

Charter of the Near-Term Deployment Group
of the Generation IV Roadmap Development Program

The Near-Term Deployment Group (NTDG) shall identify technological and institutional gaps between the current state of the art and the necessary conditions to deploy new nuclear plants in the United States before 2010. In order to meet U.S. near-term requirements for affordable baseload capacity additions by 2010, at least one competitive nuclear energy generation option, NRC-certified and/or ready to construct, must be available by 2005. At least one nuclear plant design should achieve plant operational status by EOY 2010. In addition, we need a range of competitive, NRC-certified and/or ready to construct nuclear energy generation options of a range of sizes to meet variations in market need, supported by sufficient fabrication and construction infrastructure to enable simultaneous, large-scale deployment across the U.S.

The scope of the NTDG shall encompass those nuclear power plants technologies that meet the following six criteria:

1. Credible plan for gaining regulatory acceptance - Candidate technologies must show how they will be able to receive either a construction permit for a demonstration plant or a design certification by the U.S. NRC within the time frame required to permit plant operation by 2010 or earlier.
2. Existence of industrial infrastructure - Candidate technologies must be able to demonstrate that a credible set of suppliers exist which have the ability and the desire to supply the technology to a commercial market in the time frame leading to plant operation by 2010 or earlier.
3. Credible plan for commercialization - A credible plan must be prepared which clearly shows how the technology would be commercialized by 2010 or earlier, including market projections, supplier arrangements, fuel supply arrangements and industrial manufacturing capacity.
4. Cost-sharing between industry and government - Technology plans must include a clear delineation of the cost categories to be funded by government and the categories to be funded by private industry. The private/government funding split for each of these categories must be shown along with rationale for the proposed split.
5. Demonstration of economic competitiveness - The economic competitiveness of candidate technologies must be clearly demonstrable. The expected all-in cost of power produced is to be determined and compared to existing competing technologies along with all relevant assumptions.
6. Reliance on existing fuel cycle industrial structure - Candidate technologies must show how they will operate within the existing fuel cycle industrial structure, i.e., they must utilize a once-through fuel cycle with LEU fuel and

demonstrate the existence of an industrial infrastructure to supply the fuel being proposed.

The NTDG shall report directly to the Department of Energy Generation IV Program Manager and brief and receive advice from the Generation IV Roadmap NERAC Subcommittee as the Program Manager directs. It shall also maintain a dotted-line relationship with the Nuclear Energy Institute (NEI) Task Force on New Nuclear Power Plants, assuring close cooperation with ongoing industry activities.

The NTDG will solicit and assess proposals from potential suppliers and potential customers of reactor technologies that meet the above screening criteria. The proposals will need to address how the subject technology meets each of the above criteria, what specific technological and institutional gaps exist which must be addressed to allow successful commercialization of the technology, and the cost, schedule and deliverables that will be generated if the proposal is accepted.

Based upon the assessment of the institutional and technological gaps, the working group shall prepare estimates of the resources (schedule and funding levels) required to close the gaps in time to meet the deployment goals (achieving new nuclear plant orders by 2005 and a range of options with robust implementation infrastructure on or before 2010). The estimates provide the foundation of a simplified roadmap for near-term deployment in concert with the DOE Generation IV roadmapping effort as it applies to the reactor concepts to be evaluated under the NTDG. The NTDG shall make recommendations to the DOE Program Manager for funding priorities of existing and future Congressional appropriations. The simplified roadmap shall provide a systematic and defensible basis for future DOE requests for increased appropriations in Congress.

The NTDG shall be comprised of two co-chairmen from industry with representation from industry, vendors, national laboratories and academia.