

Commentor No. 1491: Patricia L. Clark

September 13, 2000

Ms. Colette Brown
DOE
Office of Space and Defense Power Systems

Dear Ms. Brown,

Your Department's recent proposal to expand the civilian nuclear infrastructure, outlined in the *Draft Programmatic Environmental Impact Statement for accomplishing expanded civilian nuclear energy research and development and isotope production mission in the United States, including the role of the Fast Flux Test Facility*, raises significant nuclear weapons proliferation and environmental issues.

As a member of the Snake River Alliance I have become aware of the serious nuclear contamination and waste problems at INEEL. INEEL is one of the most contaminated areas in America. The Department's recent estimate on cleaning up our site is \$22 billion and is expected to take 50 years—longer than any other DOE facility. In addition, we have over 360 individual superfund sites within the 890 sq. mile area that comprises INEEL. With this known, the last thing we need is a plan to generate more nuclear waste at a site that needs more waste like the DOE needs security scandals. Out of concern for Idaho's environment, I strongly urge you not to pursue the plutonium-238 production mission outlined in your PEIS.

One of the most daunting problems confronting cleanup at major DOE facilities such as Hanford and INEEL, is the solidification of liquid high-level nuclear waste. Your current plan for plutonium-238 production entails the generation of approximately 288,000 additional gallons of this waste over the project's 35 year span. While this is a small portion of Hanford's high level waste, it is approximately one fifth of what we have remaining here in Idaho, which makes it a very significant amount. Previous leakage of this waste at INEEL and Hanford threatens our water supplies. What we certainly don't need is any more of this most highly problematic of waste forms.

Given the certain risks inherent in production of plutonium, the justified need for this material would have to be tremendous, and the PEIS does a poor job of providing ample justification. Beyond the risks involved in production, and the aforementioned resulting waste problem, there is also the issue of an accident occurring upon lift-off or reentry of a space probe carrying this material. The cassini probe, launched in 1997, carried 72 pounds of Pu-238. The potential for an explosion during lift-off or upon an inadvertent reentry during the fly-by phase, gave many in the scientific community pause, including scientists within NASA. According to NASA's own conservative estimate, a burn up upon reentry of the cassini probe could have caused 2,300 cancer fatalities, independent analyses ranged much higher. This potential for a catastrophic release of this extremely toxic material will remain so long as the US government remains committed to the use of plutonium-238. If DOE is to have a role in developing power systems for NASA's instrumentation, it should focus on promising solar technology, an alternative that has been promoted in the European scientific community.

There are also proliferation concerns as it pertains to this plan. A return to production of this isotope, however poorly justified, means a return to the use of aqueous reprocessing at DOE facilities where this technology has been used to extract bomb material for the weapons program. From President Carter to presidents Bush and Clinton, US policy has been to halt reprocessing in this country in order to set a global precedent to curtail the spread of nuclear weapons material—a noble effort in serious need of bolstering through action.

Indeed, an otherwise lukewarm *Nuclear Infrastructure Nonproliferation Impact Assessment* conducted by your Office of Arms Control and Nonproliferation questions whether our commitment to nonproliferation isn't weakened by the use of the Fluorinel Dissolution Process Facility within Building 666 at INEEL.

Response to Commentor No. 1491

- 1491-1:** The commentor's position regarding plutonium-238 production at INEEL is noted. Production of plutonium-238 at one or more of the candidate sites would be conducted in support of NASA's deep space missions (Volume 1, Section 1.2.2 of the NI PEIS). As discussed in Sections 4.3.2.1.13 and 4.4.2.1.13 of the EIS, selection of the Fluorinel Dissolution Processing Facility and/or the Advanced Test Reactor to support production of plutonium-238 would have no significant impact on the waste management system at INEEL. Use of any of the facilities proposed in this PEIS for the stated missions would not impact cleanup missions at DOE sites.
- 1491-2:** 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.
- 1491-3:** 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; 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

Commentor No. 1491: Patricia L. Clark (Cont'd)

INEEL's reprocessing facility is next door to a wet storage unit for Navy spent fuel, which contains a greater than average amount of highly enriched uranium. It was reprocessed from 1953 to 1989 at INEEL for the weapons program. Use of this facility to carry out plutonium-238 extraction, especially considering the dubious need for this isotope, at the very least raises the concern that DOE is not fully committed to ending reprocessing. The international community cannot be expected to trust DOE's civilian-mission claim when an agency devoutly committed to development of weapons uses a nuclear weapons technology at a weapons facility.

Considering all these factors that could adversely affect our environment and commitment to nonproliferation, I strongly urge you to select alternative 5 in the current PEIS. This alternative would allow the Advanced Test Reactor at INEEL to continue producing medical and industrial isotopes for the commercial sector and would not lead to the production of anymore highly radioactive liquid waste at Hanford or INEEL. The main mission at these two facilities has been and should continue to be cleanup of the mess left over from previous nuclear weapons work. Additional waste production would interfere with this already difficult and expensive work. Alternative 5 also calls for the decommissioning of the FFTF reactor at Hanford. FFTF is an aging breeder reactor whose use would be inconsistent with United States policy to discourage use of this technology due to the capability this class of reactors has to produce more plutonium than is consumed. Thank you for the opportunity to comment on this plan.

Sincerely,

Patricia L. Clark
3120 Crescent Rim # 305
 Boise, Id. 83706

1491-5
(Cont'd)

1491-6

Response to Commentor No. 1491

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.

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.

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.

- 1491-4:** DOE notes the commentor's concern for NASA's use of nuclear materials for space missions and interest in the development of alternative energy sources for 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. 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. The Cassini fly-by occurred exactly as planned, with no release of nuclear material.
- 1491-5:** The commentor is correct in stating that the aqueous processing technology that would be used to separate plutonium consisting of over 80 percent plutonium-238 and neptunium from the irradiated target is similar to the technology that was used to extract plutonium-239. However, unlike plutonium-239, plutonium-238 is not used in nuclear weapons, but rather it would be used as a power source for NASA space missions. The technology that is discussed in EIS Sections S.3, 2.2.3 and A.1.4 would be used to chemically separate plutonium-238 and neptunium from irradiated targets and not from irradiated or spent nuclear fuel whereas reprocessing separates weapons grade plutonium-239 from irradiated nuclear fuel. As discussed in the separate nonproliferation

Commentor No. 1491: Patricia L. Clark (Cont'd)

Response to Commentor No. 1491

impact assessment report, 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 juxtaposition of INEEL Building 666 to wet storage of highly enriched uranium Navy spent nuclear fuel and its previous mission of reprocessing spent nuclear fuel were considered in the separate nonproliferation impact assessment.

- 1491-6:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF. It should be noted that medical isotopes would continue to be produced at ATR regardless of which alternative is selected in the Record of Decision. The FFTF would produce spent nuclear fuel and low-level radioactive waste, and as discussed throughout Section 4.3 of Volume 1, none of the proposed alternatives would add waste to the high-level waste tanks at Hanford or INEEL. Also, it should be pointed out that while FFTF supported the breeder reactor program, it is not itself a breeder reactor, but rather a fast flux research reactor.

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

With respect to cleanup of wastes at Hanford or INEEL, the proposed action and the existing cleanup missions are independent programs and actions related to one will not impact the other. While the cleanup activities at both Hanford and INEEL are high priority to DOE, it should

Commentor No. 1491: Patricia L. Clark (Cont'd)

Response to Commentor No. 1491

be noted that the cleanup of legacy wastes is beyond the scope of the NI PEIS.

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

Commentor No. 1492: Evelyn Campbell

FROM : COAST MORTGAGE

FAX NO. : 5097360702

Sep. 14 2000 09:55AM P1

Sept. 14, 2000

Colleen Brown
Office of Nuclear Energy
U.S. Department of Energy

Dear Ms. Brown,

I stand adamantly in favor of restarting
FFTF at Hanford.

This facility stands ready for re-start
and will offer the citizens of America the
radical isotopes they need instead of looking
them from other countries. America needs to be on
the leading edge of science!

Some opponents propose building a
facility in another state - that's ludicrous and
an absolute waste of taxpayer's money.

This facility has a good track record and
a team of workers already on-site.

Keep FFTF at Hanford! Help all the
people in my family with cancer - and millions more!

Evelyn Campbell
3404 Mount Daniel Drive
West Richland, WA 99353

Response to Commentor No. 1492

1492-1

1492-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1493: Beth J. Christiansen

FROM : LEE E CHRISTIANSEN PHONE NO. : 503-297-4358 Sep. 14 2000 07:25PM P1

Juno e-mail for bethg-mom@juno.com printed on Thursday, September 14, 2000, 7:59 PM

From: "beth j christiansen" <bethg-mom@juno.com>
To: nuclear.infrastructure-PEIS@hq.doe.gov
Date: Thu, 14 Sep 2000 18:42:40 -0700
Subject: restart if FFTF

To the Department of Energy,

I'm writing on behalf of my many friends and family members who live in the state of Oregon very near the Columbia River. Promises and mission statements by your department have been made to close down the FFTF facility at Hanford in the best interest of our environment and the health and welfare of the citizens of Oregon. Now there is the possibility of restarting it in December for no good reason known to the public. Facts known to a few who have had to "dig out" the information after much investigation show that the restart is not necessary for reasons the Dept. claims. Since an atmosphere of mistrust prevails due to unkept promises and unpublicized information I would like to voice an opinion of those people mentioned in my first sentence.

Hanford's high level nuclear waste tanks are already leaking radioactive waste into groundwater which is moving closer to the Columbia River and threatening the life of the river and people downstream. Restart of FFTF will add more waste to the nuclear waste tanks endangering our future as human beings.

What are you thinking?? Please don't tell me it is an economic necessity or an energy conservation plan or a medical research plan or a space exploration plan or any other plan that is proven to not be necessary.

Please don't do this to us.

Yours truly,

Beth J. Christiansen, citizen of OR concerned about our future

citizens!

1493-1

1493-2

1493-3

1493-1

1493-4

1 of 1

Response to Commentor No. 1493

1493-1: DOE notes the commentor's views regarding the potential use of FFTF for enhancing DOE's existing nuclear facility infrastructure. 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, 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.

1493-2: DOE notes the commentor's concerns regarding the migration of contaminants 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.

More specific to the DOE missions presented in the NI PEIS, no high level waste will be added to the Hanford high-level nuclear waste tanks as a result of operating FFTF. Additionally, FFTF is located 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 in place outside the Hanford Reservation as a result of Hanford activities.

Commentor No. 1493: Beth J. Christiansen (Cont'd)

Response to Commentor No. 1493

1493-3: 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. This waste would not be stored in the high-level radioactive waste tanks. 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.

1493-4: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1494: Susan Hamilton

From: Susan Hamilton[SMTP:SHAMILTON@BMI.NET]
Sent: Wednesday, September 13, 2000 1:46:29 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Cc: Victor Saavedra
Subject: Opposition Hanford FFTF restart
Auto forwarded by a Rule

|| 1494-1

Response to Commentor No. 1494

1494-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1495: Charlene G. Cooper**Cooper, Charlene G**

To: Nuclear.infrastructure-pels@hq.doe.gov
 Cc: colette brown
 Subject: FFTF

hi my name is charlene I am a health physics tech at CH2M Hill I have been working on site since 1991. I think it would be a great opportunity for the people in this community and surrounding areas to have FFTF restarted and to make the isotopes needed for medical research needed for the people in this country. I don't feel that this would take away from the cleaning up of hanford as it would open up jobs for new people with the skills to operate FFTF's program. I would love to be a part of that mission someday. there would also be the opportunity for new skilled personnel to come to hanford to work from other sites and the cleanup project will still continue with the same amount of people as now. I mean what about the glassification project thats not going to take away from the cleanup so how will restarting FFTF make DOE stray away from the cleanup of hanford. there are all kinds of new projects forming out here on site and DOE is still focused on cleanup. Please think about this before turning down the FFTF restart.

Colette Brown,
 U.S. DOE,
 Office of Space & Defense
 Power Systems
 NE-50 19901
 Germantown, MD
 Germantown, MD 20874-1290

Response to Commentor No. 1495

1495-1

1495-1: DOE notes the commentor's support for Alternative 1, Restart FFTF. DOE will ensure that Hanford's efforts remain focused on its current high-priority cleanup mission. The restart of FFTF would not have an impact on the cleanup mission at Hanford.

Commentor No. 1496: Alison and Bob Hodges

Response to Commentor No. 1496

09/15/00 FRI 08:56 FAX

001/003

Draft PEIS Comment Form

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT



Hanford is still contaminated and a threat to our environment and health. We will continue to attend these meetings and try to make our voice heard.
 Clean up should be your #1 priority. It is irresponsible for you to consider any sort of start up and to accept additional toxic materials for storage.
 Listen to our ~~words~~ comments. Stop having these redundant meetings and focus your energy instead on cleaning up the ~~plum~~ that continues to grow.

1496-1
 1496-2
 1496-3
 1496-1

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): Alison + Bob Hodges
 Organization: _____
 Home Organization Address (circle one): 44 Wallace Rd
 City: White Salmon State: WA Zip Code: 98672
 Telephone (optional): 509-493-4342
 E-mail (optional): bhodges@qarg.net

COMMENTS MUST BE POSTMARKED BY September 18, 2000

For more information contact: Colthe E. Brown, NE-60
 U.S. Department of Energy • 19921 Germantown Road • Germantown, MD 20852
 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

- 1496-1:** 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.
- 1496-2:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF. Management of wastes that would be generated under implementation of Alternative 1, Restart FFTF, is discussed in Section 4.3 of Volume 1 (e.g., see Section 4.3.1.1.13). Section 4.3.1.1.13 was revised to clarify that the Hanford waste management infrastructure is analyzed in this PEIS for the management of waste resulting from FFTF restart and operation. This analysis is consistent with policy and DOE Order 435.1, that DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical; or at another DOE facility. However, if DOE determines that use of the Hanford waste management infrastructure or other DOE sites is not practical or cost effective, DOE may issue an exemption under DOE Order 435.1 for the use of non-DOE facilities (i.e., commercial facilities) to store, treat, and dispose of such waste generated from the restart and operation of FFTF. In addition, Section 4.3.3.1.13 and 4.4.3.1.13 also address the potential impacts associated with the waste generated from the target fabrication and processing in FMEF and how this waste would be managed at the site.
- 1496-3:** DOE is committed to providing the public with comprehensive environmental reviews of its proposed actions in accordance with NEPA, and holding public hearings is an essential and required part of the NEPA process. In preparing the Final NI PEIS, DOE carefully considered comments received from the public.

**Commentor No. 1497: Andrew C. Klein
Oregon State University**

09/15/00 08:36 ☎541 737 0480

RADIATION CENTER

001/002

RADIATION CENTER



OREGON STATE UNIVERSITY
100 Radiation Center, Corvallis, Oregon 97331-5903
Telephone 541-737-2341 Fax 541-737-0480

To: Collette Braun

Location: DOE

Fax #: 877-562-4592

Voice #: 877-562-4593

From: Andy Klein

Department: NE

Fax #: (541) 737-0480

Voice #: (541) 737-2341

Comments:

Collette & Here are my comments to add to Ross for
the PERIS.
A. Klein

Note: If any part of this message is missing or received poorly, please call (541) 737-2341 as soon as possible.

Number of pages, including cover page: 2

Today's Date: 9-15-00 Time: 9:30 AM

Response to Commentor No. 1497

Commentor No. 1497: Andrew C. Klein (Cont'd)
Oregon State University

09/15/00 08:36 541 737 0480

RADIATION CENTER

002/002

September 15, 2000

Dear Secretary of Energy Richardson:

After a detailed personal and professional review of the Nuclear Infrastructure PEIS I find that it comprehensively discusses and justifies the needs to maintain and expand the nation's radioisotope production capabilities and the civilian nuclear energy infrastructure. This review included my participation in sessions aimed at searching for common ground between proponents and opponents of re-starting the Fast Flux Test Facility. It is my conclusion that the three areas covered in the PEIS: medical and industrial radioisotope production, Pu-238 production for space missions, and civilian nuclear energy research and development are all valuable roles that the U.S. government must maintain and expand if the world's future generations are to continue to move toward a higher quality of life.

I fully support Alternative 1 stated in the PEIS - Restart FFTF as the best and only option that can completely accomplish these objectives. There is absolutely no doubt in my mind that FFTF can safely provide the neutron irradiation services and nuclear energy research and development opportunities that are required to allow cancer patients to survive, humankind to reach to the stars, and scientists and engineers to further develop greenhouse gas emission free nuclear generated electricity well into the 21st century. None of the other alternatives or options included in the PEIS can accomplish these missions.

Medical revolutions must be fostered, supported and encouraged to enable new diagnostic and therapeutic techniques to improve the quality of life of the World's citizens. Radioisotopes from FFTF and nuclear research and investigations using these isotopes can and will provide enhanced quality and length of life for millions of people.

Humankind has an innate desire for exploration and discovery and nuclear power (including the use of Pu-238) is the best and often only way to accomplish robotic and human missions into space where sunlight is inadequate to provide the necessary power to sustain exploration activities. Pu-238 and it's engineered applications have a long history of providing safe and reliable power to space missions and the U.S. must maintain adequate domestic supplies if it is to continue to be the world-wide leader in space exploration and discovery.

The expansion of nuclear energy research and development is absolutely necessary if the world is to avoid the dual negative consequences of excessive dependence on fossil fuels for electricity production and global warming. The world must have a balanced energy supply and nuclear power has a well-deserved reputation for safely producing important quantities of greenhouse gas emissions free electricity.

Thus, I highly encourage you to select Alternative 1 of the Nuclear Infrastructure PEIS for implementation. It is the right decision for today and the future health and well being of the country's citizens.

