

Commentor No. 1708: Margaret Macdonald Stewart

Ms. Colette Brown
DOE
Office of Space and Defense Power Systems (NE-50)
19901 German town Road,
Germantown, MD 20874-1290

18 September 2000

Dear Ms. Colette,

My name is Margaret Macdonald Stewart and the following are my comments on the Department of Energy's *Draft Programmatic Environmental Impact Statement for Accomplishing Expanded Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the role of the Fast Flux Test Facility (FFTF)* – otherwise known as the Infrastructure PEIS.

I find this document completely inadequate for its lack of substantiating evidence for the need for any additional infrastructure for the production of PU-238 for medical or research programs. And I am outraged about the total lack of cost and proliferation assessments in the EIS, which I understand is a violation of the National Environmental Policy Act (NEPA). The fact that both cost and proliferation documents were finally published and made available to the public *AFTER* public hearings clearly shows the DOE's "high regard" for both public comment and for non-proliferation issues. NOT.

Why is there no mention of what to do with the high-level waste that will be the end result of the PU-238 production process? Call it processing or reprocessing, or anything you choose, there will still be approximately 288,000 gallons of liquid high-level waste with no place to go in your EIS. Regardless of its name, it is still liquid and dangerously radioactive and is the most difficult of all nuclear waste to confine and isolate from the environment. Monstrous volumes of like liquids are the most serious and massive environmental problem in the DOE complex today, and yet this plan calls for even greater volumes to be added to at least one of the planet's most contaminated places. I am confused about priorities. Perhaps cleanup should be the plan.

I will not go into the cost analysis problem except to say that it should have been an integral part of the EIS, not an add-on. And it should have been publicly available *before* public hearings. Way to go, DOE, always thinking about the input from your # One business partner, the public. Again, I am confused about priorities.

The non-proliferation analysis should absolutely have been an integral part of the EIS and available with the EIS, not *after* public hearings were held. What is the problem here?? The administration in 1992 declared that the United States would no longer engage in reprocessing nuclear materials because of the proliferation risk and the wrong message it sends to other countries. Did I miss something here? Do we no longer care

Response to Commentor No. 1708

1708-1: DOE notes the commentor's opposition to expanding DOE's existing nuclear facility infrastructure. Consistent with its mandates under the Atomic Energy Act, DOE is proposing this expansion for the purposes of addressing three primary needs: 1) to support the need for increased domestic production of isotopes for medical, research, and industrial uses, as initially identified by a panel of experts in the medical field and reaffirmed by the Nuclear Energy Research Advisory Committee; 2) to support future NASA space exploration missions by re-establishing a domestic capability to produce plutonium-238, a fuel source that is required for deep space missions and which the U.S. has no long-term, assured supply; and 3) to support civilian nuclear research and development needs in order to maintain the clean, safe, and reliable use of nuclear power as a viable component of the United States' energy portfolio. Plutonium-238 would not be used for medical or research programs; it would be used for NASA space exploration missions.

The NI PEIS provides an estimate of waste generation impacts associated with each of the alternatives proposed for the production of medical, industrial and research isotopes, plutonium-238, and nuclear research and development. Any additional wastes generated in support of these missions would be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders. The proposed action would not have an impact on the cleanup missions at the candidate sites.

A separate Nuclear Infrastructure Nonproliferation Impacts Assessment was prepared to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. The information provided in the report is not required by NEPA and CEQ regulations to be included in the NI PEIS. For information purposes, the Nuclear Infrastructure Nonproliferation Impacts Assessment was mailed to approximately 730 interested parties on September 8, 2000 and made available on the NE website (<http://www.nuclear.gov>) and in the public reading rooms. DOE has provided a summary of the Nuclear Nonproliferation Impacts Assessment in the Final NI PEIS.

1708-1

1708-2

1708-3

1708-2

1708-4

**Commentor No. 1708: Margaret Macdonald Stewart
(Cont'd)**

about the security of the world by increasing the proliferation risks? And do we no longer care about sending that same message around the world – in an age when EVERYONE watches and listens to what the United States does and says? I've already mentioned the incredible environmental risks involved with this entire process. I am confused about the priorities.

The need for more PU-238 is never justified in this draft PEIS. We have been receiving PU-238 from Russia for 10 years or so at quite a good price, and they have plenty to sell. Canada is an excellent source of medical isotopes. Why does the United States suddenly need more than these two countries can offer? And NASA has said it does not need – emphasis on 'DOES NOT NEED' – additional PU-238 for its space needs. Is anyone out there listening? Again, I am confused about priorities.

Concerning the restart of the Fast Flux Test Facility at the Hanford Nuclear Reservation for this entire proposal is never justified. It is, however, quite blatantly the reason for this whole scheme. Interesting that DOE's own advisory panel said in an April 2000 report that the "FFTF will not be a viable source of [medical] research radioisotopes," and that production would not be cost effective. Yet this report is not included in the draft EIS. WHY? Confusing priorities, again.

There are many more issues I have with this draft EIS, but these are among the most serious. The glaring environmental and proliferation risks of this proposal to produce more PU-238 are enough to stop it dead right now. I say, cancel the project, we're doing a miserable job as it is, trying to clean up the mess already created for us by the past production of nuclear materials. The last thing we need is a bigger mess – one created by a process that has no scientific, medical, social, or environmental justification at all. If you must flog this deadly proposal, then rewrite the draft PEIS and answer the questions raised – honestly.

Sincerely,



Margaret Macdonald Stewart
Box 2404, Ketchum, ID 83340

I reject this Draft PEIS
as inadequate.

1708-4

1708-5

1708-6

1708-1

Response to Commentor No. 1708

- 1708-2:** The costs and nuclear nonproliferation impacts of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. Such ancillary documents need only be made available to the public prior to any decision being made under CEQ regulations (40 CFR Part 1505.1(e)). Nevertheless, DOE mailed these documents to more than 730 interested parties on August 24 and September 8, 2000, respectively. Both reports were made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided summaries of the Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment in Appendixes P and Q, respectively, in the Final NI PEIS.
- 1708-3:** 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 clarify the waste management approach for waste resulting from processing of target materials for plutonium-238 production. The use of proposed alternative facilities associated with processing of neptunium-237 targets would have no impact on schedules or available funding for high-level radioactive waste programs at either Hanford or INEEL. At INEEL, the tanks would not be used although certain facilities at the Idaho Nuclear Technology Engineering Center (INTEC) would be used to treat the wastes resulting from processing the irradiated targets. These are reliable systems that would process a maximum of 1,050 cubic meters of low-level radioactive waste over the 35-year nuclear infrastructure operational period. The higher activity waste would be treated as a solid form via a stand-alone vitrification system, separate from any tank waste treatment system. At Hanford, the existing high-level radioactive waste facilities would not be used, and as analyzed in the PEIS, no existing or planned high level radioactive waste facilities would be used to treat the wastes resulting from processing the irradiated targets.
- 1708-4:** The technology that would be used to produce plutonium-238, medical and industrial radioisotopes uses chemical separation from targets whereas reprocessing chemically separates weapons grade plutonium-239 from spent nuclear fuel. As discussed in the Nuclear

***Commentor No. 1708: Margaret Macdonald Stewart
(Cont'd)***

Response to Commentor No. 1708

Infrastructure Nonproliferation Impact Assessment (September 2000) use of this technology to produce plutonium-238 from irradiated targets will not create a nonproliferation threat. DOE is committed to full compliance with and support of the U.S. policy prohibiting reprocessing. The proposed action in this EIS represents an example to the world of the U.S. supporting and enhancing civilian use of nuclear energy such as: medical radioisotopes, industrial radioisotopes, and radioisotopes for deep space exploration.

1708-5: A May 22, 2000, correspondence from NASA to DOE identified that NASA 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, the suspension of SRTG development efforts was conducted in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence, requires 1/3 less plutonium as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000 letter to DOE that the plutonium-238 needed for large RTG may be maintained as a backup.

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. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

The United States currently purchases approximately 90 percent of its medical isotopes from foreign producers, most notably Canada. However, Canada 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. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs.

*Commentor No. 1708: Margaret Macdonald Stewart
(Cont'd)*

Response to Commentor No. 1708

1708-6: The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost-efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities.

DOE has taken the Expert Panel and NERAC report recommendations under consideration in developing the range of alternatives evaluated in the NI PEIS. These reports were made available to the public at the NI PEIS public information centers and on the Internet at www.nuclear.gov.

Commentor No. 1709: U.S. Representative Deborah Pryce

Congress
of the
United States
House of Representatives

September 18, 2000

DEBORAH PRYCE
OHIO
15th DISTRICT



Collette E. Brown
U.S. Department of Energy
NE-50
19901 Germantown Road
Germantown, MD 20874-1290

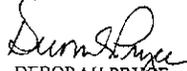
Dear Ms. Brown,

I am writing to support the re-start of the Fast Flux Test Facility (FFTF) in Washington state, specifically based on the benefits it offers to cancer patients.

As you know, research using medical isotopes is showing great promise in developing treatments for childhood cancers. In fact, my daughter, Caroline, who was diagnosed with neuroblastoma in 1998, participated in a clinical trial at Memorial Sloan Kettering Cancer Center in which medical isotopes were used. Unfortunately, my daughter succumbed to her disease just more than one year ago, but we simply must do all we can to ensure that the cutting edge research underway to help children like Caroline continues. More than 12,000 children are diagnosed with cancer annually, and some 2,300 will lose their lives to this disease in the year 2000. This is unacceptable. The key to survival for these innocent victims is research. The demand for medical isotopes is increasing. It is my understanding that the FFTF has the capacity to produce two to three times more medical isotopes than all other reactors in the nation combined. Re-starting the FFTF would stabilize the supply of medical isotopes to help ensure continued progress toward successful treatment of cancer and other diseases.

I hope the Department of Energy will consider the great potential to be found in medical isotopes for the thousands of children and their families who are in the fight for their lives. Thank you for your consideration of my views. If I can provide additional information regarding my comments, please do not hesitate to let me know.

Sincerely,


DEBORAH PRYCE
Member of Congress

221 CANNON HOUSE OFFICE BUILDING
WASHINGTON, D.C. 20515
(202) 225-2015
Email: pryce.oh15@mail.house.gov
http://www.house.gov/pryce/

 Printed on Recycled Paper

500 S. FRONT STREET
ROOM 1130
COLUMBUS OHIO 43215
(614) 469-5614

Response to Commentor No. 1709

1709-1

1709-1:

DOE notes the commentor's support for Alternative 1, Restart FFTF. Under the proposed action and consistent with its mandates under the Atomic Energy Act, DOE would enhance its existing nuclear facility infrastructure to, among other things, more effectively support production of radioisotopes for medical applications and research. While restarting FFTF would result in greater availability of medical isotopes, it would not produce two to three times more medical isotopes than all other reactors in the nation combined, as stated by the commentor. For nearly 50 years, DOE's use of its unique technologies and capabilities to develop isotopes for civilian purposes has enabled the widespread application of medical isotopes seen today.

1709-1

**Commentor No. 1710: James A. Lake/Andrew C. Kadak
American Nuclear Society**



AMERICAN NUCLEAR SOCIETY

Washington Office
805 15th Street, NW
Suite 700
Washington, DC 20005

Tel: 202/312-7400
E-Mail: dwasiti@bakerd.com
<http://www.ans.org>
Fax: 202/312-7401

September 18, 2000

Secretary Bill Richardson
Department of Energy
1000 Independence Avenue, SW
Room 7A-257
Washington, DC 20585-0117

Subject: Fast Flux Test Facility

Dear Secretary Richardson:

We have reviewed 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. Based on this review and in consideration of the NERAC Long Term Research and Development Plan and the Corradini Report entitled, "The Future of University Nuclear Engineering Programs and University Research & Training Reactors", we conclude that the FFTF should be restarted as soon as possible.

In our letter of August 18, 1999, the American Nuclear Society's position on the restart of FFTF was conditional on the basis that the funding not affect other future-looking nuclear energy programs. We also questioned the restart of FFTF since there was not an integrated national research and development strategy in which its mission could be defined. Additionally, we had concerns that the apparent justification for restart, as identified in the PNNL report, was the production of isotopes for which the economic basis was questionable.

In the intervening year several important events took place. The United States has lost another major research reactor facility due to the untimely shutdown of the Brookhaven High Flux Beam Reactor. It is also expected that DOE will shutdown the Brookhaven medical research reactor. This continual erosion of the U.S. research reactor capability severely damages our ability to develop technologies of the future and maintain the infrastructure necessary for U.S. leadership in nuclear science and technology. The NERAC long term R&D plan has been issued as has the Corradini Report which identifies the important research work that needs to be done and how the national laboratories can interface with universities to renew the interest of students in this field.

Based on the draft EIS, the Fast Flux Test Facility is the single facility that already can meet the needs of PU238 production for the space program, provide many isotopes for medical and industrial application, and be used for basic research for both fast and thermal flux applications. Although facility modifications would be required to perform these new tasks, the facility has unique attributes that allow such modifications without significant impact in performance. The other attraction of the utilization of the FFTF is that it already exists and therefore will not negatively impact the research missions of other facilities that are identified in the EIS.

Leaders in the development, dissemination and application of nuclear science and technology to benefit humanity

Response to Commentor No. 1710

|| 1710-1

1710-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

|| 1710-1

Commentor No. 1710: James A. Lake/Andrew C. Kadak American Nuclear Society (Cont'd)

Although costs were not identified in the EIS for the FFTF or other alternatives, the previous PNL report identifies costs for restoring the FFTF to service. DOE has promised that these funds will not be diverted from other DOE missions, which is an important concern of ANS and other commentors regarding restart. ANS believes the restart of the FFTF, when compared to other options for satisfying the many missions defined, will be the low cost alternative. This is based on the assumption that building any new facility is, in general, more expensive than modifying an existing facility for specific purposes.

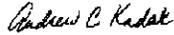
ANS also believes the Hanford reservation has other unique assets that could be used in support of the DOE mission of research and development and isotope production which provides an added incentive to restart. As the DOE begins to look to the long term future, nuclear technologies for sustainable energy production will undoubtedly focus on fast spectrum reactors. The FFTF is the only U.S. facility that has the capability to perform such large scale research should the national political and technical consensus conclude that the future sustainable technology require such reactors.

For all these reasons, the American Nuclear Society supports restart of the Fast Flux Test Facility.

Sincerely yours,



James A. Lake
President - 2000/2001



Andrew C. Kadak
President - 1999/2000

C: James J. Duderstadt, Chairman of NERAC
William Magwood, IV, Department of Energy
ANS Board of Directors
Colette E. Brown, Document Manager NI-PEIS

Senator Slade Gorton
Senator Patty Murray
Representative Jay Robert Inslee
Representative Jack Metcalf
Representative Brian Baird
Representative Richard Hastings
Representative George Nethercutt
Representative Norman Dicks
Representative James McDermott
Representative Jennifer Dunn
Representative Adam Smith
Senator Pete Domenici
Senator Harry Reid
Representative Peter Visclosky
Representative Ron Packard
Board of Directors

1710-2

1710-1

Response to Commentor No. 1710

1710-2: DOE notes the commentor's view on the cost of restarting FFTF.

**Commentor No. 1711: A. Kuhaida, Jr., Mayor,
City of Oak Ridge**

Response to Commentor No. 1711

Sent by: CITY OF OAK RIDGE DS 4234828355 09/18/00 8:17PM Job 796 Page 1/2

CITY OF
OAK RIDGE



City of Oak Ridge

September 18, 2000

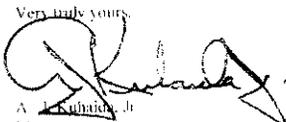
Ms. Colette E. Brown, NE-50
U. S. Department of Energy
19901 Germantown Road
Germantown, MD 20874

Comments on DOE Draft Programmatic Environmental Impact Statement (PEIS) 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 (FFTF) [DOE/EIS-0310SD, July 20-00]

Dear Ms. Brown,

Enclosed are the comments of the City of Oak Ridge Environmental Quality Advisory Board on the subject PEIS.

At its regular meeting today, September 18, 2000, the Oak Ridge City Council unanimously approved the transmittal of these comments as the official comments of the City of Oak Ridge.

Very truly yours,

A. Kuhaida, Jr.
Mayor

jb

Enclosure

Commentor No. 1711: A. Kuhaida, Jr., Mayor, City of Oak Ridge (Cont'd)

Sent by: CITY OF OAK RIDGE DS 4234826355

09/18/00 8:18PM Job 796

Page 2/2

**City of Oak Ridge Environmental Quality Advisory Board (EQAB) Comments on
DOE Comments on DOE Draft Programmatic Environmental Impact Statement (PEIS) 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 (FFTF) [DOE/EIS-
0310D, July 2000]**

Due to the length and complexity of the PEIS, EQAB was unable to complete a detailed review of the technical merits of this EIS and the proposed action. Instead, EQAB has chosen to offer only general comments.

EQAB is aware that several other organizations have publicly alleged inaccuracies in the stated *Purpose and Need for Agency Action*. These issues are not addressed in this review.

1. This PEIS appears to be unnecessarily lengthy and complex. Many tables, charts, and much information is many-times redundant. This makes the document overly large and difficult to read. Additionally, a large amount of irrelevant, albeit interesting, information has been included. For instance, the specific location of a target in a reactor is not information germane to the topic of the EIS.
2. The complexity could also be decreased by characterizing some of the options listed under different alternatives that are essentially the same. Addressing the common issues – transportation, irradiation, processing – individually instead of including them in each of the potential combinations would have saved the reader time and effort. The time to assess the options in combination is in the epidemiological charts and comparative discussion.
3. The epidemiological assumptions and assertions are not always clear, nor are they concisely stated. Often, these assumptions were in a different location in the document. There was not always a clear association between the area demographics and the accident risk analyses. The epidemiological summaries do not appear to be consistent with some of the individual analyses.
4. Cost is a major factor in a program of this scope. It is recommended that estimated cost be presented in the PEIS rather than in an ancillary document.

EQAB appreciates the opportunity to comment on this document. However, we recommend that a longer comment period be automatically provided for any document that is longer than a pre-determined number of pages (for example, 500 pages).

These concerns notwithstanding, EQAB feels that the work described in the PEIS can be safely performed on the ORR.

1711-1

1711-2

1711-3

1711-4

1711-5

Response to Commentor No. 1711

1711-1:

The size and complexity of the NI PEIS is attributable to the complexity of the proposed action and the range of reasonable alternatives. DOE included illustrative material, such as target locations within reactors, to help readers visualize and understand the text. Although some options within an alternative are similar, they are not identical and would result in different environmental impacts. Options under the alternatives are required to present the full range of environmental impacts for each alternative. Redundancy was reduced by referencing earlier sections of the NI PEIS where the environmental evaluation yielded similar results. In addition, extraneous information has been eliminated and some sections of the PEIS have been reorganized to improve readability.

