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**UNITED STATES DISTRICT COURT  
DISTRICT OF IDAHO**

KEEP YELLOWSTONE NUCLEAR FREE, )  
ENVIRONMENTAL DEFENSE INSTITUTE, )  
MARY WOOLLEN, JOHN PEAVEY, ) Civ. No. 07-36-E-BLW  
DEBRA STANSELL, )  
)  
Plaintiffs, )  
)  
-against- )  
)  
THE UNITED STATES DEPARTMENT OF )  
ENERGY, and SAMUEL W. BODMAN, )  
SECRETARY, UNITED STATES DEPARTMENT )  
OF ENGERGY, )  
)  
Defendants. )  
\_\_\_\_\_ )

**MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF  
PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT**

**INTRODUCTION**

This is a challenge to the decision by the United States Department of Energy (“DOE”) to embark on a program to extend the operating life of a nuclear reactor, the Advanced Test Reactor (“ATR”), for another 35 years, without performing any environmental review under the National Environmental Policy Act (“NEPA”). The ATR is a 250 megawatt nuclear reactor located at the Idaho National Laboratory (“INL”). The DOE has, in the words of its contractor Batelle Energy Alliance (“BEA”), “embarked on a major project to extend the life of the ATR to the year 2040.” AR 011566.<sup>1</sup> That program, known as the Advanced Test Reactor Life Extension Program (the “LEP”), consists of a suite of actions necessary to extend the life of the ATR. AR 011334-011587. As recently as September, 2006, the BEA estimated that the LEP would take ten years to complete at a cost of approximately \$200 million. AR 011584.

NEPA requires federal agencies to prepare environmental impact statements for all “major federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). Extending the life of the ATR is a major federal action with the potential for very significant adverse environmental impacts. Those impacts include, among other things, the generation of large amounts of radioactive waste for which there is no identified disposal site, and the possibility of a grave accident that could affect

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<sup>1</sup> References to the Administrative Record filed by the DOE are abbreviated herein as “AR.”

hundreds of square miles, tens of thousands of people, and the nation's premier national parks, Yellowstone National Park and Grand Teton National Park. Yet, the DOE has made no attempt to analyze these environmental impacts or weigh the alternatives to extending the life of the ATR in an environmental impact statement for the LEP. This is a clear violation of NEPA.

### **STATEMENT OF UNDISPUTED MATERIAL FACTS**

A separate statement of undisputed material facts has been submitted in conjunction with the filing of this motion, in accordance with Local Rule. 7.1(b)(1).

### **ARGUMENT**

#### **POINT I**

#### **IN ORDER TO AVOID PUBLIC SCRUTINY, THE DOE HAS VIOLATED NEPA BY FAILING TO PERFORM ANY ENVIRONMENTAL REVIEW OF THE LEP**

NEPA is our basic national charter for protection of the environment. See 40 C.F.R. § 1500.1(a). NEPA requires federal agencies, including the DOE, to prepare an environmental impact statement (“EIS”) for major federal actions that will significantly affect the environment. See 42 U.S.C. § 4332(2)(C). “The purpose of an EIS is to apprise decisionmakers of the disruptive environmental effects that may flow from their decisions at a time when they ‘retain a maximum range of options’” to avoid environmental harms. Conner v. Burford, 848 F.2d 1441, 1446 (9th Cir. 1988) (internal alterations omitted) (quoting Sierra Club v. Peterson, 717 F.2d 1409, 1414 (D.C.Cir.1983)). Thus, before authorizing activities that significantly impact the

environment, federal agencies must evaluate the environmental consequences of a proposed action, “[r]igorously explore and objectively evaluate all reasonable alternatives,” and “[i]nclude appropriate mitigation measures” in an EIS. 40 C.F.R. § 1502.14(a). This ensures that the “twin aims” of NEPA are met: the agency satisfies its “obligation to consider every significant aspect of the environmental impact of a proposed action” and “inform[s] the public that it has indeed considered environmental concerns in its decisionmaking process.” Baltimore Gas and Elec. Co. v. Natural Resources Defense Council, 462 U.S. 87, 97 (1983).

Although the subject matter is complex, the law governing this case is really quite simple. The DOE has, in the words of its contractor BEA, “embarked on a major project to extend the life of the ATR to the year 2040.” AR 011566. The DOE embarked on that project without any NEPA analysis whatsoever, let alone the required EIS. In fact, the DOE has declined to prepare an EIS because of its concerns about the likely “public response.” AR 011189. The DOE has embarked on the LEP in violation of NEPA.

**A. The DOE Took No Look At the LEP’s Environmental Impacts, Let Alone the Required “Hard Look”**

An agency’s decision not to prepare an EIS under NEPA is reviewed under the “arbitrary and capricious” standard of the Administrative Procedures Act (5 U.S.C. § 706 (2)(A)). That standard requires a court to determine “whether the agency has taken a hard look at the consequences of its actions, based [its decision] on a consideration of the relevant factors, and provided a convincing statement of reasons to explain why a project’s impacts are insignificant.” Nat’l Parks and Conservation Ass’n v. Babbitt, 241

F.3d 722, 730 (9<sup>th</sup> Cir. 2001) (citations omitted). Here, the DOE has not simply failed to take the requisite “hard look” at the impacts of the LEP. It has taken no look at those impacts. It embarked on the LEP with no NEPA review whatsoever.

The DOE has submitted an administrative record in this proceeding that totals more than 30,000 pages. Yet nowhere in this voluminous record is there any analysis of the environmental impacts of extending the operating life of the ATR, much less consideration of alternatives to avoid or mitigate potentially catastrophic environmental harms.

