

I&C Infrastructure Modernization

Safety-Related I&C Pilot Upgrade Project at Limerick Generating Station (LGS)

Regulatory barriers have historically precluded modernization of nuclear plant first-echelon safety-related (SR) Instrumentation and Control (I&C) systems. These barriers have been addressed through collaboration between industry leaders and the Nuclear Regulatory Commission. These advances enable modernization of key safety systems through the streamlined License Amendment Request (LAR) Alternate Review process reflected in Digital Instrumentation and Controls Interim Staff Guidance #06 ([DI&C-ISG-06](#)), Revision 2, Licensing Process. While regulatory advances have improved the environment for modernizing safety systems, the industry has remained reluctant to perform such I&C upgrades because of perceived regulatory and financial risks associated with being the first adopter of the LAR Alternate Review process for highly critical reactor protection system upgrades.



Limerick Generating Station

The research products listed below as hyperlinks were developed through a collaborative effort involving LWRS and Exelon to assist in breaking this impasse for the industry.

- Ø [Safety-Related Instrumentation & Control Pilot Upgrade Initiation Phase Implementation Report](#)
- Ø [Business Case Analysis for Digital Safety-Related Instrumentation & Control System Modernization Report](#)
- Ø [LWRS Vendor-Independent Design Requirements for a Boiling Water Reactor Safety System Upgrade](#)

Exelon Generation's Limerick Generating Station was selected as the reference facility for this research. Please click on the hyperlinks above for a brief summary of each subject document and to obtain access to that document.

These products were developed to support not only Exelon but the larger nuclear industry. These products make no commitments for Exelon Generation. They are being leveraged and adapted by Exelon in support of a SR I&C Pilot Upgrade Project at LGS.

If you have any questions with regard to these research products, please contact [Paul J. Hunton](#).

