

June 2, 2004

MEMORANDUM TO: Carl J. Paperiello, Director  
Office of Nuclear Regulatory Research

FROM: Jack R. Strosnider, Director **/RA/**  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: TECHNICAL ASSISTANCE REQUEST - REVIEW OF GAS  
CENTRIFUGE AND MIXED OXIDE FUEL FABRICATION FACILITY  
LICENSE APPLICATIONS

The Office of Nuclear Material Safety and Safeguards (NMSS) requests technical assistance in reviewing the following projects:

- Projects:
1. United States Enrichment Corporation (USEC) Inc.'s Commercial-Scale Gas Centrifuge Facility
  2. Duke Cogema Stone & Webster's (DCS) Mixed Oxide (MOX) Fuel Fabrication Facility

Casework/RITS/TAC Nos: Casework, RITS, and TAC numbers will be provided on submittal of the applications.

Requested Action: As discussed in Attachment 1, NMSS requests the Office of Nuclear Regulatory Research (RES) to review the license applications for the USEC Inc. Commercial-Scale Gas Centrifuge Facility and the MOX Fuel Fabrication Facility in the area of instrumentation and control.

RES reviewer(s) shall, as needed, prepare or review requests for additional information (RAIs) in the reviewed areas; participate in meetings and conference calls with the applicant; perform site visits; prepare or review sections of a draft and final safety evaluation report (SER) with any proposed license conditions; and participate in adjudicatory hearings.

CONTACT: Yawar Faraz, NMSS/SPB  
301-415-8113

Specific schedules for the preparation/review of RAIs and draft sections for the SERs will be established when NMSS receives the license applications for each facility. USEC Inc. and DCS are currently expected to submit the applications in August 2004 and February 2005, respectively. The USEC Inc. application review and mandatory hearings are anticipated to last between 24 and 30 months. The MOX application review is anticipated to last 24 months while any associated hearings are anticipated to last at least another 8 months.

Please provide the information requested below and return a completed copy to the Licensing Assistant (LA) or Project Manager (PM) within 2 weeks from the date of this letter.

Name(s) of Reviewer(s): \_\_\_\_\_

Section Chief Signature: \_\_\_\_\_

Contacts: PM for USEC Inc.: Yawar Faraz; 415-8113  
Acting PM for MOX: David Brown; 415-5257  
LA: Linda Gross; 415-8129

The TAC Nos. should be referenced in future correspondence related to this request and on the RITS Report for recording staff time expended on this effort.

Docket Nos: 70-7004 for USEC Inc.; 70-3098 for DCS

Attachment:

1. Requested Technical Assistance for the Office of Research on Gas Centrifuge Facility and MOX Fuel Fabrication Facility Application Reviews.

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 Acting PM for MOX: David Brown; 415-5257  
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Attachment:

1. Requested Technical Assistance for the Office of Research on Gas Centrifuge Facility and MOX Fuel Fabrication Facility Application Reviews.

Distribution:

FCSS r/f    SPB r/f    RShafer, RES

**ML041350074**

\*see previous concurrence

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<b>DATE</b>	5/26/04		6/ 02/04	

**OFFICIAL RECORD ONLY**

Requested Technical Assistance for the Office of Nuclear Regulatory Research on  
Gas Centrifuge Facility and MOX Fuel Fabrication Facility Application Reviews

A. Technical Issues

The Office of Nuclear Material Safety and Safeguards (NMSS) is responsible for the licensing and regulation of gas centrifuge enrichment facilities and fuel fabrication facilities. United States Enrichment Corporation (USEC) Inc. has indicated that it would submit a commercial-scale enrichment facility license application in August 2004. Duke Cogema Stone and Webster has indicated that it would submit a commercial-scale mixed oxide (MOX) fuel fabrication facility operating license application in February 2005. At this time, NMSS staff plans to conduct its safety review of the gas centrifuge application in accordance with NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility." The MOX facility application will be reviewed in accordance with NUREG-1718, "Standard Review Plan for the Review of an Application for Mixed Oxide (MOX) Fuel Fabrication Facility." Technical issues in the area of instrumentation and control need to be reviewed.

B. Regulatory Application

10 CFR Part 70 establishes the requirements for issuance of a license for a uranium enrichment facility and a fuel fabrication facility. These requirements derive from 1990 amendments to the Atomic Energy Act (Section 193) and establish procedural licensing requirements for uranium enrichment facilities or fuel fabrication facilities. These requirements include mandatory formal hearings, preparation of an Environmental Impact Statement (EIS), a prohibition of construction until license issuance following the hearing, inspection of the constructed facility prior to license issuance, and public liability insurance. Staff from the Nuclear Regulatory Commission (NRC) will review a complete facility safety analysis, design of safety equipment and operator actions, management measures, an emergency plan, a physical protection plan, and a material control and accounting plan. This review process is conducted before a construction and operating license is issued to a uranium enrichment facility or fuel fabrication facility.

For commercial-scale uranium enrichment facilities and fuel fabrication facilities, NRC must prepare an EIS. The preparation of the EIS will include scoping, preparation of a scoping report, and preparation of a draft and final EIS.

C. Products

The products needed by NMSS include:

1. Comments on applicable sections of the license applications.
2. Comments on the environmental reports.
3. Draft and final safety evaluation report sections for the area of instrumentation and control.
4. For hearings, appropriate information will need to be developed to support litigation activities.

**Estimated schedules for the license application reviews are as follows:**

Activity	USEC Full-Scale Facility	MOX
Submittal of License Application	August 2004	February 2004
Submittal of Environmental Report	August 2004	N/A
Acceptance Review input to project manager	21 days after submittal	21 days after submittal
Start Technical Review	21 days after submittal	21 days after submittal
Request for Additional Information and Initial Draft Safety Evaluation Report (SER) Sections to project manager	3 months after submittal	4 months after submittal
Final Draft SER Sections to project manager	6 months after submittal	12 months after submittal
Final SER Sections to project manager	8 months after submittal	18 months after submittal
Participate in hearing, if needed	begin 9 months after submittal	late - 2006/early - 2007

E. Priority

The review of the gas centrifuge and MOX license applications will be high priority agency actions.

F. Level of Effort

The estimated levels of effort are as follows:

Technical Area	Project	FY04 (FTE)	FY05 (FTE)	FY06 (FTE)	FY07 (FTE)
Instrumentation and Control (I&C)	USEC Full-Scale	0.05	0.2	0.15	0
Instrumentation and Control (I&C)	MOX Full-Scale	0	0.2	0.2	.1

G. Technical Monitor

Yawar Faraz (415-81113; [yhf@nrc.gov](mailto:yhf@nrc.gov)) will serve as NMSS's contact for the USEC project.

David Brown (415-5257, [ddb@nrc.gov](mailto:ddb@nrc.gov)) will temporarily serve as NMSS's contact for the MOX project.