Chapter 1

Overview of the Public Comment Process and the Comment Response Document

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In July 2000, the U.S. Department of Energy (DOE) published the *Draft Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the Role of the Fast Flux Test Facility (Nuclear Infrastructure Programmatic Environmental Impact Statement [NI PEIS])*. In accordance with the Council on Environmental Quality (CEQ) and DOE National Environmental Policy Act (NEPA) regulations, a Federal Register notice (65 FR 46443) announced the availability of the Draft NI PEIS and invited interested parties to provide comments. The Draft NI PEIS or Summary was distributed to approximately 6,000 individuals.

1.1 THE PUBLIC COMMENT PROCESS

NEPA regulations mandate a minimum 45-day comment period after the U.S. Environmental Protection Agency's (EPA) Notice of Availability of a draft EIS to provide an opportunity for the public to comment on the EIS analysis and results. The 45-day comment period on the Draft NI PEIS began on July 28, 2000, and to provide interested parties with additional time to comment, the deadline for transmittal of comments was changed from September 11, 2000 (as stated in the transmittal letter of the Draft NI PEIS and the Summary), to September 18, 2000. While the official comment period ended on September 18, 2000, DOE addressed late comments to the extent practicable and considered all comments received through October 31, 2000, in preparing the final NI PEIS. Comments that were received through September 25, 2000, along with corresponding responses, have been included in Chapter 2 of this volume. Direct responses are not included to comments that were received after September 25, 2000. However, all of these comments were considered and are characterized by other comments received during the comment period (for which a response has been provided).

1.2 PUBLIC HEARING FORMAT

During the 52-day comment period, DOE held seven hearings to discuss the proposed action and to receive oral and written comments on the Draft NI PEIS. The hearings were held near the locations that would be affected by the proposed alternatives, as well as some additional locations in Oregon and Washington in response to stakeholder requests. In addition, a hearing was held in the Washington, D.C. area. The hearing schedule and estimated attendance at each hearing are presented in **Table 1–1**. These attendance estimates are based on the number of registration forms completed and returned to DOE at each hearing, as well as a rough "head count" of the audience, and may not include all those present.

Table 1–1 Hearing Schedule and Attendance

Hearing Location	Date	Estimated Attendance
Oak Ridge, Tennessee	August 22, 2000	15
Idaho Falls, Idaho	August 25, 2000	20
Hood River, Oregon	August 28, 2000	265
Portland, Oregon	August 29, 2000	320
Seattle, Washington	August 30, 2000	250
Richland, Washington	August 31, 2000	330
Arlington, Virginia	September 6, 2000	15
Total		1,215

An independent facilitator was present at each hearing to direct and clarify discussions and comments. A comment recorder also was present at each hearing to record the proceedings. At the hearings in Oregon and Washington, a second comment recorder was available in a separate room to receive comments from attendees who were not able to attend the entire session, or who wanted to give their comments and leave. Transcripts of the hearings are available in DOE public reading rooms and libraries listed in Chapter 7 of Volume 1.

DOE representatives were available to meet with the public for informal discussions prior to and after the hearings. In an effort to encourage interaction between members of the public and DOE representatives, DOE used an interactive format for the hearings. The format included a presentation, question and answer session, and a comment session. Each hearing opened with a welcome from the facilitator, followed by a presentation on the proposed action by a DOE representative. Next, the facilitator opened the question and answer session to give the audience a chance to ask questions about the material presented. This was followed by the comment session, during which attendees were randomly selected to provide their comments. Attendees received a numbered ticket from the staff at the registration table and the facilitator picked the tickets from a container to determine the order of speakers. To ensure that all attendees were given an opportunity to provide comments, each speaker was limited to 5 minutes. Those commentors who needed additional time were invited to speak again after everyone had an initial opportunity to provide their comments. Modifications to the format were made at each of the public hearings to fulfill any special requests of attendees.

1.3 COMMENTS ON THE DRAFT NI PEIS

The public was encouraged to submit comments on the Draft NI PEIS to DOE via U.S. mail, e-mail, telephone, fax, and at the public hearings. DOE received approximately 3,400 submittals containing over 6,200 comments addressing a wide range of issues. A number of written comments submitted during the hearings were also presented orally; those comments were counted once. All comments submitted to DOE during the comment period were given equal consideration in preparation of the Final NI PEIS. Comments determined to be beyond the scope of the NI PEIS were forwarded to the appropriate DOE office for consideration. **Table 1–2** lists the number of comments received by method of submission.

