

FMC – EASTERN MICHAUD FLATS SUPERFUND SITE

Pocatello, Idaho

From 1949 until 2001, FMC Corporation operated the world's largest elemental phosphorus plant in Power County, Idaho, just outside Pocatello, employing upwards of 650 individuals at full production. The FMC property is approximately 1400 acres, most of which is FMC fee-owned land within the Fort Hall Indian Reservation, homeland of the Shoshone-Bannock Tribes (Tribes).

The Eastern Michaud Flats Superfund Site (EMF), which includes both the FMC elemental phosphorus plant site and the J.R. Simplot Co. (Simplot) phosphoric acid fertilizer plant site, was listed on the Superfund National Priorities List in 1990.

Under the terms of a 1991 Administrative Order on Consent (AOC) with EPA, and in cooperation with the Idaho Department of Environmental Protection (IDEQ) and the Tribes, FMC and Simplot conducted a Remedial Investigation/Feasibility Study (RI/FS) of the two facilities and surrounding area. Following completion of EMF RI/FS, EPA issued a CERCLA Record of Decision (ROD) in 1998 that addressed the entire EMF Site, including addressing all areas of the site except active operational areas at the Simplot and FMC facilities.

IDEQ agreed with the selected remedies for the entire EMF Site and EPA proceeded to lodge the required consent decrees with the District Court. However, EPA withdrew the consent decree negotiated with FMC based on comments submitted by the Tribes. Without an entered consent decree of the 1998 ROD, FMC was unable to implement the cleanup remedies specified in the ROD. Simplot, located off-Reservation, proceeded to implement its ROD.

Following the FMC plant closure in December 2001, FMC entered into another AOC with EPA in October, 2003 for a Supplemental Remedial Investigation and Feasibility Study (SRI/SFS) of the FMC Plant OU. These investigations included supplemental investigation and evaluation of Off-Plant OU areas (located outside FMC-owned properties). This was driven primarily by EPA's finding that additional investigations and evaluations were needed for the FMC plant areas that had been actively operated at the time of the 1998 ROD, as well as re-investigation of previously sampled areas.

The SRI/SFS was completed in July 2010; public hearings were conducted between September and December 2011, and on September 27, 2012 EPA issued an Interim Amendment to the Record of Decision (IRODA) that selected a cleanup plan for the FMC OU. The selected cleanup includes capping of contaminated soil and extraction and treatment of contaminated groundwater. The primary contaminants of concern in soil are elemental phosphorus, metals and gamma radiation; the primary contaminant of concern in groundwater is arsenic.

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The IRODA has the support of the State of Idaho; the Shoshone-Bannock Tribes did not concur with EPA's remedy and advocated instead for a soil remedy that would excavate all elemental phosphorus from soils and treat and transport the contaminated materials for off-site disposal. That alternative was deemed by EPA to be unacceptable due to lack of implementable excavation and treatment technologies, potential risks posed to remedial workers, adjacent facility workers, and the public as well as the high cost, estimated around \$4 billion.

On June 10, 2013, EPA issued a Unilateral Administrative Order for Remedial Design and Remedial Action (UAO) that directed FMC to implement the IRODA remedy. FMC agreed that the issuance of a UAO would expedite the commencement of the remedy rather than a Consent Decree.

Overview of Soil Remedy Construction

On September 22, 2014, FMC began the Site-Wide Grading Phase of the interim remedy selected in the IRODA, moving approximately 4 million cubic yards of material, to prepare the site for cap placement and managing on-site stormwater. Site-wide grading was completed by the end of the 2015 construction season. FMC started placing caps on the site in late 2015 and all capping will be completed in Summer, 2017.

There are two types of caps that are being constructed: (1) gamma caps, which consist of a 14 inch soil cover over areas of the site where naturally occurring radiation from shale and slag are present, and (2) evapotransporative caps (ET caps) which consist of 30 inches of soil over a capillary barrier to reduce infiltration of rain and snow-melt to prevent additional groundwater contamination. Both caps are being seeded with native plants.

Soil for the capping work was obtained from the existing borrow pit in the Western Undeveloped Area (WUA) of the property. The borrow pit is approximately 80 acres, and approximately 2 million cubic yards of soil were excavated/hailed/placed for capping. The WUA will be reclaimed in Summer, 2017. This is land owned by FMC and had no role in phosphorus production activities.

Immediately prior to the commencement of capping in 2016, the Shoshone-Bannock Tribes requested that a cultural resource survey occur in the WUA before digging could begin. In coordination with the Shoshone-Bannock Tribes Cultural Resources Office and the State Historic Preservation Office, EPA conducted a cultural resource survey in the WUA to ensure that no historic properties would be impacted by the soil excavation. No historic artifacts were found, but the investigation delayed capping construction approximately 3 months at a cost of approximately \$5 million.

