



U.S. NUCLEAR REGULATORY COMMISSION  
**STANDARD REVIEW PLAN**  
OFFICE OF NUCLEAR REACTOR REGULATION

2.1.2 EXCLUSION AREA AUTHORITY AND CONTROL

REVIEW RESPONSIBILITIES

Primary - ~~Siting Analysis Branch (SAB)~~ Civil Engineering and Geosciences Branch (ECGB)<sup>1</sup>

Secondary - None

I. AREAS OF REVIEW

The applicant's legal authority to determine all activities within the designated exclusion area is reviewed. Title<sup>2</sup> 10 CFR Part 100, "Reactor Site Criteria," Subpart<sup>3</sup> 100.3(a) requires that a reactor licensee have authority to determine all activities within the designated exclusion area, including the exclusion or removal of personnel and property.

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, <sup>4</sup>assistance may be required of the ~~Office of the Executive Legal Director (OELD)~~ NRC legal staff<sup>5</sup> in determining whether or not the designated exclusion area meets the requirements of 10 CFR Part 100. Also, in some cases public roads which lie within the proposed exclusion area may have to be abandoned or relocated to permit plant construction. ~~OELD~~Legal<sup>6</sup> assistance may be required to assure that no legal impediments to such abandonment or relocation are likely to ensue. Part 100 permits the exclusion area to be traversed by a highway, railroad, or waterway provided arrangements are made to control these areas in event of an emergency.

Review will also establish that proposed activities in the exclusion area unrelated to operation of the reactor do not result in a significant hazard to the public health and safety.<sup>7</sup> Activities that may be permitted within the designated exclusion area, and that will not be related to routine operation of the plant, are reviewed. ~~Review should include the type of activity, its specific~~

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**USNRC STANDARD REVIEW PLAN**

Standard review plans are prepared for the guidance of the Office of Nuclear Reactor Regulation staff responsible for the review of applications to construct and operate nuclear power plants. These documents are made available to the public as part of the Commission's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Standard review plans are not substitutes for regulatory guides or the Commission's regulations and compliance with them is not required. The standard review plan sections are keyed to the Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants. Not all sections of the Standard Format have a corresponding review plan.

Published standard review plans will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience.

Comments and suggestions for improvement will be considered and should be sent to the U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Washington, D.C. 20555.

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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.<sup>8</sup> The Accident Evaluation Branch, upon request, will determine whether individuals associated with plant unrelated activities within the exclusion area can be evacuated prior to receiving doses in excess of the guideline values of 10 CFR Part 100.<sup>9</sup>

### Review Interfaces<sup>10</sup>

ECGB implemented SRP Section 2.1.1, "Site Location and Description," which addressed the description of the exclusion area. Under SRP 2.1.2, ECGB will determine whether that exclusion area meets other requirements of 10 CFR 100. Emergency Preparedness and Radiation Protection Branch (PERB) is responsible for determining that exposure doses meet the limitations in 10 CFR 100.11(a)(1). PERB will review estimates of evacuation times and will advise on whether any activity within the exclusion area unrelated to plant operation could result in exposures beyond the 10 CFR 100 guidelines. The licensing Project Manager will be responsible for correspondence with the NRC legal staff, as required, to determine legal sufficiency of applicant's proposed controls.

PERB is responsible for emergency planning issues (SRP Section 13.3, "Emergency Preparedness") and should review non-plant-related activities within the exclusion area, and applicant's proposed controls, for consistency with emergency plans.<sup>11</sup>

## II. ACCEPTANCE CRITERIA

~~SAB~~<sup>12</sup> Acceptance criteria are based on meeting the relevant requirements of 10 CFR Part 100 with respect to the applicant's legal authority with the designated exclusion area. 10 CFR Part 100 (Ref. 1)<sup>13</sup> in Section 100.3(a) states as follows:

"Exclusion area"<sup>14</sup> 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. This area may be traversed by a highway, railroad or waterway, ~~provided these are not so close to the facility as to interfere with normal operations of the facility and~~<sup>15</sup>...provided appropriate and effective arrangements are made to control traffic on the highway, railroad, or waterway, in case of emergency, to protect the public health and safety.... Residence within the exclusion area shall normally be prohibited. In any event, residents shall be subject to ready removal in case of necessity.<sup>16</sup> Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result."

