



# Mixed Oxide Xchange

## NRC Receives Response to Request

On August 31, 2001, the NRC received from Duke Cogema Stone & Webster (DCS) written responses to its June 21, 2001 requests for additional information. The DCS submittal includes responses to 239 separate requests. The NRC staff are currently reviewing the responses and continuing the evaluation of the Construction Authorization Request with this new information. The staff have included the contingency of a second round of requests and responses in their schedule, which is tentatively scheduled for later this year. A draft Safety Evaluation Report that summarizes the staff's findings is scheduled for April 30, 2002. ❀❀❀



## Mr. Persinko Visits French Regulators

Mr. Andrew Persinko is the NRC project manager for the Division of Fuel Cycle Safety and Safeguards licensing activities related to the MOX fuel fabrication facility. He recently returned from a work assignment with the French nuclear regulatory authority. The following narrative is a brief overview of this experience:

“From April 30, 2001 through July 13, 2001, I worked with the French direction de la surete des installations nucleaires (DSIN) (the central safety department located in Paris and a Paris suburb, Fontenay-aux-Roses) and the Institut de protection et de surete nucleaire (IPSN) (institute for nuclear safety and protection) at various locations in France. During my visit, I obtained

*(Continued on page 5 - see VISIT)*



## ASLB Receives Petitions

On August 13, 2001, the following organizations filed contentions related to their petitions to intervene with the Atomic Safety Licensing Board regarding the NRC's hearings for the MOX fuel fabrication facility: Georgians Against Nuclear Energy (GANE); Blue Ridge Environmental Defense League (BREDL); and Environmentalists, Inc. GANE also submitted on that date a “motion to dismiss licensing proceeding or, in the alternative, hold it in abeyance,” which Environmentalists, Inc. subsequently supported in an August 23, 2001 submittal. DCS and the NRC staff filed responses to GANE's motion to dismiss on August 21, 2001 and August 27, 2001, respectively, in which both DCS and the NRC staff urged the Licensing Board to deny the motion. On August 28, 2001, GANE filed a motion for leave to reply to the DCS and NRC staff responses, which was granted by Judge Thomas Moore on August 31, 2001. GANE filed their reply on September 7, 2001.

The Licensing Board held an all-day prehearing conference in Room A1 of the North Augusta Community Center starting at 9:00 am, Friday, September 21, 2001. The Board heard arguments on: 1) GANE's motion to dismiss; 2) the standing of the Petitioners to intervene in the proceeding, and; 3) the admissibility of the Petitioners' proffered contentions. ❀❀❀

## NRC Issues Scoping Summary Report

The NRC has been drafting an Environmental Impact Statement (EIS) since March 7, 2001. The preparation of an EIS began with a scoping process, which included public meetings in April and May 2001 in: North Augusta, South Carolina; Savannah, Georgia; and Charlotte, North Carolina. Issuance of the Scoping Summary Report on August 9, 2001 concluded the scoping process. The scoping process is intended to gather information from the public and stakeholders on significant issues that should be considered in preparing the EIS and additional alternatives that should be considered.

Comments received at the North Augusta, Savannah and Charlotte meetings helped determine the scope of the proposed action and no-action alternatives. For example, the EIS will evaluate the potential impacts of using sand filters instead of high efficiency particulate air (HEPA) filters, and the potential impacts of using wet and dry plutonium purification processes for the proposed action. Two no-action alternatives were identified through scoping: (1) continue storage of all the surplus plutonium at the present U.S. Department of Energy (DOE) sites in an unaltered form; (2) immobilize all the surplus plutonium at the Savannah River Site. Other concerns raised at these meetings included human health impacts, waste management, terrorism, environmental justice, and cumulative impacts. Comments received at the Charlotte meeting focused on reactor issues. These included concerns over using MOX fuel in the planned Catawba and McGuire reactors, transportation of the MOX fuel, and emergency preparedness.

