U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

13.1.2 – 13.1.3 OPERATING ORGANIZATION

REVIEW RESPONSIBILITIES

Primary – ~~Performance and Quality Evaluation Branch (PQEB)~~Human Factors Assessment Branch (HHFB)[1]

Secondary – None

I. AREAS OF REVIEW

The applicant's operating organization, as described in its safety analysis report (SAR), is reviewed. This section of the ~~SAR (PSAR and FSAR)~~SAR[2] should describe the structure, functions, and responsibilities of the onsite organization established to operate and maintain the plant. Specific information to be reviewed is as follows:

A. An organization chart showing the title of each position, the minimum number of persons to be assigned to common or duplicated positions, the number of operating shift crews, and the positions for which reactor operator and senior reactor operator licenses are required. For multi-unit stations, the organization chart (or additional charts) should clearly reflect changes and additions as new units are added to the station.

B. The schedule, relative to fuel loading for each unit, for filling all positions should be presented.

C. The functions, responsibilities, and authorities of plant positions corresponding to the following should be described:

1. Overall plant management
2. Operations supervision
3. Operating shift crew supervision
4. Shift technical advisors
5. Licensed operators
6. Non-licensed operators
7. Technical supervision
8. Radiation protection supervision
9. Instrumentation and controls maintenance supervision
10. Equipment maintenance supervision
11. Fire protection supervision
12. Quality assurance supervisor (when part of the plant staff)

For each position, where applicable, required interfaces with offsite personnel or positions identified in SAR Section 13.1.1 should be described. Such interfaces include defined lines of reporting responsibilities, e.g., from the plant manager to ~~his~~ the[3] immediate superior, as well as functional or communication channels. In the ~~Final Safety Analysis Report (F~~SAR~~)~~,[4] the following should also be described: (1) the line of succession of authority and responsibility for overall station operation in the event of unexpected contingencies of a temporary nature, and (2) the delegation of authority that may be granted to operating supervisors and to shift supervisors, including the authority to issue standing or special orders.

The ~~F~~SAR[5] should describe the extent and nature of the participation of the plant operating and technical staff in the initial test program.

If the station contains or is planned to contain power generating facilities other than those relating to the application in question and including fossil-fueled units, this section should also describe interfaces with the organizations operating such other facilities. The description should include any proposed sharing of persons between the units, a description of their duties, and the proportion of their time they will routinely be assigned to ~~the other~~non-nuclear units[6].

D. The position titles, applicable operator licensing requirements for each, and the total number of people planned to man each shift should be described for all combinations of units proposed to be at the station in either operating or cold shutdown modes. Shift crew staffing plans unique to refueling operations should be described. The proposed means of assigning shift responsibility for implementing the radiation protection and fire protection programs on a round-the-clock basis should also be described.

E. The education, training, and experience requirements (qualification requirements) established by the applicant for filling each management, operating, technical, and maintenance position category in the operating organization above should be described. This includes those persons who will conduct preoperational and startup tests. ~~At the~~

~~PSAR stage~~During the early stages of construction or plant design[7], it is recognized that many details of the plant organization (see A, above) and staffing have not been finalized. Consequently, the information to be reviewed should demonstrate an understanding of and commitment to the acceptance criteria below. ~~At the FSAR stage~~During the later stages of construction, plant design, and licensing, this section of the SAR[8] should in addition provide evidence, in the form of personnel resumes, that the initial selections made for management and principal supervisory positions down through the shift supervisory level conform to those requirements.

Review Interfaces[9]

The HHFB performs the following related reviews under the SRP sections indicated:

1. Reviews several matters related to the capabilities of the applicant's organizations and personnel to discharge assigned responsibilities and perform effectively (e.g., corporate organization, training, use of simulators, procedure adequacy, organizational provisions for independent reviews, use of human factors engineering principles, etc.) under SRP Sections 13.1.1, 13.2.1, 13.2.2, 13.4, 13.5.2, and 18.0 (proposed) through 18.2.