Two documents in the administrative record flesh out the DOE’s *post hoc* rationale for not preparing an EIS for the LEP, or indeed any review at all under NEPA. The DOE apparently believes it can paper over its NEPA violations by re-defining the LEP, segmenting its components, and offering belated excuses for not doing an EIS. The first document is a memorandum dated April 27, 2007 in which Raymond V. Furstenuau, Deputy Manager for Nuclear Energy at the Idaho Operations Office, purports to request the opinion of Jack D. Depperschmidt, DOE’s Idaho NEPA Compliance Officer, regarding whether or not the LEP requires an EIS or EA (the “Furstenuau Memorandum”). AR 011191 to 011218. The second document is Mr. Depperschmidt’s response, also in the form of a memorandum (the “Depperschmidt Memorandum”). AR 011219 to 011223. Both documents were prepared in direct response to this litigation, well after the LEP was commenced, in a rather obvious attempt to bolster the DOE’s record regarding its NEPA compliance. See AR 011191 to 011219. Not surprisingly, Mr. Depperschmidt

finds that no NEPA analysis is or was required. As set forth below, Mr.

Depperschmidt's reasoning, even if it had been timely prepared, is meritless. An EIS is required for the LEP.

**B. The LEP is a “Major Federal Action” Under NEPA**

First, Mr. Depperschmidt asserts that the LEP is “not a major federal action.” Mr.

Depperschmidt states:

Because the ATR LEP itself is not a proposed action for DOE to accept or reject and does not commit the Department of Energy (DOE) to any action that may affect the environment, the ATR LEP does not trigger any obligation under NEPA to conduct any form of analysis of potential environmental impacts.

AR 011219.<sup>2</sup> This defense ignores the sweepingly broad definition of “action” under NEPA, which includes a group of concerted activities intended to carry out an agency plan or policy. Regulations promulgated by the Council on Environmental Quality (“CEQ”), and binding on all federal agencies, including the DOE,<sup>3</sup> define the terms “action” and “major federal action” as used in NEPA.

The CEQ regulations define “actions” as follows:

Actions include new and continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or

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<sup>2</sup> Similarly, the DOE's Answer asserts that the LEP is not an “action” within the meaning of NEPA, and therefore no environmental review is required. In its Answer, the DOE repeatedly states that: “the LEP is not itself a discrete, identifiable action that DOE has approved or adopted but rather is a loose conceptual collection – for assessment and planning purposes – of past, present, ongoing, and possible future evaluations, analyses, planning document updates, and routine maintenance work associated with the ATR.” Defendants' Answer ¶¶ 23, 24, 64, 65.

<sup>3</sup> See 10 C.F.R. § 1021.103.

approved by federal agencies; new or revised agency rules, regulations, plans, policies, or procedures; and legislative proposals (1506.8, 1508.17).

40 C.F.R. § 1508.18(a). The regulations further state that Federal actions tend to fall within one of four categories. As pertinent to this action, one of those categories is:

Adoption of programs, **such as a group of concerted actions to implement a specific policy or plan**; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive direction.

40 C.F.R. § 1508.18(b) (emphasis added). Referring to this provision, the DOE's own regulations define "action" to mean "a project, program, plan, or policy, as discussed at 40 C.F.R. 1508.18." 10 C.F.R. § 1021.104(b). As the Circuit Court for the District of Columbia has stated, "the range of actions covered by NEPA...is exceedingly broad...." Scientists' Institute for Public Information, Inc. v. Atomic Energy Commission, 481 F.2d 1079 (D.C.Cir. 1979).

The DOE has given the LEP several semantic designations over the past year, but there can be no doubt that it is a "group of concerted actions to implement a specific policy or plan," and therefore an "action" under NEPA. DOE has variously called its program to extend the life of the ATR the "Life Extension Program Plan" (March 2006) and the "Life Extension Project Plan" (September 2006).

Whether it is labeled a "Program Plan," a "Project Plan," or simply a "Project," the LEP is a group of concerted actions intended to implement a specific plan and meet a specific objective: the extension of the life of the ATR until 2040. The LEP is therefore an "action" within the meaning of NEPA.

Nuclear initiatives large and small have been found to be actions subject to NEPA's requirements. Agencies have been ordered to comply with NEPA when licensing the expansion of spent fuel pools, Potomac Alliance v. United States Nuclear Regulatory Commission, 682 F.2d 1030 (D.C. Cir. 1982); Minnesota v. NRC, 502 F.2d 412 (D.C.Cir 1979), re-starting a nuclear reactor, Natural Resources Defense Council, Inc. v. State of South Carolina, 566 F.Supp. 1472 (D.C. Cir 1983), conducting broad research programs such as the Atomic Energy Commission's Liquid Metal Fast Breeder Reactor Program. Scientists' Institute For Public Information, Inc. v. Atomic Energy Commission, 481 F.2d 1079 (D.C.Cir 1973); and shipping and storing spent nuclear fuel at INL, Public Service Co. of Colorado v. Andrus, 825 F.Supp. 1483 (D.C. Id. 1993). The LEP is no different. It is an action within the contemplation of NEPA.

Furthermore, the effects of the LEP are "major" and therefore an EIS is required. 42 U.S.C. § 4332(C). The CEQ regulations define "major Federal action" as follows:

"Major Federal action" includes actions with effects that may be major and which are potentially subject to Federal control and responsibility. Major reinforces but does not have a meaning independent of significantly.

40 C.F.R. § 1508.18. The LEP will result in the generation of large quantities of nuclear waste, and prolong the risk of catastrophic accident, impacts that, by any definition, are "major."

Furthermore, extending the life of the ATR is no different, in terms of its basic environmental impacts, from extending the life of a commercial nuclear reactor.

