

1. GENERAL INFORMATION

1.1 Facility and Process Overview

1.1.1 Purpose of Review

The purpose of this review is to ascertain whether an application for a new, renewed, or amended license includes an overview of the facility layout and a summary description of its manufacturing processes. All reviewers, U.S. Nuclear Regulatory Commission (NRC) managers, and the public will use this overview to gain a general understanding of the purpose of the facility and an overview of the design of its processes. The integrated safety analysis (ISA) summary describes the facility and its manufacturing processes in more detail.

1.1.2 Responsibility for Review

Primary: Licensing Project Manager

Secondary: ISA Reviewer, Environmental Reviewer, Emergency Protection Reviewer, other Technical Reviewers

Supporting: None

1.1.3 Areas of Review

The staff should review the general facility and process descriptions provided in the license application. The areas of review should include:

- (1) Facility layout description—includes a description of the purpose of each feature and the interrelationships between features;
- (2) Process overview—the process description should be a narrative description of the different processes at the facility involving licensed material; and
- (3) Site overview—includes the proximity of facility buildings to the site boundary and nearby populations, including the most recent census data available when the license application was submitted.
- (4) Descriptive summary of licensed material—the summary must include the name, amount and specification (including chemical and physical forms) of the special nuclear material. The license application also should include a list of raw materials, byproducts, wastes, moderators and finished products of the facility.

The facility and process description in the license application must be consistent with the information presented in the ISA summary and Chapter 8, “Emergency Management,” of this Standard Review Plan (SRP).

Review Interfaces

In addition to the general information in the application, the reviewer should examine information in the following areas to ensure that it is consistent with the general information section in the license application:

- Review information about the facility and site and the different processes that will involve special nuclear material (SNM) in Chapter 3 of the SRP.
- Review the facility and process descriptions in Chapter 8 of the SRP.

1.1.4 Acceptance Criteria

1.1.4.1 Regulatory Requirements

The regulations applicable to the areas of review in this SRP are Title 10, Section 70.22, "Contents of Applications," of the *Code of Federal Regulations* (10 CFR 70.22) and 10 CFR 70.65, "Additional Content of Applications," paragraph (b)(1–2).

1.1.4.2 Regulatory Guidance

There are no regulatory guides that apply to a general facility description for a fuel cycle facility.

1.1.4.3 Regulatory Acceptance Criteria

The reviewer should find the applicant's general information acceptable if it provides reasonable assurance that the acceptance criteria presented below are adequately addressed and satisfied.

1.1.4.3.1 Facility Layout Description

The applicant's overview of the facility is acceptable if it meets the following conditions:

- The application presents information at a level of detail that is appropriate for general familiarization and understanding of the proposed facility. This information should be consistent with that presented in the ISA summary but may be less detailed.
- The overview should describe the relationship of specific facility features to the major processes that will be ongoing at the facility.
- This description should include the building locations of major process components; drawings illustrating the layout of the buildings and structures within the controlled area boundary should be used to support the description.
- If applicable, the applicant has portion-marked the application to identify any proprietary or sensitive information related to the facility (e.g. location of certain enrichment processes).

1.1.4.3.2 Process Overview

The process overview is acceptable if:

- The major chemical or mechanical processes involving licensable quantities of radioactive material are described in summary form based, in part, on information presented in the ISA summary. This description should include the building locations of major process components and brief accounts of the process steps.

1.1.4.3.3 Site Overview

- The license application summarizes the site information contained in the ISA summary. This includes descriptions of the overall facility layout and the drawings to support such descriptions. The license application describes the site's geographical characteristics and facility structural features (such as buildings, towers, and tanks), transportation rights-of-way, and proximity to nearby populations. The license application fully describes the facility location. These descriptions are consistent with the information in Chapter 8 of this SRP.
- If applicable, the applicant has portion-marked the application to identify any proprietary or sensitive information (e.g. location of the controlled area boundary).