2. Reviews the adequacy of the human factors engineering organization and its integration into the applicant's design, construction, and operations activities as part of it primary review responsibility for SRP Section 18.0 (proposed).[10]

In addition to examining the above areas of review, ~~PQEB~~ HHFB[11] will coordinate other branch evaluations that interface with the overall review of the applicant's operating organization as follows:

1. The Emergency Preparedness and Radiation Protection Branch ~~(PRPB)~~ (PERB) reviews the detailed radiological protection organization as part of its primary review responsibility for SRP Section 12.5. The ~~Emergency Preparedness Branch (PEPB)~~ PERB also reviews the emergency organization as part of its primary review responsibility for SRP Section 13.3.

2. The Safeguards Branch (PSGB) reviews the acceptability of the applicant's plans and provisions for security, including the security organization, as part of its primary review responsibility for SRP Section 13.6.[12]

3. The ~~PQEB also~~Quality Assurance and Maintenance Branch (HQMB) reviews the ~~detailed~~ quality assurance organization as part of its primary review responsibility for SRP ~~Section 17.0~~ Chapter 17.[13]

For those areas of review identified above as being ~~reviewed as~~ part of the ~~primary~~ review ~~responsibility of other branches~~under other SRP sections, the acceptance criteria necessary for the review and their methods of application are contained in the referenced SRP sections ~~of the corresponding primary branch~~.[14]

II. ACCEPTANCE CRITERIA

This section of the SAR should demonstrate the applicant's commitment to ~~(PSAR)~~ and implementation of ~~(FSAR)~~[15] plans to staff the onsite operating organization and to define and delegate responsibilities to provide assurance that the plant can be operated safely.

The staff acceptance criteria are designed to produce reasonable assurance of applicant compliance with the relevant requirements of the following regulations:

1. 10 CFR ~~Part 50,~~ 50.40(b)[16] as it relates to demonstrating in conjunction with other reviews that the applicant is technically qualified to engage in nuclear activities licensed under these regulations.[17]

2. 10 CFR ~~Part 50,~~ 50.54(j), (k), (l), and (m)[18] as ~~it relates~~they relate[19] to operator requirements during the operation of the facility, the responsibility for directing activities of licensed operators, and the senior operator availability during reactor operations and other specific reactor conditions or modes[20] of operation.

Specific criteria necessary to meet the relevant requirements of the regulations are as follows:

A. The requirements of ANSI N18.7/ANS-3.2,[21] Section 3.4, "Operating Organization," as endorsed by Regulatory Guide 1.33, should be met. In addition, the following characteristics should be satisfied:

   1. The reporting responsibility and authority of the functional areas of radiation protection, quality assurance, and training should ~~assure~~ ensure[22] independence from operating pressures. In utilities with large commitments to nuclear power plants, overall management and technical direction in these areas may be concentrated at the home office.

   2. There are clear lines of authority to the Plant Manager.

   3. Responsibility for all activities important to the safe operation of the facility are clearly defined.

   4. Distinct functional areas are separately supervised and/or managed.

   5. Sufficient managerial depth is available to provide qualified backup in the event of the absence of the incumbent.

B. Responsibilities and authorities of operating organization personnel should conform to the requirements of ANSI N18.7/ANS-3.2[23], Section 5.2, "Rules of Practice"; Section 4.4, "Onsite Review," as endorsed by Regulatory Guide 1.33; Branch Technical Position ~~CMEB~~SPLB[24] 9.5-1 (Reference 6)[25]; and[26] ANSI N18.1, Section 3.2, "Operating Organization,"[27] as endorsed by Regulatory Guide 1.8. In addition, to meet TMI Action Plan item I.C.3 of NUREG-0694 (Reference 7)[28], the responsibilities of the shift supervisor shall clearly establish the command duties of the shift supervisor and emphasize the primary management responsibility for the safe operation of the plant.

C. Assignments of onsite shift operating crews should be made in accordance with 10 CFR 50.54(k), (l), and (m)[29] and the staff positions of TMI Action Plan items I.A.1.1 and[30] I.A.1.3 of NUREG-0737 (Reference 9)[31]. Adjunct requirements to these shift staffing criteria are as follows:

1. A shift supervisor with a senior reactor operator's license, who is also a member of the station supervisory staff, shall be onsite at all times when at least one unit is loaded with fuel.

2. In addition to the licensed personnel specified in 10 CFR 50.54(m), as a minimum,[32] an auxiliary operator (non-licensed) shall be assigned to each reactor and an additional auxiliary operator shall be assigned for each control room from which a reactor is operating. These operators shall be properly qualified to support the unit to which assigned. Note: The above requirements are shown in tabular form in Table 1.

