

Chapter 3

*Oral Comments Presented at the Public Hearings
and DOE Responses*

Comments from the Oak Ridge, Tennessee, Public Hearing (August 22, 2000)

Commentor No. 2360: Daniel Axelrod

2360-1 — I want to highlight again, as I did over a year ago at a hearing here in Oak Ridge, that I favor Pu-238 radioisotope power supplies for the international space station.

I estimate that we could save at least a billion dollars in the space station costs in using radioisotope power supplies in preference to solar cells and to say nothing of mission reliability as we saw with the difficulty with the solar cells when the Mir space station was impacted and also the need to provide fuel to put the space station into higher orbit because of the solar-cell drag.

And this already has happened in one of the space shuttle missions where they had to put the preliminary space station — not even the completed one — into higher orbit from about a hundred to two hundred miles. I find it a little disconcerting that if you're talking of expanding nuclear energy requirements that Pu-238 is such a minor usage. It takes so much discussion and is so prominent in the discussions of your PEIS.

2360-2 — I think if you talk nuclear you ought to include fusion as well as fission. And without going into my report on this six billion dollar program for fusion development back in the early seventies, I would highlight at least the need for a 14 mg fusion neutron generator to test 14 mg neutrons against, first, raw materials and other portions of fusion reactors.

So I think this will be an entirely new concept that's not enunciated in your report. That should be addressed and I'm sorry it isn't listed in some of the major comments received during scoping which, I assume, would include my 24 July comments.

2360-3 — Third, as I mentioned, I want to talk of the justification for expansion of infrastructure and missions identified by DOE. In my letter to Secretary Richardson, and others of July 20th this year, I sent comments on world oil running out and I said that Mr. Richardson had made a great strategic mistake in trying to get OPEC to turn off the spigot rather than informing the public.

In summary, I talk of a need for five hundred coal to oil synthetic fuel plants each the size or equivalent of the Bull Run steam plant here in town.

2360-4 — In light of this need for nuclear power in this century, I would recommend there's a need for a test reactor for the WSHWBR, World Standard Heavy Water Breeder Reactor, which I have proposed as part of my campaign for President of the United States, and this also would be a major new facility that I can personally identify that is not at all mentioned in your presentation.

Response to Commentor No. 2360

2360-1: DOE notes the commentor's support for the use of plutonium-238 in space missions and its inclusion in the NI PEIS. However, NASA, not DOE, is responsible for spacecraft design and for determining what electric power source best suits its mission-specific needs.

2360-2: DOE notes the commentor's interest in fusion energy research, although issues of research and development of fusion energy are beyond the scope of this NI PEIS. The scope of this NI PEIS is limited to analysis of alternatives to fulfill the requirements of the DOE missions, which include the production of medical and industrial isotopes, the production of plutonium-238, and civilian nuclear energy research and development.

2360-3: DOE notes the commentor's interest in synthetic fuel plants and using the nation's coal resources, although these issues are outside of the scope of this NI PEIS. The scope of this NI PEIS is limited to the analysis of environmental impacts that would result from implementation of alternatives to fulfill the requirements of the DOE missions described in Section 1.2 of Volume 1.

2360-4: DOE notes the commentor's interest in heavy water breeder reactor research, although this type of research is beyond the scope of this NI PEIS.

Comments from the Oak Ridge, Tennessee, Public Hearing (August 22, 2000)

Commentor No. 2360: Daniel Axelrod (Cont'd)

2360-5 — I identified that for each ten million barrels a day of oil loss production compared with about seventy to eighty-five million barrels per day at total peak production. For each ten million barrels per day for loss production we needed the equivalent of eight hundred million tons of coal, the equivalent of almost the entire U.S. production of coal and 400 gigawatt nuclear, which at the time was the top — still is the approximate total nuclear power in the entire world after 50 years of effort.

Response to Commentor No. 2360

2360-5: DOE notes the commentor's interest in expanding domestic energy infrastructure, although issues of energy production are beyond the scope of this NI PEIS.

Comments from the Oak Ridge, Tennessee, Public Hearing (August 22, 2000)

Commentor No. 2359: George G. Flanagan

2359-1 — I believe, the assumptions used in the medical isotope production are excessively high in terms of revenue and the amount of materials used. We've been in business for almost 30 years and we have not seen that kind of sudden increase in the needs for medical isotopes.

I would recommend that we look at nominal value, the high-end value, and low-end value. I think it can sway the determination of whether you would need an infrastructure expansion project for production or monitor what the existing facilities are capable of in meeting demand.

I do not think you can give an alternative in terms of amount or demand without producing a report. I remember from Battelle. And that report has come under a lot of criticism by a lot of people as not particularly well founded, including congressional hearings.

My other comment is that in price the HFIR right now is very unrealized in both isotope production and material irradiation capabilities and it has been for the last 9 years or 10 years, since it was operated in 1990. We do not right now see missions, which are coming down the line, of increasing that utilization over what it has been over the last 10 years.

So that goes along with my first comment. I think the demand doesn't seem to be following what is assumed in this particular program.

2359-2 — The second point is you have a point in there about HFIR is essentially interfere only for medical isotope or isotope production. The only process for the basic energy science program is instigated in HFIR for a review of what we put into the reactor and that there's an anticipated five percent in either flux or fuel cycles. And the only materials in which that happens with are material radiation stems which are highly shielded.

And there has only been a few of those in the facilities. Medical isotope production and reactors have so far not impacted the flux at the (unintelligible) in either fuel cycle maintenance or from the maintenance to the production, as far as flux is concerned.

2359-3 — The last one is you have an indication that the HFIR expansion to a 100 megawatts, which it was originally designed for, has been reduced because of the concerns about ethyl and apparently are essentially not allowable. I'm not sure that's the word that's been used. But the impact was there would be extremely long outages necessary to implement going to this operation. That isn't incorrect.

We estimate something less than a month, if an outage is required to implement and change the instrument settings, what have you, to go to a 100 megawatt; noting some estimate of time and money expenditures are needed for changing

Response to Commentor No. 2359

2359-1: DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1 2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs. 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). There currently is little room for growth of medical isotope production at HFIR. The ability to expand medical isotope targets into additional reactor locations is limited by the potential impacts that the targets have on the primary experiments in the reactor. Medical isotope targets and neptunium-237 targets are not in competition for the same locations at HFIR. NEPA and CEQ regulations do not require the cost of alternatives to be included in an EIS. However, a separate Cost Report was prepared to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. The Cost Report was mailed to interested parties on August 24, 2000 and made available on the NE website (<http://www.nuclear.gov>) and in the public reading rooms. DOE has provided a summary of the Cost Report in this Final NI PEIS.

2359-2: The magnitude and nature of any impact on neutron flux levels or core cycle length due to using HFIR for plutonium-238 production or greater medical/industrial

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Commentor No. 2359: George G. Flanagan (Cont'd)

the authorization basis for the HFIR to proceed to a 100 megawatts. So there would be no impact from the operational facilities time wise in getting this operational plant to 100 megawatts, and that is under consideration.

The only concern we have is that we don't impact the mission of the organization based in terms of fuel cycle life while we're doing that. And there are other options available to do both at the same fuel cycle and increase the power to a 100 megawatts. That would, in fact, increase HFIR production by 15 percent.

Response to Commentor No. 2359

radioisotope production will be dependent on the number, composition, and location of targets. Core local flux reduction would be expected in the region around the target. Any significant changes in flux levels throughout the reactor due to addition of enhanced isotope production activities would be reviewed by appropriate representatives of the DOE Office of Science for approval. The commentor's statement that isotope production at HFIR, to date, has not impacted maintenance or production is noted.

2359-3: As stated in EIS Volume 1, Section 2.3.1.3, HFIR's power level was reduced to 85 megawatts for the purpose of extending the useful life of the reactor. Since the reduction to 85 megawatts, additional studies have determined that the useful operating life could be until 2035 at 100 megawatts with appropriate maintenance programs. The commentor's estimate of the time necessary to uprate the HFIR reactor to 100 megawatts and impacts on fuel cycle length is noted.

Comments from the Idaho Falls, Idaho, Public Hearing (August 25, 2000)

Commentor No. 2362: Ronald Ayers, Jr.

2362-1 — Item 1, direct to the EIS. It appears, from a casual observance of the information that was presented, that you have some alternatives that have a very high electrical load requirement associated with them, specifically the accelerators.

I did not see anything at all presented at this point that speaks to the environmental impacts of — of the higher level of electrical usage on that one than it did on the others. So, that might be something you would want to consider for inclusion in the EIS in the Final.

2362-2 — Item 2, I want to talk to the mission. At this point in time, it has been very interesting to — to note that down through history there has been several pieces and items that we have discovered as a nation and turned our back on, to our chagrin, in a later time.

I wish to point out aircraft. I wish to point out rockets. Liquid propulsion rockets specifically were developed in the United States. The whole quality aspects of the — that the — the quality aspects of production and building things in a quality manner with full quality controls on them was invented basically within the United States. We found that out — how well that could be worked at us in recent years in the automobile industry. This is another industry that we seem to be turning our back on, or another area of endeavor that we are turning our back on. And I am extremely concerned that the further we go and turn our back on these types of aspects, we're going to find ourselves in real trouble further downstream.

So, I think, in that aspect, we need to support this effort. We need to support this effort because it supports scientific efforts by our country, it supports medical efforts by our people, and it supports basically the — the industrialization of items and things that we have been studying here at the INEEL, in some cases since as early as the 1950s.

2362-3 — I would support the use of ATR and also the fluorinel process and CPP-651. I would also support the use of — follow the use of an additional production reactor-type facility that would begin to support this. My preference is for a nuclear reactor, although the accelerator is one that would be of interest and consideration. And I can't think of a better place to put it than right here.

2362-4 — The EIS - this EIS should break the wastes down in accordance with low-level waste, possibly transuranics, since that is a DOE-only definition, and high-level waste — okay — to better present to the public the hazards that may be presented with the disposal of these waste materials.

Low-level waste is readily disposable in many facilities, both by DOE and like those licensed by the NRC. High-level waste, which was cited by some people here, is a different situation. And this material does not meet the — the defini-

Response to Commentor No. 2362

2362-1: The commentor is correct in his observation that some alternatives would have high electrical load requirements associated with them. A discussion of the electricity needs for each alternative follows. 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. 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^hhours 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 review 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. The environmental impacts of operating numerous electrical power generation facilities supporting the grid is not within the scope of the NI PEIS.

2362-2: DOE notes the commentor's support for expanding DOE's nuclear infrastructure to meet its stated missions.

2362-3: DOE notes the commentor's support for Option 2 of Alternative 2, Use Only Operational Facilities, as well as their support for Alternative 4, Construct New Research Reactor (or possibly Alternative 3, Construct New Accelerator(s)), to be located at INEEL.

2362-4: This NI PEIS addressed waste produced for each alternative, as well as cumulative impacts related to waste production. The Waste Management sections of Chapter 4 provided waste volume generations for each of the waste types expected to be generated. These waste categories, referenced in DOE Manual Chapters, are consistent with definitions found in the nuclear science and waste management literature.

Comments from the Idaho Falls, Idaho, Public Hearing (August 25, 2000)

Commentor No. 2362: Ronald Ayers, Jr. (Cont'd)

tion of high-level waste, which is basically the first cycled raffinates or the — or the spent fuel that is coming off of power production of nuclear production facilities.

Okay. And that would be — the lack of differentiation is confusing to the people who are unused to the differences in the hazards associating with nuclear waste, specifically those in the public.

Response to Commentor No. 2362

Comments from the Idaho Falls, Idaho, Public Hearing (August 25, 2000)

Commentor No. 2363: Beatrice Brailsford Snake River Alliance

2363-1 — The issuance of this Draft EIS, unaccompanied by a nonproliferation assessment, I think highlights the question and answers the question: Is this administration actually concerned about proliferation of nuclear weapons and materials? And the answer is: Not very.

This is not the first time that we have had to look at a project before the nonproliferation assessment comes out. You say it will be out next week. That's after six of the seven hearings on this project have occurred. It seems to me, in the year 2000, "will this present a proliferation risk" should be one of the first questions the Department of Energy asks itself.

I would, therefore, suggest that you will probably have to extend the comment period more than the additional week you already have.

2363-2 — Second, the Fluorinel Dissolution Process Facility must not be reopened because the Idaho National Engineering and Environmental Laboratory must not return to aqueous reprocessing. I would note that my memory says that in 1992, when it was shut down by declaration, it had already been shut down quite a while because it could not meet current standards and could not be licensed under RCRA. I would suggest that might still be a pending issue.

In Appendix A, and somewhere else in the document — but I can't — I couldn't find it right before this meeting — there's a sentence that says the Fluorinel — that we're looking for a new mission for the Fluorinel Dissolution Process Facility. And that was something of a surprise to me.

And I would appreciate INEEL officials contacting the alliance and explaining what the range of new facilities for an extraordinarily unfortunate facility might be.

2363-3 — I note that if you choose to use ATR for the production of plutonium-238 you would actually compromise the infrastructure for the production of medical isotopes. We would lose that task here at INEEL.

2363-4 — And then a couple of questions about the waste. It does seem to me that there is a fair amount of liquid waste over the 35 years. I'm assuming this liquid waste is from reprocessing. And it looks like it would be about 288,000 gallons. Right now we're tying ourselves in knots trying to figure out how to get rid of liquid waste. It is recognized as a hazard above the aquifer. I don't understand how this can be low-level if it comes to us from reprocessing.

2363-5 — I would also just ask if the evaporator at the chem plant is fully licensed. I know that there was a fair amount of controversy about running the calciner, which is the following step to the evaporator, without a permit. And I would just suggest you check that.

Response to Commentor No. 2363

2363-1: DOE notes the commentor's concerns regarding nuclear proliferation risk related to the proposed actions under the NI PEIS. DOE is committed to ensuring domestic and international security and stability by upholding nonproliferation as one of the nation's highest national security priorities. DOE does not take this responsibility and burden lightly. DOE prepared a separate Nuclear Infrastructure Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. Such an ancillary document need only be made available to the public prior to any decision being made under CEQ regulations (40 CFR Part 1505.1(e)). Nevertheless, DOE mailed this document to about 730 interested parties on September 8, 2000. The report was made available immediately upon release on the NE web site <http://www.nuclear.gov> and in the public reading rooms. DOE has also provided a summary of the Nuclear Infrastructure Nonproliferation Impact Assessment in Appendix Q in the Final NI PEIS. Although DOE did not further extend the public comment period, DOE considered comments submitted after the close of the comment period to the extent practicable.

2363-2: 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.

2363-3: As stated in EIS Volume 1, Section 2.3.1.2, ATR would continue to meet its medical and industrial radioisotope production mission for the no action and most other alternatives considered where ATR is not used for the production of plutonium-238. If ATR were to be used as a production facility for plutonium-238 (options 1, 2, 3, 7, 8, and 9 under Alternative 2), it would support medical and industrial radioisotope production to the extent possible. DOE would try to minimize the impact of the new mission on current medical and industrial radioisotope production.

2363-4: The use of proposed alternative facilities would not impact the schedule or funding for existing cleanup activities at Hanford, INEEL or ORR. The NI PEIS addressed

Comments from the Idaho Falls, Idaho, Public Hearing (August 25, 2000)

Commentor No. 2363: Beatrice Brailsford (Cont'd)
Snake River Alliance

2363-6 — And then there's the issue of newly generated transuranic waste that is not part of the defense program and, therefore, could not be disposed of at WIPP and would, therefore, presumably, be stored here in Idaho until a high-level waste repository is opened.

The State of Idaho has very firm deadlines for the removal of transuranic wastes from this state, and they are not matched with the deadline for making certain that high-level waste is ready to leave the state. There's no deadline for the removal of high-level waste.

Response to Commentor No. 2363

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. Approximately 1050 cubic meters (which is 280,000 gallons; not 288,000 gallons) of liquid low-level radioactive waste would be generated in total over the 35-year period of nuclear infrastructure operations from processing target for plutonium-238. High-level radioactive waste would not be generated.

2363-5: Both the INTEC Process Equipment Waste Evaporator and the INTEC High-Level Waste Evaporator have RCRA interim status.

2363-6: The Settlement Agreement (i.e., Spent Fuel Settlement Agreement, dated October 16, 1995) between U.S. DOE and the State of Idaho established schedules for the treatment of existing high-level radioactive waste, transuranic waste, mixed waste and removal of transuranic waste and spent nuclear fuel from the state. This agreement is not applicable to newly generated wastes. However, one of the most important mechanisms to address newly generated waste at the INEEL is via the Site Treatment Plan and Consent Order signed on November 1, 1995 by DOE and the State of Idaho. It requires that before an activity begins, all waste streams be identified with disposition and treatment plans identified and approved.

Comments from the Idaho Falls, Idaho, Public Hearing (August 25, 2000)

*Commentor: John Commander
Coalition-21*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 1655.

Comments from the Idaho Falls, Idaho, Public Hearing (August 25, 2000)

**Commentor No. 2365: Lowell Jobe
Coalition-21**

2365-1 — . . .people who are opposed to nuclear energy have always been sending out comments without necessarily having anything solid, science and facts, behind them. And I challenged them to offer a solution, just one solution, that would be positive, constructive.

And one — we have one person here. The other one isn't here. And he answered, we didn't create the problem, so why should we solve it?

It seems apparent to me that they have no intention of ever doing anything positive, constructive, to give us an alternative which would be worthy of even considering.

And I think we still have, if anything, a federal government which has gone even further down the line of ignoring the facts, and all they do is try to put fears there. The country and the world is never going to go anywhere with that kind of mentality and outlook.

The additional oral comments were submitted in written form and are addressed in the responses to Commentor No. 100.

Response to Commentor No. 2365

2365-1: DOE notes the commentor's views and observations.

Comments from the Idaho Falls, Idaho, Public Hearing (August 25, 2000)

Commentor No. 2361 Dave Kuhn

2361-1 — I guess the thing that I wanted to impress the most is that I think here in Idaho we've been in the nuclear business long enough to prove to everybody that we can take care of business, and we've got a good track record. And the projects that — you know, the alternatives that you've got laid out there, you know, we can take care of here in Idaho, and we can do it right.

Americans have learned long and hard that we can stay on the leading edge of technology and we can still cleanup our messes. And, you know, it's a moot point really. Hanford doesn't have — you know, there's no way that starting up a new facility is going to interfere with their cleanup. But, if they'll let it, then we'll take care of business here in Idaho. And so — we've got the facilities.

2361-2 — And, you know, I'm sure there's going to be some people here today that don't want nuclear business in Idaho. They've been here before. And, you know, when the people who come here and they support the programs, they're the people who know about the nuclear business from the inside. We have facts, we have proof, we have everything.

The people who don't want the business to come here, they don't really have any ideas, they don't have any real proof, and they don't have any facts. So, somehow it doesn't seem like a valid argument.

2361-3 — . . . it's long been obvious that the people who don't support the nuclear program don't have any other answers that can fix the problems that the nuclear program does; however, that doesn't stop them from trying to prevent an answer to the waste problem, which I really don't believe that this environmental impact statement really has anything to do with nuclear waste. It's about moving ahead with the program.

The waste problem has to be solved, and it will be solved. And it's, evidently, going to be really painful, but — when it gets solved. But there's no use in not moving ahead with nuclear energy just because there's some problems that still need to be solved, so we can fix it.

Response to Commentor No. 2361

2361-1: The commentor's position regarding capabilities of the Idaho National Engineering and Environmental Laboratory is noted.

2361-2: DOE notes the commentor's views and observations.

2361-3: DOE notes the comment. 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.

Comments from the Idaho Falls, Idaho, Public Hearing (August 25, 2000)

Commentor No. 2364: Tony Laporta

2364-1 — I would like to indicate that the process that we're talking about here for a new infrastructure, new research and development, is extremely important.

We need to — and I know that the Department of Energy has talked about the brain drain that's going on out here [INEEL]. And part of the reason is that we have no projects worthy of individuals taking part in them. And this is a start of a project like that.

2364-2 — With specifics to this environmental impact statement, I do find it somewhat curious that a decision is going to be made before January, which may be by a lame duck Department of Energy chairman. And I know that the — the vice-president is an individual who has expressed publicly his opposition to nuclear energy. And I find it curious that such a decision would be made by a lame duck — potentially a lame duck administration.

2364-3 — I do also concur that the Alternative 2, which is the use of existing facilities, specifically the ATR, to produce the necessary requirements for the plutonium-238 is a number one option, I believe, with the following option to build a new facility here in Idaho.

2364-4 — The concept that, well, we might use ATR or we might use Oak Ridge to do the irradiation and then use a fluorinel facility to do the reprocessing, only increases the risks of — of the potential hazard. And, therefore, any decision that should be made should include both the irradiation and processing within close proximity to minimize any hazard to the public by transportation back and forth and everything else.

2364-5 — If we talk about the hazard of liquid waste generation, it's curious to me that we've shut down the calciner [at INEEL], which was processing liquid waste. And so now we sit with over a million gallons of high-level waste, liquid waste, sitting in tanks, waiting for somebody to come up with another solution while the calciner was perfectly acceptable, even though it was not licensed.

2364-6 — . . . I would just like to make the comment that has been expressed here before, that we need to take charge of our future in this country. We need to regain the leadership that we had and not become the — I would say the laughing stock of the technological world by European countries looking at us and saying, where have you gone with your leadership in engineering and nuclear energy?

Response to Commentor No. 2364

2364-1: The commentor's positions on research and development and its effects on INEEL are noted. Civilian nuclear research and development is one of the nuclear infrastructure missions discussed in Section 1.2.3 of Volume 1.

2364-2: DOE notes the concerns expressed in this comment; the issues addressed in the comment are outside the scope of this PEIS.

2364-3: DOE notes the commentor's support for (ATR Options) of Alternative 2, Use Only Operational Facilities, as well as their support for a new facility (unspecified as to whether it would be an accelerator or reactor) at INEEL.

