



NEW YORK ISCO PROJECT - TOTAL CHEMICAL MANAGEMENT PROGRAM

Project Scope

A remediation contractor received a contract to clean up a former Manufactured Gas Plant (MGP) waste collection area. After thorough site characterization, bench testing and a pilot study, the consulting engineer and the remediation contractor selected the contractor's patent-pending, surfactant-enhanced In-Situ Chemical Oxidation (ISCO) as the treatment technology. Due to the magnitude of the contamination and the widespread nature of the groundwater contamination, significant quantities of proprietary surfactant, iron chelate, sodium persulfate, and caustic, as well as equipment and field services were required to execute the site remediation.

The scope and structure of the project required that a high volume of multiple chemicals be mobilized quickly, which created a significant operational and cost challenge for the contractor. USP Technologies (USP) developed a Total Chemical Management program to accomplish the project efficiently and cost-effectively.



Solution

Based on the requirements for the project, USP developed a Total Chemical Management program to meet project schedules and budget objectives:

Site Analysis and Hazards Review

USP engineering personnel worked closely with the remediation contractor to evaluate and plan for the specific hazards of the project site. Project duration was multi-seasonal and required equipment and operational adaptation to extreme heat, extreme cold and rain.

Turn-Key Scope of Supply

System Engineering and Equipment Design

USP engineered an equipment program with multiple chemical mixing, storage and conveyance systems designed and sized specifically for this project. It was also designed according to strict engineering and chemical industry standards to provide safe, reliable and cost-effective equipment solutions utilizing field-tested modular components for operational reliability, improved performance and simplified installation and start-up.

Turn-Key Scope of Supply (continued)

Chemical Supply

Surfactant was provided in 300-gallon totes using properly-designed diaphragm pumps. USP provided custom packaging of the remediation contractor's proprietary surfactant. Due to site chemical quantity restrictions, USP leveraged its network of chemical distributors to package and stage the surfactant for quick and efficient delivery.

Ferrous EDTA was injected as a liquid, but delivered as dry product. USP developed a system to efficiently mix into liquid solution within minutes.

Sodium Persulfate was injected as a liquid, but delivered as dry product in 2200-lb super sacks. Time is of the essence when it comes to batching of chemicals and a system was developed to put it into solution and full super sack within 15-20 minutes. Even though the batching schedule was restrictive, USP's equipment and on-site staffing allowed effective management of the customer's sodium persulfate solution.

Equipment Supply

Chemical Dosing Systems: USP provided modular chemical dosing systems to feed the chemicals to the treatment wells. They also provided all interconnecting piping from the storage tanks to the well feed control devices.

Field Support Services

Emergency Response Module: An emergency eyewash and safety shower system with an emergency response water supply was provided. USP pump skids provided potable water to the safety stations.

Multi-Chemical Supply for Remediation

USP can service your total chemical management needs:

- Hydrogen Peroxide (custom blending %)
- Full Suite of PeroxyChem Chemicals
 - Klozur® ▪ Klozur OBC® ▪ Permeox®
- Specialty VeruTEK Products
 - VeruSol Compounds ▪ Others
- Ferrous Sulfate/Ferrous Sulfate EDTA
- Sodium Hydroxide
- Permanganates
- Acids

About USP Technologies

USP Technologies' ongoing mission is to help customers meet their water quality objectives by providing eco-efficient solutions that reduce and recover cost, energy, resources and space. Through a collaborative method of working closely with customers to solve problems, we are dedicated to developing innovative, sustainable and cost-effective solutions that successfully meet the highest standards of environmental stewardship. Our consultative approach includes application assessment, technology selection and field implementation of a custom engineered treatment solution. Our turn-key programs seamlessly integrate storage and dosing equipment systems, chemical supply, inventory and logistics management, and ongoing field and technical support. USP Technologies has been serving the water, wastewater and remediation markets for more than 20 years and has offices and field service locations throughout North America. We are the largest direct supplier of peroxygen-based technologies for environmental service applications and we manage hundreds of successful full-service chemical programs that treat over 1.0 billion gallons of water per day.

Getting Started

We look forward to supporting your treatment needs, whatever the scale of your requirements. To obtain a streamlined treatment solution tailored to your specific project, give us a call at (877) 346-4262.

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