1711-2:

Epidemiological assumptions are stated in Appendixes H and I of Volume 2. As a convenience for the reader, shorter versions of these assumptions are stated in Sections 4.2-4.6 of Volume 1. In the Final NI PEIS, text was added to Appendix I describing the meteorological data, population data, and evacuation information used for each facility evaluation.

1711-3:

DOE provided a summary of the Cost Report in Appendix P of the Final NI PEIS.

1711-4:

DOE notes the commentor's suggestion.

1711-5:

DOE notes the commentor's support for those alternatives and options that involve the use of facilities on the ORR.

Commentor No. 1712: Ray K. Robinson

Sep 18 00 01:23p Ray K. Robinson, Inc. 509-627-6141 p. 1

1-877-562-4592



Jack Briggs

Al Corrado, M.D.

Richard Giever, M.D.

Suzanne Heaston

Floyd Ivey, P.S.

Mike Lawrence

Wanda Munn

Haakon Ragde, M.D.

Ed Ray

Ray Robinson, Sc.D.

Robert Schenter, Ph. D.

Citizens for Medical Isotopes
Benton Franklin Title Bldg.
3315 W. Clearwater Ave.
Kennewick, WA 99336
Amy Evans
(509) 737-6463
fax: (509) 737-9524
cmf@owt.ccm
www.medicalisotopes.org

September 18, 2000

Mr. Bill Richardson, Secretary of Energy
Department of Energy, Office of the Secretary
Forrestal Building
1000 Independence Avenue, S.W.
Washington, DC 20585

Dear Secretary Richardson:

I have talked at length with hundreds of cancer survivors and families of cancer victims, too many who were friends or members of my own or my spouse's family.

My company, RKRIL, has discussed the medical isotopes situation with senior executives and technology managers of over forty (virtually all) major radiopharmaceutical and medical isotopes companies in the United States.

I have met with and discussed the medical isotopes situation with over 20 of the 54 senior staffers and members of the appropriation committees in the House and Senate responsible for funding the National Institutes of Health and the Department of Energy and with OMB.

I have discussed the medical isotopes situation with dozens of the leading physicians and scientists in the world who are at the cutting edge of medical science's interface with terminal diseases.

One of our medical isotopes non-profits teamed with the prestigious Society of Nuclear Medicine and its thousands of board-certified nuclear medicine physicians and technologists seeking more federal support for nuclear medicine/medical isotopes R&D.

I have given countless talks and seminars to U.S. citizens who are concerned about how medical isotopes might help them, their families and their friends deal with dreaded diseases such as cancer, rheumatoid arthritis and coronary artery disease. The most recent of these talks was to a large group living and working in our state's capitol.

Response to Commentor No. 1712

Commentor No. 1712: Ray K. Robinson (Cont'd)

Sep 18 00 01:23p Ray K. Robinson, Inc. 509-627-6141 p.2

2/3 9/18/2000

Based on the above interactions and inputs, I request that you consider the following in your decision making process:

1) The promise and potential of medical isotopes, and the positive impacts they can have on the quality, effectiveness and cost of health care in the U.S., are rapidly becoming more apparent and better understood by patients, practitioners and politicians across the U.S. The problems associated with the lack of a reliable U.S. supply of medical isotopes are becoming more apparent to these same groups. Support for restarting FFTF is widespread and increasing.

2) A critical need exists now for a highly reliable U.S. source of reactor-produced medical isotopes with the capability to produce large, pharmaceutical-quantity amounts of many different types of high specific activity medical isotopes. This large production-volume capability must be a U.S. government source and is vital now for the following reasons:

- The early and high-risk R&D investments necessary for major health breakthroughs involving medical isotopes will not be made without an assured domestic supply of large quantities of the same isotopes proven effective in clinical research. Both private sector and government R&D and clinical trial programs are and will continue to be severely constrained without an assured, highly reliable, large U.S. reactor capable of producing large amounts of many varieties of high-quality medical isotopes.
 - The private sector is constrained without a predictable path and assured capability to transition from R&D to full-scale production of radiopharmaceuticals. Without an assured supply, the substantial costs, time and other risks inherent in bringing a radiopharmaceutical to market are unacceptable.
 - Government R&D is constrained because the research community's motivation/capability is frequently stifled by the high cost and/or unavailability of medical isotopes or the concern that there is no path forward to market even if their research is promising.
- The private radiopharmaceutical sector in the U.S. will buy irradiation time and space in a government-owned/operated reactor but they will not own/operate reactors themselves. They believe that the supply of reactor-produced medical isotopes, especially for the large quantities needed for therapy, is a critical role that the U.S. government must fulfill, a role mandated by the U.S. Atomic Energy Act. Note there is not a government-competition-with-private-sector issue here. The issue is just the opposite. The need is for a reliable government capability to produce for a fee the large quantities of medical isotopes that the private sector will then convert into commercial radiopharmaceuticals.

1712-1

1712-2

Response to Commentor No. 1712

1712-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

1712-2: DOE notes the commentor's support for U.S. reactor-produced medical isotopes.

Commentor No. 1712: Ray K. Robinson (Cont'd)

Sep 18 00 01:23p Ray K. Robinson, Inc. 509-627-6141 P. 3

3/3 9/18/2000

3) FFTF is the newest, largest and best reactor the U.S. government has in its infrastructure for long-term production of large quantities of medical isotopes. In addition, FFTF can make high specific-activity isotopes and has the flexibility to tailor its irradiation characteristics to produce the wide variety of isotopes needed. Its unique characteristics make it the ideal candidate to produce some research isotopes. In conjunction with other federal civilian missions, FFTF can be cost-competitive in producing small amounts of many different research isotopes.

It is essential that FFTF be restarted. Please do not let the U.S. lose this tremendously valuable asset. Many of us believe FFTF's actual and potential benefits far outweigh its costs and potential risks. In light of our aging U.S. population and rising health care costs, and our aging nuclear infrastructure, FFTF could well be one of the U.S.'s best health insurance policies.

Very truly yours,



Ray K. Robinson, Co-Founder and
Volunteer Board Member (Co-Chair)

cc: Ms. Colette Brown, DOE

1712-1

Response to Commentor No. 1712

**Commentor No. 1713: Norman A. Mulvenon
Local Oversight Committee, Inc.**

SEP-18-2000 11:03 FROM LOCAL OVERSIGHT COMMITTEE TO 13014280145 P.02



September 18, 2000

Ms. Colette E. Brown, NE-50
Office of Nuclear Energy, Science and
Technology
U. S. Department of Energy
19901 Germantown Road
Germantown, MD 20874

Subject: Citizens' Advisory Panel Comments on the Draft Programmatic Environmental Impact Statement (PEIS) 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 (FFTF) [DOE/EIS-0310D, July 2000]

Dear Ms. Brown:

The Citizens' Advisory Panel (CAP) of the Oak Ridge Reservation (ORR) Local Oversight Committee, Inc., (LOC) is pleased to submit comments on the subject draft PEIS. However, we were hampered in evaluating the PEIS due to the non-simultaneous release of the related documents, *Nuclear Infrastructure Nonproliferation Impact Assessment (DOE/NE-0119)* and *Cost Report for Alternatives*.

The need for the federal action(s) covered by this PEIS is weak. The Office of Nuclear Energy, Science and Technology (NE) seems to be paving the way to restart the FFTF through the use of overly optimistic assumptions for growth in demand for medical isotopes and dismissal of realistic alternatives for their production. The projections of isotope demand should include bounding high and low estimates. The other two purposes in the PEIS, plutonium-238 production for space missions and nuclear energy research and development for civilian applications, can be easily accomplished through the use of existing facilities. Additionally, recent decisions by NE are inconsistent with the stated concerns about regarding isotope and Pu-238 production (see Comment 2 in attached detailed comments).

The CAP opposes the No Action Alternative based on the non-proliferation issues that the current course of action raises. Additionally, the cost for indefinitely maintaining FFTF in standby mode is unacceptable. Neither the No Action Alternative nor Alternative 5 address the national needs laid out in the PEIS.

Anderson • Meigs • Rhea • Roane • City of Oak Ridge • Knox • Loudon • Morgan

136 S. Illinois Avenue, Suite 208 • Oak Ridge, Tennessee 37830 • Phone (423) 483-1333 • Fax (423) 482-6572 • E-mail: loc@icx.

Response to Commentor No. 1713

1713-1: CEQ (40 CFR 1500 et seq.) and DOE (10 CFR Part 1021) implementation regulations do not require inclusion of cost and nonproliferation studies in an environmental impact statement. The basic purpose of the NI PEIS is to describe the alternatives under consideration for implementation (Section 2.5 of Volume 1) and the environmental impacts that would occur if these alternatives were implemented (Chapter 4 of Volume 1). Pursuant to CEQ regulations (40 CFR 1505.1(e)), agencies are encouraged to make ancillary decision documents available to the public before a decision is made. The associated cost report and nonproliferation report were made available to the public on August 24, 2000, and September 8, 2000, respectively. DOE mailed this document to approximately 730 interested parties, and these reports were made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in public reading rooms.

1713-2: DOE notes the commentor's views. Consistent with its mandates under the Atomic Energy Act, DOE is proposing this expansion for the purposes of addressing three primary needs: 1) to support the need for increased domestic production of isotopes for medical, research, and industrial uses, as initially identified by a panel of experts in the medical field and reaffirmed by the Nuclear Energy Research Advisory Committee; 2) to support future NASA space exploration missions by re-establishing a domestic capability to produce plutonium-238, a fuel source that is required for deep space missions and which the U.S. has no long-term, assured supply; and 3) to support civilian nuclear research and development needs in order to maintain the clean, safe, and reliable use of nuclear power as a viable component of the United States' energy portfolio. As opposed to the commentor's assertion, these objectives are in no way inconsistent with recent decisions by DOE's Office of Nuclear Energy, Science, and Technology (NE).

DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert committees. In 1998, an Expert Panel convened to forecast future demand for medical isotopes estimated that the expected growth rate of medical isotope use during the next 20 years will range between 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by DOE's Nuclear

1713-1

1713-2

1713-3

1713-4

1713-5

Commentor No. 1713: Norman A. Mulvenon (Cont'd)
Local Oversight Committee, Inc.

SEP-18-2000 11:03 FROM LOCAL OVERSIGHT COMMITTEE TO 13014280145 P.03

C. Brown
09/18/00
Page 2 of 3

The CAP opposes the restart of FFTF (Alternative 1) on the basis of the huge cost likely to be incurred, when significantly less funding would be required to upgrade existing facilities at Oak Ridge National Laboratory (ORNL) and Idaho National Engineering and Environmental Laboratory. These upgraded facilities could then easily fulfill realistic projections of national demand for medical isotopes. A major deficiency of the PEIS is that existing facilities at INEEL and ORNL are not considered for the medical isotope production mission; these options should be considered in the final PEIS.

1713-6

As noted in the Summary document, stakeholders in Tennessee and Idaho are supportive of bringing the proposed work to their respective facilities, while many stakeholders in the Pacific Northwest are opposed to restarting the FFTF. From an equity standpoint, DOE should seriously consider upgrading facilities at ORNL and INEEL in lieu of the FFTF restart at Hanford.

1713-7

Of the alternatives presented, the CAP prefers Alternative 2, Options 1 and 7, and recommends that this alternative be expanded to include upgrading ATR and/or HFIR for isotope production. This alternative is to use only existing operational facilities, and these options are for use of ATR and/or HFIR for the irradiation facility and REDC for the Pu-238 storage and target fabrication and processing facilities. These are also advantageous with respect to non-proliferation issues as well as the cost.

1713-8

The CAP notes that several options involve restart of currently non-operational facilities for target fabrication and processing. Restart of either the Fluorine Dissolution Process Facility (FDPF) or Fuels and Materials Examination Facility (FMEF) would involve a significant degree of technical risk, unlike utilization of the currently operational facilities.

The CAP would support Alternative 4, Construct New Research Reactor, as a long-term solution, should projections of medical isotope demand be met. However, Alternative 3, Construct New Accelerator(s), is unacceptable due to the huge expense and relatively limited types of isotopes that an accelerator is capable of producing.

1713-9

The CAP is supportive of expanding ORNL's mission, consistent with sound scientific and policy decisions. ORNL has had long historical involvement in the production and distribution of medical isotopes, a mission that was cut back due to concerns about competing with the private sector. Now ORNL's historic strength has enabled Oak Ridge to leverage such production into related industrial development. The first tenant of Horizon Center, the new industrial park on DOE land leased to the Community Reuse Organization of East Tennessee, is Theragenics, a company that formulates medical isotope implants. Additionally, the CAP supports bringing a new mission, that of Pu-238 production, to ORNL.

The LOC is a non-profit regional organization funded by the State of Tennessee and established to provide local government and citizen input into the environmental management and operation of the DOE's ORR. The Board of Directors of the LOC is composed of the elected and appointed officials of the seven surrounding counties and the City of Oak Ridge, and the Chair of the CAP. The CAP has up to 20 members with

Response to Commentor No. 1713

Energy Research Advisory Committee (NERAC), established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. The growth projections were also adopted by DOE as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. The NI PEIS analyses assume growth at the high-end of this range in order to bound the potential environmental impacts that could result from implementing the proposed action. 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.

For nearly 50 years, DOE's use of its unique technologies and capabilities to develop isotopes for civilian purposes has enabled the widespread application of medical isotopes seen today. While its market share is a small fraction of total world radioisotope production, DOE remains the key provider for a large number of isotopes that are used in relatively small quantities by individual researchers at universities and hospitals. Because their application is initially experimental, these isotopes are not generally purchased in large enough quantities to make their production financially attractive to private industry.

The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. However, Canada 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. Further, supplies of many research isotopes are not readily available from existing foreign or domestic sources, causing a number of medical research programs to be terminated, deferred, or seriously delayed. As such, reliance on these other sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs.

Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their

Commentor No. 1713: Norman A. Mulvenon (Cont'd)
Local Oversight Committee, Inc.

SEP-18-2000 11:04 FROM LOCAL OVERSIGHT COMMITTEE TO 13014280145 P.04

C. Brown
 09/18/00
 Page 3 of 3

diverse backgrounds representing the greater ORR region; the CAP studies problems in depth and provides advice to the LOC Board and other governmental agencies.

This letter lays out the policy considerations underpinning the attached detailed comments. These comments are submitted by the CAP only and have not been reviewed or approved by the LOC Board. If you have any questions regarding the CAP's comments, please feel free to contact me at (865) 483-1333.

Sincerely,



Norman A. Mulvenon,
 Chair, Citizens' Advisory Panel

Enclosure

cc: LOC Document Register
 LOC Board
 LOC CAP
 Earl Leming, Director, TDEC DOE-O
 Joe Sanders, General Counsel, TDEC
 Pat Halsey, FFA Administrative Coordinator, DOE ORO
 Leah Dever, Manager DOE ORO
 Carol Borgstrom, Director, Office of NEPA Policy and Assistance, DOE HQ
 William Magwood, Assistant Secretary for NE, DOE HQ
 Luther Gibson, Chair, ORSSAB
 Stan Hobson, Chair, INEEL Citizens Advisory Board
 Chair, Hanford Advisory Board

Response to Commentor No. 1713

use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining the capability to provide the plutonium-238 needed to support these missions. There are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions. Although research to identify other potential fuel sources to support these space exploration missions has been conducted, no viable alternative to using plutonium-238 has been established. Based on NASA guidance to DOE on the potential use of radioisotope power systems for upcoming space missions, it is anticipated that the existing plutonium-238 inventory will be exhausted by approximately 2005. Without an assured domestic supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost.

Clean, safe, reliable nuclear power continue as a viable component of the United States' energy portfolio. In recognition of this need, the Administration and Congress have initiated nuclear energy research and development programs to address potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) and to ensure that current nuclear power plants can continue to deliver adequate and affordable energy supplies. An enhanced DOE nuclear facility infrastructure is required to support such nuclear energy research and development for civilian applications. The Nuclear Energy Research Advisory Committee (NERAC) Subcommittee on Long-term Planning for Nuclear Energy Research, an independent expert panel established by DOE, has set forth a recommended 20-year research and development plan to guide DOE's nuclear energy programs in areas of material research, nuclear fuel, and reactor technology development. This plan stresses the need for DOE facilities to sustain the nuclear energy research mission in the years ahead. Such nuclear research and development initiatives requiring an enhanced DOE nuclear facility infrastructure fall into the three basic categories of materials research, nuclear fuel research, and advanced reactor development.

1713-3: The commentor's opposition to the no action alternative based on nonproliferation issues is noted.

**Commentor No. 1713: Norman A. Mulvenon (Cont'd)
Local Oversight Committee, Inc.**

SEP-18-2008 11:04 FROM LOCAL OVERSIGHT COMMITTEE TO 13814280145 P.05

Citizens' Advisory Panel (CAP) Comments on the *Draft Programmatic Environmental Impact Statement (PEIS) 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 (FFTF)* [DOE/EIS-0310D, July 2000]

1. The PEIS uses as part of the justification for need for agency action the shutdown of the High Flux Beam Reactor at Brookhaven National Laboratory and the Cyclotron Facility at Oak Ridge National Laboratory (ORNL). The former facility was shut down due to political pressure over tritium contamination of groundwater, an issue unrelated to the age or safety of the reactor. ORNL's Isochronous Cyclotron was shut down due to mission changes for the Holifield Radioactive Ion Beam Facility that made it unnecessary. Neither of the facilities produced isotopes in any significant quantity, nor were they used for nuclear energy research. It is unclear why they are mentioned in this document.
2. The PEIS assumes a projected large increase in demand for medical isotopes, which effectively forces the decision to restart the FFTF. This assumption is not supported by the following information obtained from senior personnel in the Research Reactors Division at ORNL:
 - The High Flux Isotope Reactor (HFIR) at ORNL projects isotope usage to plan its own medical isotope production schedule. HFIR's projections do not anticipate significant growth in demand.
 - Other professional nuclear-related organizations such as the American Nuclear Society don't project a growth rate for medical isotope demand nearly as large as DOE has suggested.
 - The United States currently subsidizes the cost of isotope production.
 - Russia produces and sells many isotopes much cheaper than the United States can. The availability of cheap Russian isotopes has significantly reduced current demand for U.S.-produced isotopes. Indeed, during the same period of time when NE was planning and preparing this PEIS for expansion of U.S. isotope production capacity, NE decided to end production of stable isotopes at the Beta 3 calutron facility at Oak Ridge's Y-12 plant due to low demand, and scheduled the facility for transfer to Environmental Management for decontamination and decommissioning. The stable isotopes produced by the Beta 3 facility are used as sources for other medical and industrial isotopes; there is no guarantee that Russia will keep prices low or even continue to produce them.
 - DOE refused a request by the Advanced Test Reactor (ATR) at Idaho National Engineering and Environmental Laboratory (INEEL) for funding to upgrade the facility for medical isotope production by adding a "rabbit" system that would allow samples to be inserted and retrieved while the reactor is running.
3. The alternatives under consideration reject the obvious and most cost-effective option, that of upgrading existing facilities such as HFIR in Oak Ridge and ATR at INEEL. As mentioned under comment 2 above, ATR can be modified to produce short-lived medical isotopes by addition of a rabbit system. HFIR can be upgraded to

Response to Commentor No. 1713

- 1713-4:** DOE notes the commentor's opinion. As stated in the Notice of Intent (64 FR 50064), one of the purposes of the proposed action is to determine the future role of FFTF.
- 1713-5:** DOE notes the commentor's statement. The No Action Alternative is required by CEQ regulations (40 CFR Section 1502.14 (d)). The No Action Alternative is intended to provide a benchmark that enables the decision-maker to better evaluate the environmental impacts of the action alternatives; it need not meet the stated purpose and need of the PEIS. Alternative 5 was added to the analysis as a result of scoping comments provided by the public.
- 1713-6:** As stated in Section 2.5.3 of Volume 1 of the NI PEIS, the currently operating DOE reactors, HFIR and ATR, cannot fully meet the projected long-term need for medical isotope production and nuclear research and development, with or without the plutonium-238 production mission. The Final NI PEIS, Section 2.6.1, has been revised to discuss upgrades at HFIR and ATR that would increase their isotope production capability. Facility modifications such as the installation of rapid radioisotope retrieval systems and power upgrades at both HFIR and ATR would enhance their ability to produce isotopes. This enhancement, however, would only delay the point in time at which the United States' reactor isotope production capacity is reached.
- 1713-7:** DOE acknowledges the commentor's view that the stakeholders in Tennessee and Idaho are supportive of bringing the medical isotope production work to their facilities (ORNL and INEEL) and that many stakeholders in the Pacific Northwest are opposed to the restart of FFTF. As discussed in the Final NI PEIS, Section 2.6.1, facility modifications such as the installation of rapid radioisotope retrieval systems and power upgrades at both HFIR, located at ORNL, and ATR, located at INEEL, would enhance their ability to produce isotopes within the limitations imposed by other missions such as those of the DOE Office of Naval Reactors at ATR. This enhancement at both HFIR and ATR, however, would not be adequate to meet the future demand for isotope production.
- 1713-8:** DOE notes the comment. DOE considered and dismissed upgrading ATR and HFIR for isotope production. Refer to discussions in Volume 1, Section 2.6.1. The technical risks for restart of FDPF and FMEF are not evaluated in the NI PEIS. DOE has determined the technical risks for the restart of these facilities are acceptable. The

Commentor No. 1713: Norman A. Mulvenon (Cont'd)
Local Oversight Committee, Inc.

