

July 8, 1999

FOR: The Commissioners  
FROM: William D. Travers /s/  
Executive Director for Operations  
SUBJECT: CURRENT STATUS OF LEGISLATIVE ISSUES RELATED TO NRC LICENSING A MIXED OXIDE FUEL FABRICATION FACILITY

## PURPOSE:

To provide the Commission with an update on the possible need for legislation relating to U.S. Nuclear Regulatory Commission's (NRC's) licensing of a mixed oxide (MOX) fuel fabrication facility that would be owned by the U.S. Department of Energy (DOE ~~EXIT~~) and used in the disposition of surplus plutonium from the nuclear weapons program.

## BACKGROUND:

On March 16, 1998, the staff submitted SECY-98-050 in which it identified 16 issues associated with NRC's licensing a MOX fuel fabrication facility. At the time it was considered possible that legislation would be needed for the resolution of these issues. Since that time Congress, in the Defense Authorization Act for fiscal year 1999 (PL-105-261), provided NRC with licensing and related regulatory authority for "...any facility under a contract with and for the account of the Department of Energy that is utilized for the express purpose of fabrication of mixed plutonium-uranium oxide nuclear reactor fuel for use in a commercial nuclear reactor...".

On February 8, 1999, DOE staff briefed the Commission on its progress on the fissile materials storage and disposition program, of which the fabrication of MOX fuel, and burning of that fuel in commercial nuclear power plants, is a key element. DOE noted that a Request for Proposals for the design, construction, and operation of a MOX fuel fabrication facility had been issued the previous May, and that a contract award was expected shortly. The award was subsequently made to a consortium headed by Duke Engineering, Cogema, and Stone & Webster, and a contract was signed on March 22, 1999.

At the February 8 meeting, it was agreed that a DOE-NRC Task Force would be charged with reviewing the status of the legislative issues to ascertain whether any further legislative action is required. This paper provides the updated status report resulting from the work of the NRC staff and the DOE-NRC Task Force.

## DISCUSSION:

NRC staff reviewed each of the 16 legislative issues addressed in SECY-98-050 and developed a preliminary conclusion that there is no need for new legislation in addition to the authority to license the DOE MOX fuel fabrication facility granted by PL-105-261. The DOE-NRC Task Force reviewed the preliminary conclusion on April 21, 1999, and also concluded that no additional legislation is required. The issues are discussed individually in the Attachment.

## RESOURCES:

Resources for licensing and regulation of the MOX fuel fabrication facility have been included in the Office of Nuclear Material Safety and Safeguards' FY 2001 proposed budget.

## COORDINATION:

The Office of the General Counsel has reviewed this Commission paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

## CONCLUSION:

In summary, the staff has concluded that no additional legislation is needed with regard to NRC licensing and regulation of the MOX fuel fabrication facility and subsequent burning of MOX fuel in NRC-licensed nuclear reactors. NRC and DOE staffs propose to develop a Memorandum of Understanding to resolve overlapping regulatory authority in the areas of classified and sensitive unclassified information and granting of security clearances.

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Attachment: Review of Legislative Issues

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 Review of Legislative Issues
 

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**ISSUE 1: Should the applicability of 42 U.S.C. 7272 be clarified in this legislation?**

The Defense Authorization Act for fiscal year 99 (PL-105-261) resolved this issue by stating that Section 210 of 42 U.S.C. 7272 shall not apply to any U.S. Nuclear Regulatory Commission (NRC) licensing actions related to the mixed-oxide (MOX) fuel fabrication facility. No further legislative clarification is needed.

**ISSUE 2: Who should be the licensee: the U.S. Department of Energy (DOE), DOE's contractor, or both?**

Any option will work under existing legislation. DOE's contract with the consortium specifies that the contractor will be the licensee and NRC prefers that arrangement. No further legislative clarification is needed.

**ISSUE 3.: Should the regulation of the DOE MOX fuel fabrication facility be by license or certificate process?**

PL-105-261 allows NRC to license the MOX fuel fabrication facility. Since this is NRC's preference, the issue is considered to be resolved. No further legislative clarification is needed.

**ISSUE 4: Should National Environmental Policy Act responsibilities be addressed in legislation?**

DOE noted that it will be preparing a final environmental impact statement (EIS) for plutonium disposition (expected in July) that would include a site-specific analysis focusing on Savannah River as the preferred site. DOE stated that the EIS will address decommissioning in general terms. DOE expects that its contractor will use this EIS as the basis for the Environmental Report that it will submit to NRC. NRC's Office of the General Counsel (OGC) indicated that NRC will have to conduct its own environmental review and determine how to document that review (e.g., by issuing its own EIS or adopting the DOE EIS) based on information available at that time, and the specificity in the DOE EIS regarding NRC's proposed licensing action. No further legislative clarification is needed. (NRC staff estimates that, should it be necessary to develop an EIS, resource needs will be approximately 2 staff years and \$1.5 million over a 3 year period.)

