

**NUCLEAR REGULATORY COMMISSION**

**Notice of Intent to Prepare an  
Environmental Impact Statement  
for the Mixed Oxide Fuel Fabrication Facility**

**AGENCY:** United States Nuclear Regulatory Commission

**ACTION:** Notice of Intent (NOI)

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) announces its intent to prepare an Environmental Impact Statement (EIS) for construction, operation and deactivation of a proposed Mixed Oxide (MOX) Fuel Fabrication Facility (Facility) to be constructed at the Department of Energy's (DOE) Savannah River Site (SRS) in South Carolina. The EIS is being prepared pursuant to the National Environmental Policy Act (NEPA) and will examine the potential environmental impacts of manufacturing MOX fuel from surplus weapons plutonium. The MOX fuel is eventually planned to be used in two existing domestic commercial reactors, thus helping to ensure that plutonium produced for nuclear weapons and declared excess to national security needs is converted to forms that are inaccessible and unattractive for nuclear weapons.

**TENTATIVE DATES; FUTURE NOTICES OF OPPORTUNITY FOR HEARINGS:** The public scoping process required by NEPA begins with publication of this NOI in the Federal Register and continues until May 21, 2001. Written comments submitted by mail should be postmarked by that date to ensure consideration. Comments mailed after that date will be considered to the extent practical. However, this May 21 date, and the proposed meeting dates listed below, are subject to change for the following reasons. The NRC is presently conducting its initial administrative acceptance review of the construction authorization request (CAR) regarding the MOX Facility. Following the acceptance review (if the CAR is acceptable), a detailed technical review of the CAR begins. The CAR was submitted to the NRC on February 28, 2001, by DCS (a consortium formed by Duke Engineering & Services, COGEMA, Inc., and Stone and Webster), the engineering firm which, if NRC grants approval, would build the MOX Facility. The acceptance review of the CAR is expected to take 30 days to complete. If the CAR is accepted and formally docketed, the EIS scoping process will continue. If, for any reason, the CAR is not accepted and formally docketed, the scoping process will be suspended, and a notice postponing the meetings listed below will be published in the Federal Register. Additionally, if the CAR passes the acceptance review, a notice of opportunity for hearing regarding the CAR will be published in the Federal Register.

DCS plans to submit to the NRC a separate license application requesting authority to operate the MOX Facility. This DCS request, which would also be subject to the NRC's acceptance review procedures, is expected in the summer of 2002. If this request is accepted and formally docketed, another notice of opportunity for hearing regarding operating authority would then be published in the Federal Register.

NRC will conduct public scoping meetings to assist it in defining the appropriate scope of the EIS, including the significant environmental issues to be addressed. NRC plans to hold scoping meetings in April 2001. Please note that meeting attendees will be requested to participate in

the scoping process through small working groups within the larger meeting setting. (See Section entitled Scoping Meeting Format, below, for more details.) To effectively plan for this type of meeting, NRC staff will need to know how many participants to expect. If you do plan to attend any or all of the meetings, please help us by registering ahead of time. Contact information for registration is provided below in the section "Addresses." The meeting dates, times and locations are listed below. Prior to the Scoping Meetings, NRC staff will be available to informally discuss the MOX project and answer questions in an "open house" format.

April 17, 2001  
North Augusta Community Center  
496 Brookside Drive  
North Augusta, SC  
Scoping Meeting Time: 7:00 p.m. to 10:00 p.m.  
Open House Time: 5:30 p.m. to 7:00 p.m.

April 18, 2001  
Georgia Coastal Center  
305 Martin Luther King Boulevard  
Savannah, GA  
Scoping Meeting Time: 7:00 p.m. to 10:00 p.m.  
Open House Time: 5:30 p.m. to 7:00 p.m.

**ADDRESSES:** To register for a meeting, to provide comments or suggestions on the scope of the EIS, or to make requests for special arrangements to enable participation at scoping meetings (e.g., an interpreter for the hearing impaired), please contact: Tim Harris at (301) 415-6613 or Betty Garrett at (301) 415-5808.

**FOR FURTHER INFORMATION CONTACT:** For general or technical information associated with the license review of the MOX Facility, please contact: Tim Johnson at (301) 415-7299 or Drew Persinko at (301) 415-6522. For general information on the NRC NEPA process, please contact: Jennifer Davis at (301) 415-5874 or Tim Harris at (301) 415-6613.

#### **AVAILABILITY OF DOCUMENTS FOR REVIEW:**

Information and documents associated with the MOX project, including the DCS Environmental Report submitted in December 2000, and the CAR, may be obtained from the internet on NRC's MOX web page: <http://www.nrc.gov/NRC/NMSS/MOX/index.html> (case sensitive). In addition, documents are available for public review through our electronic reading room: <http://www.nrc.gov/NRC/ADAMS/index.html>. Documents may also be obtained from NRC's Public Document Room at U.S. Nuclear Regulatory Commission, Public Document Room, Washington, D.C. 20555.