If you have any questions about my comments or understanding of these issues, I would be very glad to discuss them with you or your Staff further.

Sincerely,



Andrew C. Klein
Professor and Head, Department of Nuclear Engineering
Director, Oregon Space Grant Program

130 Radiation Center
Oregon State University
Covallis, OR 97331-5902

Phone: 541-737-2343
Fax: 541-737-0480
email: klein@ne.orst.edu

Response to Commentor No. 1497

1497-1 1497-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1498: Anonymous

NI PEIS Toll_Free Telephone

9/15/00

Anonymous

I strongly oppose the restart of the nuclear reactor at Hanford. We need to clean up Hanford not have more activity there. We live down_river. Thank you.

|| 1498-1

|| 1498-2

Response to Commentor No. 1498

1498-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1498-2: 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. 1499: Anonymous

NI PEIS Toll_Free Telephone

9/15/00

Anonymous

Hi, I was just calling to say that I oppose the restart of the FFTF nuclear reactor at Hanford. I hope that does not happen. Bye.

1499-1

Response to Commentor No. 1499

1499-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1500: Sue Henry

NI PEIS Toll_Free Telephone

9/15/00

Sue Henry

My name is Sue Henry and I would like to go on record as saying that I oppose the restart of the nuclear reactor at Hanford. I am a tax_paying, voting citizen. Thank you.

1500-1

Response to Commentor No. 1500

1500-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1501: Carl Long

NI PEIS Toll_Free Telephone

9/15/00

Carl Long
Washington

Yes hello, my name is Carl Long. I'm a citizen of Washington state and I am concerned about the lobbyists trying to convince the Department of Energy to approve the restart of the FFTF, that Fast Flux Testing Facility nuclear reactor at Hanford and I am, like many, totally opposed to the restart of this. I'd like to see the area totally cleaned up and let's move on. If you want any other comments or discussion please feel free to call me at (360) 256_6643. Thank you for your time. Have a nice weekend.

1501-1

1501-2

1501-3

Response to Commentor No. 1501

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- 1501-1:** Selection of facilities and site locations for accomplishing expanded civilian nuclear energy research and development and isotope production missions is not being driven by special interests working on behalf of any corporate, institutional, or other non-governmental entity with a stake in the decisions to be made. The facilities and locations evaluated in this NI PEIS represent a range of reasonable alternatives for accomplishing the DOE missions and serve to enable DOE to meet its responsibilities under the Atomic Energy Act.
- 1501-2:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.
- 1501-3:** DOE notes the commentor's 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. 1502: Agnes Schmoe

NI PEIS Toll_Free Telephone

9/15/00

Agnes Schmoe
24410 SE 103rd Street
Issaquah, WA 98027

I received a draft of the summary of the draft Programmatic Environmental Impact but I got a card that says there's also a report on the cost report and the Nuclear Infrastructure Impact Assessment. I would like those two. And if they are summaries, that would be acceptable.

I really feel very badly about our government going ahead with startup of the Fast Flux at this point. There have been mistakes and we certainly should learn from the one that was in Russia. And anyway I would like the Fast Flux information that you have. I hope we don't leave a planet that is not habitable for my great_grandchildren.

Thank you.

1502-1

Response to Commentor No. 1502

1502-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1503: Anonymous

NI PEIS Toll_Free Telephone

9/15/00

Anonymous

Hi. I'm a voter calling to add my voice against the Fast Flux Test Facility at Hanford. I feel very strongly about this and I would like to have my voice added against this. Thank you.

1503-1

Response to Commentor No. 1503

1503-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1504: Angel Tyse Colton

NI PEIS Toll_Free Telephone

9/15/00

Angel Tyse Colton
4822 Rimrock
Colton, WA 99113

Hello. A message please for Colette Brown that I support Alternative 5 which is a no to the restart of the FFTF nuclear reactor at Hanford nuclear reservation in Washington state.

Thank you very much.

1504-1

Response to Commentor No. 1504

1504-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF, and opposition to Alternative 1, Restart FFTF.

Commentor No. 1505: Dana Gerome Ameo

NI PEIS_Toll Free Telephone

9/15/00

Dana Gerome Ameo
Chaktow, OR

Hi my name is Dana Gerome Ameo and I live in Chaktow, Oregon. I'm calling to leave the message to say that I oppose the restart of the FFTF nuclear reactor at Hanford. Thank you.

|| 1505-1

Response to Commentor No. 1505

1505-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1506: Evan McFadden

NI PEIS Toll_Free Telephone

9/14/00

Evan McFadden
Portland, Oregon

Yes, my name is Evan McFadden, I'm from Portland, Oregon. I'm calling to say I would prefer than you not restart the FFT nuclear reactor. FFTF I think. Thank you.

|| 1506-1

Response to Commentor No. 1506

1506-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1507: Mary Hanson

NI PEIS Toll-Free Telephone

9/14/00

Mary Hanson
(206) 528_0289

Hi. I'm asking you on the PEIS to go for Option 5 at Hanford. That would be, close FFTF permanently with no new missions. There are...I went to the hearing here in Seattle on the 30th and I put my name in but my number just never came up so I was not allowed to speak.

1507-1

What I would have said if I had been allowed to speak would have been, that it is, that the search for missions seems suspect at this time, unfortunately the culture, the history at Hanford and at FFTF does not inspire confidence.

1507-2

In my view the focus has to be totally on cleanup and the whole question of bringing isotopes and fuel and all these other issues in clouds the picture and adds to the waste stream and is in, I mean, it's just over for Hanford, I mean it's done, they've had second chances, third chances, fifth chances, nineteenth chances, agreements, it's that there just isn't, that is not a solid enough outfit to trust with something as potentially dangerous as some kind of nuclear mission, other than cleanup. You know, it's going to be rough enough and tough enough for them to get cleanup right. I feel for the people, but on the other hand we're in a very strong, we're not in an economy where people are having a hard time finding work, which has been the case during sometimes this whole scenario as it has played out.

1507-3

So, there again my opinion is no new missions. Close FFTF permanently. Thank you for your time. Bye.

1507-1

Response to Commentor No. 1507

1507-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

1507-2: All members of the public that requested an opportunity to speak at the hearing were given numbers. The numbers were placed in a container and picked at random to establish the speaking order. When the container was empty, the meeting facilitator said "Are there any additional ticket holders out there who've not been called? Is there anyone who does not have a ticket who wanted to speak? If not, this concludes the meeting." (See the last page of the Seattle Hearing transcripts). In addition, several times during the meeting the facilitator announced that members of the public could provide comments to a DOE official in a room adjacent to the hearing room. It was also announced that the comments would be recorded by a court recorder and have the same status as comments made in the hearing. The commentor apparently left the hearing before her number was called and did not take advantage of the opportunity to give formal comments to a DOE official and court recorder in the adjacent room.

DOE notes the commentor's views regarding the potential use of FFTF for enhancing DOE's existing nuclear facility infrastructure. 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, 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.

1507-3: Restoration of the Hanford Site and waste management activities are the primary missions at Hanford. With respect to waste management and

Commentor No. 1507: Mary Hanson (Cont'd)

Response to Commentor No. 1507

cleanup issues, 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. FFTF restart would not impact the cleanup missions at Hanford.

Commentor No. 1508: Jonathan Mark

NI PEIS Toll-Free Telephone

9/14/00

Jonathan Mark
PO 1999, Wendell Depot, MA 01380

Hi, this is Jonathan Mark, I've sent in an e-mail comment about the expected expansion of plutonium development especially plutonium 238. I just wanted to see if the request for proposal deadline has been extended to September 18th, that's good. You can send me, just the summary to Jonathan Mark, at PO 1999, Wendell Depot, MA 01380 .

The only other comment I wanted to add is that there is about 160 species disappearing each day and the lifetime of plutonium radiation and its harmful effects lasts much longer than we have awareness of what the problems that really may arise. There's a lot of ideas that Lyme disease and other such genetic changes of deer ticks causing great problems has been due to radioactivity. Millstone and other plants in Connecticut that altered this incident that's harming many, many people's lives. The lives of workers, the lives of the instability of the political process, it would be better off committing to disarmament, and not expanding plutonium development. We don't need to understand outer space so much that we have to threaten our very home. If we can develop space programs that don't threaten our home, than it's a good use of technology and ideas and I'm all support of it. But when it threatens life, and radiation does threaten life, it only takes one decaying atom shown in a 1997 report, showing that the alpha waves of radioactivity when it's internalized inside a body can cause a cancer reaction. It's just a bad idea, so I urge all those involved at DOE and the Defense Department to reconsider the expansion of Plutonium development and transform the direction towards total disarmament of dangerous amounts of radioactivity that can harm people. Thank you for listening to this, but I would thank you much more if you would take any action in this regard.

1508-1

Response to Commentor No. 1508

1508-1: DOE notes the commentor's concern for NASA's use of nuclear materials for space missions, interest in the development of alternative energy sources for space missions, and concern for the use of nuclear power in space-based weapons, although issues such as NASA research priorities are 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. It should be noted that none of the missions stated in the NI PEIS are defense- or weapons-related.

Commentor No. 1509: Sylvia Haven

NI PEIS Toll_Free Telephone

9/14/00

Sylvia Haven
Seattle, WA

Yes, I am vehemently opposed to the restarting of the Hanford FFTF nuclear reactor, mainly because it will make more problems for our environment and it doesn't seem, by some experts I've heard speak, that it's absolutely necessary and it might even, in fact, be a problem with the negotiated treaties that we've made with other people not to Produce more plutonium and bomb material.

Thank you very much for listening. Good_bye.

1509-1

1509-2

1509-3

Response to Commentor No. 1509

- 1509-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF. As shown in Chapter 4 of the PEIS, impacts to the environment are small for all the alternatives.
- 1509-2:** DOE notes the commentor's views regarding the potential use of FFTF for expanding DOE's existing nuclear facility infrastructure. 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, 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.
- 1509-3:** The use of FFTF to produce plutonium-238 does not mean that the process would produce plutonium-239, which is a weapon useable material. Unlike plutonium-239, plutonium-238 is not used in nuclear weapons, but rather it would be used as a power and heat source for NASA space missions. The technology that is discussed in the PEIS Sections S.3, 2.2.3 and A.1.4 would be used to chemically separate plutonium-238 and neptunium from irradiated targets and not from irradiated or spent nuclear fuel, whereas reprocessing separates weapons grade plutonium-239 from irradiated nuclear fuel. As discussed in the separate nonproliferation impact assessment report, use of this technology to produce plutonium-238 from irradiated targets will not create a nonproliferation threat.

Commentor No. 1510: Marc-Daniel Domond

NI PEIS Toll_Free Telephone

9/14/00

Marc_Daniel Domond

Hello. I'm calling because I don't agree with the restart of the nuclear reactor that's going to make the FFTF reactor take place because I feel that it's really dangerous to our well_being. Living in the Portland area, I mean, I already know that it's leaking radioactive waste and that type of thing so I am really definitely opposed to it. I'm a college student at the University of Oregon, so you can give Me a call at (503) 358_0722. Thanks a lot.

1510-1

1510-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1510-2

1510-2: 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.

The environmental impacts associated with operation of the FFTF are addressed in Section 4.3 of Volume 1 of the NI PEIS. The impacts are shown to be small. These impacts specifically include the risks to human health during normal operations and associated with postulated accidents. Over the 35-year operational period no fatalities would be expected among workers or in the general public in the vicinity of Hanford or at distant locations. For perspective, the radiation dose the average American receives from naturally occurring radiation sources is about 300 mrem each year. Based on the same 35-year time period used above the health risk from the natural non-Hanford related radiation exposure would be 2,600 latent cancer fatalities to the same population.

All environmental parameters (e.g., air, soil, surface water, groundwater, vegetation, animals, etc.) in and around the Hanford Site are monitored on a set frequency. The information is available to the public in annual monitoring reports. No food or water restrictions are currently in place outside the Hanford Reservation as a result of Hanford activities.

Commentor No. 1511: Wrsew@aol.com/Theresa

From: Wrsew@aol.com%internet
[SMTP:WRSEW@AOL.COM]
Sent: Friday, September 15, 2000 9:47:46 AM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: FFTF restart YES!
Auto forwarded by a Rule

To Sec. of Energy:

Restart FFTF now. Make FFTF the preferred alternative.
Restart FFTF for medical isotope production.

Thanks,
Theresa

|| 1511-1

Response to Commentor No. 1511

1511-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1512: Wrsew@aol.com/Kitt

From: Wrsew@aol.com%internet
[SMTP:WRSEW@AOL.COM]
Sent: Friday, September 15, 2000 10:01:12 AM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: YES for FFTF restart
Auto forwarded by a Rule

Hi,

Please restart FFTF for medical isotopes. It is needed.

Thank you,
Kitt

|| 1512-1

Response to Commentor No. 1512

1512-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1513: Paul Ballard

From: Paul Ballard[SMTP:PBALLARD@OZ.NET]
 Sent: Friday, September 15, 2000 10:00:44 AM
 To: INFRASTRUCTURE_PEIS, NUCLEAR
 Cc: Amber Waldref
 Subject: FFTF restart
 Auto forwarded by a Rule

Colette E. Brown
 US Department of Energy, NE_50
 19901 Germantown Road
 Germantown, MD 20874_1290

Don't restart the FFTF Nuclear Reactor at Hanford . The Hanford region needs the long overdue promise of clean_up, NOT another dangerous addition to the carnage. There must be another way.

Medical isotopes is a red herring. Future demands for medical isotopes can be met using other facilities.

Future needs for plutonium to power NASA space missions can be met using existing supplies, supplemented by foreign sources if necessary.

Weigh all of the costs in making this decision _ costs which extend out to the life of the waste produced and are going to be inherited by generations unborn beyond the length of recorded history.

I encourage choosing ALTERNATIVE #5: SHUT DOWN FFTF!!

This issue is growing into one of the most important issues to me. It is the main reason I am losing support for both of our Senators. It is one of the few issues which can get me out in the street and cause me to donate money. Over 20 years ago I devoted 3 years to stopping WPPSS. We succeeded. Don't get me started again.

Paul Ballard
 416 NW 92nd
 Seattle, WA 98117
 206 782 0924

|| 1513-1

|| 1513-2

|| 1513-3

|| 1513-4

|| 1513-5

|| 1513-6

Response to Commentor No. 1513

1513-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 5, Permanently Deactivate FFTF.

1513-2: 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.

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.

1513-3: 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.

Although other manufacturers produce medical isotopes, 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. However, supplies of many research isotopes are not readily available from existing domestic or foreign sources, causing a number of medical research

Commentor No. 1513: Paul Ballard (Cont'd)

Response to Commentor No. 1513

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. 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. 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.

1513-4: 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.

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.

1513-5: The costs of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Cost Report 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 purpose of this NI PEIS is to evaluate the environmental impacts of a range of reasonable alternatives to fulfill the requirements of the DOE missions, which include the production of medical and industrial isotopes, the production of plutonium-238 for NASA space missions, and nuclear research and development. DOE has made every effort to obtain and evaluate all of the information it needs to make a decision on expanding

Commentor No. 1513: Paul Ballard (Cont'd)

Response to Commentor No. 1513

civilian nuclear energy research and development and isotope production missions in the United States.

DOE's Record of Decision will be based on a number of factors including environmental impacts, public input, costs, nonproliferation impacts, schedules, technical assurance, and other policy and programmatic objectives.

1513-6: See response to comment 1513-1.

Commentor No. 1514: Joe Darden

From: Joe Darden[SMTP:JOEJAN2@HOME.COM]
Sent: Friday, September 15, 2000 10:17:37 AM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: I oppose the restart of the FFTF Nuclear Reactor at Hanford
Auto forwarded by a Rule

I oppose the restart of the FFTF Nuclear Reactor at Hanford

|| 1514-1

Response to Commentor No. 1514

1514-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1515: Andrea Perrine

From: Andrea Perrine
[SMTP:PERRINEA@HOTMAIL.COM]
Sent: Friday, September 15, 2000 10:43:05 AM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: Restart FFTF
Auto forwarded by a Rule

We need to restart FFTF and make our own medical isotopes, instead of relying on our neighbors for them.

1515-1

Response to Commentor No. 1515

1515-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1516: Paul Kylo

From: PKylo@nea.org%internet
[SMTP:PKYLLO@NEA.ORG]
Sent: Friday, September 15, 2000 11:02:20 AM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: ...no subject...
Auto forwarded by a Rule

I oppose the restart of FFTF Nuclear reactor at Hanford.
The isotopes are not needed for the stated purposes, and
the entire situation is a crisis waiting
to happen.

Paul Kylo
4054 IBEX St. NE
Salem, OR 97305

|| 1516-1

|| 1516-2

Response to Commentor No. 1516

1516-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1516-2: 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. The results of the analysis presented in the PEIS show that risks associated with operating FFTF are small.

Commentor No. 1517: Cyndy Maples

From: Cyndy Maples
[SMTP:CYNDY_MAPLES@PARKROSE.K12.OR.US]
Sent: Friday, September 15, 2000 11:22:10 AM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: I oppose the
Auto forwarded by a Rule

I oppose the restart of the FFTF Nuclear Reactor of Hanford.

|| 1517-1

Response to Commentor No. 1517

1517-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1518: L. L. Meyer

From: LMeyer1016@aol.com%internet
[SMTP:LMEYER1016@AOL.COM]
Sent: Friday, September 15, 2000 11:39:47 AM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: Re: FFTF
Auto forwarded by a Rule

It would seem that since FFTF has the capability to make medical isotopes, it should be made the preferred alternative to make them. It makes economic sense as well as being humane to use a facility to produce those isotopes that are so critical to human care.

