

Hexavalent chrome treatment for rinsewater recycling reduces feedwater demand and wastewater discharge

Overview

In 2006, Siemens Water Technologies was contacted by a hexavalent chrome plating customer for assistance in reducing water demand at the facility. The customer manufactures chrome plated parts and was seeking a solution that would allow increase in production without the need to expand existing pretreatment equipment used to condition city water and also avoid additional investment in the existing precipitation system. Increasing the flow of the wastewater system also required a permit revision.

Siemens' solution featured our wastewater ion exchange (WWIX) service. Wastewater ion exchange is a service-based option which utilizes ion exchange resins and other medias selected to remove specific ionic contaminants from groundwater, industrial wastewater, and process water for recycle. DOT approved vessels containing the selected resin or media treat the water until the capacity is reached. Once exhausted, the WWIX vessels are removed and replaced with fresh, DOT-compliant vessels and returned to service. Exhausted vessels are returned to our processing facility where the contaminants are removed from the media.

Siemens provided a complete turnkey system with Waste Water Ion Exchange resin vessels along with an Aquasaver™ pump skid to pressurize the water, remove particulate, pH adjust and remove the dissolved metals from the newly installed recycle loop. The ion exchange vessels were positioned in a lead-lag configuration and when exhausted the primary vessel is removed, replaced with the secondary and a clean vessel is placed in the secondary position.

The WWIX equipment was used to recycle a majority of the clean running rinse water from the process rinse baths. Recycle of this water reduced the demand on both the feed water and precipitation

system by over 50% and eliminated the need to expand the existing systems or revisions of discharge permits with the local regulatory agency.

Siemens WWIX systems can expand to larger vessels as the customer grows or simply exchange more frequently as the production volume is increased. Our RCRA licensed facility can handle all non-regulated waste along with plating wastewaters that are classified as F006 manifested wastes when shipping to our facility.

Significant Accomplishments

Siemens provided a turnkey system and installation that minimized the investment in capital equipment and reduced the water demand at the facility.

Off Site regeneration at Siemens RCRA facility provides the customer with an advantage of simple operation with compliance to all RCRA regulations while hazardous metals are recovered.

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|-------------------|---|
| Facility | Plating |
| Application | Rinsewater recycleent |
| Technology | Ion exchange |
| Scope of Services | - Field service - Media - Waste removal, handling and treatment |
| Start Date | 2006 |
| Project Duration | To date |



Siemens Water Technologies North America Service Network

North America Service Network

Our North America service network is backed by more than 80 offices staffed with certified technicians and applications experts who can solve your problems. In addition, Siemens Water Technologies provides response flexibility through either a lease or capital purchase option, and the company offers assured liability protection through environmentally safe waste destruction.

Services Available

- Activated carbon supply, removal and reactivation services
- Filter media supply and removal
- Ion exchange resin supply
- Membrane supply and cleaning programs
- Parts and expendables
- Service contracts
- Temporary/emergency water systems

Technologies Available

- Reverse Osmosis (RO) membrane filtration
- Conventional clarification and filtration
- Oil/Water separation
- Granular activated carbon adsorption
- Demineralization
- Inorganic metals removal
- Chemical addition

Siemens Water Technologies delivers cost-effective, reliable systems guaranteed for quality, safety, and compliance. Our trained service staff is available to make sure your systems is running at peak performance and to your specification. For your water treatment system, choose the partner that is committed to taking care of the world's water...and yours.

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ES-WWRINSEdr-PP-0809
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