3. To meet TMI Action Plan item I.A.1.1 of NUREG-0737, engineering expertise shall be onsite at all times a licensed nuclear unit is being operated in Modes 1-4 for a PWR or in Modes 1-3 for a BWR. This engineering expertise ~~shall meet~~should be consistent with the options presented in[33] the Commission Policy Statement on Engineering Expertise on Shift (References 10 and 11).[34]

4. A health physics technician shall be onsite at all times when there is fuel in a reactor.

5. A rad/chem technician shall be onsite at all times when a licensed nuclear unit is being operated in Modes 1-4 for a PWR or in Modes 1-3 for a BWR.

6. Assignment, stationing, and relief[35] of operators and senior operators within the control room shall be as[36] described in Regulatory Guide 1.114.

D. Total complements of licensed personnel and unlicensed personnel, C. above, should be provided such that the use of overtime is avoided (note Section 13.5.1 on work hour limitations). To meet this policy, staffing plans should provide for no less than the number required for five shift rotations.

E. The plant operating and technical staff should be used to the maximum extent possible in the facility initial test program.

F. Assignments of persons to implement the fire brigade requirements of the fire protection program should meet the guideline of SRP Section 9.5.1, including the following:

1. The responsibilities of the fire brigade members under normal conditions should not conflict with their responsibilities during a fire emergency.

2. The minimum number of fire brigade members available onsite for each shift operation crew should be consistent with the activities required to combat the

most significant fire. The minimum size of the fire brigade shift should be five persons unless a specific site evaluation has been completed and some other number justified.

G. Regulatory Guide 1.8, "~~Personnel Selection and Training~~Qualification and Training of Personnel for Nuclear Power Plants[37]," sets forth the staff position on plant personnel qualifications and indicates that the~~ criteria for selection (qualifications)~~requirements contained in ANS-3.1 are acceptable as supplemented by regulatory position 1 for the shift supervisor, senior operator, licensed operator, shift technical advisor, and radiation protection manager organizational positions and that for other organizational positions listed in ANSI N18.1, the requirements contained in ANSI N18.1 are generally acceptable~~, except as noted in the regulatory position section of Regulatory Guide 1.8~~[38]. Plant staff personnel listed in items A. through D. above should meet this staff position.

In addition, although the qualification levels of the standards[39] are endorsed as acceptable minimums for each position, it is expected that the collective qualifications of the plant staff will be greater than the sum of the minimum individual requirements described in the standard, particularly in the area of nuclear power plant experience and in supervisory and management positions involved in the operational aspects of the facility. In those cases where the collective qualifications do not exceed the sum of the minimums for individual positions, additional technical support for the plant staff may be required. These will be determined on a case-by-case basis.

TABLE 1

SHIFT STAFFING**

	One Unit One Control Room	Two Units One Control Room	Two Units Two Control Rooms
One Unit Operating*	1 SS (SRO) 1 SRO 2 RO 2 AO	1 SS (SRO) 1 SRO 3 RO 3 AO	1 SS (SRO) 1 SRO 3 RO 3 AO
Two Units Operating*	NA	1 SS (SRO) 1 SRO 3 RO 3 AO	1 SS (SRO) 2 SRO 4 RO 4 AO
All Units Shutdown	1 SS (SRO) 1 RO 1 AO	1 SS (SRO) 2 RO 3 AO	1 SS (SRO) 2 RO 3 AO

SS - Shift Supervisor
SRO - Licensed Senior Reactor Operator
RO - Licensed Reactor Operator
AO - Auxiliary Operator

NOTE: 1. In order to operate or supervise the operation of more than one unit, an operator (SRO or RO) must hold an appropriate, current license for each such unit.

2. In addition to the staffing requirements indicated in the table, a licensed senior operator will be required to directly supervise any core alteration activity.

*Modes 1 through 4 for PWRs.
Modes 1 through 3 for BWRs.

