

MILL CREEK WWTP CHEMICAL SCRUBBER EVALUATION AND OPTIMIZATION CINCINNATI, OH

FINAL PROJECT SCORECARD

- Chemical dosages optimized**
- Testing completed with injection of H₂S & CO₂**
- Metering pump sizes selected**

WEA performed a detailed scrubber evaluation for CH2M Hill on the 10,500 cfm primary clarifier chemical scrubber at the 250 MGD Cincinnati Mill Creek wastewater treatment plant in 2002. The scrubber evaluation included testing the hydrogen sulfide (H₂S) removal efficiency of the scrubber under various operating and inlet scenarios. The scrubber was tested with various caustic and hypochlorite flow rates and under several caustic only flow rates. H₂S and carbon dioxide (CO₂) cylinders were used to vary the scrubber inlet conditions during the testing. Cincinnati MSD is considering options for improving the scrubber performance based on the findings from the evaluation. Testing indicated that chemical metering pump sizes needed to be increased and that control systems needed to be improved.



10,500 cfm Primary Clarifier Scrubber



H₂S & CO₂ Cylinders used in the testing