

**Commentor No. 1639: Barbara Agnew**

From: Barbara Agnew[SMTP:BAS@PDT.NET]  
 Sent: Friday, September 15, 2000 11:23:11 PM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: P\_238  
 Auto forwarded by a Rule

Dear DOE,

It has come to my attention that your agency is considering reprocessing technologies to produce P\_238 for NASA at INEEL. Consider that NASA has made public that it has plutonium sufficient for its space probes. Consider also that reprocessing is a dirty process, which is known to lead to weapons proliferation. The safest, most cost\_ effective way to clean\_up hazardous waste is to stop producing it. I want to be able to say that the government of my country leads the world in a common\_sense approach to stopping nuclear proliferation. Drop this bad idea. Here in southeastern Idaho, we don't want the jobs this idea will create. Thank you.

Sincerely,  
 Barbara Agnew, 289 West 400 North, Teton, ID 83452

1639-1

1639-2

1639-3

**Response to Commentor No. 1639**

**1639-1:** 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. 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 with and support of the U.S. policy prohibiting reprocessing.

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 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.

**1639-2:** The technology that is discussed in Sections S.3, 2.2.3 and A.1.4 of 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. As discussed in the separate Nuclear Infrastructure Nonproliferation Impact Assessment, published in September, 2000, use of this technology to produce plutonium-238 from irradiated targets will not create a nonproliferation threat. DOE is committed to full compliance with and support of the U.S. policy prohibiting reprocessing.

**1639-3:** DOE notes the commentor's opposition to those alternatives that would involve INEEL.

## *Commentor No. 1640: Maurice Horn*

From: Maurice Horn[SMTP:MHORNRENTALRES@MCN.NET]  
Sent: Friday, September 15, 2000 10:50:45 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Re: Comment letter  
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

## *Response to Commentor No. 1640*

**1640-1:** 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.

**1640-2:** 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.

**1640-1** **1640-3:** 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. 1640: Maurice Horn (Cont'd)**

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.

**1640-2  
(Cont'd)****1640-3****1640-4****1640-5****Response to Commentor No. 1640**

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.

**1640-4:** 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.

**1640-5:** 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. The Nuclear Infrastructure Nonproliferation Impact Assessment, published in September 2000, confirms that extracting

**Commentor No. 1640: Maurice Horn (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.

**1640-5  
(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.

**1640-6**

Sincerely,

Maurice E. Horn  
404 Pondera Ave., Bozeman, Mt 59718\_6352, U.S.A.  
Phone: 406\_586\_0886 Email: <mhornrentalres@mcn.net>

**Response to Commentor No. 1640**

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 FMCT. This is a different set of concerns than those expressed in the comment. The fact is, that since it is

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**Commentor No. 1640: Maurice Horn (Cont'd)**

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**Response to Commentor No. 1640**

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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.

- 1640-6:** 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 waste 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 waste 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 a high priority to DOE, it should be noted that the cleanup of legacy waste is beyond the scope of the NI PEIS.

*Commentor No. 1641: Wwdenny@aol.com*

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From: Wwdenny@aol.com%internet  
[SMTP:WWDENNY@AOL.COM]  
Sent: Saturday, September 16, 2000 1:43:58 AM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: NO More Nucler Waste in the Columbia River!  
Auto forwarded by a Rule

|| 1641-1

*Response to Commentor No. 1641*

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**1641-1:** 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 and 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.

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.

The DOE missions delineated in the NI PEIS would not have an impact on Hanford cleanup activities. FFTF is approximately 4.5 miles from the Columbia River. There are no discharges to the river from FFTF and no radioactive or hazardous discharges to groundwater. As indicated in analyses presented in Chapter 4 of Volume 1 (e.g., Sections 4.3.1.1.4, 4.3.3.1.4, 4.4.3.1.4, 4.5.3.2.4, and 4.6.3.2.4), there would be no discernible impacts to groundwater or surface water quality at Hanford from operation of Hanford facilities that would support the nuclear infrastructure missions described in Section 1.2 of Volume 1.

**Commentor No. 1642: Max Eiden**

From: Maxeiden@aol.com%internet  
 [SMTP:MAXEIDEN@AOL.COM]  
 Sent: Saturday, September 16, 2000 12:36:19 PM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: comment\_ineel  
 Auto forwarded by a Rule

Ms.Brown...I am opposed to the doe proposal to produce plutonium at the INEEL site in Idaho. I am infavor of the alternative which would end the production program entirely at the site. I think that is alternative # 5. As you are aware the INEEI is a listed superfund site. There are presently four plumes of contaminated ground water, improperly stored liquid and solid waste, leaking pools of contaminated liquid and many more known and unknown polluting sources at the site. The DOE and the EPA should focus all efforts into cleaning up the site and eliminating further contamination of the aquifer or the site. To allow further activities which will produce more waste before cleanup of the site is irresponsible. The contamination of the aquifer cannot be cleaned up..the damage will be irreparable. Please act responsibly!!!

Max Eiden

1642-1

1642-2

**Response to Commentor No. 1642**

- 1642-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF, and opposition to Options 1, 2, 3, 5, 7, 8, and 9 of Alternatives 2, Use Only Existing Operational Facilities, which would involve the production of plutonium-238 at INEEL.
- 1642-2:** The commentor's position regarding cleanup and additional activities at INEEL are noted. Section 3.3.11.1 of Volume 1 discusses the superfund status of INEEL. Implementation of the nuclear infrastructure alternatives at INEEL would not alter DOE's goal to complete remediation of contaminated sites in time to achieve de-listing from the National Priorities List by 2019. DOE's use of and impact on the Snake River Plain aquifer are discussed in Section 3.3.4.2.1.

***Commentor No. 1643: Kevin N. Schwinkendorf***

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From: Kevin N. Schwinkendorf  
[SMTP:KEVIN.N.SCHWINKENDORF@WORLDNET.ATT.NET]  
Sent: Saturday, September 16, 2000 1:11:13 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Restart of FFTF  
Auto forwarded by a Rule

Gentlemen:

I support the restart of the Fast Flux Test Facility located at the Hanford, Washington site. This reactor has the capability to provide much-needed medical isotopes for both diagnosis and treatment of horrible diseases such as cancer. Please be objective and base your decision on technical merit. Thank you.

Dr. Kevin N. Schwinkendorf, PhD, PE  
Richland, WA

**1643-1**

***Response to Commentor No. 1643***

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**1643-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

***Commentor No. 1644: Judith L. Gregoire***

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From: Judith L. Gregoire  
[SMTP:SEAROSEBB@OREGONCOAST.COM]  
Sent: Saturday, September 16, 2000 3:48:38 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Hanford Test Facility  
Auto forwarded by a Rule

Please add my name to those writing to encourage the restart of the Fast Flux Test Facility at Hanford, in Richland, WA. It is much needed, both now and increasingly, in the future.

Thank you.

Judith L. Gregoire  
P.O. Box 122  
Oceanside, OR 97134

1644-1

***Response to Commentor No. 1644***

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**1644-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

***Commentor No. 1645: Greg Galpin***

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From: Greg Galpin  
[SMTP:GREG@MAGNUMELECTRIC.COM]  
Sent: Saturday, September 16, 2000 5:11:02 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: FFTF restart  
Auto forwarded by a Rule

Please restart the FFTF reactor. It is needed for domestic production of medical isotopes, and could also be fitted up to help generate electricity.

Thank you,

Greg Galpin  
Magnum Electric  
p: (509) 783\_7411  
f: (509) 735\_7666  
e: greg@magnumelectric.com

|| 1645-1

|| 1645-2

***Response to Commentor No. 1645***

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**1645-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**1645-2:** DOE notes the commentor's support for using FFTF to help generate electricity. However, FFTF would not be used for the generation of electrical power under the proposed action. The purpose of the NI PEIS is to evaluate the environmental impacts of a range of reasonable alternatives to maintain and enhance 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.

**Commentor No. 1646: Harold L. Anderson**

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From: Harold L Anderson[SMTP:HLA8@JUNO.COM]  
Sent: Saturday, September 16, 2000 7:29:30 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: NI\_PEIS Public Input  
Auto forwarded by a Rule

Miss Collette Brown,  
I urge that the preferred Alternative be No. 1 for any combination of the civilian missions. That is, FFTF should be restarted and utilized to its fullest.

I appreciated hearing you state in the Seattle hearing that the 400 MW FFTF would be operated at 100 MW with the possibility of higher power excursions if certain experiments should warrant it, without being limited to 100 MW.

Thank you for all your hard work.

Harold L. Anderson  
1106 Wilson Street  
Richland, WA 99352\_2849  
(509) 943\_2317

**1646-1**

**Response to Commentor No. 1646**

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**1646-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1647: Andy Savage**


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From: savage[SMTP:SAVAGE@EASYPNET.CO.UK]  
 Sent: Saturday, September 16, 2000 8:10:09 PM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: PUBLIC COMMENTS ON DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS)  
 Auto forwarded by a Rule

DoE PLANS FOR EXPANDED PRODUCTION OF PLU\_238 FOR FUTURE SPACE MISSIONS

Dear Colette E. Brown,

People in the UK are very concerned that the US seems to be increasing the amount of PU238 in the world. It is not in the interests of the world's people, only of a few scientists, and should therefore not be allowed to go ahead.

Please confirm that you will not be risking our lives, those of the rest of this world's creatures, and of our future generations. You have no right to do this, other than through the abuse of the power given to you by your transient position as the most powerful nation on earth.

This power is yours largely because of your image in the world as the home of freedom and promise, but should people's impression change to seeing you as a threat to their existence, or the well\_being of their children, you will not be able to maintain your superiority.

Thanks

Andy Savage.

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1647-1

**Response to Commentor No. 1647**


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**1647-1:** DOE notes the commentor's opposition to enhancing its existing nuclear facility infrastructure to support production of plutonium-238 for use in future NASA space exploration missions.

**Commentor No. 1648: John A. Kitzhaber, Governor,  
State of Oregon**

JOHN A. KITZHABER, M.D.  
GOVERNOR



August 29, 2000

The Honorable Bill Richardson  
Secretary of Energy  
Forrestal Building  
1000 Independence Avenue SW  
Washington D.C. 20585

Dear Secretary Richardson:

The Department of Energy recently issued a draft Environmental Impact Statement that considers restart of Hanford's Fast Flux Test Facility (FFTF) to meet expanded isotope production and nuclear energy research missions. I urge you to reject consideration of the FFTF for these missions and permanently shut down the reactor.

In December 1997, I wrote to Secretary Peña, urging him not to restart the FFTF to produce tritium for the nation's nuclear weapons program. One of my concerns then, as it is now, is that restart of the reactor would complicate the formidable and essential task of cleaning up Hanford's waste. I was pleased when you announced in December 1998 that FFTF would not be restarted to produce tritium.

When I expressed my opposition to use of the FFTF for tritium production, I also indicated I would be willing to consider restart of the reactor to produce medical isotopes if DOE could demonstrate a compelling need for FFTF's use to ensure sufficient supplies of these isotopes. As a physician, I do not want a shortage of isotopes to jeopardize medical research, diagnosis or treatment. If I believed the FFTF were crucial to ensuring a sufficient supply of these isotopes, I would support its restart. However, I am not convinced that is the case.

A subcommittee of DOE's Nuclear Energy Research Advisory Committee says the FFTF would not be an economically viable or dependable source of isotopes for research purposes and that existing reactors in Missouri and Tennessee are better suited for this mission. The draft EIS identifies the same reactor in Tennessee and another in Idaho as having additional capacity available to produce medical isotopes used in diagnosis and treatment. The draft EIS did not consider Canadian sources -- one of America's largest suppliers of isotopes -- where two new reactors are scheduled to go on-line this year solely for the purpose of producing isotopes. It is clear there are sufficient sources available -- without FFTF -- to produce needed medical isotopes.

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1648-1

1648-2

1648-3

**Response to Commentor No. 1648**

- 1648-1:** The commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 5, Permanently Deactivate FFTF With No New Missions, are noted.
- 1648-2:** 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.
- 1648-3:** Section 1.2 of Volume 1 of the Final NI PEIS has been revised to provide additional information on the need to expand domestic medical and plutonium-238 isotope production capabilities. 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.

The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting

**Commentor No. 1648: John A. Kitzhaber, Governor,  
State of Oregon (Cont'd)**

The Hon Bill Richardson  
August 29, 2000  
Page 2

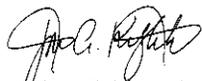
The DOE similarly limited its look at alternatives for producing plutonium 238 for space travel. The draft EIS disregards all international sources and eliminates some domestic alternatives because they would not be able to meet the combined needs of all the proposed missions. Removing these artificial constraints would favor many alternatives better suited than FFTF to meet even the most optimistic projected needs for plutonium 238.

The stated need for advanced nuclear energy research and development – beyond our existing programs – is questionable. New nuclear power plants are not competitive in today's energy market and have little public support. Further, the draft EIS ignores the main obstacle to reinvigorating the U.S. nuclear industry: the lack of institutional capacity to deal with the waste stream.

It is disturbing to me that viable alternatives to the proposed uses for FFTF were disregarded in the draft EIS. The final EIS should be more of an honest assessment of legitimate nuclear-related needs and a comprehensive look at the best methods to meet those needs.

For the past eight years, the consideration of potential new missions for the FFTF has diverted a substantial amount of time and energy from Hanford cleanup and caused a significant drain on DOE's budget. Efforts to justify a new mission for this reactor have all failed. I believe that the FFTF does not have – and will never have – a mission and should be permanently shut down.

Sincerely,



John A. Kitzhaber, M.D.

JAK/NR/sm

**1648-3  
(Cont'd)**

**1648-4**

**1648-5**

**1648-6**

**Response to Commentor No. 1648**

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 missions.

DOE acknowledges that there are other manufacturers of medical radioisotopes, including the University of Missouri and International Isotopes Incorporated (which has constructed a linear accelerator from assets purchased from the former Superconducting Super Collider Project), and the domestic production capabilities of these facilities have been considered in the development of the NI PEIS. While some existing facilities may possess the capacity to support production of small quantities of research isotopes, NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000, recommends that:

"Plans for acquiring a dedicated radioisotope production reactor should be initiated so that both the cyclotron and reactor radioisotope production facilities will meet the radioisotope needs of the U.S. research community by 2010." The report further states:

"It is important that contingency planning be performed and implemented by Isotope Programs that act to guarantee isotope supplies in the long term. This must include consideration of facility retirement and/or redirection, potentially major changes in the agreements underlying parasitic production, successful consolidation of processing capabilities, and the timing and uncertainties of bringing new, dedicated facilities online." Further, as explained in Section 2.6.1 in Volume 1 of the PEIS, medical isotope production at DOE Facilities in Idaho and Tennessee may be sufficient for short term, but will not be sufficient to meet long term growth projections forecasted by the Expert Panel. Canada supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99). Canada does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. Because of the short half lives of most medical isotopes, purchase from other countries would not be feasible.

***Commentor No. 1648: John A. Kitzhaber, Governor,  
State of Oregon (Cont'd)***

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***Response to Commentor No. 1648***

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As explained in Section 1.2.2 of Volume 1 of the PEIS, the Russian purchase of plutonium-238 satisfies the near-term responsibility to supply NASA with the necessary fuel for space exploration. However, due to the political and economic climate in Russia and concerns of nuclear nonproliferation, DOE's preference is to establish a domestic plutonium-238 production capability. DOE's selection of 5 kg plutonium-238 production per year is based on the uncertainties in the radioisotope power system technology development and requirements for backup units, as well as the variability in the amount needed to meet NASA's power requirements.

**1648-4:** In January 1997, President Clinton tasked his Committee of Advisors on Science and Technology (PCAST) to evaluate the current national energy research and development portfolio and to provide a strategy that ensures the United States has a program to address the Nation's energy and environmental needs for the next century. In its November 1997 report responding to this request, the PCAST Energy Research and Development Panel determined that restoring a viable nuclear energy option to help meet our future energy needs is important and that a properly focused research and development effort to address the potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) was appropriate. The PCAST panel further recommended that DOE reinvigorate its nuclear energy research and development activities to address these potential barriers. Further information on the need for nuclear energy research and development is provided in Section 1.2.3 of Volume 1.

It is assumed that the commentor is talking about high-level radioactive waste and spent fuel when referring to the lack of institutional capacity to deal with the waste stream from nuclear power plants. The NI PEIS assumes, for the purpose of analysis, that Yucca Mountain, Nevada, would be the final disposal site for DOE's high-level radioactive waste and spent nuclear fuel. DOE has prepared a separate EIS, "Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada" (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geological repository.

***Commentor No. 1648: John A. Kitzhaber, Governor,  
State of Oregon (Cont'd)***

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***Response to Commentor No. 1648***

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**1648-5:** The NI PEIS evaluates the environmental impacts of a range of reasonable alternatives for enhancing DOE's existing nuclear facility infrastructure to support the proposed action. In addition to restarting the FFTF, the NI PEIS also evaluates alternatives that would either employ the use of other existing facilities or rely on the construction of new facilities. Alternative 2, Options 4 and 5, considers the use of commercial light water reactors (CLWRs) as irradiation facilities for plutonium-238 production.

A number of facilities, including those already producing isotopes, were considered but were dismissed from further consideration (see Section 2.6). Among the reasons that some were dismissed was the fact that they lacked sufficient neutron production capacity, were fully dedicated to existing missions, were not capable of steady-state neutron production, had insufficient power to sustain adequate steady-state neutron production, were unable to produce a constant, reliable source of neutrons due to dependency on operating schedules of their primary missions, are under construction with capacity fully dedicated to other planned missions, or have been permanently shut down.

**1648-6:** See responses to 1648-1 and 1648-2.

***Commentor No. 1649: Linda Allan***

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From: Cohofarms@aol.com%internet [Cohofarms@aol.com]  
Sent: Saturday, September 16, 2000 8:27 PM  
To: www.Nuclear.infrastructure\_PEIS%internet  
Subject: Keep FFTF

I urge that we keep FFTF for preferred medical isotopes.

Linda Allan

|| 1649-1

***Response to Commentor No. 1649***

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**1649-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

***Commentor No. 1650: Howard D. Lenkersdorfer***

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From: Duane Lenkersdorfer[SMTP:DLENK@OWT.COM]  
Sent: Sunday, September 17, 2000 12:00:01 AM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Fast Flux Test Facility Restart  
Auto forwarded by a Rule

Atten: Colette E. Brown

I would ask the Department of Energy to use the FFTF to produce needed Medical Isotopes for the fight against cancer. It is very important to have such a facility here in the United States. My father died of cancer, I know first hand of the pain and suffering during treatment and of the final stages of this disease.

Sincerely,

Howard D. Lenkersdorfer  
1530 Ridgeview Ct.  
Richland, Wa. 99352

**1650-1**

***Response to Commentor No. 1650***

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**1650-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1651: Mary A. Davis**


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From: Bill or Molly  
 [SMTP:APPLBLOSSM@EARTHLINK.NET]  
 Sent: Sunday, September 17, 2000 11:46:08 AM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: FFTF Shutdown  
 Auto forwarded by a Rule

There are many good reasons why the Fast Flux Test Facility should be shut down but for starters, and probably most important, Hanford is already an extremely contaminated nuclear site. How about addressing the waste that's been accumulated before adding more to it!