Table 1–2 Comment Submission Method

Method	Number of Submittals
U.S. mail	2,493
E-mail	332
Telephone	107
Fax	92
Comments submitted at hearings	439
Total	3,463

Upon receipt, all written submittals were date-stamped and assigned a sequential log number used in tracking during the comment response process. Oral comments presented at the hearings were similarly identified and assigned a sequential log number. All comments were then processed through the comment analysis and response system for inclusion in this document. Each comment was assigned to a specific category to facilitate response and provide an overview of the type of comments that DOE received. Documents identical in content are presented only once (e.g., a written comment that was presented orally at a hearing). Campaigns (e.g., identical comments submitted by numerous individuals) likewise are presented and responded to only once. However, campaign documents with additional comments are responded to separately. The comment categories are shown in **Table 1–3**.

Table 1–3 Comment Categories

Accelerator Design	Miscellaneous Cost Issues
Air Quality	NEPA Process (extension of comment period, public participation, availability of information, completeness of overall analysis, additional hearings, etc.)
Alternative 1 - Restart FFTF	No Action Alternative
Alternative 2 - Use Only Existing Operational Facilities	Noise
Alternative 3 - Construct New Accelerator(s)	Nonproliferation
Alternative 4 - Construct New Research Reactor	Nuclear Energy Research and Development
Alternative 5 - Permanently Deactivate FFTF (with no new missions)	Oak Ridge Reservation Site Issues
Applicable Laws, Regulations, and Other Requirements	Policy
Cost of Alternatives	Preferred Alternative
Cultural and Paleontological Resources	Processing Facilities
Cumulative Impacts and General Environmental Impacts	Production of Medical and Industrial Isotopes
Ecological Resources	Production of Plutonium-238
Environmental Justice	Public and Occupational Health and Safety - Facility Accidents
Existing Human Health Risks	Public and Occupational Health and Safety - Normal Operations
FFTF Investment	Purpose, Need, and Timing of Missions
General Alternative Issues (alternatives considered but dismissed, new alternatives, etc.)	Reactor Design
General Irradiation Needs	Relationship to Other DOE Programs
General Antinuclear	Scoping
Generic Support Facility Design	Socioeconomics
Geology and Soils	Transportation (incident-free and accidents)
Hanford Site Issues	Visual Resources
Idaho National Engineering and Environmental Laboratory Site Issues	Waste Management (includes spent fuel issues)
Irradiation Facilities	Water Resources
Land Resources	

Chapter 2 contains the comments (submitted in writing and by telephone) and the DOE responses presented in a side-by-side format, with each delineated comment receiving a separate response. Not all responses appear directly next to their corresponding comment due to the varying lengths of each response. However, all comments and responses are numbered with a comment identification number to facilitate matching a comment with its response. Where commentors presented support for, or opposition to, a specific alternative, this was noted. Where commentors provided additional statements supporting their positions, DOE responded in detail to those that needed clarification or were in error.

Chapter 3 contains the comments that were submitted during oral presentations at the public hearings held in August and September 2000. The chapter is organized alphabetically by speaker's name according to the hearing location. The format and response procedures used in Chapter 2 were followed in Chapter 3.

Commentors who submitted their oral presentations in writing will find their submittals and responses in Chapter 2. The full transcripts from each hearing are available at DOE reading rooms and libraries listed in Chapter 7 of Volume 1.

An alphabetical List of Commentors with corresponding page numbers has been provided immediately following the Volume 3 Table of Contents to assist the reader in finding specific comment documents and

DOE responses. Public officials, organizations, and interest groups appear first, then individuals are listed. City and state government bodies are listed under "City of" or "State of." Members of Congress are listed alphabetically under "Members of Congress."

1.4 ENVIRONMENTAL PROTECTION AGENCY RATING OF THE NI PEIS

EPA reviewed and rated the Draft NI PEIS as Environmental Concerns - Insufficient Information (EC-2). To a large extent, a lack of information in the Draft NI PEIS was the basis for their environmental concerns. EPA was also concerned that the cost and nonproliferation reports were not made available to the public until well into the comment period on the Draft NI PEIS. A copy of the EPA rating is included among the written comments in Chapter 2 of this volume.