DCS states that some of the detailed technical material in the CAR is confidential information which should be withheld from public disclosure. DCS has submitted an affidavit with its CAR, in support of its confidentiality statement. Until the NRC makes a determination as to whether the information at issue can be properly withheld, the publicly available copy of the CAR will be an edited version.

## **SUPPLEMENTARY INFORMATION:**

**Background:** In January 2000, the DOE issued its Record of Decision (ROD) for the Surplus Plutonium Disposition Final EIS [65 FR 1608]. The fundamental purpose of the DOE program is to ensure that plutonium produced for nuclear weapons and declared excess to national security needs is converted to forms that are inaccessible and unattractive for nuclear weapons. In its ROD, DOE announced that it had decided to use two approaches for the disposition of surplus weapons plutonium, and that the facilities would be located at its SRS. The first approach is immobilization of approximately 8.4 metric tons of surplus plutonium. The immobilization will consist of placing the weapons-grade plutonium into canisters that will be filled with vitrified glass from the SRS high-level waste tanks. The second approach will convert up to 25.6 metric tons of surplus plutonium into MOX nuclear reactor fuel. (The scoping process discussed in this notice is focused on this second approach.) A third facility to disassemble the plutonium pits (the current form) and convert the recovered plutonium into plutonium dioxide suitable for disposition will also be located at SRS, but will not be reviewed by NRC and is not included in this scoping meeting.

The DOE has selected DCS to provide the MOX fuel fabrication and reactor irradiation services. DCS submitted its Environmental Report for MOX fuel fabrication to NRC on December 19, 2000. DCS submitted its CAR to NRC on February 28, 2001. NRC will evaluate the potential environmental impacts associated with MOX fuel fabrication in parallel with the review of the CAR. This evaluation will be documented in draft and final Environmental Impact Statements in accordance with NEPA and NRC's implementing regulations at 10 CFR Part 51.

### **MOX Fuel Fabrication at SRS (New Construction)**

The MOX Facility, if licensed, would produce completed MOX fuel assemblies for use in two domestic, commercial nuclear power reactors. Feed materials would be plutonium dioxide from the pit conversion facility at SRS, and uranium dioxide made from either the DOE stockpile of depleted uranium hexafluoride from another DOE site, or another source selected by DCS and approved by DOE. MOX fuel fabrication involves purification of the plutonium dioxide to remove other metals present in the weapons pit; blending the plutonium dioxide with depleted uranium dioxide; pressing the mixed oxide into pellets; sintering the pellets; loading the pellets into fuel rods; and assembling the fuel rods into fuel assemblies. Once assembled, the fuel assemblies would be transported to a domestic, commercial reactor for use. (The McGuire and/or the Catawba nuclear power plants near Charlotte, NC, have been tentatively selected.) Following irradiation to generate electric power, the MOX fuel would be removed from the reactor, and managed at the reactor site as spent nuclear fuel. Final disposition would be at a geologic repository in accordance with the Nuclear Waste Policy Act.

### **Purpose and Need for Agency Action**

On October 17, 1998, Congress amended Section 202 of the Energy Reorganization Act, giving licensing authority to the NRC regarding any MOX Facility to be built (42 U.S.C. 5842(5)). Accordingly, in order for DCS to construct and operate the MOX Facility, it must be licensed/authorized by the NRC. Such action would be a major federal action, thus requiring NRC, pursuant to NEPA, to prepare an EIS for construction, operation and deactivation of the MOX Facility. The EIS will consider facility-specific environmental impacts (an earlier EIS prepared by DOE addressed generic impacts) associated with constructing and operating the MOX Facility. The EIS prepared by NRC will also consider indirect effects from MOX fuel fabrication, such as transportation to the domestic, commercial reactors, MOX fuel use in those reactors, and eventual spent fuel disposal.

## **Alternatives to be Evaluated**

*No Action -- Do Not Issue Construction Authorization for MOX Fuel Fabrication Facility at SRS*

*Alternative 1 -- Issue Construction Authorization for MOX Fuel Fabrication Facility at SRS*

Note that NRC is limited to issuing or denying the construction authorization and/or license to operate the MOX Facility at SRS. The DOE has already decided to pursue the two disposition approaches for surplus weapons plutonium, and has already decided to site the MOX Facility at SRS. These decisions will not be revisited by NRC. Other alternatives not listed here may be identified through the scoping process.

## **Environmental Impact Areas to be Analyzed**

The following areas have been tentatively identified for analysis in the EIS. This list is neither intended to be all inclusive, nor is it a predetermination of potential environmental impacts. The list is presented to facilitate comments on the scope of the EIS. Additions to, or deletions from this list may occur as a result of the public scoping process.

