EagleRockCEm Resource

From: ROGER TURNER KAYE TURNER [rkturner71@msn.com]
Sent: Monday, September 13, 2010 6:48 PM
To: EagleRockEIS Resource
Subject: NRAG-1945-draft -Comments Attached
Attachments: AREVA-EIS-910.doc; AREVA-EIS-910.wpd

Dear NRC Staff:

Please find attached my comments on the AREVA project, draft EIS.

The comments are attached in both Microsoft Word and Wordperfect.

Thanks for this opportunity to comment on this important project.

Regards,

Roger Turner
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Pocatello, ID 83204
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Federal Register Notice: 74FR42466
Comment Number: 70

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September 12, 2010

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Chief, Rules and Directives Branch,
Division of Administrative Services,
Office of Administration, U.S. Nuclear Regulatory Commission, Mailstop TWB-05-B01M,
Washington, D.C., 20555-0001.

Subject: NUREG-1945 draft, comments

Thank-you for this opportunity to comment on this important proposal.

NEPA Regulations require that NRC prepare an EIS that is objective and not justify decisions already made. See NEPA Regulation below:

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1. **The purpose and need analyses needs up-dated in EIS.** The following conditions, in combination, eliminate the need for this project: (a) recent finds of large amounts of natural gas in the U.S. is reducing interest in nuclear power and rendering nuclear power uneconomical in comparison. (b) the cost of solar and wind power are coming down resulting in a larger role for these power sources and; (C) with the reduction of nuclear power plants in the U.S. domestic Uranium enrichment plants will be able to supply the nuclear power industry with ample supplies of U-235, without the need for this proposed , expensive, AREVA plant. The aforementioned points are detailed below:

(A) **Recent finds of large amounts of natural gas fields in the U.S. reducing the interest and momentum by power companies in developing nuclear power**. New finds of domestic natural gas has resulted in a switch in interest from coal and nuclear to gas for power supplies. A recent MIT study, that is more up-to-date than the study referenced in the draft EIS, reveals a likely economically realistic switch to natural gas for the United States power supplies. This study, by a group of 30 MIT faculty members, researchers and graduate students reflects the more accurate conditions for power plant construction in the United States for the next 40 years. The study shows a baseline global estimate of recoverable gas resources reaching some 16,200 trillion cubic feet (Tcf), enough to last over 160 years at current global consumption rates. (The Future of Natural Gas -- Study finds significant potential to displace coal, reducing greenhouse gas emissions, MIT, June 2010) In addition the study reports the following trend:

"Natural-gas consumption will increase dramatically and will largely displace coal in the power generation sector by 2050 (the time horizon of the study) under a modeling scenario where, through carbon emissions pricing, industrialized nations reduce CO_2 emissions by 50 percent by 2050, and large emerging economies, e.g. China, India and Brazil reduce CO_2 emissions by 50 percent by 2070. This assumes incremental reductions in the current price structures of the alternatives, including renewables, nuclear and carbon capture and sequestration."

According to U.S. Energy Information Administration Annual Energy Outlook 2010, domestic and Canadian gas supply will increase, at least to 2035.

Shale gas provides largest source of growth in U.S. natural gas supply

The increase in U.S. natural gas production from 2008 to 2035 in the AEO-2010 Reference case results primarily from continued growth in production of shale gas, recent discoveries in deep waters offshore, and, to a lesser extent, stranded natural gas brought to market after construction of the Alaska natural gas pipeline is completed in 2023. Shale gas and coalbed methane make up 34 percent of total U.S. production in 2035, doubling their 17-percent share in 2008. Shale gas is the largest contributor to the growth in production, while production from coalbed methane deposits remains relatively stable from 2008 to 2035.

(B) **The cost of solar power is lower than nuclear power, resulting in a larger role for these power sources**. The New York Times reports the following article:

Solar power costs have been declining, the costs of nuclear power have been rising inexorably over the past eight years, said Mark Cooper, senior fellow for economic analysis at Vermont Law School's Institute for Energy and Environment.

Estimates of construction costs — about $3 billion per reactor in 2002 — have been regularly revised upward to an average of about $10 billion per reactor, and the estimates are likely to keep rising, said Mr. Cooper, an analyst specializing in tracking nuclear power costs. (New York Times; Special Report: Energy and Environment, Nuclear Energy Loses Cost Advantage, July 26, 2010)

C) Switch to other power sources means no need for Areva. Given the above two examples of a switch to other power sources than nuclear, the existing plans for enrichment will be adequate to supply the U.S. nuclear industry. The Les Urenco company has plans to produce up to 6 million SWU; while the USEC produces 10.5 Million SWUs.
Also, in 2008, an amended agreement allows Russia to export increasing amounts LEU available to nuclear power companies to the United States, starting with 442,000 pounds in 2011 and up to 13.7 Million pounds in 2020.

