

APPENDIX H

SUMMARY OF SCOPING COMMENTS

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This appendix summarizes major scoping comments received by the U.S. Department of Energy (DOE) in response to an Advance Notice of Intent (ANOI) (71 FR 14505; March 22, 2006) and the Notice of Intent (NOI) to prepare this Global Nuclear Energy Partnership (GNEP) Programmatic Environmental Impact Statement (PEIS) (72 FR 331; January 4, 2007), as well as DOE's response to those comments. This appendix also describes the scoping process. A copy of the ANOI and the NOI are contained in Appendix G, Project Notices.

H.1 ADVANCE NOTICE OF INTENT SCOPING SUMMARY

The ANOI for the GNEP Technology Demonstration Program Environmental Impact Statement (EIS) explained the goals of the GNEP Program, described three major elements of the as-then-proposed GNEP Technology Demonstration Program, stated the purpose and need for agency action, and included a list of potential environmental issues for analysis. The ANOI also invited comments through May 8, 2006, on the proposed scope, alternatives, and environmental issues to be analyzed in the GNEP Technology Demonstration Program EIS.

As explained in the ANOI, the purpose of the GNEP Technology Demonstration Program was to demonstrate certain technologies that could change the way spent nuclear fuel (SNF) from commercial light water nuclear power reactors is managed. The GNEP Technology Demonstration Program EIS was intended to inform DOE officials and the public of the potential environmental impacts associated with the proposed action and the reasonable alternatives. The proposed action was to demonstrate, at an engineering scale, the United States capability to safely recycle SNF using proliferation-resistant separation processes and to convert transuranics into shorter-lived radioisotopes. The as-then-proposed action included projects for three key elements that would comprise a proliferation-resistant closed fuel cycle: 1) the demonstration of separation processes in which usable and waste materials that are found in SNF are separated; 2) the demonstration of the conversion of transuranics into shorter-lived isotopes; and 3) the demonstration of an advanced fuel fabrication process.

In response to the ANOI, DOE received more than 800 comment documents. More than 750 of these were part of a campaign letter (i.e., multiple submissions of the same comment document). DOE considered the comments received on the ANOI in developing the GNEP PEIS NOI and in preparing this Draft GNEP PEIS.

H.1.1 Advance Notice of Intent Major Scoping Comments

All comments received in response to the ANOI are included in the draft *Advance Notice of Intent (ANOI) Scoping Summary Report* (Tetra Tech 2006), which is part of the record of this review. The following paragraphs summarize major comments received on the ANOI and include DOE's responses:

- 1) DOE should prepare a PEIS for the entire GNEP Program proposal, not just the GNEP Technology Demonstration Program. Commentors stated that DOE should withdraw the ANOI for the GNEP Technology Demonstration Program.

DOE response: *DOE agrees and has decided to prepare a PEIS that assesses programmatic alternatives associated with the GNEP Program. There was no need to withdraw the ANOI to implement this change in scope and National Environmental Policy Act (NEPA) strategy.*

- 2) DOE should pursue alternatives to nuclear power and GNEP. Commentors stated that renewable energy technologies—such as wind, solar, advanced hydroelectric, and some types of biomass and geothermal energy—are cleaner and safer technologies and can completely meet U.S. energy needs over the coming decades.

DOE response: *The Purpose and Need for agency action is focused on activities related to the nuclear fuel cycle. Other DOE programs address alternative electricity generation technologies.*

- 3) The proposed technologies are not sufficiently advanced to proceed with engineering-scale demonstrations. Commentors stated that the technologies involved in the GNEP Technology Demonstration Program have not reached a level of maturity to perform a realistic or sensible analysis.