**Shift staffing of unlicensed personnel for special cases such as 3 units, operating from 1 or 2 control rooms, etc. will be determined on a case-by-case basis, based on the principles defined in item II.C. of this SRP section. Shift staffing of licensed personnel for special cases including temporary deviations and staffing for 3 units must meet the requirements of 10 CFR 50.54(m), however.[40]

Technical Rationale[41]

The technical rationale for application of these acceptance criteria to reviewing the operating organization is discussed in the following paragraphs:[42]

1. Compliance with the relevant requirements of 10 CFR 50.40(b) requires that the applicant be technically qualified to engage in the proposed activities in accordance with the regulations in Chapter 50.

A review of the operating organization established by the applicant to oversee operation of a nuclear power plant provides valuable insight into corporate management's understanding of its safety role in the operation and maintenance of the facility. This information contributes to the determination that an applicant is technically qualified to engage in the proposed nuclear activities by ensuring that appropriate considerations were used in the establishment of general qualification requirements and staffing levels for all key positions on which the safety of the facility will depend.

Meeting the requirements of 10 CFR 50.40(b) provides assurance that the applicant is technically qualified to engage in the proposed activities and has established the necessary management and technical support organization to safely operate the proposed facility.[43]

2. Compliance with 10 CFR 50.54(j), (k), (l), and (m) requires the applicant to demonstrate that its operating organization satisfies minimum requirements for operator supervision and the availability of licensed senior operators and licensed operators during reactor operations and other specific reactor conditions or mode of operation.

These are key positions for ensuring the safe operation of the plant. A staffing review of the operating organization provides valuable insight regarding the determination that an applicant is technically qualified to operate the facility.[44]

III. REVIEW PROCEDURES

Each element of the SAR information is to be reviewed against this SRP section. The reviewer's judgement during the review is to be based on an inspection of the material presented, whether items of special safety significance are involved, and the uniqueness of the facility. Any exceptions or alternatives are to be carefully reviewed to ~~assure~~ ensure that they are clearly defined and that adequate basis exists for acceptance.

The applicant should identify the applicable version of references, Regulatory Guides, and Codes and s~~S~~tandards[45] used. The reviewer should identify the applicable version of references, regulatory guides, and Codes and standards used in the review.

In the review and evaluation of the subject matter of this section of the SAR, the following points should be taken into consideration.

Plant staff organizational structures are not rigidly fixed; however, experience has shown that certain components are common to and necessary for all plants. Among these are operational, onsite technical support, and maintenance groups, under the direction and supervision of a plant manager. For multi-unit sites, consideration must be given to the possibility that offshift supervision may be stretched too thin to provide effective supervision. For example, a single operations manager may have difficulty covering more than two units. For onshift persons, the total manpower available should be reviewed to ~~assure~~ ensure that in excess of five full operating shift crews are planned so that excessive overtime is not routinely scheduled for these crews. Additional staffing guidance may be found in NUREG-0711 (Reference 8), Chapter 6, "Element 5 - Staffing.[46] For multi-unit sites, overall site responsibilities should be checked for clarity during those periods of time when senior level supervision is not onsite.

The operating organization, as demonstrated by organization charts and descriptions of functions and responsibilities, should be free of ambiguous assignments of primary responsibility. Operating responsibilities should be reasonably well defined in both numbers and experience of persons required to implement their responsibilities. The reviewer must recognize that there are many acceptable ways to define and delegate job responsibilities. Variations in staffing may also be expected between applicants ~~who lack~~ with and without prior experience ~~with~~ in nuclear plant operation ~~and those who have such experience~~.[47] It is important that the reviewer ~~assure himself~~verify that applicants ~~in the former category~~lacking in experience[48] do not underestimate the magnitude of the task and that all applicants adequately consider the potential effects of human error. Guidance on human error considerations may be found in NUREG-0711, Chapter 7, "Element 6 – Human Reliability Analysis."[49] The reviewer should be alert to the possibility that excessive workloads may be placed upon too small a number of individuals.

The structure of onsite technical support and maintenance groups may depend somewhat on headquarters staffing and the division of effort between onsite and offsite personnel.

~~At the construction permit (CP) stage~~During the early stages of construction or plant design[50], the applicant will generally not have made selections for plant staff positions. The review procedure, therefore, is to examine this section of the SAR for a commitment on the part of the applicant to conform to the stated acceptance criteria.

