

RS-002, "PROCESSING APPLICATIONS FOR EARLY SITE PERMITS"

ATTACHMENT 2

13.3 EMERGENCY PLANNING

13.3.1 EARLY SITE PERMITS

REVIEW RESPONSIBILITIES

Primary - Emergency Preparedness and Plant Support Branch (IEPB)

Secondary - Probabilistic Safety Assessment Branch (SPSB)

I. AREAS OF REVIEW

The emergency planning aspects of an early site permit (ESP) application will be reviewed by the Nuclear Regulatory Commission (NRC) for compliance with the applicable requirements of the following:

1. 10 CFR 50.34, "Contents of applications; technical information"
2. 10 CFR 50.47, "Emergency plans"
3. Appendix E of 10 CFR Part 50, "Emergency Planning and Preparedness for Production and Utilization Facilities"
4. Subpart A of 10 CFR Part 52, "Early Site Permits"

Supplement 2 to NUREG-0654, "Criteria for Emergency Planning in an Early Site Permit Application" (Supplement 2), will be used as the primary guidance for the review of radiological emergency preparedness information and plans submitted with an ESP application pursuant to Subpart A of 10 CFR Part 52.

The following guidance documents, as applicable, provide acceptable methods for implementing specific parts of the Commission's regulations:

1. Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors"
2. Revision 1 of NUREG-0654/FEMA-REP-1 (NUREG-0654), "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
3. Supplement 1 to NUREG-0654, "Criteria for Utility Offsite Planning and Preparedness"
4. Supplement 3 to NUREG-0654, "Criteria for Protective Action Recommendations for Severe Accidents"

5. NUREG-0696, "Functional Criteria for Emergency Response Facilities"
6. NUREG-0737, "Clarification of TMI Action Plan Requirements"
7. Supplement No. 1 to NUREG-0737, "Requirements for Emergency Response Capability"

The NRC will consult with the Federal Emergency Management Agency (FEMA) regarding state and local (i.e., offsite) emergency plans and preparedness, in accordance with a September 7, 1993, Memorandum of Understanding between the two agencies. Onsite meteorological measurements programs, including those in support of emergency preparedness planning, are reviewed by SPSB as a primary review responsibility for Section 2.3.3 of this review standard.

II. ACCEPTANCE CRITERIA

The acceptance criteria for emergency planning information submitted in an ESP application are contained in 10 CFR 52.17, "Contents of applications." The minimum acceptance criteria for all ESP applications, located in 10 CFR 52.17(b)(1), require that ESP applications identify physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans. Applications providing only the information required by 10 CFR 52.17(b)(1) must also include a description of contacts and arrangements made with local, state, and federal governmental agencies with emergency planning responsibilities, in accordance with 10 CFR 52.17(b)(3).

The applicant may choose to submit additional emergency planning information in the ESP application to address the two optional acceptance criteria in 10 CFR 52.17(b)(2). The two options allow an ESP applicant to propose either major features of the emergency plans, or to provide complete and integrated emergency plans. While neither option is required, each would provide for a more definitive finding concerning emergency plans and preparedness at the ESP stage than would be the case for submittal of only the minimum required information.

Emergency planning information (including supporting organization agreements) submitted with an ESP application should be up to date when the application is submitted and should reflect use of the proposed site for possible construction of a new reactor (or reactors).

1. Identification of Physical Characteristics

The ESP application must identify physical characteristics unique to the proposed site, such as egress limitations from the area surrounding the site, that could pose a significant impediment to the development of emergency plans. The ESP applicant should describe the proposed means for resolving any such impediments. An ESP application may identify such unique physical characteristics by performing a preliminary analysis of the time needed to evacuate various sectors and distances within the plume exposure pathway emergency planning zone (EPZ) for permanent and transient populations, as well as persons in special facilities, noting major difficulties for an evacuation (e.g., significant traffic-related delays) or for taking other protective actions.

A preliminary analysis of evacuation times is one example of how some significant impediments to the development of emergency plans may be identified. Other factors, such as the availability of adequate shelter facilities, in consideration of local building practices and land use (e.g., outdoor recreation facilities, including camps, beaches, hunting or fishing areas), and the presence of large institutional or other special needs populations (e.g., schools, hospitals, nursing homes, prisons) should also be addressed when identifying significant impediments to the development of emergency plans. Any evacuation time estimate (ETE) analysis or other identification of physical impediments, which should include the latest population census numbers and the most recent local conditions, will be reviewed in consultation with FEMA.

In addition, an ESP application providing only the information required by 10 CFR 52.17(b)(1) must include a description of contacts and arrangements made with local, state, and federal governmental agencies with emergency planning responsibilities, in accordance with 10 CFR 52.17(b)(3). The descriptions (preferably letters of agreement¹) should include the names and locations of the organizations contacted, the titles and/or positions of the persons contacted, and the roles of the organizations in emergency planning. Copies of letters of agreement (or other certifications) should be included in the ESP application. The agreement information should be up-to-date when the application is submitted, and should reflect the use of the proposed site for possible construction of a new reactor (or reactors). In addition, a discussion of the details associated with any ambiguous or incomplete language in the letters of agreement should be provided in the application.