1.1.4.3.4 Descriptive summary of licensed material

The summary is acceptable if it includes the following information:

- Chemical and physical forms of SNM in process; the maximum amounts of SNM in process in various building locations; and the types, amounts, and discharge points of waste materials discharged to the environment from the processes.
- The application presents a summary identification of the raw materials, byproducts, wastes, and finished products of the facility. This information should include data on expected levels of trace impurities or contaminants (particularly fission products or transuranic elements) characterized by identity and concentration. In addition, this summary should identify the proposed possession at the facility of any moderator or reflector with special characteristics, such as beryllium or graphite.
- If applicable, the applicant has portion-marked the application to identify any proprietary or sensitive information (e.g. possession limits).

1.1.5 Review Procedures

1.1.5.1 *Acceptance Review*

During the NRC's acceptance review, the submittals should be screened to identify major deficiencies in the information provided in each review area in Section 1.1.3. Reviewers must decide whether they have enough information to proceed with a detailed technical review. If the reviewer identifies significant deficiencies in the license application during the acceptance review, the staff should ask the applicant to submit additional material or revise the license application. This will ensure that the license application is technically sufficient before the start of the safety evaluation. Once the deficiencies in the license application have been addressed

during the acceptance review, the NRC reviewer should examine the facility and process descriptions and assess their acceptability by comparison with the acceptance criteria in Section 1.1.4.3 and consistency with information in the ISA summary and the applicant's emergency management plan.

1.1.5.2 Safety Evaluation

The information submitted by the applicant in this section is informational in nature, and no technical analysis is required. In addition, the reviewers use the information in this section only as background for the more detailed descriptions in later sections of the application. Therefore, the primary reviewer ascertains whether the descriptive information presented is consistent with the information presented in the ISA summary and the emergency management plan.

1.1.6 Evaluation Findings

If the license application provides sufficient information and the regulatory acceptance criteria in Section 1.1.4.3 are appropriately satisfied, the staff concludes that this evaluation is complete. The reviewer writes material suitable for inclusion in the safety evaluation report (SER) prepared for the entire application. The report includes a statement summarizing what was reviewed and why the reviewer finds the submittal acceptable. The staff can document the review as follows:

The staff has reviewed the general facility description for [name of facility] according to Section 1.1 of the Standard Review Plan. [Name of facility] has adequately described (1) the facility and its processes so that the staff has an overall understanding of the relationships of the facility features and (2) the function of each feature. [Name of facility] has cross-referenced its general description with the more detailed descriptions elsewhere in the application. The staff also confirmed that the information provided in the license application is consistent with the ISA Summary and the emergency management plan. Therefore, the NRC staff concludes that [Name of facility] has complied with the general requirements of 10 CFR 70.22, "Contents of Applications," and 10 CFR 70.65(b)(1), and (2), "Additional Content of Applications," as applicable to this section.

1.1.7 References

U.S. Code of Federal Regulations, Chapter I, Title 10, "Energy," 70.22, "Contents of Applications," and 70.65, "Additional Content of Applications."

1.2 Institutional Information

1.2.1 Purpose of Review

The purpose of this review is to establish whether the license application includes adequate information identifying the applicant, the applicant's characteristics, and the proposed activity.

1.2.2 Responsibility for Review

Primary: Licensing Project Manager

Secondary: None

Supporting: Office of the General Counsel
Office of Federal and State Materials and Environmental Management
Programs/Division of Waste Management and Environmental Protection
Office of Nuclear Reactor Regulation/Division of Policy and Rulemaking

1.2.3 Areas of Review

The staff should review the institutional information provided by the applicant or licensee in the license application. Information provided for review should include the following:

- (1) Corporate Identity and Ownership—this section should include the identity and physical address of the applicant's facility and corporate headquarters; corporate information sufficient to show the relationship of the applicant's organization relative to other corporate entities; and the existence and extent of foreign ownership or influence.
- (2) Financial Qualifications—information provided for review in this section should include the applicant's financial qualifications to pursue the activities for which the license is sought.
- (3) Characteristics of the Material--the type, quantity, and form(s) of material(s) proposed for use at the licensed facility.
- (4) Authorized Uses--a clear description of each proposed licensed activity in the form of requested authorized uses, and the type of license the applicant is requesting
- (5) Special Exemptions or Special Authorizations—a clear description of any special exemptions and authorizations the applicant is requesting, and the regulatory requirements for which the applicant is seeking approval or exemption.
- (6) Security of Classified Information—this section will be added to the license application only if the applicant or licensee has requested and received a facility security clearance in accordance with 10 CFR Part 95.
- (7) Period of Time for which the License is Requested—the license application should specify the period of time for which the applicant is seeking approval.