Where a clear comparison cannot be made between the proposed plant staff positions and those defined in ~~Section 4 of ANSI N18.1~~the standards endorsed in Regulatory Guide 1.8[51], the applicant should list each position on its plant staff and designate the corresponding position of ~~Section 4 of ANSI N18.1~~these standards[52], or describe in detail the proposed qualification requirements for each position on its plant staff.

During the later stages of construction, plant design, and licensing, t~~T~~he review ~~of the FSAR, at the operating license (OL) stage,~~[53] consists first of the same examination as made ~~at the CP stage~~for the early stages of construction or plant design[54], and secondly, of an analysis of each resume. The reviewer should make an explicit comparison of the educational and experience records obtained from each resume with the corresponding endorsed consensus standards requirements and regulatory positions set forth for the applicable position in ~~Section 4 of ANSI N18.1~~Regulatory Guide 1.8[55] or other approved qualifications. "Applicable experience" should be judged in the light of the position responsibility. Credit for experience, which may not be entirely applicable, should be weighed to a degree commensurate with its applicability.

In addition, if the applicant, as of the time the review takes place, has had experience in the operation of previously licensed nuclear power plants, the reviewer may seek independent information relative to plant staffing and qualifications through the appropriate Regional Office, e.g., by discussion with inspection personnel or review of inspection reports.

The reviewer then determines, based upon the foregoing, the overall acceptability of the applicant's operating organizations and plant staffing plans.

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.[56]

IV. EVALUATION FINDINGS

The reviewer verifies that the information presented and its review support conclusions of the following type to be used in the staff's safety evaluation report:

The staff concludes that the applicants operating organization is acceptable and meets the relevant requirements of 10 CFR ~~Part 50, §~~50.40(b) and ~~§~~10 CFR 50.54(j) through (m)[57]. This conclusion is based on the following:

> The applicant has described the assignment of plant operating responsibilities; the reporting chain up through the chief executive office of the ~~company (~~applicant~~)~~[58]; the proposed size of the regular plant staff; the functions and responsibilities of each major plant staff group; and the proposed shift crew complement for single unit or multiple unit operation; the qualification requirements for members of its plant staff; and (~~FSAR~~

~~submitted~~ personnel resumes for management and principal supervisory and technical positions as submitted during the later stages of construction, plant design, and licensing[59]). This information has been reviewed, and it is the conclusion of the staff that the proposed organization is acceptable.

~~Acceptability of the applicants operating organization is a significant input to the requirement that the applicant is technically qualified as required by 10 CFR Part 50, 50.40(b); that adequate licensed operators are available to meet the requirements of Section 50.54(j) through (m); the adequacy of the onshift personnel to provide initial facility response in the event of an emergency; organizational requirements for the plant manager and radiation protection manager; qualification requirements and qualifications (FSAR) of plant personnel as stated in Regulatory Guide 1.8, and organizational requirements as stated in Regulatory Guide 1.33.~~

The applicant's operating organization is characterized as follows:

1. The applicant is technically qualified as specified in 10 CFR 50.40(b);

2. An adequate number of licensed operators will be available at all required times to satisfy the minimum staffing requirements of §§50.54(j) through (m);

3. Onshift personnel are able to provide initial facility response in the event of an emergency;

4. Organizational requirements for the plant manager and radiation protection manager have been satisfied;

5. Qualification requirements and qualifications of plant personnel conform with the guidance of Regulatory Guide 1.8; and

6. Organizational requirements conform with the guidance of Regulatory Guide 1.33.[60]

In addition, the applicant has complied with the requirements of TMI Action Plan items I.A.1.1 and I.A.1.3.

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.[61]

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.[62] 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.[63]

Implementation schedules for conformance to parts of the method discussed herein are contained in the referenced guides and NUREGs.

VI. REFERENCES

1. 10 CFR Part 50, §50.40, "Common Standards."

2. 10 CFR Part 50, §50.54, "Conditions of Licenses."

3. Regulatory Guide 1.8, "~~Personnel Selection and Training~~Qualification and Training of Personnel for Nuclear Power Plants[64]." (endorses ANSI/ANS-3.1-1981 "Selection, Qualification and Training of Personnel for Nuclear Power Plants," as supplemented by regulatory position 1 for certain organizational positions and ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel" for other organizational positions)[65]

4. Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)." (endorses ANSI N18.7-1976/ANS-3.2, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants," as supplemented by its regulatory positions)[66]

5. Regulatory Guide 1.114, "Guidance to Operators at the Controls and to Senior Operators in the Control Room of a Nuclear Power Unit."