SEP-18-2000 11:05 FROM LOCAL OVERSIGHT COMMITTEE TO 13014280145 P.06

its full design power of 100 megawatts more easily and quickly than stated in the PEIS. The primary requirements for upgrading HFIR involve paperwork changes to procedures and safety documentation. HFIR management estimates the upgrade could be accomplished with less than a month's downtime, comparable to current 7 to 10 day outages, which would have a minimal impact on its science mission.

4. The cost of restarting the FFTF is likely to be far in excess of that projected. The FFTF was built for a single mission and is costing about \$50 million per year to keep in standby. Its reactors have been in standby mode for ten years and will cost a great deal to bring up to current standards. Experts in the Research Reactors Division at ORNL estimate that \$250 million to \$300 million will be required to upgrade the equipment and safety documentation at FFTF.
5. A technical problem that has not been adequately considered is that although the MOX fuel required by the FFTF can be obtained free from Germany, there is no U.S. plant that can refabricate this fuel into elements that fit FFTF.
6. Regarding the Neptunium-237 processing to create Plutonium-238 for space mission fuel—ORNL has an appropriate technology to accomplish this and would be a logical location for this mission. HFIR can irradiate sufficient Np-237 to produce 40% of the amount needed annually, and the adjoining facility at Radiochemical Engineering Development Center is capable of both the target fabrication and chemical processing required for separation of the Pu-238. ATR is capable of producing up to 5 kg of Pu-238 annually. A combined alternative with both locations irradiating Np-237 would satisfy projected national needs.
7. With respect to the materials irradiation mission, the following comments apply:
 - There are currently eight sites available for this purpose at the HFIR and several more at the ATR. Currently most of these irradiation sites are not utilized at all or are only partially utilized.
 - Since almost all current and future power reactors being discussed for use in the United States have a thermal spectrum, the Fast Flux Test Facility, which uses a fast neutron spectrum, is not a suitable facility for testing materials for use in these reactors.

Response to Commentor No. 1713

risks of restarting non-operational facilities are addressed as cost, schedule, and technical assurance uncertainties during the Record of Decision process.

1713-9: DOE notes the comment.

1713-10: DOE notes the commentor's concern, and has modified Section 1.1 of Volume 1. The High Flux Beam Reactor at BNL and the Cyclotron Facility at ORNL are identified in this section to simply highlight recent examples of lost DOE infrastructure, as both facilities had produced some isotopes in the past.

1713-11: The NI PEIS is a programmatic document that looks at the nuclear infrastructure across the DOE complex and addresses national needs for medical isotope production. DOE realizes that the prediction of precise future needs of particular isotopes is very difficult. Because of this difficulty, DOE has sought independent analysis of trends in the use of medical radioisotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it has established two expert committees. The first, a thirteen-member Expert Panel convened in 1998 to forecast future demand for medical isotopes, included academicians from leading medical universities and schools of public health, and professional affiliations ranging from the National Cancer Institute to manufacturers of radiopharmaceuticals. The second consists of a subcommittee of DOE's Nuclear Energy Research Advisory Committee (NERAC), established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. The members of this Subcommittee were selected based upon their expertise and experience in the production, processing, distribution, and application of stable and radioactive isotopes in the biological and physical sciences, and in medicine. The members included basic and clinical scientists, administrators, and users of isotopes from academia, industry, and the federal government.

The Expert Panel estimated that the expected growth rate of medical isotope use during the next 20 years will range between 7 to 14 percent per year for therapeutic applications and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by the NERAC Subcommittee, and adopted by DOE as a planning tool for evaluating the potential capability of the existing

Commentor No. 1713: Norman A. Mulvenon (Cont'd)
Local Oversight Committee, Inc.

Response to Commentor No. 1713

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.

For nearly 50 years, DOE's use of its unique technologies and capabilities to develop isotopes for civilian purposes has enabled the widespread application of medical isotopes seen today. While its market share is a small fraction of total world radioisotope production, DOE remains the key provider for a large number of radioisotopes that are used in relatively small quantities by individual researchers at universities and hospitals. Because their application is initially experimental, these isotopes are not generally purchased in large enough quantities to make their production financially attractive to private industry.

The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. However, supplies of many research isotopes are not readily available from existing domestic or foreign sources, causing a number of medical research programs to be terminated, deferred, or seriously delayed. Under the NI PEIS proposed action and consistent with its mandates under the Atomic Energy Act, DOE would enhance its existing nuclear facility infrastructure to, among other things, more effectively support production of radioisotopes for medical applications and research.

The commentor stated that the Beta 3 calutron facility at Oak Ridge's Y-12 plant is being transferred to Environmental Management because there is a low demand for stable isotopes. It is true that NE decided to end production of stable isotopes at the Beta calutron facility. However, the calutron facility does not produce radioisotopes which is the mission that is addressed in the NI PEIS. Stable isotope production is not included in the NI PEIS.

The commentor's concerns about upgrading the Advanced Test Reactor (ATR) by adding a "rabbit" system are currently being addressed at INEEL. INEEL has privatized the production of medical and industrial isotopes through contracting with a commercial entity. International Isotopes Idaho, Inc. (I4) was selected in October 1996 as the commercial business for conducting these business

***Commentor No. 1713: Norman A. Mulvenon (Cont'd)
Local Oversight Committee, Inc.***

Response to Commentor No. 1713

operations. I4 specializes in producing isotope targets for irradiation in ATR and processing and distributing commercial-grade isotopes to its customers. Incremental investments have been identified for ATR that would make it a more versatile and capable reactor for isotope production. I4 and another commercial company are in the discussion phase of investing in ATR to install an isotope shuttle (rabbit) system for the production of short-lived radioisotopes. Although INEEL cannot justify this upgrade with government funds, it supports the commercial investment and venture. Many of the short-lived radioisotopes that would be produced by this system are expected to be in growing demand for various cancer therapies.

In response to the commentor's statement that HFIR's projections do not anticipate significant growth, HFIR's main mission is neutron scattering research, not radioisotope production. However, a "rabbit system" is being installed at HFIR, but is privately funded.

- 1713-12:** The cost of maintaining FFTF in standby was estimated in the cost report to be \$40 million per year in 1999 dollars. Total modification/construction and startup costs for restarting FFTF were estimated to be \$314 million in 1999 dollars. See also Response to Comment Number 1713-1 above.
- 1713-13:** As stated in Section 2.3.1.1.3 of Volume 1 of the PEIS, the German MOX fuel would be reconfigured into assemblies suitable for irradiation at FFTF before shipment to the United States.
- 1713-14:** DOE notes the commentor's support for the use of facilities at ORNL (HFIR and REDC) and INEEL (ATR) for the production of plutonium-238, that is, Option 7 of Alternative 2, Use Only Existing Operational Facilities.
- 1713-15:** The available irradiation sites in ATR and HFIR are factors that will be considered in the DOE decision making process. It should be noted that ATR and HFIR have limited available capacity due to their current mission commitments. For this reason, they were limited to plutonium-238 production. While it is true that current and future power reactors in the United States have a core thermal neutron spectrum, a significant fast neutron flux is also generated in these reactors. Over time, this fast neutron flux affects the material properties of reactor vessel internal components and the reactor

Commentor No. 1713: Norman A. Mulvenon (Cont'd)
Local Oversight Committee, Inc.

Response to Commentor No. 1713

vessel itself. A fast flux nuclear reactor like FFTF can simulate the equivalent fast neutron fluence in a nuclear power plant from 40 to 60 years of operation in a much shorter time period of FFTF operation.

Commentor No. 1714: Lee Thornton and Karen Grant Columbia Basin College



Pasco Campus

2600 North 20th Ave.
Pasco, WA 99301-3379

telephone:
(509) 547-0811

FAX:
(509) 546-0401

<http://www.cbcc2.org>

Richland Campus

1011 Northgate
Richland, WA 99352-3540

telephone:
(509) 946-9609



Ms. Colette E. Brown
NE-50, Office of Nuclear Science
Energy and Technology
19901 Germantown Road
Germantown, MD 20874

Dear Ms. Brown:

This letter is in response to a request for input regarding the restart of the Fast Flux Test Facility (FFTF) located at Hanford in southeastern Washington.

We strongly advocate the restart of FFTF. There are many arguments in favor of this, among them being the ability of the reactor to produce plutonium 238 for use as an electrical power source in the NASA deep space program and the use of FFTF for important nuclear fuels and materials research programs which will advance civilian power generation and other applications. We could also mention the jobs FFTF operation will generate in the Tri-Cities economy. FFTF has also been used to study breeder reactor technology. Breeder reactors make their own fuel and that is a technology we may eventually need very badly in the coming years of fossil fuel shortages, etc.

But by far and away, the most important reason to restart FFTF is its capability of making 60 or more different medical isotopes which are absolutely crucial for stopping or slowing the progress of many important types of cancer, for diagnosing and detecting heart disease and blood flow problems (especially in premature infants), for detecting osteoporosis, for brain imaging and treatment of schizophrenia and dementia, and for relieving pain and even some kinds of arthritis. There is a national urgency involved because specific isotopes are used as "magic bullets" to target very specific types of illness and the supply of these isotopes doesn't come close to meeting the need. Treatment with these isotopes is called "radioimmunotherapy". A monoclonal antibody is attached to the radioisotope and the combination is then directed at a particular antigen or cancer cell. This is much easier on the patient because the cancer cells are selectively destroyed without causing the damage to healthy surrounding tissue that is usually seen with conventional radiation therapy. There are fewer side effects and cancers, which do not lend themselves to a surgical solution (like cancers of the liver and pancreas), can be treated in this manner.

The National Association of Cancer Patients has said "One thousand five hundred cancer patients die EVERY DAY in this country. This is the equivalent of three fully loaded Boeing 747s crashing to the earth every single day, killing every one on board." "Medical isotopes could be a therapy for an estimated one million of the 1.3 million Americans who will be diagnosed with cancer this year, and who could benefit from this kinder, gentler treatment." Cancer patients everywhere are being refused treatment because the isotopes are back-ordered. As GERALD DE NARDO, M.D., Professor, University of California at Davis School of Medicine, has said, "It becomes impossible to look a patient in the eye when unsure whether the isotope would arrive and in sufficient amount."



Response to Commentor No. 1714

1714-1

1714-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1714: Lee Thornton and Karen Grant
Columbia Basin College (Cont'd)**

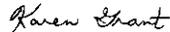
Last year there was an American Chemical Society Speaker Meeting in which Dr. Robert Schenter from PNNL gave a talk on medical isotopes and radiopharmaceutical applications. While we were not naive about some of these applications, we were astounded to see how many isotopes have been discovered and the diversity of illnesses for which they have been found to be effective. More are being discovered every day. But there are not enough available. FFTF is a unique facility which can generate many of these isotopes, some of which are not available from any other source. For this reason, Boston Children's Hospital, The National Association of Cancer Patients, and many other organizations and companies have called for the restart to FFTF. The operation of the reactor will not result in the generation of any significant amount of high-level waste. Only very small amounts of low-level waste that is easily treated will be generated. Beyond that, the reactor has been very carefully monitored according to strict NRC regulations and environmental standards.

In conclusion, we hope we have convinced you that FFTF should definitely be restarted as soon as possible and we appreciate your consideration of our input on this very important matter.

Sincerely,



Lee Thornton
President



Karen Grant
Interim Dean
Math/Science Division

**1714-1
(Cont'd)**

Response to Commentor No. 1714

Commentor No. 1716: Mike Steckline
Columbia Basin Manufacturing Services, Inc.

Response to Commentor No. 1716

Draft PEIS Comment Form

The potential for a near and bright future is at hand for the Tri-City community and our United States if we focus on the FFTF and the quality infrastructure of people, educational attainment, and direct benefits of Nuclear Medicine.

The Hanford Site is being cleaned up & the need for skilled workers will migrate to other regions within our country as in the past years of this project.

But the focus of a win-win can be attained by re-deploying our area resources that in turn, make good business sense in utilizing this incredible National Asset.

Mike Steckline

There are several ways to provide comments on the Nuclear Infrastructure PEIS. These include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting or to the address below
- calling toll-free and leaving your comments: 1-877-562-4593
- faxing your comments toll-free to: 1-877-562-4592
- commenting via e-mail: Nuclear.Infrastructure.PEIS@hq.doe.gov

Name (optional): Mike Steckline
 Organization: Columbia Basin Manufacturing Services Inc.
 Home/Organization Address (circle one):
1607 Sanford Ave.
 City: Richland State: WA Zip Code: 99352
 Telephone (optional): 509-943-6998
 E-mail (optional): _____

COMMENTS MUST BE POSTMARKED BY September 11, 2000

For more information contact: Collette E. Brown, NE-50
 U.S. Department of Energy • 19901 Germantown Road • Germantown, MD 20834
 toll-free telephone: 1-877-562-4593 • Toll-free Fax: 1-877-562-4592
 E-mail: Nuclear.Infrastructure.PEIS@hq.doe.gov



7/12/00

1716-1

1716-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

S

I

L

P

Commentor No. 1717: Diana Fassino

Diana Fassino
PO Box 4313
Ketchum
Idaho 83340

dianaf@micron.net

September 4 2000.

Dear Ms. Brown,

Though I suspect that the voices of ordinary citizens go unheard and ignored in today's 'democracy', conscience obliges some of us continue to write our letters and voice our views in the faint hope that enough of us might one day make a tiny, miraculous difference.

My letter today concerns grave concern over the proposed use of Building 666 at the INEEL to produce unnecessary and highly dangerous Plutonium-238. Building 666 should be decommissioned in the least hazardous way possible and this plan should be abandoned.

Please use your influence to discourage this dangerous idea.

Yours sincerely,



Diana Fassino.

Response to Commentor No. 1717

1717-1

1717-1: 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 comments received from the public.

1717-2

1717-2: Building CPP-666 is divided into two parts, the Fuel Storage Facility and the Fluorinel Dissolution Process Facility (FDPF). The FDPF is under consideration in this PEIS for storage of neptunium-237 oxide, preparation of neptunium-237 targets, and separation of plutonium-238 from irradiated targets. DOE believes that this facility will meet, with further analysis and/or minor modifications, the criteria to safely conduct these processes.

Commentor No. 1718: Helen Wheeler Hastay

Superior WA
July 16, 2000

Heart of America NW
1305 - 4th Ave. Suite 208
Seattle WA 98101-9409

Att: Pamela Taylor

One bit of scientific information that I find unforgettable is, "like the fresh water Earth will soon have, it no longer!"

So why are the people and agencies who have the means to control the purity of our water so intent on depleting it the Columbia, one of the great rivers of the world?

The British company hired to clean up the mess left by the mismanagement of plutonium during World War II, has just packed up and gone home. Now, billions of dollars poured and another waste clean up and the government proposes to build an even greater nuclear waste dump on the just few blocks of Superfund. The degradation already inflicted on this once beautiful land is obvious.

When our shore and waters were on the banks of the Columbia, pure water was there for drinking, swimming and boating. Freshwater shapies beach have been seen. So what about all the pure water from the one stream source? The stunning water we find out where you consider that even when natural water is 19 ft. all day is sandy brown.

North Washington's clean shoreline almost was once known to the best fruit orchards and vineyards in the state. They grew the golden apples and many experimental fruit varieties, grape apples, pears, plums, cherries, apricots and grapes - many a variety of such. For them they were approved. But, still of which went to the banger, and that too against the law.

When ten people were swimming in the river, Newport, the U.S. and the navy, walked the river bank. For them they were approved. I went to look at the destruction.

Sincerely yours
Helen Wheeler Hastay

1718-1

Response to Commentor No. 1718

1718-1: DOE notes the commentor's concerns regarding the existing cleanup mission at Hanford and the risk of contamination to the Columbia River. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. DOE intends to meet its tank waste cleanup commitments despite the departure of one contractor. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement.

The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities. 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.

No food or water restrictions are currently in place outside the Hanford Reservation as a result of Hanford activities.

Draft PEIS Comment Form

I support the selection of the FFTF as the preferred alternative to meet the pressing United States needs for research and medical isotopes.

