

## **APPENDIX E**

### **THE NATIONAL ENVIRONMENTAL POLICY ACT AND ENVIRONMENTAL REPORTS**

#### **E1. Introduction**

The Commission promulgated 10 CFR Part 51 to implement the National Environmental Policy Act (NEPA) of 1969, which requires an assessment of the environmental impacts for all major Federal actions. The NRC staff conducts an independent assessment for all licensing actions that may have a significant effect on the environment, based on the information provided by the applicant in an environmental report. An environmental report is required for actions listed in 10 CFR 51.60(b). This assessment is documented in an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) or Environmental Impact Statement (EIS).

The Commission determined that the actions listed in 10 CFR 51.22(c) have insignificant environmental impacts, and these actions are categorically excluded from the requirement for an EA and an environmental report. However, if pursuant to 10 CFR 51.23(c)(11), the action involves an amendment that involves changes in process operations or equipment, the applicant must justify that the action will not result in significant effects on the environment.

The Office of Nuclear Material Safety and Safeguards (NMSS) consolidated environmental review work into the Division of Waste Management (DWM) on May 17, 1999. DWM is responsible for preparing all NMSS EIS and reviewing each EA prepared in NMSS. The Division of Fuel Cycle Safety and Safeguards (FCSS) retains the responsibility to prepare each EA and FONSI and make determinations regarding the applicability of categorical exclusions. As a result, DWM is responsible for determining if the applicant's environmental report is adequate to allow the preparation of an EIS. FCSS is responsible for determining if the applicant's environmental report is adequate to support the preparation of an EA and FONSI or, as applicable, to make a determination regarding a categorical exclusion.

Staff coordination on the review of environmental reports used to prepare an EIS should be obtained through DWM. Supplementary guidance for FCSS staff use on determining the adequacy of environmental reports for an EA and FONSI or to justify the applicability of a categorical exclusion is provided in Section E2 for licensing actions after receipt of a license to possess and use SNM.

Information in Section E2 is presented in parallel with the content of an environmental report, as specified in 10 CFR 51.45. This includes:

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- Date of application
  - Environmental considerations
  - Description of the proposed action
  - Purpose of the proposed action
  - Description of the affected environment
  - Discussion of considerations
- Analysis of environmental effects of the proposed action and alternatives
- Status of compliance
- Adverse information

The environmental report may include, reference, or supplement the information submitted to the NRC for prior licensing actions.

Section E3 discusses environmental reports for categorical exclusions and Section E4 reviews the NEPA documentation and coordination necessary for license amendments.

### E2. Environmental Report Content

#### 1. Date of Application

The date of an application for a license to possess and use special nuclear material for processing and fuel fabrication, scrap recovery, conversion of uranium hexafluoride, or for the conduct of any other activity, which the NRC has determined pursuant to 10 CFR 51 Subpart A will significantly affect the quality of the environment, is acceptable if the application is submitted at least 9 months before the commencement of construction, as required by 10 CFR Part 70.21(f).

#### 2. Environmental Considerations

An adequate environmental report addresses the requirements of 10 CFR 51.45(b), as described below.

##### (1) Description of the Proposed Action

The description of the proposed action includes a brief summary of the significant characteristics of the proposed facility, including the major site features and the major plant design and operating parameters. The description includes a complete discussion about how special nuclear material will be processed at the facility. If future construction or expansion is proposed, the description includes a proposed project schedule showing the dates for initiation of site preparation, plant construction, and operation.

(2) Purpose of the Proposed Action

The statement of purpose demonstrates a need for the proposed project. This demonstration provides at least the following information: (1) the quantities of special nuclear material used for domestic benefit, (2) a projection of national and foreign requirements for the services, and (3) alternative sources of supply for the proposed facility's services. If delay of the proposed project would have effects on the nation's material disposition program or on the applicant's business (such as loss of contracts, jobs, or future business), the applicant should discuss these effects.