L.L. Meyer

1518-1

Response to Commentor No. 1518

1518-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1519: Barbara Bradshaw

From: Barbara bradshaw
[SMTP:BARBARA_BRADSHAW@PARKROSE.K12.OR.US]
Sent: Friday, September 15, 2000 12:10:40 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Cc: Carol_halfverson@parkrose.k12.or.us%internet
Subject: COLUMBIA RIVER
Auto forwarded by a Rule

I OPPOSE THE RESTART OF TH FFTF NUCLEAR
REACTOR AT HANFORD

THANK YOU,
BARBARA BRADSHAW
PARKROSE MIDDLE SCHOOL

1519-1

Response to Commentor No. 1519

1519-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1520: Joe Chelini

From: Joseph M. Chelini
SMTP:JCHELINI@IN_TCH.COM]
Sent: Tuesday, September 19, 2000 12:23:02 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: Please restart the FFTF
Auto forwarded by a Rule

It appears that demand is larger than the present sources of isotopes used for cancer et al research and cure. The plant at Richmond can help alleviate this problem. Please give it a hard look.

Joe Chelini

1520-1

Response to Commentor No. 1520

1520-1: DOE notes the commentor's support for Alternative 1, Restart FFTF. It should be pointed out that FFTF is located at Hanford, not Richmond.

Commentor No. 1521: Hoi Tran

From: Hoi Tran
[SMTP:HOI_TRAN@PARKROSE.K12.OR.US]
Sent: Friday, September 15, 2000 12:12:10 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: Nuclear Reactor at Hanford!!!!
Auto forwarded by a Rule

I oppose the restart of the FFTF Nuclear Reactor at Hanford.

1521-1

Response to Commentor No. 1521

1521-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1522: Carmen Smith

From: Carmen Smith
[SMTP:SASSYREDHEAD7@HOTMAIL.COM]
Sent: Friday, September 15, 2000 12:45:50 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: ?Check_Subject
Auto forwarded by a Rule

No to reactivation of Hanford.Please

|| 1522-1

Response to Commentor No. 1522

1522-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1523: Mike Rogers

From: Mike Rogers[SMTP:GOLDBABY@RMCI.NET]
 Sent: Tuesday, September 19, 2000 2:08:04 PM
 To: INFRASTRUCTURE_PEIS, NUCLEAR
 Subject: INEEL comments
 Auto forwarded by a Rule

Ms. Colette Brown
 DOE, Office of Space and Defense Power Systems

Dear Ms. Brown,

I wish to comment on the current plan under consideration on the INEEL laboratory here in Idaho. I support Alternative 5 in which production of plutonium would not be re_initiated. The incredible amount of waste already sitting above our primary aquifer is unacceptable. Our priority as a nation should be cleaning up this threat to our populace, rather than adding to it.

Mike Rogers
 Boise, ID

1523-1

1523-2

Response to Commentor No. 1523

1523-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

1523-2: The commentor's positions regarding waste above the Snake River Plain aquifer and cleanup as a priority at INEEL are noted. The Snake River Plain aquifer and DOE's use of the aquifer are described in Volume 1, Section 3.3.4.2.1 of the NI PEIS. Analyses of water resource impacts that would result from selection of the Fluorinel Dissolution Process Facility as a fabrication/processing facility for production of plutonium-238 are given in Section 4.3.2.1.4 of the NI PEIS. An annual increase of 23,000 liters of process wastewater would result from plutonium-238 target processing. Under normal operations, no radioactive liquid effluent discharges would occur. Selection of the Fluorinel Dissolution Process Facility as a fabrication/processing facility would have no significant effect on the Snake River Plain aquifer. As discussed in Section 4.4.1.1.4, selection of the Advanced Test Reactor for irradiation of plutonium-238 targets would not measurably alter groundwater use or effluent discharge from the reactor.

Schedules for the nuclear infrastructure alternatives given in Volume 1, Section 2.7.2 indicate the plutonium-238 production mission at INEEL, if implemented, would end well before DOE's planned completion date of 2050 for accomplishing major cleanup objectives. Selection of candidate facilities at INEEL to support plutonium-238 production would not impact existing cleanup activities at INEEL.

Commentor No. 1524: Joy Prestridge

From: JOY PRESTRIDGE
[SMTP:JPRESTR@HOME.COM]
Sent: Friday, September 15, 2000 1:23:06 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: Future of FFTF
Auto forwarded by a Rule

The Hanford, WA Nuclear Facility should be reactivated to make radioisotopes to support the growth of this strong anti_cancer medical technology and provide better treatment opportunities for cancer patients.

As to the issue as to fuel for space vehicles, why should we buy from Russia when we can make our own.

Thank you.

Joy B. Prestridge
2006 N. 87th Dr.
Phoenix, AZ 85037
623_936_9775
jprestr@home.com

1524-1

Response to Commentor No. 1524

1524-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1525: Eunice and Bill A. Petrowicz

From: Petrowiczb@cs.com%internet
 [SMTP:PETROWICZB@CS.COM]
 Sent: Friday, September 15, 2000 1:28:02 PM
 To: INFRASTRUCTURE_PEIS, NUCLEAR
 Cc: KDDNEP@aol.com%internet
 Subject: Re: FFTF restart
 Auto forwarded by a Rule

:To Whom it may concern:

In regards to the FFTF facility, please consider a favorable decision to restart it to produce isotopes for the medical purposes. It seems to us that the investment of tax dollars in the facility is being wasted unless the facility is put to use. Your favorable consideration would be appreciated. Thank you.

Eunice and Bill A. Petrowicz
 2324 Grovedale Dr.
 Springfield, OR 97477_2104

1525-1

1525-2

Response to Commentor No. 1525

1525-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

1525-2: DOE notes the commentor's opinion. DOE's Record of Decision for the NI PEIS will be based on a number of factors including environmental impacts, public input, costs, nonproliferation impacts, schedules, technical assurance, and other policy and programmatic objectives.

Commentor No. 1526: S. M. Ziring

From: Smartyz@aol.com%internet
 [SMTP:SMARTYZ@AOL.COM]
 Sent: Friday, September 15, 2000 1:32:57 PM
 To: INFRASTRUCTURE_PEIS, NUCLEAR
 Cc: rhoffman@animatedsoftware.com%internet
 Subject: NI PEIS
 Auto forwarded by a Rule

Att: Colette E. Brown / DOE

In the Director Magwood communication of July 21, the DOE speaks of "alternatives" for producing PU_238. Ms. Brown, THERE ARE NO ALTERNATIVES !! Of the three mentioned, only the "no action" selection is plausible and sane.

You are seeking approval from the American public to support you in the manufacture of the deadliest brew that man has ever created, and I refuse to be an accomplice. To date, the DOE has proven to be incapable of harnessing the deadly, destructive potential of PU_238.

The price you want the American public to pay for the production of medical and industrial isotopes is too high. Environmental contamination at Hanford and Savannah continues. The number of contaminated victims at Piketon and Paducah continues to grow. A Fast Flux Test Facility in the hands of the DOE has already proven to be a threat to the American public. I urge "NO ACTION" for FFTF.

S.M. Ziring
 57 Boylston St. N.
 Meriden, CT 06450

1526-1

1526-2

1526-3

1526-4

1526-1

Response to Commentor No. 1526

1526-1: DOE notes the commentor's support for the No Action Alternative, under which FFTF would continue to be maintained in standby. Included in the PEIS are the results of analyses that show that the risks associated with operating the FFTF are very small.

1526-2: The commentor's position regarding production of plutonium-238 is noted. As discussed in Volume 1, Section 1.2.2 of the NI PEIS, DOE has supplied power systems that use plutonium-238 in support of NASA's space missions for over three decades. These systems have demonstrated their reliability and safety in a variety of space missions that include Apollo, Pioneer, Viking, Voyager, Galileo, Ulysses, Mars Pathfinder, and Cassini.

1526-3: The NI PEIS addresses the environmental impacts associated with the production of various isotopes, including those for medical and industrial purposes. The impacts are shown in Chapter 4, "Environmental Consequences," to be small. All air emissions and wastewater discharges would be in accordance with applicable permit and regulatory requirements such that any environmental contamination would be negligible.

DOE remains committed to its environmental restoration and cleanup missions at Hanford, Savannah River, and other sites independent of ultimate decisions on nuclear infrastructure activities. None of the alternatives proposed in this PEIS would have any impact on DOE site cleanup schedules or activities.

1526-4: DOE notes the commentor's concern for workers and the public near other DOE sites, although these issues are beyond the scope of this Nuclear Infrastructure PEIS.

Commentor No. 1527: Lorene Lamb**Lorene S. Lamb**Lorene S. Lamb
555 10th Street, #421
Oakland, CA 94607-4037

94601

Dear Colette Brown,

U.S. is polluting our earth. First it is with nuclear waste in the bullets that we use in our wars and now to use Plu 238 for powering systems in deep space missions.

Is this what you want to leave for your grand children?

Yours truly
Lorene Lamb

1527-1

Response to Commentor No. 1527

1527-1: DOE notes the commentor's concern for NASA's use of nuclear materials for space missions and concern for the use of nuclear materials in weapons, although issues such as NASA research priorities and the use of depleted uranium in weapons are beyond the scope of this NI 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. 1528: Thalia Syracopoulos
National Organization for Women**



4649 SUNNYSIDE AVENUE N ROOM #222
SEATTLE WASHINGTON 98103
(206) 632-8547

10 September 2000

I am writing on behalf of the Seattle Chapter of the National Organization for Women [NOW].

I have read the Summary of the Draft EIS and found almost no information about what isotopes the Fast Flux Test Facility [FFTF] at Hanford might be able to produce. I also found no information about what specific isotopes that the FFTF might produce are in short supply.

The Draft EIS went on to say that it is possible that the DOE's isotope production facilities could be fully used in 5-10 years but it was unclear as to whether or not the Hanford FFTF facility was counted in this calculation. This projection was apparently made in the context of a worldwide market for "some radioisotopes". One aspect of the argument for reopening the FFTF at Hanford seems to be that at present DOE's market share is a small fraction of the overall total worldwide market for "some radioisotopes". This leads one to wonder if the DOE is considering restarting the FFTF in order to capture a larger portion of the worldwide market rather than to produce isotopes that are truly in short supply.

The Summary of the Draft EIS discusses medical applications of isotopes and some are even listed. However, there is no information on the present availability of those listed. These isotopes were listed as a "sample of possible isotopes that could be produced and DOE expects the actual isotopes produced would vary from year to year". This appears to mean that no one really knows if the FFTF at Hanford is capable of producing needed isotopes and thus far no one has identified particular isotopes that might actually be needed. Such speculation hardly justifies the restarting of the FFTF at Hanford.

My own profession requires that I read a wide variety of medical journals published in the United States and around

Response to Commentor No. 1528

1528-1: 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 rate of growth of medical isotope use is consistent with the Expert Panel findings. Section 1.2.1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production 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

1528-1

***Commentor No. 1528: Thalia Syracopoulos (Cont'd)
National Organization for Women***

the world. At no time in the last 10 years have I encountered a single article in any medical journal mentioning the need for additional sources of isotopes for medical diagnosis, treatment or research.

Prior to writing this, I took the time to run a search of the National Library of Medicine to identify any such articles published during the last 12 years.

I initially searched "cancer AND isotope AND treatment", but this brought up 7,746 articles. I narrowed the search to "isotopes AND treatment AND supply" and brought up 118 articles, 82 of which have been published since 1988. I read the abstracts of those 82 articles and found almost nothing written by a clinician or research scientist that mentioned a shortage of isotopes.

The last search I ran was for "isotopes AND cancer AND supply". This yielded 75 articles, 46 of which have been published since 1988. I took the time to read these 46 abstracts and again found almost no mention by any of the authors of a shortage of isotopes for diagnosis, treatment or research.

I have appended a copy of the 3 abstracts that did address the subject. One is an historical article discussing the discovery of iodine isotopes for the treatment of thyroid disease. The next one related some of the history of the commercial scale production of yttrium-90 for medical research.

The last article was published in 1988 and dealt with cyclotrons and radiopharmaceuticals in positron emission tomography [PET scanning]. This last article was a report of the Positron Emission Tomography Panel of the Council on Scientific Affairs.

The lack of literature on the subject of a shortage of medical isotopes raises serious concerns about the validity of the arguments about isotope shortage and people dying from cancer because radioisotopes were unavailable. Indeed, this appears to be a red herring bandied about by DOE to scare the public. One letter from Dr. Rainer Storb [submitted with the testimony given by Senator Slade Gorton in Seattle, WA] listing an isotope that he would like to have for his research does not qualify as a serious public health threat. If it did, one would have to

**1528-1
(Cont'd)**

Response to Commentor No. 1528

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.

The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. Although other manufacturers produce medical radioisotopes, 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. 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. 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. For the purposes of analyses in the NI PEIS, a

Commentor No. 1528: Thalia Syracopoulos (Cont'd)
National Organization for Women

question why Dr. Storb has never published anything about the shortages of this or any other isotope.

Most, if not all, isotopes are available from manufacturers in this and other countries. It may be that those isotopes produced in small quantities are extremely expensive and that NIH/NCI etc. research grants are not large enough to purchase as many as the researchers might want. If this is the case, then it is far simpler and less expensive to increase grant money for the purchasing of isotopes than it is to restart the FFTF at Hanford.

I would like to add that over the years, I have done research on the medical uses of radiation in this country. In that context, I have found that the DOE in general and Hanford in particular have an abysmal record regarding providing safe and adequate medical care for employees who are accidentally exposed to high levels of radiation.

There is no known public health reason to restart the FFTF at Hanford. There are numerous public health reasons NOT to restart the FFTF. More importantly, there is substantial medical and scientific evidence that the entire Hanford Reservation needs to be cleaned up, not perpetuated.

Thalia Syracopoulos

**1528-1
(Cont'd)**

1528-2

1528-3

1528-4

Response to Commentor No. 1528

representative set of isotopes was selected on the basis of the recommendations of the Expert Panel, medical market forecasts, reviews of medical literature, and more than 100 types of ongoing clinical trials that use radioisotopes for the treatment of cancer and other diseases. These isotopes, which are comprised of both reactor- and accelerator-produced isotopes, are listed in Chapter 1 of the NI PEIS along with a brief description of their medical and/or industrial applications. As identified in Appendix C of the NI PEIS, FFTF would be capable of producing the majority of these representative isotopes. These include research isotopes with currently limited availability, such as Copper-67, as well as commercial isotopes whose current application is inhibited by lack of availability or high cost, such as Palladium-103. However, the absence of any specific isotope from these tables should not be interpreted to mean that it could not be considered for production under the proposed action. DOE expects that the actual isotopes and specific amounts produced as a result of the proposed action would vary from year to year in response to the focus of clinical research and the specific market needs occurring at that time.

- 1528-2:** DOE notes the commentor's concern over DOE's past management and medical care practices, although these issues are beyond the scope of this NI PEIS. The health and safety of workers and the public is a DOE priority, regardless of which approach may be chosen. Operation of the facilities would comply with applicable Federal, state, and local laws and regulations governing radiological and hazardous chemical use.
- 1528-3:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.
- 1528-4:** Restoration of the Hanford Site and waste management activities are the primary missions at Hanford. 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 restart would not impact the cleanup missions at Hanford.

Commentor No. 1528: Thalia Syracopoulos (Cont'd)
National Organization for Women

1: *Semin Nucl Med* 1996
Jul;26(3):155-64

Radioiodine and thyroid disease: the beginning.

Becker DV, Sawin CT

Department of Radiology, New York Hospital-Cornell
Medical Center, New York 10021, USA.

In 1936, Karl Compton, then president of the Massachusetts Institute of Technology (MIT) and the thyroid group of the Massachusetts General Hospital (MGH), undertook a joint study that led to the production of small amounts of short-lived radioiodine (iodine 128, half-life, 25 min). The original intent was to use it for diagnosis and treatment of thyroid disease, but in order to explore the underlying physiology, their first work was performed in rabbits and published in 1938. It clearly showed that the radioiodine was selectively and avidly taken up by the thyroid gland. It was immediately apparent to the MGH-MIT group and another team working at the Berkeley, CA cyclotron that longer-lasting iodine isotopes were needed, and soon both developed procedures for cyclotron-produced 130 (half-life, 12.5 hr) and 131 (half-life, 8 d). In 1939, the Berkeley group, using 131 I, was the first to show that the normal human thyroid gland accumulated radioiodine. By 1941, the MGH-MIT team, using mainly 130 I, was able to successfully treat a few patients with hyperthyroidism, and so achieved their original goal. The Berkeley group did the same a few months later, using mainly 131 I. Both presented results at the same meeting of the American Society for Clinical Investigation in Atlantic City, NJ in the spring of 1942. This was in the midst of World War II and it was not easy to get much 130 I or 131 I, so experience was limited. Although effective, radioiodine treatment of hyperthyroidism had not been widely adopted by the end of the war in 1945, partly because radioiodine remained in short supply and partly because another medical therapy for hyperthyroidism, antithyroid drugs, had been invented. However, by 1946, fission-derived radioiodine became readily available as a by-product of the Manhattan project in Oak Ridge, TN; hundreds of patients were treated within a few years, both for hyperthyroidism and for thyroid cancer. A new treatment, based on the

Response to Commentor No. 1528

Commentor No. 1528: Thalia Syracopoulos (Cont'd)
National Organization for Women

physiological application of a radioisotope of iodine,
was then a reality.

2: *Int J Rad Appl Instrum [A]*
1990;41(9):861-5

Chemistry for commercial scale production of yttrium-90
for medical research.

Wike JS, Guyer CE, Ramey DW, Phillips BP

Chemical Technology Division, Oak Ridge National
Laboratory, TN 37831-6014.