Mary A. Davis  
 21102 Summit Lane  
 Edmonds, WA 98026

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1651-1

1651-2

**Response to Commentor No. 1651**


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**1651-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

**1651-2:** 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.

**Commentor No. 1652: Michael J. Contini**

From: Mjcontini@aol.com%internet  
[SMTP:MJCONTINI@AOL.COM]  
Sent: Sunday, September 17, 2000 3:16:36 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Revised Comments  
Auto forwarded by a Rule

Please substitute these revised and more extensive comments for those I turned in at the TriCities PEIS Hearing.

Thankyou,

Michael J. Contini  
Mailing Address: 302 Torbett PMB 243, Richland, WA 99352  
Residence: 120 Tree Farm Road, Pasco, WA 99301

**MICHAEL J. CONTINI, COMMENTS MADE AT THE PEIS SCOPE HEARING.**

RESIDENCE: 120 Tree Farm Road, Pasco, WA 99301  
Mailing: 302 Torbett PMB 243, Richland, WA 99352

Good evening. I am a resident of Franklin County. I am an electrical engineer employed at FFTF. I would like to thank the Department of Energy for having this meeting in the Tri\_Cities. We, the residents of Benton and Franklin Counties, are the most immediate down streamers or down winders from Hanford and the FFTF. I have a daughter and son\_in\_law who reside in Portland. In 1983, I WAS a cancer patient. It goes with out saying that my family has a lot at stake here. I favor the alternative, which makes use of the FFTF because it can safely supply the most diverse number and quantity of medical isotopes.

The Programmatic EIS needs include the following:

- 1) A complete and categorical lifetime exclusion of any future mission for FFTF involving the production of any WEAPONS MATERIALS such as Plutonium or Tritium. If the DOD wants them, they can go somewhere else.

**Response to Commentor No. 1652**

**1652-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**1652-2:** DOE notes the commentor's objections to restarting FFTF if it were going to be used for the production of nuclear weapons materials. 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.

No component of the proposed action is for the purpose of supporting any defense or weapons-related mission. While no defense missions are planned for the FFTF, DOE cannot categorically exclude the possibility of the facility supporting a currently unforeseen future defense need. However, any such support would only occur at the direction of the Secretary of Energy, and would require the preparation of additional NEPA assessment.

1652-1

1652-2

**Commentor No. 1652: Michael J. Contini (Cont'd)**

2) For all alternatives, a section must be included which identifies the plans and activities, which will be put in place to minimize isotope production waste and reactor core waste, therefore minimizing the impact to the environment. A commitment must be made, if the particular alternative is chosen, to include the detailed plans and programs in the authorization basis. For the alternative including FFTF, I suggest that a criterion for authorization must be the creation of a Waste Board. The charter of this board would be to research and supervise the implementation of methods to minimize final quantities of waste to be stored. These would include process improvements, recycling, and finding external uses for the waste products.

1652-3

3) All alternatives must include the impact on the local electrical distribution system. The PEIS must answer the question: Is the infrastructure in place that could supply the necessary electrical power or would it have to be constructed. A further useful comparison would consider the amount of electrical energy required for operation of each facility at full capacity.

1652-4

4) The PEIS does not appear to consider the potential for Actinide or Waste Transmutation for each of the alternatives. How much long\_lived waste can be converted to short\_lived waste?

1652-5

The Final PEIS must include and address the concerns of all. Those that I have heard can be lumped into the categories of Safety, Waste, and Need. The DOE must not just dismiss any recommendations made by any individual or group.

1652-6

Humans are part of the environment. Therefore, it is right and just to consider the impacts of medical isotope supply limitations to the humans with cancer. Some contend this is a regional issue. WRONG, cancer is a national and international issue, with the availability of treatments being a supply and demand issue. Remember, in a limited supply environment, those who can pay for the travel and the treatment (foreign dictators, social elite, political

**Response to Commentor No. 1652**

**1652-3:** DOE notes the commentor's suggestion for a "Waste Board." 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.

**1652-4:** Under both "No Action" and Alternative 5, "Permanently Deactivate FFTF," additional electrical power would not be required or would be very small. Under Alternative 2, "Use Only Existing Operational Facilities," the bounding additional electricity needs at Oak Ridge, INEEL and Hanford are presented in Tables 4-163, 4-167, and 4-171 of the NI PEIS. At ORR and INEEL, the additional electrical consumption would be negligible. At Hanford, the additional electrical consumption would be 55,000 megawatt-hours per year, which represents only 2.2 percent of the total site's electrical capacity. Because of the relatively small electricity needs, a breakdown of need by facility is not warranted.

Under Alternative 3, "Construct New Accelerator(s)," the additional electrical consumption would be approximately 250,000 megawatt-hours per year and under Alternative 4, "Construct New Research Reactor" the additional electrical consumption would be approximately 25,000 megawatt-hours per year. For the accelerator alternative DOE acknowledges that a significant load would be added to the local electrical grid. In the event the Record of Decision selects the accelerator alternative for implementation, subsequent NEPA documentation would assess grid stability and other electrical load assessment criteria in the evaluation of alternative site locations. Included, as necessary, would be detailed electricity needs for each facility. Although implementation of the reactor alternative would require a much smaller amount of additional electricity, similar NEPA documentation would assess electrical grid capabilities for the various alternative sites.

**1652-5:** Transmutation of transuranic waste and spent nuclear fuel is hypothetically possible, but the technology for accomplishing such transmutation is unproven. If transmutation should be demonstrated as a

**Commentor No. 1652: Michael J. Contini (Cont'd)**

elite, Hollywood elite, the rich) get the treatments. The rest of us will be left with surgery, chemotherapy and beam radiation treatments, and the well\_known consequences of them. Thank you.

08/30/00 Revised Comments at Seattle and Tri Cities

Thank you for this opportunity. My name is Michael Contini. I am a resident of the Tri\_Cities area, specifically, Franklin County. I am speaking tonight as a private citizen. I support alternative one, restart of the FFTF for the production of Medical and Commercial Isotopes, Pu 238, and for nuclear research. However, I want a statement in the PEIS that provides a categorical exclusion of using FFTF at anytime for the production of nuclear weapons materials of any kind. It is also my opinion that deferring the EIS for the new reactor or new accelerators is irresponsible. You can define the impacts of the facilities to any environment with the proviso that the specific details would be covered in a subsequent site specific EIS.

I want to now turn my attention to accountability. There is a sign here concerning "2 FFTF employees fired for falsifying work done." I am familiar with this event since I work at FFTF. This event happened and the employees paid the price, they were fired. They were held accountable.

Can we say this about Heart of America NW (HOANW), the Government Accountability Project (GAP), and Columbia River United (CRU)? What accountability exists for them? They can distort, misquote, and take out of context items of great concern. Again, what accountability exists for the watchdogs of Hanford? "Who will watch the watchman" is a quote I have often heard. (Julius Ceaser ??) The above methods used by these organizations to foster public support both verbal and financial are RADICAL and EXTREME.

I now refer to the publication The Environmentalist's Little Green Book. If you want to refer to it, it is available at

1652-1

1652-2

1652-7

1652-8

**Response to Commentor No. 1652**

viable waste or spent nuclear fuel treatment technology in the future, it could be applied to transuranic waste and spent nuclear fuel generated under the nuclear infrastructure alternatives described in Section 2.5 of Volume 1. Transmutation of nuclear waste and spent nuclear fuel is one example of the type of civilian research that could be conducted with accelerators or nuclear reactors under the mission described in Section 1.2.3 of Volume 1.

- 1652-6: DOE is committed to providing the public with comprehensive environmental reviews of its proposed actions in accordance with NEPA, and to providing ample opportunity for public comment on those actions. In compliance with NEPA and CEQ regulations, DOE provided opportunity to the public to comment on the environmental impact analysis of DOE's proposed alternatives for meeting mission requirements. 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.
- 1652-7: DOE notes the commentor's views and concerns regarding the need to prepare subsequent NEPA documentation should either Alternative 3 Construct New Accelerator[s]) or Alternative 4 (Construct New Research Reactor) be selected. As a programmatic document, this NI PEIS has a rather broad scope associated with the selection of facilities and site locations for accomplishing expanded civilian nuclear energy research and development and the identified isotope production missions. The CEQ regulations for implementing NEPA (40 CFR 1502.20) encourage agencies to 'tier' their NEPA documentation down from those having a program- or policy-level focus to subsequent and more-detailed documents as a means of eliminating repetitiveness and to provide for a level of analysis appropriate to each level of decisionmaking. This is the approach being employed by DOE herein as a detailed, site-specific analysis of environmental impacts of the accelerator(s) and research reactor options is not necessary at this stage of DOE's decisionmaking process for expanding civilian nuclear infrastructure.
- 1652-8: DOE notes the commentor's views and observations.

**Commentor No. 1652: Michael J. Contini (Cont'd)**

www.uschamber.com from the US Chamber of Commerce. I quote some of the heroes of the environmental movement.

"We in the Green movement aspire to a cultural model in which the killing of a forest will be considered more contemptible and more criminal than the sale of 6\_year\_old children to Asian brothels."  
Carl Amery, Green Party of West Germany

"To feed a starving child is to exacerbate the world population problem." Lamont Cole, former Yale University professor

"...The only hope for the world is to make sure there is not another United States. We can't let other countries have the same number of cars, the amount of industrialization, we have in the U.S. We have to stop these Third World countries right where they are."  
Michael Oppenheimer, senior scientist for the Environmental Defense Fund

"Complex technology of any sort is an assault on human dignity. It would be little short of disastrous for us to discover the source of clean, cheap, abundant energy, because of what we might do with it."  
Amory Lovins, Rocky Mountain Institute

"Let's face it. We don't want safe nuclear power plants. We want NO nuclear power plants."  
A spokesperson for the Government Accountability Project, The American Spectator, Vol. 18, No. 11, November '85

"Giving society cheap, abundant energy would be the equivalent of giving an idiot child a machine gun."  
Dr. Paul Ehrlich, Stanford professor of biology

"The right to have children should be a marketable commodity, bought and traded by individuals but absolutely limited by the state."  
Kenneth Boulding, originator of the "Spaceship Earth" concept

"I do not believe that a human being has a right to life...I would rather have medical experiments done on our children than on animals."  
PETA (People for the Ethical Treatment of Animals)

**1652-8  
(Cont'd)**

**Response to Commentor No. 1652**

**Commentor No. 1652: Michael J. Contini (Cont'd)**

"We are not interested in the utility of a particular species, of a free flowing river or ecosystem to mankind. They have intrinsic value, more value \_ to me \_ than another human being or a billion of them."  
David Graber, Biologist with the U.S. National Park Service

"Human beings, as a species, have no more value than slugs."  
John Davis, Editor of Earth First! Journal

"The world has cancer, and the cancer is man."  
Alan Gregg, former longtime official of the Rockefeller Foundation

These views would be considered RADICAL and EXTREME by most people, who support environmental cleanup and responsibility. Are these the views of HOANW, the GAP and CRU? The methods they use (distortion, misquoting, taking out of context, propagation of unfounded fear) would point to a RADICAL and EXTREME agenda. Will these activists be held accountable for the results and intended consequences of their activities? Who will hold them accountable? Will cancer patients? Will the Department of Energy? Will the Washington State Department of Ecology? Will the residents of Washington and Oregon?

Finally, I am concerned with the environment. I want Hanford cleaned up as safe as possible. However, the small quantity of waste (in comparison to the huge quantities already there) which FFTF will produce (and NOT introduce into the existing mess) for the missions of the PEIS is a small price to pay for the benefits gained. Further, I want the Willamette River cleaned up, thus helping to keep the Columbia River clean. (Refer to the AP article, TriCity Herald August 22, 00) I want the true cause of the high rate of cancer in Hood River County Oregon determined and the causing factors eliminated or at least minimized. I want Puget Sound and Elliot Bay cleaned up. However, I do not support the RADICAL and EXTREME views quoted above, nor the RADICAL, EXTREME and DECEITFUL methods used by HOANW, the GAP, and CRU, all of which lead me to question their agenda and their integrity. Thank you.

**1652-8  
(Cont'd)**

**Response to Commentor No. 1652**

***Commentor No. 1653: David Kipping***

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From: David Kipping[SMTP:KIPPING@MICRON.NET]  
Sent: Sunday, September 17, 2000 3:26:05 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Public Comment  
Auto forwarded by a Rule

TO: Ms. Collette Brown  
Department of Energy, Office of Space and Defense Power  
Systems, Germantown, MD

SUBJECT: Nuclear Infrastructure EIS

Attached is my public comment on the Nuclear Infrastructure EIS.  
It is in Microsoft Word 97 format.  
Thank you,

David Kipping, kipping@micron.net

***Response to Commentor No. 1653***

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**Commentor No. 1653: David Kipping (Cont'd)**

Comment on the Infrastructure EIS  
by David Kipping

I have studied the draft EIS Summary (July 2000) and the Cost Summary (August 2000) in considerable detail. I have not looked at the supplementary and backup material that accompanies the EIS. This statement represents my personal opinions and not that of any organizations with which I am affiliated.

This public comment highlights the points that I consider the most critical. There are many other items of lesser importance that should be mentioned, but I do not have the time to research and document them fully. My conclusion is that this draft EIS is severely flawed and should be rewritten and re\_issued as a second draft EIS.

1) The overall purpose of this EIS is very unclear. Is the overall goal to enhance nuclear infrastructure as a fundamentally good thing, or to meet specific production requirements (Pu\_238, isotopes, etc.)?

The EIS specifically rejected Canada as a source of isotopes (S\_19) because it did not build up infrastructure and, for the same reason, was negative about Russia as a source of Pu\_238 (S\_6). In other words, the goal seems to be to build up infrastructure, no matter what the cost or need.

On the other hand, allowing Russia to provide Pu\_238 (in one of the alternatives) implies that meeting national requirements for critical items is the goal of the EIS. If so, meeting those needs should be done at the minimum cost, even if it means relying on foreign sources. Both Canada and Russia have proven to be reliable sources for over 10 years.

2) This EIS does not adequately substantiate the need for infrastructure expansion.

1653-1

1653-2

**Response to Commentor No. 1653**

**1653-1:** DOE notes the commentor's views. Consistent with its mandates under the Atomic Energy Act, DOE is proposing to enhance its nuclear facility 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.

The NI PEIS acknowledges that the United States currently purchases approximately 90 percent of its medical isotopes from foreign producers, most notably Canada. However, Canada only supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. As discussed in Section 1.2.1, 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. The NI PEIS also considers the possible purchase of plutonium-238 within the terms of the current contract with Russia to support U.S. needs. To address long-term plutonium-238 needs, a production goal of 2 to 5 kilograms (4.4 to 11 pounds) per year has been analyzed.

**1653-2:** DOE notes the commentor's views. The NI PEIS evaluates the environmental impacts of a range of reasonable alternatives for 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.

### *Commentor No. 1653: David Kipping (Cont'd)*

There appear to be four separate objectives that form the basis of DOE's assertion that infrastructure must be expanded:

1. To ensure a supply of medical isotopes to support medical needs,
2. To ensure a supply of isotopes to support various research and development initiatives,
3. To ensure an adequate supply of Pu\_238 to support NASA's needs, and
4. To expand the civilian nuclear research capacity and infrastructure.

However, this document does not adequately substantiate the purpose and need for taking action within each of those four objectives. Explanations of current and existing capability and capacity leave the reader with the impression that some or all of the objectives could be achieved through continued operation of existing facilities. For example, it appears that R&D isotope production could be met through continued operation of ATR, HFIR, and commercial reactors, that continued purchases of medical isotopes from Canadian sources would fulfill needs for medical isotopes, and that the U.S. could continue to purchase Pu\_238 from the Russians. Because those actions would fall within the intended mission of existing facilities, I am left wondering why NEPA documentation is required.

3) This document presents some alternatives, but not others.

The document presents a mind\_boggling array of alternatives with at least 26 permutations of alternatives. The approach seems to be to select parts of several alternatives when the final decision is made (S\_11), hence none of the alternatives are necessarily what the final decision will represent.

Unfortunately, it is unclear how these alternatives address DOE's four basic objectives under its purpose and need for action. It

**1653-2  
(Cont'd)**

**1653-3**

### *Response to Commentor No. 1653*

DOE is proposing to enhance its nuclear facility infrastructure because existing sources that provide these capabilities are not expected to reliably meet the projected long-term U.S. needs for expanded nuclear materials production and testing or research and development. Each of the alternatives in the NI PEIS would contribute to fulfilling some of the DOE missions. While HFIR, ATR, and commercial reactors are considered for production of plutonium-238, it is unlikely that reliable, increased production of medical, industrial, and research isotopes to support projected needs could be accomplished at these facilities without disturbing their existing missions. Section 1.2 of Volume 1 has been revised to clarify the purpose and need of the proposed action.

**1653-3:** Section 2.7.1.2.3 of Volume 1 of the Draft NI PEIS presents a comparison of mission effectiveness among alternatives. This section has been revised in the Final NI PEIS (see Section 2.7.3, Comparison of Mission Effectiveness Among Alternatives) to provide the reader a better understanding of the medical isotopes that can be produced using accelerator technology (Alternative 3) and reactor technology alternatives (Alternatives 1 and 4).

**1653-4:** The alternatives proposed by the commentor each involve the use of foreign sources of either plutonium-238 or medical isotopes. While the acquisition of plutonium-238 is a possibility under the No Action Alternative, it is the intent of the NI PEIS to analyze the impacts of accomplishing expanded civilian nuclear energy research and development and isotope production missions in the United States. This is consistent with the Nuclear Energy Research Advisory Committee report that found that "There is an urgent sense that the nation must rapidly restore an adequate investment in basic and applied research in nuclear energy if it is to sustain a viable United States capability in the 21st Century."

As noted above, DOE could purchase plutonium-238 from Russia to satisfy its near-term responsibility to supply NASA with the necessary fuel to support future space exploration missions. However, as discussed in Section 1.3.3 of the NI PEIS, the long-term viability of the U.S. maintaining its plutonium-238 inventory through continued purchase of this material beyond the existing contract terms is uncertain.

The United States currently purchases approximately 90 percent of its medical isotopes from foreign producers, most notably Canada. See the response to 1653-1, above.

**Commentor No. 1653: David Kipping (Cont'd)**

appears that some of the alternatives only address a portion of the four objectives. I understand that the "no action" alternative inadequately addresses the four objectives, but I question why other alternatives were considered if they do not meet all four of the objectives. The EIS should more clearly demonstrate how each alternative considered would address the four objectives or offer an explanation as to which of the four objectives would be achieved by each of the alternatives, and which would not.