**ISSUE 5: Should legislation address possible dual regulation of radionuclide air emissions by the U.S. Environmental Protection Agency (EPA) under Clean Air Act regulations, and by NRC under 10 CFR Part 20?**

In SECY-98-050 staff recommended that legislation not be pursued. EPA has existing authority to rescind its applicable regulations if it makes a finding that the regulatory program established by NRC for radioactive air emissions from the MOX fuel fabrication facility provides an ample margin of safety to protect the public health. Staff's view that legislation is not needed is unchanged.

**ISSUE 6: Should the role of the Occupational Safety and Health Administration (OSHA) be addressed in legislation?**

PL-105-261 states that any activities carried out at an NRC-licensed MOX fuel fabrication facility would be subject to OSHA requirements. Accordingly, the OSHA's role would be the same for this facility as for other NRC-licensed facilities. No additional legislation is required.

**ISSUE 7: Should Price-Anderson liability coverage be extended by NRC or DOE?**

Existing statutory provisions require DOE to indemnify any contractor for any activities under contract for DOE that involve the risk of public liability and are not subject to NRC financial protection requirements or agreements for indemnification. However, 10 CFR 140.13a of NRC regulations does contain a requirement for financial protection for "...plutonium processing and fuel fabrication plants." The definition of a "plutonium processing and fuel fabrication plant" appears to apply to the MOX fuel fabrication facility. It is unclear whether 10 CFR 140.13a, which was adopted for application to a plutonium reprocessing and fuel fabrication plant, would be applicable to the MOX fuel fabrication facility.

DOE intends to indemnify the contractors under Price-Anderson. NRC supports this approach and could, if needed, exempt the MOX facility from the requirement to maintain financial protection. No additional legislation is needed.

**ISSUE 8: Should DOE or NRC be responsible for oversight of the decommissioning of the MOX fuel fabrication facility?**

DOE intends to assume responsibility for decommissioning the MOX fuel fabrication facility and has included in its contract with the consortium a requirement that, following completion of its mission for disposition of excess plutonium by conversion to MOX fuel, the facility will be deactivated and returned to DOE for decommissioning. NRC's OGC indicated that there are options to accomplish this without legislation (e.g., by including a condition in the facility license that the facility would be turned back to DOE at the conclusion of the contract). Because NRC's licensing and regulatory authority applies to "...any facility under a contract with and for the account of the Department of Energy that is utilized for the express purpose of fabrication of mixed plutonium-uranium oxide nuclear reactor fuel for use in a commercial nuclear reactor...", NRC may interpret that authority to apply only while the facility is being operated under contract with DOE. Therefore the regulatory authority would end and the license could be terminated to return the facility to DOE regulatory oversight when the facility is no longer operated for this purpose. No further legislative clarification is needed.

**ISSUE 9: Who is responsible for regulatory oversight of the safe disposal of low-level radioactive waste (LLW) from MOX fuel**

## **fabrication and use?**

DOE plans to take responsibility for LLW from these activities and dispose of the LLW at DOE waste disposal sites. This is permissible under existing NRC regulations and is consistent with the position taken by NRC in the pilot program for external regulation of DOE. No further legislative clarification is needed.

### **ISSUE 10: Should DOE or NRC be responsible for the regulatory oversight of transportation safety and physical protection for MOX fuel assemblies?**

DOE plans to transport unirradiated MOX fuel assemblies from the fabrication facility to the reactor site(s) via DOE's Safe Secure Transport (SST) vehicle. In the past NRC has granted licensees exemptions, under [10 CFR 73.5](#), to permit such transport without specific NRC approval "...as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest." As an alternative, [10 CFR Part 73](#) could be revised to authorize the use of the SST for transporting Category 1 material, and thereby eliminate the need for granting exceptions.

The containers in which the fuel assemblies will be shipped will be provided by DOE's contractor (NRC licensee) and will have to be certified under existing NRC regulations. No further legislative clarification is needed.

### **ISSUE 11: What should be the role of the Defense Nuclear Facilities Safety Board (DNFSB) at a MOX fuel fabrication facility?**

It was agreed that this was an issue with which DOE would have to deal should it arise. DOE noted that this should not be an issue since the DNFSB traditionally defers to NRC where NRC has legislative authority to regulate. DOE also stated that it had held informal discussions with the DNFSB and that the Board had indicated that it does not expect to have a role in regulating the MOX fuel facility. No further legislative clarification is needed.