Commercial nuclear power plant license renewal is an "action" that requires

environmental review pursuant to NEPA.<sup>4</sup> In fact, by Nuclear Regulatory Commission (“NRC”) regulation, an application for NRC license renewal extending the life of a commercial nuclear reactor requires an environmental impact statement. See 10 C.F.R. § 51.20(b)(2). That regulation recognizes that extending the life of a nuclear reactor, with its attendant waste disposal and potential health and safety impacts, is a “major federal action” with the potential for significant environmental impacts, and therefore an EIS will be required in every case.

The parallels between the ATR LEP and NRC license renewal for commercial nuclear reactors are unmistakable. Like NRC license renewal, the LEP is a federal action. Like NRC license renewal, the purpose of the LEP is to extend the operating life of a nuclear reactor. Like NRC license renewal, the LEP involves examination of the effects of aging on the facility and an assessment of the risks and safety of continued operation. Like NRC license renewal, the LEP has the potential for far-reaching and significant environmental impacts. Thus, like NRC license renewal, the LEP is a major federal action that will have significant environmental impacts, and it therefore requires an EIS.

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<sup>4</sup> Many of the nation’s privately-owned commercial nuclear power reactors have either reached, or are approaching, the end of their original licensing period. If the owners of those reactors wish to extend their operating life, they must apply to the Nuclear Regulatory Commission (“NRC”) for license renewal pursuant to the NRC’s regulations at 10 C.F.R. Part 54. License renewal is a public process that takes 30 months or more, and requires both an environmental impact statement under NEPA and extensive technical study and assessment of the effects of aging on the facility and its critical safety components, and measures the operator might undertake to manage the effects of aging. See [www.nrc.gov/reactors/operating/licensing/renewal/process.html](http://www.nrc.gov/reactors/operating/licensing/renewal/process.html).

**C. The DOE Cannot Segment the LEP And Thereby Evade NEPA Review**

In an attempt to skirt its responsibilities under NEPA, the DOE now attempts to re-cast the scope of the LEP, removing, among other things, its most critical safety component, the Life Extension Program Safety Posture Modernization (the “Safety Modernization”). The Safety Modernization is outlined in a Mission Need Document dated June 30, 2006. See Declaration of Mark D. Sullivan, sworn to on June 22, 2007, Exhibit C.<sup>5</sup> The Safety Modernization includes: (1) Replacing the ATR’s emergency core cooling system, known as the emergency firewater injection system or “EFIS,” and implementing identified upgrades to the ATR’s basement and main floor in order to modernize its cooling system; and (2) An ATR Control Room Habitability Upgrade that would: “provide some combination of shielding and isolation that will allow operators to remain at controls for a prescribed amount of time prior to evacuation. This will allow the control room operators to remain resident during the design basis event and retain the ability to perform prudent actions to reduce the magnitude of the event consequences.” Sullivan Declaration, Exhibit C at 7.

The Depperschmidt Memorandum, dated May 9, 2007, outlines the DOE’s segmentation stratagem, claiming that the Safety Posture Modernization Plan, and a

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<sup>5</sup>The Sullivan Declaration provides three documents that the DOE has failed to include in its Administrative Record, including the Mission Need Document. Plaintiffs have asked that the DOE voluntarily supplement its administrative record to include these documents, but not yet received an answer to this request from the DOE because the agency’s lead counsel has been away. If the DOE will not voluntarily supplement the record, Plaintiffs intend to make a motion to do so.

proposed gas test loop for the ATR (a project that would greatly expand the ATR's testing capabilities), were simply "brainstorming" and thus:

...not sufficiently mature to be considered 'proposed actions' – rather they were discussion topics or ideas presented for further consideration and evaluation. They were mentioned in the ATR LEP Plan for convenience and planning purposes. Since that time, DOE has excluded these topics from the ATR LEP since they were a completely separate work scope.

AR 011222.

Agencies may not segment projects into smaller components in order to avoid preparing an EIS. On the contrary, they must consider related actions in a single EIS. Thomas v. Petersen, 753 F.2d 754, 758 (9<sup>th</sup> Cir. 1985). The DOE has "excluded" the LEP Safety Modernization component from the other components of the LEP (AR 030566) in the hope that this Court will view the remaining components of the LEP as a mere "collection of paperwork assessments, planning activities, document updates, and routine activities that allow the normal continued operation of the ATR...." AR 011220. This attempt at segmentation must fail.

NEPA regulations require agencies to consider "connected" actions in a single EA or EIS. 40 C.F.R. § 1508.25. Actions are considered "connected" if they are "interdependent parts of a larger action and depend on the larger action for their justification." 40 C.F.R. § 1508.25(a)(1). The Safety Modernization and the other components of the LEP are certainly "connected" in that they are part of the larger action – the DOE's stated intention to extend the life of the ATR.

In fact, the DOE's own plan states that the Safety Modernization is a "key part" of the DOE's actions to extend the life of the ATR. As set forth in the Plaintiffs' Statement of Material Facts, the LEP was initiated by the DOE in response to independent safety assessments of the ATR performed in 2003 and 2004. Those assessments were performed by the DOE's Office of Independent Oversight and Performance Assurance ("OA") and a team of industry experts later convened by the DOE, known as the Planning Assessment Team. See Plaintiffs' Statement of Undisputed Material Facts ¶¶ 7-12, 16. After summarizing the OA and Planning Assessment Team reviews that led to the LEP, the Safety Modernization Mission Need Document states:

In response, DOE established a life extension program, aimed at identifying the actions needed over the next 10 years to assure the currency of the safety documentation for the reactor and its continued operation. Safety analysis is an important tool for understanding the operating envelope for a reactor, to assure that the plant can be operated in accordance with the most current safety standards. The LEP plan addresses such issues as the procurement and availability of spare parts, including one-of-a-kind components (e.g. safety rods, core internal components, beryllium reflector), staffing requirements, and identifies the funding, schedule, and prioritization for replacement of key components and systems. This plan is a key part of the strategic plan for the long-term operation of the reactor and the planning basis for DOE's budget requests. Implementation of the plan began in FY 2005 and funds have been provided in FY 2006 to continue this important effort.

