GAIN with RELAP5-3D

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The Gateway for Accelerated Innovation in Nuclear (GAIN) initiative epitomizes the new US paradigm for nuclear energy advancement and makes RELAP5-3D available for commercial use.

Background

Because nuclear energy is a proven baseload, zero-emission power source, one Department of Energy (DOE) mission is to advance nuclear power as a resource capable of meeting the nation's energy, environmental and security needs. To do so, it needs to resolve technical, cost, safety, proliferation resistance, and security barriers through research, development, and demonstration (RD&D).

Accomplishing this mission will help realize the enormous potential of nuclear energy and maintain the United States' historical leadership in the field. However, although many innovative ideas exist, the RD&D needed to bring these concepts to commercial readiness is traditionally lengthy and expensive. Facilities, tools and assets needed to conduct the necessary RD&D activities are one of a kind and very expensive to develop and maintain. Also, the regulatory framework for novel ideas needs to be streamlined with a clear and defined set of requirements for licensing concepts, plants and equipment.

GAIN is intended to foster collaboration between laboratories, industry, and regulators to accelerate the transformation of advanced nuclear technologies into our clean energy future using DOE's unique resources.

Through GAIN, DOE will make its expertise and state-of-the-art, continuously improving RD&D infrastructure available to stakeholders to achieve faster and cost-effective development of innovative advanced nuclear energy technologies toward commercial readiness. Capabilities available through GAIN:

- Experimental capabilities with primary emphasis on nuclear and radiological facilities, but also including other testing capabilities such as thermal-hydraulic loops, control systems testing, etc.
- Computational capabilities along with state-of-the-art modeling and simulation tools
- Information and legacy data
- Land use and site information for demonstration facilities.

RELAP5-3D for GAIN

Access will be provided through the GAIN website, gain.inl.gov. Through GAIN, users can access world-class nuclear research resources and capabilities within DOE's national laboratories.

INL, the nation's lead nuclear laboratory, has made the state-of-the-art, best-estimate code, RELAP5-3D, available through GAIN. INL is offering one year evaluation licenses for commercial and other entities interested in RELAP5-3D as a possible tool to address their modeling, design, and simulation needs.

To be considered for a RELAP5-3D evaluation license under GAIN, please submit your request through the GAIN website at https://gain.inl.gov/SitePages/Home.aspx.

Additional questions on the GAIN initiative can also be addressed via the website on the "contact" page.