**1653-3  
(Cont'd)**

In addition, it is not clear why the alternatives described were considered and other apparently viable alternatives were not. For example, it seems that one reasonable alternative would be to use HFIR and ATR to produce medical and R&D isotopes and to continue current reliance on Russian sources for PU\_238. Another possibility would be to use HFIR and ATR to produce PU\_238 and R&D isotopes and to rely on Canadian sources for medical isotopes; this alternative was not evaluated. A third option is to rely on the Russians for Pu\_238 and to use HFIR and ATR to do R&D isotopes and rely on Canadians for medical isotopes; this approach was not evaluated either. ATR & HFIR are fully operational; why not use them for production of isotopes? The EIS does not provide clear explanations for why some alternatives were considered and others were not.

**1653-4**

4) It is unclear whether there is a real need for production of Pu\_238

It is not clear whether any Pu\_238 will be required in the future. NASA wrote a letter to DOE, dated 22 May 2000, regarding production of Thermoelectric Generators (powered by Pu\_238). The letter is a modification to a Memorandum of Understanding from 1991. The key part of the NASA letter is:

**1653-5**

"As a result of the proposed DSS program changes, NASA Headquarters no longer has an identifiable planned requirement for Small Radioisotope Thermoelectric Generator (SRTG) power

**Response to Commentor No. 1653**

It should be noted that the first alternative proposed by the commentor is essentially the No Action Alternative (i.e., purchase plutonium-238 from Russia and continue medical and industrial isotope production and nuclear research and development activities at the current operating levels of existing facilities). Other alternatives, in addition to proposing the use of foreign sources of both plutonium-238 and research isotopes, suggest using HFIR and ATR to support research isotope production. However, while these reactors may possess the potential capability or capacity to support research isotope production, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without disturbing the existing missions of these facilities.

**1653-5:** 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. 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. Under the No Action Alternative, DOE would continue to purchase plutonium-238 to meet the space mission needs for the 35-year evaluation period considered in the NI PEIS. However, DOE recognizes that any purchase beyond what is currently available to the United States through the existing contract would likely require negotiation of a new contract and may require additional NEPA review.

The May 22, 2000, correspondence from NASA to DOE identifies that NASA no longer has a planned requirement for small radioisotope thermoelectric generator (SRTG) power systems. This does not mean that NASA no longer requires DOE to provide the necessary plutonium-238 to support deep space missions. Rather, SRTG development efforts were stopped in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence, requires one-third less

**Commentor No. 1653: David Kipping (Cont'd)**

systems. Therefore NASA Headquarters requests that all SRTG development efforts for DSS spacecraft missions be halted. In addition, investigation into the utilization of the ES and Multi\_Hundred Watt systems for DSS applications should be stopped."

This letter implies that there is no future need for Pu\_238 by NASA beyond current missions for which they already have Pu\_238 power supplies. This view is shared by 15 elected officials who publicly stated their opposition to startup of the FFTF. All 15 elected officials may be wrong, but this is a key point.

Public concern for the possibility of re\_entry into the atmosphere of a Pu\_238 power supply is providing impetus to develop alternative power supplies. The numbers in the EIS for Pu\_238 needs appear to be based on historical trends, and not on what NASA really needs. It is essential that the EIS provide incontrovertible proof that, in fact, NASA has a need for Pu\_238 for the next 35 years.

5) The need for new infrastructure for production of isotopes has not been demonstrated.

The only justification for new infrastructure is a vague "need" of 7 to 14% a year stated by an unnamed panel convened by DOE (S\_3). There does not appear to be any independent assessment by the medical or research community. In order remedy this inadequate explanation of need, the EIS must: include a full explanation of all current and viable sources of each desired medical isotope and R&D isotope. Include clear estimates of the projected demand for and projected shortfall of each isotope over a specified timeframe. Projections should be based on clearly stated assumptions. Demonstrate how each estimate of projected demands, shortfalls, and timeframes has been independently verified. Provide a clear justification for expansion of civilian isotope production capacity and infrastructure and demonstrate how that need has been verified.

**1653-5  
(Cont'd)**

**1653-6**

**Response to Commentor No. 1653**

plutonium-238 as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000, letter to DOE that large RTGs be maintained as backup. Section 1.2.2 of Volume 1 was revised to clarify plutonium-238 mission needs.

For analysis purposes, the NI PEIS evaluates impacts from facility construction, modification, startup, and 35 years of operation, followed by decommissioning when applicable. The 35-year operating period is based upon the estimated length of time existing DOE irradiation facilities would continue operating if used for accommodating the stated missions. Although future space mission schedules over a long-term planning horizon of 20 to 35 years cannot be specified at this time, DOE anticipates that NASA space exploration missions conducted during this period will continue to require plutonium-238-fueled power systems.

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 and appendixes H, I, and J in the Final NI PEIS. Potential health and safety impacts associated with future launches of spacecraft utilizing plutonium-238 are not within the scope of the NI PEIS analysis, but would be addressed in the specific NEPA documentation prepared by NASA in support of such missions.

**1653-6:** DOE notes the commentor's views. 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

**Commentor No. 1653: David Kipping (Cont'd)**

6) There is no real justification for new or improved facilities for nuclear research. The EIS does not discuss current deficiencies in research facilities and does not project future requirements. The document conflates production needs (Pu\_238, isotopes) with more generalized research needs. See Point 1 above.

1653-7

7) Why were not the Office of Science and Technology's needs factored in? The title of the document implies that it covers all possible future needs, yet it states that it does not address any Office of Science and Technology needs (S\_1). It makes no sense to exclude OST's needs. The National Environmental Policy Act requires consideration and public disclosure of the full impacts of all related actions during decision making. DOE should make every effort to consider all impacts of related decisions to ensure full compliance with NEPA and to avoid vulnerability to being challenged for segmentation of decision\_making.

1653-8

8) The need for new infrastructure for production of Pu\_238 has not been demonstrated.

Given that there is a need for Pu\_238, the Russians are a reliable and cost\_effective source. They have been providing Pu\_238 for about 10 years on very favorable cost and delivery terms. Although, it was not mentioned in the EIS, there is no doubt that the Russian Pu\_238 will be much less expensive than the costs of restarting and operating irradiation and reprocessing facilities in the US. As mentioned in Point 1 (above), utilizing Russian supplies seems to be discounted.

1653-9

Finally, one of the alternatives for production of Pu\_238 (actually Np\_237) is to use commercial reactors rather than building or restarting DOE facilities. Reprocessing would still have to be done by DOE to recover the Pu\_238.

One of the main arguments for restarting the FFTF is for production of Pu\_238. With two other possible sources, both of which are likely to be less expensive, restart of FFTF does not seem like

**Response to Commentor No. 1653**

revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs.

For the purposes of analyses in the NI PEIS, a 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. 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.

**1653-7:** DOE notes the commentor's views. Clean, safe, reliable nuclear power has a role today and in the future for our national energy security. In recognition of this need, nuclear energy research and development programs have been initiated to address potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) and to ensure that current nuclear power plants can continue to deliver adequate and affordable energy supplies. Because it is unlikely that existing facilities could fully and effectively support these nuclear energy research and development initiatives without disturbing their existing missions, DOE is proposing to enhance its nuclear facility infrastructure to also support these activities. Information on the need for nuclear energy research and development is provided in Section 1.2.3 of Volume 1.

**1653-8:** The PEIS does not contemplate actions to meet the needs of all future missions of DOE, including those assigned to the Office of Science, which has its own particular set of needs to carry out its important missions. This programmatic EIS will not preclude the Office of Science from making decisions regarding its future activities.

### *Commentor No. 1653: David Kipping (Cont'd)*

a reasonable alternative. Another argument for restarting the FFTF is to produce isotopes, since the current operational facilities (ATF and HFIR) will be very busy producing Pu\_238. However, if DOE does not need to produce Pu\_238 in any of its facilities, then there is enough capacity in existing operational facilities to produce isotopes. Hence, there is no viable mission for FFTF and it should be shut down (Alternative 5).

9) The need for new infrastructure for production of isotopes has not been demonstrated.

Even if there is a need for increased amounts of medical and research isotopes, this document does not present an adequate rationale for developing additional infrastructure. It appears that commercial facilities (existing or projected), Canadian sources, and existing DOE facilities (ATR and HFIR) can meet these needs.

10) No cost information was included in the EIS.

I realize that NEPA does not require inclusion of cost information, however DOE must have thought it was important. The cost information was eventually published a month after the EIS was issued, and obviously had no effect on the EIS. If cost information is to be taken into account, it should be part of the EIS. As a minimum, the comment period should have been extended to allow careful consideration of the cost information supplement.

The cost information states that all of the alternatives except Alternative 5 and "no action" would deactivate the FFTF (the main EIS summary is unclear on this point). The cost estimates for Alternatives 2, 3, 4, and 5 include \$281 million for deactivation of the FFTF. By comparison, restart of the FFTF (Alternative 1) appears to only require \$341 million, thus making restart look more favorable as it is only \$60 million more than deactivation. If deactivation of FFTF at the end of its life is included the comparable cost becomes \$595 million, thus making restart a

**1653-9  
(Cont'd)**

**1653-2**

**1653-10**

**1653-11**

### *Response to Commentor No. 1653*

**1653-9:** DOE notes the commentor's opposition to restarting FFTF for expanding its nuclear facility infrastructure. 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.

The potential production of plutonium-238 using ATR, HFIR, or a commercial reactor was evaluated in the NI PEIS because it would be compatible with the operating requirements of these facilities' existing missions. However, different irradiation requirements are associated with the production of medical, industrial, and research isotopes. While ATR, HFIR, or a commercial reactor may possess the potential capability or capacity to support isotope production, it is unlikely that reliable, increased isotope production to support projected needs could be accomplished without disturbing the existing missions of these facilities.

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.

**1653-10:** DOE agrees with the commentor's statement that NEPA does not require the cost of alternatives 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

**Commentor No. 1653: David Kipping (Cont'd)**

much more expensive alternative. DOE should make sure that the two sets of analyses are consistent so the public can make meaningful comparisons based on consideration of both environmental impacts and costs.

I found Figure S\_1 on page S\_4, very helpful. It allows the reader to understand the very complex decision process. It should be included in the EIS. Similarly Tables S\_2 and S\_3, summarizing costs should be included in the EIS.

11) No non\_proliferation impact information was included in the EIS.

There are two aspects of this EIS that affect the US position on non\_proliferation. If the FFTF is restarted, the preferred fuel is highly enriched uranium (HEU) and mixed (plutonium) oxide fuel (MOX). It is against US policy to use HEU (S\_13) and the use of MOX fuel is still being debated. I am concerned that the use of HEU as fuel may violate non\_proliferation policy and agreements with international governments. If Pu\_238 is to be produced, then the Np\_237 targets will have to be processed. The technique for doing this is essentially the same as is used for recovering weapons\_grade Pu\_239 and U\_235. In 1992, the Bush administration specifically terminated reprocessing of materials for weapons production. Extracting Pu\_238 flies in the face of this national policy.

DOE should provide a clear explanation of how HEU could be used without violation of non\_proliferation policy. DOE should consider impacts on non\_proliferation policy in the selection of its preferred alternative.

The non\_proliferation impact information was eventually published two months after the EIS was issued, and obviously had no effect on the document. Non\_proliferation impact information must be taken into account and it must be part of the EIS. As a minimum,

**1653-11  
(Cont'd)**

**1653-12**

**1653-13**

**Response to Commentor No. 1653**

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.

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

**1653-11:** 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.

DOE has provided a summary of the Cost Report in Appendix P in the Final NI PEIS. The summary includes the figure and tables referenced by the commentor.

**1653-12:** This commentor addresses two primary areas of concern related to proliferation policy: the use of mixed oxide and highly enriched uranium to fuel the FFTF; and, extraction of plutonium-238 which requires separation of neptunium. Regarding proposed FFTF fuels: the use of mixed oxide or highly enriched uranium to fuel the FFTF has been rigorously evaluated in the Nuclear Infrastructure Nonproliferation

### *Commentor No. 1653: David Kipping (Cont'd)*

the comment period should have been extended to allow careful consideration of the non\_proliferation impact information supplement.

12) The EIS does not deal with High\_Level Waste.

In the alternatives that involve processing Np\_237 targets to extract Pu\_238, there is no mention of the generation of High\_Level Waste (HLW). It seems quite unlikely that the wastes that will be generated would not include HLW. If HLW will not be produced, there should be an explanation as to how it will be avoided. The semantic argument that HLW is the product of reprocessing and the we are merely processing Np\_237 (and producing low level waste) is unacceptable.

Reprocessing of weapons grade material produces a large quantity of liquid radioactive HLW, and the Pu\_238 extraction process is essentially the same. It is estimated that approximately 288,000 gallons of HLW would be generated over 35 years if processing is done at INEEL.

If processing of Np\_237 is done at INEEL (CPP\_651 & CPP\_666) there are many problems:

The facility was shut down in 1989 because it could not meet environmental regulations in place at that time. The costs, timelines, and implications of meeting the current environmental regulations must be documented in the EIS. When the facility was permanently shut down as a result of the ban on reprocessing, it was not fully cleaned up and there are still intermediate products in storage and many contaminated areas. The facility must be cleaned up before it could be used again. The costs, timelines, and implications of this necessary cleanup must be documented in the EIS. There is no place to store the HLW that will be produced. The current INEEL tank farm is aging, leaking, and in the process of being closed. The tanks are well beyond their design life and

1653-13  
(Cont'd)

1653-14

1653-15

1653-14

### *Response to Commentor No. 1653*

Impact Assessment. This report, published in September, 2000, confirms that the manner in which these fuels would be used, as described in the PEIS, is consistent with nonproliferation policy. In the event that a decision is made to restart FFTF, the first six years of operation would use existing onsite mixed oxide (MOX) fuel. DOE expects that an additional 15-year supply of mixed oxide fuel in Europe, owned by Germany, could be available for FFTF. MOX fuel does not use highly enriched uranium. Further, use of the Hanford MOX fuel would dispose of a significant U.S. stockpile of highly attractive fresh plutonium fuel by conversion to spent fuel through irradiation in FFTF. This represents a safe, low cost, high benefit opportunity to reduce U.S. civilian plutonium without chemical or bulk processing. Use of the German MOX represents a similar advantage with respect to the German stockpile of separated civilian plutonium. During the period of MOX fuel use, in support of U.S. nonproliferation policy directives, DOE's Office of Nonproliferation and National Security would undertake a study under RERTR to consider the technical feasibility of using low enriched uranium to fuel the FFTF. Under this nonproliferation protocol, if use of low enriched uranium fuel is found infeasible in FFTF for meeting assigned missions, policy would allow DOE to subsequently procure highly enriched uranium fuel for use in FFTF. Again, this approach is consistent with U.S. nonproliferation policy. Regarding plutonium-238 extraction: 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 in portions of the complex process to extract plutonium-239. However, as discussed in EIS 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 source for NASA space missions.

The Nuclear Infrastructure Nonproliferation Impact Assessment confirms that extracting plutonium-238 from irradiated targets would not create a nonproliferation threat. 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, neptunium, a weapons-useable fissile

**Commentor No. 1653: David Kipping (Cont'd)**

are not suitable for storage of new HLW. In all probability, a new sets of tanks will have to be built for the Pu\_238 extraction. The EIS must consider the costs, timelines, and implications of constructing new HLW storage facilities at INEEL. There is no method for treating the new HLW that will be produced. The current INEEL tank farm has been emptied of all reprocessing HLW. That HLW was converted to solid form in the New Calciner. The Calciner has been shut down and is in the process of being closed. The EIS must deal with how the new HLW will be processed and where the solid form will be stored.

I do not have enough knowledge to address the problems if processing is done at other facilities, but I am sure that the problems will be similar, if not more severe.

13) The hidden agenda seems to be restart of the FFTF.

Although no preferred alternative was given, it appears that restarting the FFTF is high on the priority list. Aside from the lack of need for producing Pu\_238 and isotopes in this reactor, there are other concerns associated with restart:

- Public acceptance and safety concerns.
- Non\_proliferation concerns (see Point 11).
- The high cost of restart (see Point 10).
- Jeopardizing the cleanup effort at Hanford.

I cannot produce details on these concerns, but they must be dealt with in the EIS. I am sure that people in Washington state and near Hanford will produce comments on this topic.

An April 2000 report by the Nuclear Energy Research Advisory Committee, an advisory panel created by the Department of Energy, says that the reactor "will not be a viable source of [medical] research radioisotopes" and that production would not be cost effective. Why was this not mentioned in the EIS?

**1653-14 (Cont'd)**

**1653-16**

**1653-17**

**Response to Commentor No. 1653**

material, must also be recovered, purified, and recycled. This is unavoidable (unless the United States elects to neither produce or purchase plutonium-238), and it impacts all NI 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 valuable 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 is committed to full compliance with and support of the U.S. policy prohibiting reprocessing.

**1653-13:** The nuclear nonproliferation impacts of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Nuclear 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 needs 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 documents to more than 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 Nonproliferation Impact Assessment in Appendix Q in the Final NI PEIS.

Also see response 1653-10.

**1653-14:** The DOE Manual 435.1. Radioactive Waste Management defines high level radioactive waste as the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and other highly radioactive material that is determined,

### *Commentor No. 1653: David Kipping (Cont'd)*

14) This EIS is inadequate in responding to the stated needs.

For all of the reasons given above, I conclude that DOE's analysis is inadequate to support rational decision\_making. In addition, the document is too flawed for meaningful public review. I understand there is a great rush to issue a Record of Decision before the current administration leaves office. While there may be some political or even technical advantages to this approach and time schedule, this decision is too important to be rushed without considering of all relevant facts and alternatives. Compliance with NEPA must not be jeopardized.

15) This EIS must be completely re\_written to address the current deficiencies.

The EIS should be reissued as a revised draft EIS. DOE should add missing information, develop a solid approach to evaluating and comparing the alternatives, and enhance its analysis to support comparison among the myriad alternatives. This second draft must present all the facts and credible alternatives in a fashion that can be digested and understood by the public. It should substantiate the purpose and need for action, describe all impacts that would result from the comparable alternatives, and evaluate the alternatives using consistent criteria. The public should be afforded an opportunity to review a draft EIS that is not severely flawed in order to participate in a meaningful manner in DOE's decision\_making process, as intended under NEPA.

1653-18

1653-19

### *Response to Commentor No. 1653*

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

**1653-15:** The commentor's positions regarding the use of Building CPP-651 and the Fluorinel Dissolution Process Facility to support production of plutonium-238 are noted. If facilities at INEEL were selected for production of plutonium-238, the facilities would not be operated until compliant with DOE's health and safety standards. This PEIS evaluates the environmental effects that would result from implementation of all of the six nuclear infrastructure alternatives. Program schedules are described in Volume 1, Section 2.7.2. Environmental impacts that would result from the use of Building CPP-651 and the Fluorinel Dissolution

### *Commentor No. 1653: David Kipping (Cont'd)*

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#### Endnotes:

1 "DRAFT Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the Role of the Fast Flux Test Facility", DOE/EIS\_03100, July 2000.

