

## Case Study

# Radiator Performance

### Overview

In early July 2018 AVK were called to site because our client's generator had shut down on over temperature during a power outage. A quick review of the installation highlighted no obvious issues, so a load bank test and cooling review was scheduled for August. Project slippage due to customer commitments meant this did not happen until early September.

While the load-bank test went without fault, the cooling temperatures measured by our cooling specialist were far higher than expected for the measured ambient conditions. A cross functional team was pulled together to deep dive the problem with the following conclusions being drawn.



### Cooling System design characteristics

A review of the original O&M manual highlighted that the cooling system had been designed around a maximum predicted ambient temperature of 25°C. The maximum recorded ambient temperature for July 2018 was almost 34 degrees C

### Installation changes

When the building was originally built in the early 1980's it was one of the highest in the surrounding area and was not overlooked by other tall buildings. By 2018 this is no longer the case, and the building is one of the shorter buildings in the area. Added to this a building makeover in the last 10 years has resulted in the top floors having a glass surround added to modernize the building. A combination of these two mean the actual temperatures on the building roof are now considerably higher than they were back when the cooling equipment was first commissioned

### Conclusion

During the summer of 2019 a new horizontal cooler was installed on the roof, capable of achieving a higher ambient clearance. Load-bank testing at the end of the summer gave a predicted maximum ambient clearance of 39 degrees C, ample clearance for the temperatures currently being recorded in London

**For more information on AVK's Cooling System solutions, please visit: [www.avk-seg.co.uk](http://www.avk-seg.co.uk)**