SPE ELECTRICAL

CASE STUDY 3: EIRGRID

ENERGY MANAGEMENT SYSTEM: SAFETY INVESTIGATION

Client:	**EirGrid**
Industry:	**Transmission & Distribution**
Plant Type:	**Transmission Network**
Project:	**Safety Investigation**
Contract:	**Lump Sum**
Date:	**2015**

"A safety investigation into potential operator failures modes of a planned Energy Management System upgrade."

SPE was contracted by EirGrid to undertake an independent safety investigation into a perceived operational risk associated with its proposed new all island (North & South Ireland) Energy Management System (EMS). The review was focused on one of the 275kV substations and HVDC system interconnectors to the UK mainland. SPE was tasked with assessing the various scenarios where the operation of the EMS and the Interconnector could present safety risks for switching activities.

Due to the nature of the concern, SPE proposed to undertake the safety investigation using a Root Cause Analysis (RCA) approach in order to identify all the possible scenarios in which a safety risk could occur. As part of the investigation SPE reviewed the current legal and NIE operational safety guidelines as well as the systems and procedures that EirGrid had in place. SPE then used structured interviews with the Real Time Systems Manager, several Control Engineers and a Senior HSE Specialist, to identify how the system operated on a day-to-day basis, how the potential control measures could break down and what the most realistic scenarios were.

After completing the initial investigation, SPE prepared both a detailed report and a comprehensive fault tree diagram, which indicated visually all the possible paths that could lead to a safety risk, as well as the control processes and systems in place. The results of the investigation indicated, that while there was a possibility of a risk during operation, the level of training and safeguarding put in place by EirGrid were sufficient concluding this was deemed an unrealistic scenario.

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