Sullivan Declaration, Exhibit C at 9 (emphasis added). As this quote makes clear, the LEP is not simply a collection of "paperwork assessments," as Mr. Depperschmidt claims. On the contrary, the "key part" of the LEP is the Safety Modernization. Thus, the DOE must consider the environmental impacts of the LEP, including the Safety Modernization, in a comprehensive EIS. That EIS must evaluate all reasonable

alternatives available to the DOE, including alternative safety posture upgrades. See AR 011471 (discussing several alternative EFIS replacement options, and rejecting one because “this system was more expensive than desired.”).

**D. The DOE Has Committed, and Continues to Commit, Substantial Resources to the LEP**

In order to meaningfully guide agency decisionmaking, NEPA analysis must be performed at the earliest possible stage of development and certainly prior to the irretrievable commitment of substantial resources. 42 U.S.C. 4332(2)(c)(v); See Scientists For Public Information, Inc. v. Atomic Energy Commission, 481 F.2d 1079, 1094 (requiring the AEC to prepare an EIS for a breeder reactor program that was in the early development phase). By embarking on a program to extend the operation of the ATR, the DOE has committed, and continues to commit, substantial resources without the benefit of an EIS.

An EIS, to be meaningful, must be prepared before the agency makes its decision. Here, the decision to be made by the DOE is whether or not to extend the life of the ATR. The DOE has already spent approximately \$40 million on the LEP, and, by 2010, will have spent approximately \$70 million on the LEP’s supposed “paperwork assessments” alone. While the DOE claims that the Safety Modernization is a separate project, and assures us that NEPA analysis will be performed for that project when it “matures,” these vast expenditures, necessary to extend the life of the ATR, will make continuing the program, and going forward with the necessary safety modernization of the ATR, inevitable. See e.g., Metcalf v. Daley, 214 F.3d 1135, 1142 (9<sup>th</sup> Cir.2000)(finding that by

signing contract agreeing to cooperate with native American tribe in efforts to secure a permit for whaling activities, NOAA irretrievably committed resources). Having already spent \$70 million to address the ATR's maintenance backlog, assess its material condition, renew its probabilistic risk assessment, perform the design basis reconstitution, perform a seismic evaluation, and train and equip its staff, the DOE is not likely to decide not to continue the ATR's operation. If the DOE is not directed to prepare an EIS now, any later environmental review will not be meaningful. Extending the life of the ATR will be a *fait accompli*, and any assessment of its impacts will be a hollow exercise.

**E. The LEP Will Have a Variety of Potentially Significant Environmental Impacts**

In weighing the significance of the environmental impacts of its actions, and thus the need for an environmental impact statement, agencies are required to consider a variety of factors relating to both the context and the intensity of the impacts associated with the action. See 40 C.F.R. § 1508.27. Here, the impacts of the LEP are significant by any measure.

**1. Nuclear Waste**

The LEP will result in the generation of large quantities of radioactive waste, some of which has no identified path for disposal. Like all nuclear reactors, operation of the ATR generates spent nuclear fuel ("SNF"), which requires safe management and storage for many years. Operating the ATR for an additional 30 years or more will generate very large quantities of this dangerous and troublesome nuclear waste. See Vermont Yankee Nuclear Power corp. v. Natural Resources Defense Council, 435 U.S.

519, 539 (1978) (stating that “it is hard to argue that [nuclear wastes] do not constitute ‘adverse environmental effects which cannot be avoided should the proposal be implemented,’ or that by operating nuclear power plants we are not making ‘irretrievable commitments of resources’”)

As part of the LEP, BEA developed a plan entitled “Advanced Test Reactor Spent Nuclear Fuel Management Beyond 2010” (the “LEP SNF Management Document”). AR 013319-0134115. The LEP SNF Management Document illustrates the complexities and expense of SNF management and storage, and the potential for significant environmental impacts associated with its generation and handling.

As the LEP SNF Management Document makes clear, SNF is a nationwide problem. The DOE projects that the majority of SNF from the ATR, as well as the nation’s many commercial nuclear reactors, will ultimately be disposed of in a geologic repository located at Yucca Mountain in Nevada. AR 013330. However, safety concerns and politics have delayed opening that facility, such that it cannot be known when, or even if, it will ultimately be operational.

Further complicating matters at INL is a settlement agreement, and the resulting court orders, reached in litigation between DOE and the State of Idaho in 1995. Id. Pursuant to the terms of those settlement agreements, the DOE must remove all SNF at INL from wet storage by 2023, and remove SNL entirely from the state by 2035. AR 013328.

Therefore, among other things, the LEP SNF Management Document recommends holding SNF in the ATR Canal from 2010 to 2013 until a “conditioning and dry storage facility” can be built, which is anticipated to be operational by 2014.<sup>6</sup> AR 013330. The need for that facility, and its potential environmental impacts, are a direct result of the LEP.

Furthermore, as discussed in Plaintiffs’ Statement of Undisputed Material Facts, the ATR, due to its unique design, also generates radioactive waste in the form of irradiated beryllium. AR 011580. Beryllium is used in the ATR’s reflector blocks and outer shim control cylinders (“OSCCs”). During the core-internals-change-outs (“CICs”) that the ATR undergoes every 8 to 10 years, the reflector blocks and OSCCs are replaced, along with a variety of other contaminated reactor components. Id. When removed from the reactor, the beryllium is so highly radioactive that it can only be handled remotely. AR 011580.