(3) Description of the Affected Environment

The description of the affected environment includes:

- (a) Site location (including longitude and latitude) and facility layout;
- (b) Regional demography and land use;
- (c) Socioeconomic information, including that for low-income and minority populations within a 50-mile radius;
- (d) Regional historic, archaeological, architectural, scenic, cultural, and natural landmarks;
- (e) Local meteorology and air quality;
- (f) Local surface water and groundwater hydrology;
- (g) Regional geology and seismology; and
- (h) Local terrestrial and aquatic ecology.

To the extent possible, this information is current and reflects observations and measurements made over a period of years, especially for conditions that are expected to vary seasonally (e.g., precipitation, wind speed and direction, and groundwater levels).

(4) Discussion of Considerations

The reviewer should find that the discussion of considerations is acceptable if it includes:

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(a) Impacts of the proposed action on the environment, such as the:

- Effects of site preparation and construction on land use and water use;
- Effects of plant operation on the human population (including consideration of occupational and public radiation exposure) and important biota;
- Any irreversible commitments of resources because of site preparation and plant construction and operation, such as destruction of wildlife habitat, removal of land from agricultural use, and diversion of electrical power;
- Plans and policies regarding deactivation, decommissioning, and dismantling at the end of the plant's useful life;
- Environmental effects of the transportation of radioactive materials to and from the site;
- Environmental effects of accidents;
- Impacts on air and water quality; and
- Impacts on cultural and historic resources.

The environmental report discusses the impacts on the environment in proportion to their significance and considers the cumulative impacts of the proposed action. In addition, accident analyses provided in the environmental report are consistent with the accident scenarios and consequences described in the applicant's ISA Summary.

(b) Adverse environmental effects

The applicant describes any adverse environmental effects that cannot be avoided should the proposal be implemented. This description is presented in quantitative terms to the maximum extent possible. This discussion makes clear which of these effects are unavoidable and subject to later amelioration and which are unavoidable and irreversible. The description includes specific measures that the applicant could take or plan to take to mitigate adverse effects.

(c) Alternatives to the proposed action

The discussion of alternatives to the proposed action is sufficiently complete to aid NRC in developing and exploring, pursuant to Section 102(2)(E) of NEPA, "appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." To the extent practicable, the environmental impacts of the proposal and the alternatives are presented in comparative form.

The discussion of alternatives includes siting alternatives and design alternatives. Comparable levels of information on each site need not be presented as long as the applicant presents sufficient information to facilitate a fair and reasonable comparison. The following factors are considered when comparing alternative sites:

- Physical characteristics of the area, including demographic, geological, hydrological, meteorological, and seismological conditions of the site and surrounding area;
- Location of power sources and transmission lines;
- Location of the major product market;
- Location of raw materials, components, and sources of supply;
- Availability of air, rail, roads, and water for transport of raw materials and supplies, finished products, and solid wastes;
- Commitment of natural resources for site preparation and plant construction, including but not limited to the destruction or diminution of wildlife habitats, flora, woodlands, and marshlands;
- Commitment of capital for site preparation and plant construction;
- Cost of operation, including consideration of labor supply, prevailing wage rates, and other recurring or nonrecurring costs;
- Availability of municipal services or, conversely, the cost of providing services such as water and sewage treatment;
- Requirements for relocating homes and families; and
- Existing and projected land use and economic status of the community (e.g., urban, industrial, stable).

(d) Relationship between short-term uses and long-term productivity

The relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity is discussed. Short-term uses are considered to be those that occur during the active life of the facility. Long-term productivity represents the use of the environment beyond deactivation and decommissioning of the facility.

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### (e) Irreversible or irretrievable commitments of resources

Any irreversible environmental commitments and irretrievable material resources that would be involved in the proposed action are discussed.

