

Boadicea House, Heathrow

In 2017, the travel plans of over 75,000 passengers were halted when an IT issue brought down a Data Centre at Heathrow Airport without warning. The effects were catastrophic and the costs rose into the millions of pounds, so when issues were identified in the cooling systems serving the same data centre less than two years later, swift action was required.

Problem

The cooling system at Boadicea House (BOAC Computer Building) at Heathrow Airport is complex and comprises a series of 13 No. individual pumped cooling circuits each with a CRAC (Computer Room Air Conditioning) unit serving a plate heat exchanger in the data centre.

AES Maintenance contacted us as flow issues were being reported meaning the CRAC units were not performing to the required level which reduced the level of cooling required to safely run the data centre continuously.

Solution

Time was of the essence so the full BSRIA processes could not all be followed, so we worked with our client to produce a programme of works to tackle the issues head on, the aim being to improve water quality and eliminate the flow issues leaving the systems in good condition.

Sequentially we sampled each circuit and undertook a cleaning programme which included the following stages:

- ✓ Dynamic flush to remove gross debris
- ✓ Biocide wash
- ✓ Chemical clean
- ✓ Addition of final treatments – inhibitor, biocide and Glycol (25%)
- ✓ Re-sampling

Conclusion

This is a prominent, high profile site and it was vital that results were achieved quickly. It was not without its problems – for example the drains could not be used so we had to drain into IBC containers.

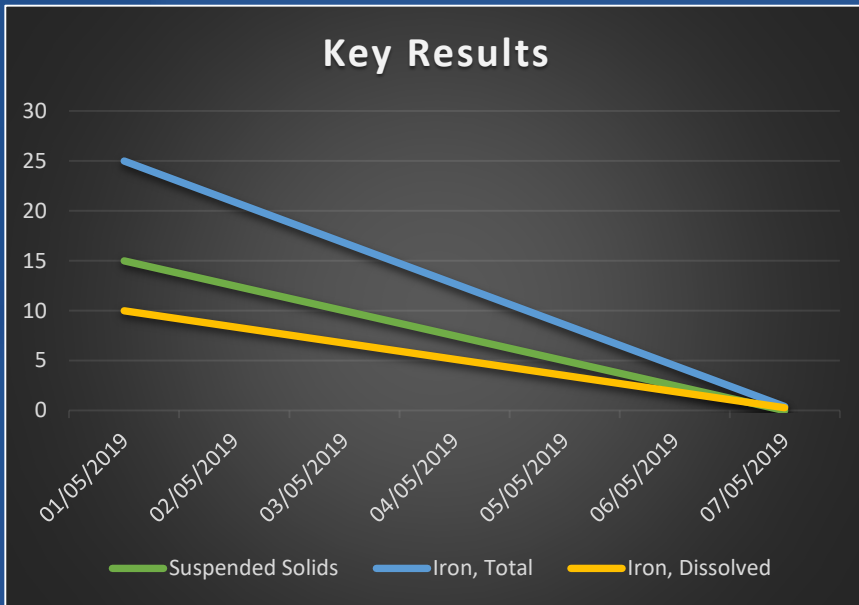
Working closely with AES we completed our works within the agreed timeframe and scope and the water quality and flow in each circuit improved dramatically, as demonstrated by the laboratory results we achieved.

The client was happy with our work and most importantly the airport and the travellers passing through were unaffected.

As always, ongoing and diligent maintenance is critical to ensure new or cleaned systems can operate without problems.



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Across the board, the visual water quality of the water in each circuits improved with yellow/ brown water being rendered clear and solids being successfully remove.

Chemistry tests demonstrated improvements in terms of total and dissolved iron readings as well as suspended solids – key elements of the BSRIA testing suite.

From a microbiological perspective, results at the start were mixed form circuits to circuit but again improvements were seen.

Example: CRAC Unit 4-14

Data Centre



As with all instances of remedial cleaning, there is never any guarantee that problems will not occur in the future.

Ongoing maintenance is absolutely critical and Goodwater can offer a range of services bespoke to any clients needs or to tackle known issues in a variety of different systems and conditions