2 Contact information: P.O. Box 3309, Hailey ID; (208)788\_0071; email: kipping2micron.net

3 In the interests of full disclosure, I am the President of the Board of Directors of the Snake River Alliance and have been active in that organization since 1993. I am also a member of the INEEL Citizens' Advisory Board, to which I was appointed in May, 2000.

4 "Restart of Reactor Challenged", Seattle Post\_Intelligencer, 29 Aug 2000.

5 Due to the lateness of the non\_proliferation impact information (I obtained a copy on 15 September) I was not able to study it in any detail.

6 I do not know where this figure came from, but it has been widely circulated. Conversion of Table S\_12 (S\_60) from cubic meters to gallons yields 693,000 gallons.

### *Response to Commentor No. 1653*

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Process Facility are discussed in Chapter 4. Costs of startup and facility modifications for the Fluorinel Dissolution Process Facility are included in the Cost Report.

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.

**1653-16:** DOE notes the commentor's concerns regarding Alternative 1, Restart FFTF, including public acceptance, safety, nonproliferation, cost of restart, and Hanford cleanup. The NEPA process provides DOE with an opportunity to fully analyze the potential impacts of its actions on human health and the environment, and all such relevant impacts have been evaluated in compliance with NEPA. Cost and nonproliferation concerns have been addressed above.

DOE policy encourages effective public participation in its decision making process. In compliance with NEPA and CEQ regulations, DOE provided opportunity to the public to comment on the scope of the NI PEIS and the environmental impact analysis of DOE's proposed alternatives. DOE gave equal consideration to all comments. In preparing the Final NI PEIS, DOE carefully considered comments received from the public.

Facility safety is of the utmost concern to DOE and is convinced that FFTF is safe to accomplish the stated missions. In the event that FFTF restart is selected in the Record of Decision, complete safety and operational readiness reviews will be performed prior to the restart. The FFTF Safety Analysis Report is routinely reassessed and updated when required to address any changes in plant configuration due to physical modifications or changes in plant operation procedures. The operational readiness review would assess the current updated Safety Analysis

**Commentor No. 1653: David Kipping (Cont'd)**

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**Response to Commentor No. 1653**

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Report to ensure that the analyses bound the reactor operating envelope for the stated missions. The analyses presented in this NI PEIS reflect the proposed changes to the reactor core (including fuel and irradiation targets) to perform the stated missions.

DOE notes the commentor's concerns regarding the existing cleanup mission at Hanford. 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.

FFTF restart would not impact the schedule or available funding for existing cleanup activities. 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.

**1653-17:** The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost-efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these

*Commentor No. 1653: David Kipping (Cont'd)*

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*Response to Commentor No. 1653*

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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](http://www.nuclear.gov).

**1653-18:** DOE disagrees with the commentor's characterization of the NI PEIS as flawed. 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 1500 through 1508 and 10 CFR 1021), respectively. DOE evaluated each environmental resource area in a consistent, unbiased manner across all the alternatives to allow for a fair comparison among the various alternatives and among the candidate sites for the facilities. This was accomplished through review and analysis of site-specific information on the environmental conditions prevailing at ORR, INEEL, and Hanford to include a comprehensive analysis of the associated environmental and health risks of each alternative.

**1653-19:** The changes which have been made to the NI PEIS in response to public and agency comments as well as a result of DOE's own internal reviews do not warrant reissuance of the NI PEIS as a revised draft. No fundamental factors relating to purpose and need, the alternatives under consideration, or the associated environmental impact evaluations have changed since the Draft NI PEIS was published. As stated in the responses to the commentor's specific concerns, this NI PEIS presents a substantiated purpose and need for agency action, a range of reasonable alternatives for accomplishing the stated missions, as well as an unbiased and thorough analysis of the associated environmental impacts of each alternative.

**Commentor No. 1654: Douglas A. Gantt**

From: Douglas A. Gantt[SMTP:DGANTT@3\_CITIES.COM]  
 Sent: Sunday, September 17, 2000 3:51:18 PM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: NI\_PEIS Comments Document \_ Attached  
 Auto forwarded by a Rule

Please see attached, completed comments document

I am submitting these comments as an interested, private citizen.

The "Draft Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the Role of the Fast Flux Test Facility," DOE/EIS\_03100, July 2000 needs to address several issues in more detail as follows:

1. You identify four alternatives and the no action alternative, which address the Department's objectives. It was noted in the public briefing in Richland, Washington that these alternatives are not equal in their capability to satisfy the Department's objectives. Some description of relative capabilities is provided, but it is very limited in nature. Relative production capacity is not addressed. If, for example, two high\_energy accelerators are required, rather than one, in order to produce a comparable quantity of isotopes, this needs to be identified in the PEIS and/or cost study.

Recommendation #1: The PEIS should describe the relative capabilities and the relative production capacities of the alternatives to inform not only the decision\_makers, but also the public.

2. In the summary you describe a mission to produce isotopes for medical diagnostic and therapeutic purposes. You quote a report from the NERAC Subcommittee for Isotope Research and Production Planning stating that "It is now widely conceded that limited availability of specific radionuclides is a constraint on the progress of research."

**1654-1****1654-2****Response to Commentor No. 1654**

**1654-1:** A comparison of mission effectiveness among alternatives is presented in Volume 1, Section 2.7.1.2.3 of the Draft NI PEIS presents This section has been revised in the Final NI PEIS (see Section 2.7.1.8, "Comparison of Mission Effectiveness Among Alternatives") to provide the reader a better understanding of the medical isotopes that can be produced using accelerator technology (Alternative 3) and reactor technology alternatives (Alternatives 1 and 4). It should be noted that in addition to the No Action alternative, the NI PEIS presents 5 (not 4) alternatives.

**1654-2:** The purpose of the NI PEIS is to determine the environmental impacts associated with each of the reasonable alternatives identified by DOE. The scope of the PEIS does not include evaluations of potential socioeconomic and public health impacts that would result from a possible shortfall in the supply of isotopes for the research community.

***Commentor No. 1654: Douglas A. Gantt (Cont'd)***

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Recommendation #2: The PEIS must address, in at least qualitative terms, the socioeconomic impacts and the public health impacts of not providing "an adequate supply of isotopes to keep pace with the growing and changing needs of the research community." There is clearly an adverse impact in these areas under the "no action" alternative and under alternatives 2 and 5. This impact is at least national, if not international in scope.

**1654-2  
(Cont'd)**

I strongly urge that the DOE move forward to enhance the nuclear research infrastructure and to maintain the U.S. role as a leader in nuclear science. I believe that the FFTF can be safely operated and would provide the greatest flexibility in meeting all mission objectives. Furthermore, the Department would be retaining up to four times the capability described in the current PEIS, in that the FFTF is proposed to only operate at one fourth of its original design power.

**1654-3**

***Response to Commentor No. 1654***

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**1654-3:** DOE notes the commentor's support for Alternative 1, Restart FFTF, however, increasing operating power by a factor of four does not increase infrastructure capability by the same factor due to limitations related to core volume.

**Commentor No. 1655: John Commander  
Coalition-21**

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From: john commander[SMTP:JXC@IDA.NET]  
Sent: Sunday, September 17, 2000 6:11:18 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Cc: joblow@srv.net%internet  
Subject: Comments on the Nuclear Infrastructure PEIS  
Auto forwarded by a Rule

Coalition 21 Comments 09/17/2000

We support all three missions with in the PEIS scope which include:

- \* Medical and Industrial Isotope Production
- \* Plutonium 238 Production for Space Missions
- \* Nuclear Energy Research and Development for Civilian Applications

We support Alternative 2 Option 2 which would provide for the entire scope of work to be accomplished at INEEL.

1655-1

This requires the use of existing infrastructure for the near term, the next ten years.

For the long term, we also support construction of a new Research Reactor. DOE needs to start the planning phase for a new reactor as soon as possible, since the project planning to actual operation will take at least 15 years in todays environment.

1655-2

We agree with the Cost Report for Alternatives which indicates Alternative 2 Option 2 is the most cost effective approach for near term support of the three missions.

1655-1

We disagree with including D&D of FFTF costs as part of this project cost, since that inflates the project cost. D&D costs for FFTF should not be charged to the project, they should be properly charged to the DOE D&D Account.

1655-3

**Response to Commentor No. 1655**

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**1655-1:** DOE notes the commentor's support for Alternative 2, Use Only Existing Operational Facilities, Option 2, Irradiate at ATR and Process/Store at FDPF/CPP-651.

**1655-2:** DOE notes the commentor's support for Alternative 4, Construct New Research Reactor.

**1655-3:** FFTF would be permanently deactivated should a decision be made to select any alternative other than Alternative 1, Restart FFTF. Therefore the Cost Report correctly assigns these costs in the alternative evaluations.

**1655-4:** CEQ (40 CFR 1500 et seq.) and DOE (10 CFR Part 1021) implementation regulations do not require inclusion of nonproliferation studies in an environmental impact statement. The basic purpose of the NI PEIS is to describe the alternatives under consideration for implementation (Section 2.5 of Volume 1) and the environmental impacts that would occur if these alternatives were implemented (Chapter 4 of Volume 1). Pursuant to CEQ regulations (40 CFR 1505.1(e)), agencies are encouraged to make ancillary decision documents available to the public before a decision is made. The associated nonproliferation report was made available to the public on September 8, 2000. DOE mailed this document to about 730 interested parties, and the report was made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in public reading rooms.

DOE also notes the commentor's request for extension of the public comment period. The Council on Environmental Quality's (CEQ) "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act" (40 CFR 1506.10(c)) require that a minimum of 45 days be allowed for public comment on the Draft NI PEIS. As stated in the Notice of Availability (65 FR 46443 et seq.), the public comment period began on July 28, 2000 and continued to September 18, 2000. In

*Commentor No. 1655: John Commander (Cont'd)*

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We received the Nuclear Infrastructure Nonproliferation Impact Assessment too late for review and comment. We therefore request an extension in the comment period to allow for our review of that document.

1655-4

In summary, we wish to express our support for the project; and backing for the short term implementation of the ATR and FDPF/ CPP651 facilities. This fits well with the DOE designation of INEEL as the Lead Laboratory for Nuclear Energy Research and Development.

1655-1

*Response to Commentor No. 1655*

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preparing the Final PEIS, DOE has assessed and considered both oral and written comments received on the Draft PEIS during the public comment period and has responded to these comments in the Final PEIS. Volume 3 of the NI PEIS contains public comments received on the NI PEIS and DOE responses to those comments. Moreover, late comments were considered to the extent practicable.

***Commentor No. 1656: Paul and Tonya Davis***

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From: PRTJDAVIS@cs.com%internet  
[SMTP:PRTJDAVIS@CS.COM]  
Sent: Sunday, September 17, 2000 6:23:11 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Please restart the FFTF!  
Auto forwarded by a Rule

Please restart the FFTF!

Thanks,

Paul & Tonya Davis  
Kennewick, WA

|| 1656-1

***Response to Commentor No. 1656***

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**1656-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1657: National Association of Cancer Patients**

From: Nohobson@aol.com%internet  
[SMTP:NOHOBSON@AOL.COM]  
Sent: Sunday, September 17, 2000 6:27:30 PM  
To: Lowe, Owen; Magwood, William; Secretary, The; INFRASTRUCTURE\_PEIS, NUCLEAR; bmolivar@televar.com%internet  
Subject: PEIS comments from National Association of Cancer Patients.  
Auto forwarded by a Rule

NACP DOE NI PEIS Statement and NACP Information Request  
September 15, 2000

The National Association of Cancer Patients, La Jolla, California, represents over eight million cancer patients in America, one million in California alone. We strongly support the restart of FFTF because it is a unique source of isotopes for the diagnosis and treatment of many kinds of cancer, and in research to discover new, more effective treatments.

The information below is referenced in studies published in medical journals and given at medical conferences, by the National Institutes of Health, the National Cancer Institute, the Centers for Disease Control in Atlanta, Medicare, the Health Care Finance Administration, the American Cancer Society, and by physicians and patients who have written about medical isotope treatments.

Over 1500 cancer patients die daily in this country, equivalent to three fully loaded Boeing 747s crashing to the earth, killing everyone on board. Under age 65, cancer is the leading cause of death. One child is diagnosed with cancer each hour. Nearly one in two males and one in three females will get cancer. "Smart bullet" medical isotope treatments just target cancer cells and are very effective in treating many types of cancers. For example, after other treatments fail, 70% of dying blood cancer patients remain CANCER\_FREE five or more years later. Physicians call these results "spectacular." Cancer patient Laura said, "No previous treatment had done

1657-1

**Response to Commentor No. 1657**

1657-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

***Commentor No. 1657: National Association of Cancer Patients (Cont'd)***

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anything to reduce my tumors. What I love about this treatment is that it works, it takes the pain away and there?s no side effects."

The NACP asks the DOE to consider medical isotopes availability a national public health issue and include the following in the NI PEIS. Where will these isotopes be produced? Alpha emitters are best to treat blood and other diffuse cancers. Jacqueline Kennedy Onassis and King Hussein of Jordan had non\_Hodgkins lymphoma. An NACP member tried but failed to get isotope information to the King. If treated, he had a better than 90% chance at life and remaining America?s staunch ally in the Middle East. He died of multiple organ failure after his second bone marrow transplant. Twenty percent of cancer patients die from treatment complications, not directly from their cancer.

Cancer does not wait. These isotopes have half\_lives measured in MINUTES and REQUIRE a domestic supply. Also consider in the PEIS that patients wish to be treated near their homes, and that additional nuclear facilities will be required to supply these short\_lived alpha emitters in the quantities necessary to more effectively treat their disease at sites across the country. There will be over 50,000 new non\_Hodgkins lymphoma diagnoses this year. The incidence of this disease is increasing. FFTF could efficiently produce alpha emitters. John Stanford, the much loved Seattle School Superintendent, died last year of acute myeloid leukemia. An NACP member informed him of a study at Memorial Sloan Kettering Cancer Center in New York. It took the DOE three years to supply enough alpha emitters to treat eighteen patients there. There was an insufficient supply and John Stanford was not treated. Had there been enough alpha emitters to treat Mr. Stanford, he would have had a 70% chance of being at his desk today helping the children of Seattle. This year, 9,700 patients will be diagnosed with AML. The DOE has agreed to supply enough alpha emitters by 2002 to treat 36 patients in three years, double the previous amount. What will happen to the over 29,000 patients denied this treatment for a lack of isotope supply? This disease is 75% fatal without isotope treatment. This is unacceptable to

1657-2

1657-3

***Response to Commentor No. 1657***

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**1657-2:** DOE notes the commentor's support for restarting FFTF in order to increase availability of medical isotopes.

**1657-3:** DOE notes the commentor's viewpoint. A forecast for future demand for medical isotopes and the expected growth rate of medical isotope use during the next 20 years is provided in Section 1.2 of the NI PEIS. The growth projections were adopted by DOE as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual rate of growth of medical isotope use is consistent with the Expert Panel findings.

***Commentor No. 1657: National Association of Cancer Patients (Cont'd)***

the NACP and cancer patients. The DOE is RESPONSIBLE to produce and deliver isotopes researchers request, yet its budget request for the isotope program in FY2001 is LESS than for FY2000. Dr. Robert Schenter testified on August 31, 2000 that the FFTF efficiently produced research isotopes, in direct contrast to NERAC's statement that the FFTF is not a research production candidate. One of our members spoke with a woman whose father was treated with high specific activity I\_131 produced from FFTF. Given less than three months to live with his non\_Hodgkins lymphoma, he remains cancer\_free and healthy eleven years after his single treatment. When high\_specific activity I\_131 becomes available, should FFTF be restarted, Dr. Darrell Fisher, a renowned medical physicist, stated that this would be the isotope of choice, as I\_131 from Canada currently being used is only about seven percent pure. The DOE should consult with those in the know instead of rely on uninformed statements from others. The NACP asks Secretary Richardson, prior to making his decision on the NI PEIS, to listen to informed proponents of FFTF, including DOE's own employees and especially those working at FFTF, and give them time equal to that he gave Mr. Pollet of Heart of America. This man is an avowed enemy of FFTF restart, and not an informed scientist.

**1657-3  
(Cont'd)**

**1657-4**

**1657-5**

**1657-6**

Efficient new medical isotope production facilities for AT LEAST 37 medical isotopes must be considered. The NI PEIS should also consider a public\_private partnership possibility when considering how these isotopes might best be produced and distributed. Please note the following. A recent study showed equally effective prostate cancer control from surgery OR Palladium (Pd) seed implants after twelve years. Pd is backordered up to one year. As a result, men are being FORCED into surgery. A retrospective study showed that over half of prostate surgery patients become impotent, must wear a DIAPER for the rest of their lives or BOTH.

Jerry Petasnick, MD, president of the National Society of Radiologists, said, "Our organization represents over 30,000 practicing radiologists? it is difficult to conduct clinical studies with

***Response to Commentor No. 1657***

- 1657-4:** DOE notes the commentor's views. 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.
- 1657-5:** For the purposes of analyses in the NI PEIS, a 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 37 isotopes, which are comprised of both reactor- and accelerator- produced isotopes, are listed in Chapter 1, Volume 1 of the NI PEIS along with a brief description of their medical and/or industrial applications. 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 does not 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.
- 1657-6:** DOE currently has business relationships with private companies related to the production of radioisotopes. If FFTF would be restarted, DOE would pursue business arrangements with private companies in order to offset the cost of isotope production.

***Commentor No. 1657: National Association of Cancer Patients (Cont'd)***

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even very small numbers of patients. Research is being hampered or removed from consideration by a lack of these isotopes. Medical isotopes are often the only effective way to properly diagnose and treat serious disease. It is crucial that we have access to a wide variety of isotopes, including those with high specific activity, appropriate to diagnose, prevent and treat heart disease, cancer, arthritis, and, more recently, infectious disease."

Please listen to physicians who are asking the DOE to supply the isotopes they need to treat their patients. Dr. Carl Mansfield, Thomas Jefferson University Hospital, Philadelphia after a ten year palladium implant BREAST cancer study said, "These implants mean that a patient can KEEP a breast and still have the SAME chances of survival?" President Clinton's mother died of breast cancer.

A reactor, the FFTF is necessary to produce the quantity and quality of isotopes needed to treat patients and save lives. S. De Nardo, MD, at the University of California at Davis, was provided a cyclotron to produce Cu\_67. This cyclotron is so inefficient at producing this isotope that even small numbers of study patients are not being accommodated. This isotope has a natural affinity for both prostate and breast cancer, just as iodine has a natural affinity for the thyroid. FFTF could produce large quantities of this isotope and many others. Nearly 360,000 Americans will be diagnosed in 2000 with breast and prostate cancer. Isotope backorders and inadequate supplies of isotopes for study protocols are killing cancer patients. Again, please listen to physicians who are telling the DOE that they do not have the isotopes they need to treat even small numbers of study patients. The NACP predicts a public outcry once these facts become known.

