

June 27, 2008

MEMORANDUM TO: Dennis Rathbun, Director  
Division of Intergovernmental Liaison  
and Rulemaking  
Office of Federal and State Materials  
and Environmental Management Programs

FROM: Robert Pierson, Director */RA/*  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: USER NEED MEMORANDUM – AMENDING TITLE 10 OF THE  
*CODE OF FEDERAL REGULATIONS* PART 40

REFERENCE: MEMORANDUM DATED AUGUST 24, 2007, SUBJECT: STAFF  
REQUIREMENTS – SECY-07-0146, REGULATORY OPTIONS FOR  
LICENSING NEW URANIUM CONVERSION AND DEPLETED  
URANIUM DECONVERSION FACILITIES

The Office of Nuclear Material Safety and Safeguards (NMSS) requests the Office of Federal and State Materials and Environmental Management Programs (FSME) to conduct a rulemaking to modify Title 10 of the *Code of Federal Regulations* (10 CFR) Part 40 to impose “specific”, risk-informed requirements analogous to those in Part 70, Subpart H, on both current, and future conversion/deconversion facilities.

The Commission directed, in SECY-07-0146, the staff to conduct an enhanced participatory technical basis development process, and follow-on rulemaking to ensure stakeholders’ views are used to inform the rulemaking. The agency announced the meeting on the U.S. Nuclear Regulatory Commission (NRC) Web site as well as in a press release sent out by the Office of Public Affairs. The major stakeholders that would be impacted attended the meeting, either in person at NRC Headquarters or via teleconference. The meeting followed a workshop format, and representatives from stakeholders such as Honeywell and the Nuclear Energy Institute (NEI) gave presentations.

As it currently exists, 10 CFR Part 40 is deficient for the regulatory oversight of new conversion/deconversion facilities for the following reasons:

- It was founded for the control of a valuable and strategic material (i.e., uranium). This fact was central to the definition of nuclear material in the 1946 AEA; radiation protection and chemical safety were not significant considerations in the rule

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- The definitions of fissionable special nuclear material, both source and byproduct materials, are based on security and not safety; and
- The current requirements of 10 CFR Part 40 do not represent a risk-informed approach to regulation.

Uranium conversion and deconversion facilities not only handle radioactive source material but also large volumes of hazardous chemicals that are involved in processing the nuclear material. Thus, the most significant health and safety risks at uranium conversion and depleted uranium deconversion operations are chemical in nature. In particular, one chemical, hydrogen fluoride (HF), has a significant potential for offsite consequences. HF is a highly reactive and corrosive chemical that presents a substantial inhalation and skin absorption hazard to both workers and the public. Because of the large quantities of HF on site, unit operations and material handling must be tightly controlled to minimize a hazardous work environment and the danger to offsite residents. The current 10 CFR Part 40 does not have specific, risk-informed requirements that address accident requirements. Similar hazards that exist at fuel cycle facilities that are regulated under 10 CFR Part 70 are addressed by requirements contained in 10 CFR Part 70, subpart H.

Based on discussions with FSME and the there are 0.3 FTEs in FY 08, 0.4 FTEs in FY09, and 0.05 FTEs in FY10 to support this proposed rule. Beyond the development of this Technical Basis, FCSS has not budgeted either FTE or other resources.

The technical basis and supporting documents are attached.

Enclosure: As stated

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- The current requirements of 10 CFR Part 40 do not represent a risk-informed approach to regulation.

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