

CHALLENGES AND OPPORTUNITIES WITH ACCELERATED QUALIFICATION OF LWR ATF CLADDING AND FUEL MATERIALS— PANEL

Session Organizer: Jamie Baalis Coble (U.T., Knoxville)

In order to avoid Fukushima-like events, the U.S. DOE has invested heavily in research and development of accident-tolerant fuel and cladding materials to replace the problem-prone Zircaloy-uranium dioxide system. Currently, three prime candidates for the cladding system are under active consideration: silicon carbide composites, Iron-chromium-aluminum (FeCrAl steels, and surface-modified Zircaloy. In the fuel arena, uranium silicide is being pursued as a replacement for uranium dioxide on account of its attractive thermal properties. Although the R&D in this field (including the installation of lead test assemblies) is proceeding as expected, there is an immediate need to start a dialogue among the major stakeholders: materials developers, regulators, and utilities, to chalk out the next steps involved in the qualification of these systems and to ensure a smooth transition from laboratory scale to commercial-scale deployment.

Panelists: Steven Hayes (*INL*)
Sumit Ray (*Westinghouse*)
Robert Lukes (*NRC*)
Jack Gazza (*General Atomics*)
Kurt Terrani (*ORNL*)
Bill Gassmann (*Exelon*)
Jeffery Reed (*Framatome*)