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May 1, 2007

Mr. Timothy A. Frazier  
GNEP PEIS Document Manager  
Office of Nuclear Energy  
U.S. Department of Energy  
1000 Independence Avenue, SW.  
Washington, DC 20585-0119

**Re: The U.S. Department of Energy's (DOE) Notice of Intent to Prepare a  
Programmatic Environmental Impact Statement (PEIS) for the Global Nuclear  
Energy Partnership (GNEP)**

Dear Mr. Frazier:

Enclosed please find the State of Nevada's comments on DOE's January 4, 2007 Notice of Intent to Prepare a Programmatic Environmental Impact Statement for the Global Nuclear Energy Partnership.

If you have questions regarding these comments, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert R. Loux".

Robert R. Loux  
Executive Director

RRL/cs

cc Marta Adams, Deputy Attorney General  
Local governments and tribes  
Scott Field, WIEB

**STATE OF NEVADA COMMENTS  
ON THE U.S. DEPARTMENT OF ENERGY'S NOTICE OF INTENT  
TO PREPARE A PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR  
THE GLOBAL NUCLEAR ENERGY INITIATIVE**

**Project Description: The Draft PEIS must fully disclose and evaluate the full range of GNEP elements and components, especially the numbers and location of facilities expected to produce spent fuel and other radioactive waste**

As it is currently being described and promoted, GNEP would involve reprocessing of spent fuel from current U.S. reactors, new U.S. reactors that are being considered currently or contemplated in the future, U.S. defense sources, reactors in foreign countries, etc. In addition, the GNEP reprocessing facilities will generate varied waste streams. The Draft PEIS must fully disclose the numbers and locations of any and all waste generator facilities. How much waste will there be? Where will it be processed? What types of waste and how much will be stored and where? What types and how much waste will be disposed of and where? As part of this full accounting, the Draft PEIS must also disclose how much spent fuel from abroad will be imported for reprocessing under GNEP. A full and complete description of the entire GNEP system must be central to the Draft PEIS.

**GNEP waste streams pose significant potential for environmental impacts**

DOE's Draft PEIS must fairly and honestly evaluate DOE's plans to send the long-lived radioactive nuclear waste products of the GNEP reprocessing plants to a repository, including a full examination of the waste streams and their environmental effects. Some of DOE's publications on GNEP have been rather casual in talking of reductions in waste volume. What is needed is a detailed accounting of the potential waste streams including the radioactive waste itself, irradiated metal parts that have to be disposed of, and whatever matrix they are embedded in – everything that would go into a repository so one can fairly compare the once-through case. Such a comparison must consider realistic waste streams from reprocessing plants and other fuel cycle facilities, with realistic losses, not just ideal process flow sheets.

Such a comparison must not only examine what happens to a given amount of spent fuel, but must consider *the numbers and types of reactors* contemplated under GNEP and alternatives. Much is made in GNEP promotional material that operating under GNEP would “reduce the volume, thermal output, and radiotoxicity” of the waste before disposal in a geologic repository. GNEP slides over the fact that this applies to the waste from one reactor. But the objective of GNEP is to greatly increase the nation's reliance on nuclear power beyond the current hundred or so units, and do so with reactor technologies that are undemonstrated. That is integral to the rationale – it would not be remotely defensible based simply on current nuclear plants or a small addition. GNEP therefore contemplates using Yucca Mountain for many hundreds of nuclear units and possibly thousands. DOE must take account of these numbers in estimating the GNEP waste streams and their environmental impacts.

**The “No-Action Alternative” must be comprehensively and realistically evaluated**

The “no action” alternative should consider at-reactor surface storage of SNF and HLW for an indefinite period, or at least for a period of 100 to 200 years. However, the no action alternative should assume a much smaller number of nuclear power plants than is

contemplated in the GNEP scenario. A fundamental rationale for GNEP is that it provides a way for the United States to substantially expand its reliance on nuclear power. So the correct “no action” alternative should involve the current number of nuclear power plants or simply a modest increase in that number.

**GNEP poses difficult waste management issues for the “hottest” radioactive byproducts of waste recycling**

GNEP documents are remarkably silent on a central feature of GNEP – that it plans to reduce heat impacts on the repository by separating the hottest fission products - strontium and cesium – and leaving them in surface storage. DOE has not been forthcoming on this aspect of the program. The NOI does not even mention strontium and cesium. There is only an oblique reference to “other long term storage.” Since for nearly a century the main heat output of spent fuel comes from these fission products, storing them will involve about the same amount of storage capacity as storing the spent fuel in the first place. Then, there is also the problem of dealing with the rest of the waste and process residues. It appears therefore that for centuries GNEP would *increase* the waste problem, not reduce it, even for a given number of nuclear power plants. The Draft PEIS needs to thoroughly evaluate this aspect of GNEP so that the public and the states can be clear on just what is involved. Of special concern is just where DOE intends to handle and store these most radioactive fission products.

**GNEP opens the possibility of waste from foreign reactors being transported to and stored in the U.S.**

Questions that the Draft PEIS must address include: Does DOE intend to take spent fuel from foreign reactors? If so, how much? Where will it be stored? Will this be only U.S.-origin spent fuel or fuel of other origins as well? Does DOE contemplate sending the foreign waste to a U.S. repository? The Draft PEIS must make clear DOE’s expectations on receiving foreign power reactor spent fuel and should factor that expectation into the GNEP option to be considered.

