NE-24-33965 – Real-Time Generation Risk Assessment (GRA) Model for Commercial Nuclear Power Plant

Entergy Operations, Inc., located in Jackson, MS, is a leading utility company with customers in Arkansas, Louisiana, Mississippi, and Texas. Its mission is to bolster the reliability and robustness of energy infrastructure in addition to pioneering advancements and strategies aimed at ensuring the delivery of secure, environmentally friendly, and reliable energy to both current and future generations.

Ensuring the predictability of nuclear plant operations and mitigating potential generation loss due to equipment failures are critical imperatives. Currently, in most nuclear plants, manual rounds and extensive monitoring efforts are used due to the lack of real-time, data-driven models. This leads to significant operational costs and resource utilization.

Entergy will partner with Oak Ridge National Laboratory (ORNL) to implement real-time Generation Risk Assessment (GRA) modeling to address these issues. ORNL's unique experience in implementing GRA models combined with the use of their Operational Performance Risk Assessment (OPRA) software will be used to integrate the model with real-time data. Entergy will roll out the model at one of its operating plants an if successful look to expand to other plants in their fleet.