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Fuel Cycle R&D Requirements for Future Nuclear Power

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Recently, DOE Nuclear Energy completed its Road Map for a science-based approach to future nuclear energy development. Fuel cycle R&D is a central element of the Road Map, which covers nuclear energy through the period 2040-2050 and perhaps beyond. Examples of fuel cycle R&D activities will be presented, along with an outline of the types of research facilities needed to support this effort. Experimental facilities within several areas of the DOE, including DOE's Office of Nuclear Energy and its Office of Science, will be required for this task. In addition, advanced modeling and simulation will play a growing major role in these activities.