While it is true that some nuclear plants may expand their existing power plant, such as Watts

Bar 2 (TVA), there will be no where near the number of new units predicted by the NRC's Energy Assessment Administration Report (EIA 2009a) and no where near the need for SWUs referenced in the draft EIS for AREVA; and because of many nuclear plants are decommissioning -- there will be less and less need for enriched Uranium. Many of the firms that initially consider nuclear construction are bound by State requirements that they be 'prudent investors'. Therefore, many initial applicants to NRC are dropping out completely, or keeping them on hold.

Consequently, the EIS should carefully review current studies and assessments that show a general swing to natural gas, solar and wind. Unfortunately the NRC fails to take a hard look at this purported need. A nuclear power plant hasn't been built in the United States in two decades. The EIS needs to provide economic comparisons of nuclear vs Solar and Natural Gas. More and more companies are dropping their nuclear power applications to NRC, and therefore the need for this plant is not justified, given the existing and soon to open facilities in the U.S. to provide sources of enriched Uranium.

Public Health risks of "Temporary" Storage of depleted Uranium should be addressed in EIS. The draft EIS by the NRC significantly errs by minimizing the human health and environmental risks in the risks of the storage of uranium in above-ground pads in eastern Idaho. The EIS is flawed in its apparent assumption that another location will be certified for off-site storage. The EIS fails to acknowledge that these casks may be breached by handling or corrosion. Here is an excerpt of the EIS, under the Public Health section:

> During peak operation, the proposed EREF is expected to generate 1222 cylinders of depleted UF6 annually, which would be temporarily stored on an outdoor cylinder storage pad in 26 approved Type 48Y containers before being transported to a DOE-owned or private conversion 27 facility.

The above paragraph, under the Public Health Section, in fact, does not even discuss public health. The EIS must assume that the casks of depleted Uranium will remain for some time at the site, as the treatment facility to convert UF6 to the more stable oxide is behind in schedules and experiencing budget problems affecting production. Anytime heavy equipment is operated there is a risk that accidents will occur. In fact, casks of UF6 were damaged by heavy equipment at Oak Ridge, so the risk to workers and public health is real. The EIS needs to define "temporary" and fully assess health and worker risks, for longer term storage at the site.

Proliferation should be addressed in final EIS. The Draft EIS States that nuclear proliferation was dropped from the scope of this EIS:

> In the case of nonproliferation, the intent of constructing and operating the EREF is to produce uranium enriched in uranium-235 up to approximately 5 weight percent for use in commercial nuclear reactors, as mentioned in Section 1.2. This level of enrichment is not sufficient to produce nuclear weapons. Nonproliferation is therefore out of scope.

The Non Proliferation Treaty (NPT) Signed by the U.S. and 188 other countries, provides,

among other thing, that members will: Provide assurance through the application of international safeguards that peaceful nuclear energy in NNWS will not be diverted to nuclear weapons or other nuclear explosive devices. The centrifuge technology violates this agreement. The NPT is an indispensable legal and political instrument in preventing further proliferation of nuclear weapons. In the absence of the NPT, many other countries might well acquire nuclear weapons. Without the NPT safeguards requirements, monitoring and inspections of nuclear materials and facilities in non-nuclear weapon states would be significantly weakened.

Although the 5% level of enrichment is not sufficient to produce nuclear weapons, the simple addition of more centrifuge units, or a re-arrangement of the cascade system, may render such a facility capable of producing weapons-grade Uranium. Consequently, the draft EIS erred in not addressing the proliferation potential of this project. The Treaty on the Non-Proliferation of Nuclear Weapons, also Nuclear Non-Proliferation Treaty (NPT or NNPT) is a treaty to limit the spread (proliferation) of nuclear weapons. The treaty came into force in1970, and currently there are 189 states party to the treaty, five of which are recognized as nuclear weapon states: the United States, Russia, the United Kingdom, France, and China. Four nonparties to the treaty are known or believed to possess nuclear weapons

Monitoring and verification is very important under the Treaty and it would be improbable that the U.S. or the International Atomic Energy Agency (IAEA) could count the centrifuge units or the analyze the way that a facility would carry out repeating cycles through the centrifuge units to achieve weapons grade Uranium.

Consequently, the issue of enrichment through the centrifuge method, must be reviewed and added to the EIS review. The NRC is obligated through NEPA to review the proliferation risks of this technology, and ir it violates the principles of the Treaty, be dropped from the alternatives. If the project is approved at all, the EIS should review other technologies that eliminate the proliferation threat that this one poses.

Add Alternative to extend the Megatons to Megawatts Program in order to supply the U.S. with enriched Uranium. The EIS should re-evaluate interest by the U.S. to extending the Megatons to Megawatts program in order to obtain enriched uranium. The EIS should re-evaluate the possibility of receiving other Foreign supplies of enriched uranium to supply the U.S. needs.

EIS fails to realistically evaluate container breaches. Moving, stacking and unstacking cylinders has breached the containers, at the Oak Ridge Facility. The EIS needs to be realistic about risks, where heavy equipment is in use because accidents and spills will happen. Inspections are subject to human error and constrained by budgets. Inconsistent pressure levels in containers are well known. Excess pressure in containers may make them more susceptible to breaching or corrosion. Corrosion has been found on these containers at Oak Ridge. The combination of problems were not adequately considered in the draft EIS.