Review Interfaces

None

1.2.4 Acceptance Criteria

1.2.4.1 Regulatory Requirements

The regulations applicable to the areas of review in this SRP are 10 CFR 70.22; 10 CFR 70.23, "Requirements for the Approval of Applications"; 10 CFR 70.33, "Renewal of Licenses"; and 10 CFR Part 95, "Security Facility Approval and Safeguarding of National Security Information and Restricted Data."

1.2.4.2 Regulatory Guidance

There are no regulatory guides that apply to institutional information for a fuel cycle facility.

1.2.4.3 Regulatory Acceptance Criteria

The application is acceptable if it meets the following criteria:

1.2.4.3.1 Corporate Identity

The applicant has furnished its full name and physical address and the address of the fuel cycle facility if it is different from that of the applicant. If the application is for license renewal, the applicant has identified the number of the license to be renewed. The State where the applicant is incorporated or organized and the location of the principal office are indicated. The application should include any information known to the applicant concerning the control or ownership, if any, exercised over the applicant by any alien, foreign corporation, or foreign government. Primary ownership and relationships to other components of the same ownership are explicitly described. The presence and operations of any other company on the site to be licensed are fully described.

1.2.4.3.2 Financial Qualifications

A description of financial qualifications demonstrates the applicant's current and continuing access to the financial resources necessary to engage in the proposed activity in accordance with 10 CFR 70.22(a)(8) and 10 CFR 70.23(a)(5). For new facilities, the description includes sufficient details demonstrating that the applicant has adequate financial resources to support the safe siting, construction, operation, maintenance, and eventual decommissioning of the proposed facility.

1.2.4.3.3 Characteristics of the Material

The application identifies the elemental name, maximum quantity, and specifications, including the chemical and physical form(s), of the licensable material that the applicant proposes to acquire, deliver, receive, possess, produce, use, transfer, or store. For each SNM, the specifications include the isotopic content and amount of enrichment by weight percent.

1.2.4.3.4 Authorized Uses

The application includes a summary, nontechnical narrative description for each activity or process in which the applicant proposes to acquire, deliver, receive, possess, produce, use, process, transfer, or store SNM. The authorized uses of SNM proposed for the facility are described and are consistent with the Atomic Energy Act of 1954, et seq. The description is consistent with more detailed process descriptions submitted as part of the ISA summary reviewed in Chapter 3 of this SRP.

If the application is for a license renewal, the applicant has clearly stated the time period for which renewal is sought.

1.2.4.3.5 Special Exemptions or Special Authorizations

The license application clearly describes any exemptions or authorizations of an unusual nature and adequately justifies them for the NRC's consideration. The applicant has explained any cross-reference to other sections in the license application supporting such justifications. The license application clearly discusses special authorizations and/or exemptions already granted by the NRC.

1.2.4.3.6 Security of Classified Information

If applicable, the applicant has requested and received a facility security clearance in accordance with 10 CFR Part 95.

1.2.5 Review Procedures

1.2.5.1 Acceptance Review

The primary reviewer should determine whether the license application is complete and addresses each issue in Section 1.2.3. If the reviewer identifies significant deficiencies in the license application during the acceptance review, the staff should ask the applicant to submit additional material or revise the license application. This will ensure that the license application is technically sufficient before the start of the safety evaluation. Once the deficiencies in the license application have been addressed during the acceptance review, the NRC reviewer should examine the institutional information and assess its acceptability by comparison with the acceptance criteria in Section 1.2.4.3.

