



U.S. NUCLEAR REGULATORY COMMISSION STANDARD REVIEW PLAN

2.1.2 EXCLUSION AREA AUTHORITY AND CONTROL

REVIEW RESPONSIBILITIES

Primary - Organization responsible for the review of siting criteria

Secondary - None

I. AREAS OF REVIEW

Chapter 2 of the SRP discusses the site characteristics that could affect the safe design and siting of the plant. The staff reviews information presented by the applicant for a construction permit (CP), operating license (OL), design certification (DC), early site permit (ESP), and combined license (COL) concerning exclusion area authority and control. This SRP section applies to reviews performed for each of these types of applications. The staff verifies that the applicant's legal authority to determine and control activities within the designated exclusion area, as provided in the application, are sufficient to enable the reviewer to assess the acceptability of the reactor site. The review covers the following specific areas:

1. Establishment of Authority: For CP, OL, ESP, and COL (not referencing an ESP) applications, the staff reviews the applicant's legal authority to determine all activities within the designated exclusion area. In any case where the applicant does not own all the land, including mineral rights, within the designated exclusion area, the legality of the applicant's authority must be established. In such a case, the reviewer may require assistance from the NRC legal staff in determining whether the designated exclusion area meets the requirements of 10 CFR Part 100. Under 10 CFR Part 100, a highway, railroad, or waterway may traverse the exclusion area if arrangements are made to control these areas in the event of an emergency. However, in some cases, public roads that lie within the proposed exclusion area may have to be abandoned or relocated to permit plant construction. Legal assistance may be required to assure that no legal impediments to such abandonment or relocation are likely to ensue.

Revision 3 - March 2007

USNRC STANDARD REVIEW PLAN

This Standard Review Plan, NUREG-0800, has been prepared to establish criteria that the U.S. Nuclear Regulatory Commission staff responsible for the review of applications to construct and operate nuclear power plants intends to use in evaluating whether an applicant/licensee meets the NRC's regulations. The Standard Review Plan is not a substitute for the NRC's regulations, and compliance with it is not required. However, an applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance criteria provide an acceptable method of complying with the NRC regulations.

The standard review plan sections are numbered in accordance with corresponding sections in Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (LWR Edition)." Not all sections of Regulatory Guide 1.70 have a corresponding review plan section. The SRP sections applicable to a combined license application for a new light-water reactor (LWR) are based on Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)."

These documents are made available to the public as part of the NRC's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Individual sections of NUREG-0800 will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience. Comments may be submitted electronically by email to NRR_SRP@nrc.gov.

Requests for single copies of SRP sections (which may be reproduced) should be made to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Reproduction and Distribution Services Section, or by fax to (301) 415-2289; or by email to DISTRIBUTION@nrc.gov. Electronic copies of this section are available through the NRC's public Web site at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0800/>, or in the NRC's Agencywide Documents Access and Management System (ADAMS), at <http://www.nrc.gov/reading-rm/adams.html>, under Accession # ML070550024.

2. Exclusion or Removal of Personnel and Property: The staff will review the applicant's authority and control in excluding or removing personnel and property in the event of an emergency.
3. Proposed and Permitted Activities: The review will also establish that proposed or permitted activities in the exclusion area unrelated to operation of the reactor do not result in a significant hazard to public health and safety. The staff will review activities not related to routine operation of the plant that may be permitted within the designated exclusion area. This review should consider the type of activity, the location within the exclusion area, the number of people involved, and the frequency and duration of the activity.
4. Additional Information for 10 CFR Part 52 Applications: Additional information will be presented dependent on the type of application. For a COL application, the additional information is dependent on whether the application references an ESP, a DC, both or neither. Information requirements are prescribed within the "Contents of Application" sections of the applicable Subparts to 10 CFR Part 52.

