

Integrity Municipal Systems Replaces Packing Media in Chemical Odor Control Scrubber at SOCWA Coastal Treatment Plant in Laguna Niguel, California

In 2001, the RJ Environmental Division of USFilter Corporation installed a LO/PRO® odor control scrubber at the South Orange County Wastewater Authority's (SOCWA) Coastal Treatment Plant in Laguna Niguel, California to help manage plant odors. In June 2019, SOCWA selected Integrity Municipal Systems (IMS) to replace the packing media in the chemical odor control scrubber. IMS was the natural choice for SOCWA because IMS personnel were involved in the design, manufacturing, and start-up of the system as employees of RJ Environmental and have been providing maintenance services for odor control scrubbers at various SOCWA wastewater treatment plants since 2008.

“IMS is our first choice when it comes to maintaining South Orange County Wastewater Authority’s odor control scrubber located at the Coastal Treatment Plant...I would highly recommend IMS for any service required for maintaining proper operation of these Chemical Odor Control Scrubbers.”

*James Jones,
Chief Plant Operator of Coastal Treatment Plant*

SOCWA was formed in 2001 to facilitate and manage the collection, transportation, treatment, and disposal of wastewater for more than 500,000 homes and businesses across South Orange County. The Coastal Treatment Plant is one of the Authority's three primary treatment facilities that, together, treat upwards of 26 million gallons of wastewater per day. A portion of the wastewater treated by SOCWA undergoes additional treatment and is recycled for irrigation and commercial use, saving up to 1.6 billion gallons of domestic water each year.

The scrubber was designed to collect and neutralize hydrogen sulfide gas (H₂S) from the headworks, dewatering building, and aeration basins of the plant. A fan on the system draws

H₂S-laden air into the scrubber where it is contacted with a recirculating solution of caustic and bleach. The resulting chemical reactions remove H₂S, but result in the formation of elemental sulfur due to partial oxidation of the gas. Over time, the accumulation of sulfur fouls the packing media and the scrubber's chemical recirculation lines, resulting in significantly reduced airflow and system performance.

To restore system performance, IMS was hired in June 2019 to replace the packing media and clean the unit. The media replacement process included: (1) removing and disposing the fouled packing media, (2) pressure cleaning sulfur buildup from the interior fiberglass walls, (3) cleaning the spray nozzles and other internal components, (4) installing the new packing media, and (5) cleaning any remaining buildup and service debris from the scrubber's sump.

James Jones, Chief Plant Operator of Coastal Treatment Plant, expressed his appreciation of IMS' support: “IMS is our first choice when it comes to maintaining South Orange County Wastewater Authority's odor control scrubber located at the Coastal Treatment Plant in Aliso Canyon. They have been maintaining our equipment for years and have the necessary knowledge to perform both routine and non-routine maintenance to keep it operating in a condition that meets limitations set forth by the South Coast Air Quality Management District. IMS recently replaced the fouled packing media bringing it back to “like new” condition. This service was done efficiently while following all safety protocols from start to finish. IMS has been the service provider backbone for SOCWA's six Chemical Odor scrubbers found at three of their wastewater treatment plants located in South Orange County. I would highly recommend IMS for any service required for maintaining proper operation of these Chemical Odor Control Scrubbers.”

Before



Fouled Packing Media
(Heavy Sulfur Buildup)

After



New Packing Media
Installed

Packing Media Replacement Process



Removing Fouled Packing



Pulling out Fouled Packing from Scrubber



Accumulated Buildup in Scrubber
Sump after Pressure Cleaning



Fouled Packing Disposal

LO/PRO® is a registered trademark of Evoqua Water Technologies LLC. Reference to the LO/PRO® trademark does not imply endorsement of IMS's service by Evoqua Water Technologies LLC.

Pictured are photos of the LO/PRO® Odor Control System serviced by IMS.