6. Branch Technical Position ~~CMEB~~SPLB[67] 9.5-1, "~~Fire Protection Program~~Guidelines for Fire Protection for Nuclear Power Plants[68]," attached to Standard Review Plan Section 9.5.1.

7. NUREG-0694, "TMI-Related Requirements for Operating Licenses."

8. NUREG-0711, Human Factors Engineering Program Review Model, 1994.[69]

~~8~~9. NUREG-0737, "Clarification of TMI Action Plan Requirements."

10. The Commission Policy Statement on Engineering Expertise on Shift (50 FR 43621).

11. Generic Letter 86-04, "Policy Statement on Engineering Expertise on Shift."[70]

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SRP Draft Section 13.1.2
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 abbreviation	Changed "Performance and Quality Evaluation Branch (PQEB)" to "Human Factors Assessment Branch (HHFB)."
2.	Editorial	Used previously defined acronym "SAR."
3.	Editorial	Replaced "his" with "the" to eliminate gender-specific reference.
4.	Editorial	Used SAR as previously defined.
5.	Editorial	Used SAR as previously defined.
6.	Editorial	Revised for clarity.
7.	Editorial, Incorporate PRB Comments	Revised to eliminate discussion of specific types of SARs. This change incorporates the intent of PRB comments (see the January 19 Memorandum to R.W. Borchardt from C.O. Thomas transmitting comments on a previous draft revision).
8.	Editorial, Incorporate PRB Comments	Revised to eliminate discussion of specific types of SARs. This change incorporates the intent of PRB comments (see the January 19 Memorandum to R.W. Borchardt from C.O. Thomas transmitting comments on a previous draft revision).
9.	SRP-UDP format item	"Review Interfaces" added to AREAS OF REVIEW and presented in numbered paragraph form to describe how HHFB coordinates the operating organization review with other NRR branches.
10.	Integrated Impact 1358, Editorial	Added descriptions of other HHFB reviews that are related to reviews performed under this SRP section.
11.	SRP-UDP format item	Replaced PQEB with the current primary review branch, HHFB.
12.	Editorial	Added a review interface reflecting review of the security forces.
13.	SRP-UDP format item	Replaced PQEB with HQMB regarding the current responsibility for review of Chapter 17. "Section 17.0" changed to "Chapter 17."
14.	SRP-UDP format item	Revised to reflect interfaces in terms of other SRP sections rather than in terms of other branches since typically interfaces to other reviews by the PRB are also described in this subsection.

Item	Source	Description
15.	Editorial, Incorporate PRB Comments	Revised to eliminate discussion of specific types of SARs. This change incorporates the intent of PRB comments (see the January 19 Memorandum to R.W. Borchardt from C.O. Thomas transmitting comments on a previous draft revision).
16.	Editorial	Added parentheses to designate paragraphs as they are designated in the CFR.
17.	Editorial modification	Provided correct format for citing reference to Title 10 of the Code of Federal Regulation (global change for this section).
18.	Editorial	Added parentheses to designate paragraphs as they are designated in the CFR.
19.	Editorial	Revised to improve grammar.
20.	Editorial	Revised to improve grammar.
21.	Integrated Impact No. 679, Reference verification	ANSI N18.7 should be updated to ANSI/ANS 3.2-1988. However, according to the Inspection Program Branch, this action has been placed on hold awaiting industry developments. The revision of Regulatory Guide 1.33 currently in effect (Rev. 2) identifies the N18.7-1976 standard by both its ANSI and ANS designations, thus the citation is revised to include the ANS designation for consistency with its listing in subsection VI.
22.	Editorial	Changed "assure" to "ensure" (global change for this section).
23.	Integrated Impact No. 679, Reference verification	ANSI N18.7 should be updated to ANSI/ANS 3.2-1988. However, according to the Inspection Program Branch, this action has been placed on hold awaiting industry developments. The revision of Regulatory Guide 1.33 currently in effect (Rev. 2) identifies the N18.7-1976 standard by both its ANSI and ANS designations, thus the citation is revised to include the ANS designation for consistency with its listing in subsection VI.
24.	Reference verification	Revised to reflect current designation for this BTP.
25.	SRP-UDP format item	Added identification of this document by its reference number at the point of its first citation.
26.	Editorial	Added appropriate conjunction.
27.	Integrated Impact No. 612	ANSI N18.1 should be updated to ANSI/ANS 3.1-1987, provided a proposed detailed comparison indicates the current standard is acceptable to NRR.
28.	SRP-UDP format item	Added identification of this document by its reference number at the point of its first citation.