- Health and Safety: potential public and occupational consequences from construction, routine operation, transportation, and credible accident scenarios;
- Waste Management/Pollution Prevention: types of wastes expected to be generated, handled, and stored; pollution prevention opportunities and the potential consequences to public safety and the environment;
- Hazardous Materials: handling, storage and use; both present and future;
- Background Radiation: cosmic, rock, soil, water, and air and the potential addition of radiation;
- Water Resources: surface and groundwater hydrology, water use and quality, and the potential for degradation;
- Air Quality: meteorological conditions, ambient background, pollutant sources, and the potential for degradation;
- Earth Resources: physical geography, topography, geology and soil characteristics;
- Land Use: plans, policies and controls;
- Noise: ambient, sources, and sensitive receptors;
- Ecological Resources: wetlands, aquatic, terrestrial, economically and recreationally important species, and threatened and endangered species;
- Socioeconomic: demography, economic base, labor pool, housing, transportation, utilities, public services/facilities, education, recreation, and cultural resources;
- Natural Disasters: floods, hurricanes, tornadoes, and seismic events;
- Cumulative Effects: impacts from past, present and reasonably foreseeable actions at, and near the site(s);
- Indirect Effects: transportation to the domestic, commercial reactors, MOX fuel use in those reactors, and eventual spent fuel disposal;
- Unavoidable Adverse Impacts;
- Natural and Depletable Resources: requirements and conservation potential; and
- Environmental Justice: any potential disproportionately high and adverse impacts to minority and low-income populations.

Alternatives other than those presented in this document may warrant examination, and new issues may be identified for evaluation.

## **Scoping Meetings**

One purpose of this NOI is to encourage public involvement in the EIS process, and to solicit public comments on the proposed scope and content of the EIS. NRC will hold public scoping meetings in the SRS vicinity to solicit both oral and written comments from interested parties.

Scoping is an early and open process designed to determine the range of actions, alternatives, and potential impacts to be considered in the EIS, and to identify the significant issues related to the proposed action. It is intended to solicit input from the public and other agencies so that the analysis can be more clearly focused on issues of genuine concern. The principal goals of the scoping process are to:

- Ensure that concerns are identified early and are properly studied;
- Identify alternatives that will be examined;
- Identify significant issues that need to be analyzed;
- Eliminate unimportant issues; and
- Identify public concerns.

## **Scoping Meeting Format**

Traditionally, scoping meetings begin with agency speakers, then attendees make oral comments. The scoping meetings for the MOX Facility will follow a different structure, which was recommended by the Council on Environmental Quality in its "Memorandum for General Counsels, NEPA Liaisons and Participants in Scoping," dated April 30, 1981.

...The first part of the meeting is devoted to a discussion of the proposal in general, covering its purpose, proposed location, design, and any other aspects that can be presented in a lecture format. A question and answer period concerning this information is often held at this time. Then... the next step is to break ...into small groups for more intensive discussion. At this point, ...numbers held by the participants are used to assign them to small groups by sequence, random drawing, or any other method. Each group should be no larger than 12, and 8-10 is better. The groups are informed that their task is to prepare a list of significant environmental issues and reasonable alternatives for analysis in the EIS. These lists will be presented to the main group and combined into a master list, after the discussion groups are finished.

A member of the NRC staff, or NRC contractor staff will be part of each group to answer questions and listen to the participants' concerns. The agency person will not lead the group discussions, but will serve as the recording secretary for each group. This will ensure he/she is listening to group views. Each group will choose a member to lead the group discussions.

In addition to the group discussions, participants will be able to express their oral views to a recording secretary in five minute blocks. NRC encourages those providing oral comments to also submit them in writing. Comment cards will also be available for anyone who prefers to submit their comments in written form.

## Scoping Comments

Written comments should be mailed to:

Mike Lesar, Acting Chief  
U.S. Nuclear Regulatory Commission  
Rules & Directives Branch  
Division of Administrative Services  
Office of Administration  
Mail Stop T6D59  
Washington DC 20555

Comments will also be accepted by e-mail. Interested parties may e-mail their comments to [teh@nrc.gov](mailto:teh@nrc.gov). Comments will be accepted by fax at 301-415-5398, Attention: Tim Harris.

NRC will make the scoping summaries and project-related materials available for public review through our electronic reading room: <http://www.nrc.gov/NRC/ADAMS/index.html>. The scoping meeting summaries and project-related materials will also be available on the NRC's MOX web page: <http://www.nrc.gov/NRC/NMSS/MOX/index.html> (case sensitive).

## The NEPA Process

The EIS for the MOX Facility will be prepared according to the National Environmental Policy Act of 1969, the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and NRC's NEPA Regulations (10 CFR Part 51).

The draft EIS is scheduled to be published in February 2002. A 45-day comment period on the draft EIS is planned, and public meetings to receive comments will be held approximately three weeks after distribution of the draft EIS. Availability of the draft EIS, the dates of the public comment period, and information about the public meetings will be announced in the Federal Register, on NRC's MOX web page, and in the local news media when the draft EIS is distributed. The final EIS, which will incorporate public comments received on the draft EIS, is expected in September 2002.

Signed in Rockville, MD, this 1<sup>st</sup> day of March 2001.

For the Nuclear Regulatory Commission

**/RA/**

Charlotte E. Abrams, Acting Chief  
Environmental and Performance Assessment Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