2364-4: DOE notes the commentor's support for alternatives in which the processing and irradiation facilities are in close proximity. Alternative 1, Options 3 and 6, and Alternative 2, Option 2 minimize transportation impacts, as shown in Table J-7. Impacts for alternatives involving unspecified commercial light water reactors or newly constructed reactors or accelerators cannot be determined and are bounded in DOE's analysis. The NI PEIS analysis, summarized in Table J-7, shows that it is unlikely that the transportation activities covered by the NI PEIS will cause an additional latent cancer fatality. The NI PEIS transportation activity with the highest risk is the air shipment of medical isotopes, which is needed for most alternatives. The analysis conservatively assumes that every isotope shipment is by air, and that each shipment requires an intermediate stop, for a total of about 500 shipments per year. The risk to the public from these shipments is far lower than the risk from background radiation. Other transportation risks are several factors of ten lower, and not significantly different for the alternatives considered. Transportation risk is only one factor in DOE's decision. Accordingly, DOE has identified its preferred alternative in Section 2.8 of Volume 1 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.

2364-5: The INTEC nuclear waste calcining facility (NWCF) was shut down on June 1, 2000 and is in standby pending facility upgrades and issuance of a new air permit. INEEL met the requirements of a December 1991 consent order with the State of Idaho and EPA to calcine all the high level radioactive waste by June 30, 1998. About 5,300 cubic meters (1.4 million gallons) of liquid-sodium-bearing waste remain in the INTEC Tank Farm. New treatment processes for the remaining liquid-sodium-bearing wastes are being analyzed in the "Idaho High-Level waste and Facilities Disposition Environmental Impact Statement."

2364-6: DOE notes the viewpoint expressed in this comment.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2370: Anonymous

2370-1 — I am truly appalled that you would consider at all to add to the contamination that's there. It can moved from this contaminated place to that contaminated place. You know, not in our backyard. That's not really what we're asking for. We're asking for a cessation of creation of this toxic waste.

2370-2 — I was going to speak about this fire. You know, no problem. We're just out here. Nothing is happening. We get a fire. They deny everything. Then they admit something. And the news that I caught on the radio said, "Oh, it's just equal to one dental X-ray." You know, I'm a dentist. I take X-rays every day. I don't put any plutonium in those people's lungs.

Response to Commentor No. 2370

2370-1: DOE notes the commentor's concern regarding waste generation. 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.

2370-2: Direct effects of the fire on the land and biota are addressed in this NI PEIS consistent with the scope of the affected environment descriptions for the Hanford Site provided in Section 3.4. The secondary effects of the Hanford wildfire of June 27-July 2, 2000 (known as the 24 Command Fire and the Two Forks Fire) are beyond the scope of this NI PEIS. Nevertheless, a brief description of the environmental monitoring and results associated with the Hanford wildfire follows. No radioactive materials were "released" in the Hanford Wildfires of 2000. Wildfires did resuspend some materials already in the environment. The resuspended materials were low, slightly above natural background levels. Since the initial stages of the fire and continuing to the present, DOE, in conjunction with the Washington State Department of Health and the Federal EPA, have conducted environmental monitoring on and near the Hanford Site to assess potential radiological releases. Monitoring will also continue over the long term. DOE has made these monitoring results available to the public as rapidly as possible with the results to date posted on a dedicated page on the Hanford web site at <http://www.hanford.gov/>. Regarding plutonium releases, DOE monitoring data has shown elevated levels (above levels normally seen) of plutonium in the Hanford 200 Areas. The most recent monitoring data available from EPA shows elevated levels (above background) of plutonium associated with 6 of the 61 ambient air filters collected from 23 locations surrounding the Hanford site. All of these DOE and EPA results are below EPA's "protective action guides" for emergency situations, EPA National Emission Standards for Hazardous Air Pollutants, hazardous air pollutant dose limits set by the State of Washington, and within or below EPA's acceptable risk range for protecting public health and the environment. DOE will continue to work with the Washington State Department of Health and the EPA and will post additional monitoring results as they become available. Equivalent doses of ionizing radiation can be absorbed from a variety of natural and manmade sources, including cosmic radiation, medical and dental x-rays, plutonium-238, naturally-occurring radon, or any other radioactive isotope. The evaluation of potential human health impacts presented in Chapter 4 assumed that any dose of

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Commentor No. 2370: Anonymous (Cont'd)

Response to Commentor No. 2370

ionizing radiation, no matter how small, could cause a fatal cancer. That assumption is conservative, but there is currently no scientific consensus on its accuracy. Some scientist believe that the assumption is true, while others believe that there is a threshold below which radiation doses are harmless.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2373: Anonymous

2373-1 — I'm opposed to starting the Hanford

2373-2 — ...just looking at the past track record and how the clean-up has gone so poorly, and I think it's absurd to try to do new projects when the old projects aren't cleaned up.

Response to Commentor No. 2373

2373-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

2373-2: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2375: Anonymous

2375-1 — I'm opposed to the start-up of the FFTF reactor for all the reasons stated previously, but mostly because there is no way to dispose of the waste safely.

2375-2 — And I've said this already three times. So my question is: is this getting to Mr. Richardson, who is making the ultimate decision, or where are our comments going?

Response to Commentor No. 2375

2375-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF. Management of wastes that would be generated under implementation of Alternative 1, Restart FFTF, is discussed in Section 4.3 of Volume 1 (e.g., see Section 4.3.1.1.13). Section 4.3.1.1.13 was revised to clarify that, the Hanford waste management infrastructure is analyzed in this PEIS for the management of waste resulting from FFTF restart and operation. This analysis is consistent with policy and DOE Order 435.1, that DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical; or at another DOE facility. However, if DOE determines that use of the Hanford waste management infrastructure or other DOE sites is not practical or cost effective, DOE may issue an exemption under DOE Order 435.1 for the use of non-DOE facilities (i.e., commercial facilities) to store, treat, and dispose of such waste generated from the restart and operation of FFTF. In addition, Section 4.3.3.1.13 and 4.4.3.1.13 also address the potential impacts associated with the waste generated from the target fabrication and processing in FMEF and how this waste would be managed at the site.

2375-2: The Office of Nuclear Energy, Science and Technology works closely with the Office of the Secretary to keep him informed of the progress on the NI PEIS, including stakeholder input. It is the Secretary of Energy who will make the programmatic decisions with respect to the alternatives presented in this NI PEIS to accomplish the DOE missions. Decisions made will be published in the Record of Decision no sooner than 30 days after publication of this NI PEIS. All pertinent information and public input will be provided to the Secretary so that he may make an informed and unbiased decision with respect to the alternatives presented in this NI PEIS.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2384: Anonymous

2384-1 — I'd like to address some comments specifically to the draft EIS and ask, as is required by law, that you include the things that I requested originally in my two prior comments during scoping.

I see in many, many areas — one of the flaws I see in the draft is that there's a lot of blanket statements made. "This will not cause that. This will not do this. This will do this." But I don't really see enough justification of that explanation of that deduction and of the statements that I'm seeing in the draft.

The draft is pretty thick, and it's really hard to read. So justification for those things in lay people's terms would be very helpful in the final.

2384-2 — Things that were not addressed in the draft EIS that need to be included are the other medical problems aside from cancer fatalities and non- fatal cancers, the ones that people survive; thyroid disorders. There's low thyroid, high thyroid, Graves Disease, and a number of other thyroid disorders which we know are caused from specific types of nuclear radiation that are not addressed in this draft.

There are also a number of immune system dysfunctions, stillbirths, miscarriages, and other specifically radiation related sicknesses that are not addressed.

I specifically requested that the costs, the medical costs of these projected illnesses to the American public and to tribes be included in that, and it was not. Those projections need to be specifically for low level radiation exposures, as well as catastrophic radiation incidents.

I also don't see anything in there about the hospitals in our region that will be asked to take on the overload that can't be handled in the hospitals in the Hanford area. I know some of the hospitals here have addressed this issue in their ERs, and they are not prepared for your overload, and I'd like to see that addressed as well.

You know, we all know what happened when people were drinking cow's milk from cows that were eating the radioactive grasses, and it's just not in your draft, and it must be included in there.

2384-3 — In the assessment of low income and minority populations, something that's drastically missing specifically for the tribes is I don't see anything in there for specific populations who gather roots, who use the medicines from the land, and who eat the fish and the wild meat, as I do. It's just not covered, and those things have to be taken into consideration.

Response to Commentor No. 2384

2384-1: CEQ regulations for implementing NEPA require that public comment be solicited to assisting in defining the scope of an EIS. Section 1.4 of Volume 1 of this NI PEIS, as supplemented by an expanded discussion provided in Appendix N, summarizes the prevailing issues and concerns raised during the scoping process to include identification of prevalent issues raised at individual scoping meetings. In fact, based on the scoping comments received, the scope of the NI PEIS was expanded in a number of areas as outlined in Section 1.4 and Appendix N. It should be noted, however, that NEPA and CEQ regulations do not require an agency to include and respond to each scoping comment as is required for public comments on a Draft EIS. While all comments received during the scoping periods are part of the Administrative Record for the NI PEIS, Section 1.4 and Appendix N are intended to provide a summary of the issues and associated trends identified during the scoping process rather than a tabulation of comments by specific issue. In preparing the NI PEIS, DOE carefully considered all scoping comments received from the public. CEQ regulations for implementing NEPA require that EISs be written in plain language so that they can be more easily understood and that the EIS be accompanied by a summary of the EIS's content (40 CFR 1502.8 and 1502.12, respectively). DOE strives to produce NEPA documentation and related materials that are easily understood by the public by avoiding the use of jargon, defining technical terms and concepts through the use of common comparisons, avoiding the use of acronyms to the extent possible, and provision of a summary that is clear and concise, among other means. In order to improve the public's comprehension and understanding of the PEIS, this Final NI PEIS reflects revisions that have been made to eliminate some redundant and extraneous information while some sections have been reorganized to improve readability. For example, the summary of environmental impacts (Section 2.7) has been reorganized by environmental resource area so that impacts to each area (e.g., waste management) can be quickly gauged across all alternatives.

2384-2: Appendix H provides information on potential health effects other than fatal cancers. Of the three health impacts from low levels of radiation exposure (nonfatal cancers, hereditary effects, and fatal cancers), fatal cancers have the highest probability of occurrence, roughly 500 excess cancer fatalities per million person-rem. Nonfatal cancers and hereditary effects appear at rates of approximately 20 and 26 per cent of this number. Using a single number for human health impacts provides a simple direct means to compare impacts and risks among the alternatives. Cancer fatalities, being the largest impact, were selected for presentation throughout the NI PEIS. This PEIS has provided an estimate of the incremental potential human health impacts associated with each of a range of reasonable alternatives (Alternative 1 includes the restart of FFTF)

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Commentor No. 2384: Anonymous (Cont'd)

2384-4 — There was a woman that left on the break, and she asked me to please remind you that there's a lot of activity in Canada producing these radioactive isotopes, and many of the things that we are considering in this draft are available from Russia, which we have a contract for, and also from Canada. There are three new isotope reactors in Canada.

And I also want to remind you that I was one of the experimental — one of the people involved with the experimental populations in my formative years, and that I have survived my early cancer, and that no radiation and no chemicals were necessary for me to be cured from this. There are many, many alternatives to radiation and to radioactive isotopes.

Response to Commentor No. 2384

for the production of isotopes for medical uses, research and development, and as heat sources for radioisotope power systems. The methodology used is intended to provide realistic results based upon our current knowledge of the health impact of low doses of radiation. Sections 4.3 through 4.6 of Volume 1 provide the results of the evaluation of potential health impacts that would be expected to result from implementation of each of the alternatives, including normal operations and a spectrum of accidents that included severe accidents. The environmental analysis showed that radiological and nonradiological risks associated with each of the analyzed alternatives and with restarting FFTF would be small. The low number of health effects from normal operations or accidents projected as a result of the selection of any of these alternatives should not impact health care capabilities. The DOE has developed a comprehensive Hanford Emergency Management Plan that provides emergency response measures for radiological events at the Hanford site.

2384-3: Radiological impacts on minority and low-income populations residing within potentially affected areas surrounding the Hanford Site are addressed in Section K.5.3 of Appendix K (Environmental Justice Analysis). Models for estimating radiological health impacts (discussed in Appendixes H and I) assumed that all locally grown food supplies would be subject to radiological contamination throughout the project duration, and that all locally grown food supplies would be consumed by residents in the potentially affected area. The analysis of radiological effects that would result from implementation of the nuclear infrastructure alternatives indicates that the radiological risk to persons residing in the potentially affected area would be so small that no credible pattern of food consumption (or other ingestion pathways) would be expected to result in a latent cancer fatality.

2384-4: DOE notes the commentor's views. The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. However, Canada only supplies a limited number of economically attractive commercial isotopes primarily molybdenum-99, and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1 2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs. DOE notes the commentor's support for purchasing plutonium-238 from other sources to satisfy DOE's near-term responsibility to supply NASA with the necessary fuel to support future space exploration missions. DOE could

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2384: Anonymous (Cont'd)

Response to Commentor No. 2384

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. Under the current contract set to expire in 2002, the United States is authorized to purchase up to 40 kilograms of plutonium-238, with the total available for purchase in any one year limited to 10 kilograms. To date, DOE has purchased approximately 9 kilograms of plutonium-238 under this contract. 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, any purchase of plutonium-238 from Russia 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2387: Anonymous

2387-1 — So the production of isotopes that are, on one hand, being promoted by the medical establishment to cure cancer may also be the cause of the same cancer that it's being used to treat. And as a matter of fact, treatment itself can be carcinogenic.

And so that's kind of one side of this parallel. Instead of talking about iatrogenic medicine, which is physician induced medicine, we talk about only palliative medicine, about the kind of medicine that treats the symptoms and not the causes, not the root causes.

Tonight we really should be looking at radiation not as a cure for disease, but as a cause.

Response to Commentor No. 2387

2387-1: The radiation effects of the alternatives on the public and workforce are discussed in Chapter 4 of Volume 1 (e.g., Sections 4.3.1.1.9, 4.3.2.1.9, 4.3.3.1.9) and are shown to be small. Genetic research and other research will hopefully lead to other ways to fight cancers. However, certain radioisotopes currently offer effective treatment for some cancers. Consistent with its mandates under the Atomic Energy Act, DOE is proposing this enhancement for the purposes of addressing three primary needs: 1) to support the 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 for which the U.S. has no long-term, assured supply; and 3) to support civilian nuclear energy research and development in order to maintain the clean, safe, and reliable use of nuclear power as a viable component of the United States' energy portfolio.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2394: Anonymous

2394-1 — I'm going to tell a little bit about myself. I'm 17. I go to high school across the river. I mean, I know what an isotope is. I know what it can do. I know good side effects of it, and I know the bad side effects. I mean I've taken my basic science classes.

I mean, you guys are talking to us like we're like — it's stuff I learned like in fifth grade. I'm like, "Oh, really?"

But now it's just like, okay, get on with it, and I don't know what to say about that except for come on. Tell us something we want to hear, not stuff we've already heard.

Response to Commentor No. 2394

2394-1: DOE notes the observations made by the commentor.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2403: Anonymous

2403-1 — In June during the Hanford fire, U.S. DOE lied about plutonium releases. Four years ago, U.S. DOE promised independent regulation of reactors, including FFTF. U.S. DOE has lied and broken its promises again. How can we trust you to run an unsafe, unregulated reactor?

Hanford's high level nuclear waste tanks are already leaking radioactive waste into the groundwater, which is moving closer and closer to the Columbia River, which flows right outside our back door here and threatens the life of the river and all the people who use it and all the creatures that live within it and around it.

2403-2 — Restarting the FFTF for a plutonium-238 mission or any mission is an irresponsible action.

2403-3 — It will add more waste to Hanford's leaking and explosive, high level nuclear waste tanks.

2403-4 — The U.S. DOE has not disclosed the cost of restarting FFTF in the effects of waste production and transportation. Without access to this information, the public does not have full disclosure. It is not okay to wait until after the public hearings to make this information available.

2403-5 — Northwest citizens have repeatedly voiced their concerns over FFTF, telling U.S. DOE to shut it down for once and for all.

2403-6 — And it's about our future and the future of our children and their children's children. Doesn't it seem obvious that radioisotopes cause cancer? I don't understand.

Response to Commentor No. 2403

2403-1: DOE notes the commentor's concerns with the Hanford high-level waste tanks and concern with migration of contaminants to the Columbia River. Although beyond the scope of this NI PEIS, ongoing Hanford cleanup activities are high priority to DOE. Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is committed to honoring this agreement. FFTF is approximately 4.5 miles from the Columbia River. There are no discharges to the river from FFTF and no radioactive or hazardous discharges to groundwater. As indicated in analyses presented in Chapter 4 of Volume 1 (e.g., Sections 4.3.1.1.4, 4.3.3.1.4, 4.4.3.1.4, 4.5.3.2.4, and 4.6.3.2.4), there would be no discernible impacts to groundwater or surface water quality at Hanford from operation of Hanford facilities that would support the nuclear infrastructure missions described in Section 1.2 of Volume 1. In regard to the Hanford wildfire of 2000, the DOE Richland Operations Office, the Washington State Department of Health, and U.S. Environmental Protection Agency performed environmental monitoring on and around the Site to assess potential radiological impacts. The wildfire did not cause a release of radioactive materials from any Hanford facilities but did result in resuspension of radioactive materials which were already in the environment. The low levels of radioactive materials that were resuspended were slightly above natural background levels and required several days of analysis to quantify. Information on this event has been made available to the public and can be accessed at <http://www.Hanford.gov/envmon/indes.html>. This site also provides a link to information on the independent offsite air monitoring that was conducted by the U.S. Environmental Protection Agency. In regards to safe operation of the FFTF, the environmental impacts associated with operation of the FFTF are addressed in detail in Section 4.3 of the NI PEIS. This section specifically evaluates the incremental radiological impact to the public associated with both normal operation and postulated accident conditions. As discussed, if FFTF were to operate for 35 years, this risk would be small (less than 1 additional latent cancer fatality). 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 2,000 latent cancer fatalities would be expected among the same population as a result of this natural (non-Hanford related) radiation exposure. In that same 35 years, about 19,000 cancer fatalities from all causes (non radiological included) would be expected in the same population. As identified in Section N.4.2 of the NI PEIS, the subject of independent regulation is not within the scope of the NI PEIS but is an operational issue to be considered only if FFTF restart is selected in the Record of Decision.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2403: Anonymous (Cont'd)

Response to Commentor No. 2403

2403-2: DOE notes the commentor's opposition to the use of FFTF to produce plutonium-238 or for any other mission. 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. The NI PEIS evaluates a range of reasonable alternatives for accomplishing the proposed action, one of which includes use of FFTF. Section 1.2 of Volume 1 was revised to clarify the purpose and need of the proposed action.

2403-3: As identified in Section 4.3.1.1.13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35-year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. High-level radioactive waste would not be generated from merely operating FFTF. It is DOE's policy that all wastes be managed (i.e., treated, stored, and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders. The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision.

2403-4: 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://>

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Commentor No. 2403: Anonymous (Cont'd)

Response to Commentor No. 2403

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. 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. Also, the risks and potential human health risks from roadway and marine (for Alternative 1) transportation of all materials (mixed-oxide fuel under Alternative 1, target materials, and isotopes) are addressed in the applicable sections of Chapter 4 (e.g., Section 4.3.1.1.11 and 4.3.3.1.11) of Volume 1. Associated environmental and human health impacts are assessed, with a revised summary of impacts provided in Section 2.7 of Volume 1 of this NI PEIS.

- 2403-5:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.
- 2403-6:** This PEIS has provided an estimate of the incremental potential human health impacts associated with a reasonable range of alternatives including the restart of FFTF) for the production of isotopes for medical uses, research and development, and as heat sources for radioisotope power systems. The methodology used is intended to provide realistic results based upon our current knowledge of the health impact of low doses of radiation. 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 (which includes restart of FFTF), 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. Cancers are believed to be caused by a combination of hereditary and environmental factors, including radiological and chemical agents. Statistics from the National Cancer Institute indicate that the rate of cancer incidence and the rate of cancer

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2403: Anonymous (Cont'd)

Response to Commentor No. 2403

mortality has dropped during the 1990s [NCI webpage (as of 10/19/2000) - <http://cancernet.nci.nih.gov/statistics.shtml> article entitled "Cancer Death Rate Declined in the 1990s for the First Time Ever"]. A survey sponsored by the National Cancer Institute and published in the Journal of the American Medical Association in 1991 (JAMA 1991:1403-1408) detected no general increase in the risk of cancer death for people living in 107 counties adjacent to or containing 62 nuclear facilities. The Hanford Site, Idaho National Engineering and Environmental Laboratory, and Oak Ridge Reservation were included in the survey. The study used cancer mortality data from Benton, Franklin, and Grant Counties in the survey for the Hanford Site (See Section 3.4.9.3 of Volume 1).

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2400: Ruth

2400-1 — In the '70s we talked about alternative energy. It's there. It's not a secret either. It's an option. It's a good option, in my opinion.

2400-2 — And I'd like to say there's a project there, but that project is clean-up because a good planet is hard to find.

Response to Commentor No. 2400

2400-1: DOE notes the commentor's interest in alternative energy sources. Issues of research and development of alternative energy sources are beyond the scope of this Nuclear Infrastructure PEIS. Despite advances in many energy technologies, America's future energy security will depend on a robust mix of energy sources which necessarily includes nuclear power generation. It is the current United States policy that clean, safe, reliable nuclear power continue as a viable component of the United States' energy portfolio. In recognition of this need, the government has initiated nuclear energy research and development programs to address potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) and to ensure that current nuclear power plants can continue to deliver adequate and affordable energy supplies. An enhanced DOE nuclear facility infrastructure is required to support such nuclear energy research and development for civilian applications.

2400-2: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2399: Steve Andress

2399-1 — I just want to put in my word that I'm totally opposed to the restart of the FFTF operation in Hanford.

Response to Commentor No. 2399

2399-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2368: Scott Bergeran

2368-1 — I am opposed to the restarting of this nuclear reactor.

2368-2 — Your compilations of prior public comment are seriously lacking and show your failure to listen to the public. You failed to give any numerical breakdown for the 7,000 comments received. You only say “many” of the commentors who attended the meetings in Seattle, Portland, and Hood River were strongly opposed to the restart of FFTF.

Then you go on to say “most” of the comments received at Richland meeting were in support of the restart. You need to state the numbers of these comments. You need to state the numbers on these comments so Secretary Richardson is clear on where the people of the Northwest stand. You put the number in where it is to your advantage, and you leave them out when they are opposed. You also fail to mention the five city council resolutions opposing FFTF restart, which means you have representatives of entire cities opposing it, and their numbers should be included.

