responds to all questions and comments raised at the August 30, 2001 public meeting and to the written comments received during the public comment period.

The following are the comments received at the public meeting, with the Department's responses:

1). Question: One of the off-site monitoring wells associated with the Stauffer site is located on the Newton property, where Welch Allyn has proposed that its Hand Held division construct its new plant. Will the groundwater and excavated construction soils be tested at the Newton property as part of the remedy?

Response: The off-site monitoring well located at the Newton property was installed as part of the Remedial Investigation of the Stauffer property, and there was no contamination detected in this well. Groundwater wells installed as part of the Stauffer investigation will be monitored quarterly during implementation of the remedy. Welch Allyn will be responsible for sampling, identification and subsequent disposal of any off-site soils impacted as a result of activities associated with their plant construction at the Newton property. There is no evidence of any activities relating to Stauffer or their predecessors having occurred at the Newton property.

2). Question: Moving a large quantity of material off-site may have a negative impact upon roadways. There is particular concern about impacts to Jordan Road. Have the State Department of Transportation and the County been involved in the project?

Response: A traffic study completed by Stauffer's consultant as part of the Focused Feasibility Study, determined that implementation of the remedy would have little impact on existing traffic patterns. The study also indicated that Jordan Road is currently considered a lightly loaded road, suggesting that it can readily handle the additional traffic. The details of trucking waste from the site will be addressed during the design phase of the project. Stauffer will carry out all activities in accordance with State, County and local regulations. All appropriate Government representatives will be involved in decisions regarding the project. If a government entity decides that there is a problem with the quantity of material being trucked off-site, Stauffer will address the concerns. All of the regulatory agencies will have the opportunity to provide input.

3). Question: Will classification of wastes as hazardous or non-hazardous occur before the removal of soils begins or while the removal is occurring? How will Stauffer know when it hits a "hot spot" of hazardous waste contamination?

Response: Characterization of the wastes as hazardous or non-hazardous will be confirmed as the wastes are generated during excavation of each of the AECs. This issue is more fully explained and addressed in comment Number 10 of this Responsiveness Summary. The specific details will be fully addressed in the revised remedial design for the removal action. The Department's primary objective is to ensure that all wastes are excavated, removed and disposed of in accordance with all State and Federal laws and regulations and in a manner that is protective of public health and the environment. To identify any "hot spot" areas, Stauffer will be required to have continuous volatile organic monitors on-site, have ongoing laboratory testing and maintain constant visual observations for any changes to the waste stream as excavation activities progress.

4). Question: From a planning point of view, what does the State envision to be the "worst case scenario" of problems that could occur which could affect the health and safety of residents in the vicinity of the site?

Response: When parties are excavating, shifting and moving around waste materials that have been in place for a long time, the State's primary concern is that the contamination could migrate into the air and groundwater. The first objective is to protect air quality at and around the site. Appropriate steps will be taken to ensure that no volatile organic vapors and/or air particulates are leaving the site and that there are no releases into the air that can pose a threat to workers or nearby residents. Air monitoring is undertaken to quickly identify any air quality problems. If such problems were to occur, steps identified beforehand in a site health and safety plan, that

includes a community health and safety component, would be implemented to eliminate the threat. The second objective is to ensure that there is minimal release of contaminants from the waste materials into the existing groundwater. If, however, there should be a release, it will not pose a risk to residents. Stauffer has groundwater extraction wells in place which collect contaminated groundwater and keep it from leaving the site. Additionally, the majority of the community in the vicinity of the site is served by a public water supply with a remote source and do not consume the local groundwater.

5). Question: How can sediment be removed from Skaneateles Creek in a safe manner? Is there a way to de-water the Creek?