For an existing reactor site, the description of contacts and arrangements should clearly address the presence of an additional reactor (or reactors) at the site, and any impact that would have on governmental agency emergency planning responsibilities, including acknowledgment by the agencies of the proposed expanded responsibilities. If the applicant is unable to make arrangements with local, state, and federal governmental agencies with emergency planning responsibilities, for whatever reason, the applicant should discuss its efforts to make such arrangements along with a description of any compensatory measures the applicant has taken or plans to take because of the lack of such arrangements.

Additional guidance concerning identifying physical characteristics unique to the proposed site, and describing agency contacts and arrangements, is provided in Supplement 2 to NUREG-0654.

2. Major Features of the Emergency Plans

In addition to the minimum requirements to identify physical characteristics unique to the proposed site, and describe contacts and arrangements with governmental agencies, as indicated above, the ESP applicant may propose major features of the emergency plans, such as the exact sizes of the EPZs, for review and approval by NRC, in consultation with FEMA, in the absence of complete and integrated emergency plans.

For a pre-existing nuclear facility, all Supplement 2 major features of the emergency plan (i.e., all 14 planning standards) should be addressed in the ESP application. The detailed, specific

¹ SECY-91-041, "Early Site Permit Review Readiness," February 13, 1991 (p. 6), indicates staff's preference for the development of letters of agreement.

evaluation criteria for each of the major features in Supplement 2 should be addressed for both a pre-existing nuclear facility, as well as for applicable major features associated with a site without a pre-existing nuclear facility. If emergency planning information is not provided on all 14 major features (including the detailed, specific evaluation criteria) in Section V of Supplement 2, the ESP application will not be rejected. The review and evaluation will, however, be based on, and specifically limited to, the submitted information only. Additional guidance concerning major features of the emergency plans is provided in Supplement 2 to NUREG-0654.

3. Complete and Integrated Emergency Plans

In addition to the minimum requirements to identify physical characteristics unique to the proposed site, and describe contacts and arrangements with governmental agencies, as indicated above, the ESP applicant may propose complete and integrated emergency plans for review and approval by NRC, in consultation with FEMA, in accordance with the applicable provisions of 10 CFR 50.47. The planning standards and evaluation criteria for preparing and evaluating these emergency plans are provided in NUREG-0654.

Under this option, the applicant should make good-faith efforts to obtain from the same governmental agencies certifications that (1) the proposed emergency plans are practicable; (2) these agencies are committed to participating in any further development of the plans, including any required field demonstrations; and (3) these agencies are committed to executing their responsibilities under the plans in the event of an emergency.

The ESP application must contain any certifications that have been obtained. If these certifications cannot be obtained, the application must contain information, including a utility plan, sufficient to show that the proposed plans nonetheless provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the site. The utility-prepared offsite emergency plans and preparedness will be reviewed and evaluated using the guidance in Supplement 1 to NUREG-0654.

III. REVIEW PROCEDURES

1. Identification of Physical Characteristics

If the applicant chooses to provide only the minimum required information, NRC will review, in consultation with FEMA, the feasibility of emergency planning for the site, including the anticipated support from various governmental agencies, and the adequacy of the information provided in the application, to determine whether any identified physical characteristics unique to the proposed site pose a significant impediment to the development of emergency plans. Additional guidance concerning identifying physical characteristics unique to the proposed site, and describing agency contacts and arrangements, is provided in Supplement 2 to NUREG-0654.

2. Major Features of the Emergency Plans

An ESP application that proposes major features of the emergency plans will be reviewed by NRC, in consultation with FEMA, and evaluated against the selected and modified planning standards and evaluation criteria from Section II of NUREG-0654. These planning standards

and evaluation criteria for major features of the emergency plans, which are provided in Section V of Supplement 2 to NUREG-0654, have been selected to:

- a. highlight the need for cooperation among the applicant, local, state, and federal agencies, as addressed in 10 CFR 52.17(b)(3);
- b. address potential emergency planning issues early in the licensing process, before large commitments of resources are made; and
- c. reflect that an ESP applicant may not have certain information and resources, or should not be expected to expend resources on various aspects of emergency planning and preparedness that will be required, and may best be addressed, at the combined license (COL) stage.

In addition, the standards and criteria that refer to facilities, systems, and equipment have been modified to address only descriptions, rather than in-place capabilities. The modifications to the emergency planning standards and evaluation criteria in Section V of Supplement 2 apply only to an ESP application.

3. Complete and Integrated Emergency Plans

As indicated in 10 CFR 52.17(b)(2)(ii), an ESP application may propose complete and integrated emergency plans for review and approval by NRC, in consultation with FEMA, in accordance with the applicable provisions of 10 CFR 50.47. Guidance for preparing and evaluating these emergency plans is provided in the planning standards and evaluation criteria of NUREG-0654, as clarified, interpreted, and modified by FEMA.

