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New York State
Department of Environmental Conservation

RCRA Facility Corrective Action Fact Sheet

FMC Corporation - Middleport New York
May 2009

Background:

The FMC facility occupies approximately 91 acres and is located in the southwest corner of the Village of Middleport in Niagara County. It is surrounded by commercial properties to the south, agricultural properties to the east and residential properties to the north and west. The Royalton-Hartland School is located to the north of the FMC facility. Niagara Sprayer manufactured pesticides at this facility from 1928-1943, when it was purchased by FMC. Current operations at this facility are limited to pesticide formulation and packaging. FMC ceased pesticide manufacturing operations at the Middleport facility in 1985.

Environmental investigations of FMC's facility began in the early 1970s. In 1990, FMC signed an Administrative Order on Consent (AOC) with DEC to investigate hazardous waste releases from specific on-site disposal areas. In 1991, FMC signed another AOC with EPA and DEC to perform a more comprehensive RCRA Facility Investigation (RFI) to determine the nature and extent of past releases of chemicals from on-site manufacturing processes and waste. Upon completion of the RFI, the AOC requires FMC to perform a Corrective Measures Study (CMS) to determine what actions are needed to remedy environmental contamination related to past FMC facility releases. This AOC also requires FMC to perform Interim Correctives Measures (ICMs) when determined to be necessary to control any acute threats to human health and/or the environment. Figures depicting FMC's facility and the areas undergoing environmental investigation, accompany this fact sheet.

Groundwater

Groundwater monitoring at this site has identified elevated levels of inorganic metals, pesticides and volatile organic compounds in the groundwater under and in the immediate vicinity of the site. Primary chemicals of concern are arsenic, methylene chloride, ethylene thiourea (ETU) and ammonia and these contaminants are found at concentrations above groundwater standards. The highest levels found on-site are in the 100-200 parts per million (ppm) range. Groundwater in the vicinity of the site is not being used as drinking water.

There are groundwater pumping systems at the facility which are being operated as ICMs and were initially constructed for hydraulic containment and recovery of impacted groundwater. In the 1990s, blast fractured trenches were created to enhance the removal of contaminated groundwater and to control its migration to the east and north of the facility. Additional work has been undertaken (additional extraction wells, trench extension and chemical treatment) to increase the removal and treatment of contaminated groundwater and to prevent its migration off-site to the north. FMC has achieved the goal of controlling the flow of contaminated groundwater from this site.

FMC monitors groundwater under an approved Groundwater Monitoring Program, which includes quarterly to biennial groundwater sampling for a list of specific constituents that are attributable to facility operations.

FMC has conducted investigations into potential vapor intrusion from volatile groundwater constituents into some off-site buildings located on the Royalton-Hartland School property. In 2005-2006, indoor air and sub-slab soil gas samples were collected from high school, middle school and administrative buildings, and analyzed for volatile constituents. Confirmation sampling at some locations was conducted in 2006-2007. Results indicate that indoor air in these buildings is not affected by groundwater contaminants from the FMC facility.

Soils & Sediment

Investigations have indicated that soil and sediment contain elevated levels of inorganic metals and pesticides, both on-site and in some off-site areas. Off-site areas which are being investigated for FMC related soil and sediment contamination include properties around the facility which may have been impacted by past air releases from the facility, and down-gradient surface water courses and flood zones that received discharges and run-off from the facility (e.g., Culvert 105 and sections of Tributary One, Jeddo Creek and Johnson Creek). These investigations have involved the collection and chemical analysis of soil and sediment samples from thousands of locations within these on and off-site areas. The results have shown arsenic to be the primary contaminant in off-site soil and sediment. Arsenic has been found at concentrations up to 60,000 parts per million (ppm) in former on-site disposal areas. In impacted off-site areas, arsenic concentrations in soil & sediment generally range from 20 ppm to 200 ppm with some locations exceeding 1000 ppm.

A number of soil ICMs have been implemented to remediated soil & sediment contamination in certain areas. In 1987, FMC installed a soil or asphalt cover system over the northern portion of the plant site to help prevent storm water run-off from contacting areas of waste disposal and soil contamination. In 1987 & 2005, some contaminated soil and sediment was removed from ditches along railroad tracks, and remaining contaminated soil was covered with a "clean" material to limit exposures. In 1996 & 1999, contaminated soils were removed from the Roy-Hart School athletic fields, and replaced with clean soil. In 2003, 14 residential properties adjacent to the FMC plant (Vernon Street) had all contaminated soil removed and replaced with clean soil, and landscaping was restored. In 2007-2008, all contaminated soils were removed and replaced with clean soil on 12 residential properties north of the FMC plant (Park Avenue) and 7 residential/public properties along Culvert 105. Also in 2007, some contaminated soils were removed from 1 residential property and 1 commercial/industrial property along Culvert 105. A cover system was installed on the commercial/industrial property to limit exposure to underlying contamination.