Review Interfaces

Other SRP sections interface with this section as follows:

1. The review of the applicant's description of the exclusion area is performed under SRP Section 2.1.1.
2. The staff will review radiation exposure doses to determine whether they meet the limitations of 10 CFR 50.34(a)(1). The review will include estimates of evacuation times and will consider whether any activity within the exclusion area unrelated to plant operation could result in exposures above the 10 CFR Part 100 guidelines. The staff will correspond with the NRC legal staff, as required, to determine the legal sufficiency of applicant's proposed controls. The review of public radiation exposure at the exclusion area boundary in the unlikely event of a serious release of radioactive material is addressed under SRP Section 13.3 and Chapter 15.
3. For DC applications and COL applications referencing a DC rule or DC application, review of the site parameters in the Design Control Document (DCD) Tier 1 and Chapter 2 of the DCD Tier 2¹ submitted by the applicant is performed under SRP Section 2.0, "Site Characteristics and Site Parameters." Review of site characteristics and site-related design parameters in an ESP or in COL applications referencing an ESP is also performed under Section 2.0.

The specific acceptance criteria and review procedures are contained in the referenced SRP sections.

II. ACCEPTANCE CRITERIA

Requirements

Acceptance criteria are based on meeting the relevant requirements of the following Commission regulations:

¹ Additional supporting information of prior DC rules may be found in DCD Tier 2 Section 14.3

1. 10 CFR Part 50 and 10 CFR Part 52, as they relate to including in the safety analysis report (SAR) a detailed description and safety assessment of the site on which the facility is to be located (10 CFR 50.34(a)(1), 10 CFR 52.17(a)(1), and 10 CFR 52.79(a)(1)).
2. 10 CFR Part 100, as it relates to the following:
 - A. Defining an exclusion area and setting forth requirements regarding activities in that area (10 CFR 100.3)
 - B. Addressing and evaluating factors that are used in determining the acceptability of the site as identified in 10 CFR 100.20(b)²
 - C. Determining an exclusion area such that certain dose limits would not be exceeded in the event of a postulated fission product release as identified in 10 CFR 50.34(a)(1) as it relates to site evaluation factors identified in 10 CFR 100.

SRP Acceptance Criteria

Specific SRP acceptance criteria acceptable to meet the relevant requirements of the NRC's regulations identified above are as follows for the review described in this SRP section. The SRP is not a substitute for the NRC's regulations, and compliance with it is not required. However, an applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance criteria provide acceptable methods of compliance with the NRC regulations.

1. Establishment of Authority

The information submitted by the applicant is adequate and meets the requirements of 10 CFR 50.33, 10 CFR 50.34(a)(1), 10 CFR 52.17, 10 CFR 52.79, and 10 CFR Part 100 if it provides sufficient detail to enable the staff to evaluate the applicant's legal authority within the designated exclusion area. The definition in 10 CFR 100.3 states as follows:

Exclusion area means that area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area.

To meet the requirements of 10 CFR Part 100, the applicant must demonstrate, before issuance of a CP or limited work authorization, that it has the authority within the exclusion area as defined in 10 CFR 100.3, or must provide reasonable assurance that it will have such authority before either the start of construction or commencing activities allowed by 10 CFR 52.25. Absolute ownership of all lands within the exclusion area, including mineral rights, is considered to carry with it the required authority to determine all activities on this land and is acceptable.

Where the required authority is contingent upon future procurement of ownership (e.g., by eminent domain proceedings) or by lease, easement, contract, or other means, the exclusion area may be acceptable if legal staff can determine that the information submitted by the applicant provides reasonable assurance that it will obtain the required authority before the start of construction. In cases where the applicant will acquire or complete the acquisition of ownership and control during a construction period, legal

² For applicants before January 10, 1997 the requirements are identified in 10 CFR 100.10 and 10 CFR 100.11.

staff will conduct a special review. In addition, in cases of proposed public road abandonment or relocation, legal staff should determine that there is sufficient authority or that sufficient arrangements have been made to accomplish the proposed relocation or abandonment. In the event an ESP applicant does not have the required authority and control but provides reasonable assurance that it will acquire such authority and control, the ESP may include a condition requiring the applicant to notify the staff when the applicant has indeed acquired such authority and control and the basis for that conclusion. At the OL or COL stage of review, the applicant must have completed arrangements to obtain exclusion area authority and control. The NRC will not permit the licensee to load fuel until it has completed all efforts to establish exclusion area authority and control, including all transfers of title, easements, lease arrangements, public road abandonments or relocations, as applicable.

