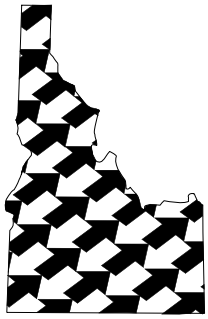

Citizens Advisory Board
Idaho National Engineering and Environmental Laboratory

PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR ACCOMPLISHING EXPANDED CIVILIAN NUCLEAR ENERGY RESEARCH AND DEVELOPMENT AND ISOTOPE PRODUCTION MISSIONS IN THE UNITED STATES

The Idaho National Engineering and Environmental Laboratory (INEEL) Citizens Advisory Board (CAB) reviewed the Department of Energy's (DOE) Notice of Intent to prepare a Programmatic Environmental Impact Statement (EIS) for accomplishing expanded civilian nuclear energy research and development and isotope production missions in the United States, including the role of the Fast Flux Test Facility. Based on that review, the INEEL CAB submits the following recommendations for consideration as scoping comments for the Programmatic EIS.

1. **The INEEL CAB recommends that the Programmatic EIS be delayed until the key supporting plans and information have been adequately developed.**

   DOE does not currently have a sound understanding of the future demand for either plutonium-238 or for medical or industrial isotopes. In addition, DOE's new nuclear energy research and development program is just getting off the ground. Despite the lack of data and planning documents, the Notice of Intent projects a 35-year timeframe for operating the Fast Flux Test Facility. This apparent disconnect gives rise to many of our concerns (addressed below) and those of others. By taking the time now to better develop the information needed before proceeding with the Programmatic EIS, DOE would have a better basis for the document and related decision-making processes.

2. **The INEEL CAB recommends that DOE conduct extensive public participation activities, in addition to preparing sound environmental documentation, to support any decision to restart Fast Flux Test Facility and the other alternatives.**

   We understand that reopening the Fast Flux Test Facility (FFTF) is highly controversial due to both environmental and nonproliferation concerns. Resolving that controversy will require adequate and carefully planned public participation efforts involving all interested stakeholders.

3. **The INEEL CAB recommends that the Programmatic EIS provide an enhanced analysis of the future need for plutonium-238 and for industrial and medical isotopes and use that information to support the analysis of impacts under the various alternatives.**

   The "Notice of Intent" for the Programmatic EIS offered no explanation of the demand for and expected timeframe for the production of plutonium-238 or the industrial and medical isotopes. Clearly the analysis of impacts will require reasonable estimates of how long NASA will continue to require radioisotope power systems fueled with plutonium-238 and estimates of the quantities that will be needed over that period. Such estimates will support enhanced analysis of the impacts that would occur over the entire time that DOE would conduct the processes addressed in the Programmatic EIS.

4. **The INEEL CAB recommends that DOE evaluate additional alternatives in the Programmatic EIS that would combine use of existing facilities and/or foreign sources for plutonium-238 production with use of existing research reactors to support the medical and industrial isotope production missions.**

   The existing Alternative 2 combines existing facilities for plutonium-238 production with no action for the isotope production and nuclear research and development mission objectives. However, it is unclear why existing research reactors could not be used for medical and industrial isotope production and/or research and development mission objectives. In particular, it is unclear why DOE is not evaluating use of university-owned research reactors. It may be appropriate to evaluate an additional alternative combining use of DOE existing facilities for the plutonium-238 production and existing research reactors for the other mission objectives.

5. **The INEEL CAB recommends that DOE present detailed information about Alternative 2 and its various sub-alternatives in the Draft Programmatic EIS.**

   The Programmatic EIS should offer complete explanations of how each alternative would be implemented and present all of the associated impacts. The Notice of Intent to prepare the Programmatic EIS stated that if "plutonium-238 production objectives [can] be conducted at existing facilities, significant new medical and industrial isotope production and nuclear research and development mission objectives cannot be achieved without impacting current missions at these facilities." That statement should be substantiated and explained. Additional information should address:

   - The demand that plutonium-238 production would place on the existing facilities being evaluated (including the Advanced Test Reactor located at the INEEL, the High Flux Isotope Reactor located at the Oak Ridge National Laboratory, and a commercial light water reactor located at an undefined generic site);

   - Whether existing facilities are capable, both in the short and long term, of handling current and projected demand; and

   - The impact that the plutonium-238 production activities would have on other customers of the three facilities.

6. **The INEEL CAB recommends that DOE present additional information about Alternatives 3 and 4 in the Programmatic EIS.**

   The Draft Programmatic EIS will support the DOE decision-maker in determining whether construction of one or more new accelerators or a new research reactor is justified. To support that decision, the Draft Programmatic EIS should demonstrate whether existing facilities can adequately support DOE's Nuclear Energy mission. It should also describe the circumstances under which new construction would be appropriate.

7. **The INEEL CAB recommends that the Programmatic EIS provide bounding estimates of the size, frequency, and number of expected shipments of radioactive materials coming into Idaho and the size, frequency, and number of expected shipments leaving Idaho on an annual basis.**

   Transportation and interim storage are major concerns held by stakeholders regarding any potential DOE action. The Programmatic EIS should include bounding estimates of the size, frequency, and number of shipments of radioactive materials (such as neptunium-237—either as neptunium oxide or

targets—or plutonium-238) that would be shipped to Idaho and the size, frequency, and number of shipments that would leave the state on an annual basis. Those estimates would allow sound estimates of the duration of time that INEEL would store any radioactive materials before shipment elsewhere. Expected schedules will be needed to accurately assess the adequacy of storage capacity and all impacts related to storage. Sound estimates of the size, frequency, and number of shipments into and out of the site will be necessary to develop a full understanding of the transportation impacts as well.

8. **The INEEL CAB recommends that a cost analysis evaluating the costs of the various alternatives be made available during the public comment period for the Draft Programmatic EIS**

   In order to support informed public comment on the alternatives being considered in the Draft Programmatic EIS, DOE should conduct a full evaluation of the costs associated with each alternative. Furthermore, the results of that evaluation should be made available to the public during the same timeframe as the public comment period for the EIS.

9. **The INEEL CAB recommends that the Programmatic EIS provide sound estimates of the characteristics and quantities of waste and hazardous materials to be produced and address all impacts of waste and hazardous materials management, including disposal under each of the alternatives evaluated.**

   The Notice of Intent for the Programmatic EIS provided no estimate of the characteristics, quantities, and costs of handling and disposal of waste and hazardous materials that would result. Further, the Notice of Intent included a preliminary listing of impacts that DOE plans to evaluate in its analysis of the alternatives. Based on DOE's difficulty in opening disposal sites, we questioned this apparent oversight. The Programmatic EIS should fully disclose all impacts from disposal of all waste and hazardous materials that would result from implementation of the proposed action.