2368-3 — You have failed to demonstrate a compelling need for the production of plutonium for space, medical research isotopes, or nuclear energy research. Neither is there adequate justification for the need to produce all of them at one site. Neither is there justification for the need to produce them domestically, which makes no sense when we would continue to buy foreign nuclear fuel to run FFTF.

You must include recommendations of your own blue ribbon panel, Subcommittee, Isotope Research and Production Planning, that advised against — I say again “against” — the use of FFTF for medical isotope production.

Furthermore, EIS isotope demand projections are outdated and inadequate. They also fail to take into account possible cancer cures like gene therapy that could make medical isotopes unnecessary.

In addition, medical isotopes can be adequately produced at other DOE sites if they are a high priority as implied. Current isotope production levels for DOE reactors are misstated in the EIS at near capacity when most are only around 50 percent.

2368-4 — You must include the current demand estimates from NASA for Plutonium 238, which are considerably lower than your need projections and could easily be met under the current contract with Russia.

A discussion of alternatives to plutonium fuel must be included, and a renegotiated contract with Russia that double the current costs could meet future NASA needs at one third the cost of FFTF restart.

Response to Commentor No. 2368

2368-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

2368-2: While all comments received during the scoping periods for both the Plutonium-238 Production EIS and the NI PEIS are part of the Administrative Record for the NI PEIS, Section 1.4 of Volume 1 and Appendix N are intended to provide a summary of the issues and associated trends identified during the scoping process rather than a tabulation of comments by specific issue. It should be noted, however, that NEPA and CEQ regulations do not require an agency to include and respond to each scoping comment as is required for public comments on a Draft EIS. In preparing the NI PEIS, DOE carefully considered scoping comments received from the public. Any perceived discrepancy in the grouping of comments raising any one particular issue or set of issues is attributable to the manner in which they were originally categorized and counted. For example, a number of statements, letters, or resolutions signed by multiple persons, such as city council resolutions mentioned by the commentor, were received by DOE (both for and against FFTF restart) in response to the request for scoping comments. Each such comment document was considered and counted as a single comment in the NI PEIS comment tracking system. The Office of Nuclear Energy, Science and Technology works closely with the Office of the Secretary to keep him informed of the progress on the NI PEIS, including stakeholder input.

2368-3: DOE notes the views of the commentor. 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. 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 has been revised to clarify DOE's role in plutonium production for future NASA space missions. In ongoing clinical testing, therapeutic radioisotopes have proven effective in treating cancers and other illnesses while minimizing adverse side effects, making their use an attractive alternative to traditional chemotherapy and radiation treatments. 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

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Commentor No. 2368: Scott Bergeran (Cont'd)

2368-5 — It is improper to release the draft EIS for public comment without the critical information requested by the public in the scoping meetings, including cost analysis of restart and all alternatives with reasonable review, with review time; studies on treatment of waste at all proposed site and nonproliferation impacts from FFTF and the importation of its necessary radioactive fuel from Europe.

2368-6 — Violation of the nonproliferation agreement by use of highly enriched uranium fuel alone is reason enough to stop restart of FFTF.

2368-7 — You have failed to adequately characterize environmental impacts from FFTF restart. An example is the statement, "environmental impacts associated with the existing inventory of spent fuel at the Hanford site are minimal."

2368-8 — To imply that the existing spent nuclear fuel inventory poses no problems is massively incorrect. More than 2,100 tons of corroding spent fuel sites in aging water filled basins near the Columbia River pose one of the largest problems for clean-up and an expected cost of more than \$1.6 billion. You must address all impacts on waste management and the environment at Hanford, not dismiss them with erroneous statements.

2368-9 — You must include the cost of FFTF and all companion facilities' documentation and decommissioning in the restart, not just every other alternative. All facilities used in all other alternatives must show the cost of decontamination and decommissioning as well.

2368-10 — You have failed to assess all existing contaminant sources at Hanford and all other sites before additional waste. You must assess current waste inventories and then assess the addition of any new waste to existing waste sources.

2368-11 — You have failed to adequately consider the use of the advanced test reactor in Idaho and the high flux isotope reactor in Oak Ridge for medical isotopes, while acquiring plutonium-238 from another source.

2368-12 — You also failed to analyze lower cost alternatives, such as subsidizing university reactors or buying time from private accelerators or reactors.

2368-13 — No action alternative must include the shutdown of FFTF, not maintaining it on standby based on prior commitments of Secretary O'Leary and Watkins and TPA milestones.

2368-14 — You failed to address the conflict of interest using PNNL's evaluations, when they are a proponent of restart and stands to gain financially.

You failed to assess the legality of introducing new programs and waste into the highly contaminated 306E or 325 buildings at Hanford that would be used with FFTF.

2368-15 — You must admit that the real reasons to start FFTF are in a hidden agenda that includes preserving jobs and starting new weapons research or other classified missions.

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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, 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. The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. However, Canada only supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs. The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and

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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 does not believe that isotope production levels were misstated in the Draft NI PEIS. Section 1.2.1 identifies that "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). It is the current United States policy that clean, safe, reliable nuclear power continue as a viable component of the United States' energy portfolio. In recognition of this need, the government has initiated nuclear energy research and development programs to address potential long-term barriers to expanded use of nuclear power (e.g., nuclear waste, proliferation, safety, and economics) and to ensure that current nuclear power plants can continue to deliver adequate and affordable energy supplies. An enhanced DOE nuclear facility infrastructure is required to support such nuclear energy research and development for civilian applications. This mission is described in Section 1.2.3 of Volume 1. There is no requirement to conduct all of these missions at one site. In the Record of Decision process, DOE could choose to combine components of several alternatives in selecting the most appropriate strategy. For example, DOE could select a low-energy accelerator to produce certain medical, research, and industrial isotopes, and an existing operating reactor to produce plutonium-238 and conduct nuclear research and development. Should FFTF be selected for restart in support of these missions,

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DOE could utilize a 15-year supply of mixed-oxide fuel that would be available from Germany under favorable economic terms (i.e., no charge for the fuel).

2368-4: 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. 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 cost impacts associated with the NI PEIS alternatives are presented in a separate Cost Report.

2368-5: The costs and nuclear nonproliferation impacts of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. Such ancillary documents need only be made available to the public prior to any decision being made under CEQ regulations (40 CFR Part 1505.1(e)). Nevertheless, DOE mailed these documents to more than 730 interested parties on August 24 and September 8, 2000, respectively. Both reports were made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided summaries of the Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment in Appendixes P and Q, respectively, in the Final NI PEIS. The draft Waste Minimization and Management Plan for the Fast Flux Test Facility (May 2000) was referenced in the NI PEIS and made available prior to the public hearings.

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2368-6: The use of mixed oxide or highly enriched uranium to fuel the FFTF has been rigorously evaluated in the Nuclear Infrastructure Nonproliferation Impact Assessment. This report 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 Reduced Enrichment for Research and Test Reactors (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.

2368-7: The concerns expressed in this comment with respect to the adequacy of the characterization of FFTF restart impacts, are noted. The environmental impacts associated with restart and operation of the FFTF during normal operations and from postulated accidents are presented and discussed in detail in Section 4.3 of the NI PEIS. All impacts to human health and to environmental media including air, water, and land are shown to be small. No fatalities would be expected from the 35-year operating period of the FFTF. Any discharges would be in accordance with applicable permit and regulatory requirements and the impacts on air and water quality would be small. The potential impacts to the Hanford area and transportation corridors to and from Hanford associated with FFTF operations are also shown to be small. DOE also notes the commentor's concern with defense mission (non FFTF related) spent nuclear fuel (SNF) currently stored in the water basins at the 100 Area. As stated in DOE/EIS-0245F, Final Environmental Impact Statement for Management of Spent Nuclear Fuel from the K Basins (January 1996), DOE has placed a high priority on taking expeditious action to reduce risks to public health and safety and the environment by removing [defense mission] SNF from the K Basins and, subsequently, to take action to manage the SNF in a safe and environmentally

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sound manner for up to 40 years or until ultimate disposition decisions are made and implemented. Consistent with the purpose of a cumulative impact assessment (i.e., to evaluate the sum of the impacts from normal operations within various environmental categories, such as public health and land use) and in full recognition of DOE's position to take expeditious action in regards to management of the defense mission SNF, Section 4.8.3.5 of the NI PEIS addresses the cumulative impacts of the existing spent fuel and the spent fuel that would be associated with operation of FFTF. It is shown in the documents cited in that section that the radiological impact to the public from the management of the existing 2133 metric tons heavy metal (MTHM) inventory of SNF at Hanford (which consists of 2103.4 MTHM defense mission SNF, 11.0 MTHM of existing (non defense mission) FFTF SNF stored at 400 Area, and 18.4 MTHM of other non-defense-mission SNF) is less than 0.1 mrem/year. This dose is well below the EPA's Clean Air Act Standard of 10 mrem/year and the Drinking Water Standard of 4 mrem/year, as implemented by DOE Order 5400.5. The incremental impacts associated with managing an additional 16 MTHM of FFTF SNF were evaluated in Section 4.3.1.1.14 of the NI PEIS for the restart of the FFTF. The radiological impact to the public from overall radionuclide releases from the entire FFTF complex during the last year of reactor operation was less than 0.0001 mrem/year. The dose contribution from FFTF SNF management would be expected to be a small fraction of the FFTF reactor operation dose. Therefore, it would have no discernable impact on the 0.1 mrem/year dose from the existing 2133 MTHM Hanford SNF inventory. The currently used FFTF-specific SNF storage system designs (i.e., facility storage vessels and dry storage casks) are the key factors in the determination that the incremental radiological and environmental impacts would be small.

2368-8: Although not within the scope of the NI PEIS, DOE notes the commentor's concern with defense mission (non-FFTF related) spent nuclear fuel (SNF) currently stored in the water basins at the 100 Area. As identified in DOE/EIS-0245F Final Environmental Impact Statement for Management of Spent Nuclear Fuel from the K Basins (January 1996), DOE has not dismissed this threat but has placed high priority on taking "expeditious action to reduce risks to public health and safety and the environment by removing (defense mission) SNF from the K Basins and, subsequently, to take action to manage the SNF in a safe and environmentally sound manner for up to 40 years or until ultimate disposition decisions are made and implemented."

2368-9: DOE assumes that the commentor is referring to deactivation, not decommissioning. Decommission costs were not included for any alternative. Deactivation of FFTF is

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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.

2368-10: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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. Ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The current inventory of wastes managed at the Hanford Site are identified in Section 3.4.11.1 of Volume 1. In addition, the generation rates of wastes associated with the NI PEIS options that use Hanford facilities are compared with the current waste generation rates at the site in Section 4.3 of Volume 1. As stated in Sections 4.3 1.1.13, 4.3.3.1.13, and 4.4.3.1.13, the generation rates of wastes at Hanford associated with the options that utilize either FFTF, FMEF and or RPL/306-E would be much smaller than the current waste generation rates at the site. These volumes would also be small in comparison to the existing inventory at the site (Section 3.4.11.1, Volume 1). These comparisons were also made for the other options which involved INEEL and ORR facilities. 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.

2368-11: 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 using these facilities without disturbing their existing missions. There is little room for growth of medical isotope production at either ATR or

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HFIR. At ATR the neptunium-237 targets for plutonium-238 production will compete for space in the reactor. There are potential negative impacts to the private company that leases reactor space for the production of radioisotopes due to being assigned less desirable irradiation space. At HFIR, the ability to expand medical isotope targets into additional reactor locations is limited by the potential impacts that the targets have on the primary experiments in the reactor. Medical isotope targets and neptunium-237 targets are not in competition for the same locations in at HFIR.

2368-12: The NI PEIS considered the use of a wide range of irradiation facilities, including those operated by universities and private concerns. Privately owned and operated CLWRs were added to the PEIS scope for the production of plutonium-238 and were analyzed in detail in the document. University reactors were considered, but were dismissed because they do not have sufficient available core volume to accommodate the required missions. Section 2.6.2 provides a complete discussion of irradiation facilities considered but dismissed.

2368-13: The No Action alternative is required under Council on Environmental Quality regulations (40 CFR 1502.14(d)). It provides a point of comparison for the action alternatives. The No Action Alternative generally represents the status quo; that is, it includes those actions that would normally take place without the proposed action. Since the status quo involves maintaining FFTF in standby and not its deactivation it is not appropriate to include its deactivation as part of the No Action Alternative. Deactivation of FFTF is included as Alternative 5, Permanently Deactivate FFTF, and as part of Alternative 2, Use Only Existing Operational Facilities, Alternative 3, Construct New Accelerator(s), and Alternative 4, Construct New Research Reactor.

2368-14: PNNL is not preparing this PEIS, although it has offered technical comments on it. These comments have been evaluated by DOE and the contractor preparing the PEIS. PNNL has also previously provided technical and cost analyses on matters related to the FFTF, which have undergone independent scrutiny, and have helped confirm the need for the environmental review now being independently developed. PNNL's work does not present a conflict of interest. Ultimately, DOE has full control over the contents of the PEIS. 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of

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Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement.

2368-15: Other than the missions discussed in the NI PEIS, no alternate uses for FFTF are being considered. None of the alternatives in the NI PEIS include defense missions nor would they contribute to future weapons production. Socioeconomic impacts associated with Alternative 1 are discussed in Section 4.3 of Volume 1.

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Commentor No. 2409: Kim Birkland
Columbia Riverkeeper

2409-1 — The Department of Energy's compilations of prior public comment are seriously lacking and show the department's failure to listen to the public. You failed to give any numerical breakdown for the 7,000 comments received. You only say "many" of the commentors who attended the meetings in Seattle, Portland and Hood River were strongly opposed to the restart of FFTF.

That needs to be quantified, and Secretary Richardson needs to hear the exact number of folks who are opposed to the restart.

It is improper to release the draft EIS for public comment without the critical information requested by the public in scoping meetings, including the cost analysis of restart and all alternatives with reasonable review time.

The draft EIS must state the preferred alternative for adequate public review, and I am really surprised that there is no preferred alternative in this EIS. I've never seen that before in an EIS, and it gives us no opportunity to comment adequately. It just sets us back where we were in the scoping process.

2409-2 — You failed to demonstrate a compelling need for the production of plutonium for space, medical, or research isotopes or nuclear energy research. Neither is there adequate justification for the need to produce all of them at one site.

This is a cover-up for some other reason to be starting the nuclear facility because tritium was the primary reason for restarting at the last meeting I attended, and it is now off the list. So there must be some other reason why the Department of Energy wants to restart. The department must include the recommendations of your own blue ribbon panel, the Subcommittee for Isotope Research and Production Planning that advised against the use of FFTF for medical isotope production.

You must include the current demand estimates for NASA for Plutonium-238, which are considerably lower than your need projections and could easily be met under the current contract with Russia.

2409-3 — The FFTF will be much more expensive than reasonable alternatives by at least \$2 billion.

2409-4 — Studies on treatment of wastes at all proposed sites [needed in EIS]. To imply that the existing spent nuclear fuel inventory poses no problems is massively incorrect.

2409-5 — ...the nonproliferation impacts from FFTF and the importation of its necessary radioactive fuel from Europe, which is a violation of the nonproliferation agreement by use of highly enriched uranium fuel alone, and that's reason enough to stop the production at FFTF facility or stop the restart of FFTF

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2409-1: Section 1.4 of Volume 1 of this NI PEIS, as supplemented by an expanded discussion provided in Appendix N, summarizes the prevailing issues and concerns raised during the scoping process to include identification of relevant issues raised at individual scoping meetings. It should be noted, however, that NEPA and CEQ regulations do not require an agency to include and respond to each scoping comment as is required for public comments on a final EIS. While all comments received during the scoping periods are part of the Administrative Record for the NI PEIS, Section 1.4 and Appendix N are intended to provide a summary of the issues and associated trends identified during the scoping process rather than a tabulation of comments by specific issue. The Office of Nuclear Energy, Science and Technology works closely with the Office of the Secretary to keep him informed of the progress on the NI PEIS, including stakeholder input. 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. As outlined in 40 CFR Part 1502.14 (e), an agency is not required to specify a preferred alternative or alternatives in the Draft EIS if one does not exist, but must do so in the Final EIS. Accordingly, DOE has identified its preferred alternative in Section 2.8 of Volume 1 that includes 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.

2409-2: DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the

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Commentor No. 2409: Kim Birkland (Cont'd)
Columbia Riverkeeper

2409-6 — You have failed to adequately characterize environmental impacts from FFTF restart. An example is a statement that environmental impacts associated with the existing inventory of spent fuel at the Hanford site is minimal.

2409-7 — More than 2,100 tons of corroding spent fuel sits in aging water filled basins near the Columbia River posing one of the largest problems for cleanup at an expected cost of more than \$1.6 billion. You must address all impacts on waste management and the environment at Hanford, not just dismiss them with erroneous statements.

Right across from Hanford there's a critical area that protects the shrub ecosystem in Washington State. That ecosystem is endangered. That ecosystem is also highly radioactive. Those are the only species that we have that are remaining in Washington State, and that is not considered in this impact statement.

...especially when I look down river from the Hanford site, and there is evidence and tests indicated that the nuclear fuel that has been disposed of in the past is already in the river.

2409-8 — . . .nor is any other health risk aside from cancer, which I find very disturbing,

2409-9 — The no action alternative must include shutdown of FFTF

2409-10 — . . .you must admit the real reasons to restart FFTF are a hidden agenda that includes preserving jobs and starting new weapons research or other classified missions.

2409-11 — And the U.S. DOE should include the alternative — should choose the Alternative 5, shutdown FFTF, or Alternative 2, produce at existing sites with the shutdown of FFTF at Hanford as much too contaminated to start up again.

Response to Commentor No. 2409

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 DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities. DOE has taken the Expert Panel and NERAC report recommendations under consideration in developing the range of alternatives evaluated in the NI PEIS. These reports were made available to the public at the NI PEIS public information centers and on the Internet at www.nuclear.gov. 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

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*Commentor No. 2409: Kim Birkland (Cont'd)
Columbia Riverkeeper*

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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 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. 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. 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. There is no requirement to conduct all of these missions at one site. In the Record of

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Decision process, DOE could choose to combine components of several alternatives in selecting the most appropriate strategy. For example, DOE could select a low-energy accelerator to produce certain medical, research, and industrial isotopes, and an existing operating reactor to produce plutonium-238 and conduct nuclear research and development. Should FFTF be selected for restart in support of these missions, DOE expects it could utilize a 15-year supply of mixed-oxide fuel that would be available from Germany under favorable economic terms (i.e., no charge for the fuel). The Record of Decision for the 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. DOE has no hidden agenda for the use of FFTF. The only missions currently being considered are those analyzed in the NI PEIS, which are the production of isotopes for medical, research, and industrial uses; plutonium-238 production for future NASA space exploration missions; and U.S. nuclear research and development needs for civilian application.

2409-3: DOE notes the commentor's opinion.

2409-4: 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. The discussion in the Summary and Section 4.8.3.5 of Volume 1 on the cumulative impacts for spent nuclear fuel management at Hanford was revised to clarify that the management of the existing spent nuclear fuel at Hanford results in a dose of less than 0.1 millirem per year to the maximally exposed member of the public. This dose is well within the DOE limits given in DOE Order 5400.5. As discussed in that Order, the dose limit from airborne emissions is 10 millirem per year, as required by the Clean Air Act; drinking water is 4 millirem per year, as required by the Safe Drinking Water Act; and the dose limit from all pathways combined is 100 millirem per year. DOE has committed to remove the spent nuclear fuel at Hanford for ultimate disposition in a geologic repository.

2409-5: DOE notes the nonproliferation concern expressed in the comment, and can assure that its proposed action in the PEIS supports U.S. nonproliferation goals. This has been confirmed by the Nuclear Infrastructure Nonproliferation Impact

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Assessment, published in September 2000. Although this policy analysis is not required under NEPA, DOE considers it to be an essential element in the decision-making process for the DOE nuclear infrastructure, and has included a summary of the assessment in Appendix Q in the Final NI PEIS. In the event that a decision is made to restart FFTF, the first six years of operation would use existing onsite mixed oxide fuel. DOE expects that an additional 15-year supply of mixed oxide fuel in Europe, owned by Germany, would be available for FFTF. The Nuclear Infrastructure Nonproliferation Impact Assessment for the NI PEIS alternatives stated that using the two different sources of existing mixed oxide (MOX) fuel for FFTF (existing FFTF fuel and German MOX fuel) is consistent with U.S. nonproliferation policy, and, additionally, represents a safe, low-cost opportunity to reduce civilian plutonium without chemical or bulk processing, which would afford substantial nonproliferation benefits. DOE's approach to potential use of HEU in FFTF is also consistent with U.S. nonproliferation policy. The FFTF is an existing research reactor capable of performing its research missions using HEU fuel, if MOX fuel is not available. U.S. nonproliferation policy provides for such a circumstance as part of the effort to reduce and discourage HEU use. During the period of MOX fuel use, in compliance with U.S. nonproliferation policy directives, DOE's Office of Nonproliferation and National Security would undertake a study under the Reduced Enrichment Research and Test Reactor (RERTR) program 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 feasible, it will be used; if found infeasible for meeting assigned missions in the FFTF, an already existing research reactor, policy would allow DOE to subsequently procure highly enriched uranium fuel for use in that facility. This approach is consistent with U.S. nonproliferation policy.

2409-6: The concerns expressed in this comment on the potential environmental impacts associated with FFTF restart are noted. The environmental impacts from restart and operation of the FFTF 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 environmental media including air, water, and land are shown to be small. No fatalities would be expected from the 35-year operating period of FFTF. Any discharges would be in accordance with applicable permit and regulatory requirements and the impacts on air and water quality would be small. The potential impacts to the Hanford area and transportation corridors to and from Hanford associated with FFTF operations are also shown to be small.