Because most of the remediation of the FMC site is taking place within the boundaries of an Indian reservation on FMC-owned fee land, FMC asked its construction contractors to hire local personnel using Native American hiring preferences authorized under the Federal Civil Rights Act. A substantial proportion of the local hires were Native American.

The groundwater extraction and treatment system is currently in the design phase. Construction of the groundwater extraction and treatment system is expected to commence in 2019. The system will utilize a network of extraction wells to extract contaminated groundwater and prevent its migration to areas down-gradient from the FMC property. Groundwater will be treated to drinking water standards and/or risk-based cleanup levels and discharged to infiltration ponds for evaporation or percolation into the groundwater or conveyed to the local POTW. FMC is currently collecting additional groundwater data to update current conditions and will submit a 60% design to EPA in late 2017.

FMC anticipates that the cleanup will have a final cost of approximately \$70 million for which FMC is responsible. In addition, FMC is paying oversight costs to EPA, IDEQ, and the Tribes.

Current and Future Redevelopment Projects

In 2006, FMC granted certain property rights at the site to the Power County Development Authority to market the property for redevelopment. Prior to the issuance of the IRODA and UAO, uncertainties regarding the scope and timing of the cleanup deterred interested developers. Subsequent to the issuance of the IRODA/UAO, those barriers to redevelopment were removed and strong interest is being expressed by developers.

ValleyAgronomics, LLC is the first of hopefully many projects that will locate on the property. On a 20 acre area in the northeast corner of the FMC site, ValleyAgronomics constructed a dry and liquid fertilizer distribution facility that serves the agricultural community of Southeast Idaho, creating approximately 70 jobs. It is the largest fertilizer distribution facility in Idaho.

The project investment is approximately \$12 million and construction was completed in early 2017. To date, Valley has received and distributed approximately 600,000 tons of fertilizer throughout SE Idaho, the equivalent of a 13 mile long train. Additional construction is expected through 2017/2018 at the site where Valley will locate a propane distribution facility as well as an office/warehousing complex, creating additional employment opportunities locally.

The FMC site is uniquely situated to support good paying, industrial jobs and is already contributing again to the local economies. The property is zoned for heavy industrial use and offers excellent infrastructure including rail, electrical transmission, access to interstate highways, and proximity to the Pocatello Regional Airport.

PCDA is actively marketing other areas of the property, and is currently engaged in listing the properties with CBRE, which is the world's largest commercial real estate firm serving owners, investors and occupiers.

Management of Phosphorus-Containing Soils Uncovered During Soil Remedy

Construction of the soil capping remedy is largely complete however one issue remains outstanding. During planning of the soil remedy implementation, it was anticipated that subsurface materials that pose unique hazards could be unearthed. They were described as “Undocumented Subsurface Conditions (USCs).” Primarily during the site-grading phase of construction in 2014/2015, USCs were unearthed. When even trace amounts of elemental phosphorus are exposed to air, they spontaneously combust and create a grayish smoke which can be extinguished by placing sand over it. About 68% of the USCs came from the slag pile and the plant landfill area of the slag pile.

The USC materials largely consist of furnace digout and rebuild waste containing elemental phosphorus from furnace operations. The FMC Supplemental Remedial Investigation (SRI) documented historic disposal of this type of waste and anticipated that it could be unearthed as a result of site-wide grading. As a result, the IRODA requires FMC to cover the principal area where phosphorus is known to be under the soils with ET caps.

Encountering USCs was also anticipated under the FMC *Emergency Response Plan* (ERP, July 2014) that FMC developed and EPA approved as a required deliverable under the UAO. When USC materials have been encountered, FMC contractors have safely managed them in accordance with the ERP to minimize worker risks.

As of October 30, 2015, the total volume of relocated USC material, not including sand that was added to the material to prevent P4 oxidation, is 860 CY; including sand, the total quantity is approximately 1,275 CY. At the direction of EPA, all USCs have been consolidated in the historic plant landfill area of the slag pile.

EPA has suggested that the USC materials be manually placed into containers by site workers and shipped to an appropriately permitted off-site disposal facility. FMC has submitted a risk assessment of this disposal option that identifies increased risks to workers and the general public. Off-site disposal is estimated to involve 4-6 weeks of preparation work, 35-37 weeks of field work, packaging the material into 4,289 to 4,595 drums, and 63 to 66 truckloads to transport the drums across the country to the TSD facility in Ohio that is the closest facility that has preliminarily indicated that it could accept the material. The cost estimates for doing this work and disposal fees are in the range of \$3-4 million.

FMC’s preferred option is to manage the USC material on-site under an ET cap, given that the IRODA anticipated the material would be encountered during site-wide grading of the slag pile and all other elemental phosphorus materials within the slag pile are managed under an ET cap. FMC has also provided EPA with a legal analysis under the CERCLA “Area of Contamination” policy and the IRODA that supports consolidation and on-site disposal of the USC material. In addition to being safer for site workers, who can use heavy equipment instead of shovels, and the public, on-site disposal would cost only about \$50,000 (excluding capping costs).