1.5 ISSUES RAISED DURING THE PUBLIC COMMENT PERIOD ON THE DRAFT NI PEIS

During the public comment period on the Draft NI PEIS, DOE received approximately 3,400 submittals containing over 6,200 comments addressing a wide range of issues. DOE considered comments received after the close of the public comment period to the extent practicable (see Section 1.5.6).

The following discusses the major issues raised, and DOE's responses to these issues. Changes made in response to comments received on the Draft NI PEIS are described in Section 1.6.

Major issues raised addressed purpose and need for the proposed action; impact of FFTF on Hanford cleanup; waste management and spent nuclear fuel; cost of the various alternatives; nuclear nonproliferation policy; public involvement; and environmental impacts. Aside from comments on the proposed action and its environmental impacts, many commentors expressed support for or opposition to FFTF restart, the major point of public controversy associated with the NI PEIS.

1.5.1 Purpose and Need for the Proposed Action

Many commentors expressed the opinion that DOE failed to demonstrate a compelling argument for the projected need for medical isotopes, and that such medical isotopes could be produced or purchased elsewhere, particularly in Canada. In contrast, a large number of commentors expressed support for expanded isotope production by sharing personal stories of how medical isotopes had either saved a relative or friend, or could have saved them had isotopes been available. As presented in Section 1.2.1 of Volume 1, DOE sought independent analysis of trends in the use of medical isotopes, and established two advisory bodies, the Expert Panel and the Nuclear Energy Research Advisory Committee (NERAC). DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. While Canada currently provides a large amount of the medical radioisotopes used in the United States, it only supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS.

A number of commentors also questioned the suitability of using FFTF for producing research isotopes in light of findings presented in the NERAC Subcommittee for Isotope Research and Production Planning Report. While it would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if FFTF were operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. In recognition of these

constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF for isotope production when coupled with these other missions.

Commentors also questioned the need for the United States to reestablish domestic production of plutonium-238. In particular, commentors pointed to the availability of plutonium-238 that could be purchased from Russia, and recent guidance from NASA stating that DOE no longer needed to support certain radioisotope power systems. As discussed in Section 1.2.2 of Volume 1, DOE could purchase plutonium-238 from Russia. However, for supply reliability reasons and concern of nuclear nonproliferation, DOE's preference is to establish a domestic plutonium-238 production capability. Current NASA guidance to DOE is also discussed in Section 1.2.2. The May 22, 2000, correspondence from NASA identifies that it no longer has a planned requirement for Small Radioisotope Thermoelectric Generator (SRTG) power systems. This does not mean that NASA no longer requires DOE to provide the necessary plutonium-238 to support deep space missions. Rather, SRTG development efforts were stopped in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling radioisotope power systems technology generator. This new radioisotope power system, referred to in the subject correspondence, requires one-third less plutonium as its fuel source. Because the Stirling radioisotope power systems technology is developmental, NASA has requested in a September 22, 2000, letter to DOE that the plutonium-238 needed for a large radioisotope thermoelectric generator be maintained as a backup.

1.5.2 Impact of FFTF Restart on Hanford Cleanup

A number of commentors expressed concern that DOE's primary mission at Hanford needs to be cleanup, including compliance with the Tri-Party Agreement. Although beyond the scope of this NI PEIS, ongoing Hanford cleanup activities are high priority to DOE. Hanford environmental restoration activities are conducted in accordance with the Tri-Party (i.e., DOE's Richland Operations Office, EPA, and the State of Washington Department of Ecology) Agreement. This agreement specifies milestones and schedules for restoration of all parts of Hanford. FFTF milestones in the Tri-Party Agreement were placed in abeyance (suspension) by agreement of the three parties until a decision is made on the future of FFTF. Public meetings were held on this formal milestone change. DOE is fully committed to honoring this agreement.