1.2.5.2 Safety Evaluation

The information submitted by the applicant in this section is, for the most part, informational in nature, and detailed technical analysis is generally not required beyond the acceptance criteria. For new facilities, the reviewer requests review assistance, as needed, from the Office of the General Counsel, the Office of Federal and State Materials and Environmental Management Programs/Division of Waste Management and Environmental Protection, and the Office of Nuclear Reactor Regulation/Division of Policy and Rulemaking in the review of corporate and financial information.

1.2.6 Evaluation Findings

If the information provided by the applicant is consistent with the guidance of this SRP, the staff will conclude that this evaluation is complete. The staff can document its review as follows:

The staff has reviewed the institutional information for [name of facility] according to Section 1.2.of the Standard Review Plan. On the basis of the review, the NRC staff has determined that [name of facility] has adequately described and documented the corporate structure and financial information, and is in compliance with those requirements in 10 CFR 70.22 and 70.65 related to other institutional information. In addition, in accordance with 10 CFR 70.22(a)(2), (3), and (4), [name of facility] has adequately described: (1) the period of time for which the license is requested; (2) types; (3) forms; (4) quantities; and (5) the proposed authorized uses of licensed materials to be permitted at this facility as follows:

Material Form Quantity Authorized Use(s)

[name of facility]'s proposed activities are consistent with the Atomic Energy Act of 1954, as amended. [Name of facility] has provided all institutional information necessary to understand the ownership, financial qualifications, location of the facility to be licensed, planned activities, and nuclear materials to be handled in connection with the requested license.

1.2.7 References

U.S. Code of Federal Regulations, Chapter I, Title 10, "Energy," Part 70, "Domestic Licensing of Special Nuclear Material."

1.3 Site Description

1.3.1 Purpose of Review

The purpose of this review is to determine whether the information provided by an applicant adequately describes the geographic, demographic, meteorological, hydrologic, geologic, and seismologic characteristics of the site and the surrounding area. The site description is a summary of the information that the applicant used in preparing the environmental report, emergency plan, and ISA summary.

1.3.2 Responsibility for Review

Primary: Licensing Project Manager

Secondary: ISA Reviewer, Environmental Protection Reviewer, Emergency Plan Reviewer

Supporting: None

1.3.3 Areas of Review

The information in this section of the application is summarized from the information presented in more detail in the applicant's environmental report, emergency management plan, and ISA summary. The information that the NRC staff will review includes the following (as appropriate for the facility being reviewed):

(1) Site Geography

- site location: State, county, municipality, topographic quadrangle (eight 7-1/2-minute quadrants), site boundary, and controlled area boundary
- major nearby highways
- nearby bodies of water
- any other significant geographic feature that may affect accident analysis within 1 mile (1.6 km) of the site (e.g., ridges, valleys, specific geologic structures)

(2) Demographics

- latest census results for area of concern
- description, distance, and direction to nearby population centers
- description, distance, and direction to nearby public facilities (e.g., schools, hospitals, parks)
- description, distance, and direction to nearby industrial areas or facilities that may present potential hazards (including other nearby nuclear facilities)
- uses of land within the licensed facility or its proposed boundaries (i.e., residential, industrial, commercial, agricultural)
- description of nearby bodies of water and their uses

(3) Meteorology

- primary wind directions and average windspeeds
- annual amount and forms of precipitation, as well as the design-basis values for accident analysis of maximum snow or ice load and probable maximum precipitation

- type, frequency, and magnitude of severe weather (e.g., lightning, tornado, hurricane) and design-basis event summary descriptions for accident analysis

(4) Hydrology

- characteristics of nearby rivers, streams, and bodies of water as appropriate
- depth to the water table and potentiometric surface map
- ground water flow direction and velocity for the site
- characteristics of the uppermost aquifer and any hydrogeological connections to other aquifers in the region
- design-basis flood events used for accident analysis

(5) Geology

- onsite characteristics of soil types and bedrock
- design-basis earthquake magnitudes and return periods used for accident analysis
- description of other geologic hazards (e.g., mass wasting)

Review Interfaces

To ensure consistency, the listed SRP sections and documents interface with this section as follows:

- Review information about the facility and site and the different processes that will involve licensable material in Chapter 3 of the SRP.
- Review the facility and process descriptions in Chapter 8 of the SRP.
- Review information in the applicant's environmental report about the site geography, demographics, meteorology, hydrology, and geology.