**DOE’s track record with respect to Yucca Mountain and other complex and controversial projects does not inspire confidence for GNEP**

As Nevada is not directly involved in the specific facilities DOE proposes to build in the short term – a reprocessing plant, a fast reactor for burning plutonium and transuranics, and an R&D center for developing the necessary fast reactor fuel and reprocessing methods for it – we are not commenting in detail on whether DOE is remotely ready to take on the technological challenge in “fast tracking” first-of-a-kind projects. DOE’s experience with the Yucca Mountain project, however, casts serious doubt as to ability of the agency to competently manage and implement the multi-faceted, technologically complex, and highly controversial undertaking that GNEP represents. Like Yucca Mountain, GNEP has the potential to evolve into another ill-conceived, grandiose nuclear project that develops a life of its own, with serious unanticipated consequences for states like Nevada as well as for the nation. A clear, comprehensive and honest environmental impact statement and a commitment to both the letter and spirit of the National

Environmental Policy Act are critically important to assure transparency and meaningful public participation in the planning and decision-making process.

### **The Global Nuclear Energy Initiative Is Fundamentally Inconsistent With DOE's Current Yucca Mountain Program**

The significance of the GNEP initiative for DOE's Yucca Mountain program lies in the fact that GNEP anticipates re-using spent nuclear fuel and high-level radioactive waste, rather than simply disposing of it. As such, GNEP is fundamentally inconsistent with DOE's the Yucca Mountain project's objective of disposing of the waste deep underground where it would be as inaccessible as possible. If DOE is permitted to go forward with the Yucca project, much of the nation's SNF and HLW would be effectively made unavailable for reprocessing and reuse well before GNEP facilities could be up and operating.

If the nation is now considering re-using spent fuel and high-level waste anytime in the future, the last thing you would want to do is dispose of the material in a underground repository in the near term. Instead, a realistic approach in moving towards a closed nuclear fuel cycle argues strongly for managing waste on-site at reactor and generator locations to assure that it can be readily accessed when and if GNEP technologies mature and can be put to productive use.

The Draft PEIS should fully and comprehensively assess the impact that disposal of unprocessed SNF and HLW at Yucca Mountain would have on the GNEP initiative.

### **DOE's Transportation, Aging and Disposal (TAD) initiative is incompatible with GNEP**

DOE is actively pursuing a new approach to SNF waste transportation, storage and disposal in the form of new multi-purpose containers for use in transporting, storing and disposing of waste. Under the TAD concept, SNF would be loaded into containers that would be welded closed at utility sites. The waste would then be stored on-site, transported, and disposed of in a series of overpacks, thereby reducing handling of bare fuel assemblies. The problem for GNEP is that, once the SNF is welded inside a TAD container, it becomes very difficult and expensive to extract later for reprocessing and reuse. If GNEP is to be a national priority, and reprocessing and reuse of SNF is a national goal, SNF should be maintained in a configuration and in locations where it would be most easily accessed. If much of the country's SNF is ultimately stored in TAD containers, reuse would require cutting open the welded containers and extracting the material – operations that are difficult from an engineering perspective, costly and add significantly to the risks involved with SNF handling and management.

### **DOE's Draft PEIS must assess the risks, costs, feasibility and other issues associated with the use of TADs and the impact on the entire GNEP concept.**

If Yucca Mountain and GNEP operations occur simultaneously, SNF and HLW transportation risks and impacts nationally would increase considerable. The Draft PEIS must assess the full range of transportation impacts associated with SNF and HLW being shipped to Yucca Mountain for disposal, other SNF being transported to various GNEP facilities around the country, and reprocessing waste moving from GNEP sites to Yucca Mountain or other DOE facilities. The Draft PEIS should contain site specific route analyses that consider the number and types of

waste being shipped, shipment-specific origins and destinations, modes of transport, types of shipping containers, the timing of various types of shipments and how they fit together in a temporal context, and any other factors related to the transport of any materials associated with GNEP, Yucca Mountain, or any other storage/disposal sites or operations.

### **GNEP has the potential to increase terrorism, sabotage and security vulnerabilities**

The GNEP policy initiative is based on very different assumptions than those underlying current Yucca Mountain project. Reprocessing of civilian SNF would create new storage and transportation uncertainties. Apart from the significant uncertainties regarding the compatibility of the TAD system and the GNEP concept discussed above, GNEP reprocessing facilities and radioactive materials shipments to and from reprocessing facilities could have major security implications, including greater symbolic target appeal and different attack vulnerabilities under terrorist/sabotage scenarios. The Draft PEIS must contain a comprehensive assessment of the risks of terrorism and sabotage with respect to all aspects of the GNEP initiative.

### **Western Interstate Energy Board Comments on the GNEP NOI**

The State of Nevada endorses the comments submitted by the Western Interstate Energy Board's (WIEB) High-Level Radioactive Waste Committee. Those comments are incorporated by reference into these Nevada comments.

### **GNEP non-proliferation impacts need to be evaluated**

While not a Nevada issues per se, the potential for GNEP to increase the amount of weapons-usable nuclear materials in the U.S. and worldwide – something that would be inconsistent with U.S. non-proliferation objectives and efforts – needs to be thoroughly discussed and analyzed in the Draft PEIS.