Response: A design workplan which will provide the specifics of how sediment will be removed from the Creek still needs to be developed. The safe and effective removal of sediment is an important concern for the Department. Stauffer will undertake a habitat study before developing the design workplan in order to ensure that Creek habitat will be returned to a status comparable to its condition before implementation of the workplan. Other issues of concern are erosion control and evaluating flow levels to determine the optimal time of year to carry out the sediment removal. The specifics of how and when sediment removal will be done will be contained in the revised remedial design for the Amended ROD.

6). Question: Regarding the excavation of the Skaneateles Creek sediments, how are these contaminated sediments to be removed without spreading the contamination further downstream?

Response: The Department's Divisions of Water, Remediation, and Fish, Wildlife and Marine Resources will require Stauffer to implement all necessary precautions and engineering controls, such as silt curtains, hay bales and careful excavation techniques, to protect the fish, wildlife and other organisms in the Creek. The excavation of the sediments should occur during a low flow period in the Creek to minimize sediment transport.

7). Question: Homeowners adjacent to the site are concerned that they may be affected by the volatile organic vapors and air particulates generated during excavation activities. How is this going to be monitored and if necessary, controlled?

Response: The Department will require Stauffer to continuously monitor the air quality on-site as well as off-site during construction activities. Should air monitoring detect elevated air particulates and/or volatile organic vapors in the air, contingency measures to protect site workers and the community will be immediately implemented. Health and safety measures may include, but will not be limited to, the shutdown of operations, and the initiation of engineering controls such as dust and vapor suppression methods, using water, foam or other approved technologies.

8). Question: The main transport route planned for the trucks leaving and entering the Stauffer site is Jordan Road. How will the conditions of the roadway be monitored and maintained in order to prevent damage or deterioration of the pavement? Will the trucks with fully loaded waste material be covered and cleaned prior to leaving the site, in order to prevent spillage on the roadway?

Response: Stauffer will be required to obtain a highway permit from the County Highway Department and the New York State Department of Transportation. Conditions of the roadway will be evaluated prior to start of construction and will be continuously monitored by these agencies as well as the Department. Stauffer will be required to clean and repair the pavement as necessary, in accordance with its permit conditions, if any damage to the roadway is caused by the truck traffic. Further, all trucks leaving the site will be properly covered with tarps and the truck wheels and body will be cleaned prior to the trucks leaving the site. In case of any spillage, Stauffer will be required to contain and clean it promptly.

9). Question: How are the limits of the excavation determined in each of the Areas of Environmental Concern (AECs)?

Response: The revised remedial design will contain a comprehensive confirmation sampling program that will ensure that when excavation of each AEC is completed the confirmation samples taken from the sides and bottom of the excavation are within the Standards, Criteria and Guidance(SCGs) and Site Specific Remedial Goals (SSRGs) prescribed in the Amended ROD.

10). **The following comment was submitted by Stauffer Management Co. in a letter transmitted by facsimile on September 27, 2001, authored by Mr. Lee Erickson of Stauffer Management Co.,**

Comment (Summarized): Stauffer Management Co. (SMC) is proposing to perform in -situ testing of soils to determine whether they are hazardous wastes before they are excavated rather than at the time of excavation.

Response: Stauffer's proposed approach is not in compliance with State and Federal regulations, and the Department has determined it is not protective of human health and the environment.

The Department's position on this issue was outlined as follows in letter dated October 13, 2000 to SMC and authored by Ms. Dolores Tuohy Esq., NYSDEC DEE Attorney:

"Hazardous Waste Determination

*After evaluating Stauffer's arguments that listed wastes were not disposed of at the site, the Division of Environmental Remediation and Solid and Hazardous Materials have determined that xylene used in the toluic acid manufacturing process and disposed of at the site by Stauffer was listed hazardous waste at the time the wastes were generated by Stauffer's predecessor, Cowles Chemical Company, and disposed of at the site. However, since the listings that apply (U239 and F003) are based upon ignitability characteristic of xylene, solid wastes containing the listed xylene wastes can be excluded from the hazardous waste listing and, therefore, handled as other than hazardous waste, upon demonstration by Stauffer that the wastes do not exhibit the characteristic of ignitability "**at the time they are generated for off-site disposal." (Emphasis Added)***