DOE response: *DOE believes that it has sufficient information to analyze the programmatic alternatives. DOE's Advanced Fuel Cycle Initiative (AFCI) and other related DOE programs were established to develop the technologies needed to: reduce the environmental consequences associated with SNF management, reduce proliferation risk from the use of nuclear power, and extend uranium resources. The initiative relies on utilization of existing facilities, located mostly within United States national laboratories. See Chapter 2 and Appendix A, Section A.9 for a discussion of the major tasks and facilities associated with the AFCI. A description of additional research and development needs for the programmatic alternatives is included in Chapter 4, Section 4.8.1 of this PEIS.*

- 4) DOE is proceeding with federal actions related to GNEP before conducting the required NEPA analyses. Commentors stated that DOE has taken specific steps that demonstrate a clear commitment to an expenditure of resources on the GNEP Program before any programmatic analysis has been undertaken. Commentors cited the initiation of pre-conceptual design activities for then-proposed engineering-scale demonstrations.

DOE response: *Expending resources prior to preparing NEPA documentation is not prohibited by any law or regulation. Such actions are allowable prior to a record of decision so long as the action would not "have an adverse environmental impact" or "limit the choice of reasonable alternatives" (see 40 CFR 1506.1). In addition, DOE Order 413.3A, Program and Project Management for the Acquisition of Capital Assets, requires that NEPA compliance be completed prior to the beginning of final design. A*

prime example of the allowable expenditure of resources prior to a record of decision involves the development of information to support the NEPA review. Some of these comments addressed the use of specific facilities such as the F-Canyon facility at SRS. There is no longer a project-specific proposal being considered for any GNEP alternative.

After considering these comments, DOE modified its NEPA compliance strategy for the GNEP Program. Most significantly, DOE decided to prepare an EIS that assesses programmatic elements of the GNEP Program now rather than after demonstration activities occur.

H.2 NOTICE OF INTENT SCOPING SUMMARY

On January 4, 2007, DOE published the NOI for the GNEP PEIS in the *Federal Register* (72 FR 331). The public scoping comment period initially was scheduled to end on April 4, 2007; however, in response to public requests, the public scoping comment period was extended until June 4, 2007 (72 FR 15871). DOE invited the public to submit comments during the scoping period by postal mail, electronic mail, fax, and through written and oral comments submitted at the public scoping meetings.

DOE held 13 public scoping meetings around the country between February 13 and March 26, 2007. The NOI listed 11 meetings; in response to public requests, 2 additional meetings were added: Carlsbad, NM, and Hood River, OR. The meeting dates and locations are illustrated on Figure H.2-1.

