July 5, 2007

CLOSED MEETING NOTICE

Applicant:	Shaw AREVA MOX Services (MOX Services) P.O. Box 7097 Aiken, SC 29804-7097
Docket:	70-3098
Date and Time:	July 18 and 19, 2007, 9:00 A.M to 4:00 P.M.
Location:	U.S. Nuclear Regulatory Commission July 18 - EBB-2-E-01 July 19 - EBB-1-B-13 6003 Executive Blvd. Rockville, Maryland 20852
Purpose:	For MOX Services and the NRC staff to discuss items related to the Chemical related aspects of the Alternate Feedstock for the Mixed Oxide Fuel Fabrication Facility, to be located in Aiken, South Carolina.
NRC Attendees:	D. Tiktinsky, and project staff
Contact:	D. Tiktinsky; 301-492-3229; dht@nrc.gov
Category:	Category 1 Meeting: This meeting will be closed to the public due to the discussion of proprietary information and Official Use Only - Security Related Information.

NOTE: NRC Meetings are open for interested members of the public to attend pursuant to the "Enhanced Public Participation in NRC Meetings; Policy Statement," 67 *Federal Register* 36920, May 28, 2002.

cc: G. Smith, NNSA
J. Olencz, NNSA
H. Porter, SC Dept. Of HEC
D. Silverman, Esq., MOX Services
D. Gywn, MOX Services
A.J. Eggenberger, DNFSB
L. Zeller, BREDL
G. Carroll, Nuclear Watch South
D. Curran, Esq., Nuclear Watch South
L. Williamson, FCSS for MOX Website (upcoming meetings)

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DISTRIBUTION:

Docket 70-3098	M. Shannon, RII	W. Gloersen, RII	D. Ayres, RII
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L. Williamson, FCSS for MOX Website			

ML071860376

Office	SPB	SPB	SPB
Name	DTiktinsky	LWilliamson	WTroskoski
Date	07/5/07	07/5 /07	07/5/07

OFFICIAL RECORD COPY

Agenda for Closed Meeting on Chemical Safety
for the Mixed Oxide Fuel Fabrication Facility

July 18-19, 2007
July 18 EBB-2-E-01
July 19 EBB-1-B-13

July 18, 2007

9:00-9:15 Introductions

9:15-10:30
10:30-11:15 Dechlorination/Dissolution Unit (KDD)

Chloride/Chlorine chemistry in the electrolyzer
- a. General chemistry
- b. Literature review
- c. Chloride/Chlorine chemistry industry experiences

11:15-12:00 Relevant Testing
- a. Summary of DCS01 KDD CG CRE Y 07574
- b. CEA Atalante Facility tests
- c. La Hague experience
- d. Relevance to MFFF electrolyzers
  - i. Mass balance (How is the oxidation from chloride to chlorine assessed, monitored?)

1:00-2:30 Sampling and Process Controls for Chlorine in Dechlorination
- a. Chlorine sampling process of AFS powder in KDM
- b. Proposed lab analysis methodology in KLK
- c. Discussion of sampling and process controls in dechlorination process (electrolyzers)
- d. Potentiometers in electrolyzer to monitor dechlorination
- e. IROFS

2:45-4:30 Assessment of AFS impurities in the electrolyzer- Safety Strategies, Safety Controls, and Defense-in-Depth
- a. General corrosion safety strategies-titanium
- b. Assessment and modeling of the behavior of the contaminants in the AFS feed within the electrolyzer
  - i. Perchlorate, chlorate, chlorite, hypochlorate, and hypochlorite,
  - ii. Phosphates, sulfates, and oxidation to respective peracids
- c. IROFS, Safety controls
  - i. Sampling process and analysis
- d. Defense-in-Depth

July 19, 2007

Dissolution (KDB) and Dechlorination/Dissolution unit (KDD)

9:00-10:30 Hydrogen Peroxide (H_2O_2)-Organic Chemistry
- a. Reduction of Pu(VI) and Ag(II)
- b. Review of literature (organic chemistry)
- c. La Hague experience

10:45-12:00 Sampling and Process Controls for H_2O_2
- a. Quenching the excess H_2O_2 before introduction into the pulse column and organics
- b. IROFS (H_2O_2 sampling)
- c. Spectrophotometer monitoring during reduction
- d. Metering of H_2O_2 into tanks
- e. Sampling at KDB*TK7000 for Pu valence

1:00-4:00 Safety Strategies, Safety Controls, and Defense-in-Depth
- a. IROFS
  - i. Sampling for H_2O_2 concentration
  - ii. Administrative control (H_2O_2) addition sequence
  - iii. Density controllers
  - iv. Limit H_2O_2 addition rate

4:00-4:30 Summary