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2409-7: Although not within the scope of the NI PEIS, DOE notes the commentor's concern with the defense mission (non-FFTF related) spent nuclear fuel (SNF) currently stored in the water basins at the 100 Area. As identified in DOE/EIS-0245F Final Environmental Impact Statement for Management of Spent Nuclear Fuel from the K Basins (January 1996), DOE has not dismissed this threat but has placed high priority on taking "expeditious action to reduce risks to public health and safety and the environment by removing (defense mission) SNF from the K Basins and, subsequently, to take action to manage the SNF in a safe and environmentally sound manner for up to 40 years or until ultimate disposition decisions are made and implemented." The incremental impacts associated with managing an additional 16 MTHM of FFTF SNF were evaluated in Section 4.3.1.1.14 of the NI PEIS for the restart of the FFTF. The radiological impact to the maximally exposed member of the public from overall radionuclide releases from the entire FFTF complex during the last year of reactor operation was less than 0.0001 mrem/year. Additionally, the dose contribution from FFTF SNF management would be expected to be a small fraction of the FFTF reactor operation dose. Therefore, it would have no discernable impact on the 0.1 mrem/year dose from the existing 2133 MTHM Hanford SNF inventory. The currently used FFTF-specific SNF storage system designs (i.e., facility storage vessels and dry storage casks) are the key contributors for determining that the incremental radiological and environmental impacts are small. 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. In regards to the commentor's concern with the shrub ecosystem, no ecosystems across from Hanford are "highly radioactive" as a result of Hanford activities. No food or water restrictions are in place outside

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the Hanford Reservation as a result of Hanford activities. Annual environmental monitoring reports are publically available.

2409-8: Appendix H provides information on potential health effects other than fatal cancers. Of the three health impacts from low levels of radiation exposure (nonfatal cancers, hereditary effects, and fatal cancers), fatal cancers have the highest probability of occurrence, roughly 500 excess cancer fatalities per million person-rem. Nonfatal cancers and hereditary effects appear at rates of approximately 20 and 26 per cent of this number. Using a single number for human health impacts provides a simple direct means to compare impacts and risks among the range of reasonable alternatives. Cancer fatalities, being the largest impact, were selected for presentation throughout the NI PEIS. Low risk (low health impact) from fatal cancers implies low risk for all other radiological induced health consequences.

2409-9: The No Action alternative is required under Council on Environmental Quality regulations (40 CFR 1502.14(d)). It provides a point of comparison for the action alternatives. The No Action Alternative generally represents the status quo; that is, it includes those actions that would normally take place without the proposed action. Since the status quo involves maintaining FFTF in standby and not its deactivation, it is not appropriate to include its deactivation as part of the No Action Alternative. Deactivation of FFTF is included as Alternative 5, Permanently Deactivate FFTF, and as part of Alternative 2, Use Only Existing Operational Facilities, Alternative 3, Construct New Accelerator(s), and Alternative 4, Construct New Research Reactor.

2409-10: Other than the missions discussed in the NI PEIS, no alternate uses for FFTF are being considered. None of the alternatives in the NI PEIS include defense missions nor would they contribute to future weapons production. Socioeconomic impacts associated with Alternative 1 are discussed in Section 4.3 of Volume 1.

2409-11: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF, or Alternative 2, Use Only Existing Operational Facilities.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2376: Brian Carlson

2376-1 — I was going to state this at the beginning, but I think I probably should anyway. I am opposed to the restart of FFTF.

2376-2 — The river, Columbia River, is the life blood of Gorge communities, especially Hood River, well, because I live there. That's my point of view. Without a healthy river, our communities will fall apart. In 1986, Congress created the Columbia Gorge scenic area, not the Columbia Gorge toxic sewer pipe. One of the things I tell my kids is, "Please clean up your toys before you take out any more." What I need to say to the Department of Energy: clean up your toys and stop the madness.

Response to Commentor No. 2376

2376-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

2376-2: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. FFTF is approximately 4.5 miles from the Columbia River. There are no discharges to the river from FFTF and no radioactive or hazardous discharges to groundwater. As indicated in analyses presented in Chapter 4 of Volume 1 (e.g., Sections 4.3.1.1.4, 4.3.3.1.4, 4.4.3.1.4, 4.5.3.2.4, and 4.6.3.2.4), there would be no discernible impacts to groundwater or surface water quality at Hanford from operation of Hanford facilities that would support the nuclear infrastructure missions described in Section 1.2 of Volume 1.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor: Michael Contini
National Association of Cancer Patients

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 1700.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2367: Stephen J. Curley

2367-1 — The claimed plutonium and isotope needs for which our region would be subjected to the risks of FFTF nuclear reactor restart are now revealed to be illusionary claims by the proponents of this dangerous project.

2367-2 — The draft EIS is deeply flawed by its failure to disclose information that is essential to informed decision making. Therefore, the most prudent course of action would be to remove restart of the FFTF reactor from consideration until these concerns are addressed.

2367-3 — There is no justification for either NASA or medical isotopes.

U.S. DOE's own panel of experts conclude that FFTF is not a viable source of medical research isotopes. Even the Washington State Medical Association says there is not need for FFTF as an additional source of medical isotopes. Why wasn't this information included in the EIS?

2367-4 — Hanford needs to be cleaned up. The DOE has lied to the public on radiation gas releases in the past, and we do not believe you any longer. Do not start FFTF, and clean up the mess you have already created.

2367-5 — I guess it is legal to go from meeting to meeting, but let the record stand that the few voices you're going to hear tonight that are for the FFTF are from Richland. They bus themselves down here. I'm sorry. I don't go to your meetings. I don't believe you should come to ours.

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2367-1: DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1 2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs. 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. 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-

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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 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. This PEIS has provided an estimate of the incremental potential human health impacts associated with a reasonable range of alternatives including the restart of FFTF) for the production of isotopes for medical uses, research and development, and as heat sources for radioisotope power systems. The methodology used is intended to provide realistic results based upon our current knowledge of the health impact of low doses of radiation. 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 (which includes restart of FFTF), 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.

2367-2: 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. The facilities and locations evaluated in this NI PEIS specifically represent a range of reasonable alternatives for accomplishing DOE missions and serve to enable DOE to meet its responsibilities under the Atomic Energy Act. Therefore, there is no basis for removing any particular alternative from consideration. DOE made every effort to obtain, analyze, and disclose all required information to make a decision on expanding nuclear infrastructure.

*Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)**Commentor No. 2367: Stephen J. Curley (Cont'd)**Response to Commentor No. 2367*

- 2367-3:** See response to 2367-1. The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities. 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.
- 2367-4:** DOE notes the commentor's opposition to FFTF restart and 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.
- 2367-5:** DOE notes the commentor's views. 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. It is not uncommon or illegal under CEQ regulations for individuals and special

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interest groups, who may be for or against a particular proposed action or alternative, to attend multiple meetings including those outside their "home" area. However, DOE believes and strives to ensure that the hearing format used serves to promote open and equal representation by all individuals and groups, regardless of the motivation for attending.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2404: Les Davenport

2404-1 — I do support the restart of the FFTF, specifically Alternative 1, and I support expanding the DOE infrastructure because we do have a mission to supply isotopes for both research and medical and do experiments for life extension for the current nuclear reactors.

2404-2 — Two of the alternatives here are to build another nuclear reactor somewhere or to build two accelerators somewhere. We also know that the other reactors in the United States that are producing isotopes currently, the advanced test reactor and the high flux isotope reactor, in about five years will be fully booked, and they cannot keep up with demand.

2404-3 — As Colette pointed out, the radiation risks of the isotopes and the FFTF is really driven by the processing facility. I'll point out it is impossible with the targets and the material that's being created, the isotopes that's being created, it is impossible to have a criticality accident. Plutonium-238 will not go critical. It will melt itself down and the other radioisotopes will not support criticality. So you're mixing up criticality with the production of the isotopes.

2404-4 — I hear a lot about the Hanford clean-up, either people saying that it's not going fast enough or nothing's happening at all. I'd like to call your attention to the large sheets in the very far back panel. There are four of them, and this gives the plan for Hanford clean-up, and more specifically to date, there have been over two and a half million tons of dirt containing radionuclides that have been scraped up from along the river and put into a licensed CERCLA approved disposal facility in the central plateau of Hanford. Two and a half million tons has been cleaned up from along the river shore.

Secondly, one reactor has been cocooned, and two more are in process. The paper work and the biological clean-up on two more is ongoing, and by 2005 we expect to have five of those reactors cocooned so that they're not a hazard to the environment.

By 2010, they expect that all the river clean-up will be completed, and eight of the reactors cocooned.

2404-5 — First of all, the fuel for the FFTF exists. It's already manufactured. It just needs to be put into the reactor, and we'll take it for a little over six years. If the German fuel were used to extend the time, it comes from the BNR-300 reactor. That fuel is already fabricated also. It exists. It's in this world with us. All it needs to do is to be put into an outer shroud that's a hexagonal structure about six inches across on flats. That's about all that has to be done. There is no waste from repackaging this German fuel and from using the FFTF fuel to get into the reactor. That will take it out about 21 years of operation.

Response to Commentor No. 2404

2404-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

2404-2: A discussion of DOE's isotope production capability is addressed in Section 1.2.1. Assuming a midpoint growth curve for future isotope demand and a diversity and redundancy of isotope supply, it is likely that DOE's isotope production facilities, would be fully used within a 5- to 10 year timeframe if no enhancements to the existing nuclear facility infrastructure are implemented.

2404-3: DOE agrees that the possibility of a criticality is extremely low. Procedures and controls will be in place to protect personnel and facilities from contamination. Both neptunium-237 and plutonium-238 would be stored in shielded containers in quantities and configurations that preclude criticality. Target preparation and postirradiation processing would be carried out in batches involving quantities well below those at which criticality could occur.

2404-4: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

2404-5: The commentor is correct in stating that, including the unirradiated German MOX fuel currently stored in Europe, there currently exists enough fuel to operate FFTF for 21 years and that this fuel is already fabricated.

2404-6: DOE notes the comment.

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Commentor No. 2404: Les Davenport (Cont'd)

2404-6 — Now, let's consider what happens when this fuel comes out of the reactor. It, along with all the spent nuclear fuel from commercial reactors, will be treated the same, namely, it will eventually go to a geologic repository. This may be Yucca Mountain. Who knows? Whenever the government makes a decision. And it will not be reprocessed. It will not create high level waste. So there will be nothing in high level waste to go into the Hanford tanks, and every time I hear that it's going to create new, high level waste in the Hanford tanks, that's wrong, patently false, and I wish people would stop using these false statements so frequently.

The low level waste, yes, it would go into 55 gallon drums. It would have to be disposed, but this would come from reprocessing of the targets, which make the Plutonium-238 or the radioisotopes for industrial or medical, and it's that small quantity, a few dozen 55 gallon drums that are created over the period of a year that would have to be dealt with and when you compare... The waste that would be generated from FFTF can be compared to about 80,000 drums of transuranic waste, which will have to be disposed from Hanford. Eighty thousand drums versus FFTF creating through developing isotopes a couple of dozen drums per year. It's a drop in the bucket. It's something that has to be dealt with properly. No question. But it can be done, just as the waste from Hanford can be taken care of.

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Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

**Commentor No. 2391: Cyndy deBruler
Columbia Riverkeeper**

2391-1 — I express extreme, extreme sadness at the fact that this meeting was called for a Monday night the last week of summer vacation. You do not encourage public participation in that manner, and you need to acknowledge the fact that over 200 people turned out in spite of that fact tonight, the first night of Monday night football, and at a 6:30 hearing when every hearing in 12 years I've ever been to has been scheduled at seven o'clock. So three strikes against us, but we're here anyway. So please listen.

Columbia River Keeper has prepared extensive comments since obviously you're not listening to our simple appeals, and I urge any members of the audience who haven't gotten one to please pick up one of the white sheets, fill it out, and we will see that we count them before sending them in so that we know how many comments were submitted, even though DOE does not count them or forward them on to Secretary Richardson obviously in looking at what happened with the last round of meetings.

It's interesting to note that there were five city council resolutions, and four of them right here in the Gorge, Portland, Seattle, Hood River, the Town of Bingen, Town of Mosher, and the Town of Lyle. All passed city resolutions opposing the restart.

Where are those representatives and those number of the population base represented? They're not even mentioned in the EIS.

I ask that be included and that Secretary of State or Secretary of Energy Richardson be made aware of those city resolutions.

Also, there's an extensive letter from Wyden's office here. Please make sure that Richardson receives that, as well.

Why don't you listen? You know, the comments have been made, and they're not being received in any way or forwarded. You have not taken what we gave you last time, which were very specific comments about the scoping of the EIS.

2391-2 — You've not justified the need. Instead you've totally ignored NASA's updated amounts of plutonium that they really need and forged ahead with this as your major mission and reason for this restart. It's not valid.

2391-3 — You need to go back and redo all of your numbers. Your cost numbers which just came out, and for some strange reason, even though you said that everybody received them, we did not get them. We've gotten them second hand from other parties.

There's not sufficient time to evaluate those numbers, but our best guess looks like about two billion more would be spent to restart FFTF than to produce medical isotopes elsewhere and buy the plutonium from Russia. So all of those numbers need to be justified.

Response to Commentor No. 2391

2391-1: The schedule for the public hearings was determined in part by CEQ guidelines for implementing NEPA that require that the hearings be held no sooner than 15 days after release of the Draft NI PEIS. Days and times were set to ensure that the expected level of public input could be fairly accommodated within the course of each scheduled hearing and that the schedule of hearings be completed in a timeframe that would enable DOE to thoroughly consider and respond to the public's comments. Section 1.4 of Volume 1 and Appendix N of the NI PEIS are intended to provide a summary of the issues and associated trends identified during the scoping process rather than a tabulation of comments by specific issue. Each such comment document was considered and entered in the NI PEIS comment tracking system. All comments received are part of the Administrative Record for this NI PEIS. In preparing this NI PEIS, DOE carefully considered all scoping comments received from the public. In fact, based on the scoping comments received, the scope of the NI PEIS was expanded in a number of areas as outlined in Section 1.4 to include adding a new alternative (Alternative 5) that would permanently deactivate FFTF. As referenced by the commentor, a number of statements, letters, or resolutions signed by multiple persons, such as city council resolutions mentioned by commentor, were received by DOE both for and against FFTF restart) in response to the request for scoping comments. The Office of Nuclear Energy, Science and Technology works closely with the Office of the Secretary to keep him informed of the progress on the NI PEIS, including stakeholder input. 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.

2391-2: Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining the capability to provide the plutonium-238 needed to support these missions. There are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions; 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

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2391: Cyndy deBruler (Cont'd)
Columbia Riverkeeper

2391-4 — It's on the environmental statements. They say, "Environmental impacts associated with existing inventory of spent fuel at Hanford site are minimal."

If that is what they're writing, the whole EIS needs to be thrown out and redone.

Response to Commentor No. 2391

domestic supply of plutonium 238, DOE's ability to support future NASA space exploration missions may be lost. The May 22, 2000, correspondence from NASA to DOE identifies that NASA no longer has a planned requirement for small radioisotope thermoelectric generator (SRTG) power systems. This does not mean that NASA no longer requires DOE to provide the necessary plutonium 238 to support deep space missions. Rather, the suspension of SRTG development efforts was conducted in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence, requires 1/3 less plutonium as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000 letter to DOE that the plutonium-238 needed for large RTG may be maintained as a backup. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

2391-3: 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 Volume 2, Appendix P in the Final NI PEIS.

2391-4: DOE notes the commentor's concern with the existing inventory of defense mission spent nuclear fuel (SNF) currently stored in the water basins at the 100 Area. As stated in DOE/EIS-0245F, Final Environmental Impact Statement for Management of Spent Nuclear Fuel from the K Basins (January 1996), DOE has placed a high priority on taking expeditious action to reduce risks to public health and safety and the environment by removing (defense mission) SNF from the K Basins and, subsequently, to take action to manage the SNF in a safe and environmentally sound manner for up to 40 years or until ultimate disposition decisions are made and implemented. Consistent with the purpose of a cumulative impact assessment (i.e., to evaluate the sum of the impacts from normal operations within various environmental categories, such as public health and land use) and in full recognition of DOE's position to take expeditious action

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*Commentor No. 2391: Cyndy deBruler (Cont'd)
Columbia Riverkeeper*

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in regards to management of the defense mission SNF, Section 4.8.3.5 of the NI PEIS addresses the cumulative impacts of the existing spent fuel and the spent fuel that would be associated with operation of FFTF. It is shown in the documents cited in that section that the radiological impact to the public from the management of the existing 2133 metric tons heavy metal (MTHM) inventory of SNF at Hanford (which consists of 2103.4 MTHM defense mission SNF, 11.0 MTHM of existing ((non defense mission)) FFTF SNF stored at 400 Area, and 18.4 MTHM of other non-defense- mission SNF) is less than 0.1 mrem/year. This dose is well below the EPA's Clean Air Act Standard of 10 mrem/year and the Drinking Water Standard of 4 mrem/year, as implemented by DOE Order 5400.5. The incremental impacts associated with managing an additional 16 MTHM of FFTF SNF were evaluated in Section 4.3.1.1.14 of the NI PEIS for the restart of the FFTF. The radiological impact to the public from overall radionuclide releases from the entire FFTF complex during the last year of reactor operation was less than 0.0001 mrem/year. The dose contribution from FFTF SNF management would be expected to be a small fraction of the FFTF reactor operation dose. Therefore, it would have no discernable impact on the 0.1 mrem/year dose from the existing 2133 MTHM Hanford SNF inventory. The currently used FFTF specific SNF storage system designs (i.e., facility storage vessels and dry storage casks) are the key factors in the determination that the incremental radiological and environmental impacts would be small.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

**Commentor No. 2369: Greg deBruler
Columbia Riverkeeper**

2369-1 — Now, let's talk about the EIS. I've spent the last 11 years looking at environmental impacts at Hanford, and we all remember the winds that were blowing up here at the fire last time, and they said there was no radiation released from Hanford ever during the fires. Broad statement. Secretary of Energy: no radiation release.

Banner headlines in the paper: "no radiation release." And the people outside here are going, "Wait a second. Does that makes sense? How could there be no radiation released at Hanford?"

Now all of a sudden we learn that the plutonium levels were 1,000 times above what they normally get, and then in the newspaper they come up and say, "Oh, the plutonium is just circulating the globe and it's everywhere."

2369-2 — The Department of Energy is here because they want to perpetuate making more waste. They want to perpetuate their game, and when I asked last time that they consider all the environmental impacts that will occur from processing to decommissioning, I didn't mean just to look at the human health risk. I meant to look at every risk that's out there.

In other words, if you tear a facility down, where is the waste going? Where is that waste going to go and what dump is it going into? And how much waste do you have in the existing dump?

2369-3 — So if you have a landfill and you've got ten million curies and you add another five million curies, what's the long-term risk for as long as those materials remain hazardous?

2369-4 — So if it's for Uranium-238, 4.4 billion years. I want a cost analysis that looks at every drop of waste produced in these perpetual missions, every existing amount of waste, because you have to know what you have currently before you can assess how much more you can add, and then look at the long-term risks.

2369-5 — The EIS has failed miserably. It is not a quality document and will end up in a court of law if they decide that FFTF is going to be a chosen option.

2369-6 — Environmental impact statement, I pride myself in knowing a lot about Hanford and knowing a lot about environmental impacts, and you know, the scientific world is an amazing things when they think of the environment as some species or maybe they say, "Oh, it's the salmon," because that's the hot thing to think about. So they do a risk analysis on the salmon.

But they forget about the clams. They forget about the lamprey in the river. They forget about the sturgeon.

Response to Commentor No. 2369

2369-1: DOE notes the commentor's views and concerns to include plutonium releases from the recent Hanford wildfire. Direct effects of the fire on the land and biota are addressed in this NI PEIS consistent with the scope of the affected environment descriptions for the Hanford Site provided in Section 3.4. The secondary effects of the Hanford wildfire of June 27-July 2, 2000 (known as the 24 Command Fire and the Two Forks Fire) are beyond the scope of this NI PEIS. Nevertheless, a brief description of the environmental monitoring and results associated with the Hanford wildfire follows. Since the initial stages of the fire and continuing to the present, DOE, in conjunction with the Washington State Department of Health and the Federal EPA, have conducted environmental monitoring on and near the Hanford Site to assess potential radiological releases. Monitoring will also continue over the long term. DOE has made these monitoring results available to the public as rapidly as possible with the results to date posted on a dedicated page on the Hanford web site at <http://www.hanford.gov/>. Regarding plutonium releases, DOE monitoring data has shown elevated levels (above levels normally seen) of plutonium in the Hanford 200 Areas. The most recent monitoring data available from EPA shows elevated levels (above background) of plutonium associated with 6 of the 61 ambient air filters collected from 23 locations surrounding the Hanford site. All of these DOE and EPA results are below EPA's "protective action guides" for emergency situations, EPA National Emission Standards for Hazardous Air Pollutants, hazardous air pollutant dose limits set by the State of Washington, and within or below EPA's acceptable risk range for protecting public health and the environment. DOE will continue to work with the Washington State Department of Health and the EPA and will post additional monitoring results as they become available.

2369-2: Decommissioning FFTF, including associated costs and cleanup, is not within the scope of the NI PEIS. Before decommission activities were undertaken, DOE would prepare the appropriate environmental documentation to address the associated environmental impacts. Cost assessments would also be prepared. DOE remains committed to cleaning up the Hanford Site independent of ultimate decision on FFTF. The amounts of wastes associated with decommissioning FFTF would be small. The schedule for cleaning up these other wastes would not be affected if FFTF were restarted.

2369-3: The risks associated with long term disposal of waste depends upon the disposal option selected. Management of wastes that would be generated under implementation of Alternative 1, Restart FFTF, is discussed in Section 4.3 of Volume 1 (e.g., see Section 4.3.1.1.13). Section 4.3.1.1.13 was revised to clarify

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Commentor No. 2369: Greg deBruler (Cont'd)
Columbia Riverkeeper

They forget about every living thing that exists in the environment, every living thing.

The science done at Hanford would make a real high quality scientist just shrivel up and walk away from the process because of what they failed to assess and what they failed to look at.

You call this an environmental impact statement. I call it an industrial development statement. It does not, does not address the environmental impacts that will occur at any of these sites or all of these sites, and it does not address the environmental impacts.

If you were to ask them what they would want the science to look at, they would simply tell you every living thing that depends on clean air, clean dirt, clean water, every living thing. So if you were to do an EIS, you would have to assess, first of all, how much waste you have at Hanford currently in the ground, in vessels that are going to fail in the time frame that they're going to be there before they're ever treated.