(See SCOPING - page 4)



### Today's Special

👉 ALPHABET SOUP 👈  
(Commonly Used Acronyms in this Newsletter)

ASLB	Atomic Safety Licensing Board
BREDL	Blue Ridge Environmental Defense League
CFR	Code of Federal Regulations
DCS	Duke Cogema Stone & Webster
DOE	U.S. Department of Energy
EIS	Environmental Impact Statement
FFF	Fuel Fabrication Facility
GANE	Georgians Against Nuclear Energy
HEPA	High Efficiency Particulate Air
MOX	Mixed Oxide
NRC	U.S. Nuclear Regulatory Commission

## NRC Discusses Requests with DCS

On June 21, 2001, NRC forwarded requests for additional information on the Construction Authorization Request to Duke Cogema Stone & Webster (DCS). On July 26, 2001, the NRC met with DCS to discuss the NRC's requests. The meeting was held in the North Augusta Community Center and was open to the public.

DCS opened the meeting with a discussion of the concepts of "design" versus "design basis," an important distinction for the construction authorization phase (see next article, this page). DCS explained that additional design information would be provided to NRC to help the staff continue review of the proposed design bases. However, DCS stated that design information, which does not require NRC approval at this stage in the licensing process, would be clearly differentiated from design bases information that does require NRC approval.

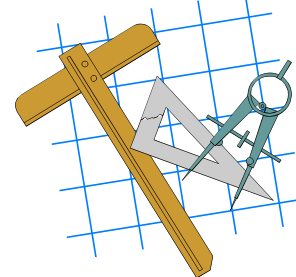
DCS also discussed how they will demonstrate that safety-related equipment in the MOX fuel fabrication facility will be reliable enough to prevent or mitigate accidents. DCS conveyed their position that their qualitative approach to demonstrating reliability, which includes for example, commitment to a well-implemented quality assurance program, the adoption of industry codes and standards and a commitment to implement management measures, should provide adequate assurance to the NRC staff that the performance requirements of 10 CFR 70.61 will be met. The NRC staff responded that these commitments, along with some additional information regarding minimum reliability ratings for important safety features, will be necessary to reach a conclusion regarding the design bases.


NRC staff also raised the issues of appropriate site boundaries, limits on releases of radioactive material to the environment and human dose limits, and whether Savannah River Site workers should be treated as workers or members of the public for the purposes of protection under the NRC's radiation protection regulations (10 CFR Part 20). These issues are still being resolved as part of the staff's ongoing review. ❀❀

## DESIGN vs. DESIGN BASES

A frequent topic of discussion at meetings between the NRC and DCS is the question of what is "design basis" versus "design" information. This distinction is important because the NRC's decision to approve construction is dependent on whether the "design bases" for the MOX facility described in DCS's Construction Authorization Request are adequate to protect against accidents and natural phenomena hazards. The staff is not required to approve the actual facility "design" at this stage of the project. So what is the difference between design and design bases?

The difference is probably best explained by an example. Imagine a pressure vessel filled with hot water and steam. For the purpose of this example, assume that a steam pressure less than 100 psig is necessary in order to meet the NRC performance requirements of 10 CFR 70.61. Therefore, the steam pressure is important to safety. The safety-related design basis, then, is the steam pressure must not exceed 100 psig. However, the type of pressure relief devices used (pressure relief valves or rupture discs) would be considered design information. Design information is generally chosen at the discretion of the applicant's designer in order to meet the design basis. ❀❀





**Meeting Summaries**

**May 29, 2001**  
NRC staff met with DCS to discuss MOX project schedules and project management expectations.

**July 26, 2001**  
The NRC staff met with DCS to discuss and clarify NRC's June 21, 2001, Request for Additional Information related to the MOX fuel fabrication facility construction application review

(SCOPING - continued from page 2) The Scoping Summary Report summarizes the comments and issues raised, discusses alternatives to be evaluated, and provides an outline of the draft EIS. NRC, as the lead agency, will prepare the EIS with the assistance of Argonne National Laboratory.

Under the present technical review schedule, the EIS will be used to support a decision in 2002 by the NRC as to whether to authorize construction of the proposed MOX FFF. The current schedule is to publish the draft EIS by the end of February 2002. Following a public comment period, the draft EIS will be revised, and a final EIS will be published by the end of September 2002. ❀❀



## NRC's Mixed Oxide Fuel Infoweb

**Remember:** You will find NRC's MOX website at [www.nrc.gov/NRC/NMSS/MOX/index.html](http://www.nrc.gov/NRC/NMSS/MOX/index.html). The website gives background on nuclear fuel, history, licensing and environmental information, meetings, updates related to MOX and power reactors, and frequently asked questions. Your input is always appreciated.