Atomic Safety and Licensing Board and Atomic Safety and Licensing Appeal Board decisions (e.g., Refs. 1, 2, and 3) provide further guidance regarding the sufficiency of the applicant's proposed control over the exclusion area in instances where the licensee does not hold title.

2. Exclusion or Removal of Personnel and Property: The information submitted by the applicant is adequate and meets the requirements of 10 CFR 50.33, 10 CFR 50.34(a)(1), 10 CFR 52.17, 10 CFR 52.79, and 10 CFR Part 100 if it provides sufficient detail to enable the staff to evaluate the applicant's legal authority for the exclusion or removal of personnel or property from the exclusion area. A highway, railroad, or waterway may traverse the exclusion area but should not be so close to the facility so as to interfere with normal operations. In addition, appropriate and effective arrangements should be made to control traffic on the highway, railroad, or waterway in the case of an emergency. Residence within the exclusion area should normally be prohibited. In the event that people live within the exclusion area, these residents should be subject to ready removal if necessary. Activities unrelated to the operation of the reactor may be permitted in an exclusion area provided that no significant hazards to the public health and safety will result.

Where the designated exclusion area extends into a body of water such as a lake, reservoir, or river that is routinely accessible to the public, the staff must determine whether the applicant has made appropriate arrangements with the local, State, Federal, or other public agency having authority over the particular body of water. The arrangements should provide for the exclusion and ready removal in an emergency, by either the applicant or the public agency in authority, of any persons on those portions of the body of water that lie within the designated exclusion area.

3. Proposed and Permitted Activities: The information submitted by the applicant is adequate and meets the requirements of 10 CFR 50.33, 10 CFR 50.34(a)(1), 10 CFR 52.17, 10 CFR 52.79, and 10 CFR Part 100 if it provides sufficient detail to enable the staff to evaluate the applicant's legal authority over all activities within the designated exclusion area. Activities unrelated to plant operation within the exclusion area are acceptable under the following circumstances:
 - A. Such activities, including accidents associated with such activities, represent no hazard to the plant or have been shown to be accommodated as part of the plant design basis (see SRP Section 2.2.3).
 - B. The applicant is aware of such activities and has made appropriate arrangements to evacuate persons engaged in such activities in the event of an accident.

- C. There is reasonable assurance that, in the event of an accident, persons engaged in such activities can be evacuated without receiving radiation doses in excess of the guideline values given in 10 CFR 50.34(a)(1).

Technical Rationale

The technical rationale for application of these acceptance criteria to the areas of review addressed by this SRP section is discussed in the following paragraphs:

1. Compliance with the requirements of 10 CFR 50.33 and 10 CFR 50.34 (for CP), 10 CFR 52.17 (for ESP applications), 10 CFR 52.79 (for COL applications), and 10 FR Part 100 ensures that the staff has an adequate description of exclusion area authority and control. The exclusion area is further defined in 10 CFR 100.3.
2. Compliance with 10 CFR Part 100 provides assurance that the consequences of an accident will be within the acceptable levels. The review performed under this SRP section determines whether the application contains information of sufficient accuracy, detail, and completeness to execute a determination of compliance with 10 CFR 50.34(a)(1) and 10 CFR Part 100, which require that an applicant determine an exclusion area of such size that an individual located at any point on its boundary for 2 hours immediately following the onset of the postulated fission product release would not receive a total radiation dose in excess of 25 rem total effective dose equivalent (TEDE).
3. This SRP section addresses the adequacy of the applicant's legal authority to determine activities within the exclusion area, including exclusion or removal of personnel and property. The applicant must document such legal authority over the area as necessary to either exclude activities totally or to remove and subsequently exclude people from the area in a timely manner following an accident. This SRP section also addresses whether activities proposed to be permitted in the exclusion area will result in significant hazard to public health and safety. This SRP section addresses the adequacy of the applicant's legal authority to exercise public road abandonment or relocation if required or warranted. Transportation routes may traverse the area provided effective arrangements are made to control traffic in case of emergency.