Item	Source	Description
29.	Editorial, Incorporate PRB Comments	Added citation of paragraphs (k) and (l) as relevant to the criteria discussed. This change incorporates the intent of PRB comments (see the January 19 Memorandum to R.W. Borchardt from C.O. Thomas transmitting comments on a previous draft revision).
30.	Integrated Impact No. 986	Added TMI action item No. I.A.1.1 to the acceptance criteria.
31.	SRP-UDP format item	Added identification of this document by its reference number at the point of its first citation.
32.	Editorial	Added clarification that this is a minimum requirement, thus clarifying that more auxiliary operators than specified would be acceptable.
33.	Reference verification	Since the policy provides options, and includes permission to use either option on each shift, the words "shall meet" were deemed inappropriate and revised accordingly.
34.	Integrated Impact No. 986	Added parenthetical references to ACCEPTANCE CRITERION, specific criterion II.C.3.
35.	Reference verification, Editorial	Revised to reflect that the current revision of RG 1.114 (Rev. 2) provides guidance for relief of operators and guidance related to where the required personnel should remain to meet regulatory requirements regarding "at the controls."
36.	Editorial	Added an obvious missing word.
37.	SRP-UDP Reference verification	Revised to reflect current title of the RG.
38.	Reference verification	Revised to characterize the positions of RG 1.8, Rev. 2 which differ from the criteria as previously stated in this SRP section.
39.	Editorial	Revised to reflect that portions of two standards are now endorsed in RG 1.8, Rev. 2.
40.	Editorial, Reference verification	Added clarification that 10 CFR 50.54(m) currently provides explicit minimum requirements for licensed personnel for 3 units and requirements regarding temporary deviations.
41.	SRP-UDP format item	"Technical Rationale" added to ACCEPTANCE CRITERIA and organized in paragraph form.
42.	SRP-UDP format item	Added lead-in sentence for "Technical Rationale."
43.	SRP-UDP format item	Added technical rationale for 10 CFR 50.40(b).
44.	SRP-UDP format item	Added technical rationale for 10 CFR 50.54j, k, l, and m.

Item	Source	Description
45.	Editorial	Revised to eliminate inconsistent capitalization.
46.	Integrated Impact No. 1359	Added reference to NUREG-0711 in REVIEW PROCEDURES.
47.	Editorial	Revised sentence to improve clarity.
48.	Editorial	Revised sentence to improve clarity.
49.	Integrated Impact No. 1359	Added reference to the potential for human error and to NUREG-0711, Chapter 7, "Element 6, Human Reliability Analysis."
50.	Editorial, Incorporate PRB Comments	Revised to eliminate discussion of specific types of SARs. This change incorporates the intent of PRB comments (see the January 19 Memorandum to R.W. Borchardt from C.O. Thomas transmitting comments on a previous draft revision).
51.	Reference verification	Revised to reflect that Rev. 2 of RG 1.8 endorses more that one standard defining more organizational positions (e.g., the STA position is defined in ANS-3.1) than were defined in Section 4 of ANSI N18.1-1971.
52.	Reference verification	Revised to reflect that Rev. 2 of RG 1.8 endorses more that one standard defining more organizational positions (e.g., the STA position is defined in ANS-3.1) than were defined in Section 4 of ANSI N18.1-1971.
53.	Editorial, Incorporate PRB Comments	Revised to eliminate discussion of specific types of SARs. This change incorporates the intent of PRB comments (see the January 19 Memorandum to R.W. Borchardt from C.O. Thomas transmitting comments on a previous draft revision).
54.	Editorial, Incorporate PRB Comments	Revised to eliminate discussion of specific types of SARs. This change incorporates the intent of PRB comments (see the January 19 Memorandum to R.W. Borchardt from C.O. Thomas transmitting comments on a previous draft revision).
55.	Reference verification	Revised to reflect that Rev. 2 of RG 1.8 endorses more that one standard defining more organizational positions (e.g., the STA position is defined in ANS-3.1) than were defined in Section 4 of ANSI N18.1-1971.
56.	SRP-UDP Guidance, Implementation of 10 CFR 52	Added standard paragraph to address application of Review Procedures in design certification reviews.
57.	Editorial	Added parentheses to designate paragraphs as they are designated in the CFR.
58.	Editorial	Revised to eliminate unnecessary specificity to address cases where the applicant is not a company (e.g., a government agency).