1719-1

1719-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

There are several ways to provide comments on the Nuclear Infrastructure PEIS. These include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting or to the address below
- calling toll-free and leaving your comments: 1-877-562-4593
- faxing your comments toll-free to: 1-877-562-4592
- commenting via e-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov

Name (optional): *Wilson E. Murray*

Organization: _____

Home/Organization Address (circle one): *151 N. Bishop Ave.*

City: *Clifton Heights* State: *Pg* Zip Code: *19018*

Telephone (optional): *610 623 4365*

E-mail (optional): _____

COMMENTS MUST BE POSTMARKED BY September 11, 2000

For more information contact: Colette E. Brown, NE-50
U.S. Department of Energy • 19901 Germantown Road • Germantown, MD 20874
Toll-free telephone: 1-877-562-4593 • Toll-free fax: 1-877-662-4592
E-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov



7/12/00



Commentor No. 1720: Jean MacGregor

Jean MacGregor
533 Olmstead Lane SW
Olympia, WA 98512

September 11, 2000

Colette E. Brown, NE-50,
US Dept. of Energy
19901 Germantown Rd.
Germantown, MD 20874

Dear Ms. Brown,

I am writing regarding the proposed restart of the Fast Flux Test Facility at the Hanford Nuclear Reservation. I would like to go on record supporting Option 5, "to permanently deactivate the FFTF with no new missions."

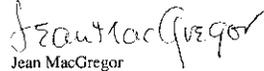
It strikes me that the financial investment by the federal government in this unneeded facility amounts to little more than a "jobs bill." If the federal government wants to pump more money into the Tri-Cities area of Washington State, it should fund additional clean-up, not another dangerous reactor of highly questionable need. It is widely known that Hanford is the most highly contaminated nuclear site in the western world – why not clean it up?!

Restarting FFTF would produce new high level radioactive waste streams. Permanently shutting down the FFTF is part of the 1989 Tri-Party Agreement between USDOE, EPA and WA Ecology – why go back on that to restart the FFTF? Just keeping the FFTF on hot standby for four years has cost over \$40 million per year, money deeply needed for clean-up.

Knowledgeable groups such as The Washington State Medical Association, WA Academy of Family Physicians and the Physicians for Social Responsibility/National have all passed resolutions opposing the restart of the FFTF. Who is the constituency who wants this FFTF and why? No compelling case can be made for the need for it, other than "jobs." Surely, the federal government can find pork barrel projects that are safer than the FFTF.

The legal mission of Hanford is and should continue be environmental clean-up. Any option besides Option 5 would represent a HUGE step backward.

Sincerely,


Jean MacGregor

1720-1

1720-2

1720-3

1720-2

1720-4

1720-2

Response to Commentor No. 1720

1720-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

1720-2: DOE was tasked by Congress in the Atomic Energy Act of 1954, as amended, to "ensure the availability of isotopes for medical, industrial, and research applications, meeting the nuclear material needs of other federal agencies, and undertaking research and development of activities related to development of nuclear power for civilian use." The purpose of this PEIS is to determine the environmental and other impacts to accomplishing this mission from all reasonable existing and new DOE resources. The FFTF at the Hanford Site was one of several existing DOE resources that was assessed for this mission.

DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. A Tri-Party Agreement change was made to place the milestones for FFTF's permanent deactivation in

Commentor No. 1720: Jean MacGregor (Cont'd)

Response to Commentor No. 1720

abeyance until the DOE reaches a decision on whether the facility will be used to meet mission needs. Public meetings were held on this formal milestone change.

The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the 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 by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

1720-3: As identified in Section 4.3.1.1.13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35 year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. High-level radioactive waste would not be generated from merely operating FFTF. It is DOE's policy that all wastes be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.

The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision.

1720-4: DOE notes the commentor's opinion that there is no need to restart FFTF. Consistent with its mandates under the Atomic Energy Act, DOE seeks to maintain and enhance its infrastructure for the purposes of addressing three primary needs: 1) to support the need for increased domestic production of isotopes for medical, research,

Commentor No. 1720: Jean MacGregor (Cont'd)

Response to Commentor No. 1720

and industrial uses, as initially identified by a panel of experts in the medical field and reaffirmed by the Nuclear Energy Research Advisory Committee; 2) to support future NASA space exploration missions by re-establishing a domestic capability to produce plutonium-238, a fuel source that is required for deep space missions and which the U.S. has no long-term, assured supply; and 3) to support civilian nuclear research and development needs in order to maintain the clean, safe, and reliable use of nuclear power as a viable component of the United States' energy portfolio. Section 1.2 of Volume 1 was revised to clarify the purpose and need of the proposed action. Socioeconomic impacts associated with the restart of FFTF, including those related to jobs, are discussed in Section 4.3 of Volume 1.

Commentor No. 1721: Mary Susan Zotter

Response to Commentor No. 1721

Draft PEIS Comment Form

I am opposed to restart of the FFTF at Hanford because Hanford is a mess already & the worst toxic waste site in the Western Hemisphere. The US DOE must live up to its promise to shut FFTF for good and use funds saved on cleanup.

FFTF is not considered a viable long-term source for medical research, radioisotopes, according to the Department's own medical advisory committee. There are other sources available. And NASA has no need to purchase Plutonium 238 for space missions, used to justify restarting FFTF.

Citizens of the Northwest have voiced their concerns about FFTF over and over and have made it clear that Hanford must be shut down and cleaned up!

There are several ways to provide comments on the Nuclear Infrastructure PEIS. These include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting or to the address below
- calling toll-free and leaving your comments: 1-877-562-4593
- faxing your comments toll-free to: 1-877-562-4592
- commenting via e-mail: NuclearInfrastructure-PEIS@hq.doe.gov

Name (optional): Mary Susan Zotter

Organization: _____

Home/Organization Address (circle one): _____

2403 SW Thomas

City: Portland State: OR Zip Code: 97221

Telephone (optional): _____

E-mail (optional): SUSZOT@aol.com

COMMENTS MUST BE POSTMARKED BY September 18, 2000

For more information contact: Collette E. Brown, NE-60
U.S. Department of Energy • 19501 Germantown Road • Germantown, MD 20874
Toll-free Telephone: 1-877-562-4593 • Toll-free Fax: 1-877-562-4592
E-mail: NuclearInfrastructure-PEIS@hq.doe.gov



7/12/00

1721-1

1721-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1721-2

1721-2: DOE notes the commentor's concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

1721-3

1721-4

1721-2

1721-3: The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost-efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities.

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT



Commentor No. 1721: Mary Susan Zotter (Cont'd)

Response to Commentor No. 1721

1721-4: The May 22, 2000, correspondence from NASA to DOE identifies that NASA 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, the suspension of SRTG development efforts was conducted in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence, requires 1/3 less plutonium as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000 letter to DOE that the plutonium 238 needed for large RTG may be maintained as a backup.

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. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

Commentor No. 1722: K. K. S. Pillay

Dr. Colette E. Brown
NE-50
Office of Nuclear Energy, Science and Technology
U.S. Department of Energy
19901 Germantown Road
Germantown, MD 20874

September 12, 2000

Dear Dr. Brown:

Subject: Draft NI PEIS

The Draft Programmatic Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production in the United States is a welcome sign. The issues discussed in this document have been the topics of public discussion for the past two decades and various Departments of DOE have conducted numerous studies that are collecting dust. Among the most recent are a report prepared by DOE/EM in 1999 (Nuclear Material Integration - Master Materials Management Plan) and another report to the U.S. Congress in June 2000 by the Secretary of Energy ("A Strategic Approach to Integrating the Long-Term Management of Nuclear Materials.") It is the ardent hope of many in the technical community that this PEIS does not suffer the indignities of all previous efforts to get DOE to move forward on issues identified in the title to the PEIS.

The DOE has rightly addressed in detail the need for isotopes for medical applications, which is most popular among the public and the problem that needs immediate attention. A judicious combination of alternatives 1 and 4 are sensible choices and are in the best interests of the nation. The restart of FFTF has significant importance to the future of nuclear science and technology in the U.S. and it would be the proper use of investments already made in FFTF and the adjacent "Secure Automated Fuel Fabrication Facility.. The construction of new accelerator facilities dedicated for isotope production at Los Alamos and Brookhaven National Laboratories are also appropriate measures to meet the demands of some special isotopes. However, reactor-produced isotopes are the bulk of isotopes used in the U.S. and immediate remedies are necessary to fill the growing needs in this area. This is where a proper combination of alternatives 1 and 4 becomes most desirable.

In addition to these facilities required for isotope production, the DOE should simultaneously initiate an effort to identify and preserve a number of valuable nuclear materials within the weapons complex that are identified as excess to national security. These include certain medical isotopes, a variety of sealed sources (used in metrology,) and high curie-content separated fission product sources. Specifically, it is essential to identify and store the following materials for future use: (1) aged purified natural thorium, (2) aged purified ^{233}U , (3) aged highly enriched ^{235}U , (4) ^{229}Ra , (5) certain sealed sources and standards, (6) most of the high curie-content ^{137}Cs and ^{90}Sr .

Response to Commentor No. 1722

1722-1

1722-1: DOE notes the commentor's support for a combination of Alternative 1, Restart FFTF and Alternative 4, Construct New Research Reactor. As noted in Section 1.3 of Volume 1, DOE could choose to combine components of different alternatives in selecting the most appropriate strategy. The commentor should also note that if the Alternative 1 is selected in the Record of Decision, the Fuels and Materials Examination Facility (i.e., Secure Automated Fuel Fabrication Facility) could also be used, depending on which option is selected. The FMEF could also be utilized for a number of other alternatives/options (see Table 2-3).

1722-2

1722-2: DOE notes the commentor's concern for identifying and preserving valuable nuclear materials for future use, although this issue is beyond the scope of this Nuclear Infrastructure PEIS. DOE recently made a decision to use a facility at ORNL to retain the uranium-233 inventory to be used for extraction of useful isotopes.

Commentor No. 1722: K. K. S. Pillay (Cont'd)

Dr. Colette E. Brown
NE-50

September 12, 2000

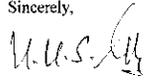
Page-2

Office of Nuclear Energy, Science and Technology

Another unmet need addressed in the PEIS is the need for a reliable source of ^{238}Pu . The need for ^{238}Pu as a reliable source of thermoelectric power for extended space missions and a variety of terrestrial applications are mentioned in the PEIS. This problem can be solved by creatively using two other isotopes available within the DOE complex— ^{237}Np and ^{241}Am —that are considered excess to national security. Both these isotopes can be readily converted into ^{238}Pu via neutron irradiation. FFTF or a new high-flux reactor facility are the ideal choices for meeting this national need. Relying on potential supplies from outside the U.S. is certainly not a good alternative or a defensible national strategy.

The Draft PEIS contains several references to opposition from the Hanford Community to reopen FFTF and other communities for establishing new facilities and operations. This is solely due to the past record of DOE in not being a responsible environmental steward. It is also true that during the late 80's DOE made many negotiated agreements with the States and they are considered obstacles to restarting or using facilities. Recognizing the past performance of DOE, it is essential to develop a new strategy to take the community into confidence and make them an integral part of decision making. This strategy, combined with open discussions of the benefits of nuclear technologies can go a long way in achieving the goals of the NI PEIS.

Sincerely,



(K. K. S. Pillay)
369 Cheryl Avenue
Los Alamos, NM 87544

1722-3

1722-4

Response to Commentor No. 1722

1722-3: DOE notes the commentor's support of creating a U.S. capability to produce plutonium-238 and not relying on foreign sources. DOE prefers the use of neptunium-237 for conversion into plutonium-238 for technical and cost reasons.

1722-4: DOE notes the commentor's views and observations. DOE is committed to discharging its responsibilities in an open and unbiased manner and providing the public with comprehensive environmental reviews of its proposed actions. 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. In preparing the Final NI PEIS, DOE carefully considered comments received from the public.

Commentor No. 1724: May Hays

Response to Commentor No. 1724



Draft PEIS Comment Form

Dear Sir,
Please restart FFTE for medical isotopes. We need this for our country.
Sincerely,
May Hays
1915 Dupont Circle
Washington, DC, USA
775
509-943-9023

1724-1

1724-1: DOE notes the commentor's support for Alternative 1, Restart FFTE.

There are several ways to provide comments on the Nuclear Infrastructure PEIS. These include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting or to the address below
- calling toll-free and leaving your comments: 1-877-562-4593
- faxing your comments toll-free to: 1-877-562-4592
- commenting via e-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov

Name (optional): _____
 Organization: _____
 Home/Organization Address (circle one): _____
 City: _____ State: _____ Zip Code: _____
 Telephone (optional): _____
 E-mail (optional): _____

COMMENTS MUST BE POSTMARKED BY September 11, 2000

For more information contact: Colette E. Brown, NE-50
 U.S. Department of Energy • 19501 Germantown Road • Germantown, MD 20874
 Toll-free Telephone: 1-877-562-4593 • Toll-free Fax: 1-877-562-4592
 E-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov



7/12/00

Commentor No. 1725: Carl M. Clemons

September 9, 2000

Colette E. Brown, NE_50 U.S. Department of Energy Office of Nuclear Energy, Science and Technology 19901 Germantown Road, Room A_270 Germantown, MI) 20874

To Ms. Brown, Sec. Richardson, and members of the Nuclear Infrastructure PEIS Team:
Comments on the draft NI PEIS:

I support Alternative 5, the complete and permanent deactivation of the FFTF, for the following reasons:

The Hanford Nuclear Reservation is already a site highly contaminated with nuclear waste. The only mission for Hanford should be the cleanup of the existing nuclear contamination. No new production of nuclear materials at Hanford should be considered in light of the past history of problems with leakage of waste at that site; some experts have stated that Hanford can never be completely cleaned up. Plutonium has been accidentally released into the air twice since 1997 at Hanford; tests have confirmed this, even though the DOE initially denied it. This poses an unacceptable risk, especially in light of the fact that there are major population centers downwind of Hanford.

Restarting the FFTF will undoubtedly involve draining funds from the cleanup budget, even though some DOE officials have said that this won't happen. The reality is that the DOE does not have an unlimited budget, so the funds have to come from someplace. Restarting the FFTF is by itself a violation of the Tri-Party Agreement to deactivate, decommission, and clean up Hanford, but if cleanup funds were used to finance the restart that would constitute an additional violation of the agreement.

Owing to its proximity to the Columbia River and the Hanford Reach National Monument with its rich biological diversity, including important salmon spawning grounds, Hanford is an extremely poor location for a nuclear facility. There are other DOE nuclear facilities

1725-1

1725-2

Response to Commentor No. 1725

1725-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

1725-2: The commentor's concerns regarding the existing cleanup mission at Hanford are noted. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement.

DOE does not conceal releases of radioactive or hazardous materials at the Hanford Site or any other site under DOE's authority. No radioactive materials were "released" in the Hanford Wildfires of 2000. Wildfires did resuspend some materials already in the environment. The amount of resuspended materials were slightly above natural background levels. Because the amount of suspended material was so small, several days of analysis to required to quantify the amount. As discussed in Chapter 4 of Volume 1, implementation of the alternatives described in Section 2.5 of Volume 1 would pose no significant risk to human health or the environment.

Hanford Site cleanup is funded through the Environmental Management Program Office. The stated missions considered in this PEIS would be funded through the Office of Nuclear Energy, Science and Technology, which has no funding connection to cleanup activities. Implementation of Alternative 1, Restart FFTF, would have no effect on funding for the Hanford Site cleanup.

A Tri-Party Agreement change was made to place the milestones for FFTF's permanent deactivation in abeyance until the DOE reaches a decision on whether the facility will be used to meet mission needs. Prior public meetings were held on this formal milestone change. FFTF restart would not impact ongoing cleanup missions at Hanford.

The commentor's concerns about the Columbia River and the Hanford Reach National Monument are noted. As discussed in

Commentor No. 1725: Carl M. Clemons (Cont'd)

that are much better situated and far safer, and are therefore much better choices for the production of nuclear materials.

**1725-2
(Cont'd)**

Many other DOE facilities are only running at 50% capacity, so arguments that the FFTF at Hanford is needed to fill any present or projected demand for medical isotopes, Plutonium_238 for space missions, or any other nuclear materials, simply do not hold up.

1725-3

I support NASA and the exploration of space, but not at the expense of the environment here on Earth. If NASA had to scrap space missions because Hanford was not producing Plutonium_238, then so be it; however, that scenario is highly unlikely since other DOE facilities or foreign sources can fill the need.

1725-4

Medical isotopes are commercially available and are being produced at medical facilities and universities that have such production capability, including many in Canada. The DOE's projected demand for such isotopes is highly inflated, especially considering that non_nuclear alternatives to cancer treatment are being developed and are expected to become available very soon.

1725-5

The FFTF at Hanford is poorly suited for the production of research radioisotopes. Such isotopes are typically produced in small quantities at irregular intervals; the FFTF cannot do this cost effectively, since it was not designed for that type of production, but rather for large_scale, continuous production.

Thank you for the opportunity to comment on the draft NI PEIS.

Sincerely,

Carl M. Clemons
47100 SE Pheasant Meadow Rd.
Sandy, OR_97055

Response to Commentor No. 1725

Chapter 4 of Volume 1 and Appendixes H and I, implementation of the Alternatives would pose no significant threat to the Columbia River or the Hanford Reach National Monument.

The commentor's position on using sites other than Hanford for the production of plutonium-238 and other isotopes is noted.

1725-3: Currently, approximately 50 percent of DOE's medical isotope production capacity is being used. Much of the remaining medical isotope production capacity is dispersed throughout the DOE complex. This capacity supports secondary missions, but cannot be effectively used for medical isotope production due to the operating constraints associated with the facilities' primary missions (basic energy sciences or defense). The 50 percent capacity does not refer to plutonium-238 production or nuclear research and development needs.

1725-4: DOE notes the commentor's opposition to the production of plutonium-238 at Hanford for use in NASA space missions. As observed by the commentor, 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. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

1725-5: DOE acknowledges the difficulty in reliably predicting isotopic needs for future uses in research and medicine. DOE has sought independent analysis of trends in the use of medical radioisotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it has established two expert committees. The first, a thirteen-member Expert Panel convened in 1998 to forecast future demand for medical isotopes, included academicians from leading medical universities and schools of public health, and professional affiliations ranging from the National Cancer Institute to manufacturers of radiopharmaceuticals. The second consists of a subcommittee of DOE's Nuclear Energy Research Advisory Committee (NERAC), established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. The members of this

Commentor No. 1725: Carl M. Clemons (Cont'd)

Response to Commentor No. 1725

Subcommittee were selected based upon their expertise and experience in the production, processing, distribution, and application of stable and radioactive isotopes in the biological and physical sciences, and in medicine. The members included basic and clinical scientists, administrators, and users of isotopes from academia, industry, and the federal government.

In 1998, the Expert Panel estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. 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. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs.

In ongoing clinical testing, therapeutic isotopes have proven effective in treating cancer and other illnesses by cell-directed localized radiation therapy (i.e., deploying antibodies or carriers of radioisotopes to seek and destroy invasive cancer cells). This directed therapy can minimize adverse side effects (e.g., healthy tissue damage, nausea, hair loss), making it an effective, attractive alternative to traditional chemotherapy or radiation treatments.

The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. However, Canada 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. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements.

Commentor No. 1725: Carl M. Clemons (Cont'd)

Response to Commentor No. 1725

Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs.

