

## Case Study: Cooling



University of  
**BRISTOL**

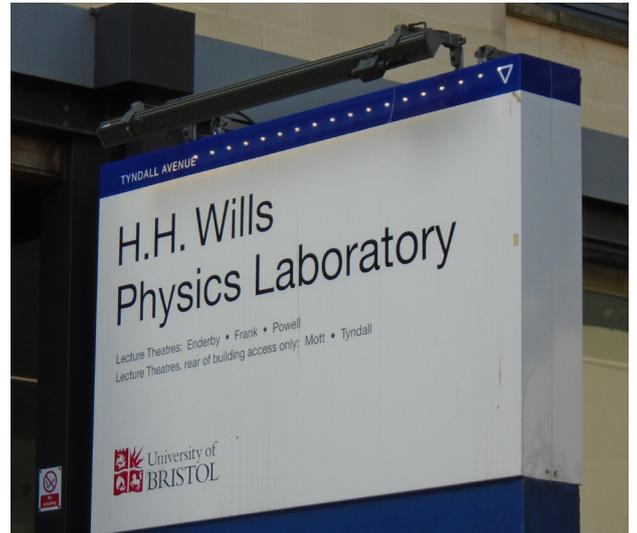
## Chiller Failure Case Study



**DCResponse**  
UPS, GENERATOR + MAINTENANCE EXPERTS

### About

Since its founding in 1876, the University of Bristol has built up a reputation for innovative research. One of the key departments of the University is the School of Physics, where pioneering research has underpinned several fundamental advances in quantum mechanics. The high performance computer(HPC) facility at the Physics Department is a critical system that provides the resources necessary to carry out the research. Avoiding downtime of the HPC is, therefore, vital.



### Challenge

During the high temperatures experienced on Tuesday 26th July 2016, Bristol University chiller suffered failure as a result of the age and degradation of the system. The potential repercussions were huge as the chiller was used to provide cooling for the crucial HPC facility at the physics department. Bristol University therefore required a replacement straight away to minimise downtime. In order to source this, the University contacted us.

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## Solution

With an extremely short timescale to work in, we set about providing Bristol University with an immediate solution. Firstly, they provided a 300KW cooling system for use as a temporary replacement to the chiller. The existing chiller was located on the roof of a 5th floor public building in Bristol city centre. In order to overcome the difficulty of installing a 3,500kg temporary chiller onto the roof top, we sourced a 62 Ton rated high rage crane and the chiller was successfully installed within a week of Bristol University contacting us.

Once the temporary system had been put in place, we sourced a permanent cooling solution in the form of a 5,000kg, 500KW high efficiency chiller. The crane was again, used to decommission the existing chiller before successfully installing the new cooling system.

The increase in size of the new chiller in comparison to the old system meant that a greater power supply was also required. The old, 260KW chiller came with a 250A power supply whereas the new 500KW chiller required a 400A power supply. In order to overcome this issue, we installed anew 400A power supply.

## Outcome

We provided the University of Bristol with a full solution after the catastrophic failure of its chiller system. The solution included the installation of a temporary system within a week, the decommissioning of the faulty unit and the installation of a new high efficiency system within 3 weeks of the initial failure. The work done by us helped minimise downtime to the University's vital HPC facility at its Physics Department.



**“DCResponse made this large complicated project look easy; we were delighted with their ability to work around a huge number of obstacles to provide a solution to a serious issue in a very short space of time. I would not hesitate to use DCResponse for any future projects.”**

**Simon Atack – Senior HPC System Administrator at the University of Bristol.**



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