The NACP asks the DOE to consider the Balanced Budget Act of 1997 and include WITHIN in the PEIS a cost\_benefit analysis of radioisotope therapy versus older, often less\_effective treatments, based on published study statistics. The NACP vigorously disagrees with the DOE statement given at the recent scoping hearings in

1657-7

***Response to Commentor No. 1657***

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- 1657-7:** DOE notes the commentor's views on the costs and benefits of the proposed production of medical radioisotopes. The estimated costs of the range of reasonable alternatives are presented in the Cost Report, summarized in Appendix P of the Final NI PEIS. However, the Cost Report is not a cost-benefit analysis. While it is reasonable to believe that the benefits of medical isotopes are substantial, the purpose of this NI PEIS is to describe the nuclear infrastructure missions (Section 1.2 of Volume 1), a range of reasonable alternatives for satisfying the mission requirements (Section 2.5 of Volume 1), and the environmental impacts that would result from implementation of the alternatives. According to 40 CFR Section 1502.23, if a cost-benefit analysis exists, it must be reported and summarized in the NI PEIS.

***Commentor No. 1657: National Association of Cancer Patients (Cont'd)***

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Washington that there is insufficient data to perform this analysis. This data absolutely exists ? no one from the DOE has made an effort to seek out these figures. The NACP also disagrees with the Frost and Sullivan report that the yearly projected increase in demand for medical isotopes will range between 7 and 14%. The volume increase for 1999 was actually 19%. And it is impossible to predict the huge demand that will result from research breakthroughs in the future. Remember, there was no demand for computers until the computer chip was invented, no demand for antibiotics until penicillin was discovered! The demand came after the discovery!

Eighty percent of cancer patients should benefit from isotope therapy. Over six million cancer patients alive today might benefit from isotope treatments. Over half might be saved. Isotopes given to cancer patients either alone or with other treatments enhance their effectiveness, avoid repeat surgery, chemotherapy and other treatment and followup ? related costs. A six year study showed the death rate from ovarian cancer is 10% with smart bullets, 86% without this treatment. Comedienne Gilda Radner and, more recently, Academy\_Award winning actress Madeline Kahn both died of ovarian cancer. It cost an average of \$15,000 in 1993 to care for one dying cancer patient. Over 550,000 Americans will die of cancer this year. It cost over \$600,000 to treat King Hussein. The typical cost for more effectively treating blood cancer with "smart bullets" is less than \$10,000 per patient. Cost savings from treating blood cancer patients alone could easily exceed TEN BILLION dollars per year. Projected savings to Medicare and Medicaid might more than pay for hundreds of DOE programs, with money left over to supply the elderly prescription drugs and health insurance for over 40 million Americans who have none. Include in the NI PEIS a projected estimate of increased tax revenues to the U.S. Treasury as patients like Laura return to work.

Waste minimization. Consider waste minimization in the NI PEIS from the medical community's point of view. Cancer patients produce an enormous volume of hazardous waste that requires

1657-7  
(Cont'd)

1657-8

1657-9

1657-10

***Response to Commentor No. 1657***

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**1657-8:** DOE notes the commentor's concerns. 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.

**1657-9:** See response to Comment 1657-7.

**1657-10:** Medical wastes are regulated by the U.S. Environmental Protection Agency and authorized State agencies. DOE does not have purview over these wastes or the waste generators. The analysis requested by the commentor is out of scope of the NI PEIS.

***Commentor No. 1657: National Association of Cancer Patients (Cont'd)***

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special handling at high cost. Estimate sharply reduced waste volumes with more efficient medical isotope therapy. There are over 14 million diagnostic tests per year performed in this country that require medical isotopes. Patients are being spared from more costly invasive procedures with this expanding technology for both diagnosis and treatment of disease. In many states, this waste is now being stored in 55 gallon barrels in medical facilities and medical companies under stairwells, in hallways, on loading bays, and in parking lots. This is a health hazard. The DOE should acknowledge this very real situation in the NI PEIS, and work with Congress to address this serious public health issue post haste. Nationally, current hazardous cancer waste volumes are MUCH higher than those generated from the operation of the DOE facilities of Alternate 1 listed in the PEIS.

**1657-10  
(Cont'd)**

The NACP asks the DOE to address ALL these points in the PEIS. The NACP asks everyone \_ PLEASE, do not play politics on the backs of cancer patients.

***Response to Commentor No. 1657***

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***Commentor No. 1658: RosenOn@aol.com***

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From: RosenOn@aol.com%internet  
[SMTP:ROSENON@AOL.COM]  
Sent: Sunday, September 17, 2000 8:10:18 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: FFTF  
Auto forwarded by a Rule

please re\_start the FFTF

|| 1658-1

***Response to Commentor No. 1658***

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**1658-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1659: Reverend Merepeace-MsMere**

From: Reverend MsMere[SMTP:MERPEACE@RMCI.NET]  
 Sent: Sunday, September 17, 2000 9:12:04 PM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: Produce potatoes not plutonium  
 Auto forwarded by a Rule

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.

1659-1

1659-2

**Response to Commentor No. 1659**

- 1659-1:** 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.
- 1659-2:** 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.
- 1659-3:** 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. 1659: Reverend Merepeace-MsMere  
(Cont'd)**

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.

1659-2

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.

1659-3

1659-4

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.

1659-5

**Response to Commentor No. 1659**

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.

**1659-4:** 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.

**1659-5:** 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. 1659: Reverend Merepeace-MsMere  
(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,

Reverend Merepeace\_MsMere  
1609 Lemp Street  
Boise, Idaho 83702

**1659-5  
(Cont'd)**

**1659-6**

***Response to Commentor No. 1659***

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 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 FMCT. This is a different set of concerns than those expressed in the comment. The fact is, that since it is

***Commentor No. 1659: Reverend Merepeace-MsMere  
(Cont'd)***

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***Response to Commentor No. 1659***

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well known that FDFP 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.

**1659-6:** 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 be noted that the cleanup of legacy wastes is beyond the scope of the NI PEIS.

**Commentor No. 1660: Laurie Smith**

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FFrom: Laurie Smith  
[SMTP:TOUREASYLOVER@HOTMAIL.COM]  
Sent: Sunday, September 17, 2000 9:48:08 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: FFTF Nuclear Reactor at Hanford  
Auto forwarded by a Rule

I oppose the restart of the FFTF Nuclear Reactor at Hanford!!!!  
Please, please, please.... do NOT restart this reactor!

Laurie Smith  
Aloha, Oregon

**1660-1**

**Response to Commentor No. 1660**

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**1660-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

**Commentor No. 1661: Al Mialkovsky**

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From: Lazy Boy[SMTP:ALMIA@CDSNET.NET]  
Sent: Sunday, September 17, 2000 10:26:56 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Nuclear Reactor at Hanford  
Auto forwarded by a Rule

I oppose the restart of the nuclear reactor at Hanford. We don't need to leak any radioactive waste into the Columbia river. It might be nice to consider our needs over "cheap" energy.

Al Mialkovsky

|| 1661-1

|| 1661-2

**Response to Commentor No. 1661**

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**1661-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

**1661-2:** 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. Energy production and its cost are not within the scope of the NI PEIS.

**Commentor No. 1662: James Thomas**

From: James Thomas  
 [SMTP:JIM.THOMAS@MINDSPRING.COM]  
 Sent: Sunday, September 17, 2000 10:33:00 PM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: FFTF EIS Comments  
 Auto forwarded by a Rule

Dear DOE,

The following are my comments concerning the proposed restart of Hanford's Fast Flux Test Facility (FFTF). I have been involved in many aspects of Hanford issues since 1984. Based upon this experience and my study of FFTF, I can only conclude that the only option for FFTF should be Option 5: "permanently deactivate FFTF with no new missions."

My reasons for permanently shutting down FFTF are as follows:

1. FFTF is dangerous to operate.
2. FFTF is wasteful. There is no place to permanently dispose of its waste and its operation is not cost effective.
3. The isotopes FFTF would produce are not needed and would be too expensive. Because of this, 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.
4. Closure of FFTF is part of the 1989 Tri\_Party Agreement.

In short, shut FFTF down and get on with Hanford cleanup. The money saved by shutting down FFTF should be transferred to placing the K Basins fuel into dry cask storage.

Sincerely,  
 Jim Thomas  
 4317 S.W. Hinds Street  
 Seattle, WA 98116

1662-1

1662-2

1662-3

1662-4

1662-5

1662-1

1662-6

**Response to Commentor No. 1662**

- 1662-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.
- 1662-2:** FFTF can be safely operated to support the nuclear infrastructure missions described in Section 1.2 of Volume 1. Section 4.3 of Volume 1 provides the results of the evaluation of potential health impacts that would be expected to result from implementation of Alternative 1, including normal operations and a spectrum of accidents that included severe accidents. The environmental analysis showed that radiological and nonradiological risks associated with restarting FFTF would be small.
- 1662-3:** As identified in Section 4.3.1.1.13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35-year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. It is DOE's policy that all wastes be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.
- The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision.
- While cost could be an important factor in the ultimate Record of Decision, the purpose of this and other EISs is to address the environmental consequences of the alternatives for the proposed action. Cost issues associated with the restart of FFTF are beyond the scope of the NI PEIS.
- 1662-4:** DOE notes the commentor's opposition to the restart of FFTF and the concern that additional medical isotopes that would be produced by FFTF are not needed. DOE acknowledges the difficulty in reliably predicting isotopic needs for future uses in research and medicine. Therefore, 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

## *Commentor No. 1662: James Thomas (Cont'd)*

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## *Response to Commentor No. 1662*

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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.

In 1998, the Expert Panel estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs.

**1662-5:** DOE notes the commentor's opposition to Alternative 1, FFTF Restart, and concern regarding the existing cleanup mission at Hanford. 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-RL, EPA, and Ecology agreed to a change in this agreement to place the milestones for FFTF's permanent deactivation in abeyance until the

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**Commentor No. 1662: James Thomas (Cont'd)**

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**Response to Commentor No. 1662**

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DOE reaches a decision on FFTF's future. Public meetings were held on this formal milestone change. The NI PEIS missions would not have an impact on Hanford cleanup activities.

**1662-6:** 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 described 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.

Hanford K Basin issues are not within the scope of this PEIS, as none of the alternatives considered would add to these waste volumes. However, removal of K Basin spent fuel is scheduled to begin prior to the end of 2000.

**Commentor No. 1663: Amy Evans**

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From: Maevans5@cs.com%internet  
[SMTP:MAEVANS5@CS.COM]  
Sent: Sunday, September 17, 2000 11:16:05 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Re\_start FFTF  
Auto forwarded by a Rule

A well\_organized group of anti\_nuclear activists shouldn't be dictating Department of Energy policy. You know what's right for our country \_ we need to restart the Fast Flux Test Facility, not only for valuable medical isotopes, but also for research on new technologies in nuclear power. More and more people in this country are becoming aware of the medical isotope issues and in the coming months and years they will cry out that a travesty has occurred if DOE does not fulfill its responsibility to the American people in this area.

I don't think you should count input on the PEIS that is based on false information. I've seen groups like Heart of America get their people to respond to this issue based on complete untruths. Why should you consider a request to shut down FFTF because it will add to high\_level waste in leaking tanks or take away from clean\_up? It's not true, and in fact if those people were given the facts they might even be for FFTF. These groups should not "get their way" with the government by spreading lies. Stand up to them.

Amy Evans  
Kennewick, WA

**Response to Commentor No. 1663**

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1663-1

**1663-1:** It is DOE policy to encourage public input on matters of regional, national and international importance as part of its commitment to facilitate a public participation process that is open and unbiased. In compliance with NEPA and CEQ regulations, DOE provided opportunity to the public to comment on the scope of the NI PEIS and the environmental impact analysis of DOE's proposed alternatives. DOE gave equal consideration to all comments. In preparing the Final NI PEIS, DOE carefully considered comments received from the public.

1663-2

**1663-2:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

1663-1

***Commentor No. 1664: Martin Evans***

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From: Maevans5@cs.com%internet  
[SMTP:MAEVANS5@CS.COM]  
Sent: Sunday, September 17, 2000 11:16:52 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Re\_start FFTF  
Auto forwarded by a Rule

Re\_starting the FFTF should be the preferred alternative in the nuclear infrastructure EIS.

Martin Evans  
Kennewick, WA

|| 1664-1

***Response to Commentor No. 1664***

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**1664-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

***Commentor No. 1665: Betty Davenport***

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From: Les (038) Betty Davenport  
[SMTP:DAVENPOR@OWT.COM]  
Sent: Sunday, September 17, 2000 11:19:21 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: FFTF  
Auto forwarded by a Rule

I support the restart of FFTF for the production of medical isotopes primarily, and pu238 for NASA. The research being done with medical isotopes is so important to all humanity that it is unconscionable to not go ahead with it due to the fears of those who don't respect science.

Betty Davenport  
1922 Mahan  
Richland, WA 99352

**1665-1**

***Response to Commentor No. 1665***

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**1665-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1666: Roxanna Nematollahi**

From: rzn@aracnet.com%internet  
 [SMTP:RZN@ARACNET.COM]  
 Sent: Sunday, September 17, 2000 11:24:57 PM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Cc: Secretary, The; president@whitehouse.gov%internet;  
 vice.president@whitehouse.gov%internet  
 Subject: Comments \_ Nuclear Infrastructure PEIS  
 Auto forwarded by a Rule

Collette E. Brown, NE\_50  
 US Department of Energy, 19901 Germantown Rd  
 Germantown, MD 20874

Re: Comments on the Nuclear Infrastructure PEIS

I urge the DOE to adopt Alternative 5 to permanently deactivate the Fast Flux Test Facility (FFTF). The DOE has demonstrated no compelling reason to justify restart of this antiquated facility. Restart of the FFTF would be too expensive economically and ecologically. The U.S. already has established sources for medical isotopes and Plutonium 238. Medical isotopes for diagnosis and treatment can be produced at existing facilities in Tennessee and Idaho, as well as two new reactors in Canada. NASA has not projected a demand for Plutonium 238 beyond what it is already acquiring. Furthermore, considering the current state of Russia's economy, it seems to be in the United States' defense interest to purchase as much of Russia's Plutonium as possible to avoid its sale to unstable political powers.

No one has ever determined a safe way to dispose of nuclear waste. Nuclear plants cause more problems than they solve. The DOE must stop searching for a mission for this outdated facility and focus on the cleanup of Hanford. The Columbia River area is a unique and ecologically sensitive area. The lives and livelihoods of many depend on a rapid and thorough cleanup. Stop wasting time and money \_\_ permanently deactivate the FFTF.

Roxanna Nematollahi  
 PO Box 80131, Portland, OR 97280

**Response to Commentor No. 1666**

- 1666-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.
- 1666-2:** The United States currently purchases approximately 90 percent of its medical isotopes from foreign producers, most notably Canada. However, Canada only supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. 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. While some existing DOE reactors may possess the potential capability or capacity to support research isotope production, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without disturbing the existing missions of these facilities. As such, reliance on these other sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs.

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

DOE could purchase plutonium-238 from Russia; however, for supply reliability reasons and concern of nuclear nonproliferation, DOE's

***Commentor No. 1666: Roxanna Nematollahi (Cont'd)***

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***Response to Commentor No. 1666***

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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.

**1666-3:** DOE notes the commentor's concern regarding waste disposal. 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.

**1666-4:** 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.

**Commentor No. 1667: a.snodgrass@mciworld.com**

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From: a.snodgrass  
[SMTP:A.SNODGRASS@MCIWORLD.COM]  
Sent: Sunday, September 17, 2000 11:40:11 PM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: To Whom It May Concern re: FFTF  
Auto forwarded by a Rule

please re\_start the FFTF

|| 1667-1

**Response to Commentor No. 1667**

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**1667-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

## Commentor No. 1668: Cliff Wells

From: Cliff Wells[SMTP:CLIFF.WELLS@VISTO.COM]  
Sent: Monday, September 18, 2000 12:15:37 AM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Cc: ruthy@wpsr.org%internet  
Subject: PLEASE SHUT DOWN THE FFTF  
Auto forwarded by a Rule

I understand we have until September 8th to submit our opinions on the Fast Flux Test Reactor In Hanford.

I am a "Downwinder" who was raised in Eastern Washington for the first years of my life, and I have registered with the State of Washington.

The Cold War is over in the rest of the world, it is time we ended it here too. For over 55 years we have been messing with nuclear energy at Hanford Washington, and for much of that time, we have not known what we were doing. It has only been afterward that we have found that we made a lot of mistakes. I believe that continuing to make nuclear waste while it leaks into the Columbia River and is incredibly irresponsible. We should shut down the FFTF and start a clean up of Hanford now. It may be too late, but that is no excuse to keep putting it off. We can get a better handle on damage control if we start now and stop making it worse.

I understand that there are claims that they make Medical Isotopes there, but I have heard nothing about where or how or IF they are used. I know though that the Physicians for Social Responsibility, the Washington State Medical Association, Washington Academy of Family Physicians have all passed resolutions opposing the restart of this reactor. I learned a long time ago that Doctors orders are not to be trifled with. When will our country stop and listen to what's best for us, and listen?

The Chernobyl reactor is going to be shut down soon. Is it our goal to surpass that disaster with one right in our back yard? The stories I hear about tanks with chemicals that nobody can identify and the

## Response to Commentor No. 1668

**1668-1:** DOE notes the commentor's concerns regarding the high level waste tanks and 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 and 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.

In regards to the commentor's concern with Columbia River, 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.

More specific to the DOE missions in this NI PEIS, 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.

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 natural sources is about 300 mrem each year. Based on the same 35 year time period used above, approximately 2,600 latent cancer fatalities would be expected among the same population as a result of this natural (non-Hanford related) radiation exposure. Additionally, FFTF is approximately 4.5 miles from the Columbia River.

1668-1

1668-2

1668-1

1668-3

1668-1

**Commentor No. 1668: Cliff Wells (Cont'd)**

leaks slowly going to our Columbia River sound like the makings of a disaster to top all disasters. Do we have to have an explosion or loss of life before we take this disaster seriously? I hope we can get some people with common sense involved here and start cleaning up after our last 55 years before we make another 55 years of mess for our Great Grandchildren to worry about.

I know there have been law suits over the safety of employees at Hanford. Is that still part of the operating expenses? Is it acceptable if a few Washingtonians are exposed to this so we can provide isotopes for people elsewhere? How long is it going to be before we can produce medical isotopes safely, and without risking the health of the people who live down wind and down stream from our old fashioned factories?

I hope you will consider the volume of letters and emails you get, and give me the the consideration I gave in writing this letter. If you can justify starting the FFTF, maybe you could try to convince me. If you can't, maybe you should reconsider what the citizens of this country really want, and not what you can push on them. Maybe cleanup is in the future of Hanford, THEN we can consider new projects. Maybe if it is not so dangerous to work there, we will be able to attract workers who can do a better job. I think we are probably drawing a lot of people who don't appreciate the danger and they are only making it worse.

Thank you for your consideration.

Cliff Wells  
Post Office Box 126  
Lynnwood, WA 98046\_0126

**1668-1  
(Cont'd)**

**1668-4**

**1668-1**

**Response to Commentor No. 1668**

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.

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.