The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost-efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities.

Commentor No. 1726: Gene and Marilyn Derig

Dear Ms Brown: 9/13/00
 5:11 PM

It seems that every few months we have to write our Senators or Representatives or the Head of a Department and ask that FFTF be shut down.

The arguments for restarting FFTF don't stand up at all against contrary evidence.

Rather than write down the reasons for not starting FFTF again, we will just say our position is: "Close It Down". You know the reasons, we know the reasons.

Thank you for your time.

Sincerely,


 GENE and MARILYN DERIG
 P.O. Box 341
 Anacortes, WA 98221

1726-1

Response to Commentor No. 1726

1726-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

Commentor No. 1728: Heather Hopkins

Response to Commentor No. 1728

Draft PEIS Comment Form

Doing anything at the Hanford site besides the clean-up that was agreed to is a crazy idea.

Everything that you propose is frivolous, unnecessary and serves only your interests. We the people DEMAND that you choose:

Alternative #5
 SHUT DOWN FFTF

Thank you,
 Heather Hopkins

There are several ways to provide comments on the Nuclear Infrastructure PEIS. These include:

- attending public meetings and giving your comments directly to DOE officials
- returning this comment form to the registration desk at the meeting or to the address below
- calling toll-free and leaving your comments: 1-877-562-4593
- faxing your comments toll-free to: 1-877-562-4592
- commenting via e-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov

Name (optional): Heather Hopkins

Organization: _____

Home/Organization Address (circle one): PO Box 891

City: The Dalles State: OR Zip Code: 97058

Telephone (optional): _____

E-mail (optional): zejila@hotmail.com

COMMENTS MUST BE POSTMARKED BY September 18, 2000

For more information contact: Colette E. Brown, NE-50
 U.S. Department of Energy • 19901 Germantown Road • Germantown, MD 20874
 Toll-free telephone: 1-877-562-4593 • Toll-free fax: 1-877-562-4592
 E-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov



7/12/00

1728-1

1728-1: DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert objective advice regarding the future form of its isotope research and production activities. 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. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs.

1728-2

Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining the capability to provide the plutonium-238 needed to support these missions. There are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions. Although research to identify other potential fuel sources to support these space exploration missions has been conducted, no viable alternative to using plutonium-238 has been established. Based on NASA guidance



Commentor No. 1728: Heather Hopkins (Cont'd)

Response to Commentor No. 1728

to DOE on the potential use of radioisotope power systems for upcoming space missions, it is anticipated that the existing plutonium-238 inventory will be exhausted by approximately 2005. Without an assured domestic supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

In January 1997, President Clinton tasked his Committee of Advisors on Science and Technology (PCAST) to evaluate the current national energy research and development portfolio and to provide a strategy that ensures the United States has a program to address the Nation's energy and environmental needs for the next century. In its November 1997 report responding to this request, the PCAST Energy Research and Development Panel determined that restoring a viable nuclear energy option to help meet our future energy needs is important and that a properly focused research and development effort to address the potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) was appropriate. The PCAST panel further recommended that DOE reinvigorate its nuclear energy research and development activities to address these potential barriers. Section 1.2.3 provides information on the nuclear energy research and development mission.

1728-2: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

Commentor No. 1729: Dorothy Perry

Dear MS Brown.

I am a long time resident of the City of Richland, WA. I am totally in favor of restarting the FFTF reactor. It would be a total waste of government funds not to use this reactor for what ever purposes that it can be used for. To make Medical Isotops to fight cancer would be wonderful. Cancer is such a dreadful disease. Chemo Threapy is almost as bad as the disease.

Sincerely,,



1729-1

Response to Commentor No. 1729

1729-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1730: Andrea Faste

Andrea M. Faste
7713 11th Ave. NW
Seattle, WA 98117

Sept. 12, 2000

Colette E. Brown
US Department of Energy
NE-50
19901 Germantown Road
Germantown, MD 20874-1290

Dear Ms. Brown:

Please listen to the many citizens of Washington State who are appalled at the idea of restarting the Fast Flux Reactor at Hanford. We are very frustrated that the clean-up effort so necessary at the existing plants keeps getting side-tracked as plans are put forth to bring yet more high level waste to the Hanford reservation. We are concerned that the EIS for the restart fails to take into account the availability of nuclear isotopes from other sources for medical research, and that we have plenty of plutonium already. What worries us is the inability of the DOE to get on with the clean-up, which was promised, even signed into agreement with the State of Washington, years ago. Now there are reports that leaks from the old Hanford are creeping into the ground water and heading toward the Columbia River.

Let us turn from the false hope of good jobs if the region is put in environmental jeopardy. Noone wants to see the future of central Washington turn as bleak as that of the fields surrounding Chernobyl.

Sincerely,



Andrea Faste
(a concerned citizen west of the Cascades)

|| 1730-1
|| 1730-2
|| 1730-3
|| 1730-4
|| 1730-5

Response to Commentor No. 1730

1730-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1730-2: The commentor's concerns regarding the existing cleanup mission at Hanford are noted. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site.

A Tri-Party Agreement change was made to place the milestones for FFTF's permanent deactivation in abeyance until the DOE reaches a decision on whether the facility will be used to meet mission needs. Prior public meetings were held on this formal milestone change. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the 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 by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

As discussed in Chapter 4 of Volume 1, implementation of the alternatives described in Section 2.5 of Volume 1 would have no significant effect on groundwater at candidate sites or the Columbia River.

1730-3: Sections 4.3.1.1.13; 4.3.2.1.13; 4.3.3.1.13; and 4.4.2.1.13 were revised to clarify the waste management approach for waste resulting from processing target materials for plutonium-238 production.

1730-4: The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably

Commentor No. 1730: Andrea Faste (Cont'd)

Response to Commentor No. 1730

Canada. However, Canada 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. Further, supplies of many research isotopes are not readily available from existing foreign or domestic sources, causing a number of medical research programs to be terminated, deferred, or seriously delayed. As such, reliance on these other sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs.

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. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

Commentor No. 1731: Wallace P. Howell

1507 Putnam St.
 Richland, WA 99352
 Sept 11, 2000

Ms. Colette Brown
 DOE Office of Space and Defense Power Systems
 19801 Germantown Road
 Germantown, MD 20874-1290

Dear Ms. Brown:

Re: FFTF EIS

I strongly support the restart of the FFTF reactor facility, both for the production of medical and space mission isotopes, and for whatever other research missions might be suitable for this, our newest and most advanced nuclear reactor. It greatly distresses me that we are spending so much time and money in dealing with the latter-day Luddites who are opposing this.

I am a 79-year-old retired Certified Health Physicist who worked at Hanford from 1947 until 1986. That's 39 years, all of it in operational health physics. I was one of the original members of the Health Physics Society. I am profoundly disturbed by the sad disuse of nuclear technology in this country, while we still have the knowledge and a few outstanding facilities, like the FFTF, which can bring us enormous benefits, at moderate cost. The situation completely baffles me!

As I look at the technical situations around the world, I see other countries busily putting into practice technology which we invented. The vitrification and disposal of high-level nuclear waste readily comes to mind. We developed the technology thirty years ago, and it has been in use in France and Sweden since the mid-1970s. In the meantime, we sit on our National thumb, debating what to do with ours!

It's hard to believe that this is the same country that developed most nuclear technology, that went to the Moon a dozen times, that conceived and implemented the Internet, and that is now engaged (with Russia) in building an International Space Station.

That's how it looks from here, in the real world, not Foggy Bottom, Ms. Brown. I hope that you and your colleagues can help to bring the vision of the people in Foggy Bottom somewhat nearer to that of the real world, and help to get us back into real accomplishment in the nuclear field.

Yours Truly,



Wallace P. Howell, CHP

1731-1

1731-2

Response to Commentor No. 1731

1731-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

1731-2: DOE notes the commentor's concerns. It is DOE policy to encourage public input on matters of regional, national and international importance as part of its commitment to facilitate a public participation process that is open and unbiased.

Commentor No. 1732: Carol Sinclair

Heart of America Northwest

From: Carol Sinclair <carolsin@kcls.org>
To: <office@heartofamericanorthwest.org>
Sent: Thursday, August 24, 2000 4:23 PM
Subject: Attn: Danielle

I want to add my voice to those at the hearing on August 30 calling for the Department of Energy to abandon its latest plans in regard to the Hanford nuclear facility.

1) There is not a need to restart the FFTF. There is danger in the plutonium already found in the soil, and in trace amounts found in firefighters after the recent wildfire.

2) It is too risky to transport large amounts of nuclear waste by truck through the densely-populated urban area around Seattle. Do you know how impossible our traffic congestion is right now?

Please do the right thing, which is to put the safety concerns of our citizens first.

Sincerely,
Carol Sinclair
Seattle, WA

1732-1

1732-2

1732-3

Response to Commentor No. 1732

1732-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF. The need for the proposed action is addressed in Section 1.2 of Volume 1 of the PEIS. The role of FFTF in fulfilling that need is addressed in Section 2.5.2 of Volume 1.

1732-2: No radioactive materials were "released" in the Hanford Wildfires of 2000. Wildfires did resuspend some materials already in the environment. The resuspended materials were low, slightly above natural background levels. The low levels required several days of analysis to quantify.

No firefighters working the Hanford wildfires of 2000 tested positive for radioactive material uptakes.

1732-3: It is not anticipated that wastes from the proposed facilities would be transported through the Seattle area. However, any waste transported from candidate sites would be subject to regulation by the U.S. Department of Transportation (DOT) and the U.S. Nuclear Regulatory Commission (NRC). Population densities and traffic congestion are factors that were considered during the development of the DOT and NRC regulations that apply to transportation of radioactive and hazardous materials.

Commentor No. 1733: Jean T. Carpenter

September 12, 2000

Colette Brown
Office of Space & Defense Power Systems
US Dept of Energy
19901 Germantown Rd
Germantown MD 20874

Dear Colette Brown,

I realize that there have been hearings about the possibility of restarting the FFTF in Hanford, WA.

I realize, too, that there is a great need for jobs, the economic situation in Central Wa is perhaps far from great -- we're certainly struggling greatly with lack of work & business opportunities here in Okanogan Cty -- but the LAST way I see as doing anything positive is creating still more poisonous wastes in a place that is already so polluted that it seems no one has the knowledge or the will or whatever it takes to really take hold and do something about it.

I ask that you use your position for the well-being of not only this entire area, but of the whole community of life, to prevent the FFTF from being restarted, to keep any kind of polluting wastes from being stored and Hanford, and to put whatever resources are needed to clean up once and for all a place that threatens the health of us all.

Thank you for doing your best to act on this urgent issue.

Sincerely,



Jean T Carpenter
514 S Ash
Omak WA 98841
509-826-6742

Response to Commentor No. 1733

- 1733-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.
- 1733-2:** DOE notes the commentor's concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement.

The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the 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 by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

More specific to the DOE missions in the NI PEIS, the environmental impacts associated with operation of the FFTF and support facilities at Hanford during normal operations and from postulated accidents are presented and discussed in Section 4.3 of Volume 1 of the NI PEIS. All impacts to human health and to ecological resources would be small in the immediate area of the Hanford Site and negligible at all distant locations.

In regards to waste, the NI PEIS addresses the environmental impacts due to the treatment, storage, and disposal of the waste generated for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision. The waste generated from any of the proposed alternatives in the NI PEIS will be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and appropriate DOE orders.

1733-1

1733-2

Commentor No. 1734: Catherine Pearsall



Catherine Pearsall
711 Riverside Drive
West Richland, Washington 99353

September 9, 2000

Ms. Colette Brown
Department of Energy
19901 Germantown Road
Washington DC 20874

Dear Ms. Brown,

RESTART OF FAST FLUX TEST FACILITY (FFTF) FOR PRODUCTION OF MEDICAL ISOTOPES

I am a constituent in Eastern Washington State. I truly believe the Fast Flux Test Facility (FFTF) should be restarted by the Department of Energy (DOE) for production of medical isotopes. It can uniquely provide a wide variety of high-grade isotopes, some of which cannot currently be produced in the U.S. In addition, FFTF has the capacity to produce 2-3 times more medical isotopes than all other reactors in the nation combined. We need to be ready to supply large quantities of medical isotopes to cancer centers around the nation. At a minimum many of our fellow citizens are suffering with cancer and doctors need these products to help in curing or developing a cure for cancer.

So, lets use this operational facility, not throw it away as we have done so many others (i.e. the Supercollider) just for the sake of political capital. I know there is much opposition from Western Washington State, however, I believe much of what they don't want has to do with the fact they are making judgements based on inaccurate publicity and not sound science.

Please restart the FFTF. It would be a great tragedy if we allowed this resource to be permanently shutdown.

Sincerely,


Catherine Pearsall
Richland, WA

1734-1

1734-1

Response to Commentor No. 1734

1734-1: DOE notes the commentor's support for Alternative 1, Restart FFTF. The commentor should note that while the FFTF has a large volume available for the production of isotopes, it cannot produce 2 to 3 times more medical isotopes than all other reactors in the nation combined.

Commentor No. 1735: Anonymous

September 15, 2000

Ms. Colette Brown,
PEIS Document Manager,
Office of Nuclear Energy, Science and Technology,
U.S. Department of Energy
NE-50
19901 Germantown Road
Germantown, Maryland 20874-1290

Please accept the attached document for the record of the PEIS on isotope production. Canadian production of isotopes and the ability of Canadian sources to meet U.S. needs should be fully discussed in the final PEIS and should bear on any decision to restart the FFTF, a reactor not designed for efficient production of medical isotopes.

As the U.S. Department of Energy, via Argonne National Laboratory, is working with MDS Nordion to convert its medical production reactors at Chalk River, Canada from highly enriched uranium (HEU) to low-enriched uranium (LEU), the role of Argonne in isotope production worldwide should be included in the final PEIS. Argonne's work with Nordion and Atomic Energy of Canada Ltd. has a direct bearing on U.S. isotope use and should be fully discussed in the final PEIS.

For further information on MDS Nordion, go to <http://www.nordion.com>.

1735-1

Response to Commentor No. 1735

1735-1: The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. However, Canada 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. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirement. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs. DOE's assistance to Canada in reactor conversions is not within the scope of the NI PEIS.

DOE acknowledges that the FFTF's large size and configuration are not particularly well suited for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of the FFTF for the production of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report, "NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000," states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production". In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates use of the FFTF when coupled with the other proposed missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without disturbing the existing missions of these facilities.

Commentor No. 1737: Richard B. Parkin
U.S. EPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

SEP 19 2000

Reply To
Attn Of: ECO-088

Ref: 00-004-DOE

Colette E. Brown, NE-50
U.S. Department of Energy
19901 Germantown Road
Germantown, MD 20874

Dear Ms. Brown:

We have reviewed the draft programmatic Environmental Impact Statement (EIS) 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* (CEQ# 000258) in accordance with our responsibilities under the National Environmental Policy Act and §309 of the Clean Air Act. The draft EIS addresses a mission to increase the availability of medical and industrial isotopes to accommodate future projected needs in diagnostic and therapeutic medicine, the space program, and civilian energy research and development. Alternatives presented in the draft EIS include the no action, restarting the Fast Flux Test Facility (FFTF) at Hanford, using existing DOE facilities, constructing new accelerator(s), constructing a new research reactor, and permanently deactivating the FFTF.

We have rated the draft EIS, EC-2 (Environmental Concerns-Insufficient Information) We have attempted to weigh the benefits that would arise from adopting action alternatives against the environmental consequences occurring with their adoption when assigning our rating. To a large extent, a lack of information in the draft EIS was the basis for our environmental concerns.

Information we found lacking in the EIS includes

- a compelling case that a need will arise in the future for plutonium-238 and medical and industrial isotopes;
- site-specific impacts from proposals to construct and operate accelerator(s) or a research reactor (the absence of this information prevents us and other readers from judging the environmental acceptability of these proposals);
- a demonstration that proposed action would be consistent with achieving the future land use designations that are directing Superfund clean-up efforts, especially in the 300 area in Hanford;
- assurances that funding for these proposals would not be from monies presently earmarked for clean-up; and
- the rationale for including an alternative for decommissioning the FFTF since it does not appear to address the stated purpose and need.

We are also concerned that the cost and non-proliferation reports were not made available to the public until well into the comment period on the draft EIS. We believe that the Department of Energy (DOE) should have released this information as part of the draft EIS and that its late release limits the ability of the public to comment on elements important to this decision. Moreover, we are concerned that DOE released cost and non-proliferation reports late in the draft EIS process on its

Printed on Recycled Paper

Response to Commentor No. 1737

1737-1: The commentor's views are noted. Sections 1.2.1 and 1.2.2 of Volume 1 provide a description of the need for production of medical and industrial isotopes and plutonium-238, respectively. DOE could purchase plutonium-238 from Russia to satisfy its near-term responsibility to supply NASA with plutonium-238 to support future space exploration missions. Under the current contract set to expire in 2002, the United States is authorized to purchase up to 40 kilograms of plutonium-238, with the total available for purchase in any one year limited to 10 kilograms. However, DOE does not stockpile large quantities of Russian plutonium-238 long in advance of needs due to budget constraints and the additional processing required to remove decay products that occur following extended storage of the material. To date, DOE has purchased approximately 9 kilograms of plutonium-238 under this contract. The environmental impacts associated with procurement of plutonium-238 from Russia are evaluated as an element of the No Action Alternative. Nonproliferation issues are addressed in a separate report, "Nuclear Infrastructure Nonproliferation Impact Assessment," September 2000.

Through a Memorandum of Understanding with NASA, DOE provides isotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining the capability to provide the plutonium-238 needed to support these missions. There are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions; no viable alternative to using plutonium-238 to support these missions currently exists. Based on NASA guidance to DOE on the potential use of radioisotope power systems for upcoming space missions, it is anticipated that the existing plutonium-238 inventory will be exhausted by approximately 2005. Without an assured domestic supply of plutonium-238, DOE's ability to support future NASA space exploration missions would be in jeopardy.

DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its

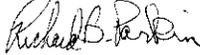
Commentor No. 1737: Richard B. Parkin (Cont'd)
U.S. EPA

2

last EIS, *The Treatment and Management of Sodium-Bonded Spent Nuclear Fuels*. We recommend that this information accompany the release of the draft EIS for future DOE projects.

Our rating and a summary of our comments will be published in the Federal Register. I have enclosed a copy of the rating system used in our review for your reference. I have enclosed a copy of the rating system used in our review for your reference and our detailed comments. I encourage you to contact Chris Gebhardt of my staff at (206) 553-0253 if you have any questions. Thank you for the opportunity to review this draft EIS.

Sincerely,



Richard B. Parkin, Manager
 Geographic Implementation Unit

enclosures

1737-6
(Cont'd)

Response to Commentor No. 1737

mandates under the Atomic Energy Act. In doing so, it established two expert committees. In 1998, an Expert Panel convened to forecast future demand for medical isotopes estimated that the expected growth rate of medical isotope use during the next 20 years will range between 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by DOE's Nuclear Energy Research Advisory Committee (NERAC), established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. The growth projections were also adopted by DOE 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.

