

Charter for the NERAC Subcommittee on Generation IV Technology Planning

The Department of Energy (DOE) is developing a Generation IV Technology Roadmap to identify promising advanced nuclear energy system technologies and the associated research and development necessary to enable deployment of these innovative systems in the 2030 time frame. Generation IV nuclear energy systems would be designed to exceed today's state-of-the-art technology in terms of enhanced nuclear safety, minimization of waste generation, increased proliferation resistance, and superior economics. The Generation IV Technology Roadmap will set ambitious, but achievable technology goals; identify the most favorable technology paths to achieve those goals; and define the required research programs. The NERAC Subcommittee on Generation IV Technology Planning is charged with providing guidance to of DOE's effort to create a Generation IV technology roadmap (which will include separate consideration of Generation III+ systems) and develop concept-independent performance goals for Generation IV systems.

To this end, the Subcommittee will provide guidance in the creation of a Generation IV Technology Roadmap which will:

- recommend the governing concept-independent performance goals for Generation IV nuclear energy systems;
- suggest paths forward to resolve the remaining research needs and institutional issues that must be addressed to enable the design, certification, and deployment by 2010 of evolutionary advances to existing reactor concepts (*i.e.*, Generation III+ systems);
- review the recommended research and development activities and schedule necessary to support the design and certification of Generation IV nuclear energy systems not later than 2030; and
- recommend a Generation IV research and development plan, which provides the sequencing and initial cost estimates of research tasks, and identifies potential national and international collaborations.

The initial component of the Roadmap –concept-independent performance goals for Generation IV nuclear energy systems--should be completed no later than January 12, 2001. This component should be made available for public review.

A first draft of the Roadmap should be completed by January 11, 2002,. An interim draft should be completed by May 15, 2002. The final Generation IV Technology Roadmap must be completed by September 27, 2002.

The staff of DOE's Office of Nuclear Energy, Science and Technology, DOE nuclear reactor technology lead laboratories, and other resources will be made available to the Subcommittee as it proceeds with this effort.