

CASE STUDY



Birkenhead – United Utilities (Costain) OCU REFURBISHMENT



What was the problem?

The client's odour control system had built up severe sulphur deposits within the chemical scrubber unit, large diameter ductwork sections and irrigation pipework.



How did OSIL approach the challenge?

Initially through problems identified by the customer and then whilst working on the OCU the OSIL team were able to identify further various issues with the chemical dosing setup to help Costain/United Utilities enhance and optimise the existing system on site.



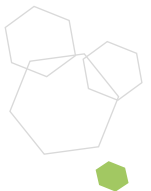
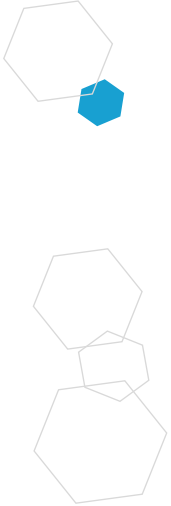
Delivering the Solution

Clean out scrubber internals of sulphur, recirculation liquor and solids, inline filters, instrument lines and conduct descale.
Conduct inspection of ductwork between WCS outlet and fan inlet- needed to clean out and remove solids.
Replace failed Knit mesh mist eliminator.
Replace all scrubber media with like for like replacement (32m³ volume).
Remove and decontaminate 4-off existing pulsation dampers.
Refit and commission along with existing 4-off discharge pulsation dampers.
Install new water softeners.

Supply and install replacement seals on PH and redox probe flow cells
 Install replacement gauges with integral diaphragm gauge guards and ball valve union connections
 Install 4 replacement control cables on hypo dosing pumps
 Undertake hydraulic pressure test of pipework in hypo and caustic dosing modules
 Review pH control (review set points and PID tuning and instrument line flows) to achieve pH 9.2 +/-0.2/ modify SCADA scale.
 Review ORP control (review set points and PID tuning and instrument line flows) to achieve pH 720 +/-25mV.



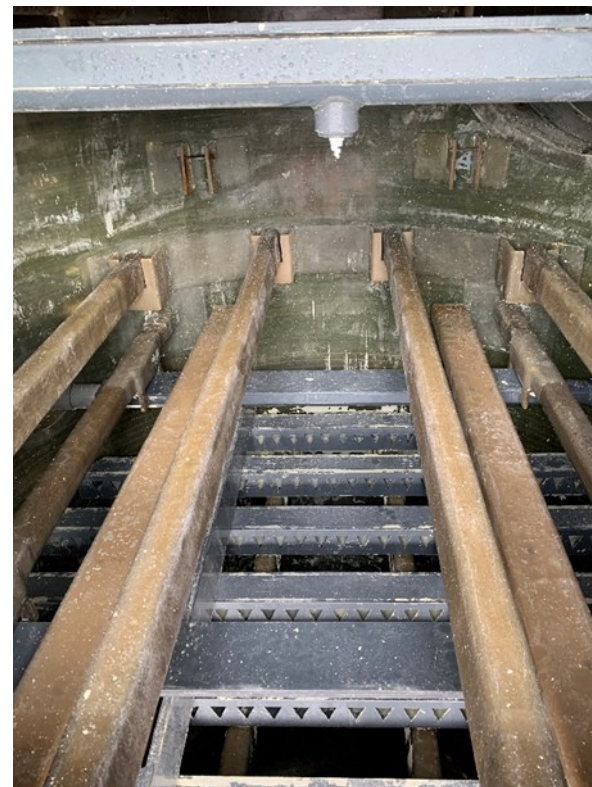
Acid clean of recirc lines, inline filters, and instrument lines



Internal Chemical Scrubber pre-clean out Images:



Internal Chemical Scrubber post-clean out Images:



Replace failed knit-mesh eliminator pre-change photos:



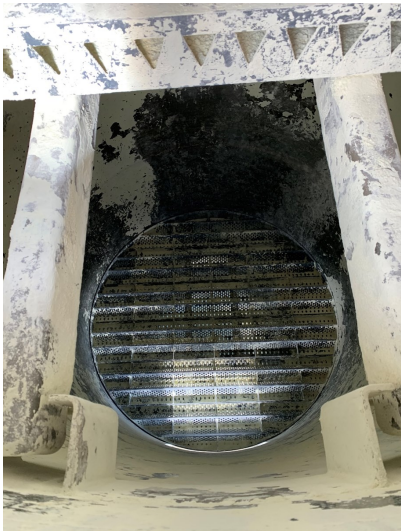
Replace failed knit-mesh eliminator post-change photos:



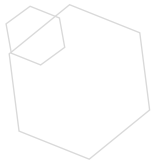
Replace all scrubber media with like for like replacement (32m3 volume)



Replace all scrubber media with like for like replacement (32m3 volume)



Install new water softeners



Before



After



Before



After



Before



After





How did the Client win?

During the chemical scrubber clean out works awarded to OSIL another Costain subcontractor on site were carrying out repairs to the odour control fans. During their removal of the large ductwork connections by the subcontractor, substantial amounts of sulphur deposits were discovered within the ductwork. With OSIL already being established on site to carry out pre-planned cleaning works this meant OSIL were able to action the client's immediate request to carry out additional works to clean and remove the sulphur deposits.



Testimonial

Andrew Preston – Costain – Project Manager “I would commend to you the good work of OSIL at Birkenhead.”

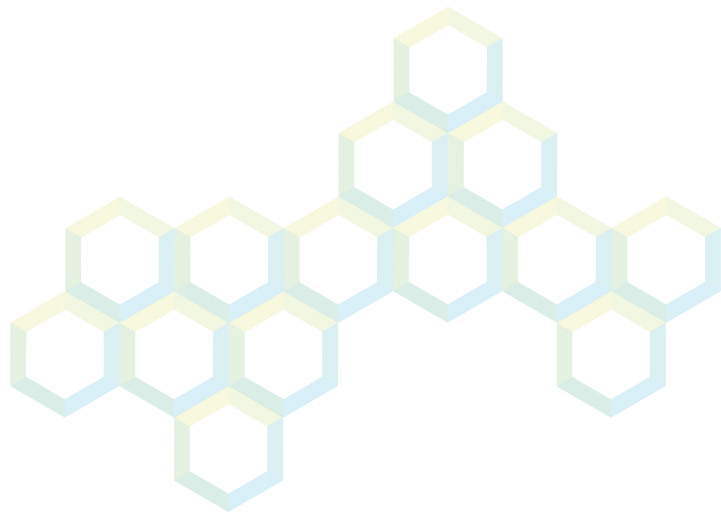
John Hughes – United Utilities – Wastewater Process Controller “The OCU is performing well with a palpable difference around site.”



Downloadable content

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