

## Case Study

### Hyperscale Data Centre, UK

#### Overview

AVK were chosen to install 18no HV generating sets to provide critical resilience for a new energy farm. Due to the complexity of the required control system and the interfacing between the generators and distribution switchgear it was decided that AVK would also design and install the PMS system in tandem with the generator control strategy.



**Sector/Location:**  
Data Centre South West, UK

**Size:**  
n/a

**Timescales:**  
2019-2020

**Value:**  
£1.2m

Design and install a complete PMS system for a new energy farm for an established client.

The design was for a HV & LV power distribution system, for a system comprising of:

- 6 ring supplies, 14 LV Transformer feeders plus 2 no NET Transformer feeders.
- 3no in parallel HV utility mains power from source 1 Substation, and 3no in parallel HV utility mains power is supplied from source 2.
- 2no 11,000-volt switchboards to subsequently feed it's associated LV switchboards downstream and relevant step-down transformers.
- Each of the 11kV switchboards comprise of 32no controlled and monitored breakers, plus monitoring of all SEPAM metering.

Life Is On

**Schneider**  
Electric

The primary function of the PMS system is to automatically transfer load to generator power after failure of one or both Utility supplies. The PMS system will sequentially energise the load transformers thereby minimising inrush currents, during failure recovery and restoration scenarios.

The system also interfaces with the ComAp generator control system and incorporates mains paralleling capability.

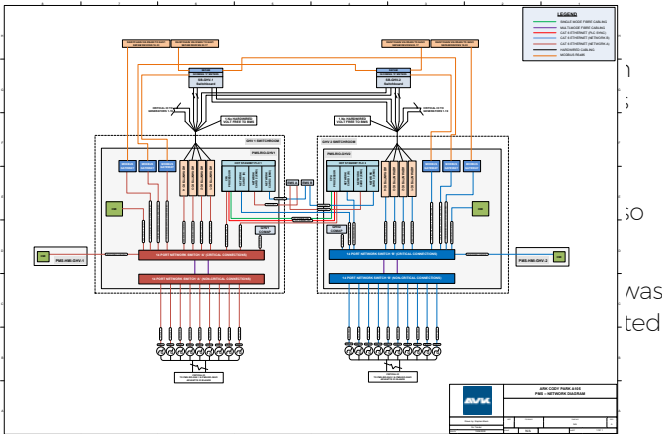
The system also integrates with the EMS system on site

The control system network is based on a Fibre to Ethernet TCP/IP and Modbus over Ethernet protocols. The physical network communications are achieved using Managed Fibre to Ethernet Network Switches configured in a dual redundant ring configuration.



## System highlights

- Schneider M580 Hot Standby PLC, software compiled using the Schneider Electric EcoStruxure Control Expert V14.0 program.
- Schneider Managed Network Switches
- Schneider Advantys STB range remote I/O
- 4no remote 18.5" colour touchscreen HMI's, pages compiled using the Schneider Electric Vijeo Designer program.



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AVK's PMS solutions, please visit:  
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