**1668-2:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

**1668-3:** For nearly 50 years, DOE's use of its unique technologies and capabilities to develop isotopes for civilian purposes has enabled the widespread application of medical isotopes seen today. While its market share is a small fraction of total world isotope production, DOE remains the key provider for a large number of isotopes that are used in relatively small quantities by individual researchers at universities and hospitals. Because their application is initially experimental, these isotopes are not generally purchased in large-enough quantities to make their production financially attractive to private industry. When in operation, FFTF participated in supporting DOE's medical isotope production program. Table C-1 of Volume 2 presents a list of isotopes that could be produced at FFTF. FFTF has produced some of these isotopes in the past and a brief

*Commentor No. 1668: Cliff Wells (Cont'd)*

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*Response to Commentor No. 1668*

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description of the isotope medical and/or industrial application is presented in Table 1-1 of Volume 1.

**1668-4:** Consistent with its mandates under the Atomic Energy Act, DOE is proposing enhancement of its nuclear facility 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 reestablishing 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. Purpose and need are discussed in Chapter 1 of Volume 1.

DOE is committed to providing the public with comprehensive environmental reviews of its proposed actions in accordance with NEPA, and to providing ample opportunity for public comment on those actions. In preparing the Final NI PEIS, DOE carefully considered comments received from the public.

## Commentor No. 1669: The Trapp Family

From: The Trapp Family  
 [SMTP:THETRAPPS@HOME.COM]  
 Sent: Monday, September 18, 2000 1:02:56 AM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: More Plutonium?  
 Auto forwarded by a Rule

Hmmm. I've come to the conclusion that there is no planning other than "the immediate"0, at the cost of future generations that you will not be part our own. But, one that we will provide insurmountable challenges in ability to try to contain the additional waste that will come from the restart of FFTF. Incredible!!!

Lenny Trapp.

In Reference to:

Department of Energy consideration to approve the restart of the FFTF (Fast Flux Testing Facility) Nuclear Reactor at Hanford .. Primary reason: to produce Plutonium 238 for the space program but NASA has stated that this is not necessary. Secondary purpose: necessary to create medical isotopes, but Department of Energy has stated this is not necessary.

1669-1

1669-2

1669-3

## Response to Commentor No. 1669

- 1669-1:** 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.
- 1669-2:** DOE notes the commentor's concern about NASA's need for plutonium-238 for space missions. 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.
- 1669-3:** 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

## *Commentor No. 1669: The Trapp Family (Cont'd)*

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## *Response to Commentor No. 1669*

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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.

In 1998, the Expert Panel estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs.

The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the

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***Commentor No. 1669: The Trapp Family (Cont'd)***

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***Response to Commentor No. 1669***

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DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities.

**Commentor No. 1670: G. Parameswaran**

From: Gopalakrishnan Parameswaran [SMTP:SHIVANP@JUNO.COM]  
Sent: Monday, September 18, 2000 1:35:17 AM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Re: Comments on the restart of Fast Flux Test Facility (FFTF) in Hanford.  
Auto forwarded by a Rule

From: G.Parameswaran  
1521, Bellevue Ave, # 205, Seattle, WA\_98122.

To: Ms. Colette E. Brown, NE\_50  
U.S. Department of Energy, 19901 Germantown Road  
Germantown, MD\_20874.

Dear Miss Brown,

I am firmly opposed to the restart of FFTF, that is proposed in the recent Nuclear Infrastructure Programmatic Environmental Impact Statement ( NI\_PEIS). I would like to clearly explain why and how I reached this conclusion. I would also like to thank the DOE for giving me the opportunity to comment on this important matter.

After reading the NI\_PEIS, one can reasonably infer that the DOE appears to be leaning illogically towards Action Alternative 1(AA1) ie the "Restart FFTF" alternative over all other alternatives. This is extremely disturbing, because of the fact that, this choice would pose the highest public health risks according to your NI\_PEIS. I am basing my conclusions on the bar graphs of the NI\_PEIS in pages S\_48, S\_49, S\_51 and S\_52. The diagrams in S\_48 & 49 that summarize "Expected Latent Cancer Fatalities" due to (a) radiological accidents at sites (b) radiological transportation accidents and (c) risks due to incident free transportation, clearly display the high level of risk to public health, involved in proceeding with AA1 . From the bar graphs in page S\_51 & 52 similar conclusions can be reached regarding collision and emission fatalities from the various transportation parameters. The choice is inescapable. Only AA5, that "Permanently deactivates the FFTF

1670-1

1670-2

1670-3

1670-4

1670-5

**Response to Commentor No. 1670**

**1670-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 5, Permanently Deactivate FFTF.

**1670-2:** In accordance with NEPA and CEQ regulations, this NI PEIS analyzes a range of reasonable alternatives for accomplishing 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. Alternatives 1, 2, 3, and 4 are reasonable alternatives for accomplishing these missions. Each of the four alternatives mentioned can meet either parts or all of the requirements of the DOE missions and, therefore, each is worthy of consideration. No final decisions have been made with regard to the facilities and locations evaluated to fulfill the requirements of these missions. However, in accordance with Council on Environmental Quality regulations (40 CFR 1502.14(e)), DOE has identified its preferred alternative in Volume 1, Section 2.8 of the Final NI PEIS and included a discussion of DOE's reasons for selecting it. 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.

**1670-3:** The facilities considered in the NI PEIS can be safely operated to support the nuclear infrastructure missions described in Section 1.2 of Volume 1. Sections 4.2-4.6 of Volume 1 provide the results of the evaluation of potential health impacts that would be expected to result from implementation of the alternatives, including normal operations and a spectrum of accidents that include severe accidents. The environmental analysis showed that while there are differences in risks among the alternatives, the radiological and nonradiological risks are small for all the alternatives.

**1670-4:** While there are differences in risks among the alternatives, risks that would result from radiological accidents and transportation are small for all the nuclear infrastructure alternatives. Figures shown in the Summary and in Section 2.7.1 of Volume 1 show that the risk of an additional fatality as a result of implementing any alternative is small.

Transportation impacts are not the only factor considered in the selection of an alternative. Accordingly, DOE has identified its preferred alternative in Section 2.8 of Volume 1 and includes a discussion of DOE's reasons for selecting it. DOE's Record of Decision for the NI PEIS will be based on a

### Commentor No. 1670: G. Parameswaran (Cont'd)

with no new missions" seems to provide the safest and cleanest route to travel from a public health standpoint. This would help the DOE reorient itself firmly in the direction of its core mission in Hanford, which is one of cleanup of all the nuclear wastes in the site. Moreover, the AA5 would help the DOE recover around \$30 million per annum, which is currently used to keep the FFTF in a "hot standby".

I would like to add further that the primary goals of the DOE ie the (1) production of isotopes for medical and industrial uses (2) the production of Plutonium\_238 for NASA and (3) other nuclear research for civilian uses are in no way jeopardized in abandoning the "Restart FFTF" alternative.

In April of 2000, the DOE's chosen panel of experts the " Nuclear Energy Research Advisory Committee" or NERAC, recommended that "the FFTF will not be a viable source of research isotopes". These research isotopes can be generated in a cost effective manner in the accelerators of various universities and research institutions. The added benefit would be one of less nuclear waste in the production process. This committee further states that DOE should not be in the business of producing either medical or industrial isotopes( violation of their mandate), that can and are currently produced by the commercial industry, at great benefit to the US taxpayer. Moreover, the Washington State Medical Association and Physicians for Social Responsibility have stated that medical isotopes are readily available from Canada and other non\_DOE sources. How can DOE justify the cost of restarting the FFTF at a cost of over \$423 million, when research isotopes can be produced using accelerators at \$106 million?

The second major reason in proposing "Restart FFTF" in this NI\_PEIS is to supply the National Aeronautics and Space Administration ( NASA) with Ptutionium\_238 for power generation in space reactors. Whereas NASA has unequivocally stated on May 22nd of 2000 that : "NASA has no longer an identifiable planned requirement for Small Radioisotope Thermoelectric

1670-5  
(Cont'd)

1670-6

1670-7

1670-8

### Response to Commentor No. 1670

number of factors including environmental impacts, public input, costs, nonproliferation impacts, schedules, technical assurance, and other policy and programmatic objectives.

1670-5: See response to comment 1670-1.

1670-6: The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities.

DOE's production and sale of isotopes fall into two categories – "commercial" and "research". "Commercial" isotopes are those that are produced in large, bulk quantities and sold to pharmaceutical companies or distributors, or to equipment or sealed source manufacturers. Examples of commercial radioisotopes produced by DOE include strontium-82 and germanium-68 for medical applications, and iridium-192 and californium-252 for industrial applications. DOE only produces commercial isotopes when there is no U.S. private sector capability or when foreign sources do not have the capacity to meet U.S. needs reliably. In contrast, "research" radioisotopes are typically produced and sold in small quantities in response to specialty orders from researchers preparing experiments in the field of medicine, with small quantities of these radioisotopes also purchased by industrial researchers. Small quantity production of research

**Commentor No. 1670: G. Parameswaran (Cont'd)**

Generator(STRG) power systems.", the DOE manages to insist to the contrary. Notwithstanding the fact, that there is always a significant risk to the entire global populace in sending nuclear powered space probes ; these stated goals by the DOE makes no sense either scientifically or economically.

**1670-8  
(Cont'd)**

These significant findings seems to have mysteriously eluded the DOE in their compilation of the preferred alternatives in the NI\_PEIS. I would like to add further, that AA2, AA3 & AA4 are ugly alternatives merely added to beautify AA1 the "Restart FFTF" alternative and merit no serious consideration. The inescapable conclusion is that, to propose restarting of the FFTF, just for civilian nuclear research no longer holds any validity .

**1670-2**

This letter cannot finish without mentioning the negative impacts to the environment that would result in the "Restart FFTF" alternative. Hanford by all independent estimates has a rather poor record of confining the nuclear wastes it already possesses. There are credible reports that indicate 68 of the 177 High\_Level Nuclear Waste tanks are leaking. These wastes might have already polluted the ground water and may be proceeding towards the Columbia river. The untold damages that could accrue to the recently declared "Hanford Reach National Monument" are staggering. This 195,000 acre shrub\_steppe ecosystem is the last free flowing non tidal stretch of the Columbia river, that is home to the spawning of at least 80% of fall Chinook Salmon. The "Hanford Reach" is one of the keystones to recovery Salmonid species in the recently declared Endangered Species Act listing. To add more nuclear waste to the Hanford complex , as the "Restart FFTF" would do would be clearly counter productive.

**1670-9**

**1670-10**

I would like to conclude this letter by stating that "Restart FFTF" AA1 option is a Pandora's box, that must not be opened, because it would have extremely negative impacts on public health and environment of the Pacific NW. I hope the DOE would give thoughtful consideration to my comments.

**1670-9**

**1670-11**

Yours truly,  
G.Parameswaran.

**Response to Commentor No. 1670**

isotopes is not financially attractive to private-sector producers and is generally not undertaken. DOE attempts to provide all research radioisotopes that are requested, subject to production capability, inventory, and financial constraints. As successful application of a specific research isotope is established, the production and sales of that radioisotope may shift from research to commercial status. In recent years, over 95 percent of DOE's sales of radioisotopes by dollar volume were commercial, and 5 percent have been for research.

The United States currently purchases approximately 90 percent of its medical isotopes from foreign producers, most notably Canada. However, Canada only supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs.

The generation of wastes from the production of medical isotopes, which are small in comparison to the candidate sites' current generation rates, are discussed for each alternative in Chapter 4, Volume 1 of the NI PEIS. The additional waste generated would only have a small impact on the management of wastes at the candidate sites.

**1670-7:** The commentor is comparing the cost of the low-energy accelerator, a element of Alternative 3, Construct New Accelerator(s), with the FFTF. The low-energy accelerator's only mission is to produce a select set of medical isotopes. The FFTF can produce a diverse set of medical and industrial isotopes, plus meet the requirements of the plutonium-238 production mission, and the nuclear energy research and development mission. DOE considers all three missions of equal importance.

**1670-8:** DOE notes the commentor's concern about NASA's need for plutonium 238 for space missions. The May 22, 2000, correspondence from NASA to DOE identifies that NASA no longer has a planned requirement for small radioisotope thermoelectric generator (SRTG) power systems. This does not mean that NASA no longer requires DOE to provide the necessary plutonium-238 to support deep space missions. Rather, the

### *Commentor No. 1670: G. Parameswaran (Cont'd)*

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### *Response to Commentor No. 1670*

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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.

The risk of space missions is out of the scope of the NI PEIS. NASA, however, undergoes a National Environmental Policy Act (NEPA) process for each launch. This includes public participation during which the public may participate in NASA decisions concerning space missions.

**1670-9:** Evaluations performed in Chapter 4 of the PEIS demonstrate that the restart and operation of FFTF would have a very small impact on public safety and the environment. FFTF restart would not impact the schedule or available funding for existing cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram funds designated for Hanford cleanup, regardless of the alternative(s) selected. As identified in Section 4.3.1.1.13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35-year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. It is DOE's policy that all wastes be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.

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

*Commentor No. 1670: G. Parameswaran (Cont'd)*

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*Response to Commentor No. 1670*

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**1670-10:** 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.

Hanford tank waste issues are not within the scope of this PEIS, as none of the alternatives considered would add to these waste volumes. Nearly all of the lands included within the proposed Hanford Reach National Monument have been remediated and turned over to the U.S. Fish and Wildlife Service by DOE. DOE has every intention of protecting this area.

**1670-11:** DOE notes the concern expressed in the comment on potential health and environmental impacts of restarting FFTF. The environmental impacts associated with operation of the FFTF and support facilities at Hanford during normal operations and from postulated accidents are presented and discussed in Section 4.3 of the NI PEIS. All impacts to human health and to ecological resources would be small in the immediate area of the Hanford site and negligible at all distant locations.

***Commentor No. 1671: Dennis Orren***

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From: Dennis Orren[SMTP:DORREN@3\_CITIES.COM]  
Sent: Monday, September 18, 2000 1:39:18 AM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: FFTF  
Auto forwarded by a Rule

This is the right facility at the right time for this purpose.  
Please re\_start the FFTF.

Dennis

|| 1671-1

***Response to Commentor No. 1671***

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**1671-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1672: R. K. Greenwell**

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From: R. K. (Ken) Greenwell[SMTP:KNJGREEN@OWT.COM]  
Sent: Monday, September 18, 2000 1:46:53 AM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Comments on NI PEIS (DOE / EIS\_ 0310D)  
Auto forwarded by a Rule  
September 17, 2000

The purpose of this message is to provide comments on the Nuclear Infrastructure Programmatic Environmental Impact Statement ( NI PEIS ) which includes the role of the Fast Flux Test Facility (DOE / EIS\_0310D).

1) First, I support the expanded DOE nuclear missions as I believe these are very important to the U.S. and it's credibility in dealing with peaceful nuclear issues in the world, and in maintaining a leadership role.

1672-1

2) I have reviewed the NI PEIS quite extensively. Although I know there is some discussion in various sections of the document that specifies limitations for some of the alternatives in meeting all of the expanded mission requirements, the document still gives an overall impression that Alternatives 1 through 4 could all equally meet all expanded mission requirements. I believe that the public needs to fully and clearly understand that all alternatives are not meeting the same requirements. Those that are performing less of the total mission would be expected to have less environmental impact as they are delivering less. I believe that, as a minimum, a section needs to be added to the document to provide a clear comparison of what is being provided and, equally important, what is not being provided by each alternative regarding the enhanced DOE missions. This should be provided in it's entirety in at least one place to provide a clear, easy to read basis for comparison. It is desirable that this be included both in the Summary and in the main text of the document.

1672-2

**Response to Commentor No. 1672**

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**1672-1:** DOE notes the commentor's support of DOE's proposed expanded nuclear infrastructure to meet the missions addressed in the NI PEIS.

**1672-2:** A comparison of mission effectiveness among alternatives is presented in Volume 1, Section 2.7.1.2.3 of the Draft NI PEIS. This section has been revised in the Final NI PEIS (see Section 2.7.1.8, "Comparison of Mission Effectiveness Among Alternatives") to provide the reader a better understanding of the medical isotopes that can be produced using accelerator technology (Alternative 3) and reactor technology alternatives (Alternatives 1 and 4).

**Commentor No. 1672: R. K. Greenwell (Cont'd)**

3) Based on a detailed review of the descriptions for Alternatives 3 and 4 ( New Accelerators and New Research Reactor ), it appears that much more work is needed to define these alternatives before they could meet any significant portion of the expanded missions. For example, a proton accelerating cyclotron is not practical for efficiently producing therapeutic isotopes that require neutron irradiation. Such a cyclotron, while useful and needed for many research activities, is not used to produce much neutron irradiation damage data in materials for use in future reactor applications. It appears that no consideration is given to medical isotope production, nor provisions for any significant nuclear research and development with the high energy accelerator. Similarly, there is no evidence , based on the description given for the new research reactor, that any significant provisions have been made for performing any advanced nuclear research and development activities much beyond what could be performed on existing university reactors. Finally, based on detailed technical considerations, it does not appear that either the high energy accelerator nor the new reactor , as currently described in the NI PEIS document, could produce Plutonium\_238 at the purity level required for NASA applications. Based on these technical considerations, it does not seem that Alternatives 3 and 4 could meet much of the expanded mission requirements without major additional study, cost, and increased potential for delay. It does not seem wise to abandon existing, operable facilities such as the Fast Flux Test Facility to pursue somewhat developmental projects outlined in Alternatives 3 and 4 which appear to need so much additional work.

4) For a number of years now, there have been many new energy research and development projects that have been started, have proceeded either into the design stage or, in many cases, well along into the construction stage, only to be canceled. Projects have ranged from the Clinch River Breeder Reactor Program to the Superconducting Super Collider, to the Fusion Materials Irradiation Test Facility, to the Advanced Neutron Source ( most recent

1672-3

1672-4

**Response to Commentor No. 1672**

**1672-3:** The commentor is correct in his observation that the high-energy accelerator was designed for the production of plutonium-238 and that the low-energy accelerator can not perform neutron irradiation. However as stated in Volume 1, Section 2.3.1.5.2, the design of the high-energy accelerator presented in the PEIS focused on supporting the plutonium 238 production mission, but the design could be refined and expanded to perform additional missions such as the production of a select set of medical and industrial isotopes. The low-energy accelerator was configured primarily for the production of a spectrum of proton enriched medical and industrial isotopes. The modified high-energy accelerator and low-energy accelerator could jointly produce a broad spectrum of medical and industrial isotopes.

DOE acknowledges that the flexibility of the new research reactor to meet the diverse nuclear research and development mission requirement is limited by the low-enriched uranium core and the low operating temperature of the reactor. The cost and schedule estimates for Alternative 3 and 4, presented in the Cost Report, reflect the uncertainties and risks due to the design maturity of these alternatives. Alternatives 3 and 4 reference designs presented in the NI PEIS were developed in sufficient detail to enable an analysis of environmental impacts associated with their construction and operation. If DOE selected either of these alternatives, it would prepare conceptual, preliminary, and detailed designs and optimize the facility design to accomplish the stated missions.

