

Traditional renewable energy sources can't support the grid on their own. That's why they need nuclear to support them in times of peak use and when the sun is not shining or the wind is not blowing. Three Idaho National Laboratory licensing engineers have worked to address longstanding regulatory policy issues (first identified in the 1980s) to achieve this reality, in direct support of the development and deployment of advanced reactors, such as gas, molten-salt and metal cooled reactors.



Advanced Reactor Technologies Licensing team members from left to right Mark Holbrook, Jim Kinsey and Wayne Moe.

The licensing team recently received the American Nuclear Society's Special Award for their cutting-edge work with industry and NRC to address and resolve these foundational regulatory framework issues and to define acceptable and flexible approaches to licensing, which are better suited to the upcoming fleet of advanced reactors. "This is a way of implementing safer advanced technologies," said Wayne Moe, a licensing team member. "It lowers the costs of building these reactors. It also doesn't rely as much on individual judgements because it uses probabilistic research on safety parameters."

Some licensing team members see this as a chance to move towards a carbon-neutral grid, with traditional renewable energy sources supported by nuclear. "It's an opportunity to take the positive aspects of nuclear and adapt them to a renewable grid," said Mark Holbrook, a team member.

Their efforts have resulted in the resolution of key NRC Commission policy issues (functional containment, emergency planning) over the past three years. Their current INL-managed and industry –led project, the Licensing Modernization Project (LMP), was funded through cost-sharing by the Department of Energy, which provided 80%, and private industry, which contributed 20%. Team members note it was a collaborative effort. “A lot of this work has been done by the reactor development community, and we partnered with folks from other laboratories,” said Jim Kinsey, a team member. The LMP’s further regulatory framework development proposals are under review by the Nuclear Regulatory Commission and could be available for use as soon as the end of this calendar year.