Then you'd have to assess those impacts to all the little critters on the surface, on the land, and in the water, because eventually that waste is going to move, and eventually it's going to migrate to the Columbia River.

And then you would have to take all of your waste that you're proposing to make, this new mission at all these different sites, and you'd have to lay that waste in on top of it, and then look at that risk over time.

The problem with our risk assessments are we look out ten years, 30 years. Maybe we try 1,000 years, but we kind of quite and shrivel up and go. We just can't handle that. Our science can't handle what I'm requiring you to do, but you can get a heck of a lot closer by doing a valid environmental impact statement.

This environmental impact statement, I guarantee you, if the Secretary of Energy was to make a decision today based on this and it was to go pro FFTF, you would lose when it comes to a court of law just in the environmental side of it, not counting all the other things you left out. Just in the assessment side of it, it fails miserably.

And I had a conversation last fall, and, Colette, you weren't in the room. It was with Shane and some other people after all the requirements we wanted in this EIS, and we had kind of a nice round table discussion, and the round table discussion really ended up with some people talking straight, and they all said, "In the time frame we have, there's no way we can do a totally credible EIS."

Response to Commentor No. 2369

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.

2369-4: 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. With respect to waste management and cleanup issues, the Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE remains committed to upholding this Agreement. FFTF milestones were placed in abeyance in the final Tri Party Agreement, as agreed by all three parties, until a decision is made on the future of the facility by the Secretary of Energy. Hanford Site cleanup is funded through the DOE Environmental Management Program Office. The alternatives considered in this PEIS would be funded by the DOE Office of Nuclear Energy, Science and Technology, which has no funding connection to cleanup activities. Waste management costs for existing cleanup activities were not presented in the Cost Report because they are beyond the scope of this NI PEIS. FFTF restart would not impact the cleanup missions at Hanford.

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Columbia Riverkeeper

The resources are not there; manpower is not there; and the time allotted isn't there. So I don't know what we do to make this a decision that's based on credible science, which is what Secretary of Energy Richardson wants, because there is not credible science used in this.

Some of the statements in here are really appalling.

2369-7 — And I mean think of it this way. When we talk about clean-up at Hanford, we talk about CERCLA and we talk about MTCA or RCRA, the three laws we play with out there. MTCA is the one that the United States Department of Energy wants to roll over and ignore. Washington State Department of Ecology is trying to ignore it right now in the 300 area. Those laws don't even go close enough to the trust responsibility that this Federal government has to the tribes, the three sovereign nations, not counting the other 14 nations that live up and down the river.

2369-8 — One of the things that I do appreciate you putting in was Option No. 5, and I appreciate you putting in Option No. 5 because that's what I brought up.

So if Richardson doesn't make a decision in the no action alternative, shut down FFTF.

2369-9 — I would like to make a change to Option No. 1, the no action.

And in the to action, if there is no action, FFTF is shut down and decommissioned immediately, in the no action alternative, and the only simple reason is this. Two prior Secretaries of Energy, O'Leary and Watkins, both made a commitment to the people of the Northwest and the Congress that the end of the Cold War was over, that the mission at Hanford was clean-up, and that there were no further production missions at Hanford.

It was so clear that in 1995, they put it in the tri-party agreement and said they will decommission and shut this thing down, drain the sodium out of it, and put it to death. Dead, goodbye, it's finished. That's their commitment.

So if you're going to go further and delay it by no action, you owe the American taxpayers \$360 million for the last nine years that you let this thing sit around on standby and you can't allow the political morass to continue.

Response to Commentor No. 2369

2369-5: 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. DOE evaluated each environmental resource area in a consistent, unbiased manner across all the alternatives to allow a fair comparison among the various alternatives. 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. DOE made every effort to obtain, analyze, and disclose all required information to make a decision on expanding nuclear infrastructure.

2369-6: No aspects of the impacts analysis have been omitted rather, the NI PEIS discusses impacts in proportion to their significance as specified by CEQ regulations for implementing NEPA (40 CFR 1502.2). For Alternative 1, Restart FFTF, it was determined that there was little to no potential for impacts to such resources as land use, noise, geology and soils, ecological resources (including aquatic life), and cultural and paleontological resources. DOE considers the level of detail already provided for most resource areas to already exceed that which is commensurate with the level of expected impact, as specified by CEQ regulations. The cumulative impacts of the alternatives, including Alternative 1, with respect to resource use, air quality, public and occupational health and safety, and waste management are presented in Section 4.8 of Volume 1.

2369-7: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

2369-8: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

2369-9: The No Action Alternative is required under Council on Environmental Quality regulations (40 CFR 1502.14(d)). It provides a point of comparison for the action alternatives. The No Action Alternative generally represents the status quo; that is, it includes those actions that would normally take place without the proposed action. Since the status quo involves maintaining FFTF in standby and not its

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*Commentor No. 2369: Greg deBruler (Cont'd)
Columbia Riverkeeper*

Response to Commentor No. 2369

deactivation, it is not appropriate to include its deactivation as part of the No Action Alternative. Deactivation of FFTF is included as Alternative 5, Permanently Deactivate FFTF, and as part of Alternative 2, Use Only Existing Operational Facilities, Alternative 3, Construct New Accelerator(s), and Alternative 4, Construct New Research Reactor. A 1999 change to the Tri-Party Agreement (TPA) removed the planned milestone for total deactivation of the FFTF until its ultimate fate was assessed. That proposed TPA milestone change was the subject of previous public meetings.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2401: Dirk Dunning

2401-1 — I'm surprised to hear that the EIS or the Fast Flux Test Facility has not been used or considered for military missions. I think I remember a time just one ago here where it was proposed to produce tritium to produce hydrogen bombs. Somehow I think that's used for nuclear weapons.

2401-2 — I remember when I first came to work for the state, one of the very first things I ended up running into is some documents that were part of the restart arguments from a couple of times ago. I've been through three of them now. There were three before that. This thing has more lives than a cat, and one of the most discouraging things that I heard was from Al Farabee last week because when I came into this issue, I frankly don't have an opinion about whether this reactor should run or not as we started. I've developed an opinion since then, but the discouraging word that I heard from Al was that once this decision is made and we get to the end of this process in December and the Secretary makes a decision, whichever way it goes, that if the decision is against it or even if the decision is for it, for that matter, that we can expect when the administration changes next January 20th that we're going to get to reconsider it again.

2401-3 — The last one I want to comment on is the K basins. In the EIS it says that there is no significant environmental hazard from the spent fuel already on site. That's bilge.

The 2,300 metric tons of rotting fuel in those basins is a tremendous hazard. That fuel is in a condition that DOE describes as deteriorating. It's incredibly horrible. On the order of seven percent of the fuel has dissolved away into the water and left a sludge on the bottom of the basins.

The basins, when they were originally designed, were designed to leak. They're not physically joined to the reactor block. There's a seam that's a designed leakage seam, and in the case of one of the basins, K West, that seam was painted with epoxy and sealed. In the other basin, K East, it was not.

That basin has leaked probably continuously since it was first filled with water. Because that fuel is rotting, the nearest adjacent well, the K-30 well, has tritium levels of several million pica curies per liter. There's also high levels of cesium, strontium, Carbon-14, and other things, and this is 500 yards off the Columbia River.

To call that not an environmental hazard is a farce, and then to compare the 16 tons of spent fuel from the FFTF to that is just ludicrous.

Response to Commentor No. 2401

2401-1: Other than the missions discussed in the NI PEIS, no alternate uses for FFTF are being considered. None of the alternatives in the NI PEIS include defense missions and would not contribute to future weapons production.

2401-2: DOE notes the commentor's views and concerns regarding implementation of the Record of Decision for the NI PEIS. It is DOE's expectation that the Record of Decision would not be reconsidered by the new administration.

2401-3: The discussion in the Summary and Section 4.8.3.5 of Volume 1 on the cumulative impacts for spent nuclear fuel management at Hanford was revised to clarify that the management of the existing spent nuclear fuel at Hanford results in a dose of less than 0.1 millirem per year to the maximally exposed member of the public. This dose is well within the DOE limits given in DOE Order 5400.5. As discussed in that Order, the dose limit from airborne emissions is 10 millirem per year, as required by the Clean Air Act; drinking water is 4 millirem per year, as required by the Safe Drinking Water Act; and the dose limit from all pathways combined is 100 millirem per year. DOE has committed to remove the spent nuclear fuel at Hanford for ultimate disposition in a geologic repository.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2385: Rob Gosman, Jr.

2385-1 — I'd like to speak to the term "commitment" that I heard from these spokespeople here. I heard the statement you're reiterating the commitment to the Hanford clean-up. "Commitment" is a big word for me. It's a big word for most people. I've been taught to respect the word "commitment," and I'd just like to state that I, with what education I do have, have seen no proof of any kind of commitment to the people that live on this planet regarding these concerns, which kills people.

The plain language is that there is no proof that you can clean it up or that you're even willing to or that you're committed to it. You can only state it, okay, and then reiterate it, and then we can all come back and hear you state it and reiterate it again, but there is no real proof that you can actually clean it up.

2385-2 — Because we're talking about these medical and industrial isotope production, okay, and production of fuel to power future NASA missions and civilian nuclear research and development, and I'd like to speak for my family and most of all for my father. If he was here right now, he would say, "Stop."

Response to Commentor No. 2385

2385-1: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

2385-2: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

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Commentor No. 2405: Karen Harding

2405-1 — I work with children, and that's a pretty scary thought, dead world. I can step outside my house with a baby in my arms, and we live in the woods. You know, the air and the trees and the leaves moving, they're so alive to that. They need a world that's focused on a livable, sustainable energy source. They need a world where the adults are cleaning up, cleaning up the messes that I know are almost impossible. No one knows how to clean it up. That's why we come here for ten years, trying to figure it out.

Response to Commentor No. 2405

2405-1: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2374: Daniel Harvey

2374-1 — Dealing with the nuclear waste on site seems precarious to me. Dealing with the waste that already exists seems to be problematic.

The last point I'd like to make addresses the irony of creating something that is good medically, and by that very creation producing byproducts that are evil medically, creating the isotopes, and yet that's going to create more waste.

2374-2 — So if it's not clear yet, my wish is for Alternate 5.

2374-3 — I think we should spend our money on cleaning up, not on starting up.

Response to Commentor No. 2374

2374-1: DOE notes the commentor's concern regarding waste generation. 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.

2374-2: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

2374-3: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2398: Harold Heacock

2398-1 — First, I'm a little bit puzzled by some of the dichotomies here tonight. Look at the amount of waste, low level, mixed waste to be generated in FFTF and the EIS, and then we looked at the amount that the hospitals in Oregon ship to Hanford for disposal, and there's substantially more waste coming out of medical uses in the State of Oregon that are disposed of at Hanford than would be generated by the FFTF. Secondly, last year Oregon fell all over itself wanting to ship us a reactor vessel from Trojan of some 26 million curies of radioactivity in it, but you know, that was safe to dispose of at Hanford, but we had to get it out of Oregon. But now we talk, well, we've got to clean Hanford up. Why don't you keep your waste?

2398-2 — I'd like to comment a few comments on some issues that have come up both in some of the handout material and in some of the comments. First is the FFTF was never intended for utilized nuclear weapons production and none are being considered by Department of Energy for it.

2398-3 — Secondly, the lower power operation of the reactor as proposed in the EIS adds substantial additional safety margin to those that already exist.

2398-4 — Accelerators to meet the isotope requirement are not available that have the energy level and size that would be required, nor are there any hard scientific data to support the construction of such an accelerator.

2398-5 — As far as start-up and operation of FFTF, it would be funded entirely separately from the clean-up mission, and as a number of folks here know, that funding is put through different committees. By law it's segregated from the clean-up money and will not interfere with the clean-up of the Hanford site.

2398-6 — You will find when you look at the total comments that are submitted on the EIS there is a substantial amount of comment provided in support of FFTF by labor, business, and governmental leaders.

In previous testimony on this subject, a large compilation of support letters, over 200 from different industrial organizations, governmental agencies, port districts and other interests were submitted to the department in support of FFTF, and we would request that these be included in the present record.

And in summary, we request the assets of FFTF receive an objective, balanced, realistic evaluation of the alternatives during the preparation of the record decision on this environmental impact statement.

Response to Commentor No. 2398

2398-1: The commentor's position on waste generation and disposal are noted. As discussed in Chapter 4 of Volume 1, if facilities at Hanford are selected to support the nuclear infrastructure missions, then waste generated during implementation of the alternative(s) would be disposed of in compliance with the Tri-Party Agreement for the Hanford Site.

2398-2: The commentor is correct in stating that FFTF was never designed for the production of nuclear weapons material and DOE is not considering any nuclear weapons related mission for FFTF.

2398-3: DOE agrees that 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. In the event that FFTF restart is selected, a new Safety Analysis Report, including a Probabilistic Risk Assessment (PRA), will be prepared and it will address any changes in plant configuration, operating conditions and procedures. The revised safety analyses will be subjected to a thorough independent review process.

2398-4: DOE operates two accelerators that are being utilized for the production of medical isotopes, the Brookhaven Linac Isotope Producer (BLIP) located at the Brookhaven National Laboratory and the Los Alamos Neutron Science Center (LANSCE) located at the Los Alamos National Laboratory. DOE is currently in the process of upgrading the LANSCE facility with the 100 MeV isotope production facility. The upgrade is scheduled for completion in 2001. While DOE has the final design for accelerator with an energy level and size larger than the high-energy accelerator proposed in the NI PEIS, DOE has no conceptual, preliminary, or final design for an accelerator that has the energy level and size required to support the plutonium-238 production mission at the maximum production rate of 5 kilograms per year. The accelerator designs for Alternative 3 were developed to a level of detail that was adequate to assess the environmental impacts associated with the construction and operation of the proposed facilities and the technical feasibility of meeting the mission objectives. The commentor is not correct in his statement that there is no hard scientific data to support the design and construction of such a facility. Tests have been performed at LANSCE to support the design of large high-energy accelerators.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2398: Harold Heacock (Cont'd)

Response to Commentor No. 2398

2398-5: 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.

2398-6: DOE notes the commentor's view that there is strong support for FFTF by labor, business, and government leaders and desire for an objective and balanced evaluation of the alternatives. The environmental impacts of reasonable alternatives to fulfill the requirements of the missions were disclosed and evaluated in the NI PEIS. DOE evaluated each environmental resource area in a consistent, unbiased manner across all the alternatives to allow a fair comparison among the various alternatives. This was accomplished through review and evaluation 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. Public comments have been entered into the NI PEIS Administrative Record. 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2417: Michelle Hoffman

2417-1 — I just wanted to state for the record that I'm opposed to starting up FFTF. . .

2417-2 — I am in support of Alternative 5, which is to shut it down. . .

2417-3 — . . .clean up the waste that has already been made.

Response to Commentor No. 2417

2417-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 5, Permanently Deactivate FFTF.

2417-2: See response to comment 2417-1.

2417-3: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2411: John Hollinger

2411-1 — Your compilations of prior public comment are seriously lacking and show your failure to listen to the public. You failed to give any numerical breakdown for the 7,000 comments received. You only say “many” of the commentors who attended the meetings in Seattle, Portland, and Hood River were strongly opposed to the restart of FFTF. Then you go on to say “most” of the comments received at the Richland meeting were in support of restart.

You need to state the numbers of these comments so Secretary Richardson is clear on where the people of the Northwest stand. You put the numbers in when it is in your advantage and leave them out when they are opposed.

You also fail to mention the five city council resolutions opposing FFTF restart, which means that you have representatives of entire cities opposing it, and their numbers should be included.

You have totally misled the public. You’ve been told over and over again we don’t want this restarted. I would say pull your head out.

2411-2 — You have failed to demonstrate a compelling need for the production of plutonium for space, medical or research isotopes, or nuclear energy research. Neither is there adequate justification for the need to produce all of them at one site. Neither is there justification for the need to produce them domestically, which makes no sense when we would continue to buy foreign nuclear fuel to run FFTF.

You must include recommendations of your own blue ribbon panel, Subcommittee for Isotope Research and Production Planning. That panel advised against the use of FFTF for medical isotope production. Your own panel advised against it.

Furthermore, EIS isotope demand projections are outdated and inadequate. They also fail to take into account possible cancer cures like gene therapy that could make medical isotopes unnecessary.

In addition, medical isotopes can be adequately produced at other DOE sites if they are a high priority, as implied. Current isotope production levels for DOE reactors are misstated in the EIS at near capacity when most are only around 50 percent.

Response to Commentor No. 2411

2411-1: While all comments received during the scoping periods for both the Plutonium-238 Production EIS and the NI PEIS are part of the Administrative Record for the NI PEIS, Section 1.4 of Volume 1 and Appendix N are intended to provide a summary of the issues and associated trends identified during the scoping process rather than a tabulation of comments by specific issue. It should be noted, however, that NEPA and CEQ regulations do not require an agency to include and respond to each scoping comment as is required for public comments on a Draft EIS. In preparing the NI PEIS, DOE carefully considered scoping comments received from the public. Any perceived discrepancy in the grouping of comments raising any one particular issue or set of issues is attributable to the manner in which they were originally categorized and counted. For example, a number of statements, letters, or resolutions signed by multiple persons, such as city council resolutions mentioned by the commentor, were received by DOE (both for and against FFTF restart) in response to the request for scoping comments. Each such comment document was considered and counted as a single comment in the NI PEIS comment tracking system. The Office of Nuclear Energy, Science and Technology works closely with the Office of the Secretary to keep him informed of the progress on the NI PEIS, including stakeholder input.

2411-2: 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 of 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 evaluates a range of reasonable alternatives for accomplishing the proposed action, one of which includes use of FFTF. Section 1.2 of Volume 1 was revised to clarify the purpose and need of the proposed action. There is no requirement to conduct all of these missions at one site. In the Record of Decision process, DOE could choose to combine components of several alternatives in selecting the most appropriate strategy. For example, DOE could select a low-energy accelerator to produce certain medical, research, and industrial isotopes, and an existing operating reactor to produce plutonium-238 and conduct nuclear research and development. Should FFTF be selected for restart in support of these missions, DOE expects it could utilize a 15-year supply of mixed-oxide fuel that would be available from Germany under favorable economic terms (i.e., no

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2411: John Hollinger (Cont'd)

Response to Commentor No. 2411

charge for the fuel). The commentor also questions the need to produce these materials domestically. The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. However, Canada only supplies a limited number of economically attractive commercial isotopes (primarily Molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. Further, supplies of many research isotopes are not readily available from existing foreign or domestic sources, causing a number of medical research programs to be terminated, deferred, or seriously delayed. As such, reliance on these other sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. Section 1.2.1 of Volume 1 was revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs. Whereas DOE could purchase plutonium-238 from Russia, 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 similarly revised to clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions. DOE notes the commentor's concern regarding isotope demand projections and their relationship to other available therapies. In ongoing clinical testing, therapeutic radioisotopes have proven effective in treating cancers and other illnesses while minimizing adverse side effects, making their use an attractive alternative to traditional chemotherapy and radiation treatments. 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 1.2.1 of Volume 1 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 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. 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

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2411: John Hollinger (Cont'd)

Response to Commentor No. 2411

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 does not believe that isotope production levels were misstated in the Draft NI PEIS. Section 1.2.1 identifies that approximately 50 percent of DOE's isotope production capability is being used.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2377: Michael Hussman

2377-1 — And I've been to a lot of these meetings, and it's getting really tiring, but here I am again, and there's a lot of other people that would have liked to have been here tonight, but according to the scheduling that you guys came up with, they couldn't be here.

2377-2 — So, anyway, as far as my friends and neighbors are concerned, this is more or less the way they feel. So I kind of summed it up in a short, sweet comment, and it was you folks at the DOE really need to get a clue because the public doesn't want this going on. They're really tired of it, and until you can effectively or safely figure out a way to clean up your messes, the nuclear age is over.

Response to Commentor No. 2377

2377-1: DOE is committed to providing the public with comprehensive environmental reviews of its proposed actions in accordance with NEPA, and holding public hearings is an essential and required part of the NEPA process. The schedule for the public hearings was determined in part by CEQ guidelines for implementing NEPA that require that the hearings be held no sooner than 15 days after release of the Draft NI PEIS. The public also had the opportunity to comment on the Draft NI PEIS through the U.S. mail, e-mail, a toll-free fax number, and a toll-free phone number. DOE gave equal consideration to all comments, regardless of where or from whom received. In preparing the Final NI PEIS, DOE carefully considered comments received from the public.

2377-2: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2395: Chief Johnny Jackson

2395-1 — You know, my people, my people who live along this reservation, live along this river here and on the reservations used to enjoy live along this river, but it's kind of difficult to look at them today, to see and hear about what's happening to a lot of them.

The Yakimas who are neighbors of the Hanford Reservation, we've even opened up an area west of the Hanford — on the western side of the reservation and told my people that they can go and harvest the food there. I've seen some of it, and I told them that it wasn't worth it.

Many of my people on the reservation, in fact, on both reservations, Warm Springs, Umatilla, Colville, as well as Siakwa (phonetic) are starting to die of cancer. Leukemia, the kids and some of the young people; some of the men don't even reach the age of 30, and some of the women don't reach that age either, and they come down with cancer and die.

It never used to be that way, and it's all happened over around the Yakima Reservation, around the Colville Reservation.

We've went and we filed a suit for what is happening to the river for our people. The program was set up by the government and DOE, but the questionnaires we got and we filled out, they said, "You're not Downwinders."

In those forms, they never mentioned nothing about the water and the river, which is being contaminated and polluted by Hanford.

I caught fish quite a few years ago which started me to fight against Hanford. Right here in this river every one of them fish were contaminated. They were going back upstream. You've never seen fish with no eyes but still alive swimming up river, and the bodies of those fish that were badly mutilated.

I got them fish out of my nets, and I turned them over to the authorities who were supposed to send them to the laboratory for further studies. For some reason they didn't reach there because I never got no report back on them.

On a national conference up at Montana the year before last, some people came to that conference from the Colville Reservation to ask us for help. They wanted us to intervene in looking into a lawsuit or doing something about what is happening to their animals on the Colville Reservation, the wildlife.