In making its determination, the Department considered process information supplied to the Department by Stauffer on December 20,1994, including United States Patent #3,607,902, dated September 21, 1971, entitled "Process For The Preparation of High Purity Isomers of Toluic Acid," assigned to Cowles Chemical Company, to be a particularly relevant to the question of the nature of the wastes generated for disposal. According to the patent, the process used xylene (a Commercial Chemical Product) as an initial feedstock. When discarded as defined in 40 CFR Part 261.33 [6NYCRR Part 371.4(d)], such xylene would properly be considered a U239 listed waste. Of greater importance is the fact that later in the process fresh xylene was introduced into the centrifuge as a wash for the toluic acid crystals. Since the xylene was utilized solely for its solvent properties, it was a "spent solvent" when it exited the process. Wastes from this application of xylene constitute an F003 listed waste under 6NYCRR Part 371.4(a). (See steps 5-6 of the 9/21/71 patent process diagram and patent description examples for ortho, meta & para-toluic acid process.)

Spent xylene, and discarded xylene that is a Commercial Chemical Product (CCP), as described above, were disposed of at the site, constituting hazardous waste disposal. The hazardous waste disposal occurred primarily in the Landfill and North Plant areas, but as site data indicated, is not necessarily limited to these areas.

Disposal of Site's Waste

The Department also evaluated whether xylene contaminated remedial wastes can be disposed of in a Subtitle D (6 NYCRR Part 360) facility, if they are no longer ignitable. Both Divisions' staff have reviewed Federal and State regulations in this regard and have concluded that if, ***"at the time remedial wastes are generated during excavation activities", (Emphasis Added),*** *Stauffer can satisfactorily demonstrates to the Department that solid media contamination with the listed xylene wastes no longer exhibit the characteristic of Ignitability, then the tested remedial wastes would no longer be considered a U239 or F003 hazardous waste and therefore, outside the scope of the matters addressed by New York State Department of Environmental Conservation Technical Assistance Guidance Memorandum 3028 (TAGM 3028) and the Land Disposal Restrictions (LDR) Treatment Standards require under those specifics listings. The testing that Stauffer must conduct in order to demonstrate that xylene contamination remedial wastes are not a U239 or F003 listed hazardous waste is contained in 40CFR 261.21 [6NYCRR 371.3(b)] (Ignitability) , and includes the required testing methodology for solids set forth in EPA SW-846 Method 1030, entitled "Ignitability of Solids." If, however, the xylene contaminated media retain the characteristic of Ignitability, then TAGM 3028 and the LDR Treatment Standard's remain applicable.*

Because xylene is not the only potential contaminant of concern at this site, at the time of excavation and prior to disposal, remedial wastes (liquids and solids) must also be tested for Corrosivity (C), contained in 40 CFR 261.22 [6NYCRR 371.3(c)]; Reactivity (R), contained in 40 CFR 261.23 [6NYCRR 371.3(d)]; and Toxicity(T) contained in 40 CFR 261.24 [6NYCRR 371.3(e)]. The required testing methodology for Toxicity is specified by EPA SW-846, Method 1311, entitled "Toxicity Characteristic Leaching procedure" (TCLP).

In addition to the hazardous waste characteristic testing set forth above, Stauffer must adequately test suspect source areas for levels for PCB's. A waste plan for identification of possible PCB sources at the site is currently being developed by Stauffer. Any Remedial wastes containing PCB's at levels of 50 ppm or above would be considered a listed hazardous waste under 6 NYCRR 371.4(e) and would have to be disposed off-site at a Subtitle C (6NYCRR Part 373) hazardous waste facility.