### **ISSUE 12: Should NRC or DOE have regulatory responsibility for regulatory oversight of safeguards at the MOX fuel fabrication facility?**

PL-105-261 added licensing authority for the MOX fuel fabrication facility to Section 202 of the Energy Reorganization Act. This section gives NRC "...licensing and related regulatory authority pursuant to Chapters 6, 7, 8, and 10 of the Atomic Energy Act of 1954, as amended...". The scope of this regulatory authority includes safeguards (i.e., physical protection and material control and accounting). Since DOE proposes to locate the MOX fuel fabrication facility on the DOE Savannah River site, it prefers to rely on its available response force capability. NRC recognizes that DOE response forces can be used to satisfy NRC requirements for such capability. No further legislative clarification is needed.

### **ISSUE 13: Should modifications necessary for commercial reactors using MOX fuel be addressed in the legislation?**

There are two parts to this issue. First, guard forces protecting DOE material at DOE-owned facilities on DOE sites are authorized to bear arms and use deadly force under the Federal authority of Section 161k of the Atomic Energy Act. This would apply to a MOX fuel fabrication plant located at a DOE site. Guard forces at NRC-licensed commercial reactors bear firearms under authority granted by individual States, which may have more limiting restrictions on their use. NRC, as part of its annual legislative proposals over the past several years, has requested legislation extending the Federal authority of Section 161k to NRC-licensed facilities where Category 1<sup>(1)</sup> quantities of material are authorized. Such a change, if enacted, would apply to the reactor guard forces at the nuclear power plants where the MOX fuel would be burned and would allow a level of protection of the fuel material at reactors similar to that provided at DOE facilities. However, given the relative inaccessibility of the plutonium dioxide, because of its dispersion, this capability would be desirable but not absolutely necessary. This provision is already a part of NRC's legislative proposal. (OGC has recently been informed that the Administration is developing an "Antiterrorism Act of 1999" which, among other things, would include NRC's proposed Section 161k legislation. At this time, the Office of Management and Budget has not yet circulated the bill for Agency comments.)

Second, NRC staff indicated a concern that an opponent of the use of MOX fuel in commercial reactors might raise the issue that, since the plutonium in the MOX fuel originates from disassembled weapons, the use of MOX should be considered a DOE "defense activity" for which the use of appropriated funds for NRC licensing is prohibited by 42 U.S.C. 7272. This could significantly delay the licensing of the facility. However, NRC maintains that 42 U.S.C. 7272 is inapplicable, because NRC will be conducting its normal role in licensing the operations of power reactors. DOE staff also noted that the plutonium involved in this activity has been declared surplus by the President and is no longer "defense material." Therefore, no additional legislative clarification is necessary.

### **ISSUE 14: Should DOE or NRC be responsible for granting the special nuclear material (SNM) access authorizations ([10 CFR Part 11](#)), security clearances for classified information ([10 CFR Part 25](#)), and facility approval for storage of classified information ([10 CFR Part 95](#)), for the MOX contractor personnel?**

As noted in the discussion of ISSUE 12, PL-105-261 gave NRC "...licensing and related regulatory authority pursuant to Chapters 6, 7, 8, and 10 of the Atomic Energy Act of 1954, as amended." NRC could exercise regulatory authority under 10 CFR Parts 11, 25, and 95. However, DOE also possesses regulatory authority, under the Atomic Energy Act, for regulatory oversight of these matters. To avoid dual regulation, NRC and DOE staffs propose to address an agreed division of responsibility in a Memorandum of Understanding that might also address oversight of control of classified and sensitive unclassified information. No further legislative clarification is needed.

### **ISSUE 15: Should employee protection be addressed in legislation?**

This issue would apply only if certification or some regulatory process other than licensing were to be used. This was resolved by PL-105-261, which gives NRC licensing authority that will be used for the MOX fuel fabrication facility. Accordingly, Section 211 of the Energy Reorganization Act, "Employee Protection," will be applicable because the "employer" will be an NRC licensee. No further legislative clarification is needed.

**ISSUE 16: How should NRC resource needs be addressed?**

Under the Independent Offices Appropriation Act of 1952, NRC cannot charge [10 CFR Part 170](#) fees for licensing and inspection costs if DOE is the applicant. Without further legislation to give NRC authority to charge such fees to DOE, these costs would be added to the amounts that are assessed to other licensees. However, DOE has included in its contract with the consortium that the contractor will be the NRC licensee. Therefore, although DOE may reimburse the fees, Part 170 fees may be billed to the contractor (applicant) to offset NRC costs. No further legislative clarification is necessary. The Office of the Chief Financial Officer and OGC are looking into use of the General Fund to cover MOX activities in FY 2000. Funding options for future years are being discussed as part of the FY 2001 budget process.

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1. Category 1 quantity of material means strategic special nuclear material in any combination in a quantity of 5,000 grams or more computed by the formula,  $\text{grams} = (\text{grams contained U-235}) + 2.5 (\text{grams U-233} + \text{grams plutonium})$ .