

CASE STUDY 307

PULP AND PAPER H₂S TREATMENT

BACKGROUND

A pulp and paper mill was processing 500 gpm (720,000 gallons per day) of sludge, with 3% solids, through four presses. The dewatered solids were being burned, and the filtrate was being returned to the waste-water treatment system.

H₂S in sludge was liberated at the presses. The H₂S levels typically ran between 40-100 ppm. However, there were some spikes in H₂S levels reaching about 750 ppm. These H₂S surges were due to changes in throughput volume and feed composition.

SOLUTION

- Q² Technologies tested Enviro-Scrub® at the pulp and paper waste-water treatment system as shown in Diagram 1. Varying amounts of Enviro-Scrub® were injected continuously and directly into the diluted sludge. The scavenger was located at the suction side of the surge tank pump. The H₂S levels were monitored both, at the vapor phase off the presses and in the filtrate. Enviro-Scrub® reduced H₂S levels to 10 ppm and even less during the twenty-four hours that the test lasted.

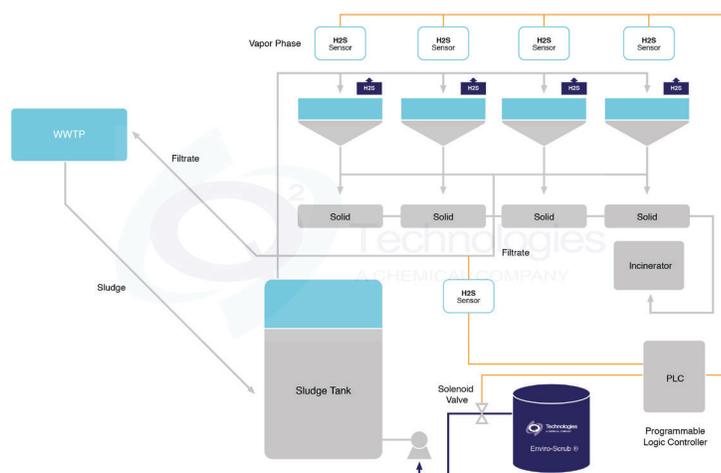


DIAGRAM 1. PULP AND PAPER SEWAGE TREATMENT

RESULTS

- The pulp and paper mill is currently using Enviro-Scrub® when H₂S spikes occur. The injection pump is activated when this happens and the H₂S is reduced to compliance levels within 15 minutes. The pulp and paper mill plans to automate the feed pump linking it to H₂S monitors so that it activates when needed.
- A second forty-eight hour test was conducted by plant personnel at the pulp and paper mill and they obtained the same positive results. H₂S was reduced to acceptable levels at a reasonable cost. The facility is now using Enviro-Scrub® to control H₂S directly at the source.