"If at the time remedial wastes are generated during the excavation activities at the site", Stauffer is able to demonstrate, by testing to the Department's satisfaction, that the hazardous waste listing and the LDR Treatment Standards , (Emphasis Added), *for xylene do not apply, and that the contaminated media does not exhibit any of the other hazardous waste characteristics listed above then the wastes may be disposed off-site at a permitted Subtitle D (6 NYCRR Part 360) facility willing to accept the wastes rather than a Subtitle C (6NYCRR Part 373) facility. "Should any portion of the remedial waste (liquid or solid) fail the required tests for any of all hazardous characteristics, then such portion of the remedial wastes will be considered a hazardous waste and will have to be segregated for off-site disposal as a regulated hazardous waste."*

To support Stauffer's proposed fundamental change to the ROD and to enable the Department

to comply with TAGM 4059, Stauffer must prepare, and submit for the Department's approval as part of its application for modification of the Order, a Focused Feasibility Study which compares the proposed off-site disposal alternative to the remedy set forth in the 1996 ROD using the criteria for remedy selection set forth in 6 NYCRR Part 375. An issue of particular concern to Department is the impact that off-site disposal of the site's wastes will have upon the local community. The Focused Feasibility Study must evaluate and present in detail information regarding any impacts to the personal safety of community residents foreseen to be a consequence for the removal action and if potential impacts are identified, methods of mitigating such, as well as information regarding the impact of the disposal process on the local transportation infrastructure. ***The Focused Feasibility Study must also include a proposed remedial waste sampling, handling and disposal plan that sets forth, inter alia Stauffer's proposal regarding frequency of sampling, types of analyses, "staging of remedial wastes," and disposal contingencies in the event any portion of the wastes fail any of the tests for hazardous waste characteristics." (Emphasis Added).***

11). The September 27, 2001, letter submitted by Stauffer during the public comment period also had comments relating to a Draft Remedial Design Report Outline that Stauffer contends address the waste characterization issue. Stauffer also commented on community risk and public health and safety during the characterization process.

The following are responses by the Department that address these issues:

In response to Stauffer's contention that its Draft Remedial Design Report Outline submitted on February 23, 2001, contains an adequate and acceptable sampling and analysis plan to meet all the requirements of 40 CFR 261 and the Land Disposal Restrictions (40 CFR Part 268), it is important to note that the Department has neither reviewed nor approved this submittal since review of any revisions to the approved Remedial Design were held in abeyance until the Focused Feasibility Study and Proposed Amended ROD were available for public review and comment. Moreover, this submittal is incomplete since the required elements that needed revision in the approved December 1998 Remedial Design were not specified nor included. However, a cursory review of the testing requirements proposed by Stauffer in the submittal, indicates that they are far from adequate to meet the rigorous requirements of 40 CFR 261 and 40 CFR Part 268 and the specific requirements of the Department's October 13, 2000 decision regarding the Determination and Characterization of Site wastes.

In regards to Stauffer's reference to community acceptance of its proposal and concerns about subjecting the community to any risk associated with testing materials during the removal process, the Amended ROD along with appropriate revisions to the approved Remedial Design will protect the public by requiring Stauffer to provide all necessary air monitoring, and all necessary and required engineering controls to abate odors, including, but not limited to, foam suppressants, covers, and structural enclosures with treatment and ventilation systems. Transporting hazardous wastes through the community which have not been properly identified and handled as such(the likely result of Stauffer's proposal) will provide a far greater threat to the community.

The public health of the community is of paramount concern to the Department and the New York State Department of Health. In accordance with federal and state regulations, the sampling frequency for site generated wastes will be defined during the development of the revised remedial design. Potential impacts to the project schedule as a result of the required sampling protocol will also be further evaluated during the development of the revised remedial design. The public will be notified if it is determined that there will be major changes to the currently anticipated project schedule.

12). After the conclusion of the public comment portion of the meeting for the Proposed Amended ROD, a presentation was made by the Department's Region 7 Division of Water, regarding the Stauffer SPDES water discharge permit and the discovery of PCB discharges from the permitted outfalls to Skaneateles Creek.