**1672-4:** DOE notes the commentor's support for Alternative 2, Use Only Existing Operational Facilities) and Alternative 1, Restart FFTF.

**1672-5:** See response to comment 1672-4.

**Commentor No. 1672: R. K. Greenwell (Cont'd)**

research reactor facility proposed to be built only to be canceled after significant study and expense), along with numerous other large and small projects. This process continues today with threats of cancellation of projects such as the multi-billion dollar National Ignition Facility. Such a record of experience, regardless of the reasons for cancellation, does not provide confidence that proposed replacement facilities to enhance the nuclear infrastructure will actually be completed in a timely manner. This is a particularly important issue when there is a possibility that existing infrastructure will be irreversibly destroyed before new facilities, such as the proposed new accelerators or a new research reactor, are developed, proven and available. For this reason, I believe that the U.S. should continue to use what is available and paid for, including the FFTF, to perform the enhanced missions until there is certainty that better alternatives are available, or until it is demonstrated that anything else is even needed.

**1672-4  
(Cont'd)**

Based on the above items, I urge the Department of Energy to restart the FFTF and use it to produce medical and industrial isotopes, to produce Plutonium \_238 for the space program, and to perform needed nuclear research and development work in many areas. The FFTF has either done these type things in the past or it has clearly been demonstrated that it could do most of these missions based on numerous, documented studies and tests. This valuable national asset should not be allowed to remain in standby any longer with a growing need for additional high quality irradiation and test services.

**1672-5**

Sincerely,

R.K. Greenwell  
515 W 20th Ave.  
Kennewick, WA 99337  
Ph (509) 586\_6047  
e\_mail\_\_knjgreen@owt.com

**Response to Commentor No. 1672**

**Commentor No. 1673: Lee McFadden**

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From: Lee McFadden[SMTP:EEL1456@HOTMAIL.COM]  
Sent: Monday, September 18, 2000 1:54:56 AM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: support for FFTF  
Auto forwarded by a Rule

The government should support cancer research. Isotopes are extremely useful and research is just in its infancy. I have read the PEIS and other documents. FFTF is the only logical choice for isotope research and production. If it is not used for any other mission, FFTF use is still justified. The other options don't come close. The only reason I can see that FFTF is not producing isotopes right now is partison politics. Make the correct technical and humanitariun decision. Restart FFTF for medical isotopes.

**1673-1****Response to Commentor No. 1673**

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**1673-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1674: mcfadden@email.msn.com**

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From: 73mcfadden[SMTP:73MCFADDEN@EMAIL.MSN.COM]  
Sent: Monday, September 18, 2000 2:05:35 AM  
To: INFRASTRUCTURE\_PEIS, NUCLEAR  
Subject: Restart FFTF  
Auto forwarded by a Rule

I have read the PEIS and other documents. The government should support cancer research. Isotopes are extremely useful. Research is just in its infancy. The savings in lives and quality of life can be phenomenal. FFTF is the only logical choice for isotope research and production. If it is not used for any other mission, FFTF use is still justified. The other options don't come close. The only reason I can see that FFTF is not producing isotopes right now is partison politics. It is absurd to ask that it be self supporting. No other government facilities or programs are, most of which have little real benefit for the taxpayers. If it must be shown self supporting, show the profit that will be made by reductions in the costs of medical treatment and thus Medicare. Make the correct technical and humanitariun decision. Restart FFTF for medical isotopes.

**1674-1**

**Response to Commentor No. 1674**

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**1674-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**Commentor No. 1675: Cain Allen**

From: CAllen999@aol.com%internet  
 [SMTP:CALLEN999@AOL.COM]  
 Sent: Monday, September 18, 2000 2:36:31 AM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: PEIS comments  
 Auto forwarded by a Rule

Dear Sirs:

I would like to submit my comments on the draft programmatic environmental impact statement for accomplishing expanded civilian nuclear energy research and development and isotope production missions. I would like to express my firm opposition to restarting the Fast Flux Test Facility on the Hanford Nuclear Reservation. A restart of the FFTF, which has already siphoned hundreds of millions of dollars away from the clean\_up effort, would create more waste, much of which, regardless of the Department of Energy's protestations, would be added to the present waste burden at Hanford. I would like to remind the Department of Energy that THERE IS NO PERMANENT SOLUTION TO HIGH\_LEVEL RADIOACTIVE WASTES. We cannot just assume that we'll bury it in the desert and forget about it. I'm not sure there will ever be a satisfactory solution to the problem of nuclear waste, but I do know that the first step in dealing with the problem is simple: don't create any more waste! This obvious fact alone should persuade anyone of sound mind that restarting the FFTF is out of the question. In addition, restarting the FFTF would create unnecessary hazards associated with importing MOX fuel from Germany. Furthermore, the FMEF, presently a clean facility, would be contaminated, adding to the already onerous clean\_up burden at Hanford.

I believe the EIS is biased and should be completely rewritten. Plutonium production should be totally severed from isotope production in the environmental impact statement and cost estimate. They are two separate issues. FFTF decommissioning costs should be subtracted from all of the alternatives. It will have to be decommissioned someday regardless of which alternative is chosen,

1675-1

1675-2

1675-3

1675-4

1675-5

1675-6

**Response to Commentor No. 1675**

**1675-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

**1675-2:** As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected. As 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.

**1675-3:** Alternative 1 does postulate that DOE might decide at some point to import mixed oxide fuel from Europe to fuel FFTF. At this time, however, DOE has not proposed to import this fuel through any specific port. If DOE ultimately decides to import fuel from Europe, it would perform a separate NEPA analysis to select a port. This review would address all relevant potential impacts of overseas and inland water transportation, shipboard fires, package handling, land transportation, as well as safeguards and security associated with the import of SNR-300 mixed oxide fuel through a variety of specific candidate ports on the east and west coasts. It would consider all public comments, including local resolutions, concerning the desirability of bringing mixed oxide fuel into the proposed alternative ports.

In the event that DOE decides to enhance its nuclear infrastructure, it would not expose any population to high, unacceptable risks under any alternative. Any transportation activities that would be conducted by DOE would comply with U.S. Nuclear Regulatory Commission and U.S. Department of Transportation regulations. Associated transatlantic

**Commentor No. 1675: Cain Allen (Cont'd)**

but the bias of the EIS is made clear by the fact that it includes decommissioning costs in all of the alternatives EXCEPT FFTF restart! Furthermore, the FFTF cost estimate does not include waste management costs, a serious and highly suspect oversight. The benefits estimations are also shaky at best, based as they are on suspect market predictions.

**1675-6  
(Cont'd)**

Medical isotopes can be obtained from presently existing facilities. There is no reason whatsoever to restart the FFTF to produce them. As for NASA, they have no business launching plutonium into our atmosphere. Restarting a nuclear reactor at a site that is already the most contaminated in the Western Hemisphere to provide NASA with plutonium borders on insanity.

**1675-7**

The mission at Hanford is clean\_up, plain and simple. The Department of Energy needs to understand that. The glory days are over\_ it's time to pick up the pieces. Don't even think about restarting the FFTF!

**1675-8**

**1675-9**

**1675-1**

I appreciate this chance to comment.

Yours sincerely,

Cain Allen  
Portland, OR

**Response to Commentor No. 1675**

shipment would comply with International Atomic Energy Agency requirements. In Section J.6.2, DOE reviewed the potential maximum impacts from the marine transportation of mixed oxide fuel from Europe to a representative military port, Charleston, South Carolina, and overland transportation to Hanford. Also in that section, a bounding analysis demonstrates that the maximum potential radiological risks to the surrounding public from mixed oxide fuel shipments would be extremely small (e.g., less than 1 chance in a trillion for a latent cancer fatality per shipment from severe accidents at docks and in channels and less than 1 chance in 50 billion for a latent cancer fatality per shipment from overland highway accidents).

**1675-4:** The commentor's position on the impact of FMEF operations on the Hanford cleanup is noted. Implementation of nuclear infrastructure alternatives (described in Section 2.5 of Volume 1) that would use FMEF for target fabrication/processing would not be expected to significantly affect cleanup efforts at the Hanford Site. Implementation of the Alternatives 1 through 4 would impact the schedule or available funding for Hanford cleanup (See Section N.3.2 of Appendix N).

**1675-5:** 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. The environmental impacts of reasonable alternatives to fulfill the requirements of the missions were disclosed and evaluated in the NI PEIS. Further, DOE evaluated each environmental resource area in a consistent, unbiased manner across all the alternatives to allow a fair comparison among the various alternatives. DOE made every effort to obtain, analyze, and disclose all required information to make a decision on expanding nuclear infrastructure. As a programmatic document, this NI PEIS has a rather broad scope associated with the selection of facilities and site locations for accomplishing expanded civilian nuclear energy research and development and the identified isotope production missions. Based on the alternatives presented in this NI PEIS, the Record of Decision can implement one or more alternatives, or a combination of elements from one or more alternatives. For example, the Record of Decision could elect to meet the needs of the isotope production missions with a combination of reactors and accelerators. Each of the facilities discussed in the NI PEIS will be evaluated and judged on a case- by-case as to its ability to meet one or more of the stated mission requirements.

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**Commentor No. 1675: Cain Allen (Cont'd)**

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**Response to Commentor No. 1675**

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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.

**1675-6:** DOE assumes that the commentor is referring to deactivation, not decommission. Decommission costs were not included for any alternative. 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.

As noted by the commentor, waste management costs were not presented in the Cost Report. Wastes would be generated by all alternatives including Alternative 1, Restart FFTF, which makes these costs not a particularly useful discriminator among the alternatives considered. Also, the ultimate disposition of some of these wastes in terms of acceptable waste form, disposal site (onsite or offsite commercial), etc. have yet to be determined. This adds an additional uncertainty to any attempt to quantify waste costs, thus, making any estimates highly presumptive and speculative at best.

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 established two expert committees. In 1998, an Expert Panel convened to forecast future demand for medical isotopes estimated that the expected growth rate of medical isotope use during the next 20 years will range between 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by DOE's Nuclear Energy Research Advisory Committee (NERAC), established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. The growth projections were also adopted by DOE as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings.

## *Commentor No. 1675: Cain Allen (Cont'd)*

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## *Response to Commentor No. 1675*

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- 1675-7:** While some existing DOE facilities may possess the potential capability or capacity to support research isotope production, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without disturbing the existing missions of these facilities. Currently, approximately 50 percent of DOE's isotope production capability is being used. Much of the remaining isotope production capability is dispersed throughout the DOE complex. This capability supports secondary missions, but cannot be effectively used due to the operating constraints associated with the facilities' primary missions basic energy sciences or defense). DOE is currently meeting most of its short-term requirements. However, in the long-term (next 5 to 10 years) there will be a shortfall in available DOE capacity to meet demand. Should the isotope demand grow consistent with the Expert Panel Report, as it has recently, or if DOE's market share increases, there will be a need for expanded isotope production capacity in the short-term (less than 5 years).
- 1675-8:** DOE notes the commentor's concern for NASA's use of nuclear materials 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. DOE also notes the commentor's opposition to the restart of FFTF. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram funds designated for Hanford cleanup, regardless of the alternative(s) selected.
- 1675-9:** DOE notes the commentor's concerns regarding the existing cleanup mission. 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.

**Commentor No. 1676: Jonathan Lahr**

From: lorax@aracnet.com%internet  
 [SMTP:LORAX@ARACNET.COM]  
 Sent: Monday, September 18, 2000 2:37:44 AM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Cc: Secretary, The; president@Whitehouse.GOV%internet;  
 vice.president@Whitehouse.GOV%internet  
 Subject: Comments on Nuclear Infrastructure PEIS (FFTF)  
 Auto forwarded by a Rule

Colette E. Brown, NE\_50  
 U.S. Department of Energy  
 Office of Nuclear Energy, Science and Technology  
 19901 Germantown Road, Room A\_270  
 Germantown, MD 20874

After reviewing the "Nuclear Infrastructure Programmatic Environmental Impact Statement" and related DOE documents, I urge you to adopt Alternative 5 to permanently deactivate FFTF. The DOE's own NERAC Subcommittee for Isotope Research and Production Planning concluded in its Final Report (April 2000) that "the FFTF will not be a viable source of research radioisotopes." Furthermore, NASA has indicated to the DOE that it no longer needs plutonium for planned space missions. Finally, the DOE has thus far failed to clean up the nuclear waste that is already leaking from the Hanford nuclear facility.

The creation of nuclear waste is in itself unconscionably irresponsible, since it remains extremely dangerous to all life forms for millennia. To resume production of nuclear waste at the Hanford facility which is currently leaking nuclear waste into groundwater is unthinkable.

Therefore, the responsible course of action is to permanently shut down Hanford and clean up the nuclear waste at Hanford which the DOE agreed to do in the Hanford Clean\_Up agreement.

Regards,  
 Jonathan Lahr  
 P.O.B. 80131, Portland, Oregon 97280

**1676-1****1676-2****1676-3****1676-4****1676-1****1676-4****Response to Commentor No. 1676**

- 1676-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.
- 1676-2:** The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other 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.
- 1676-3:** DOE notes the commentor's concern about NASA's need for plutonium-238 for space missions. The May 22, 2000, correspondence from NASA to DOE identifies that NASA no longer has a planned requirement for small radioisotope thermoelectric generator (SRTG) power systems. This does not mean that NASA no longer requires DOE to provide the necessary plutonium-238 to support deep space missions. Rather, the suspension of SRTG development efforts was conducted in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence requires 1/3 less plutonium as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000 letter to DOE that the plutonium-238 needed for large RTG may be maintained as a backup. Section 1.2.2 of Volume 1 was revised to further

*Commentor No. 1676: Jonathan Lahr (Cont'd)*

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*Response to Commentor No. 1676*

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

- 1676-4:** 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. 1677: Lynn Sims**

From: Lynn Sims[SMTP:DWOC@TELEPORT.COM]  
 Sent: Monday, September 18, 2000 4:29:46 AM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Subject: DPEIS comment  
 Auto forwarded by a Rule

Comment DPEIS for Accomplishing Expanded Civiian Nuclear Energy Research and Development and Isotope Production Missions in the US, Including the Role of the Fast Flux Test Facility

Thank you for the opportunity to comment.

The FFTF is a reactor in seach of a mission. For years we have had hearing and from the first ominous rumblings of the idea of restarting FFTF, the project has been plagued with controversy and unsavory manipulations, first by Advanced Nuclear and Medical Systems. These folks wanted to "focus all immediate planning and PR efforts on 'humanitarian mission' of FFTF, DO NOT MENTION ANY PROPOSALS FOR INCREASING REACTOR ACTIVITY OR FUTURE BREEDER REACTOR, etc. The undeniable worthiness of the humanitarian mission must be highlighted and exploited to the maximum sensitivity of our society. " It is not yet proven essential that we need these isotopes from FFTF rather that buying them from Canada or using other facilities. However the proponents have succeeded in embroiling everyone in an emotional debate over cancer treatment. I am not opposed to medical isotopes, but I am opposed to using FFTF.

Pu 238 can be purchased now from Russia to supply adequate amounts,.

The third mission to support civian nuclear energy research and development activities, new nuclear fuel forms and new reactor designs seems to be the crux of the matter and most disturbing. Nuclear energy is expensive and risky and produces long lived radioactive waste. We have no satisfactory plan for the waste we already have. To promote producing more is unacceptable.

1677-1

1677-2

1677-3

1677-4

**Response to Commentor No. 1677**

**1677-1:** DOE notes the commentor's views. The United States currently purchases approximately 90 percent of its medical isotopes from foreign producers, most notably Canada. However, Canada only supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs. While some existing DOE facilities may possess the potential capability or capacity to support research isotope production, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without disturbing the existing missions of these facilities. Currently, approximately 50 percent of DOE's isotope production capability is being used. Much of the remaining isotope production capability is dispersed throughout the DOE complex. This capability supports secondary missions, but cannot be effectively used due to the operating constraints associated with the facilities' primary missions (basic energy sciences or defense). DOE is currently meeting most of its short-term requirements. However, in the long-term (next 5 to 10 years) there will be a shortfall in available DOE capacity to meet demand. Should the isotope demand grow consistent with the Expert Panel Report, as it has recently, or if DOE's market share increases, there will be a need for expanded isotope production capacity in the short-term (less than 5 years).

FFTF is not a breeder reactor.

**1677-2:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 5, Permanently Deactivate FFTF.

**1677-3:** 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.

**1677-4:** DOE notes the commentor's opposition to nuclear energy and the expansion of nuclear research. Clean, safe, reliable nuclear power has a role

**Commentor No. 1677: Lynn Sims (Cont'd)**

The waste disposal issue for FFTF is not adequately addressed and the waste which would be produced by any "advanced fuels" is not addressed AT ALL. We propose burdening future generations with lethal waste, and that is WRONG. Instead of expanding nuclear research, it should be alternate energies that are researched and expanded. Contrary to the NERAC chairman's opinion, THERE IS NO urgent sense that the nation must rapidly restore investment ...if it is to sustain a viable US capability in the 21st century. We do NOT need to invest more (too much has been spent already and too much damage already done!), we have to choose a better path altogether!! The premise for this mission for the FFTF is built upon sand and not reality.

1677-5

We will tolerate NO MORE waste producing operations at Hanford. Our city councils have said so, our State Legislators have said so, our Governor has said so, the people have said so. We are adamantly and unalterably OPPOSED to more waste production at Hanford. We are even more so opposed to the use of HEU or MOX fuels.

1677-5

1677-6

The EIS is inadequate in addressing the need for isotope, Pu 238 or research missions, the waste disposal issue, the fuel transport issues, the condition of the fuel stored to use, the real long term cost issues, the risks of not meeting current earthquake requirements and the costs of upgrades, the proliferation issues of promoting more nuclear commerce, or the values of the people in the region.

1677-7  
1677-8

1677-9 1677-10

1677-11

1677-10 1677-12

We want all attention to focus on the major dilemmas of the tank wastes and K Basins and the mission of clean up. We do not want more bad decisionmaking, like those that led us to this terrible situation at Hanford. The only choice is Alternative # 5. Shut down FFTF.

1677-13

1677-14

Lynn Sims  
3959 NE 42  
Portland OR 97213

**Response to Commentor No. 1677**

today and in the future for our national energy security. In recognition of this need, nuclear energy research and development programs have been initiated to address potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) and to ensure that current nuclear power plants can continue to deliver adequate and affordable energy supplies. Because it is unlikely that existing facilities could fully and effectively support these nuclear energy research and development initiatives without disturbing their existing missions, DOE is proposing to enhance its nuclear facility infrastructure to also support these activities. Information on the need for nuclear energy research and development is provided in Section 1.2.3 of Volume 1.

**1677-5:** FFTF restart would not impact the schedule or available funding for existing cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram funds designated for Hanford cleanup, regardless of the alternative(s) selected. As identified in Section 4.3.1.1.13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35-year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. It is DOE's policy that all wastes be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.

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

As stated in Section 4.3.4.1.14 of the NI PEIS, "...the waste generation would not be affected by the type of fuel used (i.e., mixed oxide or highly enriched uranium)..."

