

# CASE STUDY

## End to End testing success of SASensor HMV at the PNDC

The SASensor HMV solution has been successfully trialled on SSE's substation at Caputh. In order to further evaluate system performance and accelerate adoption, the SASensor HMV solution has also been installed on an 11kV test network at the PNDC. The PNDC test environment enables a multitude of different test scenarios to be applied, including phase and earth faults.



PNDC building at Cumbernauld network

### Challenge

- Create a controlled test environment where multiple different network faults can be applied.
- Verify performance against laboratory testing and relevant standards.
- Integrate the SASensor data into the PNDC IT environment and SCADA system.

### Solution

- Installed SASensor HMV system on the 11kV test switchboard at the PNDC.
- Performed a variety of real-life network faults to verify the performance of the SASensor system.
- Immediate and automatic upload of network data from the SASensor system into the IT infrastructure.

### Benefits

- Easy and straight-forward commissioning.
- Positive test results, demonstrating excellent system performance under a variety of real life environments.
- Generate high quality fault recording information for future analysis.
- SASensor open platform installed providing a developer environment for testing new algorithms on the PNDC network.

“The performance of the HMV system was excellent. The SASensor system is truly revolutionary. It offers the PNDC a platform for trial and development of new protection, control and monitoring solutions which will add real business benefit to power utility companies.”

David Rutherford CEO



“We are delighted with the results at the PNDC and that we are able to demonstrate the performance of our system to our clients, saving years compared to field trials alone.”

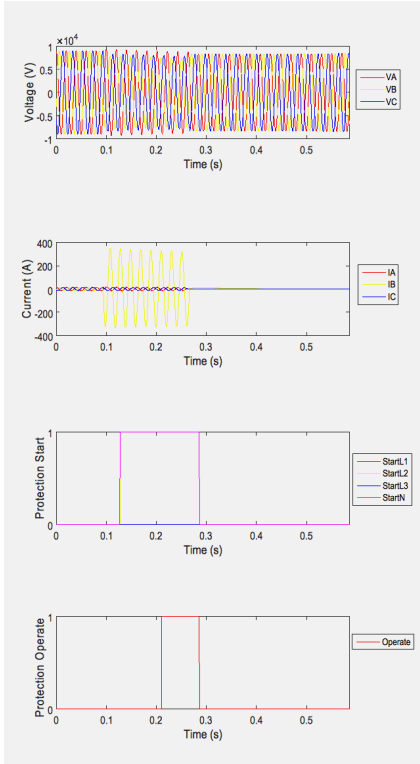
Russell Clayman BDM UK&I



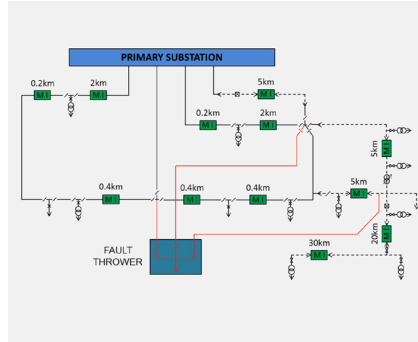
## Details

Adopting new substation automation platforms and architectures into business as usual underlines the importance de-risking them through realistic test regimes and environments. This enables new opportunities for realising substations of the future with the following requirements:

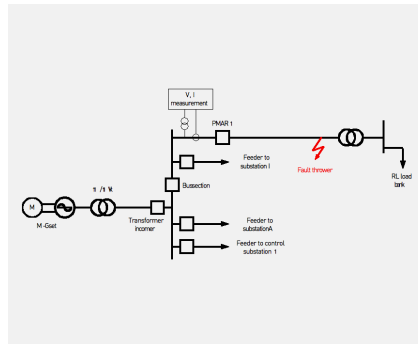
- Functional integration between substation systems without compromising the reliability and performance of safety critical systems.
- Automated data analytics for supporting the system operator and enabling autonomous network operation.



DFR of phase to earth fault test



Primary schematic of test



PNDC network for testing the SASensor HMV system



SASensor modules installed in one of the primary switchboard bays

## About Power Networks

### Demonstration Centre

The Power Networks Demonstration Centre is an innovative development and demonstration facility to define and execute research, development, testing and demonstration projects that will help shape the electricity industry of the future. The 13,000 sq. ft. facility comprises of a unique 11kV and LV network environment representative of various networks, secure test bays, MW-scale MG Set, dedicated SCADA control room and real-time simulation suite. This affords the pre-commercial testing of HV and LV equipment and secondary control, protection, communication and measurement systems.

## About Locamation

Locamation is a developer of innovative hardware and software technology for smart grids. Locamation's main customers are operators of Electrical Distribution and Transportation networks. Locamation is located in Enschede (NL) and is owned by Alliander, Wadinko and Yellow&Blue.



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