Studies were initiated at Oak Ridge National Laboratory (ORNL) in 1982 for the radiolabeling of resin microspheres with yttrium-90 (90Y) for liver cancer therapy. Yttrium-90 is the decay product of strontium-90 (90Sr). Subsequently, 90Y became a major radioisotope of choice for labeling antibodies for therapeutic trials in the treatment of other forms of cancer. A 25-Ci 90Y 90Y generator or 90Sr cow was placed in service to supply the anticipated needs of customers. In vivo use of 90Y required that the 90Sr contamination levels be kept below 10 $\mu\text{Ci/Ci}$ 90Y (corrected to preparation time). Also, it was necessary to remove trace metals that interfered in the 90Y antibody radiolabeling process, giving low radiolabeling yields. Di-(2-ethylhexyl) phosphoric acid (HDEHP) in dodecane has been used routinely at ORNL to extract 90Y and thereby give a product that meets the radiochemical purity required with respect to 90Sr. Methods were also developed to remove interfering trace elements to provide acceptable labeling yields.

PMID: 2176193, UI: 91092923

3: *JAMA* 1988 Mar
25;259(12):1854-60

Cyclotrons and radiopharmaceuticals in positron emission tomography. Council on Scientific Affairs. Report of the

Response to Commentor No. 1528

Commentor No. 1528: Thalia Syracopoulos (Cont'd)
National Organization for Women

Positron Emission Tomography Panel.

Positron emission tomography (PET) can probe biochemical pathways in vivo and can provide quantitative data; for that purpose, tracers labeled with positron-emitting radioisotopes are essential. This report describes the tracers that are being used or that may have future use, their production by cyclotrons, and other needed resources for PET imaging. Current routine and automated methods for convenient production of labeled compounds, coupled with simple computer-controlled accelerators, can support the creation of clinical PET centers in any large medical institution, obviating the need for in-depth research teams. An alternate approach involves the development of regional centers that provide in-house service and that supply fluorine 18- and carbon 11-labeled compounds to nearby hospitals with PET machines.

Response to Commentor No. 1528

Commentor No. 1529: Donald A. Runciman

1315 SW 174th St.
Seattle, WA. 98166

September 9, 2000

Ms. Colette Brown
U. S. Department of Energy
Office of Space and Defense Power Systems
NE-50
19901 Germantown Road
Germantown, Maryland 20874-1290

Dear Ms. Brown:

Those who do not learn the lessons of history are bound to repeat them. As a private citizen I have learned the lessons of the Powder Plant, the local wartime name for the work going on at Hanford. This was just across the river from my uncle's ranch near West Richland.

The Department of Energy has demonstrated its inability to take care of the wastes generated by Hanford. While not all of the fault is with the Department of Energy, a part is the failure by Congress to provide funds to accomplish the necessary clean up of Hanford.

I am not about to let you generate more waste by starting up the Fast Flux Test Facility until you clean up the mess you have already have, if you can.

To repeat myself, the answer is NO! You are not to start up the FFTF.

Sincerely,



Donald A. Runciman
(206) 243-9307

1529-1

1529-2

Response to Commentor No. 1529

1529-1: 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. 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.

1529-2: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Commentor No. 1530: John Browne, Jr.

Draft PEIS Comment Form

SEP 10, 2000

ESSENTIALLY, THIS IS THE STORY OF A REACTOR (AND EXTENDED PLANT) LOOKING FOR A PURPOSE TO EXIST. THE NI PEIS HAS BEEN DESIGNED ESSENTIALLY TO "POINT THE FINGER" AT FTFE AND SUMMON IT TO ACTION. ALL (OR NEARLY ALL) DISMISSED ALTERNATIVES HAVE BEEN PRESENTED SO AS TO MAKE FTFE STARTUP AND ISOTOPE PRODUCTION APPEAR INEVITABLE. IN DOING SO, DOE HAS SET ITSELF UP TO RUN APOUL OF OUR (NAFTA) TREATY AGREEMENTS, AS WELL AS OTHER AGREEMENTS THAT INVOLVE INTERNATIONAL TRADE (e.g. WTO). IF THE EXPENDITURES AND SUBSIDIES TO RUN FTFE FOR ISOTOPE PRODUCTION, DESPITE PRESENT RELIANCE ON CANADA FOR A GREAT MANY OF OUR ISOTOPE NEEDS (AND KNOWLEDGE THAT THE CANDU PROJECT IS EXPANDING), IS CONSIDERED AN UNFAIR RESTRAINT OF TRADE BY CANADIANS (AND/OR OTHERS WHO MAY WISH TO MARKET ISOTOPE HERE) WHAT WILL BE THE OUTCOME? ADDITIONALLY, RECOGNITION THAT A NUMBER OF HOT CELL FACILITIES COULD DO THE REQUESTED WORK BUT AREN'T BEING CONSIDERED BECAUSE THEY'RE NOT PART OF A DOE SITE IS CERTAINLY SHORT-CHANGING THE (WIDELY DISPERSED) POTENTIAL CUSTOMERS OF EASIEST ACCESS TO SHORT-LIVED ISOTOPES. IN FAVOR OF A FACILITY FAR OFF IN ONE CORNER OF THE COUNTRY WHERE TRANSPORT TIME (AND INFRASTRUCTURE) ARE SEVERAL WAYS TO PROVIDE COMMENTS ON THE Nuclear Infrastructure PEIS. These include:

- attending public meetings and giving your comments directly to DOE officials (SEE OTHER SIDE)
- 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): JOHN BROWNE, JR.

Organization: CITIZEN OF U.S.A.

Home/Organization Address (circle one):

P.O. Box 13378

City: BURTON State: WA Zip Code: 98013

Telephone (optional):

E-mail (optional): jbb4juddcreek@webtv.net

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: 1-877-562-4592
E-mail: Nuclear.Infrastructure.PEIS@hq.doe.gov



7/12/00

Response to Commentor No. 1530

- 1530-1: DOE notes the commentor's views. 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 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.

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.

Commentor No. 1530: John Browne, Jr. (Cont'd)

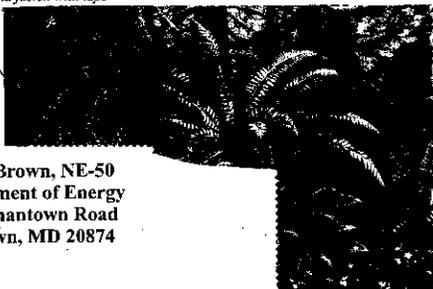
③ BOTH "THE EXPERT PANEL" AND NERAC ARE COMPOSED OF PEOPLE WITH VESTED INTERESTS IN EXPANSION AND PROMULGATION OF THE NUCLEAR INDUSTRY. WHY THEY SHOULD BE TRUSTED TO ESTIMATE "GROWTH RATE OF ISOTOPE USE" OR "FUTURE NEEDS OF THE BIOMEDICAL SCIENCES COMMUNITY" IN ANY WAY OTHER THAN "MORE IS BETTER"? THE FFTF IS LIKE A "HOT ROD" TO THESE "EXPERTS"... THEY DON'T WANT TO SEE THIS THING SHUT DOWN AND SCRAPPED, EVEN IF THAT WERE THE LOGICAL DECISION. THEIR EMOTIONAL INVESTMENT IN THIS THING IS TOO GREAT; SO THEY'LL CONTINUE TO SEARCH FOR A "PURPOSE" TO KEEP IT ALIVE, DESPITE THE POSSIBILITY OF DOING SO WILL MEAN RUNNING AFOUL OF OUR NATIONAL OBLIGATIONS AND GOALS, SUCH AS NON-PROLIFERATION. WITH THE INTRODUCTION OF STIRLING ENGINE TECHNOLOGY BY NASA, THE PU-238 PROJECTED NEEDS ARE GREATLY REDUCED; SO, IN THIS AREA, THE PRESENT NIPES IS OBSOLESCEANT, AT LEAST.

Fold on lines and fasten with tape

HEY!
DID YOU
MAKE MY LITTLE
WITH TRITIUM?
IT'S SO HEAVY THAT
I CAN HARDLY LIFT IT!
WHAT?... YOU ADDED
EXTRA HEARING??
YEAR-MAYBE
THAT'S WHY IT'S
SO HEAVY.
THANKS!



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



1530-1

ADDITIONALLY, THE CHARGE OF THE "EXPERTS" THAT RESEARCH THAT COULD BE TAKING PLACE HAS BEEN LIMITED BY THE SCARCITY AND/OR HIGH PRICE OF CERTAIN ISOTOPES MAY BE TRUE; BUT WHY SHOULD "WE" SUPPORT DABBING IN EXPENSIVE, UNPROVEN TECHNOLOGIES? BIOTECH SEEMS TO FIND SUPPORT IN "TRADITIONAL" WAYS, THESE DAYS - VIA PRIVATE RESEARCH DOLLARS, FROM PHARMACEUTICAL COMPANIES AND "VENTURE CAPITAL" SOURCES. THERE ARE ONLY SO MANY "PUBLIC DOLLARS" TO SPEND (DESPITE THE MANY PROGRAMS); DESPITE REASSURANCES TO THE CONTRARY, NUCLEAR WASTE CLEANUP PROJECTS WILL BE ADVERSELY AFFECTED BY FIRING UP THIS OLD DRAG RACING HOT ROD WHILE SEARCHING FOR A "PUBLIC TRANSPORTATION" JOB DESCRIPTION IN WHICH TO CLOTHE IT. IF FFTF IS RESTARTED AND REDEPLOYED, IT WILL NOT BE "BECAUSE IT'S ECONOMICALLY AND PRACTICALLY FEASIBLE." IT WILL BE BECAUSE OF EMOTIONAL REASONS; AND BOTH NATIONAL PRIDE AND XENOPHOBIA WILL FIGURE PROMINENTLY IN ANY RESTART, ALONG WITH THE CONSIDERABLE POWER OF AGENCY INERTIA - "THIS REACTOR IS POWERED BY BUREAUCRATS."

Response to Commentor No. 1530

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 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 may be lost.

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.

1530-2: DOE notes the commentor's view. In developing a range of reasonable alternatives, DOE examined the capabilities and available capacities of existing and planned accelerators, reactors, and hot cell facilities for meeting DOE's proposed nuclear infrastructure mission requirements. The basis as

Commentor No. 1530: John Browne, Jr. (Cont'd)

Response to Commentor No. 1530

to why specific facilities were eventually dismissed as reasonable alternatives is presented in Volume 1, Section 2.6 of the NI PEIS.

1530-3: DOE notes the commentor's viewpoint.

1530-4: DOE notes the commentor's view. There are numerous DOE hot cell processing facilities located across the United States that could support the proposed nuclear infrastructure mission requirements. Given this general availability, and in order focus the analyses of alternatives on a reasonable range of processing options, DOE only analyzed the most suitable hot cell facilities at candidate DOE irradiation facility locations (i.e., the Oak Ridge Reservation, the Idaho National Engineering and Environmental Laboratory, and the Hanford Site). This range of processing options would not limit the availability or access of isotopes to potential customers.

Commentor No. 1536: Lucile Wyers

Response to Commentor No. 1536

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

Re: Ms Brown 9-11-00
Draft PEIS Comment Form

When I received the 2 vol draft PEIS, I was not first happy thinking that this was about cleaning up radioactive waste at Hanford. But then I was shocked and dismayed to all that extent of the FTF facility was being considered again.

I am protesting for more time against shutting up the FTF. I did attend the Aug 29th, 2000 hearing in Hood River but did not have a chance to speak. He has been living with this dangerous situation at Hanford for too long a time already.

I want DOE to proceed with the clean-up as fast as possible. He narrowly escaped a big disaster about month ago when a grave/parent line came close to storage area for high level waste.

Peaceful uses for nuclear energy are important but we believe research can go on without starting up the FTF again.
 Turn it up - don't make more waste!

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): Lucile A. Wyers

Organization: Riviera Park of Columbia Gorge Coalition

Home/Organization Address (circle one): _____

2320 Windswept Place
 City: Hood River State: OR Zip Code: 97031

Telephone (optional): _____

E-mail (optional): grandmacde@gorge.net

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: 1-877-562-4592
 Email: Nuclear.Infrastructure-PEIS@hq.doe.gov



7/12/00

1536-1

1536-1: DOE notes the commentor's opposition to Alternative 1, Restart FTF; however, it should be pointed out that some research cannot be done in existing operating thermal reactors (e.g., fusion research, accelerator transmutation of waste, and space reactor technology).

1536-2

1536-2: 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.

1536-1

1536-2

Commentor No. 1537: Mary Nally

September 11, 2000

Mary Nally
417 13th Ave E. #105
Seattle, WA 98102

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

Dear Colette Brown,

I am writing to you about Hanford, the most highly contaminated nuclear site in the western world. I prefer option 5 - "permanently deactivate FFTF with no new missions."

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. Keeping FFTF on hot standby for four years has cost over \$40 million per year, money coming from our tax dollars, already overspent on our ever-swelling military budget.

The Washington State Medical Association, WA Academy of Family Physicians and Physicians for Social Responsibility/National have all passed resolutions opposing the restart of the FFTF. The legal mission of Hanford is clean-up, not production. Please listen to the voice of the people who have been saying over and over, shut down Hanford and clean it up, permanently!

Sincerely,



Mary Nally, registered voter

Response to Commentor No. 1537

- 1537-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF. DOE also notes the commentor's concerns regarding the existing contamination at Hanford and the cleanup mission. Although beyond the scope of this NI PEIS, ongoing Hanford cleanup activities are 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.
- 1537-2:** 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.
- 1537-3:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1537-1

1537-2

1537-3

1537-1

1537-3

Commentor No. 1538: Robert L. Washburn

Response to Commentor No. 1538

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

Draft PEIS Comment Form

I see no reason to build an entire new lab when there is already one in existence at Hanford

1538-1

1538-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

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- 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): Robert L. Washburn

Organization: Engineering consultant (private)

Home Organization Address (circle one): 612 No 38th St

City: Yakima State: WA Zip Code: 98901

Telephone (optional): (509) 453-1396

E-mail (optional): WWWANW@CS.COM

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: 1-877-562-4592
E-mail: NuclearInfrastructure-PEIS@hq.doe.gov



7/12/00

Commentor No. 1539: Nancy M. Washburn

Draft PEIS Comment Form

Why reinvent the wheel. I am for the Hanford area to produce what is needed for medical use.

1539-1

Response to Commentor No. 1539

1539-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

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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): Nancy M. Washburn

Organization: Ret R.N.

Home/Organization Address (circle one): 612 N 38th St

City: Yakima State: Wa Zip Code: 98901

Telephone (optional):

E-mail (optional): n.w.w@cs.com

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: 1-877-562-4592
E-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov



Draft PEIS Comment Form

9-9-00

Dear Ms. Brown,

Please restart FTF for medical isotopes! This fantastic capability to advance medical sciences cannot be ignored. After decades of spending hundreds of billions of dollars on weapons to destroy the world, it's about time that we use some of those funds more constructively to improve the lot of humankind!

Sincerely,

David Wiggins

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

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- 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: Collette E. Brown, NE-50
U.S. Department of Energy • 19001 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

1540-1

1540-1: DOE notes the commentor's support for Alternative 1, Restart FTFE.



Commentor No. 1541: Thomas F. and Dixie R. Hutson

Draft PEIS Comment Form

NUCLEAR INFRASTRUCTURE EIS

We support the restart of the FFTF Reactor Facility at Hanford to meet the national needs for medical isotopes and other peaceful nuclear materials. The FFTF is the most economical, safe, and environmental friendly method available to meet these needs.

Very truly yours, Thomas F. Hutson Dixie R. Hutson

1541-1

Response to Commentor No. 1541

1541-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

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): HUTSON, THOMAS F. & DIXIE R.

Organization:

Home Organization Address (circle one): 57 GALAXY LANE

City: RICHLAND State: WA Zip Code: 99352

Telephone (optional):

E-mail (optional):

COMMENTS MUST BE POSTMARKED BY September 18, 2000

For more information contact: Colette E. Brown, NE-80 U.S. Department of Energy • 15901 Germantown Road • Germantown, MD 20874



Draft PEIS Comment Form

Coleette E. Brown

I am concerned about the air, water and ground environmental health hazards that have been going on since 1946. Many people I know passed away with Cancer and lung problems. My Cousins husband had stomach cancer, his passed away at age 33, he worked at Oak Ridge. My Cousin had prostate cancer and his name he worked as sheet metal worker at Oak Ridge as did a lot of his friends who passed away with Cancer. My Cousin and his family I don't know how many more passed he worked at Oak Ridge. The whole place needs to be cleaned up. Please bring other residents that at Oak Ridge. I am enclosing a clipping from Today's paper READ IT. I am tired of hearing about all the sick people in Oak Ridge and the ground that part of the death.

1542-1

1542-1: The commentor's concern for environmental health hazards, hazardous waste incineration, and cleanup at the Oak Ridge Reservation are noted. Health effects studies of potential radiological and nonradiological impacts of the Oak Ridge Reservation are described in Section 3.2.9.3 of Volume 1. Potential health impacts on workers and the public that could result from implementation of the nuclear infrastructure alternatives are described in Chapter 4 of Volume 1. Implementation of the alternatives described in Section 2.5 would not be expected to result in significant contamination of air, water, or soil. As discussed in Section 4.3.1.1.13, hazardous waste generated under these alternatives would be shipped offsite to a commercial facility licensed to dispose of hazardous waste. Activities at the High Flux Isotope Reactor and the Radiochemical Engineering Development Facility would not affect cleanup efforts or funding at the Oak Ridge Reservation.