The DOE recently discovered that, due to ATR-irradiated beryllium’s long half-life, it has no place to store or dispose of this dangerous material.<sup>7</sup> See Plaintiffs’

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<sup>6</sup> The team estimated that the total cost of constructing that facility would be \$60 million. The total cost of ATR SNF management from 2007 to 2025, which is not even the entire projected life of the ATR under the LEP, is more than \$150,000,000. AR 013348.

<sup>7</sup> The Beryllium Strategy states that it was not until planning activities performed in 2001 for a 2003 CIC that “it was discovered that the irradiated beryllium contained alpha-emitting radionuclides with half-lives greater than 20 years” and thus there was no place for the waste to be disposed. AR 013300. Nonetheless, “DOE-ID allowed the CIC to continue based on the understanding that future CICs would require more extensive NEPA review including, at a minimum, an environmental assessment that includes wastes generated by previous CICs. AR 013302. For the DOE to go forward with the

Statement of Undisputed Material Facts; AR 013302. There are currently 20 beryllium reflector blocks and 55 OSCCs stored in the ATR's storage canal. Id. If the DOE continues to operate the ATR for another 35 years, as it apparently intends, the ATR will go through at least three, and possibly four more CICs, at least doubling the amount of beryllium for which the DOE has no currently identified means of disposal. The generation and disposal of this material and the attendant environmental impacts, are a direct result of the LEP.

## **2. Increased and Prolonged Risk of Accident**

Continuing to operate the ATR also creates an increased likelihood of accident and prolongs the significant risks of operation. In May, 2004, the Union of Concerned Scientists released a report entitled *U.S. Nuclear Plants in the 21<sup>st</sup> Century: The Risks of a Lifetime* (the "UCS Report"). AR 10363. The basic conclusion of that report is that as nuclear reactors age, the risk of catastrophic failure escalates rapidly. The report posits that such risks follow a U-shaped curve, in which the risks are high during the start-up phase, level out as the facility matures, then escalate again as the reactor ages and approaches the end of its useful life. Therefore, as a facility ages, enhanced vigilance is required to ensure its safety. Id.

While the UCS Report focused on commercial nuclear reactors, its conclusions are equally applicable to the 40-year-old ATR. The conclusions of the UCS Report are

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CIC, generating waste for which there was no identified path of disposal, was itself a major federal action undertaken with no environmental review, and thus a violation of NEPA.

all the more troubling when one considers the many years of “budget austerity” that the ATR has suffered, the overwhelming work load on its engineers, the DOE’s failure to maintain the facility’s safety basis documentation, and the serious safety concerns identified by the independent teams that have inspected the facility. See Plaintiffs’ Statement of Undisputed Material Facts ¶¶ 7-15.

### **3. Secondary and Cumulative Impacts**

NEPA requires that all agencies consider the direct, indirect, and cumulative impacts of their actions. See 40 C.F.R. §§ 1508.25(a)(2), (c), 1508.7; City of Davis v. Coleman, 521 F.2d 661, 676 (9<sup>th</sup> Cir. 1975)(stressing that secondary impacts of a proposed action are often the biggest concern, and require detailed evaluation in an EIS). One result of the LEP will be the fulfillment DOE’s stated intention to make the ATR, and INL, the centerpiece of its sweepingly broad nuclear energy research and development programs. As the Mission Need Document states, “failure to implement a life extension project will have the effect of limiting the ATR’s usefulness to projects of national importance as discussed in this section.” Sullivan Declaration, Exhibit C at 9. It then lists federal programs of enormous significance for eastern Idaho and the nation – the Next Generation Nuclear Plant Project, the Global Nuclear Energy Partnership, an the Advanced Fuel Cycle Initiative – and places the continued operation of the ATR squarely at the center of those programs. Sullivan Declaration, Exhibit C at 10.

The Mission Need Document makes it clear that the Safety Modernization will enable the DOE to co-locate other nuclear facilities at INL within close proximity of the

ATR by reducing the exclusion area boundary (“EAB”). Sullivan Declaration, Exhibit C at 4, 6. Thus, the LEP, and in particular its Safety Posture Modernization component, will have the effect of concentrating nuclear research and development projects at INL’s Reactor Technology Complex. Doing so has local, regional, and national environmental impact implications that must be considered by the DOE.

Extending the life of the ATR is a major federal action with the potential for very significant impacts. Those impacts are of local, regional and national significance. The DOE has taken no look at those impacts whatsoever, let alone the “hard look” that NEPA requires.

## **POINT II**

### **THE NI PEIS DID NOT CONSIDER THE IMPACTS OF, OR ALTERNATIVES TO EXTENDING THE LIFE OF THE ATR**

Among the excuses for not preparing an EIS offered by the DOE’s Mr. Depperschmidt is a claim that the environmental impacts of continued operation of the ATR were evaluated in a programmatic EIS prepared by the DOE in 2000, the Final Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the Role of the Fast Flux Test Facility (the “Nuclear Infrastructure PEIS” or “NI PEIS”). See AR 011220. The DOE can be expected to make this claim in its response to this motion.

As set forth below, the NI PEIS and the record of decision that followed (“ROD”)

expressly conceded that if enhancements were proposed for existing nuclear infrastructure, further NEPA review would be required. Such enhancements are precisely what the DOE now proposes with the LEP, but it has refused to prepare an EIS. Furthermore, in its limited treatment of the ATR, the NI PEIS made no attempt to quantify or assess the environmental impacts of extending the ATR's operating life for another 35 years. Instead, the NI PEIS simply *assumed* that no action was required to extend the ATR's operating life, and that it would continue operating indefinitely. As the OA and Planning Assessment Teams concluded, that assumption was inaccurate. Absent the LEP, the ATR could not continue to safely operate. The NI PEIS therefore ignored entirely the significant impacts of extending the life of the ATR.