Surface Water

Environmental investigations have included collections and analysis of surface water samples from on-site ditches, Culvert 105 and Tributary One. Samples collected during the 1990s did not detect measurable levels of FMC related contaminants above appropriate NYSDEC surface water classification criteria. Also, it should be noted that in the 1970s, FMC began collecting and treating all surface water run-off from the northern portion of the plant site. Since the 1970s, all surface water from the plant site is monitored during its discharge to Tributary One and must meet concentration based discharge standards for a wide variety of chemical constituents, in accordance with the facility's State Pollution Discharge Elimination Systems (SPDESs) Permit.

2009 Status

Groundwater - FMC continues to monitor the groundwater for chemical constituents, and operate its pumping and treatment systems. Reported data continues to demonstrate containment of the groundwater contamination. FMC is also completing an investigation into potential vapor intrusion from volatile groundwater constituents into some on-site buildings, which it began 2007. Although a 2007-2008 indoor air samples did not indicate any significant levels of volatile constituents in indoor air, additional sampling is being performed in 2008-2009 to confirm the results.

Soil & Sediment - FMC has prepared volumes of a Draft RFI Report for off-site soil and sediment contamination within Air Deposition Area #1 (an area of off-site properties bounded by the Barge canal to the north and the Niagara/Orleans County Line to the east) and along the Culvert 105 flood zone. These Draft RFI Report volumes have been prepared for public review and comment, and subsequent approval or disapproval action by EPA and DEC. They provide the soil/sediment sampling data for Air Deposition Area #1 and the Culvert 105 flood zone, and delineate the extent of FMC-related soil/sediment

contamination within these areas. Also, FMC has prepared a Draft RFI Report volume for public review which provides a summary of the historic information and environmental investigations pertaining to the FMC Middleport plant. A separate fact Sheet has been prepared which provides further details on these Draft RFI Report volumes. In addition, FMC has begun development of a CMS Work Plan for off-site properties within Air Deposition Area #1 and along the Culvert 105 flood zone which are determined by the final RFI Report to have soil/sediment impacted by FMC related contamination. It is anticipated that this CMS will begin in 2009.

FMC has prepared a volume of a Draft RFI Report for off-site soil and sediment contamination along Tributary One and its flood zone south of Pearson Road. It is anticipated that this volume of the Draft RFI Report will be presented for public review and comment in late 2009.

In 2009, FMC will be collecting soil samples for arsenic analysis from an area north of the Barge Canal and east of the Niagara/Orleans County Line, known collectively as "Air Deposition Area #2". This sampling is intended to help define the extent of FMC-related arsenic air deposition soil impacts to the north and east of the FMC plant.

FMC has prepared an ICM Site Management Plan (SMP) to inspect and maintain the cover system installed in 2007 on an off-site commercial/industrial property north of the FMC plant. It is anticipated that this SMP will be approved and implemented in 2009.

Surface water - FMC continues to sample and analyze surface water flowing in ditches along the railroad tracks. In 2009, FMC will begin monitoring surface water flowing through Culvert 105 at an access point just north of the Barge Canal. This will consist of sampling and analysis of Culvert 105 storm water on a quarterly basis to monitor for migration of FMC related contaminants.

Public Involvement

EPA, DEC and DOH staff, as well as FMC representatives, meet regularly with members of the Middleport Community Involvement Group (MCIG). This group is comprised mainly of Middleport residents and provides a conduit through which the governmental agencies and FMC provide information to the local community on FMC related environmental investigations and corrective measures, and through which the local community can provide input to the agencies and FMC on these environmental matters. The governmental agencies also keep in frequent contact with Town, Village and School officials, to provide them with information and solicit their input on FMC related environmental matters. Also, FMC and/or the agencies periodically conduct open public forums in the community to provide concerned individuals and groups the ability to have their questions and concerns addressed. As a result of these public involvement activities, some members of the community have raised concerns over the loss of full-growth trees associated with the potential excavation of contaminated soils. To address this concern, pilot studies are underway and other remedial options are being explored, to determine the feasibility of soil remedial alternatives that would allow for tree

preservation.