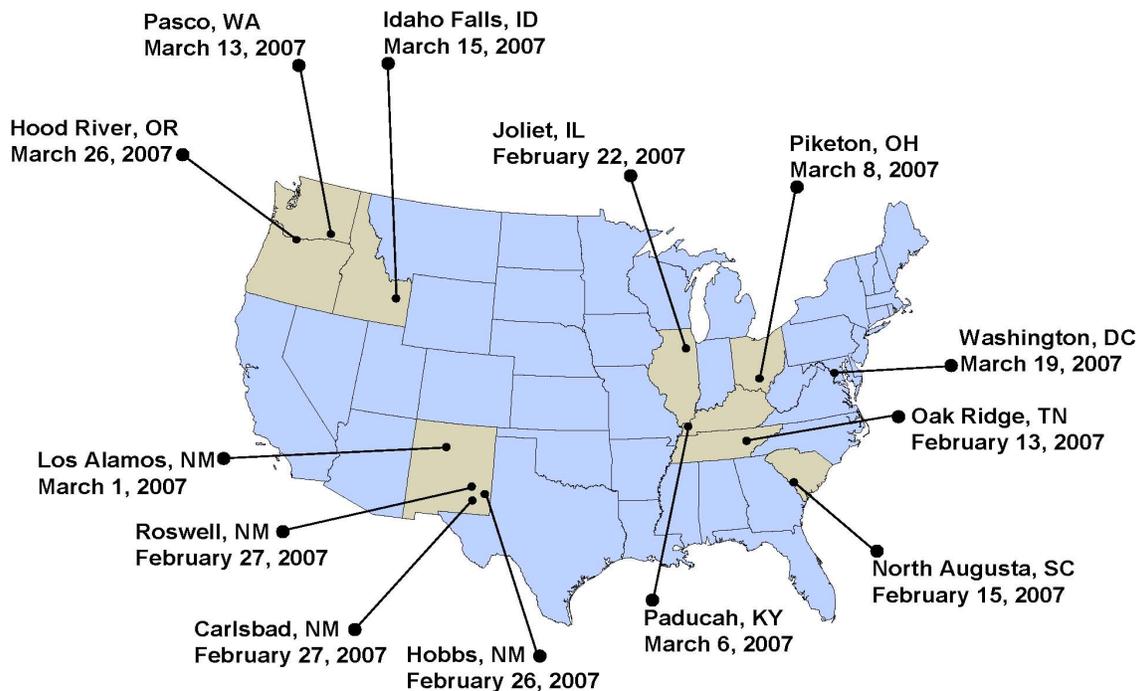


FIGURE H.2-1—Location of Global Nuclear Energy Partnership Programmatic Environmental Impact Statement Scoping Meetings

DOE received more than 14,000 scoping comment documents from members of the public, interested groups, and Federal, state, tribal, and local officials. These include comments received at the 13 public scoping meetings. Transcripts of these scoping meetings are available for public review at <http://www.gnep.energy.gov/PEIS/gnepPEISmeetingTranscripts.html>. Approximately 12,400 of the documents were part of 28 letter, postcard or e-mail campaigns (i.e., multiple people sending the same comment document). Additionally, 12 petitions were received with a total of approximately 7,500 signatures; each petition is recorded as 1 comment document. DOE has given each comment document a unique document number, and electronically scanned, reviewed, and analyzed the comments. Each comment was assigned to an appropriate issue category (see Table H.2-1). Similar comments were grouped and summarized.

TABLE H.2-1—Scoping Comment Categories

Issue Category
Policy
Programmatic Purpose and Need
Cost and Schedule
Proposed Action—Domestic
– Advanced Fuel Cycle Facility
– Nuclear Fuel Recycling Facility
– Advanced Recycling Reactor
Proposed Action—International Initiatives
No Action Alternative
Other Alternatives
Funding Opportunity Announcement (FOA)/Site Study Grants
Impacts
– Land Use
– Visual Resources
– Site Infrastructure
– Air Quality and Noise
– Water Resources
– Geology and Soils
– Biological Resources
– Cultural and Paleontological Resources
– Socioeconomics
– Environmental Justice
– Public and Worker Health and Safety
– Transportation
– Waste Management
– Intentional Destructive Acts (e.g., sabotage or terrorism)
Regulatory Compliance
Outside of the Scope of the PEIS
Support the GNEP Program
Opposed to the GNEP Program

H.2.1 Major Scoping Comments

DOE has considered all scoping comments in preparing the GNEP Draft PEIS. Major issues identified during scoping are summarized below, along with information about where the comments are addressed in the Draft PEIS. In addition, Chapter 2, Section 2.8 of the Draft PEIS

addresses several alternatives that were proposed during the scoping period but that DOE determined do not require detailed analysis.

- 1) Commentors stated that the Purpose and Need was excessively narrow and limited reasonable alternatives to only DOE's proposal to reprocess SNF. Commentors added that combining the programmatic analysis with project-specific proposed actions prejudiced the PEIS and presumed a certain programmatic outcome. Commentors identified a broad range of possible alternatives for evaluation in the PEIS. These included different reactor and fuel types (e.g., reactor technologies, coolants [gas, sodium], mixed-oxide [MOX] recycle in thermal reactors, and thorium fuel).

DOE response: DOE has modified its statement of Purpose and Need to clarify that DOE did not intend to unduly limit the range of reasonable alternatives. DOE reviewed the scoping comments and other available information carefully and, as a result, added both closed and open fuel cycle technologies to the range of reasonable programmatic alternatives. Chapter 1 of the PEIS provides a discussion of the Purpose and Need. Chapter 2 provides a description of the additional programmatic alternatives that have been added for consideration. The alternatives now considered in the GNEP PEIS are No Action Alternative—Continue Existing Once-Through Fuel Cycle, Fast Reactor Recycle Alternative, Thermal/Fast Reactor Recycle Alternative, Thermal Reactor Recycle Alternative, Once-Through Fuel Cycle Alternative using Thorium, and Once-Through Fuel Cycle using the Heavy Water Reactor/High Temperature Gas-Cooled Reactor. Some of these alternatives include sub-options that involve different technology combinations.