The highlights of that presentation are summarized below:

- In 1998 the Department's Division of Water modified Stauffers' SPDES Permit, and included a requirement for short term high intensity monitoring for PCBs of its permitted discharges to the Skaneateles Creek. The revised permit also required Stauffer to test the effluent for its wastewater plant and the leachate from the old landfill.

- As a result of this sampling, PCB discharges were discovered in 1999. An investigation as to the source(s) of these discharges was initiated.

- In 2000, the Division of Water issued a new SPDES Permit, which required Stauffer to implement control measures for storm runoff to the Creek, identify probable source areas for the PCBs, monitor and eliminate the PCB discharges to the Creek from the permitted outfalls and from landfill seeps. The permit required Stauffer to submit a PCB Minimization workplan, which will include remedial measures to be implemented to eliminate the PCB discharges to the Creek.

- During remedial construction, there may be impacts to Skaneateles Creek. Stauffer will be required to protect the Skaneateles Creek by implementing controls that will be specified in a storm-water general permit, which is issued by the Division of Water. The Department's goals are to protect the bottom of the Creek and the fish and their habitat.

Following the presentation there was a question regarding PCB discharges into the Creek. The question and related response are:

Question:

What level of PCBs are you finding in that water?

Response:

Most of the PCB levels are in the low parts per billion range (0.4 ppb). The carbon filters located in the groundwater treatment plant should be effective in treating these levels.

APPENDIX B
ADMINISTRATIVE RECORD

September 14, 1990, Site Investigation Work Plan for Stauffer Management Company, Skaneateles Falls, N.Y. prepared by Blasland, Bouck and Lee Engineers P.C. (BBL) Volumes 1-3.

National Oil and Hazardous Substance Pollution Contingency Plan, 40 CFR Part 300, 1990.

Addendums to the BBL Site Investigation Plan dated October 24, 1990, and June 11, l991.

NYSDEC 1991.Order on Consent, Index No. A701018612, dated March 28, 1991.

July 18, 1991; Submittals prepared by EA Engineering, P.C. for Stauffer Management Company entitled the Field Sampling and Analysis Plan (FSAP); the Quality Assurance Project Plan (QAPP); the Health and Safety Plan (HASP).

EA1991. Attachments A-C prepared by EA Engineering, P.C. to supplement the QAPP.

Citizen Participation Plan, 1992.

NYSDEC Division of Water, Biological Steam Assessment, Skaneateles Creek, 1992 Survey.

October 28, 1993; Work Plan Amendment for Phase II Investigation, prepared by EA Engineering P.C. for Stauffer Management Company.

NYSDEC, Division of Fish and Wildlife and Division of Marine Resources, Technical Guidance for Screening Contaminated Sediments, November 1993.

Final Remedial Investigation Report for Stauffer Management Company Site, Skaneateles Falls, New York, Volumes 1 and 2 dated August 25, 1994.

EA 1994.EA Engineering, Science, and Technology, Final Remedial Investigation Report, Volumes 1 & 2, Stauffer Management Company Site Skaneateles Falls, NY.
EA Engineering, Science, and Technology, Newburgh, NY, August 1994.

NYSDEC, Division of Hazardous Waste Remediation, Inactive Hazardous Waste Disposal Sites in NYS Volume 7, dated April 1995 and 2001.

EA 1995. EA Engineering, Science, and Technology, Final Feasibility Study Report, Volumes1 and 2, Stauffer Management Company Site Skaneateles Falls, NY. EA Engineering, Science and Technology, Newburgh, NY, December 1995.

Final Feasibility Study Report for Stauffer Management Company Site, Skaneateles Falls, New York prepared by EA Engineering, P.C. dated December 14, 1995.

Field investigation Results from Supplemental Stream Sediment Sampling, for Stauffer Management Company, Skaneateles Falls, New York, prepared by EA Engineering, P.C. dated September 1995.