### 3. Analysis of Environmental Effects of the Proposed Action and Alternatives

An adequate environmental report analyzes the environmental effects of the proposed action and alternatives. In accordance with 10 CFR 51.45(c), the analysis considers and balances the environmental effects of the proposed action and the alternatives available for reducing or avoiding adverse environmental effects, as well as the environmental, economic, social, and other benefits of the proposed action.

This analysis quantifies, to the fullest extent practicable, the various factors considered. If the application involves renewal or amendment of a current license, environmental impacts are quantified using environmental monitoring data collected by the licensee. To the extent that there are important qualitative considerations or factors that cannot be quantified, the analysis discusses those considerations and factors in qualitative terms. The analysis contains sufficient data to aid the staff in its development of an independent analysis.

### 4. Status of Compliance

As required by 10 CFR 51.45(d), the applicant should list all Federal permits, licenses, approvals, and other entitlements, which must be obtained in connection with the proposed action. The list is acceptable if it is complete and current as of the application date.

In addition, 10 CFR 51.45(d) requires that the environmental report include a discussion of the status of compliance with applicable environmental quality standards and requirements including, but not limited to, applicable zoning and land-use regulations, and thermal and other water pollution limitations or requirements which have been imposed by Federal, State, regional, and local agencies having responsibility for environmental protection. The discussion is acceptable if it includes a discussion of whether each alternative will comply with such applicable environmental quality standards and requirements. The discussion includes, but is not limited to, the following Federal laws:

- (1) The National Historic Preservation Act of 1966;
- (2) The Fish and Wildlife Coordination Act of 1966;
- (3) The Wild and Scenic Rivers Act of 1968;
- (4) The Endangered Species Act Amendments of 1978; and
- (5) The Coastal Zone Management and Improvement Act of 1990.

## 5. Adverse Information

In accordance with 10 CFR 51.45(e), the preceding discussions and analyses are acceptable if they include information that is adverse to the proposed actions as well as information supporting the proposed action.

## E3. Categorical Exclusion

An environmental report is not required for actions identified in 10 CFR 51.60(b)(1) that involve an amendment to the MOX fuel fabrication facility that are not expected to result in significant environmental impacts. However, when these amendments involve changes in process operations or equipment, the applicant needs to justify that the changes will not result in significant environmental effects.

The information provided by the applicant to justify the categorical exclusion determination for changes in process operations or equipment is acceptable if it demonstrates the following as specified in 10 CFR 51.22(c)(11):

- There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite;
- There is no significant increase in individual or cumulative occupational radiation exposure;
- There is no significant construction impact; and
- There is no significant increase in the potential for or consequences from radiological incidents.

Review of the environmental report or information presented to support a categorical exclusion includes review of occupational exposure information. This review should be coordinated with the health physics reviewer to assess the adequacy of the information provided by the applicant.

## E4. NEPA Documentation and Coordination

Before taking a licensing action such as a license amendment the NRC will determine whether the proposed action qualifies for a categorical exclusion under 10 CFR 51.22 or whether an EA or EIS should be prepared.

1. An EIS will be prepared if the action meets the criteria in 10 CFR Part 51.20. An EA is not necessary if an EIS will be prepared. Coordination with DWM must be initiated to prepare the EIS.

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2. A categorical exclusion will suffice if the action meets the criteria for categorical exclusions as defined in 10 CFR Part 51.22(c). (An action that qualifies for a categorical exclusion is usually identified at the start of the licensing review, and an EA is not required.) No coordination with DWM is necessary.
3. An EA will be prepared if the action meets the criteria in 10 CFR Part 51.21. DWM will be informed that an EA will be prepared. DWM should review the completed EA. On completion, the NRC determines whether to prepare an EIS or a FONSI.

Requirements for the preparation of an EIS, EA, or FONSI are described in detail in 10 CFR Part 51. Documents prepared in accordance with NEPA will follow pertinent NMSS procedures.