A number of commentors also expressed concern that funding for Hanford cleanup would be diverted for FFTF restart and hamper the progress of cleanup activities. The U.S. Congress funds Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM). Congress also funds FFTF through the Office of Nuclear Energy, Science and Technology (NE). The nuclear infrastructure missions described in Section 1.2 of Volume 1 would also be funded through NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2 of Volume 2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

1.5.3 Waste Management and Spent Nuclear Fuel

A number of commentors expressed concern over the generation and disposition of waste resulting from the proposed action. In particular, commentors pointed to past DOE waste management practices and questioned whether wastes resulting from proposed NI PEIS activities would be properly managed. The NI PEIS addresses wastes produced for each alternative, as well as cumulative impacts related to waste production. Waste minimization programs at each of the alternative sites are also addressed. These programs would be implemented for the alternative selected in the Record of Decision. The waste generated from any of the alternatives considered in the NI PEIS would be managed (i.e., treated, stored, and disposed of) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.

A number of commentors expressed specific concern over the generation and disposition of waste resulting from FFTF restart and operation, and how this would impact Hanford's existing waste management infrastructure. Management of wastes that would be generated under implementation of Alternative 1 (Restart FFTF) is discussed in Section 4.3 of Volume 1 (e.g., Section 4.3.1.1.13). Section 4.3.1.1.13 was revised to clarify that the Hanford waste management infrastructure is analyzed in this NI PEIS for the management of waste resulting from FFTF restart and operation. This analysis is consistent with policy and DOE Order 435.1, *Radioactive Waste Management*, that DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical, or at another DOE facility. However, if DOE determines that use of the Hanford waste management infrastructure or other DOE sites is not practical or cost effective, DOE may issue an exemption under DOE Order 435.1 for the use of non-DOE facilities (i.e., commercial facilities) to store, treat, and dispose of such waste generated from the restart and operation of FFTF. In addition, Sections 4.3.3.1.13 and 4.4.3.1.13 also address the potential impacts associated with the waste generated from the target fabrication and processing in the Fuels and Materials Examination Facility (FMEF) and how this waste would be managed at the site.

A number of commentors also raised concern that processing of irradiated targets for production of plutonium-238 would generate high-level radioactive waste. DOE Manual 435.1, *Radioactive Waste Management*, defines high-level radioactive waste as "the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation." DOE has prepared an implementation guide to M 435.1 to assist in implementing the requirements contained in that manual. For this particular "requirement," the definition of high-level radioactive waste, the guide is intended to facilitate the classification of indefinite waste as to whether or not they are high-level radioactive waste. It is recognized that the definition of high-level radioactive waste is not precise and is essentially a source-based definition that also alludes to concentrations of a given waste stream. Page II-8 of the guide notes that "For the purpose of managing high-level waste under DOE M 435.1-1 [sic], spent nuclear fuel includes spent driver elements and/or irradiated target elements that contain transuranium elements." This statement was included in the guide because the concentrations of long-lived isotopes are likely to be somewhat high during reprocessing and it also meets the source-based definition. As a result of reviewing this guide and to address the comments raised, DOE is considering whether the waste from processing of irradiated neptunium-237 targets should be classified as high-level radioactive waste and not transuranic waste. As a result, the Waste Management sections (i.e., Sections 4.3.1.1.13, 4.3.2.1.13, 4.3.3.1.13, and 4.4.3.1.13) of this NI PEIS have been revised to reflect this different classification from what was assumed in the Draft NI PEIS. As discussed in these revised sections, irrespective of how the waste is classified (i.e., transuranic or high-level radioactive waste), the composition and characteristics are the same, and the waste management (i.e., treatment and onsite storage) for this NI PEIS would be the same. In addition, even if the waste were managed as high-level radioactive waste, it would have no impact on the existing high-level radioactive waste management infrastructure (e.g., high-level waste storage tanks) because the high-activity waste from processing the targets would be initially stored and vitrified within the processing facility (i.e., FMEF, the Radiochemical Engineering Development Center [REDC], or the Fluorinel Dissolution Process Facility [FDPF]).

Commentors also expressed concern over the potential impacts of spent nuclear fuel generation from FFTF restart and operation, particularly regarding human health risk. This NI PEIS estimates that about 16 metric tons of heavy metal spent nuclear fuel would be generated over 35 years of operation of FFTF. Hanford is currently managing about 2,000 metric tons of heavy metal spent nuclear fuel. As indicated in Table 4–173, the radiation risk to a maximally exposed individual from normal operational activities during management of the current stored nuclear fuel over 35 years is 1.4×10^{-8} latent cancer fatality. The risk to the maximally exposed individual that would be associated with the new nuclear infrastructure operations to restart FFTF and operate FMEF or the Radiochemical Processing Laboratory is 9.5×10^{-8} latent cancer fatality. Furthermore,