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

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- faxing your comments toll-free to: 1-877-562-4592
- commenting via e-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov

Name (optional): *Mildred Serra*

Organization: _____

Home/Organization Address (circle one): _____

City: *Knoxville* State: *Tenn* Zip Code: *37918*

Telephone (optional): _____

E-mail (optional): _____

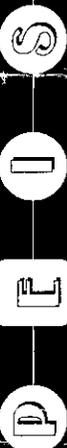
COMMENTS MUST BE POSTMARKED BY September 11, 2000

For more information contact: Coleette 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

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT



Commentor No. 1543: Michael J. Rudnick

Response to Commentor No. 1543

Draft PEIS Comment Form

I SUPPORT THE SELECTION OF FFTE AS THE PREFERRED ALTERNATIVE TO MEET THE PRESSING UNITED STATES NEEDS FOR RESEARCH AND MEDICAL ISOTOPES

1543-1

1543-1: 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:

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- 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): Michael J Rudnick

Organization:

Home/Organization Address (circle one):

City: Wilson State: PA Zip Code: 19018

Telephone (optional): (610) 622-9600

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: 1-877-562-4592 E-mail: Nuclear.Infrastructure-PEIS@hq.doe.gov



NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT



Commentor No. 1544: Maurita Bernet

September 11, 2000

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

Dear Colette,

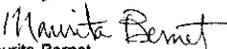
I am writing from our small town of Omak WA where we struggle to unite three distinct cultures (white, Indian, Hispanic) and have economic challenges to go with that. So I write with awareness of the need for jobs and hopes for "security."

The main concern of this letter, though, is the possibility of reopening the Fast Flux Testing Facility at Hanford. I know there are people who need jobs, but I think it's past time to create jobs at the expense of the whole circle of Life. Don't we want to be CLEANING UP our poisonous messes rather than creating still more? I came to this area over 10 years ago & remember hearing the sad stories of cancer -- including on the Colville reservation in this area -- resulting from Hanford's activities over the past half-century plus. And even now we wait news of polluting waters heading for the Colombia river. And on and on.

Please, I beg of you, to use your wonderful human and political powers to STOP all further waste-creation at the Hanford site (or anywhere else, for that matter!) and to put all the needed energies and resources into CLEANING UP what has been and continues to be such a dangerous-to-all-Life situation.

Thank you for your attention to this urgent matter.

Sincerely,


Maurita Bernet
PO Box 3745
Omak WA 98841
509-826-7229

1544-1

Response to Commentor No. 1544

1544-1: DOE notes the commentor's concerns regarding the existing cleanup mission at Hanford and contamination of the Columbia River. Although beyond the scope of this NI PEIS, ongoing Hanford cleanup activities are 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. 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.

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.

The Colville Indian Reservation is approximately 320 kilometers (200 miles) north-northwest of the Hanford Site. River borne contamination from the Hanford Site would not affect the Colville Reservation because the Columbia River flows from the Colville Reservation toward the Hanford Site. As discussed in Section 3.4.9.3 of Volume 1, prevailing winds at the Hanford Site blow toward Grant County, Washington and the Colville Reservation from the south (14.2 percent of the time) and south-southwest (11.5 percent of the time) directions. Grant County is adjacent to the Hanford Site. Hence, Grant County would be expected to bear the major burden of wind borne contamination from the Hanford Site. Existing data and studies suggest that cancer mortality rates are not elevated in counties adjacent to the Hanford Site, including Grant County Volume 1, Section 3.9.4.3). If the cancer mortality risk in Grant County is elevated due to the presence of the Hanford Site, the increase in risk, if there is any, was too small to be identified by the study methodology and currently available data. Impacts of airborne contamination from the Hanford Site on the Colville Reservation would be far smaller than the impacts on Grant County. Due to the distance from

Commentor No. 1544: Maurita Bernet (Cont'd)

Response to Commentor No. 1544

the Hanford Site to the Colville Reservation, radiological impacts that would result from implementation of the nuclear infrastructure alternatives would be essentially zero.

Commentor No. 1545: R. B. Pinter

Response to Commentor No. 1545

Draft PEIS Comment Form

We wish to be on record as endorsing the **no action** option on restarting the FFTF at Hanford, WA. Of course, we note that testimony from the east, far removed from the Columbia river, endorses the restart, but of course these people would suffer no effects of leaks and accidents at Hanford. We are especially concerned about the contractors of atomic and nuclear processes at Hanford, who are interested only in the "bottom line", their profits. They are known, and widely reported here in the press, for their incompetence in storing nuclear waste, with such things as pressure and temperature buildup in containers which are underground for the most part. Well, if they explode, or even leak, the waste will find its way to the ground water supplies and the Columbia river, ruining the environment for all time. We pay taxes to preserve people and salmon, among other species, and have no confidence that the DOE contractors will do likewise, or even care. Do the contractors understand all the chemical, atomic and nuclear reactions involved in the mix of materials they are putting in their storage tanks? They don't, and they won't talk because they are ignorant and they assume that we are also.

Of course the **good option**, if there must be more plutonium here, is purchase from Russia. For many political purposes this is good. However, we don't endorse the use of nuclear plants on satellites as this creates a possibility of yet more accidents. We endorse the dismantling of US bombs and the re-use of that plutonium. We DO NOT need to make more of this terrible poison of which we have enough already.

Finally, the problem of isotope creation is important for health care and therapies, and purchased plutonium will serve this too.

We are uncertain that future politicians will not be as careful as those in recent years about escalating building of more nuclear weapons. What better tool to give the aggressive and warlike politician than more facilities for producing more plutonium !!! WE wish to see peace and no nuclear pollution, not war.

1545-1

1545-2

1545-3

1545-4

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- 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: Collette 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

1545-1: DOE notes the commentor's support for the No Action Alternative.

1545-2: 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 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. 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.

1545-3: The purpose of the NI PEIS is to evaluate the environmental impacts of a range of reasonable alternatives to enhancing DOE's existing nuclear facility infrastructure to support production of isotopes for medical, research, and industrial uses; production of plutonium-238 for use in future NASA space exploration missions; and U.S. nuclear research and development needs for civilian application. The plutonium that would be produced under the proposed action would not be intended for medical applications. Plutonium-238, used to support NASA space missions, is

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

Chapter 2—Written Comments and DOE Responses

Commentor No. 1545: R. B. Pinter (Cont'd)

Response to Commentor No. 1545

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 only 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 powersystems for upcoming space missions, DOE anticipates that the existing plutonium-238 inventory will be exhausted by approximately 2005. 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.

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.

As 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 normal operations, facility accidents, and transportation as a result of the proposed action are relatively low. 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.

Commentor No. 1545: R. B. Pinter (Cont'd)

Response to Commentor No. 1545

1545-4: DOE notes the commentor's interest in controlling the production of nuclear weapons, although issues of nuclear weapons production, dismantlement of weapons, and elimination of weapons systems are beyond the scope of this Nuclear Infrastructure PEIS. Unlike plutonium-239, plutonium-238, is not used in nuclear weapons. The technology that is discussed in the NI PEIS would be used to chemically separate plutonium-238 and neptunium from irradiated targets and not from irradiated or spent nuclear fuel, whereas reprocessing separates weapons grade plutonium-239 from irradiated nuclear fuel. None of the DOE missions described in this PEIS is weapons- or defense-related.

Commentor No. 1546: Claire R. Holmsham

Response to Commentor No. 1546

Draft PEIS Comment Form

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

1546-1

1546-1: 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): Claire R. Holmsham

Organization: _____

Home/Organization Address (circle one): 262 N. Oakland Ave.

City: Deane State: Tenn Zip Code: 37018

Telephone (optional): unlisted - call 610-623-0154

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 • 1901 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



NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT



Draft PEIS Comment Form

*I support the selection of FFTF as
the preferred alternative to meet the pressing
U.S. needs for research and medical
isotopes.*

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): *Rona K. Jakra*

Organization: _____

Home/Organization Address (circle one): *10668 Greenfield Ln.*

City: *Royal P. Bldg.* State: *DC* Zip Code: *33411*

Telephone (optional): *561-753-8079*

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: 1-877-562-4592
E-mail: NuclearInfrastructure-PEIS@hq.doe.gov



7/12/00

1547-1

1547-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

NUCLEAR INFRASTRUCTURE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT



Commentor No. 1548: Warren Jones

6219 43rd Ave NE
 Seattle, WA 98115
 September 17, 2000

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

Dear Ms Brown:

The mission of Hanford should be cleanup, and only cleanup. Any plan that would generate still more radioactive waste is reckless and irresponsible. I'd like to urge the DOE to adopt alternative #5: shut down the FFTF for good, and get on with cleaning up the mess we already have. We've already had too many missed deadlines and broken promises.

Sincerely,

Warren Jones

Cc: Governor Gary Locke
 Senator Patty Murray
 Senator Slade Gorton

|| 1548-1
 || 1548-2
 || 1548-3
 || 1548-1

Response to Commentor No. 1548

- 1548-1:** 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. 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.
- 1548-2:** DOE notes the commentor's concern regarding the generation of radioactive wastes. 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.
- 1548-3:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

Commentor No. 1549: UFCW Local 367

FROM : ROBERT WILKINSON

FAX NO. : 509 735 4592

Sep. 17 2000 25:15PM P1

To: Collette Brown
c/o DOE

From: UFCW Local 367

Date: 9/17/00

Subject: Support restarting
FFTF for medical
isotope production

1549-1

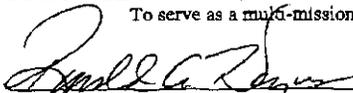
Response to Commentor No. 1549

1549-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1549: UFCW Local No. 367 (Cont'd)**Support of Medical Isotope Production
at the Fast Flux Test Facility**

- Whereas, One in three Americans are touched by cancer, and
- Whereas, The use of medical isotopes in the treatment of cancer and heart disease is showing very encouraging and dramatic results. These new treatments use radioisotopes targeted specifically to the diseased cells and minimize the damage to healthy cells. The cost of medical isotope treatment is often much less than conventional treatments and with less debilitating results; and
- Whereas, Serious concern exists in the scientific and medical professions that the United States does not have the capability to produce enough radioisotopes to meet the rapidly increasing demand, while we depend on foreign supplies as over 90% of the isotopes currently used are imported, and
- Whereas, Private companies that develop new cancer treatments hesitate to invest millions of research dollars up front when the isotopes they want to use may not be reliably available, and
- Whereas, The existing Fast Flux Test Facility (FFTF) can reliably produce a diverse selection and large quantities of high quality isotopes; and
- Whereas, The FFTF is a significant national asset as it is the Department of Energy's newest and most sophisticated nuclear reactor with the potential to play a major role in supporting critical national missions such as medical isotope production for treatments of disease, non-proliferation fuels testing, research associated with the transmutation of nuclear waste, NASA space mission energy needs, and other scientific research; and
- Whereas, The United States has an aging and diminishing reactor inventory for scientific research and testing, while at the same time the United States is experiencing an increasing demand for the production of isotopes for medical and industrial applications; therefore

BE IT RESOLVED that UFCW Local No. 367 supports a restart of the Fast Flux Test Facility
To serve as a multi-mission research and isotope production reactor.


(Signed)

Sept 12, 2000
(Date)

Response to Commentor No. 1549

Commentor No. 1550: Jess C. Gehin

Response to Commentor No. 1550

SEP. 18. 2000 7:53AM N A S NO. 967 P. 1/4

DR. JESS C. GEHIN

8309 Waspepper Ct. • Knoxville, TN 37923
(865) 531-3442 • gehinc@alum.mit.edu

September 18, 2000

To:	From:
Collette Brown U.S. DOE, NE-50 Fax: 1-877-562-4592 Tel: 1-877-562-4593	J. C. Gehin Fax: (865) 574-9619 Tel: (865) 576-5093 E-mail: gehinc@alum.mit.edu
This fax consists of 3 page (excl. cover). In case of a transmission error, please call the number above.	

Subject: Draft Nuclear Infrastructure PEIS Comments

Dear Ms. Brown,

The following pages contain my comments on the Draft PEIS.

Sincerely,

J. C. Gehin

Commentor No. 1550: Jess C. Gehin (Cont'd)

SEP. 19. 2003 7:55AM NPS

NO. 367 P. 2/4

DR. JESS C. GEHIN

8309 Westpepper Ct. • Knoxville, TN 37923
(865) 531-3442 • gehinjc@alum.mit.edu

September 16, 2000

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

Subject: Draft Nuclear Infrastructure PEIS Comments

Dear Ms. Brown:

I have reviewed the Draft Nuclear Infrastructure PEIS and the corresponding cost study and have a few comments to provide that I hope you will find useful. I also attended the August 22, 2000 public hearing in Oak Ridge and appreciate your presentation and discussions.

My comments regarding the Draft PEIS are generally related to the ^{239}Pu production as this is an area that I am both interested in and have studied over the past few years. I work at Oak Ridge National Laboratory in the Nuclear Analysis and Shielding Section and have been involved extensively in design and analysis in the former Advanced Neutron Source project and for the High Flux Isotope Reactor. Recently, I have been studying the use of commercial light-water reactors (CLWR) for the production of ^{239}Pu . I am making these comments on my own behalf but much of my experience is from work performed at ORNL.

First, I would like to provide some general comments about the Draft PEIS and then make a few, more detailed comments on the use of CLWRs for the production of ^{239}Pu . My overall impression of the report is that it is relatively broad and does not provide many details or reference any supporting documents that may provide more details regarding the design decisions presented. However, I do believe that in evaluating the environmental impacts, that precise designs are generally not required. I am a bit surprised that DOE did not rely more on its technical experts in its National Laboratories to provide more input. There are no contributors from any National Laboratories listed in the Chapter 6 List of Preparers.

Now on to some more technical comments. Generally the quality of ^{239}Pu is determined by its contamination with ^{240}Pu . I suspect that there is some requirement on the maximum ^{240}Pu level that is acceptable for use by NASA (^{240}Pu produced at SRS had levels around a few parts per million ^{240}Pu , perhaps after a significant decay time). There is no discussion of the acceptable level of ^{240}Pu and if all of the proposed options would meet this requirement. This potentially could favor options that have the capability to produce large amounts of ^{239}Pu which would allow time for the ^{240}Pu to decay away.

The specifications given for the accelerator designs are not complete. The draft report indicates proton energy levels but does not give either a power level (MW) and/or a beam current. These parameters are what determine the size of the system, and therefore the cost and environmental impacts. These values

Response to Commentor No. 1550

1550-1: DOE notes the commentor's views and observations including those relating to new facility designs. Detailed facility designs are generally not required to support the analysis of environmental impacts in an EIS, as conceded by the commentor, particularly at the programmatic level. The preconceptual design descriptions contained in this NI PEIS are intended to address only such data that is necessary to assess the facility design as to its ability to accomplish the missions and for evaluating the associated environmental impacts. This information includes major design and structural elements, critical operating features and constraints, and projected construction and operation resource requirements. These preconceptual designs draw heavily both from off-the-shelf design configurations obtained from prospective vendors (i.e., for the new research reactor) as well as from design projects that are under development (i.e., the Oak Ridge Spallation Neutron Source for the high energy accelerator). See Appendix E and F for details. Contributors listed in Section 6 (List of Preparers) do include individuals knowledgeable in both the design and operation of the facilities under consideration to include the new research reactor and high- and low energy accelerators. This list of preparers includes individuals who were formally on the staff of the national laboratories and continue to support work at the national laboratories as contractors. In addition the list also includes individuals with extensive backgrounds in the commercial nuclear industry.

1550-2: In irradiating neptunium-237 target material to produce plutonium-238, other plutonium isotopes are also produced as impurities within the target material. These include plutonium-236 and plutonium-239. Of these impurities, plutonium-236 is important because daughter products resulting from radioactive decay of the plutonium-236 give off high-energy gamma rays which are difficult to shield. Plutonium-236 has a half-life of 2.85 years and the decay chain includes daughter products with gamma energies up to 2.6 MeV. Because of this gamma activity, target fabrication and handling can be more difficult and interaction and interference problems may arise with spacecraft electronics and instrumentation over a long time period unless this impurity level is kept quite low. The goal for the plutonium-236 impurity level in the past has been a value less than 2 parts per million. The plutonium-236 impurity level can be minimized through optimal target designs and core location placement.

The plutonium-236 level present at the end of irradiation can be reduced by allowing it to decay over a period of time prior to processing or prior

1550-1

1550-2

1550-3

Commentor No. 1550: Jess C. Gehin (Cont'd)

SEP. 16. 2008 7:54AM N H S

NO. 257 P. 3/4

DR. JESS C. GEHIN

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Page 2 / 3

should be added to both the Draft PEIS and the Cost Report.

Based on what is in the report, I do not understand the logic behind the choice of a TRIGA reactor for the new research reactor concept. There is no information whether the design presented is optimal for the required uses of the reactor. I suspect that it is not. Furthermore, the power level of the reactor is much higher than any existing reactor of its type, and therefore represents a technical risk. On page 2-30 it does state that "Reactor core physics calculations were performed to evaluate three different nuclear fuel designs (described in Appendix E)." Appendix E, however, only discusses the TRIGA design. It seems that the TRIGA reactor was chosen purely on the inherent safety of its zirconium-hydride fuel and the wide-spread use of TRIGAs throughout the world. A better technical justification for the choice of a TRIGA reactor should be given, particularly since three different designs were evaluated.