Item	Source	Description
59.	Editorial, Incorporate PRB Comments	Revised to eliminate discussion of specific types of SARs. This change incorporates the intent of PRB comments (see the January 19 Memorandum to R.W. Borchardt from C.O. Thomas transmitting comments on a previous draft revision).
60.	Editorial	Reworded and reorganized one sentence paragraph to improve clarity.
61.	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 relevant to this SRP section.
62.	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.
63.	SRP-UDP Guidance	Added standard paragraph to indicate applicability of this section to reviews of future applications.
64.	SRP-UDP Reference verification	Revised to reflect current title of the RG.
65.	**Integrated Impact 1510**	Added reference to a standard cited in the text.
66.	**Integrated Impact 1511**	Added reference to a standard cited in the text.
67.	Reference verification	Revised to reflect current designation for this BTP.
68.	Reference Verification	Provided current title for this BTP.
69.	Integrated Impact No. 1005	Added reference to NUREG-0711 as an update of the SRP section.
70.	Integrated Impact No. 986	Added two references related to TMI Action Plan item I.A.1.1.

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SRP Draft Section 13.1.2
Attachment B - Cross Reference of Integrated Impacts

Integrated Impact No.	Issue	SRP Subsections Affected
678	Standard ANSI N18.1 is cited, in conjunction with Regulatory Guide 1.8, as specific criteria for the qualifications of the applicant's corporate "Engineer in Charge." ANSI N18.1 has been replaced by ANSI/ANS 3.1-1993. Consider adopting the current industry standard ANSI/ANS 3.1-1993 as specific criteria for the qualifications of the applicant's corporate "Engineer in Charge."	No changes will be made in SRP Section 13.1.2-3 at the present time.
679	Standard ANSI N18.7 is cited, as endorsed by Regulatory Guide 1.33. ANSI N18.7 has been replaced by ANSI/ANS 3.2-1988. Consider adopting the current industry standard ANSI/ANS 3.2-1988. Inspection Program Branch advises that no comparison of the standards is needed, and that this action has been placed on hold awaiting industry developments.	No changes will be made in SRP Section 13.1.2-3 at the present time.
986	Editorial changes related to TMI Action Plan item I.A.1.1 of NUREG-0737.	Section II, ACCEPTANCE CRITERIA, specific criterion C Section VI, REFERENCES, New references 10 and 11
1294	Revise the Acceptance Criteria, Review Procedures, and Evaluation Findings as necessary to incorporate the guidance of the proposed draft Regulatory Guide RS 902-4 (second proposed revision 3 to RG 1.33).	No changes.
1359	NUREG-0711, "Human Factors Engineering Program Review Model (HFE PRM)," was published in July 1994. The HFE PRM contains guidance on reviewing human factors engineering program elements. This guidance document seeks to ensure (1) that applicants integrate HFE into plant development, design, and evaluation, and (2) that the HFE programs reflect state–of–the–art human factors principles. Two of the elements in this document address staffing and human reliability analysis, each of which is an important consideration in the review of operating organizations.	Subsection III, REVIEW PROCEDURES, 3rd and 4th paragraphs Subsection VI, REFERENCES, Reference 8
1442	Duplicate of Integrated Impact 1359	Not processed.
1510	Consider updating the citation of ANSI N18.1 to cite the 1971 version.	Subsection VI, REFERENCES, Reference 3
1511	Consider updating the citation of ANSI N18.7 to cite the 1976 version and include the ANS-3.2 designation.	Subsection VI, REFERENCES, Reference 4