**1677-6:** The commentor's opposition to the use of MOX and HEU fuels is noted. As stated in section 4.3.1.1.4 of the NI PEIS, "the spent [FFTF] nuclear fuel would be packaged in acceptable containers and shipped to a geologic repository for ultimate disposal." The NI PEIS assumes, for the

**Commentor No. 1677: Lynn Sims (Cont'd)**

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**Response to Commentor No. 1677**

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purposes of analysis, that Yucca Mountain, Nevada, would be the final disposal site for DOE's high-level radioactive waste and spent nuclear fuel. As directed by the U.S. Congress through the Nuclear Waste Policy Act, as amended, Yucca Mountain is designated, and is currently being characterized, as the candidate site for constructing a geologic repository for disposal of high-level radioactive waste and spent nuclear fuel. DOE has prepared a separate EIS, "Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada" (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geological repository. Based on the categorization of DOE fuel types provided in Appendix A of the EIS, the spent oxide based fuels from FFTF are expected to be disposable in their current form.

**1677-7:** DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs. Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining

*Commentor No. 1677: Lynn Sims (Cont'd)*

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*Response to Commentor No. 1677*

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the capability to provide the plutonium-238 needed to support these missions. There are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions. Although research to identify other potential fuel sources to support these space exploration missions has been conducted, no viable alternative to using plutonium-238 has been established. Based on NASA guidance to DOE on the potential use of radioisotope power systems for upcoming space missions, it is anticipated that the existing plutonium-238 inventory will be exhausted by approximately 2005. Without an assured domestic supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

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

**1677-8:** Alternative 1 does postulate that DOE might decide at some point to import mixed oxide fuel from Europe to fuel FFTF. At this time, however, DOE has not proposed to import this fuel through any specific port. If DOE ultimately decides to import fuel from Europe, it would perform a separate NEPA analysis to select a port. This review would address all relevant potential impacts of overseas and inland water transportation, shipboard fires, package handling, land transportation, as well as safeguards and security associated with the import of SNR-300 mixed oxide fuel through a variety of specific candidate ports on the east and west coasts. It would consider all public comments, including local

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**Commentor No. 1677: Lynn Sims (Cont'd)**

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**Response to Commentor No. 1677**

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resolutions, concerning the desirability of bringing mixed oxide fuel into the proposed alternative ports.

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

- 1677-9:** As stated in Section D.5 of Appendix D of the NI PEIS, “the FFTF core configuration would have to meet the nuclear safety requirements and limitations defined in the Final Safety Analysis Report and the Technical Specifications.” This applies to both irradiated reactor fuel that is being retained in sodium storage vessels and any new reactor fuel that would be used at FFTF. All nuclear fuel is subject to rigorous quality control and inspections prior to its use in the FFTF reactor core.
- 1677-10:** 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.

*Commentor No. 1677: Lynn Sims (Cont'd)*

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*Response to Commentor No. 1677*

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- 1677-11:** FFTF and fabrication/processing facilities at the Hanford Site can be safely operated to support the nuclear infrastructure missions described in Section 1.2 of Volume 1. Section 4.2-4.6 of Volume 1 provide the results of the evaluation of potential health impacts that would be expected to result from implementation of the alternatives, including normal operations and a spectrum of accidents that included severe accidents. The spectrum of accidents reviewed included both design basis and beyond-design basis seismic events. The environmental analysis showed that radiological and nonradiological risks associated with each of the alternatives is small. In addition, prior to restarting FFTF, a revised safety analysis report and probabilistic risk assessment which address the potential consequences of a variety of events, including earthquakes would be prepared.
- 1677-12:** The technology that is discussed in Sections S.3, 2.2.3 and A.1.4 of 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. As discussed in the separate Nuclear Infrastructure Nonproliferation Impact Assessment, published in September, 2000, use of this technology to produce plutonium-238 from irradiated targets will not create a nonproliferation threat. DOE is committed to full compliance with and support of the U.S. policy prohibiting reprocessing.
- 1677-13:** DOE notes the commentor's concerns regarding tank wastes and storage of defense mission (non-FFTF) spent nuclear fuel in K Basins. Although not within the scope of this NI PEIS, these activities 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. As discussed in Appendix N, section N.3.2 of the NI PEIS, the DOE missions in this NI PEIS would not be in conflict with the land use plan or the Tri-Party Agreement. Additionally, DOE will not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.
- 1677-14:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

**Commentor No. 1678: Russell D. Hoffman**

From: Russell D. Hoffman  
 [SMTP:RHOFFMAN@ANIMATEDSOFTWARE.COM]  
 Sent: Monday, September 18, 2000 6:19:25 AM  
 To: INFRASTRUCTURE\_PEIS, NUCLEAR  
 Cc: president@whitehouse.gov%internet; Dianne Feinstein,  
 Senator (CA, D); Barbara Boxer, Senator (CA, D)  
 Subject: Additional information regarding Draft PEIS  
 Auto forwarded by a Rule

To: Colette E. Brown,  
 U.S. Department of Energy, NE\_50,  
 19901 Germantown Road, Germantown, MD 20874\_1290  
 Nuclear.Infrastructure\_PEIS@hq.doe.gov

Re: DoE PLANS FOR EXPANDED PRODUCTION OF PLU\_238  
 FOR FUTURE SPACE MISSIONS, specifically, solicited comments  
 based on the DRAFT Programmatic Environmental Impact  
 Statement for Accomplishing Expanded Civilian Nuclear  
 Energy Research and Development and Isotope Production  
 Missions in the United States, Including the Role of the Fast Flux  
 Test Facility, DOE/EIS\_0310D, July, 2000

From: Russell D. Hoffman  
 P.O. Box 1936  
 Carlsbad California USA 92018  
 rhoffman@animatedsoftware.com  
 Date: September 18th, 2000

Dear Ms Brown,

Attached are two items I wish to add to my submission regarding  
 Draft PEIS , which also includes two prior emails, one on  
 September 9th, 2000, and one on September 15th, 2000. Please  
 contact me if you have not received both of those submissions,  
 and/or to acknowledge receipt of this additional material. Thank  
 you in advance.

1678-1

**Response to Commentor No. 1678**

**1678-1:** DOE notes the commentor's objection to the production of plutonium-238. Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. 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. None of the DOE missions stated in the NI PEIS are defense- or weapons-related.

DOE also notes the commentor's concern about safe operations at nuclear sites. The health and safety of workers and the public is a priority of the nuclear infrastructure program. The three DOE reactors considered for the program; FFTF, HFIR, and ATR; have operated safely and successfully for many years. (ATR has been in operation since 1967, HFIR since 1966, and FFTF operated from 1980 until it was shutdown for refueling in 1992. FFTF has been in standby status since then.) Safety analyses for HFIR and ATR have recently been revised, in 1998 and 1999 respectively, to reflect operational changes and to upgrade the facility accident analysis. Should a decision be made to restart FFTF, the status and condition of all safety systems will be assessed and appropriate actions taken, as necessary, prior to startup to assure safe operation. Commercial nuclear power reactors have also been considered as an alternative for target irradiation. Every commercial reactor is subject to oversight by the Nuclear Regulatory Commission, which uses a combination of safety standards, licensing, and inspection to insure that power plants are built and operated within acceptable safety limits. In the United States, commercial nuclear power plants have operated successfully since 1959 without having adversely affected the health and safety of the public.

***Commentor No. 1678: Russell D. Hoffman (Cont'd)***

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The first item you should have already received from the original author, a gentleman from England whom I have communicated often with, about these matters.

The second item I have included is a news report about an incident at a Russian nuclear facility. It was sent to me by another person with whom I have exchanged many emails about these subjects, an American living in Japan.

The relevance of the second attachment should be obvious to you, but to make it clear, let me first say that I do realize that our technology is ever so slightly different from Russian technology \_\_\_ in fact, for all I know righty isn't tighty and lefty isn't loosy in Russia \_\_\_ but the fact is, they are undoubtedly trying just as hard as our own fellows are, NOT to have a meltdown. But they've already had at least one (Chernobyl) and it appears they came mighty close to having one last week. (And they lost an nuclear sub last month, too). Sure, their "professionalism" might have saved the day this time, but the incident is clearly being described as a seriously close call.

We should take the Russian's misfortune to heart. Our nuclear industry may be very good at "spin" and propaganda, but they are also human just like the Russians, and they have made mistakes and will continue to make mistakes. Some of the mistakes will be catastrophic unless we shut down and clean up NOW. I'm not saying there are no benefits to nuclear technology, but 99.9% of the nuclear technology we have is useless and all of it is dangerous.

The reasons presented by DOE in the Draft PEIS for wanting to expand their plutonium RTG production facilities are not the real reasons the Government wants the technology, and the dangers are far greater than the United States Government is willing to admit.

Sincerely,

Russell D. Hoffman  
Concerned Citizen/Activist, Carlsbad, CA

**1678-1  
(Cont'd)**

***Response to Commentor No. 1678***

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**Commentor No. 1678: Russell D. Hoffman (Cont'd)**

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Attachment #1 of 2:

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Date: Sun, 17 Sep 2000 01:09:45 +0100  
 From: savage <savage@easynet.co.uk>  
 Organization: [http://www.eco\\_action.org/](http://www.eco_action.org/)  
 X\_Mailer: Mozilla 4.7 (Macintosh; I; PPC)  
 X\_Accept-Language: en  
 To: Nuclear.Infrastructure\_PEIS@hq.doe.gov  
 Subject: PUBLIC COMMENTS ON DRAFT PROGRAMMATIC  
 ENVIRONMENTAL IMPACT STATEMENT (PEIS)

DoE PLANS FOR EXPANDED PRODUCTION OF  
 PLU\_238 FOR FUTURE SPACE MISSIONS

Dear Colette E. Brown,

People in the UK are very concerned that the US seems to be increasing the amount of PU238 in the world. It is not in the interests of the world's people, only of a few scientists, and should therefore not be allowed to go ahead.

Please confirm that you will not be risking our lives, those of the rest of this world's creatures, and of our future generations. You have no right to do this, other than through the abuse of the power given to you by your transient position as the most powerful nation on earth.

This power is yours largely because of your image in the world as the home of freedom and promise, but should people's impression change to seeing you as a threat to their existence, or the well\_being of their children, you will not be able to maintain your superiority.

Thanks

Andy Savage.

**Response to Commentor No. 1678**

***Commentor No. 1678: Russell D. Hoffman (Cont'd)***

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Attachment #2 of 2:

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X\_Sender: rwilcox@po.interlink.or.jp  
Date: Mon, 18 Sep 2000 08:57:44 +0900  
To: "Russell D. Hoffman" <rhoffman@animatedsoftware.com>  
From: Richard Wilcox <rwilcox@interlink.or.jp>  
Subject: nuke news  
Published on Sunday, September 17, 2000 in the Observer of  
London Nuclear Disaster Averted  
Russian power plant workers praised for 'heroic' operation to cool  
reactors by Amelia Gentleman in Moscow

A nuclear catastrophe \_ triggered by a fault in Russia's ageing  
electrical grid \_ was averted last week thanks to a 'heroic'  
emergency operation by power station workers.

Details of how one of Russia's main nuclear plants and the  
country's largest plutonium\_processing centre came close to  
disaster emerged slowly, prompting new alarm in a country still  
reeling from a string of disasters.

Nuclear experts said 'courageous' workers at the Beloyarsk power  
station and the Mayak reprocessing plant had managed to prevent  
a Chernobyl\_style accident. Environmental campaigners warned  
that the crumbling state of Russia's infrastructure meant such close  
escapes could be expected with growing frequency.

Preliminary investigations showed that a short circuit in the  
regional electricity system caused a sudden blackout in three  
nuclear reactors in the Urals. Its cause remains unclear, although  
it has been widely attributed to a fault in the poorly maintained  
network.

Unexpected power cuts at nuclear plants, which are designed to  
work ceaselessly, pose a severe risk. There was controversy  
yesterday over whether built\_in emergency electricity systems took

***Response to Commentor No. 1678***

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***Commentor No. 1678: Russell D. Hoffman (Cont'd)***

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manually. Residents may have heard steam spurting suddenly from the cooling plant, as pressure in the system mounted.

One of the immediate results of the shutdown at Beloyarsk was a power failure at the nearby Mayak processing plant in the Chelyabinsk region, where two reactors were in operation.

The potential consequences of malfunction at the vast, high\_security Mayak plant are no less alarming. Scientists there take spent nuclear fuel from all over the former Soviet Union and convert it into weapons\_grade plutonium and high\_level waste. The site is estimated to contain 120 million curies of radioactive waste \_ much of it held in liquid form in vast tanks \_ including seven times the amount of strontium\_90 and caesium\_137 that was released in Chernobyl.

Mayak was without power for 45 minutes and the reactors were automatically shut down. The head of the plant, Vitaliy Sadovnikov, told a local newspaper that this was the worst blackout the station had faced and it was only his staff's 'near\_military discipline' which prevented a serious accident.

He said the back\_up electricity provider, designed to cool down the reactors in the event of such an emergency, had only been started up 30 minutes after the plant was brought to a halt.

But yesterday Bulat Nigmatulin, a Deputy Minister at Minatom, said these reports were lies. 'This unpleasant situation came about because for the first time there was a breakdown in the local energy system,' he said.

'The atomic installations at Beloyarsk and Mayak are protected against this kind of accident, and on this occasion everything went exactly according to plan, with on\_site emergency electricity sources starting up immediately.'

***Response to Commentor No. 1678***

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***Commentor No. 1678: Russell D. Hoffman (Cont'd)***

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He said 30-minute delays would have led to explosions in the reactors.

Officials at both plants report there was no radiation contamination as a result of the emergency shutdowns. Environmental activists in the region continue to test the site, but are so far satisfied that this is the case.

Although a crisis was averted, analysts agree that both mishaps are sobering examples of the ease with which a disaster could be sparked.

'The fact that the grid was down for 45 minutes is extremely alarming, because it means that control was temporarily lost in these crucial nuclear installations,' said Tobias Muenchmeyer, atomic energy expert with Greenpeace.

Some commentators linked the initial power cut to the campaign by Russia's electricity monopoly to cut off those customers with outstanding debts. They speculated that by suddenly switching off one area of the grid, Unified Energy Systems might have precipitated the short circuit. UES officials deny this, and a government commission has been set up to investigate.

State officials are eager to promote atomic energy as a means of heating and powering their vast country. A strategy document published by Minatom in May advocated that Russia should radically increase its nuclear capacity over the next 20 years, building up to 24 new reactors.

Independent experts affirm that over the past five years the number of emergency shutdowns in Russian reactors has dropped fourfold, and over the past two years financing of safety monitoring has increased. But the memory of the Chernobyl disaster 14 years ago remains uncomfortably fresh.

***Response to Commentor No. 1678***

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**Commentor No. 1679: Bette Simpson**

From: Bette Simpson [mailto:gadsook@yahoo.com]  
 Sent: Monday, September 18, 2000 2:00 AM  
 To: Brown, Colette  
 Cc: The.Secretary@hq.doe.gov.gov%internet  
 Subject: NIPEIS

Dear Mr. Secretary,  
 Dear Ms. Brown,

I am writing to you Mr. Secretary to express my dismay that the people that work for you never seem to tell you what the people have to say.

I attended the meeting here in Richland on the Nuclear Infrastructure PEIS. It was well attended and here in my home town a lot of people \_ the usual crowd \_ turned out to yell and holler for their share of the pork. But many more like me ain't willing to say nothin for fear we would be run out a town.

They say they are for isotopes. But I gotta tell ya \_they aren't. Sure they believe they are. But that don't mean nothin. If they was really for isotopes to cure cancer, they would run screaming from the reactor here.

It was born in a nuclear wet dream and cost more money than I care to think about. Sure, it has done some good \_ when it was running. But not very much.

And if they get their way, it will cost us a bucket load more. I am afraid it will cost so much that it will price us right out of the isotope business.

If you want to do some good \_ its time to say enough. Shut down the Fast Flux Test Facility forever.

But what really made me made was when Ms. Brown came and told us that we got to comment on the EIS \_ but that we don't git to

1679-1

1679-2

1679-3

1679-4

**Response to Commentor No. 1679**

- 1679-1:** DOE notes the commentor's views regarding the Richland, Washington public hearing. It is DOE policy to encourage public input on matters of regional, national and international importance as part of its commitment to facilitate a public participation process that is open and unbiased. DOE is aware that there is a considerable difference of public opinion regarding the alternatives evaluated in this NI PEIS to accomplish the DOE missions, including direct support as well as opposition to Alternative 1, Restart FFTF. In compliance with NEPA and CEQ regulations, DOE provided opportunity to the public to comment on the environmental impact analysis of DOE's proposed alternatives for meeting the mission requirements, and gave equal consideration to all comments, regardless of how or where they were received. In preparing the Final NI PEIS, DOE carefully considered comments received from the public.
- 1679-2:** DOE notes the commentor's concern about the cost of operating FFTF. This concern, and other issues are addressed in 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. 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 Volume 2, Appendix P.
- 1679-3:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.
- 1679-4:** In compliance with NEPA and CEQ regulations, DOE provided opportunity to the public to comment on the environmental impact analysis of DOE's proposed alternatives for meeting mission requirements. In preparing the Final NI PEIS, DOE carefully considered comments received from the public. The costs and nuclear nonproliferation impacts of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. Such ancillary documents need only be made available to the public prior to any decision being made under CEQ regulations (40 CFR Part 1505.1(e)). Nevertheless, DOE

**Commentor No. 1679: Bette Simpson (Cont'd)**

comment on nothing else. Just who does she think she is? Where does she think she gets her paycheck from anyway?

**1679-4  
(Cont'd)**

Near as I could tell, Ms. Brown tried to sell us a bill a goods. The EIS don't say squat about how much plutonium NASA needs. It just claims they need a lot and goes on from there. And she don't say nothin about what the infernal CIA and them other spies want. If you ask me its a coverup.

**1679-5**

They don't want the reactor to save people from cancer. They want it for spy stuff. That's the truth of it.

And then to tell us we can't comment on the costs or the nonproliferation things. Lady where do you get off? If they made mistakes in there, it could mean doing things that cause huge damage to the environment. But no \_ we don't get no say in that.

**1679-4**

Well I gonna make my say. We got enough bombs and we got enough reactors. Use what you got until you show you need more instead a just makin excuses to run more reactors. We don't need em.

**1679-5**

Mr. Secretary, I hope you shut this thing down for good. And thats all I gots to say.

**1679-3**

Bette

**Response to Commentor No. 1679**

mailed these documents to more than 730 interested parties on August 24 and September 8, 2000, respectively. Both reports were made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided summaries of the Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment in Appendixes P and Q, respectively, in the Final NI PEIS.

**1679-5:** DOE has no hidden agenda for weapons research or use of FTF for classified missions. The only missions being considered are those analyzed in the NI PEIS, which are the production of isotopes for medical research, and industrial uses; plutonium production for future NASA space exploration missions; and U.S. nuclear research and development needs for civilian application.

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