- 2) Commentors recommended a demonstration program to ensure both that the fuel recycling technology is feasible and that it will not cause more waste than current technologies. Commentors stated that the PEIS should assess timing issues such as building fast reactors before a reprocessing plant and, conversely, assess impacts of reprocessing without fast reactors.

DOE response: The GNEP PEIS identifies the major research and development needs associated with each programmatic alternative (Chapter 4, Section 4.8.1) and discusses how these needs could affect implementation of the technologies analyzed and associated environmental impacts (Chapter 4, Section 4.8.2). Any specific research and development needs would be the subject of future proposals by DOE or other entities. This section (Chapter 4, Section 4.8.2) also provides qualitative information on the constraints which may impact actual transition timing.

- 3) Commentors stated that the PEIS should analyze a wide range of potential environmental impacts associated with each alternative, and they provided specific comments regarding public and worker health and safety, accidents and intentional destructive acts, transportation, land use, cultural impacts, waste management issues, water quality/water availability issues, air quality, socioeconomics, environmental justice, and other potential impacts. For example, commentors requested that DOE estimate the quantity of SNF that would be reprocessed from existing reactors, forecast a range of new reactors in the

decades ahead, and estimate the quantity and radiological characteristics of any waste that would go to a geologic repository. In regard to using reprocessing to separate usable materials from waste in SNF, commentors stated that storing the hottest fission products, strontium and cesium, would involve about the same amount of storage capacity as storing the SNF in the first place. Additionally, there would be the problem of dealing with the rest of the waste and process residues. Commentors asked how reprocessing wastes would be classified (as high-level waste [HLW], transuranic waste, or low-level waste); what form, composition, and quantity of wastes would result from nuclear fuel reprocessing, operation of fast reactors, and operation of the proposed Advanced Fuel Cycle Facility (AFCF); and how and where wastes would be stored, treated, and disposed.

DOE response: *The GNEP PEIS discusses each of these types of impacts based on the best available information. For example, the PEIS discusses alternatives for disposition of separated cesium and strontium; under one disposition alternative, storage would be needed for about 300 years to allow for radioactive decay, compared to thousands of years required for SNF. The potential environmental impacts of programmatic alternatives are discussed in Chapters 4 and 5. For the programmatic alternatives, the PEIS acknowledges that additional information would become available as future proposals are considered and designs advance. Types, forms, and quantities of waste would vary with technology and other implementation decisions yet to be made. Information on these and other topics would be considered in more detail in future NEPA analyses. Because the GNEP PEIS only addresses programmatic alternatives, the AFCF is no longer being considered in the PEIS.*

- 4) Commentors stated that the PEIS should assess nonproliferation issues. Commentors stated that GNEP involves a major departure from U.S. policy on SNF and may affect agreements and treaties with other nations. Commentors asserted that reprocessing increases nuclear weapons proliferation threats. Commentors suggested that DOE assess a nuclear fuel leasing and SNF take-back program with the current open fuel cycle.

DOE response: *Separate from the GNEP PEIS, the National Nuclear Security Administration (NNSA), a semiautonomous agency within DOE, is preparing a Nonproliferation Impact Assessment (NPIA) that will analyze the nonproliferation aspects of the programmatic alternatives evaluated in this GNEP PEIS. The NPIA will assess the programmatic alternatives and technologies against major U.S. nonproliferation policy objectives. The NPIA will also identify the nonproliferation issues associated with potential future technology choices under each of these programmatic alternatives. The assessment framework is based on a qualitative evaluation of U.S. Government policy factors and on internationally accepted Proliferation Resistance and Physical Protection methodology (GIF 2006). NNSA intends to make a draft of the NPIA publicly available in 2008. The final NPIA will be publicly available prior to the Record of Decision for the GNEP PEIS and will be considered by DOE in its decisions regarding the GNEP Program.*

- 5) Commentors would like all technology information to be presented and include a history and evaluation of past performance of reactors and reprocessing facilities. Commentors stated that the reprocessing of irradiated fuel has not solved the nuclear waste problem in any country and actually exacerbates it by creating numerous additional waste streams that must be managed.