**A. The NI PEIS ROD Recognized that Further NEPA Review Would Be Required If Enhancements Were Proposed to Existing Facilities**

The primary purpose of the NI PEIS was to evaluate the environmental impacts of then-available alternatives to meet the nation's nuclear research and isotope production needs, in particular the production of Plutonium-238, an isotope used for power generation in remote applications such as outer space. Among other things, the NI PEIS weighed re-starting the Fast Flux Test Reactor at Hanford, constructing new accelerators, constructing a new research reactor, and the option the DOE ultimately selected -- simply relying on existing infrastructure.

After preparing the NI PEIS, the DOE chose not to build a new research reactor, or to re-start to Fast Flux Test Reactor at Hanford, precisely because the costs of doing so, and the "long term commitment" that doing so would require, were beyond the DOE's

reach. AR 009755. The Record of Decision concluded that the ATR along with the High Flux Isotope Reactor (HFIR) at Oak Ridge in Tennessee, were sufficient to “serve the needs of the research and isotope communities for the next 5 to 10 years.” AR 009755. Thus, the DOE determined that it would make do with its existing nuclear infrastructure, including the ATR, while exploring the possibility of an Advanced Accelerator Applications (AAA) facility to meet future isotope production to evaluate spent nuclear fuel transmutation. Id. However, both the NI PEIS and the record of decision the DOE ultimately reached expressly contemplated further NEPA review if enhancements were proposed to DOE’s existing facilities. The ROD twice stressed that “If DOE proposes specific enhancements of existing facilities or deployment of the AAA facility, further NEPA review would be conducted.” AR 009745, 009755.

Now, with the LEP, the DOE is currently going forward with \$200 million in enhancements to the ATR and its support structures necessary to extend its operating life, without preparing the further NEPA review promised in the NI PEIS and ROD. Those enhancements include the Safety Basis Reconstitution, the PRA update, replacing the EFIS, construction of a dry storage facility for SNF, and the replacement of other aging safety structures, systems and components, none of which was even contemplated, much less evaluated, in the NI PEIS.

**B. The NI PEIS Made No Attempt to Quantify the Impacts of Operating the ATR for 35 More Years**

The NI PEIS made no attempt to quantify the impacts of extending the operating life of the ATR until 2040. Instead, it simply assumed that the ATR would be operating

for that period of time, and quantified only the incremental impacts of adding Plutonium-238 isotope production to its mission. That underlying assumption was false, and, as a result of this false assumption, the discussion of environmental impacts in the NI PEIS is inadequate.

Since the NI PEIS was released, the OA reviews have demonstrated, and the LEP Plans acknowledge, that the reactor's operating life is finite. Absent the LEP, the ATR would, sooner rather than later, have to be shut down. The OA Team's 2003 Causal Analysis Report states that "a number of programmatic needs must be addressed in order to ensure that the ATR can continue to operate...." See Sullivan Declaration, Exhibit C at 1. Similarly, the Planning Assessment Team concluded that "comprehensive long-term operating plan should be prepared, or the practical operating lifetime for ATR will be determined by default (e.g., material condition failures, human performance issues)." AR 026038. Absent the LEP, continued safe operation of the ATR would not be possible, and the environmental impact of operating the ATR, to date nowhere evaluated by the DOE, would not occur.

No category of potentially significant environmental impact more vividly demonstrates the inadequacy of the NI PEIS than its treatment of radioactive waste impacts. The NI PEIS gives waste management and spent nuclear fuel management at the ATR a total of three paragraphs of discussion. AR 006041. The NI PEIS states "virtually no additional waste would be generated as a result of irradiating the neptunium-237 targets in the ATR because the reactor would already be operating for

other purposes.” Id.

The NI PEIS includes no discussion whatsoever of the radioactive waste generated during the core internals changeout (“CIC”) process the ATR must undergo every 8-10 years. In particular, it contains no discussion of the challenges posed by irradiated beryllium waste generated during each CIC. Those challenges were not even fully recognized by the DOE at the time the NI PEIS was finalized. The Advanced Test Reactor Beryllium Disposition Strategy, a document prepared by BEA in September 2006 as part of the LEP (the “Beryllium Strategy”), concedes that the NI PEIS “did not address waste that would be generated during a CIC (Depperschmidt 2004).” AR 013302. Thus, as the DOE’s contractor acknowledges, an EIS has not been performed evaluating the environmental impacts of beryllium disposal that will occur if the ATR’s operating life is extended.

**C. Even if the NI PEIS Had Evaluated the Impacts of Extending the Operation of the ATR, a Supplemental EIS Would Be Required for the LEP**

Even if, as the DOE now asserts, the NI PEIS evaluated the impacts of an extension of ATR operation, that EIS must be supplemented to address new information and changes in circumstances that have arisen since the NI PEIS was finalized in 2000. Agencies have an obligation to prepare supplemental environmental impact statements when, after the publication of a draft or final EIS, their proposed action changes, or there “are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.” 40 C.F.R. § 1502.9(C)(1)(ii); Marsh

v. Oregon Natural Resources Council, 490 U.S. 360 (1989); Alaska Wilderness Recreation and Tourism Ass'n v. Organized Village of Kake, 67 F.3d 723 (9<sup>th</sup> Cir. 1995).