2395-2 — You've never seen kids like I have in Arizona that are in the hospital that can't walk, can't talk and some that cry day and night, but still — you want to start up this Hanford, you're going to start up this reactor again. We can do without it and I hope you stop it.

Response to Commentor No. 2395

2395-1: The commentor's concerns about contamination of rivers and tribal lands are noted. As discussed in Chapter 4 of the NI PEIS, implementation of the nuclear infrastructure alternatives would not be expected to result in radioactive or chemical contamination of the Columbia River or land surrounding the Hanford Site. No food or water restrictions are in place outside the Hanford Site as a result of Hanford activities. As shown in Figures K-10 and K-11 of Appendix K (Environmental Justice Analysis), the western boundary of the Yakama Indian Reservation is approximately 30 kilometers (19 miles) southwest of the nearest boundary of the Hanford Site. Although the Yakima River flows along western boundary of the Yakama Reservation and along a portion of the southern boundary of the Hanford Site, the reservation is upstream from the Hanford Site. Prevailing winds at the Hanford Site blow from the south to south-southwest directions toward Grant County. Hence, Grant County would be expected to bear a major burden of wind borne contamination from the Hanford Site. As discussed in Section 3.4.9.3 of Volume 1, the question of whether residents in the Hanford area are subject to elevated cancer rates is unresolved. Existing studies and data suggest that cancer mortality rates in counties adjacent to the Hanford Site are not elevated. Although Yakima County was not included in the studies cited in studies cited in Volume 1, Section 3.4.9.3, the impacts of the Hanford site on counties adjacent to the site boundary would be expected to exceed the impacts on the Yakama Indian reservation. Available data and studies described in Volume 1, Section 3.4.9.3 do not exclude the possibility of elevated cancer mortality rates on the Yakama Reservation. Currently accepted factors for conversion of effective dose equivalence to latent cancer fatalities include age dependence, but no dependence on race or ethnic origins. Although the question of whether the Hanford Site causes or promotes excess cancer mortality rates on the Yakama reservation is unresolved, implementation of the Alternatives described in Volume 1, Section 2.5 of Volume 1 would not be expected to result in latent cancer deaths among the population residing on the Yakama reservation because the resulting radiation doses in Yakama County would be small in comparison to that required to produce an excess cancer fatality. The Colville Indian Reservation is approximately 320 kilometers (200 miles) north-northwest of the Hanford Site. Along the Columbia River, Colville Reservation is upstream from the Hanford Site. It is in the direction of prevailing winds from the Hanford Site. As discussed in the paragraph above, airborne radiological and chemical contaminants from the Hanford Site would be expected to primarily impact Grant County, and there is no evidence of excess cancer mortality in Grant County. Impacts on the Colville Reservation would be expected to be much less than those on Grant County because the airborne concentrations of radioactive materials and

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2395: Chief Johnny Jackson (Cont'd)

Response to Commentor No. 2395

hazardous chemicals decrease with increasing distance from the source. Operations at the Hanford Site would not be expected to adversely affect fish in the Yakama River. According to an International Atomic Energy Agency (IAEA) publication (IAEA Technical Report Series No. 332, Effects of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards), a dose rate of 100 millirem per year to the most exposed human will lead to dose rates to plants and animals of less than 0.1 rad per day. The IAEA concluded that a dose rate of 0.1 rad per day or less for animals and 1 rad per day or less for plants would not affect these populations. As discussed in Section 3.4.9.1 1 of Volume 1, the largest individual dose to the public from normal operations at the Hanford Site in 1997 was 0.004 millirem, which is more than four orders of magnitude less than the IAEA threshold for adverse effects. For the same reason, impacts to ecological resources would be small in the immediate area of the Hanford Site and negligible at all distant locations.

2395-2: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2392: Robin Klein

2392-1 — This reactor [FFTF] has been in search of a mission for ten years, and this EIS has been uniquely crafted to specifically justify its restart, and that's despite the lack of demonstrated need.

2392-2 — And even so, the EIS shows that FFTF start-up would pose the largest risk from accident compared with the other alternatives.

2392-3 — It would create 6,000 cubic meters of new waste, contaminate an uncontaminated facility, the FMEF, which by the way doesn't get spoken about much, but the contamination and the volume of waste produced by that facility would be the vastest.

2392-4 — And it also doesn't mention that DOE would foot the entire bill for NASA's plutonium supply that would be produced there.

2392-5 — But here we are again, despite the many times we've been here before and despite the overwhelming opposition that has been brought up over and over again, and that is the city councils that have come up in full opposition. The two largest cities in this region have come out in full opposition.

Oregon state legislature two years ago specifically came out in opposition. That was overwhelming, bipartisan agreement, and a conservative Republican legislature.

We have had it over and over again, our congressional delegates speaking out against restart.

The message doesn't seem to be getting through, but I'm glad right now that we are at the end game here supposedly. The decision is to be made. We hear from Richardson by the end of the year. So I look forward to him honoring that commitment.

And I also see this as a challenge for democracy. This is the true test. If this decision that goes forward with the restart of FFTF, if he does not shut it down, then he has not heard anything. He has not heard that the citizens in the Northwest are overwhelmingly opposed to this facility, and I will no longer believe that we are living in a democracy, that Richardson, the Clinton-Gore administration and public process mean nothing.

Response to Commentor No. 2392

2392-1: 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. The NI PEIS evaluates a range of reasonable alternatives for accomplishing the proposed action, one of which includes use of FFTF. Section 1.2 of Volume 1 was revised to clarify the purpose and need of the proposed action.

2392-2: FFTF 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 alternatives, including normal operations and a spectrum of accidents that included severe accidents. Although there are minor differences in the risks among alternatives, the environmental analysis showed that radiological and nonradiological risks associated with all the alternatives would be small.

2392-3: 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 (i.e. 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. DOE notes the commentor's concern regarding contamination of new facilities that have never been contaminated (i.e., FMEF). Information regarding waste generation from processing and fabrication or irradiated targets is discussed in Sections 4.3.3.1.13 and 4.4.3.1.13. 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

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2392: Robin Klein (Cont'd)

Response to Commentor No. 2392

the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision.

- 2392-4:** The commentor is incorrect that DOE is responsible for the entire cost of NASA's plutonium-238 supply, although DOE is mandated by the Atomic Energy Act to provide isotope production support for other federal agencies. Through an interdepartmental arrangement with NASA, DOE is reimbursed for plutonium-238 production and for associated power system hardware.
- 2392-5:** DOE notes the commentor's views. The Secretary of Energy will make the programmatic decisions with respect to the alternatives presented in this NI PEIS to accomplish the DOE missions. Decisions made will be published in the Record of Decision no sooner than 30 days after publication of this NI PEIS. 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2415: Bob Lanbeer

2415-1 — Anyway, I was a contractor in Olympia for many years, and you know, really the cleanup report of the Hanford site, boy, I was in the wrong business. I mean, get this. I bid on this contract. I went ten times over on my bid, right? Could walk away from the job, and I get paid all that money, and somebody else would come in and take the place and I did a good thing.

I really don't believe the Department of Energy is even the slightest bit interested in cleaning up their mess.

2415-2 — What the deal is, is in the back of their minds they know that somewhere in the next 20 years we're going to run out of oil. Right? When we run out of oil, all of a sudden now there's going to be this national emergency because people's cars are going to be at the gas stations. Everybody is going to say, "Hey, what can we do?"

All of a sudden, hey, what about nuclear power? So by the Department of Energy just keeping these reactors going, keeping the technology going, people are going to make some really bad choices. All of a sudden they're going to say, "Hey, this is the best that we've got."

Hey, why don't we start spending some money doing renewable energy projects? Right now minimal dollars; I mean, the Department of Energy right now has a two million solar roof project, and basically what they're trying to do is they're trying to get solar power out there.

But the problem is they're not investing any money into it. There's no money available, but here we're going to spend billions of dollars to keep pushing a technology that we know is bad. Hey, let's get the price of solar energy down, and let's start looking at wind power. Let's start looking at, you know, micro hydroelectric power, start pushing those industries, start putting money into those industries because when the time comes we're out of oil, 2020 or whatever year they figure, hey, let's make some good choices.

Response to Commentor No. 2415

2415-1: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

2415-2: DOE notes the commentor's interest in alternative energy sources, although issues of research and development of alternative energy sources are beyond the scope of this Nuclear Infrastructure PEIS. The DOE missions to be addressed in this EIS, which include the production of medical and industrial isotopes, the production of plutonium-238, and civilian nuclear energy research and development, can currently only be met using nuclear reactor or accelerator technologies.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2366: Daniel Lichtenwald

2366-1 — The development of the NI PEIS glosses over the potential long-term barriers aspects and jumps heartily to the conclusion that DOE's nuclear R&D initiatives require an enhanced nuclear facility infrastructure in three basic categories: materials research, nuclear fuel research, and advanced reactor development, nothing about those potential long-term barriers to expanded use of nuclear power, like waste, proliferation, safety and economics.

2366-2 — Indeed, the analyses provided in all of the NI PEIS documents of the alternatives and relevant infrastructure and facilities devote a higher level of detail and evaluation to the FFTF than they do for all other elements supposedly under consideration.

2366-3 — Any R&D and consultant production at Hanford should be devoted to the as yet unresolved problems of containment, storage, and intricate processes and neutralization of toxics.

As I've said at previous meetings, DOE has a conflict of interest as a federal agency responsible for management of clean-up at the Hanford site. As long as DOE is committed to responsibilities that it sees as being to, "insure the availability of isotopes for medical, industrial, and research applications, meeting the nuclear material needs of other federal agencies, and undertaking research and development activities related to development of nuclear power for civilian use" it is not surprising that it can't keep its fingers out of the FFTF and perennially gives short shrift to the problems of clean-up at Hanford.

Opening up a toxic waste dump that is out of control to new sources of toxics is not a good idea. The needs to end World War II were met by the creation of a unique project and oversight at Hanford. Now we are living with a need to eliminate the hazard that Hanford has become for all life for all time in the region.

A new project and oversight needs to be created or brought in. We don't need a Department of Energy there. We need a department of clean-up.

2366-4 — Staying with the script, we prefer that Alternative 5 be selected, that the FFTF be taken out of standby, be deactivated and dismantled...

2366-5 — Alternative 3 can be considered if facilities resource — reluctantly considered if facilities, resources and activities at Hanford are not involved.

2366-6 — Alternative 4 is unacceptable as that calls for construction of another reactor and another source of toxic waste.

Response to Commentor No. 2366

2366-1: 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.

2366-2: In order to adequately evaluate and demonstrate the potential environmental consequences of Alternative 1, Restart FFTF, as contained in Chapter 4 of Volume 1, it was necessary to fully characterize the standby condition in both Chapters 3 and 4 so that the incremental impacts of restart could be clearly presented. Further, the facility descriptions for FFTF (e.g., as contained in Appendix D) are also somewhat detailed owing to the relative uniqueness of the facility's design and the need to discuss its historical operations and proposed operations after restart, including projected facility modifications. Although there are necessary additional informational elements contained in the NI PEIS for FFTF, a comparable level of detail has been provided for the other proposed facilities on such elements as core configuration and facility layout. Other factors that add to the additional level of discussion necessary for FFTF surround the fuel use options that are assessed for FFTF operation. A similar situation exists for FMEF in that it has never operated for its intended use requiring that an additional level of detail be provided in describing the baseline operating conditions of this facility and those during its proposed operation to support the DOE missions. Chapter 3 of Volume 1 has been revised to include additional, comparable baseline information for the other processing and irradiation facilities under consideration. However, DOE evaluated each environmental resource area in a consistent, unbiased manner across all the alternatives to allow a fair comparison among the various alternatives and candidate facilities. DOE made every effort to obtain, analyze, and disclose all required information to make a decision on expanding nuclear infrastructure.

2366-3: 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

*Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)**Commentor No. 2366: Daniel Lichtenwald (Cont'd)**Response to Commentor No. 2366*

applications, meeting the nuclear material needs of other federal agencies, and undertaking research and development of activities related to development of nuclear power for civilian use." The purpose of this PEIS is to determine the environmental and other impacts to accomplishing this mission from all reasonable existing and new DOE resources. The FFTF at the Hanford Site was one of several existing DOE resources that was assessed for this mission. DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing Hanford cleanup activities are high priority to DOE. Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. DOE also notes the commentor's desire for a separate department of cleanup.

2366-4: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF, support for Alternative 3, Construct New Accelerator(s), at a site other than Hanford, and opposition to Alternative 4, Construct New Research Reactor. It should be noted that the FFTF would be deactivated and not dismantled under Alternatives 2, 3, 4, and 5.

2366-5: See response to comment 2366-4.

2366-6: See response to comment 2366-4.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2383: John P. Mansfield

2383-1 — Hydroelectric power is down the street. You did all kinds of studies, and what for? And you're going to open another nuclear power plant, poison the water, poison the fish, poison our children again?

Now, radioactivity versus geothermal energy. You've got all kinds of geothermal things around here. Why not use them instead? Costs too much money.

2383-2 — Okay. Mr. Clinton and Mr. Blair, you also failed to analyze lower cost alternatives, such as subsidizing university reactors. Great, or buying time from private accelerators or reactors.

2383-3 — Man has raped this planet since time immemorial, and I think, you know, the heavenly plan would be to get rid of Hanford. It's not a national asset. Gentlemen, it's a national liability.

Response to Commentor No. 2383

2383-1: DOE notes the commentor's interest in alternative energy sources, e.g., geothermal and hydroelectric, although issues of research and development of alternative energy sources are beyond the scope of this Nuclear Infrastructure PEIS. Chapter 4 of the PEIS evaluates potential environmental and waste management impacts, and makes clear that the PEIS alternatives would provide for safe waste management without adverse or harmful effect on the environment. The DOE missions addressed in this PEIS, which include the production of medical and industrial isotopes, the production of plutonium-238, and civilian nuclear energy research and development, can currently only be met using nuclear reactor or accelerator technologies.

2383-2: The NI PEIS considered the use of a wide range of irradiation facilities, including those operated by universities and private concerns. Privately owned and operated CLWRs were added to the PEIS scope for the production of plutonium-238 and were analyzed in detail in the document. University reactors were considered, but were dismissed because they do not have sufficient available core volume to accommodate the required missions. Section 2.6.1 provides a complete discussion of irradiation facilities considered but dismissed.

2383-3: DOE notes the commentor's concerns regarding 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2407: Anne Moore

2407-1 — I also can't believe I'm coming back here again. It seems like this is just a process driven to wear us down maybe.

I'd like to start out with a favorite quote I have from Burl Ives in "Cat on a Hot Tin Roof." Maybe you remember this. "Mendacity, mendacity," because I think what we're hearing here are lies. We have lies from the DOE and lies from their corporate partners, TRIDEC, who sound a lot like a science fiction movie villain except they're real life, who by the way have presented us with a nice Orwellian propaganda table.

So what is this National Association of Cancer Patients? How come I've never heard of you? If there's so many of you, why have I never run into you before? And who are you sponsored by?

You know, people have been bused in to try to convince us that if we oppose the restart of FFTF, we want cancer patients to die. That's patently untrue.

2407-2 — My uncle is getting the radioactive isotopes for treatment from his cancer, and I certainly support that, and I don't want him to die. This is just a pure Orwellian smoke screen.

Few, if any, in here want to prevent medical research in cancer treatment, nor will it be prevented. As these people know, medical isotopes have been, are, and will continue to be available without the restart of the FFTF. There is no delay in time for my uncle to get treatment. I don't believe that there really is a shortage.

2407-3 — What we have here is a good, old fashioned and still popular greed fest. Hiding under a mask of social concern, we have a bureaucratic dinosaur government agency in a small desert community, have very selfish, money oriented people who put money above the continuance of life on earth, and these two groups are putting our lives and the lives of our children and all future generations at risk, all for a fast buck. That is the bottom line with this whole program.

2407-4 — Yes to Alternative No. 5, please.

2407-5 — And please clean up the mess you've already made.

Response to Commentor No. 2407

2407-1: DOE notes the commentor's remarks. DOE is committed to discharging its responsibilities in an open and unbiased manner and providing the public with comprehensive environmental reviews of its proposed actions.

2407-2: DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs. The United States currently purchases approximately 90 percent of its medical radioisotopes from foreign producers, most notably Canada. However, Canada only supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. 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. 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).

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2407: Anne Moore (Cont'd)

Response to Commentor No. 2407

- 2407-3:** DOE notes the commentor's concerns. DOE remains committed to its mission to serve the Nation in energy matters, and in particular, with respect to its nuclear facility infrastructure, to ensure the availability of isotopes for medical and industrial use, to meet the nuclear material needs of other Federal agencies, and to undertake research and development related to the application of nuclear energy for peaceful, civilian use.
- 2407-4:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTE.
- 2407-5:** 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2371: Michael Mulhall

2371-1 — . . .so that we don't see what happened here in Hanford since the start-up of all this go down. All I can say I'm against this.

2371-2 — I think we should take all this money that you're willing to throw away again, our money, the people's money, and start cleaning up the mess we've already created.

Response to Commentor No. 2371

2371-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

2371-2: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the FFTF through the Office of Nuclear Energy, Science and Technology (NE). The nuclear infrastructure missions described in Section 1.2 of Volume 1 would also be funded by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

**Commentor No. 2406: Wanda Munn
Nuclear Medical Research Council**

2406-1 — I'm president of the Nuclear Medical Research Council. Our concern is over the use of isotopes and the shortage that exists in the United States. Therefore, we were very pleased to have the Department of Energy address nuclear infrastructure on a large scale.

It's very difficult to not react to many of the statement and misstatements that were made during the course of this evening, but I want to try to focus what my organization would be interested in, which is the contents of the EIS and what it means. There was one slight misrepresentation, I think, with respect to the need for additional medical isotopes just for research and development. The statement that this particular facility was not needed for that is slightly misleading.

It's true that most currently used R&D isotopes can be produced in smaller quantities elsewhere, but there is no other fast reactor that can produce some few which have caused the shutdown of some clinical trials because it was impossible to obtain them anywhere, either in the United States or in Canada.

The one thing that the EIS seems to have done quite well is to point out the major holes that exist in the infrastructure. Any objective assessment of the information that's given would see very clearly that the operation of the Fast Flux Test Facility would be the most expedient, would be the safest, and would be the most efficient way of filling those holes in the short term.

We urge the choice of Option 1 for restart.

Response to Commentor No. 2406

2406-1: DOE notes the commentor's support for Alternative 1, Restart FFTF. DOE assumes the commentor is also referring to conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000, regarding the suitability of FFTF for producing research isotopes in a timely and cost-efficient manner. However, these conclusions were made in the context of the facility producing research isotopes as its sole mission. 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2378: Judy Nelson

2378-1 — Shame on you for holding these meetings in half of July, all of August, the top vacation times, and two weeks in September when everybody is getting their kids settled into school. That is inappropriate. It's unprofessional, and it's not plain fair. And then you slipped in at the beginning of the meeting that there were things that you sent out to 1,000 people so that we have information that we don't have access to, and you're going to release some more information in two more weeks, but we can read that and we can comment on it. My calculations, if this goes on until September the 18th, that would leave us four days to get hold of it and make comments if you're releasing it in two weeks. Not possible. Shame on you for doing it that way. It's not professional.

2378-2 — The analogy is Hanford is soiled, and it's growing as it reaches closer to the river and as it burns up in the grass, and for God's sake don't eat the jackrabbits or the deer up there on that reserve. They're all contaminated and radioactive, and the fish. In fact, there are people I know who used to come to Hood River every winter. They don't come anymore. So you think there's an economic impact? Yes, but there's a life impact.

Well, saying you want to start up Hanford again is like getting the old lady with 100 to 200 animals to promise she'll clean the place up and then, "Oh, by the way, would you take some more animals?"

So what you're wanting us to do is to believe that even though you have failed your promises in the millions and hundreds of millions of dollars that have been put in there to G.E., to Martin Marietta, to all the other companies, and about the time things get hot, they let loose of the contract and pass it on to the next guy. So they're really only paying off their stockholders.

It's a game. It's a shell game. It's also the people up there in Tri-Cities thinking they can't survive without you. Well, let me tell you folks up there, it's okay. You will survive without them. In fact, you may survive longer because you won't be dealing with the radioactivity. The analogy: Hanford is a mess. Clean it up. Don't break your promise. And listen to what the scientists have said they don't need.

2378-3 — And finally, I am a cancer survivor, ovarian cancer, 85 to 95 percent death rate. So every day to me is a gift. They don't know why it's come on so suddenly. Well, guess. Anything that's shot up in the past couple of decades. But let me tell you where my radiation came from. I lived 15 miles from Oak Ridge, Tennessee, when I went to college. It's in a valley, and I got radiation for four years because they were doing their own downwinder experiments at that time.

I lived near Paducah, Kentucky, and they just now this past year have told the dying men that, "Yes, you were right after all. We just didn't want to tell you before, but, yeah, you are dying from radiation sickness," which they knew all along, but they would not admit it to them.

Response to Commentor No. 2378

2378-1: The schedule for the public hearings was determined in part by CEQ guidelines for implementing NEPA that require that the hearings be held no sooner than 15 days after release of the Draft NI PEIS. DOE is committed to providing the public with comprehensive environmental reviews of its proposed actions in accordance with NEPA, and holding public hearings is an essential and required part of the NEPA process. The public also had the opportunity to comment on the Draft NI PEIS through the U.S. mail, e-mail, a toll-free fax number, and a toll-free phone number. DOE gave equal consideration to all comments, regardless of where or from whom received. 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 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.

2378-2: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the FFTF through the Office of Nuclear Energy, Science and Technology (NE). The nuclear infrastructure missions described in Section 1.2 of Volume 1 would also be funded by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2378: Judy Nelson (Cont'd)

Response to Commentor No. 2378

designated for Hanford cleanup, regardless of the alternative(s) selected. FFTF is approximately 4.5 miles from the Columbia River. There are no discharges to the river from FFTF and no radioactive or hazardous discharges to groundwater. As indicated in analyses presented in Chapter 4 of Volume 1 (e.g., Sections 4.3.1.1.4, 4.3.3.1.4, 4.4.3.1.4, 4.5.3.2.4, and 4.6.3.2.4), there would be no discernible impacts to groundwater or surface water quality at Hanford from operation of Hanford facilities that would support the nuclear infrastructure missions described in Section 1.2 of Volume 1. The 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.