only a small fraction of this risk would be attributable to management of the additional spent nuclear fuel at FFTF. The annual dose to the maximally exposed individual from all current and reasonably foreseeable activities is less than 0.2 millirem. This dose is well within the DOE dose limits given in DOE Order 5400.5, *Radiation Protection of the Public and the Environment*. As discussed in that order, the dose limit from airborne emissions is 10 millirem per year, as required by EPA regulations under the Clean Air Act; the dose limit from drinking water is 4 millirem per year, consistent with the EPA drinking water criteria under the Safe Drinking Water Act; and the dose limit from all pathways combined is 100 millirem per year. The risk to the population from all activities at Hanford would be 0.21 latent cancer fatality over 35 years. DOE has committed to remove the spent nuclear fuel at Hanford for ultimate disposition in a geologic repository.

1.5.4 Cost of the Various Alternatives

Commentors expressed opinions about the costs related to the stated missions. Commentors stated that a cost-benefit analysis was necessary to show the value of production of medical isotopes balanced against facility costs, in particular, the restart of FFTF, and noted that perhaps facilities would be able to pay for themselves. There were concerns that FFTF restart would take funds away from the cleanup of Hanford. Commentors noted that the decommissioning costs were not included for the restart FFTF option in the *NI Cost Report*. Several commentors remarked that the expense of plutonium-238 production cannot be justified when DOE needs to clean up existing problems at its sites.

Although the costs of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS, DOE prepared a separate *NI Cost Report*. This report would provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in this Final NI PEIS. Pursuant to CEQ regulations (40 CFR Section 1505.1(e)), such a document comparing alternatives should be made available to the public prior to any decision being made. DOE mailed this document to more than 730 interested parties on August 24, 2000. This report was made available immediately upon release on the NE web site (http://www.nuclear.gov) and in the public reading rooms. DOE has also provided the summary of the *NI Cost Report* in Volume 2, Appendix P, in this Final NI PEIS.

1.5.5 Nuclear Nonproliferation Policy

Commentors expressed opinions about the nuclear nonproliferation implications of the proposed action. Commentors were concerned about keeping plutonium-238 out of the hands of third parties, and it was suggested that the purchase of plutonium-238 from Russia would stop proliferation of the material and the United States would know the disposition of the quantity purchased. Several commentors raised concerns about specific facilities described in the NI PEIS, including FDPF and FFTF. The use of highly enriched uranium fuel in FFTF was questioned related to a possible violation of U.S. nuclear nonproliferation policy. Conversely, the shutdown of FFTF that occurred previously was characterized as being done to discourage proliferation of nuclear weapons worldwide, but had instead weakened the U.S. position as a world leader in nuclear technology. There were comments about the timeliness of release of the *NI Nonproliferation Impact Assessment*, that no nonproliferation information was included in the Draft NI PEIS, and that nuclear nonproliferation policy should be considered by DOE in selection of its preferred alternative.

The plutonium being considered for production in this NI PEIS is plutonium-238, which is not the same isotope of plutonium that is used in nuclear weapons. The production of plutonium-238 does not present a nonproliferation concern. DOE developed the separate *NI Nonproliferation Impact Assessment*, published in September 2000, that analyzed the nonproliferation impacts of the actions considered in this PEIS and found that there are no U.S. nonproliferation policies, laws, regulations, or international agreements that preclude the use of any of the facilities in the manner described in the Draft NI PEIS. Although this policy analysis is not required under NEPA, it is an essential element in the decision-making process for the DOE nuclear

infrastructure. A summary of the *NI Nonproliferation Impact Assessment* is included in Volume 2, Appendix Q, of this Final NI PEIS. It is also available on the DOE NE web site (http://www.nuclear.gov).

1.5.6 Public Involvement

Commentors expressed opinions about the length of the comment period on the Draft NI PEIS, and said they wanted additional time to obtain and review relevant documents, including the *NI Cost Report* and *NI Nonproliferation Impact Assessment*. As identified in Section 1.1, the deadline for transmittal of comments was changed from September 11, 2000, to September 18, 2000 (as stated in the transmittal letters of the Draft PEIS and the Summary). While the official comment period ended on September 18, 2000, DOE addressed late comments to the extent practicable and considered all comments received through October 31, 2000, in preparing this Final NI PEIS. Comments that were received through September 30, 2000, along with corresponding responses, have been included in Chapter 2 of this volume. Direct responses are not included to comments that were received after September 30, 2000. However, all these comments were considered and are characterized by other comments received during the comment period (for which a response has been provided).