III. REVIEW PROCEDURES

The reviewer will select material from the procedures described below, as may be appropriate for a particular case.

The procedures outlined below are used to review CP applications, ESP applications, and COL applications that do not reference an ESP to determine whether data and analyses for the proposed site meet the acceptance criteria given in Subsection II of this SRP section. For reviews of OL applications, these procedures are used to verify that the data and analyses remain valid and that the facility's design specifications are consistent with these data. As applicable, reviews of OLs and COLs include a determination on whether the content of technical specifications related to is acceptable and whether the technical specifications reflect consideration of any identified unique conditions.

These review procedures are based on the identified SRP acceptance criteria. For deviations from these acceptance criteria, the staff should review the applicant's evaluation of how the proposed alternatives provide an acceptable method of complying with the relevant NRC requirements identified in Subsection II.

1. Establishment of Authority: The information in this section of the SAR forms the basis for evaluations performed in various other sections. This review serves to establish the validity of the applicant's authority within the exclusion area.

The reviewer should determine the basis on which the applicant claims authority within the exclusion area. If the applicant demonstrates absolute ownership of all lands, including mineral rights, within the area, the acceptance criteria are satisfied. If the applicant claims any other method as providing the required authority, the staff should prepare a memorandum for legal staff containing the appropriate information in the SAR, including copies of applicable SAR pages and figures and requesting a written response as to whether the applicant's claimed authority meets the requirements of 10 CFR Part 100, 10 CFR 100.3, 10 CFR 52.17, and 10 CFR 52.79. The memorandum should also include information in the SAR which describes the applicant's plans, procedures, and schedules for obtaining any abandonment or relocation of public roads which may be required. The memorandum should describe any technical reasons that make the applicant's proposed method unacceptable.

2. Exclusion or Removal of Personnel and Property: If the exclusion area extends into a body of water such as a lake, reservoir, or river, the reviewer should consider the area of the encompassed body of water against the guidelines of 10 CFR Part 100 and 10 CFR 100.3 regarding control of access and activities unrelated to the operation of the reactor. The reviewer must evaluate the extent of the exclusion area over a waterway on a case-by-case basis.

If a highway, railroad, waterway, or other transportation route accessible to the public traverses the designated exclusion area, the reviewer should determine whether the applicant's emergency plan includes adequate provisions for control of traffic on these routes in the event of an emergency. At the ESP and CP stage, a finding that such provisions are feasible is adequate. At the OL stage, the review will emphasize those areas where the applicant did not possess absolute authority at the time of the CP review.

3. Proposed and Permitted Activities: If activities unrelated to plant operation are to be permitted within the exclusion area, it will be necessary to determine that the potential radiation exposures to persons engaged in these activities resulting from the design-basis accidents postulated and evaluated in SAR Chapter 15 do not exceed the guidelines of 10 CFR Part 100 and 10 CFR 50.34(a)(1). The review should include the type of activity, its specific location within the exclusion area, the number and kinds of persons engaged in the activity, and the frequency and length of time the activities are to be permitted. The reviewer should request assistance in evaluating this area from the branch that is responsible for SRP Section 13.3.