Proposed Remedial Action Plan (PRAP) prepared by NYSDEC for the Stauffer Management Company Site, Skaneateles Falls dated February 22, 1996.

NYSDOH letter to NYSDEC dated February 12, 1996, G. Anders Carlson to Michael O'Toole, Jr. regarding NYSDOH concurrence on PRAP.

NYSDEC ROD 1996. NYSDEC, Record of Decision ICI-Americas, Inc. (Stauffer Chemical) Site Town of Skaneateles, Onondaga County Site Number 7-34-010. New York State Department of Environmental Conservation, March 1996.

EA 1996.EA Engineering Science and Technology, Stauffer Management Company Site, Skaneateles Falls, NY. Draft Remedial Design Work Plan. EA Engineering Science and Technology Newburgh, NY. November 1996

NYSDEC 1997. Order on Consent Index # A7-0347-9610, NYSDEC and Stauffer Management Co. Respondent, Stauffer- Skaneateles Falls Site, Site # 7-34-010 dated March 27, 1997.

OBG 1997. O'Brien & Gere Engineers, Inc. Stauffer Management Company Skaneateles Falls, NY. Pre-Design Hydrogeologic Investigation Report. O'Brien & Gere Engineers, Inc. Syracuse, NY August 1997.

NYSDEC, Division of Water Technical and Operational Guidance Series (TOGS) and Water Quality Regulations Parts 700-705, TOGS 1.1.1 Reissued June 1998, and Regulations Amended August 1999.

OBG 1998 O'Brien & Gere Engineers, Inc., Final Remedial Design Report, Soil Remediaiton Design, Skaneateles Falls, NY Stauffer Management Company, Wilmington, Delaware. O'Brien & Gere Engineers, Inc. Syracuse, NY December 1998.

IT 1999. IT Corporation, Results of Additional Site Assessment Activities Stauffer Management Company Site 4512 Jordan Road Skaneateles Falls, New York. IT Corporation, Latham, NY January 15, 1999

SPEC 2001. SPEC LLC Consulting, Test Pit Summary Report Stauffer Management Company Site 4512 Jordan Road Skaneateles Falls, New York. SPEC LLC Consulting, Albany, NY, January 5, 2001

TRANS 2001.Transportation Concepts, LLP, Traffic Impact Analysis, Stauffer Management Company Site 4512 Jordan Road Skaneateles Falls, New York. Transportation Concepts, Schenectady, NY February 15, 2001.

SPEC 2001. SPEC LLC Consulting, Final Focused Feasibility Study (FFS) for Stauffer Management Company, Skaneateles Falls Site, dated May 2001.

NYSDOH 2001.June 28, 2001, Letter from Gary A. Litwin, Director of NYSDOH Bureau of Environmental Exposure Investigation, to Michael J. O'Toole, Director of NYSDEC Division of Environmental Remediation regarding concurrence on the Proposed Amended ROD.

NYSDEC 2001. August 2001, Proposed Amended Record of Decision, prepared by NYSDEC for the Stauffer Management Co.- Skaneateles Site dated August 15, 2001.

Murphy& Davis Esq.2001.September 19, 2001, Transcript (Not proof read by the Department) of the Public Meeting for the Proposed Amended Record of Decision held on August 30, 2001, prepared by Action Reporting Service, LLC.,Syracuse, New York.

NYSDEC, Division of Hazardous Waste Remediation Technical and Administrative Guidance Memoranda, (TAGM) 4000-4057.

NYSDEC, New York State Environmental Conservation Law 6 NYCRR Part 360.

NYSDEC, New York State Environmental Conservation Law 6 NYCRR Part 371.

NYSDEC, New York State Environmental Conservation Law 6 NYCRR Part 373.

NYSDEC, New York State Environmental Conservation Law 6 NYCRR Part 375.

United States Code of Federal Regulations, 40 CFR Parts 260 to 268