Many commentors expressed the opinion that public input is intended for "show only," and that DOE has already made its decisions. Commentors also stated that they had given the same comments over and over again and that DOE representatives were not listening. DOE policy encourages effective public participation in its decision-making process. In compliance with NEPA and CEQ regulations, DOE provided opportunity to the public to comment on the scope of the NI PEIS and the environmental impact analysis of DOE's proposed alternatives. DOE gave equal consideration to all comments. In preparing the Final NI PEIS, DOE carefully considered all comments received from the public.

Some commentors expressed opinions about the conduct of the hearings, both positive and negative. The public hearing format was designed to be fair. The public hearing format used was based on stakeholder input and was presented in the Notice of Availability (65 FR 46443 et seq.) for the Draft NI PEIS. This format was intended to encourage public participation, regardless of the motivation for attending the hearing. It provided an opportunity for the participants to meet one another, exchange information, and share concerns, with DOE personnel available throughout the course of each hearing to answer questions. The meetings were facilitated by an independent moderator to ensure that all persons wishing to speak had an opportunity to do so. Persons wishing to comment were selected at random from the audience rather than according to the order in which they registered. This was accomplished by a random number drawing. In addition to the comment recorder stationed at the main hearing, a second recorder was available in an adjacent room to receive comments without the need to await selection at the main proceeding. The hearing format promoted open and equal representation by all individuals and groups.

1.5.7 Environmental Impacts

A number of commentors questioned the results of the environmental impact analysis and cumulative impacts, specifically at Hanford. Many of these comments focused on concerns that the proposed action would result in negative impacts to the health of individuals residing in the Hanford region. The NI PEIS analyzes the impacts of the various alternatives, and the environmental impacts associated with all proposed nuclear infrastructure activities are addressed in detail in Chapter 4 of Volume 1. Specifically, the environmental impacts associated with operation of the Hanford facilities during normal operations and from postulated accidents are presented in Section 4.3. These assessments were made using well-established and accepted analytical methods, as described in Appendixes G through L in Volume 2. The analytical methodology is conservative by nature; the actual impacts to the environment would be expected to be less than calculated. All impacts have been shown to be small. No fatalities among workers or the general public would be

expected over the 35-year operational period. The impacts to the biosphere (air, water, and land) were also evaluated and determined to be small.

Some commentors raised specific concern over potential contamination of the Columbia River resulting from the restart of FFTF. However, FFTF is approximately 4.5 miles from the Columbia River. There are no discharges to the river from FFTF and no radioactive or hazardous discharges to groundwater. As indicated in analyses presented in Chapter 4 of Volume 1 (e.g., Sections 4.3.1.1.4, 4.3.3.1.4, 4.4.3.1.4, 4.5.3.2.4, and 4.6.3.2.4), there would be no discernible impacts to groundwater or surface water quality at Hanford from operation of Hanford facilities that would support the nuclear infrastructure missions described in Section 1.2 of Volume 1.

A number of commentors also expressed concern that DOE would expose individuals in the Pacific Northwest to risks associated with importing of weapons-grade plutonium. None of the proposed alternatives involve the shipment of any weapons-grade plutonium to any port in the United States. Alternative 1 does postulate that DOE might decide at some point to import mixed oxide fuel from Europe to fuel FFTF. At this time, however, DOE has not proposed to import this fuel through any specific port. If DOE ultimately decides to import fuel from Europe, it would perform a separate NEPA analysis to select a port. This review would address all relevant potential impacts of overseas and inland water transportation, shipboard fires, package handling, land transportation, as well as safeguards and security associated with the import of SNR–300 mixed oxide fuel through a variety of specific candidate ports on the west and east coasts. It would take into account all public comments, including local resolutions, concerning the desirability of bringing mixed oxide fuel into the proposed alternative ports.