4. Review Procedures Specific to 10 CFR Part 52 Application Type

- A. Early Site Permit Reviews: Subpart A to 10 CFR Part 52 specifies the requirements and procedures applicable to the Commission's review of an ESP application for approval of a proposed site. Information required in an ESP application includes a description of the site characteristics and design parameters of the proposed site. The scope and level of detail of review of data parallel that used for a CP review.

In the absence of certain circumstances, such as a compliance or adequate protection issue, 10 CFR 52.39 precludes the staff from imposing new site characteristics, design parameters, or terms and conditions on the early site permit at the COL stage. Accordingly, the reviewer should ensure that all physical attributes of the site that could affect the design basis of SSCs important to safety are reflected in the site characteristics, design parameters, or terms and conditions of the early site permit.

- B. Standard Design Certification Reviews: DC applications do not contain general descriptions of site characteristics because this information is site-specific and will be addressed by the COL applicant. Pursuant to 10 CFR 52.47(a)(1), a DC applicant must provide site parameters postulated for the design. However, the identification of exclusion area authority and control are not applicable for this area of review.
- C. Combined License Reviews: For a COL application referencing a certified standard design, the staff reviews that application to ensure sufficient information was presented to demonstrate that the characteristics of the site fall within the site parameters specified in the DC rule. Since there are no site parameters included in the DC for this SRP section, this demonstration is not applicable here.

For a COL application referencing an ESP, NRC staff reviews the application to ensure the applicant provided sufficient information to demonstrate that the design of the facility falls within the site characteristics and design parameters specified in the early site permit as applicable to this SRP section. In accordance with 10 CFR 52.79(b)(2), should the design of the facility not fall within the site characteristics and design parameters, the application shall include a request for a variance from the ESP that complies with the requirements of 10 CFR 52.39 and 10 CFR 52.93.

In addition, long-term environmental changes and changes to the region resulting from human or natural causes may have introduced changes to the site characteristics that could be relevant to the design basis. In the absence of certain circumstances, such as a compliance or adequate protection issue, 10 CFR 52.39 precludes the staff from imposing new site characteristics, design parameters, or terms and conditions on the early site permit at the COL stage. Consequently, the staff's review of a COL application referencing an ESP should not include a re-investigation of the site characteristics that have previously been accepted in the referenced ESP. However, in accordance with 10 CFR 52.6, "Completeness and Accuracy of Information," the applicant or licensee is responsible for identifying changes of which it is aware, that would satisfy the criteria specified in 10 CFR 52.39. Information provided by the applicant in accordance with 10 CFR 52.6(b) will be addressed by the staff during the review of a COL application referencing an ESP or a DC.

For a COL application referencing either an ESP or DC or both, the staff should review the corresponding sections of the ESP and DC FSER to ensure that any early site permit conditions, restrictions to the DC, or COL action items identified in the FSERs are appropriately handled in the COL application.

IV. EVALUATION FINDINGS

The review should document the staff's evaluation of site characteristics with respect to the relevant regulatory criteria. The evaluation should support the staff's conclusions as to whether the regulations are met. The reviewer should state what was done to evaluate the applicant's safety analysis report. The staff's evaluation may include verification that the applicant followed applicable regulatory guidance, performance of independent calculations, and/or validation of appropriate assumptions. The reviewer may state that certain information provided by the applicant was not considered essential to the staff's review and was not reviewed by the staff. While the reviewer may summarize or quote the information offered by the applicant in support of its application, the reviewer should clearly articulate the bases for the staff's conclusions.

The reviewer verifies that the applicant has provided sufficient information and that the review and calculations (if applicable) support conclusions of the following type to be included in the staff's safety evaluation report. The reviewer also states the bases for those conclusions.