To meet the requirements of 10 CFR Part 100 the applicant must demonstrate, prior to issuance of a construction permit or limited work authorization, that it has the authority within the exclusion area as required by Section 100.3(a), or must provide reasonable assurance that it will have such authority prior to start of construction. 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 OELD legal staff<sup>17</sup> can determine that the information provided by the applicant provides reasonable assurance that the required authority will be obtained prior to start of construction. In cases where ownership and control is to be acquired or completed during a construction period, a special review by OELD legal staff<sup>18</sup> will be required. Also, in cases of proposed public road abandonment or relocation, OELD legal staff<sup>19</sup> should determine that there is sufficient authority or that sufficient arrangements have been made to accomplish the proposed relocation or abandonment. At the OL stage of review, the applicant must have completed arrangements to determine all activities within the exclusion area. The applicant will not be permitted to load fuel until exclusion area authority and control, including all transfers of title, easements, lease arrangements, public road abandonments or relocations, as applicable, are completed.

Activities unrelated to plant operation within the exclusion area are acceptable provided:

- (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, "Evaluation of Potential Accidents"<sup>20</sup>)-(Ref. 2)<sup>21</sup>.
- (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, and
- (c) There is reasonable assurance that, in the event of an accident,<sup>22</sup> persons engaged in such activities can be evacuated without receiving radiation doses in excess of the guideline values given in 10 CFR Part 100.11(a)(1).<sup>23</sup>

Where the designated exclusion area extends into bodies of water such as a lake, reservoir, or river which is routinely accessible to the public, the reviewer must determine that the applicant has made appropriate arrangements with the local, state, Federal, or other public agency having authority over the particular body of water and the arrangements made 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 which lie within the designated exclusion area.

~~References 3, 4, and 5 contain pertinent decisions made by<sup>24</sup>-Atomic Safety and Licensing Board (ASLB) and Atomic Safety and Licensing Appeal Board (ASLAB) decisions (e.g., References 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, which deal with exclusion area determinations in contested cases<sup>25</sup>.~~

### Technical Rationale<sup>26</sup>

The technical rationale for application of the above acceptance criteria to the determination of activities within the exclusion area is discussed in the following paragraphs:<sup>27</sup>

Title 10 CFR Part 100 requires that an applicant determine an exclusion area of such size that an individual located at any point on its boundary for two hours immediately following onset of the postulated fission product release would not receive a total radiation dose to the whole body in excess of 0.25 Sv (25 rem) or a total radiation dose in excess of 3 Sv (300 rem) to the thyroid from iodine exposure. The regulation further requires that the reactor licensee has the authority to determine all activities within the area including exclusion or removal of personnel and property from the area. Transportation routes may traverse the area provided effective arrangements are made to control traffic in case of emergency. Other activities unrelated to the operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result.

This SRP section addresses the adequacy of the applicant's legal authority to determine activities within the exclusion area. 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.

Compliance with part 100 provides assurance that the consequences of an accident will be mitigable to acceptable levels.<sup>28</sup>

### III. REVIEW PROCEDURES

Selection and emphasis of various aspects of the areas covered by this standard review plan section will be made by the reviewer on each case. The judgment on the areas to be given attention during the review is to be based on an inspection of the material presented, the similarity of the material to that recently reviewed on other plants, and whether items of special safety significance are involved.

The reviewer should determine the basis on which the applicant claims authority within the exclusion area. If absolute ownership of all lands, including mineral rights, within the area is demonstrated, the acceptance criteria are satisfied. If any other method is claimed as providing the required authority, a memorandum should be prepared for ~~OELD~~ legal staff<sup>29</sup> containing all of the appropriate information in the SAR, including copies of applicable SAR pages and figures, and requesting a written response as to whether or not the applicant's claimed authority meets the requirements of 10 CFR Part 100, 100.3(a). In any case where there are technical reasons which the reviewer believes make the applicant's proposed method unacceptable, these reasons should be described and discussed in the memorandum. If the exclusion area extends into a body of water such as a lake, reservoir, or river, the area of the body of water encompassed should be reviewed against the guidelines of Part 100 regarding control of access and activities unrelated to operation of the reactor. The extent of the exclusion area over a waterway must be reviewed on a case-by-case basis.