The EIS fails to acknowledge toxicity of Uranium (both enriched and depleted) and the risks to workers and the public when released. As mentioned above, the EIS also failed to consider extended storage of containers, with additional risk of breached containers, as a result.

EIS Fails to recognize UF6 as a RCRA permitted material. Depleted Uranium was

determined to be a Solid Waste as defined by RCRA and the EIS in Tennesse, and the EIS fails to recognize the possibility that Idaho DEQ will simalarly require a RCRA permit for this material. Please revise Permit Section.

Inadequate description and risk evaluation of the first step in the process. Sublimation of the solid UF6 into the gas phase. How is this done? What is the size of facility to accomplish this? What temperatures and pressures are required to sublimate UF6? The EIS describes, on page 2-19 a system of pre-filters before the "cleaned gases would be discharged to the atmosphere via rooftop stacks". The EIS needs to describe this system and how it functions. What systems would be in place to monitor these filters and their integrity? What are the "clean gases" that will be discharged to the atmosphere and how are these gases monitored? Are continuous stack samplers employed for this? Please describe them in the EIS. What is the annual volume of gas produced and what are the safeguards?

The Section on SBM notes that a ventilation system will be in place: "The Gaseous Effluent Ventilation System would be used to remove uranium and other radioactive particles and hydrogen fluoride from the potentially contaminated process gas streams."

The final EIS needs to go into some detail about the ventilation system. If there is a release of UF6, or HF, how does the ventilation system capture it? Once captured how is it specifically treated and how does it provide protection to the workers and protection from release into the atmosphere, or in the case of liquid or solid phases of it, protection from contact to workers?

Cumulative effects include Fuel Fabrication. The NEPA requires an assessment of cumulative impacts of this project. This would include additional shipments, storage and production at the off-site fuel fabrication facility. Please add this process, risks, to the cumulative evaluation of Areva plant.

Liquid Effluent Systems needs addressed. This section of the EIS (Page 2-20) describes a process where contaminated liquids would be processed for uranium removal through several precipitation units, filtration units, microfiltration units, and evaporation units. These units need to be described in detail and evaluated with respect to human and ecological risks. How are liquid contaminants collected and what is the risk to workers during these spills? Also, this section reports that the final solid material would be shipped off-site. This raises the issue of whether it would require a TSCA or RCRA permit. The EIS should describe the current status of mixed waste treatment acceptance criteria, shipping requirements.

NEPA requires a hard look at environmental impacts even if waste classification system is flawed.

Classification of radioactive wastes in the U.S. errs because waste categories are based on the origin of the waste, not on the physical, chemical, or radiological properties that determine the hazards of the waste, and hence its safe and proper management. Hence the system does not take into account actual radioactivity levels of waste either overall or per unit volume. Thus, so-called "low-level waste" can contain materials more radioactive than those classified as "high-level waste." However, the NEPA requires that risks to the public be evaluated, in addition

to simply repeating the waste classification system employed in the U.S.

Because depleted uranium, has been evaluated by the State of Tennessee as a "solid waste" as defined by RCRA, and because uranium hexafluoride is toxic, the EIS must examine more closely the handling, storage, and transport of UF6 including the environmental impacts, both cumulative and indirect from the project at Areva, regardless of the "official" classification of it as "Low-Level", or Low Level Mixed waste. The characteristics of UF_6 pose potential health and environmental risks.DUF_6 in cylinders emits low levels of gamma and neutron radiation. Also, when released to the atmosphere, DUF_6 reacts with water vapor in the air to form hydrogen fluoride (HF) and uranyl fluoride (UO_2F2), both chemically toxic substances. Consequently, spills and air releases of this material is potentially a significant adverse impact on the environment as defined by NEPA. As mentioned above, the temporary storing of depleted and enriched uranium and at the Areva facility, is not a good idea, and the NRC should, if this project is approved, evaluate an alternative that limits the inventory of it to a bare minimum, immediately shipping it to the facilities to convert it to the more stable oxide, or for fuel fabrication.

In summary the EIS fails to follow NEPA guidelines with respect to evaluation of the need, evaluation of temporary storage risks, evaluation of treatment facilities for depleted uranium. The EIS fails to follow up with a realistic evaluation of the proliferation risks, and to advance alternatives to the dangerous centrifuge system and its risks to violating the NPT treaty. The EIS must evaluate the risks of handling, moving and storing Uranium compounds at Areva, in the context of historical accidents with the casks, spills and releases of the material, the actual toxicity of the uranium and the associated indirect and cumulative risks to the environment, as required by NEPA.

Thank-you,

Roger Turner

307 N. Buchanan

Pocatello, ID 83204

September 12, 2010

Roger Turner
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Pocatello, ID 83204

Chief, Rules and Directives Branch,
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