1. Construction Permit and Combined License Reviews

The following statements should be preceded by a summary of the site characteristics and parameters used for the plant:

As set forth above, the applicant has provided and substantiated information concerning its plan to obtain legal authority and control of all activities within the designated exclusion area. The staff has reviewed the information provided and, for the reasons given above, concludes that the applicant's exclusion area is acceptable to meet the requirements of 10 CFR 50.34(a)(1), 10 CFR Part 52.79(a)(1), 10 CFR Part 100, and 10 CFR 100.3 with respect to determining the acceptability of the site for CPs and COLs. This conclusion is based on the applicant having appropriately described the plant exclusion area, the authority under which all activities within the exclusion area can be controlled, the methods by which the relocation or abandonment of public roads that lie within the proposed exclusion area can be accomplished, if necessary, and the methods by which access and occupancy of the exclusion area can be controlled during normal operation and in the event of an emergency situation. In addition, the applicant has the required authority to control activities within the designated exclusion area, including the exclusion and removal of persons and property, and has established acceptable methods for control of the designated exclusion area.

2. Early Site Permit Reviews

The following statements should be preceded by a summary of the site characteristics and design parameters to be included in any ESP that might be issued for the ESP site:

As set forth above, the applicant has presented and substantiated information concerning its plan to obtain legal authority and control of all activities within the designated exclusion area. The staff has reviewed the information provided and, for the reasons give above, concludes that the applicant's exclusion area is acceptable to meet the requirements of 10 CFR 50.34(a)(1), 10 CFR Part 52.17(a)(1), 10 CFR Part 100, and 10 CFR 100.3. This conclusion is based on the applicant having appropriately described the plant exclusion area, the authority under which all activities within the exclusion area can be controlled, the methods by which the relocation or abandonment of public roads that lie within the proposed exclusion area can be accomplished, if necessary, and the methods by which access and occupancy of the exclusion area can be controlled during normal operation and in the event of an emergency situation. In addition, the applicant has the required authority to control activities within the designated exclusion area, including the exclusion and removal of persons and property, and has established acceptable methods for control of the designated exclusion area. In the event that an ESP applicant does not have the authority and control required, but provides a reasonable assurance that it will acquire such authority and control, the ESP could contain a contingency condition requiring the applicant to notify the staff that the applicant has indeed acquired such authority and control and the basis for that conclusion. At the COL stage review, the applicant must have completed arrangements to determine all activities within the exclusion area.

3. Design Certification Reviews

Exclusion area authority and control is site-specific and will be addressed by the COL applicant.

V. IMPLEMENTATION

The staff will use this SRP section in performing safety evaluations of DC applications and license applications submitted by applicants pursuant to 10 CFR Part 50 or 10 CFR Part 52. Except when the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the staff will use the method described herein to evaluate conformance with Commission regulations.

The provisions of this SRP section apply to reviews of applications submitted six months or more after the date of issuance of this SRP section, unless superseded by a later revision.

VI. REFERENCES

1. The Cleveland Electric Illuminating Company, et. al. (Perry Nuclear Power Plant, Units 1 and 2), "Supplemental Partial Initial Decision, Site Suitability and Environmental Matters," LBP-74-76, 8 AEC 701, October 20, 1974.
2. Southern California Edison Company, et. al. (San Onofre Nuclear Generating Station, Units 2 and 3), "Decision," ALAB-248, 8 AEC 951, December 24, 1974.
3. Southern California Edison Company, et al. (San Onofre Nuclear Generating Station, Units 2 and 3), "Decision," ALAB-268, 1 NRC 383, April 25, 1975.
4. 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."
5. 10 CFR Part 52, "Early Site Permits, Standard Designs Certifications, and Combined Licences for Nuclear Power Plants."
6. 10 CFR Part 100, "Reactor Site Criteria."

PAPERWORK REDUCTION ACT STATEMENT

The information collections contained in the Standard Review Plan are covered by the requirements of 10 CFR Part 50 and 10 CFR Part 52, and were approved by the Office of Management and Budget, approval number 3150-0011 and 3150-0151.

PUBLIC PROTECTION NOTIFICATION

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.