Here, the DOE's proposed action has changed in that the scope of its use of the ATR has greatly expanded. Furthermore, there are significant new circumstances. The ATR has been found to have serious safety problems, new facilities are necessary and planned to handle the ATR's SNF, and it has been discovered that the irradiated beryllium waste generated by the ATR has no identified path for disposal. Therefore, at a minimum, a supplement to the NI PEIS is required.

#### **1. The DOE's Intended Use of the ATR Has Changed**

The NI PEIS ROD stated that the DOE expected the ATR to help meet its "short-term" objectives for isotope production and research, a period it anticipated would last "5 to 10 years." AR 009755. To address "future research infrastructure needs" the DOE committed, in its ROD, to "establish a conceptual design for an Advanced Accelerator Applications (AAA) facility." AR 009755. As the ROD explains, the AAA "would be used to evaluate spent nuclear fuel transmutation, conduct various nuclear research missions, and ensure a viable backup technology for the production of tritium for national security purposes." Id.

The AAA never materialized. Instead, the DOE apparently intends to use the ATR to meet these needs for the next 35 years. In fact, the DOE plans to make the ATR the center of nuclear research in the country, and indeed the world. Sullivan Declaration, Exhibit C at 10. If the LEP goes forward, the ATR is expected to serve the

Next Generation Nuclear Plant Projects, the Advanced Fuel Cycle Initiative (the “fuel transmutation” program the ROD assigned to the AAA), the Global Nuclear Energy Partnership, and a variety of other research and isotope production activities of varying scope. Sullivan Declaration, Exhibit C at 10-13. The NI PEIS never envisioned the program the DOE now has planned for the ATR, and certainly did not evaluate the environmental impacts of such programs.

## **2. Circumstances Have Changed at the ATR**

In addition to the tremendous changes in the DOE’s mission for the ATR, circumstances have changed dramatically since the NI PEIS was released in 2000. First, as described in the Plaintiffs’ Statement of Undisputed Material Facts, the independent OA and Planning Assessment Team reviews of 2003 and 2004 revealed very significant concerns about the safety of continued ATR operation, concerns that forced the ATR’s shutdown in 2003, and prompted the DOE to embark on the LEP. Plaintiffs’ Statement of Undisputed Material Facts ¶¶ 7-12, 14-16. The risks of continuing to operate the ATR, the OA reports make clear, are both different and greater than the DOE anticipated in 2000. In 2000 it was not known (or at least not disclosed) that approximately \$100 million in physical improvements – the Safety Modernization – were necessary in order to extend the life of the ATR. It was not known that the Emergency Firewater Injection System needed replacement. It was not known that the safety basis documentation for the facility was woefully dated and did not match conditions on the ground, or that reconstituting the safety basis, at enormous cost, would be required. In sum, the effects

of years of “budget austerity” were not realized in 2000. Id.

The NI PEIS includes a “summation” of the risks and consequences of accidents at the ATR. AR 006512-006644. However, that summation is both dated and inadequate. The NI PEIS acknowledged its own limitations: “Although the summation provides the combined risk for the spectrum of accidents analyzed, it does not indicate total risk. To determine total risk of accidents, a full-scope probabilistic risk analysis is required for each facility.” AR 006611.

A probabilistic risk assessment for the ATR (the “PRA”) is being performed as part of the LEP. AR 011515. Many very significant changes have been made to the ATR since the PRA was last updated. These changes include safety basis changes, coolant equipment upgrades, EFIS modifications, emergency coolant pump relocation, new control systems and emergency coolant pump starts, and installation of a separate firewater supply tank and pump house. AR 011206. Thus, the NI PEIS acknowledges the limitations of its own accident analysis, and those limitations render it meaningless for the purposes of assessing the risks and consequences of operating the ATR for another 35 years.

Furthermore, the inherently limited risk assessment that is presented in the NI PEIS assumed that in the event of a severe loss of coolant accident at the ATR, the EFIS would be available to mitigate the effects of such a failure. AR 006517. The DOE, and its consultants, now recognizes that its EFIS is highly suspect, and should be replaced. Plaintiffs’ Statement of Undisputed Material Facts ¶¶ 8-12. Thus the potential effects of

a loss of coolant accident (“LOCA”) presented in the NI PEIS are limited, not just by the fact that no PRA had been performed, but also by the possibility that the EFIS would fail to function properly in the event of an accident, in particular a significant seismic event.

The DOE’s mission for the ATR has greatly expanded, and the circumstances relevant to the environmental impacts of continued operation of the ATR have changed. Therefore, at a minimum, the DOE must prepare a supplement to the NI PEIS.

### **POINT III**

#### **THE LEP IS NOT COVERED BY A CATEGORICAL EXCLUSION**

Like all federal agencies, by regulation DOE has published a list of actions that it has determined do not individually or cumulatively have a significant effect on the human environment and therefore require no environmental review. See 40 C.F.R. § 1021.410(a). These “categorical exclusions” or “CEs” apply to agency actions of a routine nature with no potential for significant adverse environmental impacts. The purpose of publishing a list of CEs is to eliminate the need for even an environmental assessment for the minor day-to-day activities the agency undertakes.

The Depperschmidt Memorandum claims that the LEP falls within a categorical exclusion and therefore no environmental review under NEPA is required. AR 011221 Mr. Depperschmidt does not specify which categorical exclusion he believes the LEP falls into. Instead, he vaguely states that “the activities in the LEP Plan fell into classes of actions that can be categorically excluded from further NEPA review and normally do not require an EA or EIS.” AR 011221. However, Mr. Depperschmidt alludes to the fact

that the ATR's reactor vessel is not being replaced, and there are no other "substantial changes to the design capacity or function of the ATR." AR 0112222. From this, it appears that Mr. Depperschmidt believes the LEP falls under the categorical exclusion for "routine maintenance activities and custodial services..." 40 C.F.R. 1021, Appendix B, 1.3. It most certainly does not.

