EXPLANATION OF SIGNIFICANT DIFFERENCE

Reynolds Metals Company Inactive Hazardous Waste Site
Town of Massena, St. Lawrence County, New York
Site No. 645009

Introduction

The following is an Explanation of Significant Difference (ESD) to the Record of Decision (ROD) for the Reynolds Metals Company (RMC) facility which is located in St. Lawrence County, Town of Massena, New York. The New York State Department of Environmental Conservation (NYSDEC) issued the original ROD on January 22, 1992, and an amended ROD on June 27, 1995. The ESD will be made part of the Administrative Record which includes the Remedial Investigation reports, the Feasibility Study reports, and both the original and amended RODs. The Administrative Record is available for public review at the NYSDEC Region 6 headquarters at the Dulles State Office Building, 317 Washington Street, Watertown, NY between the hours of 8:00 a.m. and 4:45 p.m., and at the Massena Public Library, 41 Glenn St., Massena, NY during regular business hours.

RMC entered into an Order on Consent with the NYSDEC, dated March 1, 1993, to remediate six areas of concern on this aluminum production facility in Massena, including the inactive industrial landfill which is the subject of this ESD. In 1989, the U.S. Environmental Protection Agency (EPA) also issued a unilateral administrative order under section 106 (a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to RMC to investigate and remediate the entire river system surrounding the facility. In 1993 the EPA issued a Decision Document which required RMC to dredge all river sediment with PCB contamination exceeding 1 part per million (ppm) PCBs, and thermally treat on-site all sediment with PCBs in excess of 25 ppm.

The EPA has issued a Decision Document Amendment which modified their September 1993 Decision Document for the RMC St. Lawrence River Study Area site. EPA's modification, dated September 30, 1998 was developed in consultation with the NYSDEC and includes disposing of dredged sediments, less than 50 ppm PCBs, from the St. Lawrence River into RMC's landfill. Because the NYSDEC's ROD does not address disposal of river sediments in the landfill, an ESD is required to update the Administrative Record and the ROD.

Summary of Site History, Contamination Problems, and Selected Remedy

The unlined landfill is located in the southwest corner of the RMC facility adjacent to a regulated Wetland RR-6. The 11.5 acre landfill was in operation from 1957 until June 1990. During that time the landfill received solid waste, industrial waste, construction and demolition debris, spent potlining waste, and PCB contaminated sewage sludge. PCB capacitors may have also been buried in the landfill. The soils underneath the landfill are comprised of very low permeability

lacustrine clays and glacial till up to 20 feet thick with permeabilities as low as 3.8×10^{-8} cm/sec.

Prior to commencement of remedial activities at the facility, the landfill contained approximately 158,000 cubic yards of waste and approximately 89,000 cubic yards of contaminated soils beneath the waste. Landfill boring analysis has revealed the presence of PAH compounds including anthracene (150 ppm), benzo (a) anthracene (1,000 ppm), benzo (a) pyrene (1,100 ppm), benzo (b) fluoranthene (2,100 ppm), benzo (g, h, i) perylene (430 ppm), benzo (k) fluoranthene (1,000 ppm), chrysene (1,700 ppm), dibenzofuran (15 ppm), fluoranthene (2,200 ppm), pyrene (1,900 ppm), PCBs (0.39 - 690 ppm), fluoride (8,500 ppm), phenols (21 ppm), sulfate (13,000 ppm), and total cyanide (300 ppm). Metals analysis has shown aluminum (87,000 ppm), arsenic (110 ppm), beryllium (11 ppm), cobalt (23 ppm), iron (330,000 ppm), manganese (4,500 ppm), sodium (59,000 ppm), and vanadium (970 ppm). Over the history of waste disposal at the landfill, shallow groundwater became contaminated and flowed into the adjacent wetlands along with contaminated surface water runoff. As a result the groundwater, surface water, wetlands and drainage ways became contaminated with landfill derived constituents including cyanide, fluoride, PAH compounds and PCBs.

The 1995 ROD amendment eliminated on-site treatment of contaminated soils and instead allowed for off-site disposal of contaminated soils containing PCBs at 50 ppm or greater. Excavated soils containing less than 50 ppm PCBs were consolidated in the landfill. The ROD requires that the landfill be capped in accordance with NYSDEC and EPA requirements for hazardous waste landfills, and long term monitoring and maintenance. The ROD does not address sediment disposal from the St. Lawrence River.

In 1994 RMC commenced onsite remediation activities in accordance with the Order on Consent A6-0291-92-12 and ROD. By the end of 1996, remedial activities were substantially complete and approximately 135,300 cubic yards of contaminated soils had been consolidated in the landfill. In addition, a leachate collection system was constructed around the toe of the landfill that intercepts shallow groundwater prior to entering into the wetland and pumps the collected water to the facility's waste water treatment plant. Currently an interim cap has been installed on the landfill and surface water running off the interim cap is intercepted, collected and pumped to the North Yard for treatment. A long term operations, monitoring and maintenance plan has been implemented for the landfill which includes groundwater monitoring in the wetland, regular inspections of the interim cap, and maintenance of the surface water drainage/collection system and the leachate collection system. Monitoring of the leachate collection system indicates that it is effective in preventing further discharge into the wetland. The final cap will be constructed after placement of the dredged river sediments. River dredging is currently scheduled for the year 2000 construction season.

