STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION V
ID # 7005

Ford Motor Company, Monroe Stamping Plant
Monroe, Michigan
(Signed May 13, 1995)

Facility/Unit Type: Automotive part manufacturing and chrome plating
Contaminants: Inorganics
Media: Soil
Remedy: Excavation of contaminated soils and sludges, ex-situ stabilization, on-site disposal in CAMU, capping, leachate collection & treatment, groundwater monitoring

FACILITY DESCRIPTION

In 1956, Ford Motor Company began chrome plating operations at its Monroe Stamping Plant. The plating wastewaters and intake water from Lake Erie were treated at the on-site wastewater treatment plant. The treatment plant effluent was then routed to a series of surface impoundments prior to being discharged to the Raisin river. The sludge accumulated in these impoundments was periodically dredged and disposed in other on-site areas. While all the sludges generated by Ford were not from the treatment of electroplating wastewater, RCRA post-closure regulations required that the entire mixture of sludges be managed as a listed hazardous waste (F006 waste). Ford discontinued the electroplating operations in 1982 and no longer generates electroplating sludges.

The Monroe Stamping Plant is subject to RCRA's post-closure regulations, including closure and post-closure requirements, corrective action, ecological assessments and endangered species act compliance. A final post-closure permit was issued to the plant on March 27, 1995. Ford conducted ten RFI-type studies between 1981 and 1991 to characterize the geology, hydrogeology and type, volume, and extent of wastes disposed of in the surface impoundments. Ford also conducted studies to determine the volume and extent of wastes that have migrated into the North Intake Canal and West Marsh. In addition to waste characterization studies, Ford conducted solidification studies to evaluate the feasibility of stabilizing on-site sludges and contaminated soils. The site is contaminated with heavy metals such as lead, cadmium, chromium, copper, nickel, and zinc in the 1,000's mg/kg range. The source of contamination is from a mixture of hazardous electroplating wastewaters and nonhazardous millwater treatment sludges.. Also, organic compounds have been found in groundwater at concentrations of 50 mg/l.

The facility was originally constructed in 1927 and 1931 by Newton Steel. Newton Steel and Republic Steel operated as a steel mill at the site until 1938. In the 40's, Aluminum Company of America reopened the facility. Kelsey-Hayes Wheel Company took over operations for metal stamping and forging. Then in 1949, Ford Motor Company purchased the facility. Ford Motor Company began manufacturing operations at the plant in 1950. The facility has produced automotive bumpers, coil springs, wheel stabilizer bars, and catalytic converters. The Monroe Stamping Plant is located at 3200 East Elm Street, along the River Raisin in Monroe, Michigan. The site is approximately 200 acres consisting of over one million square feet of manufacturing buildings and approximately 50 acres of disposal areas consisting of surface impoundments. The facility is bordered on the north by the intake waterway and Sterling State Park, on the south by the River Raisin, on the east by a marsh interconnected with Lake Erie, and to the west by a marsh extending to Interstate 75.

Groundwater flow is directly influenced by surface water in the area. Groundwater is influenced by the on-site disposal areas that contain water, surrounding marsh areas, Lake Erie, and the River Raisin. The hydraulic interconnections between these areas are not fully defined. Groundwater flow rate and direction in the uppermost aquifer and bedrock aquifer have not yet been fully defined.

Since a CAMU is being used at Ford-Monroe, remediation wastes placed into the CAMU must meet the following performance criteria: (1) solidified wastes shall have a minimum 28-day unconfined compressive strength of at least 25 pounds per square inch (2) solidified wastes shall not contain free liquids and (3) solidified wastes shall be fine grained material capable of being excavated by ordinary excavation methods. Remediation wastes found in areas outside the CAMU, or in areas identified as SWMUs in the post-closure permit, will be removed and solidified to meet the performance criteria specified above prior to placement into the CAMU. Where wastes have been removed outside the CAMU, Ford will perform confirmatory sampling to ensure that the remaining soils meet Act 301Type B cleanup levels specified in the State of Michigan Act 307 Rules.

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration 0	Action Level	Cleanup Goal	Point of Compliance
Soil	1 million yards	Lead Cadmium Chromium Copper Nickel Zinc	1,000's mg/kg (approx)	Not given	Not given	Not given
Groundwater	unknown	Organic compounds	50 mg/l	Not Given	Not Given	Not Given

EXPOSURE PATHWAYS

The potential exposure pathways for contaminated soils and sludges are incidental ingestion, dermal contact, and inhalation of contaminated soil and dust.

SELECTED REMEDY

The goal of the selected remedy is to reduce the risks to human health and the environment by consolidating and treating sludges and contaminated soils located in the hazardous waste surface impoundments and in adjacent areas including Disposal Area D-North, D-West, North Intake Canal, and West Marsh. Specific components of the remedy include:

- Use of a corrective action management unit (CAMU) to facilitate the remediation of contaminated sludges and soils in the surface impoundments and in adjacent areas where waste has migrated;
- Treat contaminated sludges and soils by stabilization;
- Dispose of treated sludges and soils in 2 on-site landfills;
- Contain landfills by installing perimeter soil-bentonite cutoff walls;
- Install leachate collection and removal system to maintain inward hydraulic gradient within each landfill;
- Install composite cover over each landfill;
- Implement a groundwater monitoring program to monitor groundwater quality; and
- Implement a monitoring and maintenance program to ensure integrity of the final remedy.

The total cost of the proposed remedy is estimated at $50 million.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

PUBLIC PARTICIPATION

EPA solicited input from the community on the proposed remedy contained in the draft RCRA post-closure permit. The public comment period began on January 20, 1995, and ended March 9, 1995. EPA released a public notice of the draft, post-closure permit and proposed remedy on January 20, 1995, held two informational meetings on October 12 and 26, 1994 and a public hearing on February 22, 1995. Several sets of comments were received which resulted in minor changes to the permit.

NEXT STEPS

Implement the selected remedy.

KEYWORDS:
Soil, sludge; direct contact; inorganics; capping, solidification, containment, leachate collection, groundwater monitoring, on-site disposal, on-site treatment, slurry wall

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