The "routine maintenance" activities described in the DOE's list of CEs include such insignificant activities as door and window replacement, reroofing, replacing air filters, road resurfacing, and the construction of support buildings for such items as cafeterias, parking, or storage. 40 C.F.R. 1021, Appendix B, 1.3. None of these items, or any other "routine maintenance" item on the list of CEs, bear any resemblance to the suite of actions the DOE has proposed, and commenced, under the LEP. By BEA's own description, the LEP is a "major action." Indeed, the LEP's price tag alone (\$200 million initially, and now, after the DOE has segmented the project, \$70 million) demonstrates that it is neither minor nor routine. The LEP is a major effort to bring the ATR up to modern standards through safety basis improvements, addressing a backlog of maintenance projects, and implementing facility upgrades necessary to ensure its operation for another 35 years. No CE applies.

#### **POINT IV**

### **THIS COURT SHOULD ISSUE AN INJUNCTION BARRING CONTINUED OPERATION OF THE ATR**

For the reasons set forth above, the DOE should be ordered to immediately begin

preparation of an EIS on the LEP. Furthermore, because the ATR poses a serious threat to the environmental health and safety of a wide area, and its continued operation will generate waste for which there is no identified path for disposal, the DOE should be permanently enjoined from operating the facility. Until such time as that EIS has been finalized, a record of decision published by the DOE determining whether or not to proceed with ATR life extension, and the necessary safety upgrades contemplated by the LEP carried out, the ATR should be shut down.

To obtain injunctive relief in the federal courts, once success on the merits has been obtained, the movant must show “irreparable injury and inadequacy of legal remedies.” Amoco Prod. Co. v. Village of Gambell, 480 U.S. 531, 542 (1987); Sierra Club v. Penfold, 857 F.2d 1307, 1318 (9<sup>th</sup> Cir. 1998) “Environmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e., irreparable. If such injury is sufficiently likely, therefore, the balance of harms will usually favor the issuance of an injunction to protect the environment.” Amoco Prod. Co., 480 U.S. at 545.

In NEPA cases, courts have found that irreparable harm is inherent where, as here, agency activity proceeds absent statutorily required environmental analysis:

[T]he risk of irreparable harm is impossible to assess, because the studies that would quantify that harm are incomplete. Legal remedies are inadequate, however, because permitting construction to proceed before the NEPA studies have been completed would defeat the purpose of undertaking the studies, whose purpose is to make the agency aware of relevant environmental considerations before acting.

Sierra Club v. Hodel, 848 F.2d 1068, 1097 (10<sup>th</sup> Cir. 1988), overruled on other grounds

by Village of Los Ranchos de Albuquerque v. Marsh, 956 F.2d at 970; see also Davis v. Mineta, 302 F.3d 1104, 1115 (10th Cir. 2002) (holding that “harm to the environment may be presumed when an agency fails to comply with the required NEPA procedure”); Middle Rio Grande Conservancy Dist. v. Norton, 294 F.3d 1220, 1226 (10th Cir. 2002) (ordering preparation of EIS where the record “contain[ed] overwhelming evidence of the environmental impacts” and further “delays and irrational decisions” would “come at the expense of” imperiled fish species); see also Ross v. Federal Highway Admin., 162 F.3d 1046, 1054 (10th Cir. 1998) (“Courts have routinely recognized the appropriateness of injunctive relief requiring the preparation or completion of an EIS or SEIS.”); High Sierra Hikers Ass’n v. Blackwell, 390 F.3d 630, 644 (9th Cir. 2004) (“Where action is ongoing while the agency complies with NEPA, this court has held that injunctive relief and the ordering of an EIS is an appropriate remedy.”); Public Service Co. of Colorado v. Andrus, 825 F.Supp. 1483 (D.C. Id. 1993)(litany of safety concerns at INL warranted injunction prohibiting further shipments of spent nuclear fuel pending preparation of EIS).

Here, as set forth in detail above, the potential environmental harm of continuing to operate the ATR is soberingly grave and utterly irreparable. First and foremost, an accident at the ATR would be a catastrophe for eastern Idaho and Western Wyoming. See Declaration of Joel Trent, attached as Exhibit A to the Sullivan Declaration ¶ 23. It could result in a lethal dose of radiation for nearby INL workers and members of the

public, and would require the evacuation of a large area, disrupting the lives of tens of thousands of people. Id.

Second, continuing to operate the ATR without NEPA analysis will generate significant quantities of spent nuclear fuel and irradiated beryllium waste, for which there is no identified path for disposal. These wastes pose a substantial risk of irreparable harm to human health and the environment and should not be generated by the DOE without an approved plan for their safe disposal. Creating more such waste, as the DOE does with each day of ATR operation, creates a substantial risk of irreparable harm to the environment warranting an injunction. The risk of irreparable harm is therefore sufficiently likely that an injunction is warranted.

Thus, the DOE should be enjoined from continuing to operate the ATR until such time as it has (1) completed an EIS and issued a record of decision on the LEP; (2) completed any and all “modernization” projects necessary to ensure the safety of the facility for its extended lifetime; and (3) determined a path for safe disposal of the wastes operation of the ATR will generate.

\* \* \* \*

## CONCLUSION

For the foregoing reasons, Plaintiffs respectfully request that this Court issue an order directing the DOE to immediately prepare an EIS for the LEP, and a permanent injunction barring continued operation of the ATR until such time as the DOE meets its obligations under NEPA, and carries out necessary modernization and safety improvements to the ATR to ensure the protection of public health and safety.

Respectfully submitted,

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June 22, 2007

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