The United States currently purchases approximately 90% of its medical isotopes from foreign producers, most notably Canada. Although other manufacturers produce medical isotopes, DOE remains the key provider for a large number of isotopes that are used in relatively small quantities by individual researchers at universities and hospitals. Because their application is initially experimental, these isotopes are not generally purchased in large-enough quantities to make their production financially attractive to private industry. However, supplies of many research isotopes are not readily available from existing domestic or foreign sources, causing a number of medical research programs to be terminated, deferred, or seriously delayed. Under the NI PEIS proposed action and consistent with its mandates under the Atomic Energy Act, DOE would enhance its existing nuclear facility infrastructure to, among other things, more effectively support production of isotopes for medical applications and research. DOE's intent is to complement commercial sector capabilities to ensure that a reliable supply of isotopes is available in the U.S. to meet future demand, and to encourage the commercial sector to privatize the production of isotopes that have established applications to a level that would support commercial ventures.

1737-2: DOE notes EPA's concerns. DOE used the generic site approach for Alternatives 3 and 4 in the absence of specific siting alternatives. This level of analysis is appropriate for a PEIS. Projected

Commentor No. 1737: Richard B. Parkin (Cont'd)
U.S. EPA

EPA's Detailed Comments on the Draft Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the U.S., Including the Role of the Fast Flux Test Facility

Consistency of Alternatives with Land Use Designations

We understand that the Hanford 300 area and the majority of potential sites for the proposed accelerator(s) and research reactor are on Superfund's National Priority List (NPL) and are undergoing clean-up. Clean-up activities are oriented toward meeting future land use designations. EPA, as overseer of Superfund activities on these sites, is concerned that proposals may inhibit efforts to clean-up Hanford's 300 area or other sites on the NPL to standards consistent with their designated future land uses. We strongly recommend that the EIS state whether alternatives occur in sites on the NPL, describe future use designations directing clean-up activities, and demonstrate that action alternatives are consistent with existing Superfund efforts to meet future land uses.

Budget Concerns

EPA is concerned about restarting the FFTF and building and operating an accelerator(s) or a research reactor because funds used for these new activities could potentially reduce the level of funding for clean-up at DOE sites. EPA fears that funding to operate the FFTF, and to an even greater extent, to construct and operate a new accelerator(s) or research reactor could divert clean-up funds from DOE's limited funding base. EPA, therefore, recommends that the EIS demonstrate that sufficient funding exists outside the clean-up budget to fund action alternatives one through four and that the Record of Decision commit to not using funds allocated for clean-up to implement action alternatives one through four.

Not Siting Proposed Accelerator and Research Reactor Prevents Assessing Impacts

The draft EIS does not specify where the proposed accelerator(s) and research reactor in alternatives three and four, respectively, would be located and the document consequently lacks an assessment of impacts to ground water, surface water, and air resources, among others. We believe that the absence of site specific information for these two alternatives prevents DOE from considering them as viable options when the type and extent of environmental and health impacts is unknown. We therefore recommend that the final EIS drop alternatives three and four or specify a location for siting the proposed accelerator(s) and research reactor and include a full discussion of impacts with their adoption.

No Compelling Demonstration of the Need for the Project

The EIS does not present a compelling case that a need exists to ensure the production of plutonium-238 for space missions, and to a lesser extent, the isotopes for medical and industrial purposes in 5-10 years. Currently, DOE is purchasing needed plutonium-238 from Russia and isotopes for medical and industrial purposes from other sources, including Canada. The EIS does not demonstrate that DOE cannot continue to meet the demand for these materials in the future.

1737-3

1737-4

1737-2

1737-1

Response to Commentor No. 1737

construction and operational data on nonradiological air emissions, water use, radiological and chemical releases, and waste generation are provided at a level of detail commensurate with that provided for the existing facilities under consideration. Should one of these alternatives ultimately be selected on the basis of its technical merit for accomplishing the stated missions and the assessment of environmental impacts, subsequent NEPA reviews would be conducted to include an analysis of siting alternatives and associated site-specific impacts.

- 1737-3:** Information on the NPL status is provided in the NI PEIS Waste Management sections of Chapter 3 (i.e., Sections 3.2.11.1, 3.3.11.1, and 3.4.11.1). In addition, as noted in the Land Use sections in Chapter 4 for each of the proposed alternatives, the proposed activities are consistent with the current land use plans for those facilities under consideration in this NI PEIS.
- 1737-4:** DOE shares the EPA's concern about adequate funds for the cleanup of Hanford and other DOE sites. The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the 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 by 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.
- 1737-5:** DOE acknowledges that Alternative 5, Permanently Deactivate FFTF with No New Missions, does not meet the purpose and need of the proposed action. This alternative was added to the analysis as a result of stakeholder input, and specifically focuses on the permanent deactivation of FFTF coupled with no new missions.
- 1737-6:** CEQ (40 CFR 1500 et seq.) and DOE (10 CFR Part 1021) implementation regulations do not require inclusion of cost and nonproliferation studies in an environmental impact statement. A basic purpose of the NI PEIS is to describe the alternatives under consideration for implementation (Section 2.5 of Volume 1) and the

Commentor No. 1737: Richard B. Parkin (Cont'd)
U.S. EPA

Moreover, the current practice of purchasing plutonium-238 from Russia is not only more cost effective than restarting the FFTF or constructing and operating new accelerator(s) or a research reactor, it also appears to address nonproliferation concerns. This practice places Russian-produced nuclear material in U.S. hands which, in light of the political scene in Russia, is currently a more secure option and it gives Russia much needed funding to manage the nuclear stockpiles that exist there.

1737-1

Decommissioning the FFTF Appears to be Outside the Purpose and Need

Although we support decommissioning the FFTF and recognize it as consistent with the Hanford Agreement, we question how this alternative meets the purpose and need included in the EIS of producing plutonium-238 and isotopes for medical and industrial purposes. This alternative does, however, address the question of what DOE should do with inactive reactors and accelerators (especially the FFTF) at its sites. We recommend that the EIS rewrite the purpose and need statement to reflect the larger question of what to do with inactive reactors and accelerators if this is the case.

1737-5

More Detailed Comments

1. In Table S-10, impacts are described by comparison with applicable air environmental standards. We recommend a similar approach be used in Table S-11 to describe radiological impacts (dose) by comparison with the applicable Clean Air Act standard (10 mrem/year). Separate comparisons should be made with Safe Drinking Water Act criteria. This would help in providing a more consistent basis for comparing radiological to nonradiological impacts and would also make clear what (if any) of the radiological impact is due to releases to groundwater.

1737-7

2. We recommend that the EIS present cancer risks from chemical, radiologic, and the combination of both on the same page and in the same format. For example, readers of the EIS could more easily detect that the chemical cancer risk in Table 4-76 is much greater than the associated radiological risk. More direct comparison would add clarity to this useful information.

1737-8

3. On Page 4-274, Table 4-140 is explained with "Hazard indexes for the toxic chemicals were all far below one, and cancer risk values are well below acceptable risk values. Thus, there would be no hazardous chemical impacts from the operation of the new reactor". It is not clearly stated what "acceptable risk values" are. The hazardous chemical cancer risk in Table 4-140 is approximately 0.000000001 which is a small number but is not zero. The basis for dismissing this level of risk is not stated. If the same logic were applied to the radiological risks in Table 4-138, the radiological risks might also be "no impact". Nonradiological cancer risks should be carried through the analysis in the same way as radiological risks including, where appropriate, the calculation of population-scale "Latent Cancer Fatalities".

1737-9

4. In Appendix I, hazardous chemical risks are not evaluated where quantities do not exceed Threshold Planning Quantities, or where quantities are bounded by the quantities currently stored in the facility. As a consequence, hazardous materials risks from serious accidents such as Ion Exchange Explosion or Dissolver Tank Failure are evaluated for radiological consequences, but

1737-10

Response to Commentor No. 1737

environmental impacts that would occur if these alternatives were implemented (Chapter 4 of Volume 1). Pursuant to CEQ regulations 40 CFR 1505.1(e)), agencies are encouraged to make ancillary decision documents available to the public before a decision is made. The associated cost report and nonproliferation report were made available to the public on August 24, 2000 and September 8, 2000, respectively. Both reports were made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided summaries of the Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment in Appendixes P and Q, respectively, in the Final NI PEIS.

1737-7: The text associated with Table S-11 in the Draft NI PEIS (Table S-15 in the Final PEIS) provides the Clean Air Act and Safe Drinking Water Act standards for radiological impacts.

1737-8: Cancer incidence risks from chemical and radiological agents are presented separately in Chapter 4 of Volume 1. However, Table 2-6 of Section 2.7.1.1 provides side-by-side comparisons of radiological and chemical risks. In general, combining the population radiological latent cancer fatality risk with the chemical cancer incidence risk is not appropriate. Section H.3 (Assumptions) has been revised to provide a discussion of the differences in the risk measures for radiological and chemical risk.

1737-9: The reference to acceptable risk values for the carcinogenic chemicals has been removed from the text in the Final NI PEIS. The cancer risk listed for Propylene in Table 4-140 of the Draft NI PEIS Table 4.147 of the Final PEIS means that the likelihood of an individual contracting cancer from exposure to 0.000173 micrograms per cubic meter of propylene over 35 years would be less than approximately 1 in 1.5 billion. For perspective, that risk is approximately six orders of magnitude less than the risk of the individual contracting a fatal cancer from 35-years of exposure to cosmic radiation. Nevertheless, since "acceptable risk values" is open to interpretation, the phrase "acceptable risk values" will be removed.

The radiological risk to the maximally exposed offsite individual shown in Section 4.6.1.2.9 means that the likelihood of the individual

Commentor No. 1737: Richard B. Parkin (Cont'd)
U.S. EPA

not for associated chemical risks. This approach limits comparisons of alternatives and also of radiological to nonradiological risks. From the standpoint of providing an equitable basis for comparison, Threshold Planning Quantities and quantities on hand are not pertinent. The important consideration is to compare impacts (including both chemical and radiological ones) among alternatives.

1737-10

5. In summary tables of risks, both radiological and nonradiological risks should be included for comparison.

1737-11

Response to Commentor No. 1737

becoming a latent cancer fatality due to the radiation exposure that would result from implementation of this alternative is less than approximately 1 in 22 million. That risk is approximately four orders of magnitude less than the risk of the individual contracting a fatal cancer from 35-years of exposure to cosmic radiation. Neither risk is voluntary, and the radiological risk to the maximally exposed offsite individual due to the former radiation source is essentially zero.

Some care should be exercised in comparing the cancer risk from hazardous chemicals with the latent cancer fatalities used to quantify radiological risk to populations because the two risks have different physical interpretations. The cancer risk from hazardous chemicals shown in tables throughout Chapter 4 of Volume 1 is a probability of cancer incidence (not fatality) for an individual that is continuously exposed to the specified concentration of the chemical over the 35 year program duration. The U.S. Environmental Protection Agency (EPA) has not developed cancer mortality risk factors for carcinogenic chemicals. Therefore, it is not possible to provide a latent cancer fatality estimate for exposure to these chemicals. Additionally, the impacts from exposure to multiple carcinogens are not necessarily additive. Exposure to multiple carcinogens may result in either synergistic or antagonistic effects. The expected number of latent cancer fatalities, from a radiological exposure, among the population is a statistical average that considers the variability in radiological exposure that arises from the geographical distribution of the population and prevailing weather conditions. Based on wind direction, wind speed, atmospheric stability and distance from the radiation source, some persons in the area at risk are exposed to more radiation than others. While it is possible to develop population cancer incidence figures using similar modeling techniques to those used in the radiological assessment; that has not been done in this analysis. The EPA recommends using an iterative approach when performing risk analysis for chemical exposures, progressing from the simple to the more complex analysis depending upon the perceived need for more detail in the analysis. Based upon the information available and the results of the chemical risk analysis, it was determined that the analysis provided in the PEIS provides an appropriate measure of the chemical risks. Care is also required in comparing the cancer risk from hazardous chemicals to the

Commentor No. 1737: Richard B. Parkin (Cont'd)
U.S. EPA

**U.S. Environmental Protection Agency Rating System for
 Draft Environmental Impact Statements
 Definitions and Follow-Up Action***

Environmental Impact of the Action

LO -- Lack of Objections

The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC -- Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO -- Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU -- Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category I -- Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Response to Commentor No. 1737

radiological risk to the maximally exposed offsite individual. The cancer risk for hazardous chemicals is a probability of cancer incidence, while the radiological risk to the maximally exposed offsite individual is a risk of cancer mortality.

- 1737-10:** The NI PEIS analyses included the determination of the incremental hazardous chemical accident risks for the proposed actions under each alternative. Therefore, hazardous chemical accident risks were not evaluated at facilities that would not be altered by the proposed action. This allows an equal comparison of the proposed action among alternatives.
- 1737-11:** Section 2.7 of Volume 1 contains a summary table that includes both the radiological and nonradiological risks from normal operations and radiological risks from accidents for use in making comparisons among alternatives. The nonradiological hazardous chemical accidents evaluated in the NI PEIS resulted in no risk to health and safety at distances well within the site boundaries of each facility. Therefore, the nonradiological accident risks were not included in the summary table.

Commentor No. 1737: Richard B. Parkin (Cont'd)
U.S. EPA

Category 2 - - Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions impacting the Environment. February, 1987.

Response to Commentor No. 1737

Commentor No. 1738: John Feldman

NI PEIS Toll_Free Telephone

9/18/00

John Feldman
3722 SE Taylor
Portland, OR 97214

Yes, I am against the reactivation of the Hanford nuclear power systems. I don't think it's a good idea. They should think twice. So please reconsider. My name is John Feldman, my address is 3722 Southeast Taylor, Portland, Oregon 97214.

1738-1

Response to Commentor No. 1738

1738-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1739: Laura Berger

NI PEIS Toll_Free Telephone

9/15/00

Laura Berger
408_2609

Hi. My name is Laura Berger and I oppose the restart of the FFTF nuclear reactor at Hanford. I don't know if I need to say anything more but if you need to contact me my number is 408_2609.
Thank you.

1739-1

Response to Commentor No. 1739

1739-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1740: Martin Lewis

NI PEIS Toll_Free Telephone

9/15/00

Martin Lewis
3133 Fairfield Street
Philadelphia, PA 19136
215_676_1291

My name is Martin Lewis. I'm sending this to Colette Brown concerning the DOE plans to expand production of plutonium 238 for future space missions. Please do not send me the draft PEIS. Keep it. There's no need to expand the existing nuclear infrastructure. Space nuclear power is a good way to destroy this earth. Every entry accident of some kind, on the path accidents for that matter, and we could wind up with plutonium 238 in Philadelphia, which I'm strongly against as I live in Philadelphia, my name is Martin Lewis, 3133 Fairfield Street, Philadelphia, PA 19136, 215_676_1291. I don't know if I'm being recorded. I hope I am. It's just ridiculous that we are still pushing for more plutonium 238. We've been lucky so far. Although our children may not be lucky the way we're poisoning the earth. I don't have any children but I still do not want the effects of my being on this earth poisoning future generations. Please do not promote in any way the use plutonium 238 into space business and please stop promoting the use of nuclear power in space. Thank you.

1740-1

1740-2

Response to Commentor No. 1740

1740-1: DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert objective advice regarding the future form of its isotope research and production activities. 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. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs.

Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining the capability to provide the plutonium-238 needed to support these missions. There are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions. Although research to identify other potential fuel sources to support these space exploration missions has been conducted, no viable alternative to using plutonium-238 has been established. Based on NASA guidance to DOE on the potential use of radioisotope power systems for upcoming space missions, it is anticipated that the existing plutonium-238 inventory will be exhausted by approximately 2005. Without an assured domestic supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost. Section 1.2.2 of Volume 1 was revised to further clarify the purpose

Commentor No. 1740: Martin Lewis (Cont'd)

Response to Commentor No. 1740

and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

In January 1997, President Clinton tasked his Committee of Advisors on Science and Technology (PCAST) to evaluate the current national energy research and development portfolio and to provide a strategy that ensures the United States has a program to address the Nation's energy and environmental needs for the next century. In its November 1997 report responding to this request, the PCAST Energy Research and Development Panel determined that restoring a viable nuclear energy option to help meet our future energy needs is important and that a properly focused research and development effort to address the potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) was appropriate. The PCAST panel further recommended that DOE reinvigorate its nuclear energy research and development activities to address these potential barriers. Section 1.2.3 provides information on the nuclear energy research and development mission.

1740-2: DOE notes the commentor's concern for NASA's use of nuclear materials for space missions, although this issue is beyond the scope of this PEIS. Through a Memorandum of Understanding with NASA DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. These radioisotope power systems have been used for almost 40 years, and have repeatedly demonstrated their performance safety, and reliability in various NASA space missions. NASA establishes the need and requirements for space missions and undergoes a thorough NEPA evaluation for each launch.

Commentor No. 1741: Angel Kelly

NI PEIS Toll_Free Telephone

9/15/00

Angel Kelly
Portland, OR

Hi. My name is Angel Kelly. I live in Portland, Oregon. I'm calling to say that I disagree with the restart of the Fast Flux Facility at Hanford. I think that the priority of the Department of Energy should be to clean up existing nuclear messes which they're not currently doing adequately and to not do anymore creation of radioactive waste until there is proper way to deal with the waste that's already created and any future waste that is generated. The Environmental Impact Statement doesn't take into account that this waste will last for hundreds of years and that it will contaminate the water and the land. Thank you.

1741-1

1741-2

Response to Commentor No. 1741

- 1741-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.
- 1741-2:** The restart of FFTF or any of the other proposed alternative facilities would not impact the schedule or available funding for existing cleanup activities at Hanford, INEEL, or ORR. The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision. The waste generated from any of the proposed alternatives in the NI PEIS will be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.

Commentor No. 1742: Sonia Wilson

NI PEIS Toll_Free Telephone

9/15/00

Sonia Wilson
9505 NE Campaign
Portland, OR 97220
503_253_0191

Hi. I would like to call to state my opinion. I'm opposed to the restart of the FFTF nuclear reactor at Hanford. If you have any questions, or you need to make sure that I'm a voter or whatever, my name is Sonia Wilson and I live at 9505 NE Campaign in Portland, 97220. My phone is 503_253_0191. Thank you. Bye_bye.

|| 1742-1

Response to Commentor No. 1742

1742-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1743: Mrs. Birdwell

NI PEIS Toll_Free Telephone

9/15/00

Mrs. Birdwell
White Salmon, WA

You're wrong to restart any nuclear reactors near Hanford or any other place near the Columbia or any waterway flowing into it. Now you've got to clean up that mess at Hanford and refrain from this happening there again. Keep it away from the country. Put it away from here. Put it out in the middle of the desert where there's no water to flow into it. You have to figure out something better. I'm Mrs. Birdwell at White Salmon, right on that Columbia. I don't like it. Don't like to have that beautiful, beautiful river spoiled. It's the second largest river in the United States and look what you're doing to it.