The memorandum should also include information in the PSAR which describes the applicant's plans, procedures, and schedule for obtaining any abandonment or relocation of public roads which may be required. At the operating stage, review will emphasize those areas where the applicant did not possess absolute authority at the construction permit review.

If the designated exclusion area is traversed by a highway, railway, waterway, or other transportation route accessible to the public, the reviewer should determine that the applicant's emergency plan includes adequate provisions for control of traffic on these routes in the event of an emergency. At the construction permit stage, a finding that such provisions are feasible is adequate.

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 Section 15 do not exceed the guidelines of 10 CFR Part 100. 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.<sup>30</sup> The reviewer should request the assistance of the AEBPERB<sup>31</sup> for this review area.

For standard design certification reviews under 10 CFR Part 52, the procedures above should be followed, as modified by the procedures in SRP Section 14.3 (proposed), to verify that the design set forth in the standard safety analysis report, including inspections, tests, analysis, and acceptance criteria (ITAAC), site interface requirements and combined license action items, meet the acceptance criteria given in subsection II. SRP Section 14.3 (proposed) contains procedures for the review of certified design material (CDM) for the standard design, including the site parameters, interface criteria, and ITAAC.<sup>32</sup>

#### IV. EVALUATION FINDINGS

For early site permit, CP, OL, and COL applications,<sup>33</sup> the reviewer verifies that sufficient information has been provided, and that his evaluation is sufficiently complete and adequate to support conclusions of the following type, to be included in the staff's safety evaluation report:

The staff concludes that the applicant's exclusion area is acceptable and meets the requirements of 10 CFR Part 100. 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, 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.

No finding regarding the exclusion area authority and control will be made for a design certification.<sup>34</sup>

For design certification reviews, the findings will also summarize, to the extent that the review is not discussed in other safety evaluation report sections, the staff's evaluation of inspections, tests, analyses, and acceptance criteria (ITAAC), including design acceptance criteria (DAC), site interface requirements, and combined license action items that are relevant to this SRP section.<sup>35</sup>

## V. IMPLEMENTATION

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

This SRP section will be used by the staff when performing safety evaluations of license applications submitted by applicants pursuant to 10 CFR 50 or 10 CFR 52.<sup>36</sup> Except in those cases in which the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the method described herein will be used by the staff in its evaluation of conformance with Commission regulations.

The provisions of this SRP section apply to reviews of applications docketed six months or more after the date of issuance of this SRP section.<sup>37</sup>

## VI. REFERENCES

~~1. 10 CFR Part 100, "Reactor Site Criteria."<sup>38</sup>~~

~~2. NUREG 75/087, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," Section 2.2.3.<sup>39</sup>~~

31<sup>40</sup>. 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).

42<sup>41</sup>. Southern California Edison Company, et. al. (San Onofre Nuclear Generating Station, Units 2 and 3), "Decision," ALAB-248, 8 AEC 951 (December 24, 1974)

53<sup>42</sup>. Southern California Edison Company, et al. (San Onofre Nuclear Generating Station, Units 2 and 3), "Decision," ALAB-268 1-NRC 383 (April 25, 1975).

**SRP Draft Section 2.1.2**  
Attachment A - Proposed Changes in Order of Occurrence

Item numbers in the following table correspond to superscript numbers in the redline/strikeout copy of the draft SRP section.