All of the standards of 10 CFR 50.47(b), as supported by the guidance in the corresponding planning standards and evaluation criteria of NUREG-0654, must be met before an operating license is issued pursuant to 10 CFR 50.57 or a COL is issued pursuant to Subpart C of 10 CFR Part 52. In addition, for the first reactor at a site, Appendix E of 10 CFR Part 50 requires that a full-participation exercise be conducted within two years before NRC issuance of an operating license for full power (i.e., one authorizing operation above five percent of rated power). Because this exercise would be included in the inspections, tests, and analyses required for a combined license, it would have to be satisfied before fuel loading pursuant to a COL.

IV. EVALUATION FINDINGS

The reviewer verifies that sufficient information has been provided, and that the staff's evaluation supports concluding statements of the following type, to be included in the staff's safety evaluation report.

1. Identification of Physical Characteristics

The staff has reviewed the physical characteristics unique to the proposed site, and the description of contacts and arrangements made with local, state, and federal governmental agencies with emergency planning responsibilities, for the [indicate applicant] early site permit (ESP) application for [indicate site name].

The staff concludes, after consultation with the Federal Emergency Management Agency (FEMA), the following.

[Summarize important NRC and FEMA review findings.]

Therefore, based on the review and for the reasons set forth above, the staff finds that there are no significant impediments to the development of emergency plans, and that the emergency planning information meets the requirements of 10 CFR 52.17(b)(1), 10 CFR 52.17(b)(3), and 10 CFR 52.18.

2. Major Features of the Emergency Plans

The staff has reviewed the proposed major features of the emergency plans for the [indicate applicant] early site permit (ESP) application for [indicate site name]. The staff concludes, after consultation with the Federal Emergency Management Agency (FEMA), the following:

[Summarize important NRC and FEMA review findings; including the extent to which the emergency plans do, or do not, satisfy the planning standards and evaluation criteria in Supplement 2 (Section V), and applicable FEMA criteria.]

Therefore, based on the review and for the reasons set forth above, the staff finds that, in the absence of complete and integrated plans, the major features of the emergency plans proposed in the [indicate applicant] [indicate site name] ESP application, and indicated above as having satisfied applicable guidance criteria, are acceptable, and meet the requirements of 10 CFR 52.17(b)(2)(i), 10 CFR 52.17(b)(3), and 10 CFR 52.18.

3. Complete and Integrated Emergency Plans

The staff has reviewed the complete and integrated emergency plans provided in the [indicate applicant] early site permit (ESP) application for [indicate site name]. In addition, the staff has reviewed the Federal Emergency Management Agency (FEMA) interim findings and determinations on the state and local emergency plans, and the adequacy of certifications from the applicable local, state, and federal governmental agencies with emergency planning responsibilities, identified in accordance with 10 CFR 52.17(b)(3), and applicable FEMA criteria. The staff concludes, after consultation with FEMA, the following:

[Summarize important NRC and FEMA review findings, including the specific bases for the conclusions and how the plans meet each of the standards of 10 CFR 50.47(b).]

Based on the review and the reasons set forth above, the staff finds that the ESP is subject to the following required conditions and limitations:

[List the required conditions and limitations of the ESP.]

Therefore, based on the review and for the reasons set forth above, and provided that the required conditions and limitations of the ESP are met, the staff finds that the complete and integrated emergency plans proposed in the [indicate applicant] ESP application provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at [indicate site name], and that the plans meet the emergency plan requirements of 10 CFR 50.34, 10 CFR 50.47, Appendix E of 10 CFR Part 50, 10 CFR 52.17(b)(2)(ii), 10 CFR 52.17(b)(3), and 10 CFR 52.18.

V. IMPLEMENTATION

The following is intended to provide guidance to applicants and licensees regarding the staff's plans for using this section of this review standard.

This section will be used by the staff when performing safety evaluations of ESP applications submitted pursuant to 10 CFR Part 52. Except in those cases in which the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the methods described herein will be used by the staff in its evaluation of compliance with Commission regulations on emergency planning.

Implementation schedules for conformance to parts of the methods discussed herein are contained in the referenced regulations, a Regulatory Guide, and NUREGs.

VI. REFERENCES

1. 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."
2. 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities."
3. 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants."
4. Regulatory Guide 1.101, Rev. 4, "Emergency Planning and Preparedness for Nuclear Power Reactors," July 2003.
5. NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980.
6. Supplement 1 to NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Utility Offsite Planning and Preparedness" (Draft Report for Interim Use and Comment), November 1987.
7. Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Emergency Planning in an Early Site Permit Application" (Draft Report for Comment), April 1996.

8. Supplement 3 to NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Protective Action Recommendations for Severe Accidents" (Draft Report for Interim Use and Comment), July 1996.
9. NUREG-0696, "Functional Criteria for Emergency Response Facilities," February 1981.
10. NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.
11. Supplement No. 1 to NUREG-0737, "Requirements for Emergency Response Capability," January 1983.
12. NRC/FEMA Memorandum of Understanding, September 7, 1993 (58 FR 47996, September 14, 1993).
13. SECY-91-041, "Early Site Permit Review Readiness," February 13, 1991.