




Automated Systems and Data Process Efficiencies

Scottish & Southern Electricity Networks (SSEN) have engaged PSC to carry out a review and optimisation of their power system modelling and data processing.

Challenge

There is an increasing reliance on the need for more efficient and more accurate use of data when carrying out power system analysis to justify project reinforcements. The project aims to improve the reliability, accuracy, and efficiency of the following annually repeated studies:

1. Production and updating of load estimates
2. Analysis and reporting for High Voltage Charging Methodology (EDCM)
3. Analysis and reporting for Common Distribution Charging Methodology (CDCM)
4. Long Term Development Statements (LTDS)
5. PSS/E Fault Level Assessments following G74 methodology
6. Calculation of site-specific losses

Client	Scottish and Southern Energy	
Country	UK	
Year	2019-ongoing	

Project solution

To carry out these tasks PSC engineers use their extensive experience of distribution and transmission system network analysis, PSS/E studies, and Python scripting.

PSC developed several automation tools for each stage of the system studies and reporting. These will benefit SSEN with the implementation of improvements in the following main areas:

- Input data accuracy through automated checking
- System analysis through improved calculation methodologies
- Repeatability through automation of studies
- Standardised reporting through clearly defined output formats and processing

PSC has extensive experience in the development of scripts to automate and improve many power system analysis functions. This experience ensures that scripts and tools are developed with clear documentation and effective unit testing/validation engines.



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