2378-3: The commentor's concerns about radiation from the Oak Ridge Reservation and Paducah are noted. Risks to the public that would result from implementation of the nuclear infrastructure alternatives are described in Chapter 4 of Volume 1.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2397: Christopher Nygard

2397-1 — I would like to say that I would like DOE to take Alternative 5, the shutdown of the FFTF reactor as the only option in your project.

2397-2 — I would also like to ask that you be accountable in numbers to report directly back in a report, in numbers, how many people have opposed and how many people are for the FFTF reactor. I feel that you've done us a great injustice.

Response to Commentor No. 2397

2397-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

2397-2: Section 1.4 of Volume 1 of this NI PEIS, as supplemented by an expanded discussion provided in Appendix N, summarizes the prevailing issues and concerns raised during the scoping process to include identification of prevalent issues raised at individual scoping meetings. It should be noted, however, that NEPA and CEQ regulations do not require an agency to include and respond to each scoping comment as is required for public comments on a Draft EIS. While all comments received during the scoping periods are part of the Administrative Record for the NI PEIS, Section 1.4 and Appendix N are intended to provide a summary of the issues and associated trends identified during the scoping process rather than a tabulation of comments by specific issue. 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. These comments are summarized, tabulated, and cross-referenced by commentor, category, and method of submission.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor: Laurel Pippo

The oral comments were submitted in written form and are addressed in the responses to Commentors Nos. 410 and 1488.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

**Commentor No. 2380: Gerald Pollet
Heart of America Northwest**

2380-1 — Well, according to their cost report, they must — one of you has to take it home because under the alternative for restarting FFTF there's no cost assigned for ever shutting it down or cleaning it up. So I assume they expect someone to take it away for free. So check your trunks. Look in your back packs. Pieces of the nuclear waste are there. That's commercial disposal, too, I take it.

2380-2 — I'm . . .with Heart of America Northwest, and we joined the eight members of the United States Congress, the City Commission of Portland and mayor, members of the City Council of Seattle in saying that we are dismayed at the illegal action of the Department of Energy in pretending to disclose the environmental impacts in an environmental impact statement while hiding, one, what would be done with the wastes; a separate report — you can't see it until after the hearings.

Two, what the costs are; a separate report — you can study it after the hearing. Three, what are the nuclear nonproliferation impacts? Separate report — you can find out about the impacts and comment on them and see if we misled the public about those after the hearing.

2380-3 — Four, we failed to disclose to you, sorry, that NASA has totally changed the demand for plutonium-238.

Now, why should we trust this process? What does the environmental impact statement say about these specific reactors?

"Without these power systems, these types of space exploration missions could not be performed by NASA, speaking very specifically about the very specific reactors and their very specific plutonium needs."

But NASA wrote May 22nd, "We're not going to use that particular reactor at all. We have a new advanced technology."

Now, there was plenty of time to disclose this to you. Colette only disclosed it to us today after Senator Wyden and seven members of Congress wrote the Secretary of Energy today saying that they were dismayed like the rest of us about this lack of disclosure.

2380-4 — What else has not been disclosed? Oh, yes. A subcommittee that we were told to wait the report of. A blue ribbon medical advisory committee said, "You shouldn't think about using this reactor (a) for research medical isotopes and (b) you shouldn't be in the business of producing the 'commercial' radioisotopes either," and lists four highly recommended alternatives, which you won't find in the environmental impact statement. That's full disclosure.

2380-5 — Now, we come today, and I'm dismayed to find out that instead of what's in the EIS about what would be done with the nuclear wastes from FFTF reactor restart, the presentation today says, "Oh, we might violate the Secretary of

Response to Commentor No. 2380

2380-1: DOE notes the commentor's views. 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. 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.

2380-2: 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. Further, the draft Waste Minimization and Management Plan for the Fast Flux Test Facility (May 2000)

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2380: Gerry Pollet (Cont'd)
Heart of America Northwest

Energy's commercial disposal policy enunciated to Congress repeatedly that the Department of Energy will not use commercial disposal facilities", not to mention it is against the law for the Department of Energy to attempt to dispose of certain wastes at commercial disposal facilities.

So we have another moving target. What do we learn about these wastes? If you look at the environmental impact statement, "the restart of FFTF would not be expected to result in impacts on ecological resources, the facilities, research and developments for it would not result in impacts on ecological resources at Hanford facilities, and it has referred to the same chapter that Colette Brown referred me to in answer to the question earlier today."

And you turn to that section, and you find the following: what is the cumulative impact analysis? The cumulative impact analysis is this. Sufficient capacity would exist to manage the site wastes. The tanks are already in violation. The low level burial grounds are in violation of federal and state hazardous waste laws. The mixed waste burial ground permit says that it is predicated on the capacity for Hanford clean-up, not new additional wastes.

2380-6 — It is time for this environmental impact statement to withdraw FFTF

2380-7 — [It is time for this environmental impact statement to withdraw FFTF] and to be honest in its full disclosure.

Response to Commentor No. 2380

was referenced in the NI PEIS and made available prior to the public hearings. The costs and nuclear nonproliferation impacts of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. Such ancillary documents need only be made available to the public prior to any decision being made under CEQ regulations (40 CFR Part 1505.1(e)). Nevertheless, DOE mailed these documents to more than 730 interested parties on August 24 and September 8, 2000, respectively. Both reports were made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided summaries of the Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment in Appendixes P and Q, respectively in the Final NI PEIS.

2380-3: 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 clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

2380-4: 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

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*Commentor No. 2380: Gerry Pollet (Cont'd)
Heart of America Northwest*

Response to Commentor No. 2380

civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities. DOE has taken the NERAC report recommendations under consideration in developing the range of alternatives evaluated in the NI PEIS. This report was made available to the public at the NI PEIS public information centers and on the Internet at www.nuclear.gov. The NERAC report did not state that DOE should not be in the business of producing radioisotopes. Rather, the report stated that DOE should "Limit commercial isotope production to products where the DOE has a unique production capability and where other market supplies are not sufficient to meet U.S. demand." DOE's production and sale of radioisotopes fall into two categories, commercial and research, and both types of isotope production are considered under the proposed actions. Commercial radioisotopes 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. Because small-quantity production of research 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. Additional discussion of how DOE's isotope program fits into the overall

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*Commentor No. 2380: Gerry Pollet (Cont'd)
Heart of America Northwest*

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U.S. and foreign isotope production capabilities was incorporated into Section 1.2.1 of Volume 1.

2380-5: 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. DOE Order 435.1 "Waste Management" gives responsibility to the DOE Field Element Managers to approve exemptions for use of non-DOE facilities for the storage, treatment or disposal of DOE radioactive waste based on certain requirements. One of these requirements is that the facility must have the necessary permits, licenses, and approvals for the specific waste. As discussed in DOE's "Commercial Disposal Policy Analysis for Low Level and Mixed Low-Level Wastes" dated March 9, 1999, there are three commercial low-level radioactive waste disposal facilities (i.e., Envirocare of Utah; Barnwell, South Carolina; and US Ecology, Richland, Washington) which are currently operating and licensed to receive low level radioactive waste. Envirocare of Utah also has a permit to receive RCRA hazardous wastes. DOE has and is currently disposing of low level radioactive waste and mixed low-level radioactive waste at Envirocare of Utah and has sent low-level radioactive waste to Barnwell, South Carolina. In June 1995, US Ecology submitted an unsolicited proposal to DOE for the disposal of DOE waste at the US Ecology facility. In November 1995, the State of Washington informed US Ecology and DOE that it would allow the disposal of DOE waste at the facility subject to certain conditions. The Low-Level Burial Ground trenches are regulated by DOE under the Atomic Energy Act of 1954, as amended, and under DOE Order 435.1, Radioactive Waste Management. This Burial Ground also contains the following three active permitted mixed waste trenches whereby mixed low-level waste is both stored and disposed of: (1) Trench 31 is a permitted, lined Subtitle C disposal trench that is currently utilized for greater

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than 90-day storage of mixed low-level radioactive waste; (2) Trench 34 is a permitted, lined Subtitle C disposal trench currently utilized for the disposal of mixed low-level radioactive waste that has been treated and is compliant with Land Disposal restrictions; and (3) Trench 94 is a permitted, unlined disposal trench utilized for the disposal of decommissioned naval reactor components. Use of Trench 94 for naval reactor compartments is authorized under a special exemption from the Washington State Department of Ecology (Ecology). Currently, the Low-Level Burial Ground has a Part A Permit approved by Ecology under the State of Washington Dangerous Waste Regulations, State of Washington Administrative Code (WAC) 173-303, and, as such, is an interim status treatment, storage, and disposal (TSD) unit under the Resource Conservation and Recovery Act (RCRA). The permitted active and future mixed waste units of the Low-Level Burial Ground meet all regulatory requirements of WAC 173-303 and RCRA and will be incorporated into the Hanford Site RCRA Facility Part B Permit and will operate under final status regulations. In early June 2000, a working draft of the Hanford Site RCRA Facility Part B Permit application was submitted to Ecology. The use of proposed alternative facilities associated with reprocessing of neptunium-237 targets would have no impact on schedules or available funding for high-level radioactive waste programs at Hanford. The higher activity waste would be treated as a solid form via a stand-alone vitrification system, separate from any tank waste treatment system. The existing Hanford 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.

2380-6: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

2380-7: 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. The facilities and locations evaluated in this NI PEIS specifically represent a range of reasonable alternatives for accomplishing the DOE missions and serve to enable DOE to meet its responsibilities under the Atomic Energy Act. Therefore, there is no basis for withdrawing any particular alternative. DOE made every effort to obtain, analyze, and disclose all required information to make a decision on expanding nuclear infrastructure.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2413: John Ritter

2413-1 — Just very briefly, I'm totally against FFTF restart, and that's all I have to say about this.

2413-2 — I can't believe that we're even dealing with this matter anymore, and I'm just hoping to God that the decision hasn't already been made.

Response to Commentor No. 2413

2413-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

2413-2: 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. No final decisions have been made with regard to the facilities and locations evaluated to fulfill the requirements of the DOE missions, which include the production of medical and industrial isotopes, the production of plutonium-238 for NASA space missions, and nuclear research and development. DOE'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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2418: Elizabeth See

2418-1 — The PEIS fails to assess non-cancer illnesses caused by the radiation for proposed restart at FFTF and the other facilities. This must be assessed from normal operations, low level exposure, and critical incidence.

These assessments must be made for fish, wildlife, insects, plants, and water. Analysis of biological and medical problems must be done with an independent medical information, such as from Helen Caldicott and Physicians for Social Responsibility.

2418-2 — Because there is no way to dispose of the waste created by FFTF . . .

2418-3 — . . .it [FFTF] should never be started.

Response to Commentor No. 2418

2418-1: Appendix H provides information on potential health effects other than fatal cancers. Of the three health impacts from low levels of radiation exposure (nonfatal cancers, hereditary effects, and fatal cancers), fatal cancers have the highest probability of occurrence, roughly 500 excess cancer fatalities per million person-rem. Nonfatal cancers and hereditary effects appear at rates of approximately 20 and 26 per cent of this number. Using a single number for human health impacts provides a simple direct means to compare impacts and risks among the range of reasonable alternatives. Cancer fatalities, being the largest impact, were selected for presentation throughout the NI PEIS. Low risk (low health impact) from fatal cancers implies low risk for all other radiological induced health consequences. This PEIS has provided an estimate of the incremental potential human health impacts associated with a reasonable range of alternatives (including the restart of FFTF) for the production of isotopes for medical uses, research and development, and as heat sources for radioisotope power systems. The methodology used is intended to provide realistic results based upon our current knowledge of the health impact of low doses of radiation. 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, Restart FFTF, 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. The NI PEIS identifies (in Chapter 3 of Volume 1) endangered species that live on or near all of the candidate sites, as well as aquatic and wetlands areas that may be impacted by operations at candidate locations. According to an International Atomic Energy Agency (IAEA) publication (IAEA Technical Report Series No. 332, Effects of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards), a dose rate of 100 millirem per year to the most exposed human will lead to dose rates to plants and animals of less than 0.1 rad per day. The IAEA concluded that a dose rate of 0.1 rad per day or less for animals and 1 rad per day or less for plants would not affect these populations. The largest individual dose for any of the nuclear infrastructures alternatives under normal operations would be less than 0.1 millirem, which is three orders of magnitude less than the IAEA threshold for adverse effects. Therefore, implementation of any of the range of reasonable nuclear infrastructure alternatives analyzed would not be expected to result in adverse impacts on plants and animals living in potentially affected areas around the candidate sites.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2418: Elizabeth See (Cont'd)

Response to Commentor No. 2418

2418-2: 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.

2418-3: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

**Commentor No. 2390: Don Segna
Nuclear Medicine Research Council**

2390-1 — . . . But what I'd like to point out here is there's two sides to the story. There's two sides to the story, and we are hearing your side of the story now, and I think DOE does owe you something to insure that the risk is worth the benefit. I have to say it that way because there is no such thing in earth that doesn't have some risk to it, whatever you do.

So you have to look at the risk, and I've heard all the risk here. You know, we're all going to get cancer from the radiation and stuff like that. Do we really know that?

Response to Commentor No. 2390

2390-1: This PEIS has provided an estimate of the incremental potential human health impacts associated with a reasonable range of alternatives including the restart of FFTF) for the production of isotopes for medical uses, research and development, and as heat sources for radioisotope power systems. The methodology used is intended to provide realistic results based upon our current knowledge of the health impact of low doses of radiation. 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, Restart FFTF, 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2414: Debra Seyler

2414-1 — I have noticed in the draft that there has been no addressing of other illnesses that are radiation related, except for cancer fatalities.

And so I would like also to make certain that in the final EIS credible medical evidence is brought forward from independent sources addressing thyroid disorders, immune system dysfunction, stillbirth, miscarriages, and all other radiation related sicknesses.

And also I ask that the cost of this to the American public be done, and that there is a local fact among the local hospitals that they are not prepared for the overflow from a high impact incident from Hanford

The tribes themselves are facing a crisis of high incidences of cancers and radiation related illnesses that are not limited to cancer, and this has not been fully disclosed or addressed in the draft.

Additionally, we've only begun the process of compensating people for their medical conditions in radiation related illnesses. The very first round was some of the workers being compensated or the widows or widowers or survivors of those who died from those past problems at Hanford.

And so what's going to be the economic cost of compensating the rest of the workers up there on cleanup and the people who handle any waste products made from the proposed start of the FFTF or the Tennessee facility or any other facility.

And for the people who are downwind from there or who may receive catastrophic doses of radiation, what is the cost to the American public in compensating them economically for their medical conditions and loss of life?

2414-2 — I see no actual justification in the draft EIS for the necessity for the restart of the FFTF for medical isotopes as these are currently being produced rapidly in three new facilities in Canada, and also that we have a contract for those products that the FFTF is being looked at for from Russia.

2414-3 — The scientific analysis of impacts to plants, animals, insects, fish, all of these things are just basically not addressed at all. We know from all over the world that within a couple hundred mile radius of nuclear reactors, because of the low level radiation that comes from them and also from storage facilities, that we have drosophila and other insect deformities, rabbit deformities, plant mutations, fish mutations. None of these are actually addressed.

And again, I would ask if independent scientific reporting would be included in that so that they're thoroughly analyzed, not just from government statistics, but also from people doing independent research who are not part of the federal government.

Response to Commentor No. 2414

2414-1: DOE notes the commentor's concern for the health of tribes and compensation for medical conditions related to past practices, although these issues are beyond the scope of this Nuclear Infrastructure PEIS. The health and safety of workers and the public is a priority of the nuclear infrastructure program, regardless of which approach is chosen. Operation of the facilities would comply with applicable Federal, state, and local laws and regulations governing radiological and hazardous chemical releases. Appendix H provides information on potential health effects other than fatal cancers. Of the three health impacts from low levels of radiation exposure (nonfatal cancers, hereditary effects, and fatal cancers), fatal cancers have the highest probability of occurrence, roughly 500 excess cancer fatalities per million person-rem. Nonfatal cancers and hereditary effects appear at rates of approximately 20 and 26 per cent of this number. Using a single number for human health impacts provides a simple direct means to compare impacts and risks among the alternatives. Cancer fatalities, being the largest impact, were selected for presentation throughout the NI PEIS.

2414-2: 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. 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. 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.

2414-3: Chapter 3 of the NI PEIS identifies plant and animal species that live on or near all of the proposed sites, as well as aquatic and wetlands areas that may be impacted by operations at all of the proposed locations. According to an International Atomic Energy Agency (IAEA) publication IAEA Technical Report Series No. 332 "Effect of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards", a dose rate of 100 millirem per year to the most exposed human will lead to dose rates to plants and animals of less than 0.1 rad per day. The IAEA concluded that a dose rate of 0.1 rad per day or less for animals and 1 rad per day or less for plants would not affect these

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Commentor No. 2414: Debra Seyler (Cont'd)

2414-4 — Under the human health risks and environmental cumulative impacts it's basically blown off. There are so many existing sites that are contaminated there, high and low level waste, that are not cleaned up and are not safely contained that it is basically insane to consider making more waste. We do not have a place to put the waste now.

We have inadequate storage facilities. We have nuclear waste in temporary holding facilities that are leaking and are cracked, and we do not need anymore of this kind of risk.

2414-5 — Also, again, the federal government has made agreements with other governments and the tribes that the mission, the sole mission at Hanford, would be cleanup, and that is not so.

. . .and no more missions except cleanup at Hanford.

2414-6 — We are continually fighting the proposed restart of the FFTF reactor, and it is time that reactor is closed for good.

No more excuses and coming up with reasons. Shut down the FFTF,...

2414-7 — The other thing is that in considering the minorities and the socioeconomic equations for the area around Hanford, other areas are not adequately assessed because the people doing the analysis have simply taken a few facts on what the populations look like in terms of numbers, but they have not considered tribal issues, such as my own people have, and that is that we eat the natural foods from the land and take our medicines from there, and many of the traditional gathering sites of the local tribes are sites that can no longer be used because of the contamination.

Response to Commentor No. 2414

populations. The largest individual dose for any of the alternatives evaluated is below 0.1 millirem, three orders of magnitude less than the IAEA identified threshold level. This is well below the IAEA benchmark. Therefore, all of the proposed alternatives would have no effect on the plants and animals around the proposed sites.

2414-4: 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. 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

2414-5: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

2414-6: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF, and opposition to Alternative 1, Restart FFTF.

2414-7: The commentor's concerns regarding contamination of natural foods, medicines, and traditional gathering sites is noted. Radiological impacts on minority and low-income populations residing within potentially affected areas surrounding the Hanford Site are addressed in Section K.5.3 of Appendix K (Environmental Justice Analysis). Models for estimating radiological health impacts (discussed in

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Commentor No. 2414: Debra Seyler (Cont'd)

Response to Commentor No. 2414

Appendixes H and I) assumed that all locally grown food supplies would be subject to radiological contamination throughout the project duration, and that all locally grown food supplies would be consumed by residents in the potentially affected area. The analysis of radiological effects that would result from implementation of the nuclear infrastructure alternatives indicates that the radiological risk to persons residing in the potentially affected area would be so small that no credible pattern of food consumption (or other ingestion pathways) would be expected to result in a latent cancer fatality. Implementation of the nuclear infrastructure alternatives would not be expected pose a significant risk of radiological contamination of land within the potentially affected area.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2372: Donna Smollenrock

2372-1 — Until the DOE can identify and clean up the waste at Hanford, don't even consider creating new wastes.

2372-2 — So I am thoroughly opposed to the restart for any reason of the FFTF.

Response to Commentor No. 2372

2372-1: DOE notes the commentor's concerns regarding the existing cleanup mission at Hanford and opposition to FFTF restart. 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

2372-2: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2386: Kathy Sneider

2386-1 — The medical isotopes, you know, maybe the people do need them. I personally don't believe that you need those. There's a lot of other ways to deal with cancer. My family has had cancer. In my family, I'm third generation Oregon person. We've dealt with cancer in other ways.

2386-2 — At any rate, the last time I was here we talked about Alternative 5 and we wanted to promote an Alternative 5. This is not the Alternative 5 that I was pushing for. I don't know what happened to this Alternative 5 between the time that we were talking about it last time and now.

But Alternative 5 states deactivate FFTF, no new missions, and it says permanently deactivate FFTF, which I am totally in favor of. It says no domestic production of PU-238 or government production. No production of PU-238 at all, not just domestic. Let's have no production of it.

Shut it down.

2386-3 — The third point is continue medical and industrial isotope production and nuclear R&D activities at the current operating levels of existing facilities. I don't think so. We have to clean it up. We can't continue R&D activities, research and development activities, at the current operating levels. No, no, no, n-o. Read my lips.

2386-4 — Clean it up.

Response to Commentor No. 2386

2386-1: DOE notes the commentor's views that medical isotopes are not needed in the treatment of cancer. However, in ongoing clinical testing, therapeutic radioisotopes have proven effective in treating cancers and other illnesses while minimizing adverse side effects, making their use an attractive alternative to traditional chemotherapy and radiation treatments.

2386-2: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF. Alternative 5 was developed based on a number of comments from the public during the scoping hearings; thus, it likely could vary from the specific proposals of any one individual. Alternative 5 does not include the potential purchase of plutonium-238 from Russia.

2386-3: DOE notes the commentor's opposition to continued isotope production and nuclear research and development activities at current levels (i.e., the No Action Alternative). DOE also 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site.

2386-4: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2410: Rebecca Stonestreet

2410-1 — I'm here as a citizen of the United States to tell the United States Department of Energy to not — that I am against the FFTF restart at the Hanford nuclear site.

2410-2 — And as with the roadless policy that I commented on, and I had tears, heartfelt comment, this one is not that way. This one is a total disgust with the Department of Energy that we have to come here again to tell you that we do not want this thing restarted. Apparently you've been told that many times.

Response to Commentor No. 2410

2410-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

2410-2: 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor: Leon Swenson

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 171.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2382: Matt Swire

2382-1 — I live in Hood River, and I'm an aerospace engineer by training, and I have actually worked on some of the NASA projects to do some space research in space flight, and I also recently lost my mother to cancer.