Item	Source	Description
1.	Current PRB name and abbreviation	Editorial change to reflect current PRB name and abbreviation, (ECGB).
2.	Editing	Provided a more complete reference to the applicable section of the Code of Federal Regulations. The reference to the CFR has been removed from the References section of this SRP.
3.	Editing	Provided a more complete reference to the applicable section of the Code of Federal Regulations.
4.	Editing	Added language to focus more specifically on the objective of the review.
5.	Update organizational unit name.	OELD no longer exists. Replace with "NRC legal staff." Subsequently refer only to "legal staff."
6.	Update organizational unit name.	OELD no longer exists. Replace with "legal staff."
7.	Editing	Added language to focus more specifically on the objective of the review under this SRP.
8.	Editing	Moved this sentence to the section on Review Procedures.
9.	SRP-UDP format item.	This thought is incorporated in the Review Interfaces section.
10.	SRP-UDP format item	"Review Interfaces" heading added to "Areas of Review" subsection and formatted into numbered paragraphs to describe how ECGB reviews aspects of the exclusion area under other SRP sections and how other branches support the review of the exclusion area.
11.	SRP-UDP format item.	Review interfaces excerpted from Subsection III, Review Procedures.
12.	Update organizational unit name.	SAB defunct. Review branch name not necessary here.
13.	SRP-UDP format item	Eliminating obvious reference.
14.	Editing	Removed improperly placed quotation mark.
15.	Editing	Remove a clause from the definition of exclusion area because this aspect of the area is not reviewed under SRP Section 2.1.2.
16.	Editing	Added wording to the definition of exclusion area from 10 CFR 100. This review should extend to residences within the exclusion area.

**SRP Draft Section 2.1.2**  
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
17.	Update organizational unit name.	OELD no longer exists. Replace with "legal staff."
18.	Update organizational unit name.	OELD no longer exists. Replace with "legal staff."
19.	Update organizational unit name.	OELD no longer exists. Replace with "legal staff."
20.	Editing	Inserted title of SRP 2.2.3 to aid the reviewer and to preclude the need for this item to be in the Reference section of this SRP.
21.	SRP-UDP format item	Eliminating obvious reference. It should not be necessary to include in the reference list other sections of this document.
22.	Editing	Added clarifying language.
23.	Editing	Provided more specific citation of regulation.
24.	Editing	Eliminated reference numbers. Will reinsert at later point in text.
25.	Editing	Described the licensing board rulings as providing guidance rather than merely as being pertinent. The existing SRP does not appear to be an exhaustive review of "case law" on the subject of exclusion areas. Therefore noted the references as examples. Added text to state the relevance of the two cited.
26.	SRP-UDP format item, develop "Technical Rationale"	"Technical Rationale" added to "Acceptance Criteria" subsection and formatted into numbered paragraph form to describe the basis for referencing the CFR.
27.	SRP-UDP format item, develop "Technical Rationale"	Added lead-in sentence for "Technical Rationale."
28.	SRP-UDP format item, develop "Technical Rationale"	Added Technical Rationale for GDC 2.
29.	Update organizational unit name.	OELD no longer exists. Replace with "legal staff."
30.	Editing	This sentence was moved here from the Areas of Review section of this SRP. It provides detail on review procedures.
31.	Update organizational unit name.	Function formerly performed by AEB now performed by PERB.
32.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard paragraph to address application of Review Procedures in design certification reviews.
33.	SRP-UDP format item	Added wording to show the findings are applicable to early site permit, CP, OL, and COL reviews.
34.	SRP-UDP format item	Adding description of findings for a design certification review.

**SRP Draft Section 2.1.2**  
Attachment A - Proposed Changes in Order of Occurrence

Item	Source	Description
35.	SRP-UDP Format Item, Implement 10 CFR 52 Related Changes	To address design certification reviews a new paragraph was added to the end of the Evaluation Findings. This paragraph addresses design certification specific items including ITAAC, DAC, site interface requirements, and combined license action items.
36.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard sentence to address application of the SRP section to reviews of applications filed under 10 CFR Part 52, as well as Part 50.
37.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
38.	SRP-UDP format item	Eliminated obvious reference. It is not helpful, nor should it be necessary to reference Title 10 of the CFR.
39.	SRP-UDP format item	Eliminated obvious reference. It also seems peculiar to include as a reference the very document in the readers hands.
40.	SRP-UDP format item	Renumbered references.
41.	SRP-UDP format item	Renumbered references.
42.	SRP-UPD format item	Renumbered references.

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**SRP Draft Section 2.1.2**  
Attachment B - Cross Reference of Integrated Impacts

<b>Integrated Impact No.</b>	<b>Issue</b>	<b>SRP Subsections Affected</b>
	No Integrated Impacts were incorporated in this SRP Section.	