Rationale for the Change

Both the NYSDEC's initial and amended RODs did not include disposal of dredged river sediments in the landfill as described in EPA's Decision Document Amendment. Therefore, in accordance with the NYSDEC's Organization and Delegation Memorandum 95-24, the federal

National Contingency Plan, and NYSDEC's Technical and Administrative Guidance Memorandum No. 4059, the ROD must be changed to recognize the St. Lawrence River remediation and reflect the disposal of the additional material in the landfill.

Description of the Significant Differences and the Basis for the Differences

In accordance with EPA's Decision Document Amendment, an estimated 43,400 cubic yards of dredged sediments from the St. Lawrence River remediation, containing less than 50 ppm PCBs, will be dewatered, solidified and placed in the landfill. Dewatering of the sediment will occur on sediment containment barges that will allow for the stockpiled dredged sediments to freely drain by gravity. From the barge, the sediments will be unloaded at the dock, processed and screened to remove large debris and vegetation. From there the sediments will be transferred to a temporary storage area where they will be solidified using either quick lime, hydrated lime, and/or bentonite cement to further reduce moisture content. Once the sediment is adequately solidified, it will be transferred to the landfill where it will be placed in lifts and tested to ensure the material meets minimum compressive strength requirements. Once sediment dredging is completed, the landfill will be capped and long term operation, maintenance and monitoring of the landfill will continue in accordance with the NYSDEC's ROD.

The NYSDEC ROD does not identify the St. Lawrence River remediation as an operable unit nor does it account for disposal of the river sediment in the landfill. The NYSDEC considers these changes a significant difference to the ROD. However, the components of the original remedy for the landfill remain the same, as does the performance of the remedy and the cost of capping the landfill.

With the additional material consolidated in the landfill, the remedial design for the closure cap and containment provides the same overall protectiveness of human health and the environment and ability to comply with SCGs as the ROD remedy. The major reason is that the relatively small increase in overall current landfill volume (15%) will not significantly increase contaminant levels inside the landfill since only those sediments containing less than 50 ppm PCBs will be allowed to be consolidated. This is consistent with the NYSDEC's amended ROD requirements for consolidation of low level contaminated soils disposal. The size of the landfill's "footprint" will not increase and the overall height off the final cap will not change significantly (approximately 3 feet).

The remedial action objectives for the remedial program at the landfill were established in the ROD under the guideline of meeting all SCGs and protecting human health and the environment. The objectives selected for the landfill are:

Affected Media	Remedial Action Objectives
Soil/Sediment	Prevent direct contact by site workers and biota. Prevent adverse impacts on groundwater and surface water.

Groundwater	Prevent further migration of contaminants in groundwater.
Surface Water	Prevent exceedance of water quality standards in downstream surface water and wetlands. Prevent bio-accumulation in biota.

Consolidation of the additional low level contaminated sediments from the St. Lawrence River dredging will not impact the ability of the approved landfill closure design to meet these remedial action objectives.

Annual on-site inspections by the NYSDEC of the landfill and quarterly operations, maintenance and monitoring (OM&M) reports submitted by RMC have shown that the interim cap, surface water controls, and new leachate collection system are operating effectively and functioning as designed. The consent order requires RMC to continue monitoring and maintenance for an indefinite period of time. Down gradient monitoring wells have not detected PCB migration in the groundwater. Annual inspections, and quarterly OM&M reports of the adjacent wetland have documented excellent recovery from the impacts of historical contamination and effects of remedial action. The results of the inspections of flora and fauna, including the aquatic habitats, show a viable wetland ecosystem has returned.

Public Participation Activities

A public meeting was held on August 12, 1998 with representative from both the EPA and the NYSDEC present. The EPA's Superfund Post-Decision Proposed Plan was discussed including consolidation of low level contaminated sediments in the onsite landfill. In addition an availability session with the EPA and NYSDEC at the St. Regis Housing Authority Auditorium was held on August 13, 1998.

A meeting with the St. Regis Mohawk Tribal Council and the NYSDEC was held on August 25, 1998 to discuss the Council's concerns regarding the landfill's ability to properly contain the added material.

The EPA's *Superfund Post-Decision Proposed Plan* was mailed to all interested parties and the public was given a 30 day comment period to review the administrative record and submit comments. The comment period expired on August 28, 1998, and EPA subsequently published the Decision Document Amendment for the Reynolds Metals Company Study Area site, dated September 30, 1998. A responsiveness summary was included in that document that addressed all comments relating to this ROD change.

Scheduling and Sources for More Information

The additional river sediments will be consolidated into the landfill during RMC's remediation of the St. Lawrence River in accordance with EPA's 1989 Unilateral Administrative Order. EPA is currently reviewing the final design for that work. Final design approval and commencement of river remediation is anticipated in 1999.

For information regarding the EPA's Decision Document for the Reynolds Metals Study Area site, contact:

Mr. Mark Purcell, Remedial Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

For more information on the NYSDEC's land based remediation of the Reynolds Metals Company site, contact:

Mr. Philip Waite, Project Manager
New York State Department of Environmental Conservation
Regional Headquarters
Dulles State Office Building
317 Washington Street
Watertown, NY 13601

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Date

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