I have several comments regarding the CLWR production of ^{239}Pu presented in the report. First, the chosen assembly design (15x15) is an old design and has been mostly replaced by 17x17 designs for 18-month cycles. The Draft PEIS claims to have drawn on the tritium production in CLWRs which is being performed in reactors which use a 17x17 assembly design. The production of tritium is based upon placing targets in the burnable absorber rod locations using Tritium Producing Burnable Absorber Rods (TPBARS). This also seems like a logical choice for the production of ^{239}Pu , but the concept presented in the Draft PEIS is much different. In the report it is proposed that fuel pins will be removed from an irradiated assembly and will be replaced with target rods. This is a very difficult and expensive procedure. In my opinion, a better approach would be to use the target rods as burnable absorbers during the first cycle of the assembly, similar to the TPBARS. These burnable absorber rods can be easily withdrawn from the assembly during refueling (much like the standard burnable absorber rods) and there would be very little impact on the reactor operation.

In reading Appendix B.3, I found almost no information on the proposed target design. There are no dimensions, materials, or other specifications. The material requirements for targets in a CLWR are much different than that for the research reactors. Under a program¹ to investigate the production of ^{239}Pu in CLWRs in the 1970's a few test rods were irradiated in the Connecticut Yankee reactor. In this case the target rods consisted of neptunia (NpO_2) dispersed in zirconia (ZrO_2). The chemical process requirements for such a target are much different than the standard targets of Al-NpO₂. The impact of these different processing requirements was not addressed in the report.

Furthermore, the report seems to indicate that five kilograms of ^{239}Pu can be produced per year using only one assembly at the center of the core. I do not believe that you can produce the required amount of ^{239}Pu with only one targeted assembly. Based on the experimental results from the above mentioned program and on the burnable-absorber target designs, about one kilogram can be produced per assembly per year while maintaining reasonably low levels of ^{239}Pu . Therefore, a minimum of five targeted assemblies would be required. Even five assemblies is a relatively small number and therefore CLWRs

¹ M. Boberski, et al., *Final Report on Production of Pu-239 in Commercial Power Reactors: Target Fabricating, Postirradiation Examination, and Plutonium and Neptunium Recovery*, BMI-X-646, Battelle Columbus Laboratories (1975).

Response to Commentor No. 1550

to use in fabricating heat sources. Plutonium-238 can also be blended with existing plutonium-238 stock that has less than 1 part per million plutonium-236 to lower the plutonium-236 concentration. The combination of plutonium-236 decay with blending as necessary would result in a plutonium-238 product that would meet NASA's needs, provided the plutonium-236 level is relatively low at the end of irradiation. The alternative selected to produce plutonium-238 will be required to ensure this impurity requirement is met. As detailed planning for a selected alternative progresses, this could result in the need for target design or facility modifications. Contingencies were added to the cost estimates provided in the Cost Report to cover the cost effects of unforeseen design changes, altered performance requirements, or major schedule delays due to developmental problems.

1550-3: The maximum beam current for the low-energy accelerator (2 milliamperes) is defined in the System Design Basis writeup on page F-8 of the Draft NI PEIS.

The maximum beam current for the high-energy accelerator (72 milliamperes) is defined in Table F-1, Linac Parameters, on page F-17 of the Draft NI PEIS.

The accelerator costs presented in the Cost Report are based on accelerator designs provided in Appendix F.

1550-4: As stated in the EIS Volume 1, Section 2.3.1.6, a preconceptual design of a new research reactor was developed based on the criteria that meets 1) current research reactor designs acceptable to NRC and IAEA, 2) nonproliferation policy (i.e., using low enriched uranium fuel), and 3) DOE missions in producing a) medical and industrial isotopes, and b) plutonium-238 while supporting nuclear energy research and development EIS Section E.2 describes the three fuel designs which were evaluated for the scoping reactor physics calculations and the basis for selecting TRIGA fuel. The TRIGA fuel core provided the largest irradiation volume and highest thermal neutron flux for low enriched uranium-235 in a research reactor. The high thermal neutron flux is desirable for plutonium-238 production and for producing most of the medical and industrial radioisotopes. Although the 50 megawatt power level of the new TRIGA research reactor is larger than the largest currently operating TRIGA reactor power of 16 megawatts, the fuel design is almost identical to the current TRIGA 10 megawatt high power

Commentor No. 1550: Jess C. Gehin (Cont'd)

SEP. 18. 2022 7:54AM T A S

NO. 367 P. 4/4

DR. JESS C. GEHIN8309 Westpepper Ct. • Knoxville, TN 37923
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Page 3 / 3

can provide plenty of production capacity. In fact, a large number of targets could be simultaneously irradiated to produce all of the ^{239}Pu to meet future requirements. The material could be stored and the ^{239}Pu would decay away thereby producing very high quality ^{241}Pu . The CLWR concept (and perhaps the FFTF) can provide surplus capacity should future needs require more ^{239}Pu than current plans. The other concepts (HFIR, ATR, new research reactor, and accelerators) would not be able to provide such surge capacity. This additional flexibility should be factored into the decision process.

From the above discussion, it's obvious that I believe that CLWR production of ^{239}Pu is both technically feasible and cost effective. In addition, using CLWRs for ^{239}Pu production allows HFIR and ATR to provide plenty of capacity for medical isotope production. Both of these reactors currently are under-utilized for isotope production. Alternatively, a smaller and less expensive research reactor could be constructed for the sole purpose of medical isotope production. One such example is a Canadian MAPLE design.

My final comment is in regards to the cost analysis report. Unfortunately this report was not available at the time of the public meeting and therefore could not be discussed. The costs presented are not complete and therefore do not provide a fair comparison of the alternatives. The cost analysis does not have any decommissioning costs for any of the alternatives other than for the FFTF, and then only if the FFTF is not chosen for the mission. In many cases, the deactivation costs dominate the overall costs. If the FFTF is chosen, decommissioning costs similar to the \$281 million will be incurred upon shutdown increasing it's total cost significantly over the value given in the Cost Analysis Report. The end result is that the use of FFTF will cost nearly twice as much as utilizing existing reactors, which already have their decommissioning costs covered by other means. Shutdown and decommissioning costs should also be included for the new research reactor and accelerators.

I hope that you find these comments constructive and useful in your revision of the Draft PEIS and in your decision process. If you need further information please do not hesitate to contact me. My work phone number is (865) 576-5093 and e-mail address is gehinjc@ornl.gov. I would also like to be added to your mailing list and would like a CR-ROM copy of the Final Nuclear Infrastructure PEIS when it available.

Sincerely,



Jess C. Gehin

Response to Commentor No. 1550

design and the system thermal-hydraulic performance represents a linear extrapolation of existing designs. The power density of the 50 megawatt design is less than or equal to that for existing TRIGA reactor designs. The 50 megawatt TRIGA reactor design has been discussed with General Atomics, the TRIGA reactor design corporation. Appendix E will be modified to incorporate the aforementioned additional technical justification for selecting a TRIGA reactor.

- 1550-5:** Currently operating pressurized water reactor (PWR) commercial light water reactors (CLWR) in the U.S. operate with four different fuel assembly geometries denoted as 14 x 14, 15 x 15, 16 x 16, and 17 x 17. While the newer designs use 16 x 16 and 17 x 17 fuel assemblies, there are 14 operating PWRs in the U.S. that use 15 x 15 fuel assemblies in their core. The CLWR described in the EIS and used for the purpose of evaluating environmental impacts is representative of currently operating PWR CLWRs. Due to its bounding uranium mass, the 15 x 15 fuel assembly has the highest radioisotope source term of all commercial PWR fuel assembly designs. EIS Section 2.2.2.1, Plutonium-238 Production Target Fabrication, states that CLWR targets would have stainless steel or Zircaloy cladding. The PEIS did not presuppose the CLWR target design. The target designs were postulated to a level of detail appropriate to assess the environmental impacts associated with plutonium-238 production, target fabrication and post irradiation target processing. The CLWR target development evaluation assumed the prototype target design or multiple target designs would be irradiated in the CLWR for one fuel cycle. During the second fuel cycle the design or designs would be evaluated, the final design selected, and targets fabricated in production quantities. Production quantities of neptunium-237 targets are inserted into the CLWR for irradiation during the third fuel cycle. Neptunium-237 targets can be placed in numerous CLWR in-core and ex-core locations for the production of plutonium-238. The center fuel assembly in-core location was selected for evaluation in the NI PEIS because it was assumed that this would be the worst case location during postulated beyond design basis accident conditions. Such design and core configuration details would be analyzed if DOE decides to pursue this option for the production of plutonium-238. DOE considers the completion of all CLWR prototype target design testing in a single test cycle or fuel cycle a high risk. The commentor's support of CLWR plutonium-238 production, HFIR and ATR medical isotope production, and the use of a smaller less expensive research reactor such as the Canadian MAPLE design for medical isotope production is noted.

**1550-5
(Cont'd)****1550-6**

Commentor No. 1550: Jess C. Gehin (Cont'd)

Response to Commentor No. 1550

1550-6: The costs of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Cost Report 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 an ancillary document 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 this document to about 730 interested parties on August 24, 2000. The report was made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided a summary of the Cost Report in Appendix P in the Final NI PEIS.

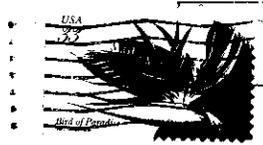
Deactivation of FFTF is not part of implementing Alternative 1, Restart FFTF. Deactivation of FFTF is part of implementing Alternatives 2, 3, 4, and 5 and including the cost of FFTF deactivation in the implementation costs for these alternatives is appropriate. The Cost Report was structured to identify the implementation costs of the various alternatives so the Secretary of Energy would have this information along with other data for consideration.

Decommissioning FFTF, including associated costs and cleanup, is not within the scope of the NI PEIS. Before decommission activities were undertaken, DOE would prepare the appropriate environmental reviews to address the associated environmental impacts. Cost assessments would also be prepared.

DOE remains committed to cleaning up the Hanford Site independent of an ultimate decision on FFTF. The amounts of wastes associated with decommissioning FFTF would be small. The schedule for cleaning up these other wastes would not be affected if FFTF were restarted.

Commentor No. 1551: Marian Grebauier

Hanford Watch
2285 SE Cypress
Portland, Oregon 97214



Ms. Colette Brown
U. S. Department of Energy
Office of Space and Defense Power Systems
NE-50
19901 Germantown Road
Germantown, Maryland 20874-1290

1674+1207 [Barcode]

Public comment on Nuclear Infrastructure Draft Programmatic Environmental Impact Statement (NI PEIS)

I am opposed to restart of the Fast Flux Test Facility reactor because:

Hanford still has to clean up the huge mess and contamination it already has created. It still is endangering the Columbia River & the FFTF, thru its process, would be creating more deadly contamination.

Name Marian Grebauier

Address 4579 NE 20 AVE

City, state PORTLAND OR Zip 97211

1551-1
1551-2
1551-3

Response to Commentor No. 1551

1551-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

1551-2: 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.

1551-3: 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. Management of wastes that would be generated under implementation of Alternative 1, Restart FFTF, is discussed in Section 4.3 of Volume 1 (e.g., see Section 4.3.1.1.13). Section 4.3.1.1.13 was revised to clarify that, the Hanford waste management infrastructure is analyzed in this PEIS for the management of waste resulting from FFTF restart and operation. This analysis is consistent with policy and DOE Order 435.1, that DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical; or at another DOE facility. However, if DOE determines that use of the Hanford waste management infrastructure or other DOE sites is not practical or cost effective, DOE may issue an exemption under DOE Order 435.1 for the use of non-DOE facilities (i.e., commercial facilities) to store, treat, and dispose of such waste generated from the restart and operation of FFTF. In addition, Section 4.3.3.1.13 and 4.4.3.1.13 also address the potential impacts associated with the waste generated from the target fabrication and processing in FMEF and how this waste would be managed at the site.

Commentor No. 1552: Colin Mecey

Hanford Watch
2285 SE Cypress
Portland, Oregon 97214



Ms. Colette Brown
U.S. Department of Energy
Office of Space and Defense Power Systems
NE-50
19901 Germantown Road
Germantown, Maryland 20874-1290

0874+1207 [Barcode]

Public comment on Nuclear Infrastructure Draft Programmatic Environmental Impact Statement (NI PEIS)

I am opposed to restart of the Fast Flux Test Facility reactor because:

NUCLEAR STORAGE HAS NOT BEEN SOLVED.

"IT WILL HURT THE BIRDS AND THE BEE'S".....AND ME!

Name COLIN MCEY

Address 5704 SELZBE

City, state PORTLAND OR Zip 97204

|| 1552-1
|| 1552-2
|| 1552-3

Response to Commentor No. 1552

- 1552-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.
- 1552-2:** DOE notes the commentor's concern regarding waste storage. 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.
- 1552-3:** DOE notes the concerns for potential ecological and human health impacts expressed in this comment. The impacts on ecological resources and human health have been assessed for each alternative in Chapter 4 of the NI PEIS. Specifically for the FFTF Restart Alternative, the impacts on ecological resources are addressed in Section 4.3.1.1.6; human health impacts are addressed in Section 4.3.1.1.9 for normal operations and in Section 4.3.1.1.10 for postulated accidents. All of these impacts are shown to be small. Ecological resources would not be adversely affected and no fatalities would be expected among the general public or Hanford workers.

Commentor No. 1553: Everett Anttila

Hanford Watch
2285 SE Cypress
Portland, Oregon 97214



Ms. Colette Brown
U.S. Department of Energy
Office of Space and Defense Power Systems
NE-50
19901 Germantown Road
Germantown, Maryland 20874-1290

874+1207 [Barcode]

FOR THE SAKE OF NEW GENERATIONS CHILDREN YOUR OURS & MINE
**Public comment on Nuclear Infrastructure Draft Programmatic
Environmental Impact Statement (NI PEIS)**

I am opposed to restart of the Fast Flux Test Facility reactor because:
(Not for any reason, not to supply fuel for foreign reactors)
I urge you not to start FFTF; MEDICAL

ISOTOPES ARE PLENTIFOL FROM FOREIGN & OTHER
LOCAL SOURCES. ALSO THE REDUCTION OF NUCLEAR

WEAPONS SHOULD NO LONGER BE DISCUSSED BUT

ACTION AS A POLICY. HANFORD PLEASE NO MORE
NEW PRODUCTION OF ANY NUCLEAR WEAPONS THAT OR ELSEWHERE

Name EVERETT ANTILA *(What is your response)*
PLEASE respond

Address 345 NE 22 AV

City, state PORTLAND, OREGON Zip 97212-2432

1553-1

1553-2

Response to Commentor No. 1553

1553-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, although it should be pointed out that FFTF will not supply fuel to any reactor, either foreign or domestic.

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.

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.

1553-2: DOE notes the commentor's interest in controlling the production of nuclear weapons, although issues of nuclear weapons production, dismantlement of weapons, and elimination of weapons systems are beyond the scope of this NI PEIS. The scope of this NI PEIS is limited to analysis of alternatives to fulfill the requirements of the missions

Commentor No. 1553: Everett Antila (Cont'd)

Response to Commentor No. 1553

addressed, which include the production of medical and industrial isotopes, the production of plutonium-238, and nuclear research and development.

The three missions are civilian nuclear energy missions and are not defense-related. Section 1.2. of Volume 1 was revised to clarify the purpose and need of the proposed action.

Commentor No. 1631: Eddie U. McPherson

From: Ed McPherson[SMTP:EDMC@INTEGRITY.COM]
 Sent: Friday, September 15, 2000 1:47:55 PM
 To: INFRASTRUCTURE_PEIS, NUCLEAR
 Subject: FFTF, A National/International Asset The World Needs
 Auto forwarded by a Rule

Cancer has divestated the lives of many of our friends and loved ones in our generation. The FFTF has the proven, demonstrated, technological ability to produce a vass array of medical isotopes that can change the quality of life for 100's of 1000's of people around the world. It is a unique facility that can produce the largest volume and the purest forms of medical isotopes of any facility on the face of the planet! The United States has an incredible window of opportunity to be the world leader in helping to alleviating the ravages of cancer and its harsh treatments. There is promising new research that will allow medical isotopes to zero_in on the cancerous tumor and destroy it without the extensive damage to surrounding tissue and organs that is part of conventional treatment.

The USA has the opportunity and moral obligation to improve the quality of life worldwide by supplying desparately needed medical isotopes. Currently, many of the potential uses of these isotopes will never be realized without a facility such as FFTF. We, the most powerful nation on earth, can either stick our heads in the sand or rise to the occasion and take the higher moral ground for the better good. What kind a nation/people do we want to be?

The primary pieces are in place to justify the mission for FFTF to begin producing medical isotopes. The facility exists (which includes an outstanding operating record), the technology is proven, and the need is both desparate and immediate.

Please take advantage of this once_in_a_lifetime opportunity, and restart the FFTF for the production of medical isotopes.

Sincerely,

Eddie U. McPherson
 2304 Raven Court, West Richland, WA 99352
 509_967_3127

Response to Commentor No. 1631**1631-1****1631-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1632: Nancy W. Fenn

From: nfenn@communityschool.org%internet
[SMTP:NFENN@COMMUNITYSCHOOL.ORG]
Sent: Friday, September 15, 2000 4:11:44 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Cc: governor@governor.state.id.us%internet;
mike.simpson@mail.house.gov%internet;
ask.helen@mail.house.gov%internet
Subject: stop the madness
Auto forwarded by a Rule
September 15, 2000

Ms. Colette Brown
DOE, Office of Space and Defense Power Systems

Dear Ms. Brown,
Your Department's recent proposal to expand the civilian nuclear infrastructure, outlined in the Draft Programmatic Environmental Impact Statement for accomplishing expanded civilian nuclear energy research and development and isotope production mission in the United States, including the role of the Fast Flux Test Facility, raises significant nuclear weapons proliferation and environmental issues.

