



**MARK D. SULLIVAN, P.C.**  
LICENSED IN WYOMING & NEW YORK  
5237 HHR RANCH ROAD  
WILSON, WYOMING, 83014  
P. 307.733.2021 . F. 307.732.9807  
EMAIL: MARK@MDSLAWOFFICE.COM

April 27, 2010

John E. Mansfield, Ph.D  
Vice Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue NW  
Suite 700  
Washington, DC 20005

RE: Petition For Advanced Test Reactor Safety Review

Dear Vice Chairman Mansfield:

I am counsel to Keep Yellowstone Nuclear Free ("KYNF") and the Environmental Defense Institute ("EDI"), two non-profit organizations that monitor Department of Energy ("DOE") activities at the Idaho National Laboratory ("INL"). KYNF's mission is to protect the citizens, environment and wildlife of the Greater Yellowstone and Grand Teton ecosystems and the Jackson Hole valley from radioactive and hazardous emissions from DOE facilities and activities located at INL. EDI is an environmental watchdog, monitoring DOE activities and educating the public about some of the DOE's ultra-hazardous activities and the threats they pose to worker and public safety.

I write to again request, as I did in 2006, that the Defense Nuclear Facilities Safety Board exercise its jurisdiction to perform a complete safety review of the Advanced Test Reactor ("ATR"), a nearly 45-year old nuclear test reactor operating at INL. The ATR poses a threat to public health and safety, has had well-documented safety problems and inadequate safety systems, and should receive rigorous independent safety oversight by the DNFSB.

#### **I. KYNF's Previous Request**

On behalf of KYNF, On January 17, 2006, I wrote to Chairman Eggenberger asking the DNFSB to perform a safety assessment and review of the ATR. At the time, the DOE was contemplating a proposal to consolidate nuclear operations related to the production of plutonium-238 ("PU-238") and radioisotope power systems using PU-238 at INL, using the ATR to produce the deadly isotope. When KYNF began investigating the proposal, it quickly grew concerned about the safety of the ATR. A copy of KYNF's January 17, 2006 letter to Chairman Eggenberger is attached hereto as **Exhibit A**.

Chairman Eggenberger responded to that request with a letter dated March 28, 2006, which is attached hereto as **Exhibit B**. Chairman Eggenberger concluded as follows: “At this time, ATR is not operated for national security purposes; consequently, ATR is not a defense nuclear facility subject to the Board’s oversight.”

KYNF respectfully disagrees with that conclusion. I had one follow-up conversation with DNFSB General Counsel Richard Azzaro. Mr. Azzaro explained that the key to the Board’s determination was the proviso that “at this time” the ATR is not operated for national security purposes. There is no requirement in the statute that the ATR, or any other facility, be operated for national security purposes at the time of the DNFSB’s review. The ATR has been used for national security purposes, and that is enough to give DNFSB jurisdiction to review its safety.

Nonetheless, even under Chairman Eggenberger’s reading of the DNFSB’s jurisdiction, the DNFSB has jurisdiction because, as set forth below, the ATR *is* currently operated for national security purposes.

## **II. The ATR is Currently Operated for National Security Purposes**

In connection with a Freedom of Information Act lawsuit that KYNF and EDI recently concluded with the DOE, the DOE has acknowledged that the ATR is today operated for national security purposes. Attached hereto as **Exhibit C** is the declaration of Karl J. Hugo, the Classification Officer at the DOE’s Idaho Operations Office, dated October 13, 2009, which sheds light on this subject.

Mr. Hugo provided his declaration to the Federal District Court for the District of Wyoming in support of a motion in which the DOE asked the Court to re-consider a decision that required the DOE to disclose certain safety assessment documents to KYNF and EDI under the Freedom of Information Act. Mr. Hugo explains that the requested documents were, following the Court’s decision, “reclassified” by the DOE to the status of “Unclassified Controlled Nuclear Information” or “UCNI,” and that therefore they must not be disclosed to the public. In making the case for why the documents were classified as UCNI, Mr. Hugo stresses that the ATR is a facility used in the DOE’s atomic energy defense programs, thus clearly falling within the jurisdiction of the DNFSB. Paragraph 8 of the Hugo Declaration states that “the redacted information concerns ‘Atomic energy defense programs.’”

Thus, the DOE has now acknowledged that the ATR is currently used for national security-related nuclear defense programs. Therefore, the DNFSB has jurisdiction to review the safety of the facility and should exercise that authority to ensure public safety.

Apart from the Hugo Declaration, the DOE has, in its own press releases and on its website, touted the ATR’s national-security related missions. For example, the ATR has been, is, and may continue to be, involved in research related to nuclear non-proliferation. These efforts include the Reduced Enrichment for Research and Test Reactors Program, as well as PU-238 research and production (which the DOE has acknowledged will be used for undisclosed

“national security” purposes). Thus, the ATR is today “operated for national security purposes” and thus subject to DNFSB jurisdiction and oversight.

### **III. The ATR Is Not Exempt Under Executive Order 12344.**

The DOE may assert that the ATR, because of its services to the Naval Nuclear Propulsion Program, is exempt. 42 U.S.C. 2286g defines “Department of Energy Defense Nuclear Facility” and specifically exempts “any facility or activity covered by Executive Order No. 12344, dated February 1, 1982, pertaining to the Naval nuclear propulsion program.”

