Water Industry Operators Association of Australia

Submission of Abstract

Platform or Poster: Platform Paper

Title of Abstract:

Advanced process Control for Wet Scrubber Chemical Dosing Optimisation

Abstract:

Wet chemical scrubbers are used at Malabar WRRF to reduce odour emissions from underground areas and plant processes. Absorption and oxidation of H2S with sodium hypochlorite is used as the odour treatment. This process is controlled via pH and ORP feedback loops along with a conductivity loop which refreshes the spent liquor in the system. The current consumption of chemical is indicative of overuse and premature purging. Advanced process control can be used to develop a model to derive the theoretical minimum level of hypochlorite required. This can also be used to redesign chemical purging cycles to prevent dilution and large purge volumes. The data from the model will also be used to improve the ORP control loop through a feedforward element.

Name of Principal Author: Praby Sasson

Organisation: Sydney Water