With that in mind, I would like to vehemently object to the restart of the reactor at Hanford prior to cleaning up the initial work that was done there.

Response to Commentor No. 2382

2382-1: DOE notes the commentor's opposition to Alternative 1, Restart 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2402: Annie Tomlin

2402-1 — My first and foremost comment is that I'm absolutely dedicated to Alternative 5, permanently deactivating FFTF with no new missions.

2402-2 — I have been to many public hearings and am familiar with the endless reams of material put out by the DOE in its charade of responsibility to public involvement, and I am constantly amazed at the DOE's transparent disregard of its responsibility.

On page S-1 of the summary is a statement by the Chairman of the Nuclear Energy Research Advisory Committee, and I quote. "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."

Who exactly does the DOE think the nation is? If the nation is not its citizens, then who exactly is in a state of such urgency?

The DOE knows it couldn't go out on the streets of Hood River or anywhere in the Pacific Northwest or the rest of the nation, for that matter, and have a clear mandate for the proliferation of this deadly industry.

So Secretary Bill Richardson just appoints some industry hack to say it for us.

I would like to think that it mattered if I responded to this draft EIS, but this document hides behind the illusion of science to intimidate and frustrate the people of this nation.

And this isn't about science anyway. This is about corporate welfare, criminal and political conspiracy, and genocide. Corporate welfare? What else would you call it when we, the people, are always here, but the pitch men from Westinghouse, Lockheed, Battelle, Bechtel, TRW Environmental, Fluora and Informatics never are?

This public comment hearing is not a legitimate democratic process. This is a sham and a farce, a cynical ritual where the public is supposed to vent its anger at the wall of indifference of the DOE. Then tomorrow it's business as usual.

2402-3 — Criminal conspiracy? What else would you call the plan to privatize the FFTF under a scheme cooked up by DOE's Dr. Terry Lash and Richard Thompson's advanced nuclear and medical systems, a plan they sold lock, stock and barrel to my two idiot Senators, Democrat Patty Murray and Republic Slade Gorton, with a ridiculous sales pitch that they could make tritium and cure AIDS. Does everybody remember that one? Now it's plutonium-238 and medical isotopes.

Response to Commentor No. 2402

2402-1: DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF, and opposition to Alternative 1, Restart FFTF.

2402-2: DOE notes the commentor's view. 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.

2402-3: Comment noted. 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 to accomplishing this mission from a range of reasonable alternatives. The FFTF at the Hanford Site was one of several existing DOE resources that was assessed for this mission.

2402-4: DOE notes the commentor's opposition to nuclear power generation and opposition to NASA and defense funding, although these policy issues are beyond the scope of this Nuclear Infrastructure PEIS. The scope of this Nuclear Infrastructure PEIS is limited to analysis of alternatives to fulfill the requirements of the DOE missions, which include the production of medical and industrial isotopes, the production of plutonium-238, and civilian nuclear energy research and development. None of the missions described in Section 1.2 of Volume 1 of the NI PEIS are defense- or weapons-related. 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. The environmental impacts of a range of reasonable alternatives to fulfill the requirements of the DOE missions were disclosed and evaluated in the NI PEIS. DOE made every effort to obtain, analyze, and disclose all required information to make a decision on expanding nuclear infrastructure. 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 Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2402: Annie Tomlin (Cont'd)

2402-4 — Political conspiracy? What else do you call the boot licking of the Clinton-Gore administration to the Nuclear Energy Institute, a \$100 million a year trade organization that's kept busy usurping the Kyoto Protocol on global warming so that U.S. companies can cover the planet with green nuke plants?

Genocide? What else do you call an industry that has to calculate into its operating decisions the number of cancer deaths and associated risks to human health; an industry that works hand in hand with the Pentagon and NASA to gobble up billions of dollars of the annual budget at the expense of education, health care, affordable housing?

2402-5 — I think everyone in this room should start preparing themselves for the restart of the FFTF and be ready to put their bodies on the line, just like they had to do to stop the start-up of the N reactor because I really believe that's what it's going to come down to.

Response to Commentor No. 2402

may make an informed decision with respect to the alternatives presented in the NI PEIS. The costs of economic impacts are beyond the scope of this NI PEIS including any impacts on funding priorities. The proposed actions considered in this NI PEIS to accomplish the stated missions would be funded by the DOE Office of Nuclear Energy, Science and Technology, which has no direct funding connection to other federal agency activities.

2402-5: See response to comment 2402-1.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2389: Bart Vervloet

2389-1 — I really don't think my voice makes a damned bit of difference.

But there was 7,000 comments made, and my main objection to this thing is this is supposed to be a public process, and all the meetings that I've gone to for three years, 80, 90, 92 percent, 93 percent, ten percent effective, five percent better than last year's, new and improved, whatever; the majority of people who come to these hearings are opposed to FFTF, FFTF restart, Fast Flux Test Facility. Yet that doesn't come up. The only serious thing you can count at these meetings is the number of people opposed. Out of 7,000, how many people were opposed? Many, some, a few, maybe we'll need — you know, it's all vague.

So I'm here to basically state to you and Secretary Richardson and anyone else who's counting the numbers: how many of the 7,000 were opposed? I'd like to know that one fact. That's all I would ask for. Is it lost? Is it gone? Is it a checklist? Here's what my little public registration form says, and I'll just put it on the record so you're aware, my little public form here. This is my public process that I'm a democratic, free-loving American.

Let's put two and two together there. You're not being democratic. This is a democratic country. It's a process. It's a public process, and we're being ignored and lied to, and of all the little pre things that they gave us to say to tell the DOE, you are not compiling our public record. You are lying to us and not putting our vote to the top.

Response to Commentor No. 2389

2389-1: While all comments received during the scoping periods for both the Plutonium-238 Production EIS and the NI PEIS are part of the Administrative Record for the NI PEIS, Section 1.4 of Volume 1 and Appendix N are intended to provide a summary of the issues and associated trends identified during the scoping process rather than a tabulation of comments by specific issue. In preparing this NI PEIS, DOE carefully considered scoping comments received from the public. Any perceived discrepancy in the grouping of comments raising any one particular issue or set of issues is attributable to the manner in which they were originally categorized and counted. For example, a number of statements, letters, or resolutions signed by multiple persons, such as city council resolutions mentioned by the commentor, were received by DOE both for and against FFTF restart) in response to the request for scoping comments. Each such comment document was considered and counted as a single comment in the NI PEIS comment tracking system. The Office of Nuclear Energy, Science and Technology works closely with the Office of the Secretary to keep him informed of the progress on the NI PEIS, including stakeholder input.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

**Commentor No. 2408: Amber Waldref
Heart of America Northwest**

2408-1 — And I just wanted to make a few comments on the EIS because I know I had some concerns about what was not included, and the first concern I have that really hasn't been talked about to much because I don't want to talk about things that have already been underscored, but the nonproliferation study has not come out yet, and it was mentioned that it will probably come out in a couple of weeks, but that, of course, is far into the public comment period.

2408-2 — And I just was reading over the summary of the environmental impact statement, and I really have some concerns because I would have liked to have that study included in the PEIS because the two fuels are going to be used in FFTF, the mix oxide fuel and the highly enriched uranium, some combination of those over a depending number of years; that the U.S. nonproliferation policy, it says here, strongly discourages the use of highly enriched uranium fuel.

And so to be in compliance, like there's going to be further studies done, but so it says that right there that it strongly discourages the use of the highly enriched uranium fuel according to U.S. nonproliferation policy.

And then later on, it says if low enriched uranium fuel is found infeasible, DOE would subsequently procure highly enriched uranium fuel in a manner consistent with U.S. nonproliferation policy.

Response to Commentor No. 2408

2408-1: 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 Infrastructure Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. Such an ancillary document need only be made available to the public prior to any decision being made under CEQ regulations (40 CFR Part 1505.1(e)). Nevertheless, DOE mailed this document to about 730 interested parties on September 8, 2000. The report was made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided a summary of the Nuclear Infrastructure Nonproliferation Impact Assessment in Appendix Q in the Final NI PEIS.

2408-2: DOE notes the nonproliferation concern expressed in the comment, and can assure that its proposed action in the PEIS supports U.S. nonproliferation goals. This has been confirmed by the Nuclear Infrastructure Nonproliferation Impact Assessment, published in September 2000. Although this policy analysis is not required under NEPA, DOE considers it to be an essential element in the decision-making process for the DOE nuclear infrastructure, and has included a summary of the assessment in Appendix Q in the Final NI PEIS. In the event that a decision is made to restart FFTF, the first six years of operation would use existing onsite mixed oxide fuel. DOE expects that an additional 15-year supply of mixed oxide fuel in Europe, owned by Germany, would be available for FFTF. The Nuclear Infrastructure Nonproliferation Impact Assessment for the NI PEIS alternatives stated that using the two different sources of existing mixed oxide (MOX) fuel for FFTF (existing FFTF fuel and German MOX fuel) is consistent with U.S. nonproliferation policy, and, additionally, represents a safe, low-cost, high benefit opportunity to reduce civilian plutonium without chemical or bulk processing, which would afford substantial nonproliferation benefits. DOE's approach to potential use of HEU in the FTFF is also consistent with U.S. nonproliferation policy. The FFTF is an existing research reactor capable of performing its research missions using HEU fuel, if MOX fuel is not available. U.S. nonproliferation policy provides for such a circumstance as part of the effort to reduce and discourage HEU use. During the period of MOX fuel use, in compliance with U.S. nonproliferation policy directives, DOE's Office of Nonproliferation and National Security would undertake a study under the Reduced Enrichment Research and Test Reactor (RERTR) program 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

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

*Commentor No. 2408: Amber Waldref (Cont'd)
Heart of America Northwest*

Response to Commentor No. 2408

feasible, it will be used; if found infeasible for meeting assigned missions in the FFTF, an already existing research reactor, policy would allow DOE to subsequently procure highly enriched uranium fuel for use in that facility. This approach is consistent with U.S. nonproliferation policy.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

**Commentor No. 2396: Bonnie White
Columbia Grower Audubon Society**

2396-1 — On behalf of the Columbia Grower Audubon Society, representing our 300-plus members in the mid-Columbia area, I would like to say we emphatically oppose any proposal to restart the FFTF at the Hanford facility.

2396-2 — CGAS insists that the DOE focus all available resources on hazardous waste clean-up. Unless we can isolate and control the mess we have made there, I believe there is no hope for our seventh generation.

2396-3 — If we have to choose an alternative, we choose Alternative 5.

2396-4 — I would like to ask that the testimony of the 13,000 employees of Hanford be identified as such and lumped together the same way that all of our testimony is lumped together. Their interests are single minded, and they are not the only recipients of the cancers their choices cause.

They continually come to the trough demanding our tax dollars be spent to finance their special interests, which are in conflict with all other life on earth.

The politicians continually pander to that minority. Why? Maybe it's because cancer is good business for corporate America. It opens the wallets of their victims. Their assets are redistributed to the medical establishment, doctors, hospitals, drug companies, instead of supporting their families.

It surprises me to hear people from Hanford acknowledging the high levels of cancer and then supporting further production of nuclear waste. I guess it shouldn't. They're trying to get more of our tax dollars for their salaries.

Response to Commentor No. 2396

2396-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 5, Permanently Deactivate FFTF.

2396-2: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and 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.

2396-3: See response to comment 2396-1.

2396-4: DOE notes the commentor's views. 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.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2381: Kirk Williamson

2381-1 — There will be additional demand for isotopes as they are approved for clinical use, but we don't have the capacity to meet today's demand, much less provide for the future.

One of the most important values I learned here in the mid-Columbia is that we don't waste resources, natural or otherwise. To allow the purveyors of fear and ignorance to convince us to waste FFTF would be an insult to the memories of Dorothy and Amy and every other person who battles cancer.

I would urge Alternative 1.

Response to Commentor No. 2381

2381-1: DOE notes the commentor's support for Alternative 1, Restart FFTF.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2412: Tom Wood

2412-1 — Based on the information primarily that I've read in the cost reports and from the draft of the EIS, I am against the start-up of the reactor, of the FFTF, and I'll tell you why, and I would like this to kind of sink home as best it can with public feedback.

2412-2 — Being an engineer, I know that financial information is typically what drives the start-up or development of some sort of a manufacturing facility. That's what I do myself.

From what I see in the financial information, you really had four adequate manufacturing solutions. When looking at the data in the cost report, of those four, all of the budgets other than Option 1 and Option 2 were padded with the deactivation of the FFTF at 281.2 million, and what's interesting is that it appears that Option 4 actually has a less initial capital investment than Option 1, which seems to be typically what drives decisions like this.

2412-3 — The way I see it is you have really Option No. 2 is the most appropriate step to take here, which is the expansion of current manufacturing facilities, because by far and large it is the cheapest of the different options available

2412-4 — . . .also it's not clear to me that the need for radioactive materials that would be developed at the FFTF manufacturing site has been clearly defined to you either by the medical community or NASA community, and that most of the projected needs are speculative at this point.

It's also interesting to me that the short-term and long-term needs of the products that we've produced here are not clearly defined also, or at least have the backing of several different officials in the communities that would be using that material. So I struggle with that.

2412-5 — Thirdly, I also struggle with the fact that currently you have a facility, which is Hanford, that is not manufacturing right now. So you'll essentially begin manufacturing at the Hanford facility, where you have a community that is not used to manufacturing. It's been closed down now for I'm guessing on the order of about 20 to 25 years, to the actual manufacturing of weapons grade plutonium and other products. And you have to go through the process of reeducating the community on the potential effects and hazards with having a nuclear facility in your backyard.

2412-6 — It seems to make a heck of a lot more sense to get a better bearing on what the long-term needs are going to be for the products that FFTF will be manufacturing, and make this decision at a later time instead of making it now when all the needs are considered speculative at this point.

Response to Commentor No. 2412

2412-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and support for Alternative 2, Use Only Existing Operational Facilities. It is assumed that when the commentor mentions "Option No. 2," he is referring to Alternative 2.

2412-2: 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.

2412-3: See response to comment 2412-1.

2412-4: Section 1.2 of Volume 1 was revised to clarify the purpose and need of the proposed action. 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. The NI PEIS evaluates a range of reasonable alternatives for supporting these long-term needs over a 35-year operating period. DOE acknowledges the difficulty in reliably predicting isotopic needs for future uses in research and medicine. DOE has sought independent analysis of trends in the use of medical 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

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2412: Tom Wood (Cont'd)

Response to Commentor No. 2412

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 United States currently purchases approximately 90% 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. 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. Without an assured domestic supply of plutonium 238, DOE's ability to support future NASA space exploration missions may be lost. DOE could purchase plutonium-238 from Russia; however, for supply reliability reasons and concern of nuclear nonproliferation, DOE's preference is to establish a domestic plutonium-238 production capability. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

2412-5: Work to deactivate the FFTF began in 1994. A complement of trained staff have been maintained since then to work necessary facility functions. Details of staff training for facility operation was provided in the companion NI PEIS Cost Report. For all options except the use of FMEF, processing of targets would be conducted in facilities that have ongoing DOE and commercial missions. These facilities have trained workers on staff, but would probably augment the staffing levels. Staff training/qualification would be conducted for the FMEF option.

2412-6: See above response to 2412-4.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2379: Cosmos Worth

2379-1 — I just want to let you all know that I'm in opposition here with my family tonight to starting up the FFTF.

2379-2 — We don't want any more nuclear waste.

2379-3 — "We join hands in UNITY

"To sing and shout our choice!

"Yes, we are ONE!

"ONE VOICE

"WE join hands in UNITY

"To sing and shout our choice!

"We're done being held prisoners

"Of the corporate empire's greed.

"We say 'NO TO MORE PLUTONIUM!'

"It sure isn't what we need!

"We say 'PUT ALL THE RESOURCES

"TO CLEAN UP WASTE AND LEAKY TANKS!'

"We say, 'YES TO LIFE, AND LOVE, AND FREEDOM!'

Response to Commentor No. 2379

2379-1: DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

2379-2: DOE notes the commentor's concern regarding waste generation. 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.

2379-3: 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., the Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2393: Tim Young

2393-1 — One of the reasons that we have this nuclear energy research council is because of the Clinton-Gore administration wants to make green nuclear energy. The Kyoto Protocol says that, you know, carbon dioxide is causing global warming. So how do we cut back global warming? Well, gee, I guess nuclear energy is the new way to do it.

So basically all I want to say to you is that if anybody, who my environmental friends out there, think that Gore is against nuclear energy and continued nuclear weapon research, they're wrong.

Response to Commentor No. 2393

2393-1: DOE notes the commentor's interest in energy policy, although the production of electricity is beyond the scope of this Nuclear Infrastructure PEIS. The scope of this Nuclear Infrastructure PEIS is limited to analysis of alternatives to fulfill the requirements of the DOE missions, which include the production of medical and industrial isotopes, the production of plutonium-238, and civilian nuclear energy research and development.

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2388: Catherine Zangar

2388-1 — I think that you're naive in thinking that you can run a nuclear reactor near a river or anywhere on this planet and not expect bad things to happen. There are human beings running that. There's room for error. There's room for sabotage. There's room for vandalism.

2388-2 — I worked in contracting construction. I talked to people who worked at Hanford and told me what they got away with when those things were constructed, when they were operated, and that will continue.

That's life. People cheat. They make mistakes. You have to expect that if you're flying radioactive materials around airplanes that someday something will happen.

2388-3 — If you look at population estimates for the next 25,000 years — is that the half-life of one of these things we're talking about? — and we look at the human geography of this region, is that taken into account in your environmental impact statement, how many people will be living along this region, what they would want, what the cost is to keep maintaining that dump that used to be a beautiful sage desert and was a place for animals to roam freely and what you've turned into a dump?

I am surprised that anybody would also have the silly idea to ask people whose jobs and livelihood depend on an industry what should be done with that industry. We don't go to loggers and say, "Should we keep any old growth?" We don't go to Navy bombers and say, "Should we keep bombing this island in the Atolls?" We don't go to people whose livelihood depend on things and say, "What do you think?" because they can't make an objective decision.

They're not usually well informed of the big picture, and that's so true of the tri-cities.

I still have family involved out at Hanford. I have research scientists in my family. I have people in tank maintenance, and we talk about this all the time, and they don't have as much information as people living in other parts of the country get.

You can read more in the Fisherman's Journal and in the Seattle PI, in the Oregonian than you can read in the Tri-City Herald, and it's sad that they're left out of the picture, but that's the way it is.

So I don't think you should be even quoting what people in the tri-cities want. Anywhere in the job market shouldn't be involved in the decision process. That's ridiculous, and I wouldn't do that.

I work in this area. Logging is important here. Farming is important here. You don't go to farmers and say how much pesticides do you get to put in the river. It just doesn't work that way because people will always look out for their jobs and money.

2388-4 — We know that the other FFTFs are all shut down, mothballed, thrown away, closed and inoperative for a good reason.

Response to Commentor No. 2388

2388-1: 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 accident spectrum included internal events, external events, natural phenomena, common-cause events, and sabotage and terrorist activities. The environmental analysis showed that radiological and nonradiological risks associated with restarting FFTF would be small.

2388-2: DOE notes the commentor's views regarding the quality of work and management at its facilities. The health and safety of workers and the public is the priority of the nuclear infrastructure program, regardless of which approach is chosen. Operation of the facilities would comply with applicable Federal, state, and local laws and regulations governing radiological and hazardous chemical releases. The transportation of medical isotopes is discussed in Appendix J.5.3 in Vol. 2. It is not likely that one additional latent cancer fatality will occur from transportation of medical isotopes.

2388-3: The commentor's question referencing population estimates over 25,000 years and half-life is unclear. This NI PEIS evaluates the environmental and human health impacts of operating the proposed facilities for 35 years to irradiate targets for medical and industrial isotope production, plutonium 238 production, and to meet nuclear research and development requirements. As described in Appendix H.2.2.2 of the NI PEIS which discusses the methodology for estimating radiological impacts on human health from facility operations, the population within 80 kilometers (50 miles) of the candidate sites was projected to the year 2020. These projections are based on the current population distribution around the sites. This projection was assumed to be representative of the site populations over the 35-year production campaign assuming steady population growth. The half-life for representative medical isotopes that could be candidates for production in the irradiation facilities under consideration, such as FFTF, is provided in Table C-1 of the NI PEIS. Plutonium-238 that would be produced to support NASA space missions has a half-life of 87.7 years. DOE assumes that the commentor also questions the cost of operation and maintenance of the Hanford Site. The cost of maintaining the Hanford Site over the 35-year mission is beyond the scope of this NI PEIS. DOE prepared a separate Cost Report to provide additional pertinent information to the Secretary of Energy so that he may make an

Comments from the Hood River, Oregon, Public Hearing (August 28, 2000)

Commentor No. 2388: Catherine Zangar (Cont'd)

It's an antique. It's a dinosaur, and it's not necessary.

I have not seen any compelling reasons that there aren't reasonable alternatives for starting up that reactor. I violently and adamantly oppose the start-up of the FFTF.

2388-5 — I think the risk hasn't been addressed.

You haven't looked at effects outside the cancer area.

2388-6 — The waste stream management hasn't been addressed.

2388-7 — You haven't looked at the effects on other creatures besides humans.

Response to Commentor No. 2388

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.

2388-4: DOE notes the commentor's opposition to Alternative 1, Restart FFTF. It should be noted that there is only one FFTF and it is currently in standby at Hanford.

2388-5: This PEIS has provided an estimate of the incremental potential human health impacts associated with a reasonable range of alternatives including the restart of FFTF for the production of isotopes for medical uses, research and development, and as heat sources for radioisotope power systems. The methodology used is intended to provide realistic results based upon our current knowledge of the health impact of low doses of radiation. 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, Restart FFTF, 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. As stated in Appendix H of the EIS, other human health impacts (non fatal cancers and genetic mutations) occur with a lower frequency for the same level of exposure. Since latent cancer fatalities would not be expected among the public, it follows that the expected result for other radiological health impacts would also be small.

2388-6: 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

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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.

2388-7: The NI PEIS did examine the impact of each alternative and each option on ecological resources, including terrestrial resources, wetlands, aquatic resources, and threatened and endangered species. This evaluation may be found in Chapter 4 of the PEIS.