

**ANS Issues Clarifications on N18.1-1971 (withdrawn), *Selection and Training of Nuclear Power Plant Personnel*, and ANSI/ANS 3.1-2014 (R2020), *Selection, Qualification, and Training of Personnel for Nuclear Power Plants*.**

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**Inquiry #1 (N18.1-1971):** Professional – Technical personnel are defined in Sec. 3.2.3. The definition implies someone that supervises the program. The requirements of Sec. 4.4.1 seem to apply to the manager that the reactor engineers report to. If their manager is unavailable, they would apply to the individual serving in their absence. Do the requirements of N18.1-1971, Sec. 4.4.1, apply to the reactor engineer performing reactor engineering work, their manager, or both?

**Response #1:** The following excerpts are referred to in your inquiry:

Sec. 3.2.3, “Professional - Technical,” states:

*Professional - technical personnel are responsible for supervising and in certain cases, performing technical services in support of plant operations. Examples are those responsible for reactor engineering, instrumentation and control, radiation protection, or chemistry.*

Sec. 4.4.1, “Reactor Engineering and Physics,” states:

*At the time of initial core loading or appointment to the active position, the responsible person shall have a minimum of Bachelor’s Degree in Engineering or the Physical Sciences and two years experience in such areas as reactor physics, core measurements, core heat transfer, and core physics testing programs.*

The scope of N18.1 includes, “This standard is predicated on levels of responsibility rather than on a particular organizational concept,” as stated in Sec. 1. Referring back to Sec. 3.2.3: “Professional - technical personnel are responsible for supervising, and in certain cases, performing technical services in support of plant operations.” The required professional-technical groups are listed in Sec. 4.4. The individual responsible for Reactor Engineering and Physics shall be qualified according to Sec. 4.4.1.

Persons at the supervisory level for professional - technical responsibilities (stated in Sec. 3.2.3) might not have the level of knowledge and experience as expected from the person responsible for reactor engineering and physics activities stated in Sec. 4.4.1. Should the supervisor plan to carry out the functions of reactor engineers in the absence of the reactor engineer at the same level of activity, the supervisor or manager shall meet the qualification requirements of Sec. 4.4.1. Sec. 3.1, “General,” however, mentions about “temporary basis.” In such situations, the supervisor or manager is not expected to conduct the level of work as stated in Sec. 4.4.1.

Sec. 3.1, “General,” states:

*Personnel temporarily filling these positions due to short-term absence of the principal may not meet the literal requirements of this standard. Use of personnel to fill a position for which they are not completely qualified is permissible on a temporary basis...*

**Inquiry #2 (ANSI/ANS-3.1-2014; R2020):** In Sec. 4.3.8, there are special requirements for the reactor engineering group leader. In Sec. 4.4.8, there are special requirements for the

supervisor or group leader. Could you please explain the difference between group leader and supervisor and why the special requirements for middle manager and supervisor differ?" I would recommend adding the definition of group leader to subsequent revisions.

**Response #2:** The following excerpts are referred to in your inquiry:

Sec. 4.3.8, "Engineering," states:

*The engineering middle manager is the individual responsible for implementation of the engineering group activities, and shall meet the following requirements.*

*Education: Baccalaureate in engineering or related science*

*Minimum experience for the position:*

<i>Related experience which shall include:</i>	<i>4 yr,</i>
<i>Nuclear power plant experience</i>	<i>1 yr;</i>
<i>Supervisory or management experience</i>	<i>1 yr.</i>

*Special requirements:*

*(1) The reactor engineering group leader shall have 2 years of related reactor engineering experience and an additional 1 year of nuclear power plant experience. During the nuclear power plant experience, the individual shall have participated in the reactor engineering section activities at a nuclear power plant during the following periods:*

- (a) Initial fueling or refueling,*
- (b) Initial startup test program or postrefueling outage startup test program,*
- (c) Power increase from 10% to 100%, including stabilization of xenon,*
- (d) Rod sequence exchange (BWR only),*
- (e) 2 months of operation above 20% power.*

Sec. 4.4.8, "Engineering," states:

*The engineering first line supervisor is the individual responsible for supervision of engineering group activities, and shall meet the following requirements.*

*Education: Baccalaureate in engineering or related science*

*Minimum experience for the position:*

<i>Related experience which shall include:</i>	<i>4 yr.</i>
<i>Nuclear power plant experience:</i>	<i>1 yr;</i>
<i>On-site experience:</i>	<i>0.25 yr.</i>

*Special requirements:*

*The reactor engineering supervisor or group leader shall have:*

*(1) 2 years of the 4 years of related experience in reactor engineering and an additional 1 year of nuclear power plant experience,*  
*(2) During the nuclear power plant experience, the individual shall have participated in the reactor engineering section activities at a nuclear power plant during the following periods:*

- (a) Initial fueling or refueling,*
- (b) Initial startup test program or post-refueling outage startup test program,*
- (c) Power increase from 10% to 100%, including stabilization of xenon,*
- (d) Rod sequence exchange (BWR only),*
- (e) 2 months of operation above 20% power.*

ANSI/ANS-3.1-2014 (R2020) is not intended to define specific job titles or responsibilities of organizational positions.

Sec. 1.2, "Purpose," states:

*Each owner organization defines its organizational structure, responsibilities of groups, and responsibilities of individuals within the operating organization....This standard is not intended to prescribe specific job titles or responsibilities of organizational positions.*

Sec. 4.3.8, "Engineering," which is a subsection of Sec. 4.3, "Middle manager level," describes the experience requirements for the middle level manager(s) responsible for implementation of the engineering group activities. Whereas, Sec. 4.4.8, "Engineering," which is a subsection of Sec. 4.4, "First line supervisor level," describes the experience requirements for the first line of supervisor responsible for supervision of engineering group activities.

The titles "supervisor" and "group leader" may be synonymous in some organizations. Nuclear power plant organizations are responsible for defining their organizational structures, hierarchical level, and relative responsibilities.

The recommendation of adding the definition of group leader to subsequent revisions is acknowledged.