1743-1

1743-2

Response to Commentor No. 1743

1743-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1743-2: Although beyond the scope of this NI PEIS, ongoing Hanford cleanup activities are a high priority to DOE. Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement.

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.

Commentor No. 1744: John Shumacher

NI PEIS Toll_Free Telephone

9/15/00

John Shumacher
503_408_2651

I oppose the restart of the nuclear reactor at Hanford.
Please don't do it. My name is John Shumacher, area code
503_408_2651, if you want to get a hold of me, but do not
start the reactor again. Thank you.

|| 1744-1

Response to Commentor No. 1744

1744-1: DOE notes the commentor's opposition to Alternative 1, Restart
FFTF.

Commentor No. 1745: John McCarthy

NI PEIS Toll_Free Telephone

9/15/00

John McCarthy
White Salmon, WA

Hi, my name is John McCarthy. I'm a resident of White Salmon, Washington and I just want to voice my opposition to the startup of the reactor at Hanford in the state of Washington.

1745-1

I've been to all the Department of Energy meetings out here and the message from the people that live here is very clear. Please clean up the mess that is out there before you start adding to it. It is just beyond belief that you want to add to this cesspool that by your own admission you cannot clean up.

1745-2

So this is another citizen voicing very, very strong opposition to the startup of the nuclear reactor at Hanford.

1745-1

Thank you.

Response to Commentor No. 1745

1745-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1745-2: DOE was tasked by Congress in the Atomic Energy Act of 1954, as amended, to "ensure the availability of isotopes for medical, industrial, and research applications, meeting the nuclear material needs of other federal agencies, and undertaking research and development of activities related to development of nuclear power for civilian use." The purpose of this PEIS is to determine the environmental and other impacts to accomplishing this mission from all reasonable existing and new DOE resources. The FFTF at the Hanford Site was one of several existing DOE resources that was assessed for this mission.

Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The stated missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

Commentor No. 1746: Cal Roberts

NI PEIS Toll_Free Telephone

9/15/00

Cal Roberts
504 NE 139th Avenue
Vancouver, Washington 98684
360_892_1985

My name is Cal Roberts I live at 504 Northeast 139th Avenue, Vancouver, Washington 98684. My telephone number is 360_892_1985. I am totally opposed to the restart of the nuclear reactor at Hanford. Things need to be cleaned up before you even think about doing this kind of stuff. You've already got enough problems over there which means I have enough problems over there and since all stuff comes down_river, guess what? So, I would love to be able to talk with somebody about this if you think this is something you need to do. I just oppose it so much and I really would like to have somebody contact me. All right, thank you very much.

1746-1

1746-2

1746-1

Response to Commentor No. 1746

1746-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1746-2: DOE was tasked by Congress in the Atomic Energy Act of 1954, as amended, to “ensure the availability of isotopes for medical, industrial, and research applications, meeting the nuclear material needs of other federal agencies, and undertaking research and development of activities related to development of nuclear power for civilian use.” The purpose of this PEIS is to determine the environmental and other impacts to accomplishing this mission from all reasonable existing and new DOE resources. The FFTF at the Hanford Site was one of several existing DOE resources that was assessed for this mission.

Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities. 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.

Commentor No. 1747: Anonymous

NI PEIS Toll_Free Telephone

9/15/00

Anonymous

Good afternoon. I would just like to go on record as saying that I'm opposed to the restart of the FFTF nuclear reactor at Hanford. It's my understanding that the waste generated by this plant will take somewhere in the neighborhood of hundreds of thousands of years to become non_toxic. I just don't see anyway that the planet can afford nor needs to spend what is required to generate electricity through nuclear energy. Thank you very much.

1747-1

1747-2

1747-3

Response to Commentor No. 1747

- 1747-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.
- 1747-2:** DOE notes the commentor's concern regarding the long-term storage requirements for the waste generated by the proposed action. The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision. The waste generated from any of the proposed alternatives in the NI PEIS will be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.
- 1747-3:** DOE notes the commentor's opposition to nuclear power generation. It is the current United States policy that clean, safe, reliable nuclear power continue as a viable component of the United States' energy portfolio. In recognition of this need, the government has initiated nuclear energy research and development programs to address potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) and to ensure that current nuclear power plants can continue to deliver adequate and affordable energy supplies. An enhanced DOE nuclear facility infrastructure is required to support such nuclear energy research and development for civilian applications.

Commentor No. 1748: Anonymous

NI PEIS Toll_Free Telephone

9/15/00

Anonymous

Don't start any nuclear reactors near Hanford or any other place on the mainland of America. Stop all waste being delivered at Hanford or any other place that is on our mainland. Build it someplace out on an island, and where it won't hurt the people, and prove to us that it is safe.

|| 1748-1
|| 1748-2
|| 1748-1

Response to Commentor No. 1748

- 1748-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF, as well as Alternative 4, Construct New Research Reactor, unless it were built on an island.
- 1748-2:** DOE notes the commentor's concern regarding waste generation and the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

Both government and commercial waste disposal sites are operated within the Hanford site. These are permitted by the State of Washington.

Commentor No. 1749: Anonymous

NI PEIS Toll_Free Telephone

9/16/00

Anonymous

Yes, DOE claims that it does have a preferred alternative among the five proposals in the PEIS released on July 21, 2000 but will identify one in the final PEIS. This creates a big credibility gap for those of us who have found that because of the failures of the DOE to identify, to include in the PEIS facts such as:

1. The DOE's own Blue Ribbon Medical Advisory Committee recommended last April that the FFTF not be considered as a viable long_term source of research radioisotopes.

1749-1

Also, the claim that it's needed for NASA research. NASA informed the DOE on May 22nd 2000 that missions can utilize alternative technologies with lower cost, potentially much lower environmental impact than start up of FFTF for production of Plutonium 238.

1749-2

And another thing that was missing from the PEIS was the cost report for alternatives. Also the Nuclear Infrastructure Nonproliferation Impact Assessment was not included. So I would say that this PEIS is a completely faulty matter and that there must be some hidden agenda. We in the Pacific Northwest want to have you fulfill commitment to close down FFTF and clean up Hanford, the most polluted place in the United States. Thank you.

1749-3

1749-4

1749-5

Response to Commentor No. 1749

1749-1: The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost-efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities.

1749-2: DOE notes the commentor's views about FFTF and the production of plutonium-238 for use in future NASA space exploration missions. The May 22, 2000, correspondence from NASA to DOE identifies that NASA 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, the suspension of SRTG development efforts was conducted in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence, requires 1/3 less plutonium as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000 letter to DOE that the plutonium-238 needed for large RTG may be maintained as a backup. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and

Commentor No. 1749: Anonymous (Cont'd)

Response to Commentor No. 1749

need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

- 1749-3:** The costs and nuclear nonproliferation impacts of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. Such ancillary documents need only be made available to the public prior to any decision being made under CEQ regulations (40 CFR Part 1505.1(e)). Nevertheless, DOE mailed these documents to more than 730 interested parties on August 24 and September 8, 2000, respectively. Both reports were made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided summaries of the Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment in Appendixes P and Q, respectively, in the Final NI PEIS.
- 1749-4:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF. Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. With respect to previous commitments to deactivate FFTF, a change to the Tri-Party Agreement (TPA) removed the planned milestone for total deactivation of the FFTF until its ultimate fate was assessed. That proposed TPA milestone change was the subject of previous public meetings.
- 1749-5:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This

Commentor No. 1749: Anonymous (Cont'd)

Response to Commentor No. 1749

agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities. A previous change to the Tri-Party Agreement (TPA) removed the planned milestone for total deactivation of the FFTF until its ultimate fate was assessed. That proposed TPA milestone change was the subject of previous public meetings.

Commentor No. 1750: Anonymous

NI PEIS Toll_Free Telephone

9/16/00

Anonymous

We feel betrayed by DOE failing to live up to the Tri_Party Agreement which assured the people of the Northwest that you, as DOE, would be responsible for cleaning up Hanford's toxic waste.

Also in 1995, DOE added the agreement for FFTF to be shut down and cleaned up. Shut it down and clean it up without further delay.

1750-1

Response to Commentor No. 1750

1750-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and concerns regarding the existing cleanup mission at Hanford and the risk of contamination to the Columbia River. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

A previous change to the Tri-Party Agreement (TPA) removed the planned milestone for total deactivation of the FFTF until its ultimate fate was assessed. That proposed TPA milestone change was the subject of previous public meetings.

Commentor No. 1751: Roberta Carlson

NI PEIS Toll_Free Telephone

9/17/00

Roberta Carlson

Hello. This is Roberta Carlson and I'm calling to say that I want to have the Tri_Party Agreement followed for the Hanford cleanup. I'm very, I feel very strongly about this and I really want to have the nuclear reactor shut down in the whole process moving forward for the cleanup. Thank you.

1751-1

1751-2

Response to Commentor No. 1751

-
- 1751-1:** Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. Waste management activities, such as treatment, storage, and disposal, are conducted via permits from the Washington State Department of Ecology.
- 1751-2:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

Commentor No. 1752: Yolanda Domond

NI PEIS Toll_Free Telephone

9/17/00

Yolanda Domond
Portland, OR

Yes this Yolanda Domond from Portland Oregon. I totally oppose the restart the FFTF nuclear reactor in Hanford. I think it's insane to create more waste when we haven't even cleaned up the other waste.

1752-1

1752-2

Response to Commentor No. 1752

1752-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1752-2: DOE notes the commentor's concern regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

Commentor No. 1753: Janelle Spain

NI PEIS Toll_Free Telephone

9/17/00

Janelle Spain
509_722_3046

I have comments. My name is Janelle Spain and telephone number 509_722_3046. And this is my comment:

The Department of Energy Nuclear Infrastructure should by no means be expanded for future research and development. Research and production. This is about the stupidest idea I've ever heard. Already we have a nuclear contamination crisis in our backyard. Already the Hanford nuclear reservation is filled with leaking tanks of toxic nuclear waste. Already taxpayers are spending billions in an attempt to clean up the mess and there exist no credible solution for rendering the materials harmless. When is enough, enough? The uranium is best left underground and Hanford is best left in a purely clean up mode. It would be a grave error to expand production at Hanford and produce more plutonium regardless of any perceived need to meet future demands of nuclear products. It's simply not worth it because workers and civilians are exposed to harmful ionizing radiation at every stage of the nuclear fuel cycle. From mining the uranium, to operating the reactors, to storing and transporting the end product and waste. Plutonium is perhaps the most toxic substance on the planet. It has a half life of 24,400 years. Once created it remains dangerous in human terms forever and leaves a poisonous legacy to future generations. Atomic radiation is an invisible killer that causes cancers and birth defects. Every dose is an overdose. We must not allow any expansion or new production at Hanford. We must not allow the Department of Energy to further pollute our state.

1753-1

1753-2

1753-3

1753-4

1753-5

Response to Commentor No. 1753

1753-1: DOE notes the commentor's opinion that there is no need to expand its nuclear infrastructure for nuclear research and development missions. Clean, safe, reliable nuclear power has a role today and in the future for our national energy security. In recognition of this need, nuclear energy research and development programs have been initiated to address potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) and to ensure that current nuclear power plants can continue to deliver adequate and affordable energy supplies. Because it is unlikely that existing facilities could fully and effectively support these nuclear energy research and development initiatives without disturbing their existing missions, DOE is proposing to enhance its nuclear facility infrastructure to also support these activities. Information on the need for nuclear energy research and development is provided in Section 1.2.3 of Volume 1.

1753-2: DOE notes the commentor's concern regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

1753-3: DOE notes the commentor's views about FFTF and the production of plutonium-238. Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining the capability to provide the plutonium-238 needed to support these missions. There are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions. Although research to identify other potential fuel sources to support these space exploration missions has been conducted, no viable alternative to using plutonium-238 has been established. Based on NASA guidance to DOE on the potential use of

Commentor No. 1753: Janelle Spain (Cont'd)

Response to Commentor No. 1753

radioisotope power systems for upcoming space missions, it is anticipated that the existing plutonium-238 inventory will be exhausted by approximately 2005. Without an assured domestic supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

1753-4: The commentor's positions concerning exposure to ionizing radiation, the nuclear fuel cycle, plutonium, and radiation dose are noted. Risks due to uranium mining are outside the scope of this PEIS. Chapter 4 of Volume 1 and Appendixes H through J discuss the radiological risks and waste generation that would result a range of reasonable alternatives and includes the impacts from operation of reactors and fabrication processing facilities, target storage, transportation activities, waste generation, and waste management. Radiological risks that would result from production of plutonium-238 and medical/industrial isotopes were found to be small. Waste that would be generated under each of the nuclear infrastructure alternatives would place no significant burden on existing waste management systems at the candidate sites.

1753-5: DOE notes the commentor's concerns regarding environmental impacts associated with potential expansion or new production at Hanford. The environmental impacts associated with nuclear infrastructure operations at Hanford are addressed in detail in Section 4.3 of the NI PEIS. All air emissions and wastewater discharges would be in accordance with applicable permit and regulatory requirements. The release of criteria air pollutants would result in concentrations well below Federal and state air standards (Table 4-13). The release of radioactivity and hazardous chemicals into the atmosphere would have a negligible effect on human health (Tables 4-17 and 4-19). There would be no discernible impacts to groundwater or surface water quality (Section 4.3.1.1.4). It is concluded that nuclear infrastructure operations would result in small impacts to the biosphere and would not contribute to polluting Washington or any other state.

Commentor No. 1754: Anonymous

NI PEIS Toll_Free Telephone

9/17/00

Anonymous

I'm calling to say that I do not want the nuclear reactor restarted in Hanford. Please make sure that it does not get re_started. Thank you.

1754-1

Response to Commentor No. 1754

1754-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1755: Jim Morrison

NI PEIS Toll_Free Telephone

9/17/00

Jim Morrison
Seattle, WA
206_624_6524

Yes, hello this Jim Morrison. I'm calling from Seattle, Washington. My number is 206_624_6524. I'm calling to register my opposition to any restart of the Fast Flux Test Facility at Hanford and to urge option number 5. There should be a complete shutdown of operations there and thorough and responsible clean up the messes that exist already. I appreciate you taking time to consider these options and I hope that the majority of residents who have spoken on this issue will be listened to and the mess will be cleaned up, and the facilities will not be used to generate more toxic hazardous nuclear waste.

1755-1

1755-2

1755-3

Response to Commentor No. 1755

1755-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 5, Permanently Deactivate FFTF.

1755-2: See response to comment 1755-1.

1755-3: DOE notes the commentor's concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

Commentor No. 1756: Margaret McLean

NI PEIS Toll_Free Telephone

9/17/00

Margaret McLean
8728 Jason Avenue, North
Seattle, Washington 98103

This Margaret McLean calling from Seattle, Washington. I'd like to leave a message for Ms. Colette Brown. My message regards the restart of the Fast Flux Test Facility at Hanford, Washington. I would like to express my opposal to this restarting of this facility. My address in Seattle is 8728 Jason Avenue North, Seattle, Washington, 98103. And once again I do oppose the restart of the Fast Flux Facility at Hanford. Thank you. Bye_bye.

1756-1

Response to Commentor No. 1756

1756-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1757: Anonymous

NI PEIS Toll_Free Telephone

9/17/00

Anonymous

Hi, I'm calling from Tulsa, Oklahoma. I'm terribly concerned, terribly opposed, concerned about, opposed to, what is it? Fabricating more plutonium 238? Are you talking about making more of it on purpose? I thought we were killing ourselves trying to get rid of it. I understand that they're planning to make more of it for the space program. We don't want that. We don't want to be sending plutonium into space and we certainly don't want to be making more of the damn stuff. Somebody up there is crazy to come up with this idea. Well we don't want it.

1757-1

Response to Commentor No. 1757

1757-1: Plutonium-238, used to support NASA space missions, is not weapons grade plutonium (i.e., plutonium-239). Whereas the United States is currently planning for the disposition of tons of surplus plutonium-239 that is not needed to support the U.S. nuclear weapons stockpile, there are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions. Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems and the plutonium-238 that fuels them for space missions that require or would be enhanced by their use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining the capability to provide the plutonium-238 needed to support these missions. Based on NASA guidance to DOE on the potential use of radioisotope power systems for upcoming space missions, DOE anticipates that the existing plutonium-238 inventory will be exhausted by approximately 2005. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

Commentor No. 1758: Nicki Stash

NI PEIS Toll_Free Telephone

9/18/00

Nicki Stash
360_733_6121

Hi. I would to leave a comment. My name is Nicki Stash. My number is 360_733_6121. I would like you to shut down the FFTF reactor and I would prefer that you please focus on cleanup. OK,
Thanks, Bye.

1758-1

1758-2

Response to Commentor No. 1758

-
- 1758-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.
- 1758-2:** Restoration of the Hanford Site and waste management activities are the primary missions at Hanford. FFTF restart would not impact the cleanup missions at Hanford.

Commentor No. 1759: Maureen Dorney

NI PEIS Toll_Free Telephone

9/18/00

Maureen Dorney
Boynton Beach, FL

Good Morning. I am calling to register my comments about the Department's plan to expand their plutonium development. I am strongly opposed to developing any further use of plutonium because it's so extremely toxic and I am sure that the department could find alternative sources of power for the space exploration, as the Europeans have been doing, particularly using solar panels. I do know from personal experience about the contamination, accidents, and as I look at today's date, September 18th, I'm reminded that this would be my oldest brother's birthday, he, sad to say died of a result of a nuclear accident at the age of 29. He was working on development of nuclear energy for the Baney Corporation under contract to Atomic Energy Commission. So I know of the hazards of some of this. And I've been following some of the other more recent very tragic accidents. We cannot afford to take this risk and to expose our people on this planet to the deadly hazards of plutonium. It is one of the most toxic elements known. Please reconsider. My name is Maureen Dorney and I live in Boynton Beach, Florida. Thank you.

1759-1

1759-2

Response to Commentor No. 1759

1759-1: DOE notes the commentor's views about the production of plutonium-238. Potential health and safety impacts associated with normal operations, facility accidents, and transportation as a result of the proposed production of plutonium-238 are relatively low and are discussed in detail in Chapter 4 of Volume 1 and appendixes H, I, and J of Volume 2 in the Final NI PEIS.

Potential health and safety impacts associated with future launches of spacecraft utilizing plutonium-238 are not within the scope of the NI PEIS analysis, but would be addressed in the specific NEPA documentation prepared by NASA in support of such missions. Issues of research and development of alternative energy sources are beyond the scope of this NI PEIS. The stated missions to be addressed in this PEIS, which include the production of medical and industrial isotopes, the production of plutonium-238, and nuclear research and development, can currently only be met using nuclear reactor or accelerator technologies.