In the event that DOE decides to enhance its nuclear infrastructure, it would not expose any population to high, unacceptable risks under any alternative. Any transportation activities that would be conducted by DOE would comply with U.S. Nuclear Regulatory Commission (NRC) and U.S. Department of Transportation regulations. Associated transatlantic shipments would comply with International Atomic Energy Agency requirements. In Section J.6.2 of Volume 2, DOE reviewed the potential maximum impacts from the marine transportation of mixed oxide fuel from Europe to a representative military port (Charleston, South Carolina), and overland transportation to Hanford. Also in that section, the results of a bounding analysis show that the maximum potential radiological risks to the surrounding public from mixed oxide fuel shipments would be extremely small (e.g., less than 1 chance in a trillion for a latent cancer fatality per shipment from severe accidents at docks and in channels and less than 1 chance in 50 billion for a latent cancer fatality per shipment from overland highway accidents).

1.6 CHANGES FROM THE DRAFT NI PEIS

In response to comments on the Draft NI PEIS and as a result of information that was unavailable at the time of its issuance, this Final NI PEIS contains revisions and new information. These revisions and new information are indicated by sidebars. A brief discussion of the most important changes included in this Final NI PEIS is provided in the following paragraphs.

Chapter 1

Purpose and Need for Agency Action

As a result of public comments, additional discussion was incorporated to address DOE's production of medical, research, and industrial isotopes relative to global isotope production and availability. In addition, the discussion of the need for plutonium-238 production for space missions was expanded and updated to reflect the most recent planning guidance provided by NASA to DOE.

Issues Raised During the Public Comment Period on the Draft NI PEIS

Section 1.5, Issues Raised During the Public Comment Period on the Draft NI PEIS, was added to this Final NI PEIS.

Related NEPA Reviews

The Final NI PEIS was revised to add descriptions of the *Final Environmental Impact Statement, Management of Spent Nuclear Fuel from the K Basins at the Hanford Site, Richland, Washington* (DOE/EIS-0245F), and the *Environmental Assessment, Management of Hanford Site Non-Defense Production Reactor Spent Nuclear Fuel (*DOE/EA-1185). The impacts of these NEPA actions were factored into the assessment of potential cumulative impacts resulting from the NI PEIS proposed action.

This Final NI PEIS was also revised to reflect recent Records of Decision that have been issued for the *Final Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel* (DOE/EIS-0218F), the *Final Environmental Impact Statement for Treating Transuranic (TRU)/Alpha Low-Level Waste at the Oak Ridge National Laboratory, Oak Ridge, Tennessee* (DOE/EIS-0305), and the *Final Environmental Impact Statement for the Treatment and Management of Sodium-Bonded Spent Nuclear Fuel* (DOE/EIS-0306).

Changes from the Draft NI PEIS

Section 1.8, Changes from the Draft NI PEIS, was added to this Final NI PEIS.

Chapter 2

Transportation Requirements

Additional U.S. ports were named as candidates for receiving mixed oxide fuel from Europe.

Alternatives Considered and Dismissed

Information was provided to explain why the Isotope Production Facility at LANL, the Brookhaven LINAC (Linear Accelerator) Isotope Producer and the Alternating Gradient Synchrotron accelerator complex at Brookhaven National Laboratory, and CLWRs were not considered reasonable alternatives for the production of medical isotopes.

Information was also provided to explain why increasing the power levels at ATR and/or HFIR or installing rapid radioisotope retrieval systems would be insufficient to meet the long-term growth projection needs and therefore were dismissed as reasonable alternatives.

Preferred Alternative

The discussion of DOE's preferred alternative for accomplishing the proposed action, that is, Alternative 2, Use Only Existing Operational Facilities, Option 7, is included in this Final NI PEIS.

Summary of Environmental Impacts

Section 2.7 was revised in response to comments that it was difficult to compare environmental impacts among alternatives. Although estimates of the environmental impacts that would result from implementation of the

alternatives are the same as those in the Draft NI PEIS, the tables and accompanying text were reformatted for ease in comparing environmental impacts among alternatives and among options within alternatives. Section 2.7 was also revised to focus on incremental impacts that would result from implementation of the alternatives. Baseline environmental impacts were removed from the comparisons among alternatives and options. This information is now presented in Chapter 3.