As a member of the Snake River Alliance I have become aware of the serious nuclear contamination and waste problems at INEEL. INEEL is one of the most contaminated areas in America. The Department's recent estimate on cleaning up our site is \$22 billion and is expected to take 50 years__longer than any other DOE facility. In addition, we have over 360 individual superfund sites within the 890 sq. mile area that comprises INEEL. With this known, the last thing we need is a plan to generate more nuclear waste at a site that needs more waste like the DOE needs security scandals. Out of concern for Idaho's environment, I strongly urge you not to pursue the plutonium_238 production mission outlined in your PEIS.

1632-1

Response to Commentor No. 1632

- 1632-1:** The commentor's position regarding plutonium-238 production at INEEL is noted. Production of plutonium-238 at one or more of the candidate sites would be conducted in support of NASA's deep space missions (Volume 1, Section 1.2.2, of the NI PEIS). As discussed in Sections 4.3.2.1.13 and 4.4.2.1.13 of the PEIS, selection of the Fluorinel Dissolution Processing Facility and/or the Advanced Test Reactor to support production of plutonium-238 would have no significant impact on the waste management system at INEEL. Use of any of the facilities proposed in this PEIS for the stated missions would not impact cleanup missions at DOE sites.
- 1632-2:** 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.
- 1632-3:** 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; 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

Commentor No. 1632: Nancy W. Fenn (Cont'd)

One of the most daunting problems confronting cleanup at major DOE facilities such as Hanford and INEEL, is the solidification of liquid high_level nuclear waste. Your current plan for plutonium_238 production entails the generation of approximately 288,000 additional gallons of this waste over the project's 35 year span. While this is a small portion of Hanford's high level waste, it is approximately one fifth of what we have remaining here in Idaho, which makes it a very significant amount. Previous leakage of this waste at INEEL and Hanford threatens our water supplies. What we certainly don't need is any more of this most highly problematic of waste forms.

Given the certain risks inherent in production of plutonium, the justified need for this material would have to be tremendous, and the PEIS does a poor job of providing ample justification. Beyond the risks involved in production, and the aforementioned resulting waste problem, there is also the issue of an accident occurring upon lift_off or reentry of a space probe carrying this material. The cassini probe, launched in 1997, carried 72 pounds of Pu_238. The potential for an explosion during lift_off or upon an inadvertent reentry during the fly_by phase, gave many in the scientific community pause, including scientists within NASA. According to NASA's own conservative estimate, a burn up upon reentry of the cassini probe could have caused 2,300 cancer fatalities, independent analyses ranged much higher. This potential for a catastrophic release of this extremely toxic material will remain so long as the US government remains committed to the use of plutonium_238. If DOE is to have a role in developing power systems for NASA's instrumentation, it should focus on promising solar technology, an alternative that has been promoted in the European scientific community.

There are also proliferation concerns as it pertains to this plan. A return to production of this isotope, however poorly justified, means a return to the use of aqueous reprocessing at DOE facilities where this technology has been used to extract bomb material for the weapons program. From President Carter to presidents Bush and Clinton, US policy has been to halt reprocessing in this country in order to set a global precedent to curtail the spread of nuclear weapons material_a noble effort in serious need of bolstering through action.

1632-2

1632-3

1632-4

1632-5

Response to Commentor No. 1632

supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost.

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.

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.

1632-4: DOE notes the commentor's concern for NASA's use of nuclear materials for space missions and interest in the development of alternative energy sources for space missions, although issues such as NASA research priorities are 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. The Cassini fly-by occurred exactly as planned, with no release of nuclear material.

1632-5: It is not true that resumption of plutonium-238 production constitutes a return to reprocessing. The aqueous technique that would be used to separate plutonium consisting of over 80 percent plutonium-238 and neptunium from the irradiated target is similar to the technology that was used in portions of the complex process to extract plutonium-239. However, as discussed in PEIS Sections S.3, 2.2.3 and A.1.4, this technology would be used to chemically separate plutonium-238 and neptunium from irradiated targets and not from irradiated or spent nuclear fuel, whereas reprocessing separates weapons grade plutonium-239 from irradiated nuclear fuel. Plutonium-238 extraction is not reprocessing. Unlike plutonium-239, plutonium-238 is not used in nuclear weapons,

Commentor No. 1632: Nancy W. Fenn (Cont'd)

Indeed, an otherwise lukewarm Nuclear Infrastructure Nonproliferation Impact Assessment conducted by your Office of Arms Control and Nonproliferation questions whether our commitment to nonproliferation isn't weakened by the use of the Fluorinel Dissolution Process Facility within Building 666 at INEEL. INEEL's reprocessing facility is next door to a wet storage unit for Navy spent fuel, which contains a greater than average amount of highly enriched uranium. It was reprocessed from 1953 to 1989 at INEEL for the weapons program. Use of this facility to carry out plutonium_238 extraction, especially considering the dubious need for this isotope, at the very least raises the concern that DOE is not fully committed to ending reprocessing. The international community cannot be expected to trust DOE's civilian_mission claim when an agency devoutly committed to development of weapons uses a nuclear weapons technology at a weapons facility.

1632-5
(Cont'd)

Considering all these factors that could adversely affect our environment and commitment to nonproliferation, I strongly urge you to select alternative 5 in the current PEIS. This alternative would allow the Advanced Test Reactor at INEEL to continue producing medical and industrial isotopes for the commercial sector and would not lead to the production of anymore highly radioactive liquid waste at Hanford or INEEL. The main mission at these two facilities has been and should continue to be cleanup of the mess left over from previous nuclear weapons work. Additional waste production would interfere with this already difficult and expensive work. Alternative 5 also calls for the decommissioning of the FFTF reactor at Hanford. FFTF is an aging breeder reactor whose use would be inconsistent with United States policy to discourage use of this technology due to the capability this class of reactors has to produce more plutonium than is consumed. Thank you for the opportunity to comment on this plan.

1632-6

Sincerely,
Nancy W. Fenn

Response to Commentor No. 1632

but rather it would be used as a power and heat source for NASA space missions.

The Nuclear Infrastructure Nonproliferation Impact Assessment, published in September 2000, confirms that extracting plutonium-238 from irradiated targets would not undermine nonproliferation goals. In this report, DOE recognizes that proliferation concerns might be raised related to one of the technical assessment factors, "reduction in attractiveness of material forms," due to the fact that, in the extraction of plutonium-238, the remaining unconverted neptunium, a weapons-useable fissile material used as target material for conversion into plutonium-238, must also be recovered (not produced), purified, and recycled. This is unavoidable (unless the United States elects to neither produce or purchase plutonium-238), and it impacts all PEIS alternatives and options, including the No Action Alternative and Alternative 5: permanently deactivate FFTF with no new missions at U.S. facilities. However, while the fact that concerns might be raised is a valuable input to the record of decision process, it does not constitute an inconsistency with or departure from nonproliferation policy, and plutonium-238 is needed to fulfill our missions. Further, in the event that plutonium-238 production is resumed in the United States, the total separated stocks of neptunium would be reduced over time in an irreversible manner since there is a moratorium on U.S. spent fuel reprocessing. This overall reduction in a weapons-useable material would mitigate the potential concerns related to material attractiveness, and offer an additional method to pursue U.S. nonproliferation goals. DOE's proposed approach in this mission, and its rigorous nonproliferation impact assessment, demonstrate its commitment to nonproliferation policy, domestically and in the international community.

The juxtaposition of Fluorinel Dissolution Process Facility (FDPF) in INEEL Building 666 to wet storage of highly enriched uranium Navy spent nuclear fuel, and its previous mission of reprocessing spent nuclear fuel, were rigorously and objectively evaluated in the Nuclear Infrastructure Nonproliferation Impact Assessment published in September 2000. In no uncertain terms, this report discusses the proliferation concerns raised in the areas of facilitating cost-effective international monitoring and supporting negotiation of a verifiable Fissile Material Cutoff Treaty (FMCT), and outlines what is needed to mitigate these concerns. This is a valuable input to the record of decision process.

Commentor No. 1632: Nancy W. Fenn (Cont'd)

Response to Commentor No. 1632

Most of the concerns and uncertainties surrounding the use of FDPF are associated with its history as a defense programs facility and the resulting lack of transparency that could be afforded in the event that international monitoring becomes desirable under an FMCT. This is a different set of concerns than those expressed in the comment. The fact is, that since it is well known that FDPF has a long history of Navy defense missions, and since the described mission (plutonium-238 extraction) in the PEIS does not involve the production of special fissile material, sufficient transparency could possibly be provided by a managed access regime that would meet the requirements of FMCT verification. If this could be done, the aforementioned concerns would be mitigated.

- 1632-6:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF. It should be noted that medical isotopes would continue to be produced at ATR regardless of which alternative is selected in the Record of Decision. The FFTF would produce spent nuclear fuel and low-level radioactive waste, and as discussed throughout Section 4.3 of Volume 1, none of the proposed alternatives would add waste to the high-level waste tanks at Hanford or INEEL. Also, it should be pointed out that while FFTF supported the breeder reactor program, it is not itself a breeder reactor, but rather a fast flux research reactor.

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

Commentor No. 1632: Nancy W. Fenn (Cont'd)

Response to Commentor No. 1632

With respect to cleanup of wastes at Hanford or INEEL, the proposed action and the existing cleanup missions are independent programs and actions related to one will not impact the other. While the cleanup activities at both Hanford and INEEL are high priority to DOE, it should be noted that the cleanup of legacy wastes is beyond the scope of the NI PEIS.

Commentor No. 1633: Maura Zimmerschied

From: BanjoZ@aol.com%internet
[SMTP:BANJOZ@AOL.COM]
Sent: Friday, September 15, 2000 5:46:01 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: Fast Flux Test Facility
Auto forwarded by a Rule

I support re_start of the Fast Flux Test Facility at Hanford,
Washington, for production of medical isotopes.

Maura K. Zimmerschied
Richland, WA

|| 1633-1

Response to Commentor No. 1633

1633-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Commentor No. 1634: Chris Fuess

From: Chris Fuess[SMTP:FUESSC@ENERGY.WSU.EDU]
 Sent: Friday, September 15, 2000 6:23:26 PM
 To: INFRASTRUCTURE_PEIS, NUCLEAR
 Subject: Don't restart the Hanford's FFTF Reactor
 Auto forwarded by a Rule

Dear Collette Brown/Secretary Richardson,

Please accept the following as public comments on the Draft Environmental Impact Statement on the Nuclear Infrastructure EIS.

As a citizen of the Pacific Northwest, I am deeply concerned about the United States Department of Energy's proposal to restart Hanford's Fast Flux Test Facility Nuclear Reactor. I wish to have my values incorporated into the formal administrative record and taken into consideration when adopting the final record of decision. I also want you to respond to my concerns before you make your record of decision.

Considering Hanford's overwhelming problems, including the crisis with tank waste treatment, as well as the damage caused by and radiation released from the Hanford wildfire, restarting FFTF is absolutely unacceptable. We must deal with the waste already at Hanford and focus on the clean_up mission. FFTF maintenance has already gobbled up \$100 million in clean_up money and distracted from desperately needed clean_up. Tank wastes are already seeping towards the Columbia River. More wastes must not be added to those tanks. Clean_up must be the only priority. We must save the Columbia River. Also, I object to the fact that you are asking citizens to comment on an incomplete study. You have not told us how you will deal with non_proliferation issues or additional waste from FFTF. Should FFTF be restarted, that decision will be illegal under Federal law and will be overturned! Do the right thing, shut down FFTF now and save the future of the Columbia River!

Sincerely,
 Chris Fuess
 1126 State Ave NE, Olympia, WA, 98506

1634-1

1634-2

1634-3

1634-2

1634-1

1634-4

1634-1

1634-5

Response to Commentor No. 1634

1634-1: DOE notes the commentor's concerns. This NI PEIS has been prepared in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR Parts 1500 through 1508 and 10 CFR Part 1021), respectively. DOE prepared a separate 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 an ancillary document 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 this document to about 730 interested parties on September 8, 2000. The report was made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided a summary of the Nuclear Infrastructure Nonproliferation Impact Assessment in Appendix Q in the Final NI PEIS. DOE gave equal consideration to all comments. In preparing the Final NI PEIS, DOE carefully considered comments received from the public. DOE's Record of Decision for the NI PEIS will be based on a number of factors including environmental impacts, public input, costs, nonproliferation impacts, schedules, technical assurance, and other policy and programmatic objectives.

1634-2: 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.

Hanford cleanup is funded by DOE's Office of the Assistant Secretary for Environmental Management (EM). FFTF funding is currently provided through the Office of Nuclear Energy, Science & Technology (NE). The DOE missions considered in this PEIS would also be funded by the DOE Office of NE, which has no funding connection to Hanford cleanup activities. Therefore, restart of FFTF would not impact current cleanup schedules.

Commentor No. 1634: Chris Fuess (Cont'd)

Response to Commentor No. 1634

The restart of FFTF or any of the other proposed alternative facilities would not have an impact on the cleanup missions at Hanford, INEEL, or ORR . The NI PEIS addressed 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.

In regards to the Hanford wildfire of 2000, the DOE Richland Operations Office, the State of Washington Department of Health, and U.S. Environmental Protection Agency performed environmental monitoring on and around the Site to assess potential radiological impacts. The wildfire did not cause a release of radioactive materials from any Hanford facilities but did result in resuspension of radioactive materials which were already in the environment. The very low levels of radioactive materials that were resuspended were slightly above natural background levels and required several days of analysis to quantify. Information on this event has been made available to the public and can be accessed at <http://www.Hanford.gov/envmon/index.html>. This site also provides a link to information on the independent offsite air monitoring that was conducted by the U.S. Environmental Protection Agency.

1634-3: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 5, Permanently Deactivate FFTF.

1634-4: Management of wastes that would be generated under implementation of Alternative 1, Restart FFTF, is discussed in Section 4.3 of Volume 1 (e.g., see Section 4.3.1.1.13). Section 4.3.1.1.13 was revised to clarify that, the Hanford waste management infrastructure is analyzed in this PEIS for the management of waste resulting from FFTF restart and operation. This analysis is consistent with policy and DOE Order 435.1, that DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical; or at another DOE facility. However, if DOE determines that use of the Hanford waste management infrastructure or other DOE sites is not practical or cost effective, DOE may issue an exemption under DOE Order 435.1 for the use of non-DOE facilities (i.e., commercial facilities)

Commentor No. 1634: Chris Fuess (Cont'd)

Response to Commentor No. 1634

to store, treat, and dispose of such waste generated from the restart and operation of FFTF. In addition, Section 4.3.3.1.13 and 4.4.3.1.13 also address the potential impacts associated with the waste generated from the target fabrication and processing in FMEF and how this waste would be managed at the site.

1634-5: See response to comment 1634-3.

Commentor No. 1635: Dennis F. Nester

From: Dennis F. Nester
 [SMTP:THEROYPROCESS@HOME.COM]
 Sent: Friday, September 15, 2000 6:56:49 PM
 To: INFRASTRUCTURE_PEIS, NUCLEAR
 Subject: The Roy Process for transmuting nuclear waste.
 Auto forwarded by a Rule

TO: U.S. Department of Energy
 RE: Plutonium transmutation via the Roy Process.

Dear Sir,
 All high level nuclear waste, including plutonium, can be totally transmuted into non radioactive elements using the Roy Process invention. See web site: <http://members.home.net/theroyprocess>

Plutonium can be transmuted into non radioactive lead producing heat which can be used to make steam and power existing generators at each nuclear power plant were nuclear waste is now stored in cooling ponds. The Roy Process Patent Application contains completed electrodynamic calculations for three isotopes: Pu239, Sr90 and Cs137. All other isotopes treated by the same method.

Dr. Roy estimated cost in 1979 at \$80 Million dollars and take three years to construct the Roy Process pilot treatment plant. Portable units can also be built for on site transmutation.

The Roy Process is available to a company capable of realization who contracts with us.

Sincerely,
 Dennis F. Nester,
 Agent for the Roy Process, theroyprocess@home.com
 (602) 494_9361, 4510 E. Willow Ave
 Phoenix, AZ 85032, U.S.A.

1635-1

Response to Commentor No. 1635

1635-1: DOE notes the commentor's interest in high-level radioactive waste treatment methods.

Commentor No. 1636: Andrea Hornbein

From: Andrea Hornbein
[SMTP:AHORNBEIN@EARTHLINK.NET]
Sent: Friday, September 15, 2000 7:20:03 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: Use of depleted plutonium
Auto forwarded by a Rule

Dear Ms. Brown,

Please count me an American Citizen who is opposed to the use of depleted uranium. From what I understand it is radioactive and in the area's where it has already been highly used there are serious health related concerns.

Thank you,
Andrea Hornbein

1636-1

Response to Commentor No. 1636

1636-1: The commentor's concerns about depleted uranium are noted. Missions described in Section 1.2 of Volume 1 and alternatives described in Section 2.5 do not involve depleted uranium. This NI PEIS provides estimates of human health impacts associated with a range of reasonable alternatives (including restart of FFTF) for the production of isotopes for medical uses, research and development, and as heat sources for radioisotope power systems. Plutonium is one of many substances that have been considered in the analysis of health and safety impacts for this PEIS. Both radiological and chemical impacts were addressed. (See Appendixes H and I of the PEIS.) Plutonium has been identified as the primary contributor to the health impacts associated with the processing of irradiated neptunium targets at any of the proposed processing facilities. The analysis shows that no public or worker latent cancer fatalities would be expected to result from implementation of the 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. 1637: Ann Tesoro

From: Ann Tesoro[SMTP:ANTESORO@MICRON.NET]
 Sent: Friday, September 15, 2000 7:31:37 PM
 To: INFRASTRUCTURE_PEIS, NUCLEAR
 Subject: Comment, INEEL
 Auto forwarded by a Rule

September 15, 2000
 Ms. Colette Brown
 DOE, Office of Space and Defense Power Systems

Dear Ms. Brown,
 Your Department's recent proposal to expand the civilian nuclear infrastructure, outlined in the Draft Programmatic Environmental Impact Statement for accomplishing expanded civilian nuclear energy research and development and isotope production mission in the United States, including the role of the Fast Flux Test Facility, raises significant nuclear weapons proliferation and environmental issues.