### E5. Environmental Assessment (EA)

The SPB staff will prepare an EA that identifies the proposed action and includes the following, in accordance with 10 CFR 51.30:

1. A brief discussion of:
  - (1) The need for the proposed action;
  - (2) Alternatives to the proposed action as required by Section 102(2)(E) of NEPA;
  - (3) The environmental impacts of the proposed action and alternatives, as appropriate; and
  - (4) As required for special case EAs, as defined by NMSS Policy and Procedures Letter 1-50, Revision 2, 1999, disproportionately high and adverse human health or environmental effects on low income and minority populations.
2. A list of agencies and persons consulted and identification of sources used. During preparation of an EA, the staff will consult with affected States on environmental issues and will document such contact in the EA. This documentation will include the following information identified in NMSS Policy and Procedures Letter 1-48, January 1995:
  - (1) The name of each State, agency (including contacted individual's name), or person consulted;
  - (2) Date of consultation(s);
  - (3) Purpose for the consultation;
  - (4) Brief summary of the views or comments expressed by the consulted party and the staff's resolution; and

- (5) Reference to publicly available documents containing additional information, if applicable.

Much of the information used to prepare the EA is provided by the applicant in the environmental report. However, the staff will perform independent analyses of the environmental impacts of the proposed action and will discuss the conclusions of these analyses in the EA. The EA should focus on the impacts of the proposed action and should be no more than 15 pages, unless necessary to explain any complicated environmental issues associated with the proposed action.

On completion, the EA should be forwarded to DWM for review. DWM reviews the EA to ensure consistency among all EAs prepared by NMSS. When DWM completes its review, the staff will determine whether to prepare an EIS or a FONSI on the proposed action. As discussed in Appendix X(A6) and provided in 10 CFR 51.33, a determination to prepare a draft FONSI may be made. As provided in 10 CFR 51.25, an EA is not necessary if it is determined that an EIS will be prepared.

#### E6. Finding of No Significant Impact (FONSI)

When the staff makes a final finding that there are no significant environmental impacts for the proposed action, a final FONSI will be published in the Federal Register. The Commission will not take the proposed action until after the FONSI is published. Requirements for the preparation of a FONSI for materials licensing actions are contained in 10 CFR 51.32-51.35. A FONSI will include the following:

1. Identification of the proposed action;
2. Statement that the Commission has determined not to prepare an EIS for the proposed action;
3. Brief presentation of the reasons why the proposed action will not have a significant impact on the quality of the human environment;
4. The EA or a summary of the EA;
5. A note of any other related environmental documents; and
6. A statement that the finding and any related environmental documents are available for public inspection and where the documents may be inspected.

NRC may make a determination to prepare and issue a draft FONSI for public review and comment before making a final determination whether to prepare an EIS or a final FONSI on the proposed action. A draft FONSI may be prepared if a FONSI appears warranted, but the proposed action is similar to one that normally requires an EIS or is without precedent.

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The draft FONSI will be identified as a "draft" and will contain the information specified above for a final FONSI. The draft FONSI will be accompanied by or will include a request for comments on the proposed action and the draft findings within 30 days, or a longer period as may be specified in the notice of the draft findings. This draft FONSI will be published in the Federal Register, distributed as provided in 10 CFR 51.74(a), and made available in accordance with 10 CFR 51.123.

When a draft FONSI is issued, a final determination to prepare an EIS or final FONSI will not be made until the last day of the public comment period has expired.

### E7. Environmental Impact Statement (EIS)

When the NRC determines that an EIS will be prepared for the licensing action, coordination should be initiated with the Division of Waste Management. The Division of Waste Management will review the environmental report and prepare the EIS. The environmental reviewer should coordinate with the FCSS Project Manager and DWM to ensure consistency between the environmental review for licensing and the preparation of the EIS. This coordination minimizes potential issues between the safety evaluation and the NEPA analysis, and ensures the results of the NEPA analysis are appropriately incorporated into the Safety Evaluation Report (SER) for the application for construction approval and the SER for the license application.