DOE response: *Chapter 2 and Appendix A include a discussion of reactor technologies being considered in the PEIS, and Chapter 1 includes a history of reprocessing. Waste streams associated with programmatic alternatives are discussed in Chapter 4.*

- 6) Commentors stated that the PEIS should propose and assess specific international aspects of the GNEP Program and include reasonably foreseeable scales of global action. Commentors stated that the Draft PEIS should also disclose how much SNF from abroad would be imported for reprocessing under GNEP.

DOE response: *Chapter 7 of the PEIS describes the international implications of the domestic programmatic alternatives, as well as the types of environmental impacts that could occur from international activities. The information in that chapter provides an overview of the types of actions and impacts that could occur if international activities are pursued. At this time, DOE has no specific proposal involving receipt of SNF from abroad.*

- 7) Commentors stated that GNEP is fundamentally inconsistent with DOE's objective of disposing of SNF deep underground where it would be as inaccessible as possible. If DOE is permitted to go forward with the Yucca Mountain project, much of the nation's SNF and HLW effectively would be made unavailable for reprocessing and reuse well before GNEP facilities could begin operations.

DOE response: *As explained in Chapter 4, Section 4.1.5, a geologic repository would be needed under any programmatic alternative. Each fuel cycle technology generates some quantity of SNF and/or HLW, although the forms and quantities differ among alternatives. DOE assumes that the particular SNF and HLW currently proposed for disposal at Yucca Mountain would still be disposed of there regardless of any decision made subsequent to completion of the GNEP PEIS. The PEIS assumes that any reprocessing, for example, would only involve SNF generated in the future.*

H.3 REFERENCES

- 40 CFR 1506.1 Council on Environmental Quality (CEQ), “Limitations on Actions During NEPA Process,” *Code of Federal Regulations*, Office of the Federal Register, National Archives and Records Administration, Washington, DC, Revised July 1, 2007.
- 71 FR 14505 U.S. Department of Energy (DOE), “Advance Notice of Intent (ANOI) to Prepare an Environmental Impact Statement for the Global Nuclear Energy Partnership Technology Demonstration Program,” Office of the Federal Register, National Archives and Records Administration, Washington, DC, March 22, 2006.
- 72 FR 331 DOE, “Notice of Intent To Prepare an Environmental Impact Statement for the Global Nuclear Energy Partnership,” Office of the Federal Register, National Archives and Records Administration, Washington, DC, January 4, 2007.
- 72 FR 15871 DOE, “Notice of Extension of Time to Submit Scoping Comments on the Programmatic Environmental Impact Statement for the Global Nuclear Energy Partnership,” Office of the Federal Register, National Archives and Records Administration, Washington, DC, April 3, 2007.
- DOE O 413.3A DOE Order 413.3A, “Program and Project Management for the Acquisition of Capital Assets,” U.S. Department of Energy, Washington, DC, July 28, 2006.
- GIF 2006 Generation IV International Forum (GIF), “Evaluation Methodology for Proliferation Resistance and Physical Protection of Generation IV Nuclear Energy Systems,” Revision 5, The Proliferation Resistance and Physical Protection Evaluation Methodology Expert Group Of the Generation IV International Forum, November 30, 2006.
- Tetra Tech 2006 Tetra Tech, Inc., “Scoping Summary Report for the Global Nuclear Energy Partnership Technology Demonstration Program Environmental Impact Statement Advance Notice of Intent,” Tetra Tech, 2006.