As a member of the Snake River Alliance I have become aware of the serious nuclear contamination and waste problems at INEEL. INEEL is one of the most contaminated areas in America. The Department's recent estimate on cleaning up our site is \$22 billion and is expected to take 50 years__longer than any other DOE facility. In addition, we have over 360 individual superfund sites within the 890 sq. mile area that comprises INEEL. With this known, the last thing we need is a plan to generate more nuclear waste at a site that needs more waste like the DOE needs security scandals. Out of concern for Idaho's environment, I strongly urge you not to pursue the plutonium_238 production mission outlined in your PEIS.

One of the most daunting problems confronting cleanup at major DOE facilities such as Hanford and INEEL, is the solidification of liquid high_level nuclear waste. Your current plan for plutonium_238 production entails the generation of approximately 288,000 additional gallons of this waste over the project's 35 year span. While this is a small portion of Hanford's high level waste, it is

Response to Commentor No. 1637

- 1637-1:** The commentor's position regarding plutonium-238 production at INEEL is noted. Production of plutonium-238 at one or more of the candidate sites would be conducted in support of NASA's deep space missions Volume 1, Section 1.2.2 of the NI PEIS). As discussed in Sections 4.3.2.1.13 and 4.4.2.1.13 of the EIS, selection of the Fluorinel Dissolution Processing Facility and/or the Advanced Test Reactor to support production of plutonium-238 would have little impact on the waste management system at INEEL. Use of any of the facilities proposed in this PEIS for the stated missions would not impact cleanup missions at DOE sites.
- 1637-2:** 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.
- 1637-3:** 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; 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

1637-1

1637-2

Commentor No. 1637: Ann Tesoro (Cont'd)

approximately one fifth of what we have remaining here in Idaho, which makes it a very significant amount. Previous leakage of this waste at INEEL and Hanford threatens our water supplies. What we certainly don't need is any more of this most highly problematic of waste forms.

Given the certain risks inherent in production of plutonium, the justified need for this material would have to be tremendous, and the PEIS does a poor job of providing ample justification. Beyond the risks involved in production, and the aforementioned resulting waste problem, there is also the issue of an accident occurring upon lift_off or reentry of a space probe carrying this material. The cassini probe, launched in 1997, carried 72 pounds of Pu_238. The potential for an explosion during lift_off or upon an inadvertent reentry during the fly_by phase, gave many in the scientific community pause, including scientists within NASA. According to NASA's own conservative estimate, a burn up upon reentry of the cassini probe could have caused 2,300 cancer fatalities, independent analyses ranged much higher. This potential for a catastrophic release of this extremely toxic material will remain so long as the US government remains committed to the use of plutonium_238. If DOE is to have a role in developing power systems for NASA's instrumentation, it should focus on promising solar technology, an alternative that has been promoted in the European scientific community.

There are also proliferation concerns as it pertains to this plan. A return to production of this isotope, however poorly justified, means a return to the use of aqueous reprocessing at DOE facilities where this technology has been used to extract bomb material for the weapons program. From President Carter to presidents Bush and Clinton, US policy has been to halt reprocessing in this country in order to set a global precedent to curtail the spread of nuclear weapons material_a noble effort in serious need of bolstering through action.

Indeed, an otherwise lukewarm Nuclear Infrastructure Nonproliferation Impact Assessment

1637-2
(Cont'd)

1637-3

1637-4

1637-5

Response to Commentor No. 1637

supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost.

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.

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.

1637-4: DOE notes the commentor's concern for NASA's use of nuclear materials for space missions and interest in the development of alternative energy sources for space missions, although issues such as NASA research priorities are 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. The Cassini fly-by occurred exactly as planned, with no release of nuclear material.

1637-5: It is not true that resumption of plutonium-238 production constitutes a return to reprocessing. The aqueous technique that would be used to separate plutonium consisting of over 80 percent plutonium-238 and neptunium from the irradiated target is similar to the technology that was used in portions of the complex process to extract plutonium-239. However, as discussed in PEIS Sections S.3, 2.2.3 and A.1.4, this technology would be used to chemically separate plutonium-238 and neptunium from irradiated targets and not from irradiated or spent nuclear fuel, whereas reprocessing separates weapons grade plutonium-239 from irradiated nuclear fuel. Plutonium-238 extraction is not reprocessing. Unlike plutonium-239, plutonium-238 is not used in nuclear weapons, but rather it would be used as a power and heat source for NASA space missions.

Commentor No. 1637: Ann Tesoro (Cont'd)

conducted by your Office of Arms Control and Nonproliferation questions whether our commitment to nonproliferation isn't weakened by the use of the Fluorinel Dissolution Process Facility within Building 666 at INEEL. INEEL's reprocessing facility is next door to a wet storage unit for Navy spent fuel, which contains a greater than average amount of highly enriched uranium. It was reprocessed from 1953 to 1989 at INEEL for the weapons program. Use of this facility to carry out plutonium_238 extraction, especially considering the dubious need for this isotope, at the very least raises the concern that DOE is not fully committed to ending reprocessing. The international community cannot be expected to trust DOE's civilian_mission claim when an agency devoutly committed to development of weapons uses a nuclear weapons technology at a weapons facility.

Considering all these factors that could adversely affect our environment and commitment to nonproliferation, I strongly urge you to select alternative 5 in the current PEIS. This alternative would allow the Advanced Test Reactor at INEEL to continue producing medical and industrial isotopes for the commercial sector and would not lead to the production of anymore highly radioactive liquid waste at Hanford or INEEL. The main mission at these two facilities has been and should continue to be cleanup of the mess left over from previous nuclear weapons work. Additional waste production would interfere with this already difficult and expensive work. Alternative 5 also calls for the decommissioning of the FFTF reactor at Hanford. FFTF is an aging breeder reactor whose use would be inconsistent with United States policy to discourage use of this technology due to the capability this class of reactors has to produce more plutonium than is consumed. Thank you for the opportunity to comment on this plan.

Sincerely,

**1637-5
(Cont'd)**

1637-6

Response to Commentor No. 1637

The Nuclear Infrastructure Nonproliferation Impact Assessment, published in September 2000, confirms that extracting plutonium-238 from irradiated targets would not undermine nonproliferation goals. In this report, DOE recognizes that proliferation concerns might be raised related to one of the technical assessment factors, "reduction in attractiveness of material forms," due to the fact that, in the extraction of plutonium-238, the remaining unconverted neptunium, a weapons-useable fissile material used as target material for conversion into plutonium-238, must also be recovered (not produced), purified, and recycled. This is unavoidable (unless the United States elects to neither produce or purchase plutonium-238), and it impacts all PEIS alternatives and options, including the No Action Alternative and Alternative 5: permanently deactivate FFTF with no new missions at U.S. facilities. However, while the fact that concerns might be raised is a valuable input to the record of decision process, it does not constitute an inconsistency with or departure from nonproliferation policy, and plutonium-238 is needed to fulfill our missions. Further, in the event that plutonium-238 production is resumed in the United States, the total separated stocks of neptunium would be reduced over time in an irreversible manner since there is a moratorium on U.S. spent fuel reprocessing. This overall reduction in a weapons useable material would mitigate the potential concerns related to material attractiveness, and offer an additional method to pursue U.S. nonproliferation goals. DOE's proposed approach in this mission, and its rigorous nonproliferation impact assessment, demonstrate its commitment to nonproliferation policy, domestically and in the international community.

The juxtaposition of Fluorinel Dissolution Process Facility (FDPF) in INEEL Building 666 to wet storage of highly enriched uranium Navy spent nuclear fuel, and its previous mission of reprocessing spent nuclear fuel, were rigorously and objectively evaluated in the Nuclear Infrastructure Nonproliferation Impact Assessment published in September 2000. In no uncertain terms, this report discusses the proliferation concerns raised in the areas of facilitating cost-effective international monitoring and supporting negotiation of a verifiable Fissile Material Cutoff Treaty (FMCT), and outlines what is needed to mitigate these concerns. This is a valuable input to the record of decision process.

Most of the concerns and uncertainties surrounding the use of FDPF are associated with its history as a defense programs facility and the resulting lack of transparency that could be afforded in the event that international monitoring becomes desirable under an Fissile Material Cutoff Treaty

Commentor No. 1637: Ann Tesoro (Cont'd)

Response to Commentor No. 1637

(FMCT). This is a different set of concerns than those expressed in the comment. The fact is, that since it is well known that FDPF has a long history of Navy defense missions, and since the described mission (plutonium-238 extraction) in the PEIS does not involve the production of special fissile material, sufficient transparency could possibly be provided by a managed access regime that would meet the requirements of FMCT verification. If this could be done, the aforementioned concerns would be mitigated.

- 1637-6:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF. It should be noted that medical isotopes would continue to be produced at ATR regardless of which alternative is selected in the Record of Decision. The FFTF would produce spent nuclear fuel and low-level radioactive waste, and as discussed throughout Section 4.3 of Volume 1, none of the proposed alternatives would add waste to the high-level waste tanks at Hanford or INEEL. Also, it should be pointed out that while FFTF supported the breeder reactor program, it is not itself a breeder reactor, but rather a fast flux research reactor.

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

With respect to cleanup of wastes at Hanford or INEEL, the proposed action and the existing cleanup missions are independent programs and actions related to one will not impact the other. While the cleanup activities

Commentor No. 1637: Ann Tesoro (Cont'd)

Response to Commentor No. 1637

at both Hanford and INEEL are high priority to DOE, it should be noted that the cleanup of legacy wastes is beyond the scope of the NI PEIS.

Commentor No. 1638: Carolyn Hondo

From: hondo[SMTP:HONDO@CYBERHIGHWAY.NET]
Sent: Friday, September 15, 2000 8:31:44 PM
To: INFRASTRUCTURE_PEIS, NUCLEAR
Subject: citizen comments on
Auto forwarded by a Rule
September 15, 2000

Ms. Colette Brown
DOE, Office of Space and Defense Power Systems

Dear Ms. Brown,
Your Department's recent proposal to expand the civilian nuclear infrastructure, outlined in the Draft Programmatic Environmental Impact Statement for accomplishing expanded civilian nuclear energy research and development and isotope production mission in the United States, including the role of the Fast Flux Test Facility, raises significant nuclear weapons proliferation and environmental issues.

As a member of the Snake River Alliance I have become aware of the serious nuclear contamination and waste problems at INEEL. INEEL is one of the most contaminated areas in America. The Department's recent estimate on cleaning up our site is \$22 billion and is expected to take 50 years__longer than any other DOE facility. In addition, we have over 360 individual superfund sites within the 890 sq. mile area that comprises INEEL. With this known, the last thing we need is a plan to generate more nuclear waste at a site that needs more waste like the DOE needs security scandals. Out of concern for Idaho's environment, I strongly urge you not to pursue the plutonium_238 production mission outlined in your PEIS.

One of the most daunting problems confronting cleanup at major DOE facilities such as Hanford and INEEL, is the solidification of liquid high_level nuclear waste. Your current plan for plutonium_238 production entails the generation of approximately 288,000 additional gallons of this waste over the project's 35 year span. While this is a small portion of Hanford's high level

Response to Commentor No. 1638

1638-1: The commentor's position regarding plutonium-238 production at INEEL is noted. Production of plutonium-238 at one or more of the candidate sites would be conducted in support of NASA's deep space missions Volume 1, Section 1.2.2 of the NI PEIS). As discussed in Sections 4.3.2.1.13 and 4.4.2.1.13 of the EIS, selection of the Fluorinel Dissolution Processing Facility and/or the Advanced Test Reactor to support production of plutonium-238 would have no significant impact on the waste management system at INEEL. Use of any of the facilities proposed in this PEIS for the stated missions would not impact cleanup missions at DOE sites.

1638-2: 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.

1638-3: 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; 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

1638-1

1638-2

Commentor No. 1638: Carolyn Hondo (Cont'd)

waste, it is approximately one fifth of what we have remaining here in Idaho, which makes it a very significant amount. Previous leakage of this waste at INEEL and Hanford threatens our water supplies. What we certainly don't need is any more of this most highly problematic of waste forms.

Given the certain risks inherent in production of plutonium, the justified need for this material would have to be tremendous, and the PEIS does a poor job of providing ample justification. Beyond the risks involved in production, and the aforementioned resulting waste problem, there is also the issue of an accident occurring upon lift_off or reentry of a space probe carrying this material. The cassini probe, launched in 1997, carried 72 pounds of Pu_238. The potential for an explosion during lift_off or upon an inadvertent reentry during the fly_by phase, gave many in the scientific community pause, including scientists within NASA. According to NASA's own conservative estimate, a burn up upon reentry of the cassini probe could have caused 2,300 cancer fatalities, independent analyses ranged much higher. This potential for a catastrophic release of this extremely toxic material will remain so long as the US government remains committed to the use of plutonium_238. If DOE is to have a role in developing power systems for NASA's instrumentation, it should focus on promising solar technology, an alternative that has been promoted in the European scientific community.

There are also proliferation concerns as it pertains to this plan. A return to production of this isotope, however poorly justified, means a return to the use of aqueous reprocessing at DOE facilities where this technology has been used to extract bomb material for the weapons program. From President Carter to presidents Bush and Clinton, US policy has been to halt reprocessing in this country in order to set a global precedent to curtail the spread of nuclear weapons material_a noble effort in serious need of bolstering through action.

**1638-2
(Cont'd)****1638-3****1638-4****1638-5****Response to Commentor No. 1638**

supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost.

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.

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.

1638-4: DOE notes the commentor's concern for NASA's use of nuclear materials for space missions and interest in the development of alternative energy sources for 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. 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. The Cassini fly-by occurred exactly as planned, with no release of nuclear material.

1638-5: The commentor is correct in stating that the aqueous processing technology that would be used to separate plutonium consisting of over 80 percent plutonium-238 and neptunium from the irradiated target is similar to the technology that was used to extract plutonium-239. However, unlike plutonium-239, plutonium-238 is not used in nuclear weapons, but rather it would be used as a power source for NASA space missions. The technology that is discussed in EIS Sections S.3, 2.2.3 and A.1.4 would be used to chemically separate plutonium-238 and neptunium from irradiated targets and not from irradiated or spent nuclear fuel whereas reprocessing separates weapons grade plutonium-239 from irradiated nuclear fuel. As discussed in the separate nonproliferation impact assessment report, use of this technology to produce plutonium-238 from irradiated targets will not create a nonproliferation threat. DOE is committed to full compliance

Commentor No. 1638: Carolyn Hondo (Cont'd)

Indeed, an otherwise lukewarm Nuclear Infrastructure Nonproliferation Impact Assessment conducted by your Office of Arms Control and Nonproliferation questions whether our commitment to nonproliferation isn't weakened by the use of the Fluorinel Dissolution Process Facility within Building 666 at INEEL. INEEL's reprocessing facility is next door to a wet storage unit for Navy spent fuel, which contains a greater than average amount of highly enriched uranium. It was reprocessed from 1953 to 1989 at INEEL for the weapons program. Use of this facility to carry out plutonium_238 extraction, especially considering the dubious need for this isotope, at the very least raises the concern that DOE is not fully committed to ending reprocessing. The international community cannot be expected to trust DOE's civilian_mission claim when an agency devoutly committed to development of weapons uses a nuclear weapons technology at a weapons facility.

Considering all these factors that could adversely affect our environment and commitment to nonproliferation, I strongly urge you to select alternative 5 in the current PEIS. This alternative would allow the Advanced Test Reactor at INEEL to continue producing medical and industrial isotopes for the commercial sector and would not lead to the production of anymore highly radioactive liquid waste at Hanford or INEEL. The main mission at these two facilities has been and should continue to be cleanup of the mess left over from previous nuclear weapons work. Additional waste production would interfere with this already difficult and expensive work. Alternative 5 also calls for the decommissioning of the FFTF reactor at Hanford. FFTF is an aging breeder reactor whose use would be inconsistent with United States policy to discourage use of this technology due to the capability this class of reactors has to produce more plutonium than is consumed. Thank you for the opportunity to comment on this plan.

Sincerely,

Carolyn Hondo
219 Hillcrest Rd.
Burley, Idaho 83318

**1638-5
(Cont'd)**

1638-6

Response to Commentor No. 1638

with and support of the U.S. policy prohibiting reprocessing. The juxtaposition of INEEL Building 666 to wet storage of highly enriched uranium Navy spent nuclear fuel and its previous mission of reprocessing spent nuclear fuel were considered in the separate nonproliferation impact assessment.

1638-6: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF. It should be noted that medical isotopes would continue to be produced at ATR regardless of which alternative is selected in the Record of Decision. The FFTF would produce spent nuclear fuel and low-level radioactive waste, and as discussed throughout Section 4.3 of Volume 1, none of the proposed alternatives would add waste to the high-level waste tanks at Hanford or INEEL. Also, it should be pointed out that while FFTF supported the breeder reactor program, it is not itself a breeder reactor, but rather a fast flux research reactor.

With respect to cleanup of wastes at Hanford or INEEL, the proposed action and the existing cleanup missions are independent programs and actions related to one will not impact the other. While the cleanup activities at both Hanford and INEEL are high priority to DOE, it should be noted that the cleanup of legacy wastes is beyond the scope of the NI PEIS.