Chapter 3

Affected Environment

Additional information was provided on the environmental baseline at each site, including graphics to more clearly illustrate existing surface water and groundwater conditions. Estimates of existing impacts for current HFIR/REDC operations were added to Sections 3.2.3.2 (Air Quality), 3.2.9.1.2 (Radiation Exposure and Risk), and 3.2.11.1 (Waste Inventories and Activities). Similarly, estimates for current ATR operations were added to Sections 3.3.3.2 (Air Quality), 3.3.9.1.2 (Radiation Exposure and Risk), and 3.3.11.1 (Waste Inventories and Activities). Estimates of existing impacts of maintaining FFTF in standby were added to Section 3.4.3.1 (Air Quality). Information was also provided on the impacts of the range fires affecting Hanford and INEEL during the summer of 2000. In addition, site data were updated to reflect recent measurements and analyses.

In response to public comments on the Draft NI PEIS, additional information on health studies conducted in the Hanford area was also incorporated.

Chapter 4

Air Quality

Stack parameters used for the air quality modeling were added. In response to public comment, estimates of the ambient air quality concentrations from FFTF sources were added to the deactivation section.

Water Resources

New water use and sanitary wastewater generation increments for REDC and FDPF were added to reflect the revised additional workforce required at these facilities and to be consistent with FMEF. Water use and wastewater generation rates for the new accelerator(s) and new research reactor alternatives were also revised. These changes were also incorporated into the waste management analyses.

Ecological and Cultural and Palentological Resources

These sections were updated to reflect that consultations concerning threatened and endangered species and cultural resources were conducted with appropriate Federal and state agencies. Consultations were also conducted with interested Native American tribes. No major issues were raised as a result of these consultations.

Socioeconomics

Section 4.3.1.1.8 was revised to reflect changes in the number of workers associated with FFTF operations and deactivation. The associated impacts on community services were also incorporated. In addition, the number of workers at the Oak Ridge Reservation was revised to reflect the entire site workforce rather than just the number of workers at the Oak Ridge National Laboratory.

Normal Operations

Based on more recent site data on occupational radiation exposure for workers at REDC, all worker health impacts for target processing at REDC, FMEF, and FDPF and for neptunium target storage at REDC, Chemical Processing Plant–651, and FMEF were updated. Also, low-energy accelerator source terms were modified to properly reflect normal operational emissions resulting in modifications to the population health impacts for all options of Alternative 3.

Facility Accidents

The high-energy accelerator analysis was redone to incorporate a more accurate revised source term, and the incremental risks for currently operating reactors were added to the tables. An additional analysis addressing industrial accidents was also performed and incorporated into Chapter 4.

Transportation

The neptunium inventory was revised to use the recently declassified actual inventory. The number of actual shipments from SRS to the processing facilities and the transportation risk estimates were modified accordingly.

Waste Management

The analysis for the Draft NI PEIS assumed that the waste generated from the processing of irradiated neptunium-237 targets is transuranic waste. However, as a result of comments received during the public comment period, DOE is considering whether the waste from processing of irradiated neptunium-237 targets should be classified as high-level radioactive waste and not transuranic waste. The Waste Management sections (i.e., Sections 4.3.1.1.13, 4.3.2.1.13, 4.3.3.1.13, and 4.4.3.1.13) were revised to reflect this different classification from what was assumed in the Draft NI PEIS.

Spent Nuclear Fuel Management

These sections were revised to quantify the generation of spent fuel from 35 years of operation and to state that dry spent nuclear fuel storage at the FFTF site is similar to NRC-approved methods currently being used for interim storage of commercial spent nuclear fuel. In addition, based on public comments, a reference was added about the K Basins spent fuel storage.

Cumulative Impacts

Cumulative impact tables in Section 4.8 were revised to present the contributions from each of the various site actions anticipated during the course of the operational period evaluated in this NI PEIS.

The air quality tables were also revised to incorporate the revised baseline from Chapter 3. In addition, waste management tables were revised to include the sites' treatment, storage, and disposal capacities for easier comparison of the waste generations by waste type to the waste management capacities at the sites.

Chapter 5

In response to public comments, a list of organizations that DOE contacted during the consultation process was added.

Volume 2

Summaries of the *NI Cost Report* and *NI Nonproliferation Impact Assessment* were added as Appendixes P and Q, respectively. NASA mission guidance correspondence was added as Appendix R.

Volume 3

Volume 3 of the NI PEIS was added to present the comments received during the public review period for the Draft NI PEIS and DOE's responses to these comments.