1759-2: The commentor's concerns about plutonium are noted. Radiological risks that would result from production of radioisotopes, including plutonium-238, are described in Chapter 4 of Volume 1 and Appendixes H and I. The evaluation showed that plutonium would be the primary contributor to health impacts associated with processing of irradiated neptunium targets at candidate processing facilities. However, the analysis showed that no radiological or chemical fatalities would be expected to result from implementation of the nuclear infrastructure alternatives. See, for example, Sections 4.3.1.1.9, 4.3.2.1.9, and 4.3.3.1.9 in Chapter 4 and the Summary Tables in Chapter 2 of Volume 1 of the NI PEIS.

Commentor No. 1760: Mildred McElhaney

NI PEIS Toll_Free Telephone

9/18/00

Mildred McElhaney
5806 247th Street, SW
Mount Lake Terrace, WA 98043

I would like to express my opinion about the Hanford cleanup. I think that we should go ahead with the Hanford cleanup with all due speed and do not start some new production. I feel that starting up the FFTF would produce a radioactive waste and I don't want anymore workers' health and safety put into jeopardy. So that's my opinion and I am a voter and my name is Mildred McElhaney and my address is 5806 247th Street SW, Mount Lake Terrace, WA 98043.

Thank you.

1760-1

1760-2

1760-3

1760-4

Response to Commentor No. 1760

1760-1: DOE notes the commentor's concern regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

1760-2: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1760-3: As identified in Section 4.3.1.1.13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35-year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. It is DOE's policy that all wastes be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.

The NI PEIS addressed the environmental impacts due to the treatment storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision.

1760-4: Worker safety (radiological protection) is a key element of DOE's Radiological Health and Safety Policy (DOE P 441.1, April 26 1996). This policy states in part that DOE facilities must "conduct radiological operations in a manner that controls the spread of radioactive materials and reduces exposure to the workforce and the general public and that utilizes a process that seeks exposure levels as low as reasonably achievable." Each DOE site, including Hanford, is required to implement a radiological control program with the intent to meet this policy goal. Based on the assessment of worker health impacts for all of the alternatives and options that make use of Hanford facilities, the most likely impact of the use of these facilities is no increase in cancer fatalities

Commentor No. 1760: Mildred McElhaney (Cont'd)

Response to Commentor No. 1760

among the facility workers. For example in Alternative 1 option 3, all of the activities (target irradiation and processing) occur at Hanford facilities. As shown in Section 4.3.3.1.9, the expected consequences are less than one additional fatal cancer among the workforce; that is, no additional fatal cancers are expected.

Commentor No. 1761: Harvey G. Spencer

NI PEIS Toll_Free Telephone

9/18/00

Harvey G. Spencer
143 Emerald Drive
Quinn, WA 98382

I received a card postmarked September 7th from Germantown about two reports related to the Draft NI PEIS. Now I've had the summary of the NI PEIS but I wanted to review the cost report on the alternatives as well as the Nonproliferation Assessment before making a comment. I hardly had time to make a comment by the 18th, by the way which is today, without reviewing these reports. After all the summary doesn't say very much except that various things will work. It doesn't give you the basis for making any kind of a comment.

I tried to review those on the Internet several times and I was not able to make your search engine work. Your card that you sent out should indicate the links to use on the Internet with which to locate those reports. I couldn't even locate the base Draft Programmatic Impact Statement itself on the Internet. I think you better work on your search engine and your identification of these reports. I protest not being able to make a comment on this PEIS by virtue of the unavailability of the important reports on it and I suggest you that you should extend the comment period. Thank you. This Harvey G. Spencer at 143 Emerald Drive, Quinn, Washington 98382, phone number 360_681_2338. Thank you very much.

1761-1

Response to Commentor No. 1761

1761-1: DOE regrets the difficulties encountered by the commentor in obtaining copies of the Cost Report, Nuclear Infrastructure Nonproliferation Impact Assessment, and the Draft NI PEIS from the Internet and inability to fully comment on the NI PEIS. The NI PEIS could be directly accessed from a hyperlink at the bottom of the DOE's Office of Nuclear Energy, Science and Technology homepage (<http://www.nuclear.gov>) that provides linked access to the Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment. DOE concedes that access through the DOE home page (<http://www.doe.gov>) may have been more problematic. In the future, DOE will endeavour to make electronic access via the Internet to posted documents on its servers as efficient and direct as possible.

Commentor No. 1762: Marjorie Westman

NI PEIS Toll_Free Telephone

9/22/00

Marjorie Westman
123 McKinley
Burleith, WA 98233

My name is Marjorie Westman. I live at 123 McKinley in Burleith, Washington 98233, and I'm deeply perturbed about the idea of starting up that facility. I remember Einstein's comment many years ago that we were asking for it not keeping up with our technology. We're pressed for that now. We know we have not solved the nuclear waste problem. Please, please do not consider starting this thing up again. Thank you.

|| 1762-1

|| 1762-2

Response to Commentor No. 1762

1762-1: DOE notes the commentor's concern regarding waste management. The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision. The waste generated from any of the proposed alternatives in the NI PEIS will be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.

1762-2: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1763: Laura Houston

NI PEIS_Toll Free Telephone

9/18/00

Laura Houston
4031 SE Madison
Portland, OR 97214
503_232_7117

I was just calling in response to saying no on reactivation of the Hanford site. I personally have thyroid cancer and I know that people living in that area were definitely impacted by thyroid cancer and other cancers. So it is very much a hazard to people, and our water, and our animals. So absolutely not. My name is Laura Houston. My address is 4031 SE Madison, Portland, Oregon 97214. I can be reached at 503_232_7117. Again, no reactivation. Thanks, bye.

1763-1

1763-2

Response to Commentor No. 1763

1763-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1763-2: The commentor's concern about the Hanford Site as a potential hazard to people, water, and animals in the Portland area is noted.

As discussed in Section 3.4.9.3 of Volume 1, the question of whether the population surrounding the Hanford Site is subject elevated rates of cancer incidence or cancer mortality is unresolved. Existing studies and data suggest that cancer mortality and cancer incidence rates in counties adjacent to the Hanford Site are not elevated. Radiological impacts of the Hanford Site on the Portland area would be much smaller than the impacts on counties adjacent to the site.

Chapter 4 of Volume 1 presents the analysis of impacts to human health and water resources that would be expected under implementation of Alternative 1, Restart FFTF. Radiological risks to human health for people residing within 80 kilometers (50 miles) of the Hanford Site were found to be small. Because Portland is further than 80 kilometers (50 miles) from the site, radiological impacts to persons in Portland would be smaller than those listed in Chapter 4. There are no radiological liquid effluent pathways to the environment from FFTF, so that implementation of Alternative 1 would not be expected to contaminate the Columbia River. Prevailing winds at Hanford blow toward Grant County, Washington from the south to south-southwest directions. Grant County would be expected to bear the major burden of wind borne contamination from the Hanford Site. Environmental impacts on the Portland area that would result from implementation of the nuclear infrastructure alternatives described in Section 2.5 of Volume 1 would be essentially zero.

Implementation of the alternatives described in Section 2.5 of Volume 1 would not be expected to adversely impact wildlife in areas surrounding the Hanford Site or Portland. According to an International Atomic Energy Agency (IAEA) publication (IAEA Technical Report Series No. 332, Effects of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards), a dose rate of 100 millirem per year to the most exposed human will lead to dose rates to plants and animals of less than 0.1 rad per day. The IAEA concluded that a dose rate of 0.1 rad per day or less for animals and 1 rad per day or less for plants would not affect these populations. The largest individual dose for any of the nuclear infrastructures alternatives under normal operations

Commentor No. 1763: Laura Houston

Response to Commentor No. 1763

would be less than 0.1 millirem, which is three orders of magnitude less than the IAEA threshold for adverse effects. Therefore, as a result of implementation of the nuclear infrastructure alternatives, all impacts to ecological resources would be small in the immediate area of the Hanford Site and negligible at all distant locations.

Commentor No. 1764: Rosemary Sirellia

NI PEIS Toll_Free Telephone

9/18/00

Rosemary Sirellia
206_522_7075

This is message is directed to Colette Brown. I would like the FFTF nuclear reactor shut down and the focus back to the clean up at Hanford. My name is Rosemary Sirellia and the telephone is 206_522_7075. Thank you. Good_bye.

|| 1764-1

|| 1764-2

Response to Commentor No. 1764

-
- 1764-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.
- 1764-2:** Restoration of the Hanford Site and waste management activities are the primary missions at Hanford. FFTF restart would not impact the cleanup missions at Hanford.

Commentor No. 1765: Mary Sanderford

NI PEIS Toll_Free Telephone

9/18/00

Mary Sanderford

Hello. This is Mary Sanderford. I'm calling with regard to the restart of the FFTF. I certainly am against it and I hope that along with the others, calling that will have some effect. Please take note of it and not have that reactor start at Hanford.

1765-1

Response to Commentor No. 1765

1765-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1766: Thomas Wright

NI PEIS Toll_Free Telephone

9/18/00

Dr. Thomas Wright
Portland, OR 97213

I'm calling. My name is Dr. Thomas Wright. Again, Dr. Thomas Wright and I'm from Portland, Oregon, my zip code is 97213. I am calling to oppose the restart of the FFTF nuclear power plant at Hanford. So along with the other thinking individuals, I oppose that. OK, again my name is Dr. Thomas J. Wright, Portland, Oregon 97213. I opposed to the restart of the FFTF nuclear power plant at Hanford. Bye.

1766-1

Response to Commentor No. 1766

1766-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1767: Aniska Kaus

NI PEIS Toll Free Telephone

9/18/00

Aniska Kaus

Yes my name Aniska Kaus, and I'm an Oregon voter and I'm worried about the Hanford nuclear reactor whose waste products seep into the Columbia River and I want the Tri_Party Agreement to be upheld. Please clean the Hanford up and get the nuclear reactor shut down. Thank you.

1767-1

1767-2

Response to Commentor No. 1767

1767-1: DOE notes the commentor's concern regarding the existing cleanup mission at Hanford and the risk of contamination to the Columbia River. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement.

The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities. 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.

1767-2: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

Commentor No. 1768: James Granland

NI PEIS_Toll Free Telephone

9/18/00

James Granland
206_282_9472

Hello my is James Grandland. My telephone number is 206_282_9472. I'm calling just to get my comment in at the very end of the comment period concerning the restart of the Fast Flux reactor at Hanford. I want to voice my opinion, as a citizen, that I prefer that this reactor not be restarted. I think the reasons that are being put forth for the medical isotopes, I believe it's economically not viable to produce them that way and that's just a smoke screen. By the way, these comments are directed to Colette Brown, if that's applicable, and I'm happy to receive a phone call back along regarding that. But I think the government or the management of the Hanford facility has not proven that they're capable of maintaining the facility in a safe matter and producing more radioactivity there is not a wise move until we're better able to deal with what we've got. Please call me back at 206_286_9166 if you have any further questions about how I feel about this.

1768-1

1768-2

Response to Commentor No. 1768

1768-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1768-2: FFTF operated safely for more than 10 years with no impact to health or safety of onsite workers or the public and no discernible impact to the environment. FFTF meets all safety requirements established by DOE and the DOE requirements are consistent with those established and applied by other regulatory agencies such as the Nuclear Regulatory Agency. Analyses presented in the PEIS show that the risks associated with operation of the FFTF are extremely small.

Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. Wastes are safely managed in accordance with applicable federal and state regulations and appropriate DOE Orders.

Commentor No. 1769: Joan Chantler

NI PEIS Toll_Free Telephone

9/18/00

Joan Chantler
509_748_2551

Hi. My name is Joan Chantler. My daytime number is 509_748_2551. I'd like to register opposition to the idea of reactivating Hanford. I just think we haven't got the first mess cleaned up. Let's not work on making another one. So thank you very much. I appreciate the opportunity to state my opinion. Bye.

|| 1769-1

|| 1769-2

Response to Commentor No. 1769

1769-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1769-2: DOE notes the commentor's concern regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities.

Commentor No. 1770: Marlyee

NI PEIS Toll_Free Telephone

9/18/00

Marlyee

Hi my name is Marlyee my number is 503_872_8747 and I'm just calling to let you know that I completely disagree with the restart of the Fast Flux Testing Facility. It's sounds like it's going to be extremely harmful to the environment as well as the people of the Northwest. So I my vote is to not start it. I feel passionate about it and I hope you guys think twice about it. It's my understanding that it is an unnecessary step, for apparently NASA is needing it and it's completely unnecessary. So they're saying this as well. So please take my comments into consideration and do the right thing.

1770-1

1770-2

1770-3

Response to Commentor No. 1770

- 1770-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.
- 1770-2:** DOE notes the concern expressed in the comment on the potential impacts of FFTF and support facility operations described in the NI PEIS. The environmental impacts associated with operation of the FFTF and support facilities at Hanford during normal operations and from postulated accidents are presented and discussed in Section 4.3 of the NI PEIS. All impacts to human health and to ecological resources would be small in the immediate area of the Hanford site and negligible at all distant locations.
- 1770-3:** A May 22, 2000, correspondence from NASA to DOE identified that NASA 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, the suspension of SRTG development efforts was conducted in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence, requires 1/3 less plutonium as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000 letter to DOE that the plutonium-238 needed for large RTG may be maintained as a backup. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

Commentor No. 1771: Anderson Marie

NI PEIS Toll_Free Telephone

9/18/00

Anderson Marie

I'm worried about the Columbia River and I want the Tri_Party agreement to be upheld. My name is Anderson Marie and please shut the Hanford reactor down. Thank you.

|| 1771-1

|| 1771-2

Response to Commentor No. 1771

1771-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. A Tri-Party Agreement change was made to place the milestones for FFTF's permanent deactivation in abeyance until the DOE reaches a decision on whether the facility will be used to meet mission needs. Public meetings were held on this formal milestone change.

The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities. 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.

1771-2: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

Commentor No. 1772: Sasha Seyavitz

NI PEIS Toll_Free Telephone

9/18/00

Sasha Seyavitz

Hi. I'm calling with my public comments for the EIS. My name is Sasha Seyavitz. I'm calling to ask you to shut down the FFTF reactor and focus on cleanup at Hanford. Thank you very much. Bye.

|| 1772-1
|| 1772-2

Response to Commentor No. 1772

- 1772-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.
- 1772-2:** Restoration of the Hanford Site and waste management activities are the primary missions at Hanford. FFTF restart would not impact the cleanup missions at Hanford.

Commentor No. 1773: Anonymous

NI PEIS Toll_Free Telephone

9/14/00

Anonymous

I'm calling to dissuade the powers that be to close the Hanford nuclear facility. It is a matter of environment and health for the whole region. Thank you very much.

1773-1

Response to Commentor No. 1773

1773-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

Commentor No. 1774: William Stratton

NI PEIS Toll_Free Telephone

9/15/00

William Stratton
2 Akima Lane
Los Alamos, NM 87544
505 (672)_3706

My name is William Stratton, 2 Akima Lane, Los Alamos, NM 87544. My telephone 505 (672)_3706. I would like to receive the summary of the Programmatic Nuclear Infrastructure Environmental Impact Statement (NIPEIS). I just learned that there's now another scheme to shut down the Fast Flux Test Facility. The Fast Flux Test Facility is the only sodium cooled reactor operating in the United States. For the future it is certainly vital to keep this going. In the mean time it is useful in producing isotopes for medical applications and probably for industrial applications. I think it should be considered more widely, more broadly than the small number of hearings that you've outlined to me. There is no hearing in the Southwest where we at Los Alamos might have commented or people from Sandia or Albuquerque. We are a rather significant part of the nuclear family in this country. So please send me the summary volume and record the fact that I object to shutting down the FFTF. I think we need to have all the isotope production in this country that we can obtain. We've been dependent upon Canada for a long time. I think we should have our own sources. We should have our own long range development program for future electric power reactors. Please send this summary as soon as possible. My letter will follow shortly. Certainly for something of this magnitude, the comment period should be longer. Thank you.

1774-1

1774-2

1774-3

1774-4

1774-1

Response to Commentor No. 1774

1774-1: DOE notes the commentor's support for Alternative 1, Restart FFTF, and opposition to Alternative 5, Permanently Deactivate FFTF.

1774-2: DOE notes the commentor's request for an additional public hearing in the Southwest United States and extension of the public comment period. During the public comment period, July 28 through September 18, 2000, DOE hosted seven public hearings. In accordance with NEPA, hearings were held in appropriate localities including near the locations potentially affected by the proposed actions as well as in locations where the public had expressed a substantial interest in the decisions to be made. These locations included Oak Ridge, Tennessee; Idaho Falls, Idaho; Hood River, Oregon; Portland, Oregon; Seattle, Washington; Richland, Washington; and Crystal City, Virginia (outside Washington, D.C.). For persons unable to attend these hearings or living outside of the areas, the public also had the opportunity to comment on the Draft NI PEIS through the U.S. mail, e-mail, a toll-free fax number, and a toll-free phone number.

The Council on Environmental Quality's (CEQ) "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act" (40 CFR 1506.10(c)) require that a minimum of 45 days be allowed for public comment on the Draft NI PEIS. As stated in the Notice of Availability (65 FR 46443 et seq.), the public comment period began on July 28, 2000 and continued to September 18, 2000. In preparing the Final PEIS, DOE has assessed and considered both oral and written comments received on the Draft PEIS during the public comment period and has responded to these comments in the Final PEIS. Volume 3 of the NI PEIS contains public comments received on the NI PEIS and DOE responses to those comments. Moreover, late comments were considered to the extent practicable.

1774-3: DOE notes the commentor's opposition to Alternative 5, Permanently Deactivate FFTF, and support for isotope production in the United States. The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. Under the NI PEIS proposed action and consistent with its mandates under the Atomic Energy Act, DOE would enhance its existing nuclear facility infrastructure to, among other things, more effectively support production of radioisotopes for medical applications and research. DOE's intent is to complement commercial sector capabilities to ensure that a reliable supply of isotopes is available in the U.S. to meet future demand, and to encourage the commercial sector to privatize the production of

Commentor No. 1774: William Stratton (Cont'd)

Response to Commentor No. 1774

isotopes that have established applications to a level that would support commercial ventures. FFTF operation would not eliminate the need to acquire isotopes from foreign sources, including Canada.

1774-4: DOE notes the commentor's opinion about the need for development of future electric power reactors. As discussed in Section 1.2.3 of the NI PEIS, the Nuclear Energy Research Advisory Committee (NERAC) Subcommittee on Long-Term Planning for Nuclear Energy Research has set forth a recommended 20-year research and development plan to guide DOE's nuclear energy programs in areas of material research, nuclear fuel, and reactor technology development. This plan stresses the need for DOE facilities to sustain the nuclear energy research mission in the years ahead. Such nuclear research and development initiatives requiring an enhanced DOE nuclear facility infrastructure fall into three basic categories: materials research, nuclear fuel research, and advanced reactor development. Further information on the need for nuclear energy research and development is provided in Section 1.2.3 of Volume 1.