*(VISIT - continued from page 1)*

a more detailed understanding of the processes at the MELOX mixed oxide (MOX) fuel fabrication facility and the spent fuel reprocessing facility located in La Hague, including a more detailed understanding of safety aspects associated with the design and operation of those facilities.

I worked at the DSIN office in Paris; DSIN regional offices located in Marseille, Lyon, Caen; at the MELOX and La Hague facilities; and at the IPSN offices located in Marcoule and Paris. As part of my visit, I participated in five DSIN inspections, which included confinement ventilation and nuclear criticality safety inspections at MELOX.

I reviewed numerous regulatory documents that included the annual report of the DSIN, French laws and regulations, safety reports for MELOX and La Hague, and IPSN reviews of the MELOX safety evaluation reports. I discussed technical issues with DSIN and IPSN personnel, such as deterministic versus risk-informed approaches to regulation. The French regulatory approach toward fuel cycle facilities is deterministic, which is different than the risk-informed approach applied to similar facilities in the U.S. At MELOX and La Hague, I discussed topics such as criticality safety, earthquake protection, radioactive material confinement, fire protection and operational events that are on the DSIN website (<http://asn.gouv.fr/>).

At MELOX, I visited the powder receipt and storage, powder processing, pellet processing, pellet sintering, fuel rod assembly, fuel bundle assembly, and utility areas, including the utility control room. At La Hague, I visited facilities in UP2-800 and UP3, the reprocessing facilities for domestic and foreign fuel, respectively. Since UP2-800 R4 is under construction, there is no plutonium in the facility. Thus, the visit to UP2-800 R4 afforded a unique opportunity to visit areas and view components and internals of components that will not be accessible after operation begins. Additionally, I visited the environmental control room for the entire La Hague site. One of the functions of the control room is to monitor gaseous and liquid releases and assure that they are within allowed limits.

While visiting La Hague, I visited the COGEMA/SGN facility next to La Hague where there is a full-scale working model of the electrolyzer that is to be used in the U.S. MOX facility. The model was constructed for test purposes.

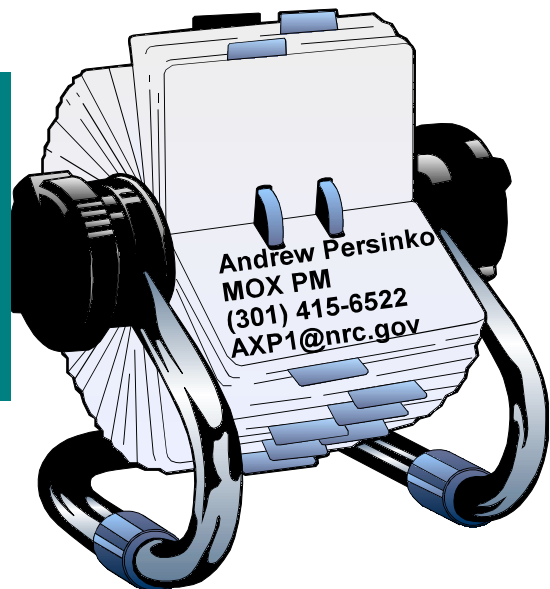
As a result of my assignment to the DSIN, the NRC has a more detailed understanding of safety aspects related to the MELOX MOX fuel fabrication facility and the spent fuel reprocessing facility located in La Hague, and a more detailed understanding of the MELOX and La Hague processes. The design and operational knowledge gained on this visit will be beneficial during the NRC staff review of the U.S. MOX fuel fabrication facility.” ❄❄

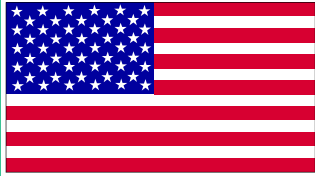
### NOTE THESE CHANGES...

Andrew Persinko has returned from France and has resumed the Project Manager duties for MOX  
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## Future of Plutonium Disposition Program



One question the NRC staff is frequently asked relates to the Bush Administration's review of the U.S. nonproliferation programs with Russia. The National Security Council is continuing to conduct its review and discuss this program with Congressional leaders. NRC staff will provide updated information in future *Mixed Oxide Xchange* issues. ❀❀❀

## U.S. Nuclear Regulatory Commission

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