First, the ATR is not “covered by Executive Order 12344.” That order specifically enumerates the facilities that it covers. The enumerated facilities are: the Bettis and Knoll Atomic Power Laboratories, the expanded Core Facility and naval reactor prototype plants (section 5(a)); and naval nuclear propulsion plants (Section 5(b)).

Second, the ATR serves other national-security related functions, as noted above, and thus is subject to DNFSB oversight, as the DNFSB long ago recognized. In its first annual report to Congress, dated February, 1991, the DNFSB stated:

Although the Advanced Test Reactor (ATR), which is operated under the authority of Assistant Secretary for Nuclear Energy, does work for the Naval nuclear propulsion program, it has other defense production and utilization capabilities that subject the ATR to some level of Board oversight.

The ATR is currently, and will in the future, serve those other national security functions, and is thus subject to DNFSB oversight.

### **IV. There Are Many Unresolved Safety Concerns at the ATR**

#### **A. The ATR is Operating Well Beyond Its Design Life**

The ATR as a whole, and many of its critical safety systems in particular, had a design life of just 20 years.<sup>1</sup> However, the reactor has now been operating for more than 45 years. The aging and suspect systems include the primary and secondary cooling systems, the emergency

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<sup>1</sup> Various DOE historical documents confirm this 20 year design life. For example, the “ATR Reactor Vessel Internals Lifetime Scoping Analysis” confirmed that “the original design life of various equipment at the time (including the reactor vessel) was twenty years of full-power operation.” Another study, titled the “Aging Evaluation of the ATR Vessel Support Assembly,” states: “Initial design of the reactor and supporting equipment was generally based on an expected 20 year lifetime.” The ATR specifications for Primary Heat Exchangers states that they had a “nominal 20 years” design life. The ATR specifications for the Reactor Vessel stated that it had a “nominal 20 years” design life. And, the ATR Specifications for the Outlet Flow Pipe Assemblies refer to a design life of “A twenty year period.” Petitioners will be happy to provide copies of these specifications if the DNFSB desires.

firewater supply system, and a variety of questionable supporting emergency management systems such as backup power supplies and backup water pumps.

In 2006, the DOE embarked upon, and now perhaps has completed, a “Life Extension Program” for the ATR, a multi-million dollar program aimed at extending the life of the ATR by another 20 years or more. Ignoring its obligations under the National Environmental Policy Act, the DOE performed absolutely no review of the environmental impacts and alternatives to that project. KYNF and EDI, along with Dave McCoy, sued the DOE in the Idaho Federal District Court to try to force the DOE to prepare an Environmental Impact Statement and open the matter up to public comment. However, the Idaho Court rejected the plaintiffs’ claims, concluding that the ATR had an “indefinite” life span. Therefore, no NEPA review was required, and the Life Extension Program was not subject to any public scrutiny or input.

With the Life Extension Program presumably now completed, DNFSB oversight could not be more timely. The DOE has spent tens of millions of dollars on the Life Extension Program, and independent, third-party oversight could help determine if investment has cured the many problems at the ATR, and whether continued operation of the ATR is prudent.

#### **B. The ATR Has Many Aging and Suspect Systems**

Using the Freedom of Information Act, KYNF and EDI, as mentioned above, have successfully forced the DOE to release certain critical safety-related documents. Those documents, and others released to EDI and KYNF by the DOE, are the subject of a lengthy report prepared by EDI that is attached hereto as **Exhibit D**. That report details a variety of suspect systems at the ATR, as revealed by the DOE’s own documents. It also highlights some of the areas in which, despite KYNF and EDI’s concerted efforts, the DOE withheld portions of critical safety documents. Those documents should be examined by the DNFSB, and their conclusions compared to the actual condition of the ATR.

#### **C. A Major Accident Would Be A Catastrophe for Southeast Idaho and Western Wyoming**

Attached hereto as **Exhibit E** are excerpts from the Updated Final Safety Analysis Report for the ATR dated August 10, 2004. The excerpts show that a severe accident at the ATR, whether the result of natural causes or human error, could have a devastating impact on southeastern Idaho. The excerpts show the fission product release fractions for severe accident scenarios, the source terms for a large break loss of coolant accident, and most important, the potential thyroid doses that individuals would receive in the event of such an accident. As you will see, the figures are unsettling, to say the least.

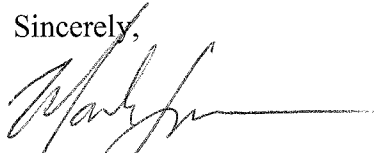
#### **V. The ATR Has Received No Third-Party Scrutiny**

To date, the safety of the ATR has not been reviewed by any regulatory agency or third-party. KYNF and EDI do their best to monitor DOE’s activities, but the DOE has vigorously fought to maintain secrecy and avoid public input, blocking the disclosure of safety-related

information and rejecting public scrutiny of the facility's safety. Thus, the need for independent, third-party oversight by the DNFSB is compelling.

Since the ATR will operate well into the foreseeable future, now is the time for the DNFSB to exercise its jurisdiction and review its safety. The DNFSB should walk down every system and component of the reactor, review safety basis documentation and seismic evaluations, and make recommendations that will help ensure safe operation of the ATR going forward. I thank you for your consideration of this petition, and look forward to your response.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark D. Sullivan", with a long horizontal line extending to the right.

Mark D. Sullivan