1.3.4 Acceptance Criteria

1.3.4.1 Regulatory Requirements

The regulations applicable to the areas of review in this SRP are 10 CFR 70.22 and 10 CFR 70.65 (b)(1) and (2).

1.3.4.2 Regulatory Guidance

There are no regulatory guides that apply to site descriptions for a fuel cycle facility.

1.3.4.3 Regulatory Acceptance Criteria

The reviewer should find the site description, including the site geography, demographics, meteorology, hydrology, and geology (see Section 1.3.3 Areas of Review) acceptable if the following acceptance criteria are met.

- The summary briefly describes site geography, including its location relative to prominent natural and manmade features (such as mountains, rivers, airports, population centers, schools, commercial and manufacturing facilities). The summary also describes the site boundary and the controlled area.
- The summary provides population information on the basis of the most current available census data. To the extent possible, data reflect observations and measurements made over a period of years, especially for conditions that are expected to vary seasonally (e.g., precipitations, wind speed and direction, and ground water levels).
- The application addresses appropriate meteorological data, including a summary of design-basis values for accident analysis of maximum snow or ice load and probable maximum precipitation, as may be developed by the applicant and presented in the ISA summary. The applicant presents appropriate design-basis values for lightning, high winds, tornado, hurricane, and other severe weather conditions that are applicable to the site.
- The application includes a summary description of the hydrology and geology (including seismicity) for the area and cites the design-basis flood event for which the facility may be safely shut down.
- The applicant's descriptions are consistent with the more detailed information presented in the ISA summary, the environmental report, and the emergency plan, if applicable.

1.3.5 Review Procedures

1.3.5.1 Acceptance Review

The staff will initially determine whether the application is complete and addresses all topics discussed in Section 1.3.3. The information in this section provides a general summary of the bases reported in the ISA summary and is consistent with the applicant's environmental report and emergency plan. The applicant may include references to the more detailed data used to complete evaluations in the ISA summary.

If the reviewer identifies significant deficiencies in the license application during the acceptance review, the staff should ask the applicant to submit additional material or revise the license application. This will ensure that the license application is technically sufficient before the start of the safety evaluation. Once the deficiencies in the license application have been addressed during the acceptance review, the NRC reviewer should examine the information on site descriptions and assess its acceptability by comparison with the acceptance criteria in Section 1.3.4.3.

For license renewals or license amendment applications, the details necessary to support the information in the site description summary may be referenced as a prior submittal or material included elsewhere in the application.

1.3.5.2 Safety Evaluation

The material in this section of the SRP is informational, as it summarizes material in the ISA summary, environmental report, emergency plan, and other documents referenced by the applicant. No technical analysis is required, as the primary reference for the information is the ISA summary. The applicant may also need to update this section to verify any information changes made in response to the staff's environmental, emergency management, and ISA summary reviews.

1.3.6 Evaluation Findings

If the license application provides sufficient information and is consistent with the guidance in this SRP, the staff will conclude that this evaluation is complete and the applicant's site description is acceptable. The staff can document its review as follows:

The staff has reviewed the site description for [name of facility] in accordance with Section 1.3 of the Standard Review Plan. [Name of facility] has adequately described and summarized general information pertaining to (1) the site geography, including its location relative to prominent natural and manmade features such as mountains, rivers, airports, population centers, schools, and commercial and manufacturing facilities, (2) population information using the most current available census data, (3) meteorology, hydrology, and geology for the site, and (4) applicable design-basis events. The review verified that the site description is consistent with the information used as a basis for the environmental report, emergency management plan, and ISA Summary.

1.3.7 References

U.S. Code of Federal Regulations, Chapter I, Title 10, "Energy," Part 70, "Domestic Licensing of Special Nuclear Material."