



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

2.1.1 SITE LOCATION AND DESCRIPTION

REVIEW RESPONSIBILITIES

Primary - Siting Analysis Branch (SAB)

Secondary - None

I. AREAS OF REVIEW

Reactor location is reviewed (1) as identified by latitude and longitude and by the UTM\* coordinate system; (2) with respect to political subdivisions; and (3) with respect to prominent natural and man-made features of the area to ascertain the accuracy of the applicant's safety analysis report (SAR) description and for use in independent reviews of the exclusion area authority and control (SRP Section 2.1.2), the surrounding population (SRP Section 2.1.3) and nearby man-made hazards (SRP Section 2.2.3).

The site area which contains the reactors and associated principal plant structures is reviewed to determine the distance from the reactor to boundary lines of the exclusion area, including the direction and distance from the reactor to the nearest exclusion area boundary line. A scaled plot plan of the exclusion area is reviewed which permits distance measurements to the exclusion area boundary in each of the 22-1/2 degree segments centered on the 16 cardinal compass points. The location and orientation of plant structures within the exclusion area are reviewed to identify potential release points and their distances to exclusion area boundary lines. The location, distance, and orientation of plant structures with respect to highways, railways, and waterways which traverse or lie adjacent to the exclusion area are reviewed to assure that they are adequately described to permit analyses (SRP Section 2.2.3) of the possible effects on the plant of accidents on these transportation routes.

II. ACCEPTANCE CRITERIA

The acceptance criteria for site location and description are based on meeting the relevant requirements of 10 CFR Part 50, §50.34 and 10 CFR Part 100, §100.10. The relevant requirements of these regulations are:

\*Universal Transverse Mercator coordinate system as found on USGS topographical maps.

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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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1. 10 CFR Part 100, §100.10 as it relates to site acceptance being based on the consideration of factors relating to the proposed reactor design and the characteristics peculiar to the site.
2. 10 CFR Part 50, §50.34 as it relates to the applicant submitting in its preliminary and final safety analysis reports (PSAR and FSAR) information needed for evaluating factors involving the use characteristics of the site environs.

The information submitted by the applicant is adequate and meets the 10 CFR Part 50, §50.34 requirements if it satisfies the following criteria:

The site location including the exclusion area and the location of the plant within the area are described in sufficient detail to allow a determination (in SRP Sections 2.1.2, 2.1.3, and those in Section 15) that 10 CFR Part 100 is met.

Highways, railways, and waterways which traverse the exclusion area are sufficiently distant from plant structures so that routine use of these routes is not likely to interfere with normal plant operation (Ref. 1).

Information included in this SAR section should allow two types of safety analyses to be conducted. The first addresses the consequences in the unlikely event that a serious release of radioactive material should occur. The second addresses the effect that accidents on, or routine use of, routes on or near the site will have on the operation of the plant.

### III. REVIEW PROCEDURES

Selection and emphasis of various aspects of the areas covered by this SAR 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 information in this section of the SAR forms the basis for evaluations performed in various other sections. The purpose of this review is to establish the validity of the basic data, to check the UTM coordinates to assure that they include the zone number, and that the Northing and Easting are presented to within 100 meters. The latitude and longitude should be checked to assure that they are expressed to the nearest second.

Cross-check the exclusion area distances with distances used in the Accident Analyses, SAR Section 15. Scale the map provided to check distances specified in the SAR and to determine the distance-direction relationships to exclusion area boundaries, roads, railways, waterways, and other significant features of the area. At the operating license stage, the location and orientation of plant structures and effluent release points with respect to the exclusion area and plant property boundaries, transportation routes and political subdivisions will be reviewed to identify any changes since the construction permit (CP) review. Where changes have occurred, new analyses may be required to ensure that the findings reached during the CP review are not affected by these changes.

If, in the reviewer's judgment, maps of larger scale are desirable, they may be obtained from the U.S. Geological Survey (USGS). The USGS map index should be consulted for the specific names of the 7-1/2 minute quadrangles that bracket

the site area. If available, these maps provide topographic information in addition to details of prominent natural and man-made features in the site area. This information may be supplemented by updated information as available, e.g., aerial photographs or information obtained on the site visit. Check the plant layout to determine that the orientation of plant structures with respect to nearby roads, railways, and waterways is clearly shown. Check to see that there are no obvious ways in which transportation routes which traverse the exclusion area can interfere with normal plant operations.

### Site Visit

A visit to the site under review permits a better understanding of the physical characteristics of the site and its relationship to the surrounding area. It permits the reviewer to gather information, independent of that supplied in the Safety Analysis Report, which is useful in confirming SAR data.

Site visits should be made after initial review of the site data in the SAR has been completed and the reviewer has become generally familiar with the site and surrounding areas. Since one of the purposes of the site visit is to discuss the preliminary review findings with the applicant, the reviewer should plan to be in the site area one or two days in advance of the scheduled meeting with the applicant. This will permit gathering information from visits to local offices of Federal, State, and county governments, industries, military facilities, etc. Specific visits to these offices should be made on the basis of the particular site characteristics and is left to the judgment of the individual reviewer. The reviewer should note that some of the local offices may have been contacted by the environmental reviewer. Generally, information sought by the respective reviewers is similar in scope but will differ in emphasis. To avoid duplication of visits to local officials, the reviewer should contact the Project Manager and, where feasible, arrange for a joint visit to those local offices in which there is a common interest. Sources investigated should include such State and local agencies as those concerned with population and land use and land use controls (zoning boards). County engineers are sources of information on public roads and traffic volumes. Local Councils of Government may have information on population growth, proposed new industries or transportation routes. Information sought should encompass, whenever possible, data in support of the review procedures for SRP Sections 2.1.3, 2.2.1, 2.2.2, and 2.2.3.

If information gathered indicates the need for clarification of data contained in the SAR, this should be discussed with the applicant in the subsequent meeting on preliminary review findings.

### IV. EVALUATION FINDINGS

The reviewer verifies that the information submitted by the applicant is in accordance with 10 CFR Part 50, §50.34 requirements so that compliance with 10 CFR Part 100, §100.10 can be evaluated.

Summary descriptions of the site location, the site itself, and transportation routes on or near the site will be prepared for the staff safety evaluation report. Any deficiencies of site parameters with respect to the proposed plant will be noted.

## V. IMPLEMENTATION

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

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.

## VI. REFERENCES

1. 10 CFR Part 100, "Reactor Site Criteria."
2. 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," Section 50.34.
3. Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants."