

## NUPPSCO POLICIES

March 4, 1982

### **NOTE**

The following NUPPSCO Policies were excerpted from the official copy of the NUPPSCO document dated March 4, 1982 for ease of use in this toolkit. They are provided for information only. The official copy should be consulted whenever questions arise or conflicts occur with other documents. An official copy of these NUPPSCO Policies may be obtained from ANS Headquarters.

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Excerpt from "Committee Rules and Procedures" (Chapter 1.1, Sections 5 and 6 only)

## 5. COMMITTEE ACTIONS

5.1 The Executive Secretary shall take the chair in the absence of the Chairman and Vice-Chairman.

5.2 A quorum shall consist of over 50% of the voting membership of the Committee. Where discussion indicates a pronounced division of opinion on any question, the Chairman shall call for a formal vote and that vote shall be recorded in the minutes. An affirmative vote requires a majority of those present at a meeting voting in favor. A simple majority of those present applies to all official actions except the consensus balloting on standards.

5.3 Proposed revisions, reaffirmations, and new standards shall be submitted for letter ballot approval of the members of the Committee. Unless considered inappropriate by the Chairman, concurrent public review procedures, through the Board of Standards Review of the American National Standards Institute, shall be employed. All proposed revisions, reaffirmations, and new standards shall be announced in Nuclear News in conjunction with the announcement made for concurrent public review in the "Standards Action" section of the ANSI Reporter.

All comments made on formal ballots shall be specifically addressed by the Subcommittee or its Special Committee which prepared the proposed standard. Copies of ballots containing comments shall be sent to the Subcommittee or Special Committee for action and attempted resolution. The Subcommittee or Special Committee must attempt to resolve all negative ballots and adverse comments. The position of the Subcommittee or Special Committee should be discussed with the balloter and the position of the balloter should be considered by the Subcommittee or Special Committee. A summary of these communications shall be retained as a part of the consensus-forming history of the proposed standard. If a substantive change is made to a document to resolve a negative vote, the proposed standard shall be resubmitted to the Committee for either formal (written) vote or letter-ballot. The Chairman shall determine if the change is substantive.

If the balloter wishes to change his negative ballot to an approved status, he shall do so in writing to the Secretary, with copy to the Subcommittee or Special Committee chairman. If he wishes to maintain his negative ballot, all of the members of the Committee are to be so advised and given a summary description of the matters in controversy and the exchange of communication, with copy to the Subcommittee or Special Committee chairman. The Committee members shall be given a reasonable opportunity to revise their ballots in light of the disagreement existing on the proposed standard.

If, in the final ballot tally, at least a majority of the votes cast are affirmative, the Chairman of the Committee may determine that consensus for approval has been achieved. However, if at least two-thirds of the total possible votes of the Committee are favorable, and represent a reasonable balance of interests of the

entire Committee, it is mandatory that consensus for approval be declared by the Chairman. Ballots returned marked "abstain" or "not voting" are recorded but are not counted in the final ballot tally.

5.4 After Committee approval, proposed standards, revisions and reaffirmations shall be submitted to the Board of Standards Review (BSR) of ANSI for approval as American National Standards through the ANS Standards Steering Committee (SSC). The SSC shall certify that the procedures of the Nuclear Power Plant Standards Committee (NUPPSCO) have been followed and that consensus has been achieved. (See Figure 1 for the consensus process to be followed.)

5.5 A trial use and comment period (with the period of time specified, but not longer than 12 months) may be selected for a draft standard only if agreement cannot be reached on one or more technical provisions without some application experience.

## 6. SUBCOMMITTEES AND SPECIAL COMMITTEES

6.1 The Chairman of the Committee shall establish such Subcommittees and Special Committees as are needed to accomplish Committee objectives. He shall appoint a chairman for each Subcommittee for a term of three years, and a chairman for each Special Committee for a term of three years or less; these chairmen shall be members of the Committee. His organization plan and appointments shall be with the concurrence of the NUPPSCO Executive Committee.

The Chairman of the Subcommittee shall establish such Special Committees as are needed to accomplish Subcommittee objectives. He shall appoint the chairman for each Special Committee for a term of three years or less; these chairmen shall be members of the Subcommittee. His organization plan and appointments shall be with the concurrence of his Subcommittee.

Excerpt from "Committee Rules" (Chapter 1.3)

Appendix A

EVALUATION OF CONSENSUS

1. Determination (Definitions are in Chapter 2.6)

A Approved including approved with comments

D Disapproved (not approved)

B Abstain (usually indicating a judgment of non-competence; done by marking the ballot "not voting" and stating the reason)

I Invalid (see paragraph 3 of the Policy)

N Ballots not received

2. Consensus for approval permitted (provided paragraph 3 above is met)

$$\frac{A}{A+D} > \frac{1}{2}$$

3. Consensus for approval dictated

$$\frac{A}{A+D+B+I+N} > \frac{2}{3}$$

## NUPPSCO POLICY 2.5

### FORMAT GUIDE FOR SYSTEM CRITERIA STANDARDS

#### 1. PURPOSE

The standards prepared under NUPPSCO management generally fall into two categories which can be called plant criteria and system criteria standards. The purpose of this policy, and of Policy 2.4 for plant criteria standards, is to present a general format that can be readily followed for each of these two types of standards. The definitions of plant criteria and system criteria standards can be found in Policy 3.5.

#### 2. POLICY

The attached format guide shall be used in preparing all system criteria standards for NUPPSCO. All NUPPSCO standards shall use the format of this policy or Policy 2.4 unless specifically exempted by NUPPSCO at the time the standard is first reviewed by the Committee.

Format Guide  
System Criteria Standards

Prepared by: ANS-50, CWG-4 (Format)

Draft No.: 1

Date: October 1974 (Revised 1978, 1982)

**INTRODUCTION AND SCOPE OF FORMAT GUIDE**

The purpose of this guide is to establish a format of organization and presentation for use by the subcommittees of NUPPSCO in writing system criteria standards. These

systems are important to safety and are identified in the plant criteria standards (plant nuclear safety design criteria). The major objective is to provide a logical and uniform arrangement of system safety criteria and related topics which will be consistent with and expand upon plant criteria standards.

In this document, a system is considered to be a major subdivision of a plant which accomplishes a safety function as defined in the plant criteria standards. This may include systems which have no defined safety function but interface with, or have the potential for affecting, systems which do have defined safety functions.

## **FORMAT GUIDE FOR SYSTEM CRITERIA STANDARDS**

### Organization of Standards

#### A. General

American Nuclear Society standards are categorized into groups comparable to existing standards published by other standards-developing organizations, government, and industry. System criteria standards are intended for use by system designers and design reviewers. This format provides the user with a means of presentation which will permit ease of comparison with existing related standards and a logical method of approach to design. Uniformity of approach permits the objectives outlined in the scope to be attained to the extent practicable. The format may vary only when necessary to permit a more logical presentation of requirements for different subjects than a single outline or rigid sequence of topics would allow. Deviation should be made only with justification.

#### B. Content of System Criteria Standards

The following suggested content outline is provided, complete with numbering designation to be assigned to each topic:

## 1. Introduction and Scope

The following items are to be discussed as a minimum in the Introduction and Scope:

### 1.1 Identification of purpose of standard

Summarize the system functions and conditions of design. Include a discussion of the general relationship of the standard to plant criteria standards and related standards.

### 1.2 Identification of limits of application

Briefly identify systems and subsystems for which the application is intended.

## 2. Definitions

Define terms considered to be important to the application and understanding of the criteria. Terms whose definitions are common to NUPPSCO standards may be found in the NUPPSCO "Glossary of Definitions and Terminology." These definitions shall be employed in each standard where applicable unless the definition clearly does not suit the use of the term in the context of the given standard. In such cases, the altered definition shall be preceded by the words, "For the purposes of this standard....."

Other definitions should be drawn from existing standards where possible to provide uniformity of definitions among standards. Reference definitions in existing standards where applicable. When a definition is substantially different from that in existing standards, this should be clearly indicated to the user along with the basis for requiring a difference.

## 3. System Safety Functions

Identify the system safety functions and modes of operation under which those functions must be accomplished. Where applicable, relate to the requirements of existing plant criteria standards. Subdivide as necessary for any subsystems identified in the Scope.

## 4. System Definition

Describe the extent and boundaries of the system and identify interfaces with related systems or between subsystems. Include a description of major components or structures, or both, a typical diagram may be included in an appendix to the standard.

## 5. System Performance Requirements

For each safety function defined in 3 above, identify parameters important to operation of the system and an acceptable range of values where appropriate. Identify any redundancy or diversity requirements, or both, related to performance of safety functions. Include as subsections the performance requirements related to individual components of the system or subsystems.

## 6. Design Requirements

If convenient, subsystems defined in 4 above may be each considered separately in this section. Proper direction to material appearing in the appendix(es) is made by footnote

### 6.1 Safety class and applicable codes, standards or regulations

Identify the safety class of systems, subsystems and major components and structures. (See section 2.3 of this policy manual.) Indicate, where applicable, the system classifications under other existing standards.

### 6.2 Conditions of design

Describe how the conditions of design are applied in designing the system. These conditions of design should include normal and extreme environmental conditions occurring for components of the system in performing safety functions. (See section 2.2 of this policy manual.)

### 6.3 Interface

Identify interface requirements on other systems or subsystems and parameters which should be specified in design. (For example, will the system require emergency power and, if so, what are power and actuation time requirements?)

### 6.4 Testing, inspection and maintenance design criteria

Identify design features necessary to provide the capability for testing, inspection and maintenance.

### 6.5 Design documentation

Indicate what documentation and safety analyses must be included in a design description to provide information necessary to support technical specifications and interface requirements.

## 7. References

References shall be listed in a separate section of the document in the order in which they appear in the text. State the document identifier, complete title, publisher of the document, and where the document can be acquired. A footnote shall be placed following the first reference in the text to direct the user to the reference section.

Draft standards shall not be referenced in the text; see Policy 3.2, *Referencing Standards and Regulations*, in this policy manual. The users attention may be directed to draft standards, however, by use of an appropriately placed footnote.

The following statement shall be placed at the end of the References section:

"Only the standards explicitly referred to in this document qualify as references. Subsequent revisions of these standards shall not be substituted."

## 8. Format and Style

The following guides to format and style are suggested for ANS plant criteria standards:

8.1 The ANS procedures and ANSI style manual shall be used wherever practical.

8.2 References within the text should include the title. The citation should be to the smallest relevant subdivision; e.g., Title 10 Code of Federal Regulations, Part 50.55a, not IOCFR 50.

8.3 Page numbering should begin anew for each two-digit section; i.e., p 3.6-1, 3.6-2, 3.7-1. (It should be noted that this numbering system will be changed to sequential numbers at the time of publication.)

8.4 When documents are being distributed for review, it is desirable to provide a line numbering index on each page.

8.5 In a given revision or draft, changed material should be indicated by a vertical line at the side of the page, together with a revision or draft number indicated.

## Excerpt from "Operating Documents" Chapter 2.6

### 2.8 Schedule for NUPPSCO Reviews

The review time permitted by NUPPSCO from the time of distribution to the NUPPSCO meeting at which the review discussion is held, should be at least six weeks. The ballot review from the time of distribution to the consensus ballot closing date specified by NUPPSCO shall be at least six weeks. On rare occasions, the NUPPSCO Chairman may elect to shorten the period for the ballot review if all of the following conditions exist:

- a. The standard is category I (see Policy 3.4)
- b. There is substantial demand for the standard
- c. NUPPSCO recently reviewed an earlier draft.

Every effort shall be made by the working group, management committee chairman, and NUPPSCO Chairman and Secretary to expedite the process so that review comments and ballot comments can be made available to the working group at least ten days prior to the NUPPSCO meeting at which the review discussion is to be held.

### 2.9 Ballot Form

NUPPSCO ballots on draft standards shall provide four balloting choices:

2.9.1 Approved. The balloter marking this choice is declaring his satisfaction with the draft as written.

2.9.2 Approved with comments. The balloter marking this choice is requesting that the working group consider his written comments and proposed solutions, which shall be appended to his ballot, but is declaring acceptability of the draft, even though his individual comments may be found unacceptable for good basis.

2.9.3 Not Approved. The balloter marking this choice is declaring the unacceptability of the draft, as written, and that no standard at all is preferable to the current draft.

The not approved ballot may also be used in a broader context. If the balloter feels that his comments are of substantial technical content and require either acceptance or a detailed, competent technical reply, he may also elect to ballot not approved.\*

He shall append his written comments and proposed solutions. By indicator or other means, he shall identify those contingent comments the satisfactory resolution of which would elevate his ballot to "approved with comments"; or if not resolved to his satisfaction, would give him the right to fix, for the final record, the "not approved" status. Upon resolution of the contingent comments and dialogue with or notification to the balloter, and upon request of the working group the balloter shall notify the working group and the NUPPSCO Secretary in writing of the final disposition of his ballot.

2.9.4 Not Voting. The balloter marking this choice is declaring that he has considered the standard and is unable to make one of the other ballot choices. He shall append a written reason or reasons for this choice (e.g., lack of necessary expertise). Lack of time to review the draft is not an acceptable reason. This choice is frequently called "Abstain".

2.9.5 A typical ballot form is attached to this policy for illustration.

\* Frequently, a working group carefully addresses the comments forming the basis of a negative ballot, but ignores, or essentially ignores, other comments offered by the balloter. It is acceptable to give some priority to negative comments, but it is unacceptable to dismiss other comments as insignificant. The policy on making and responding to comments is set forth in the Appendix.

# Figure I

Working Group  
Draft

Management  
Committee  
Review or Ballot

Working Group  
Redraft  
(if required)

NUPPSCO  
Review  
(optional)

ICONS  
Review  
(optional)

Working Group  
Redraft  
(if required)\*

NUPPSCO  
Ballot

Public  
Review  
  
(ANSI)

Working Group  
Redraft\*

Release by NUPPSCO Chairman  
Certification by SSC  
Approval by BSR (ANSI)

\*Released by Management Committee Chairman. The Management Committee or NUPPSCO may release the standard for trial use and comment at this point.

## Operating Documents, Chapter 2.6

### APPENDIX

#### USE OF THE "NOT APPROVED" BALLOT CHOICE

The broad meaning of a not approved ballot described in Section 2.9.3 of this Policy is meant to help encourage a more responsive attitude and to obtain better replies to comments. As far as the writing group is concerned, this broader policy should have no practical effect because all comments must be addressed technically; it is only the appearance of the ballot tally that may be affected (that is, the balloter may choose to ballot not approved instead of approved with comment to better highlight his concerns).

Each Management Committee Chairman shall carefully, review all comment responses to ensure that the replies are affirmative, responsive, and include a rationale. The Chairman shall perform a similar review emphasizing controversial and negative comments prior to releasing each standard for final certification.

The type of responses to be avoided are:

1. "This was discussed by the writing group during the preparation of the standard and was
  - a. not used,
  - b. decided against, or
  - c. found not practical, etc."
2. "Not accepted"
3. "This comment disagreed with
  - a. someone else's or
  - b. a comment made during the Management Committee review, etc."

Appropriate replies include a technical basis for the decision, a reason for deciding on a particular phrasing, a rationale for compromising among conflicting requests, or the fact that specific direction was given by NUPPSCO regarding scope or content.

Each balloter has an obligation to make substantial, technically-based comments and to include alternate words or adequate discussion upon which new words can be logically included.

Both the balloter and the working group shall adhere to technical issues and avoid frivolous and empty comments.

## NUPPSCO POLICY 2.7

### COMMENTS AND RESOLUTIONS FORM

#### 1. PURPOSE

The purpose of this policy is to provide a simple, standardized process for recording comments, suggested solutions (recommendations), and working group resolutions, and to provide a procedure for distribution of the documentation. For a given standard, NUPPSCO considers this process to be necessary for its review and its performance of the consensus ballot. See also the Synopsis, "Working Group Response to Comments", attached to policy 3.3.

#### 2. POLICY

The following steps shall be taken by each NUPPSCO member when performing a review or ballot review of a standard.

1. Obtain a master copy of the "Standards-Comments & Resolutions" form from the Secretary and reproduce into the required quantity of copies needed. A blank form is attached to this policy. (Also provided in this toolkit)
2. Consolidate the comments received from within the balloter's organization and record these comments on copies of the form. See the Appendix to this policy for guidance on acceptable comments.
3. Offer a suggested solution (recommendation) for each offered comment. Enter with each comment.
4. Enter the title of the standard on the first line, including personal data (name, phone number, organization, and address) in the left portion of sheet 1. To guard against the sheets getting separated, show at least the balloter's name and the standard number on each successive sheet. Indicate sheet number of each sheet.
5. Show each separate comment with a sequential number in the first column (No.).
6. Show a page number reference for each comment in the second column (Pg.). Where no page number exists in a draft standard, use Roman lower case numerals for all preliminaries from the title sheet to the body and Arabic numbers for the text of the standard itself.

7. Show the location of the comment in the third column (SEC. / PARA.) to identify more narrowly than can be done with a page number. Where a standard is finely divided by numbered sections or subsections, give the number designation (e.g., 2.3-1.2). Where the numbering is long for large sections, use the option of designating the paragraph by first using the letter "P" (e.g., P4). Count a partial first paragraph - that is, if a partial paragraph is a carryover from the previous page - as Pl. For a given standard, do not mix designation methods.
  8. Where important, use the first part of the comment to refine further the exact location of a given comment (for example: "The fifth word in line 6 is misspelled").
  9. Forward copies of the completed forms to the working group chairman prior to the closing date of the review, and to the Secretary of NUPPSCO prior to the consensus ballot closing date. comments concerning the consensus ballot may be sent to the working group chairman following the closing date for consensus ballot.

The following steps shall be taken by the working group in responding to NUPPSCO comments. The response shall represent the result of the working group's deliberations. A consolidated listing of responses may be used instead of this method if clear reference is made to each commenter and the comment number.

1. Enter personal data (name, phone number, organization, address) in the spaces provided at the right side of the form.
2. Use a check ( V ) to show acceptance of the comment for those cases where acceptance is essentially total. For such cases, no explanation is needed, although explanations are welcomed.
3. Where comments are accepted in part or not accepted, use the space under "Resolution" to set forth the rationale for non-acceptance of all or part of the subject comment. Do not simply indicate disagreement or the fact that such suggestions were previously considered; give a technical basis for not being able to accept the comment.
4. Upon satisfactory completion of the individual forms, the working group chairman or other designated individual shall forward copies to the NUPPSCO commenter and to the NUPPSCO Secretary.

## NUPPSCO POLICY 3.1

### REFERENCING OF REGULATORY GUIDES

#### 1. PURPOSE

The purpose of this policy statement is to provide guidance to the working groups under the jurisdiction of NUPPSCO in dealing with the content of existing regulatory guides in the creation of standards that

- (a) cover essentially the same scope or requirements,
- (b) have requirements that overlap, or
- (c) have interfacing requirements.

#### 2. BACKGROUND

Regulatory guides provide the Nuclear Regulatory Commission (NRC) regulatory staff's suggested method of complying with the General Design Criteria (10 CFR Part 50, Appendix A) and other portions of the Commission's regulations. They state positions of the NRC, adherence to which provides the applicant bases for obtaining licenses. Each regulatory guide covers a relatively narrow scope and often has essentially the same scope as one of the nuclear standards existing, in process, or being planned. Conformance to the recommendations of any given regulatory guide is not mandatory provided the applicant provides an acceptable alternative; in fact, each regulatory guide has a disclaimer to this effect displayed on its cover sheet.

Regulatory Guides fall into two broad categories in their relationships to standards. If they precede industry standards by some time increment, they do not reference industry standards and are self-contained, stating criteria and requirements in enough depth to satisfy regulatory concerns. If they are essentially parallel to or follow industry standards, they reference the standard and state the degree of acceptability of the standard in terms of constraints or added requirements. To satisfy industry concerns, an increasing proportion of the newer regulatory guides are of the latter category.

While applicants are required to state their positions with respect to regulatory guides, each one usually has a number of specific exceptions to some of these guides. Where the safety concern is adequately treated, different methods and solutions are often acceptable to the NRC staff.

The first regulatory guides were issued in 1970, and those were only a few. At that time, very few nuclear standards existed. In the intervening years, production of regulatory guides was accelerated. A similar production acceleration was

applied to industry nuclear standards, partly at the urging of the NRC, partly to satisfy an industry need, and partly out of competition with the NRC.

During this period, the Power Reactor Systems Committee, ANS-50, structured itself to handle a large portion of the desired nuclear standards and established review procedures. Many of the draft standards reviewed required conformance to specific regulatory guides. Given the basis of regulatory guides and background information cited, such references often were found to be unacceptable. The result was a decision in the January 1975 meeting of ANS-50 to establish a policy statement. NUPPSCO has adopted the major portions of this statement.

### 3. POLICY

Direct referencing of regulatory guides is not permitted within the text of a standard. Citation of regulatory guides shall be given in footnote form and shall include the revision number and date of issue. An example of an acceptable citation is "Guidance exists in a regulatory guide,<sup>(fn)</sup>"

Any criteria or passages from regulatory guides may be used, either verbatim or paraphrased, that are deemed to adequately express the intent of the working group. There are no copyrights on regulatory guides and such practice is acceptable to the NRC. The content of such criteria shall be subjected to the consensus process along with the rest of the standard. The test of such a criterion is its survival in this process.

## NUPPSCO POLICY 3.2

### REFERENCING OF INDUSTRY STANDARDS AND GOVERNMENT REGULATIONS

#### 1. PURPOSE

The purpose of this policy statement is to provide a method to working groups under the jurisdiction of NUPPSCO for referencing industry nuclear standards and government regulations. The method accommodates draft standards, American National Standards, and proposed and approved (codified) regulations.

#### 2. BACKGROUND

The creation of system-type nuclear industry standards, especially those of relatively narrow scope, has inevitably led to a need to establish firm interfaces. This is most conveniently accomplished by references to established requirements in other nuclear standards and in government regulations. The referencing of regulatory guides is the subject of policy 3.1.

Reviews of various standards being developed under NUPPSCO jurisdiction have shown that the main problems are:

- a) The working group believes it convenient to reference a draft standard or a proposed regulation, but such a draft or proposed document is subject to change and the future availability of any such document is uncertain.
- b) There is doubt in referencing a draft standard or proposed regulation because future change is almost inevitable, thereby substantially altering the intent of the reference.
- c) There is uncertainty as to the degree of specificity to use in referencing industry standards or government regulations.

These questions are specifically addressed herein.

#### 3. POLICY

##### 3.1 REFERENCING STANDARDS AND REGULATIONS

Section 6.6 of the ANSI Style Manual\* sets forth criteria for referencing American National Standards, articles in periodicals, and books, but does not address draft standards, trial-use standards, proposed regulations, or codified regulations. The treatment of such references are specified

herein. Referencing of codified regulations in the text of the standard is always acceptable, and,

\*"Style Manual for Preparation of Proposed American National Standards," American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018

when used, must be in terms of the mandatory verb "shall". Codified regulations, which are interpretations of law, have essentially the force of law.

References to them shall, at a minimum, give the Title, Code of Federal Regulations, and Part, and may be written out in full at the initial reference and abbreviated thereafter (e.g., 10 CFR 50). If the reference is to part of the regulation, the section, subsection, etc., should be specifically designated. There is no need to specify time of codification as, in the absence of other controlling factors (e.g., date of purchase), the latest version is applicable.

### 3.2 REFERENCING DRAFT STANDARDS

For the purposes of this policy, any standard not yet officially designated as an American National Standard is considered a draft or a trial-use standard. The completion of the consensus process may result in (a) changes in criteria set forth, (b) changes to the original definition of scope, (c) a combination of (a) and (b), or even (d) a decision to terminate the effort. Despite these difficulties, working groups are encouraged to avail themselves of the resources of draft and trial-use standards.

Working groups finding it expeditious to cite in-process standards need to exercise great care in the process of referencing. The information shall be offered in one of two ways: (a) generically in the body of the standard, or (b) reference by footnote or appendix note. Information in the text of the standard shall be for guidance only, never a requirement. This is because the referenced draft or trial-use standard has not achieved consensus. The footnote or appendix note, not part of an official standard (Section 7.1 of Style Manual), shall give complete information on the draft or trial-use standard (this is especially important considering the potential for future unavailability). The note shall include: the title, the proposed ANSI number (if any), or the working group number, the status (draft number or trial-use status, revision number, and date), and the working group chairman's or assigned correspondent's name and address.

Working groups shall not make direct reference to draft or trial-use standards in the text of their standard because this has the effect of incorporating unapproved standards. Quoting or paraphrasing from a draft or trial-use standard within the text is also discouraged but such information may be located, as are direct references, in a footnote or an appendix. Instead, the text of the standard should have generic information, either narrow or broad as exemplified below, with respect to the content of draft or trial-use standards.

Two options are available. The working group should obtain a current draft of the draft or trial-use standard to be referenced (usually available from the working group chairman.) based on its content, the working group can choose to:

- (a) indicate specific areas for which the draft standard offers guidance acceptable to the working group, then provide a footnote or appendix note to reference not only the draft standard but also location of the specific guidance, or
- (b) indicate the scope outline of the draft standard being prepared and provide a footnote or appendix note to reference the draft standard.

#### Example of Action (a)

In standard: "Guidance as to which safety systems commonly found in PWR plants must be designed to tolerate a single failure in addition to the initiating event that requires their safety function has been formulated and exists in a draft standards(l)."

In footnote: (1) Section 2.3 of "Single Failure Criteria for PWR Fluid Systems," proposed American National Standard N 658, Draft 4, May 1975, Assigned Correspondent: John H. Blasingame, Bechtel Power Corp., 50 Beale St., San Francisco, CA 94119.

#### Example of Action (b)

In standard: "Guidance on single failure criteria, as they apply to safety-related PWR plant systems, has been formulated and exists in draft form(2)."

In footnote: (2) "Single Failure Criteria for PWR Fluid Systems," proposed American National Standard N 658, Draft 4, May 1975, Assigned Correspondent: John H. Blasingame, Bechtel Power Corp., 50 Beale St., San Francisco, CA 94119.

This technique of referencing draft and trial-use standards permits gaining benefits from work already accomplished without introducing misconceptions as to the present significance or status of that work. Working groups should recognize that users of the standards they produce will not necessarily know or understand the intricacies of the consensus process and, therefore, must be shielded, to the extent possible, from improper conclusions about information taken from draft or trial-use standards. The system of referencing set forth herein has the benefits of : (a) alerting the reader to pertinent work in process, (b) providing information on how to obtain the draft or trial-use standard (and thus, additional details), and (c) providing him with the means to keep abreast of development should he have a keen interest in doing so.

Very often, the working group faces an apparent dilemma in deciding the proper choice between (a) direct references to a standard on the basis set forth in the Style Manual, or (b) the referencing techniques discussed herein for draft of trial-use standards. This apparent dilemma arises because the draft of trial-use standard being referenced is farther ahead in the consensus process than the working group's standard and seems likely to gain prior status as an approved standard. The working group should resist the temptation to reference a draft or trial-use standard as an approved standard since references to approved standards must be exact. There is no way to ensure that a referenced draft or trial-use standard will not undergo further change in content or title in completing its consensus process. Thus, the working group must be prepared to change references to accommodate the changes in status of referenced standards as the standard being produced goes through its own consensus process.

### 3.3 REFERENCING PROPOSED REGULATIONS

Proposed regulations (or regulation revisions) are published in the Federal Register together with a preamble that gives background information and solicits comments from interested parties within designated time limits. After that, the consideration of comments and clearance through NRC's organization usually takes many months before a final codified version of the regulation is issued.

As with draft standards, working groups must recognize that substantive changes may be introduced into a proposed regulation before it becomes effective. Thus, working groups finding it expeditious to reference proposed regulations must be very careful about the process of referencing.

The options available to the working group to cite proposed regulations are parallel to those for draft standards. The information shall be offered in one of two ways: (a) generically in the text of the standard, or (b) referenced in a footnote or appendix note. Information in the text of the standard shall be for guidance only, never a requirement. This is because the regulation has not achieved final approval. The footnote or appendix note, not part of the official standard (Section 7.1 of Style Manual), shall give complete information on the proposed regulation. The note shall include: the title of the proposed rulemaking or rulemaking revision (given at the head of the preamble), the Federal Register information given at the bottom of the pages in which publication took place (i.e., Federal Register, volume number, issue number, date), and the page numbers on which the proposed regulation was printed.

### 3.4 SPECIFICITY

Working groups should cite draft standards or regulations with as high a degree of specificity as practicable but only within the footnote or appendix note. Specificity in identifying location of a particularly applicable portion of the referenced material can provide great time savings to users of standards. However, if the entire referenced standard or regulation appears to be applicable to the standard being created, a general reference without specificity is acceptable.

Most standards have a special section at the end of the text called "References" or "Bibliography". The use of the citation reference to a bibliography entry, as described in 6.6 of the Style Manual, provides a convenient way to transfer the specificity from the text to the bibliography for references to American national standards, where full particulars are given. The bibliography section shall not substitute for the footnote or appendix note references to draft standards or proposed regulations because the bibliography is part of the standard. Thus, full specificity in describing the draft shall be provided by footnote or appendix note references.

### 3.5 UPDATING STANDARDS

Use the following statement following the references section:

Only the standards explicitly referred to in this document qualify as references. Subsequent revisions of these standards shall not be substituted.

(Policy of SSC, 11/1/83)

## NUPPSCO POLICY 3.3

### WORKING GROUP GUIDE

#### PURPOSE

This policy presents the chronology of standards development from the perspective of a typical working group in NUPPSCO. The policy is intended primarily to be a general guide to the major milestones in preparing an American National Standard and is not meant to be an exhaustive study of every detail required for the most general case.

The primary purpose of this policy is to provide a new working group with some guidance gleaned from the experiences of many other NUPPSCO working groups. It is to be used in conjunction with NUPPSCO policy 2.6 which deals with the review process conducted by NUPPSCO.

#### 2. POLICY

- 2.1 Proposals for the writing of a new standard may be made by any individual and should be made to NUPPSCO or one of its management committees. The first detailed discussion of the need for and feasibility of a proposed standard should take place in the appropriate management committee. If the discussion results in a positive reaction by the committee, the proposal shall be presented to NUPPSCO for its consideration. If NUPPSCO is also affirmative in giving the standard a serious attempt, it shall direct the management committee chairman to select a working group chairman and request that the selected chairman prepare a project charter. A typical project charter is attached to this policy as well as a blank project charter form.
- 2.2 The project charter should be prepared by the working group chairman, who may then elect to have it critically reviewed by the working group members.
- 2.3 The project charter should be reviewed by the cognizant management committee, but in every case shall be reviewed by the management committee chairman. He shall ensure that NUPPSCO policies 3.5 and 3.6 have been followed in preparing the charter. The project charter is then submitted for approval by NUPPSCO, the ANS Standards Steering Committee, and the Nuclear Standards Management Board of ANSI. The working group should proceed with its work during this approval process unless directed otherwise by NUPPSCO. Approval usually takes 6 to 12 months because each of the approval groups involved meets about quarterly. The NUPPSCO approval process involves the consideration of placing the proposed standard in a category in accordance with policy 3.4.

If the working group materially changes the scope at any time during the development of the standard, the revision shall be submitted to the management committee chairman to be recycled through the entire approval process; this is needed to prevent possible overlaps with work being done by other standards groups.

2.4 Upon acceptance of an invitation to become a working group chairman, a packet of ANS and NUPPSCO procedures is sent from the ANS Standards Manager. This information includes:

- a. ANS Standards Committee Annual Report. This report summarizes all active ANS standards projects and lists the personnel involved in each one.
- b. ANS Procedures Manual. This manual provides guidance for conducting working group business.
- c. ANSI Style Manual. This manual provides guidance for the format and content of standards.

2.5 The working group chairman shall be responsible for the selection of the working group members; he should request assistance in this selection from his management committee. The composition of the working group shall include a balanced representation from the principal designers of the system or technology that is the subject of the standard and its ultimate users (usually utilities). Each member shall have a direct interest and shall have expertise in the area under consideration. Although members should be drawn from a spectrum of involved interests, the total membership shall be kept as small as possible to enhance close working relationships and good communication (four to eight people, including an NRC representative). This balanced representation is different from the concept of balance used in establishing consensus bodies, which involves representation from all interested parties.

After the selection of the working group membership and the preparation of a draft project charter, the working group chairman should hold a group meeting to complete and agree on the project charter. A membership list shall be prepared, including name, affiliation, address, and telephone number. This list shall be sent to the ANS Standards Manager and the management committee chairman.

2.6 The content of the standard should be set at the first meeting and a tentative schedule established. The management committee chairman shall attend this first meeting. He shall explain this policy and all related NUPPSCO policies to the group. He shall explain that a copy of all subsequent correspondence prepared by the group shall be sent to the

ANS Standards Manager and that all correspondence to NUPPSCO shall be through him. The standard format guide (see NUPPSCO policy 2.4 or 2.5) shall be used in setting the projected content. Members of the working group should leave the first meeting with a good understanding of the project, its expected end use, and a specific assignment for preparing a part of the standard. The foreword should be started at this time. The schedule and outline shall be sent to NUPPSCO through the management committee chairman. The schedule for developing the standard shall be detailed and shall be critically reviewed at each working group meeting. Significant changes shall be sent to the management committee chairman and NUPPSCO so that everyone is apprised of the most realistic schedule.

2.7 The working group should meet until a readable draft is prepared which is consistent with the format and style guides of NUPPSCO and ANSI. The group should include more material in this draft than is realistically expected to be contained in the final document. The group shall actively use a value impact assessment technique in preparing the standard and in responding to the comments received in the steps outlined below. The technique should be reserved for consideration of the major problem areas and major topics of controversy. It consists of the following steps:

- a. Designs, methods, and tests called for by a standard can usually be specified in more than one acceptable way and it is not always clear which choice is preferred. The first step is to define the problem to be solved.
- b. The second step is to identify the different approaches that can be taken to solve the problem.
- c. The third step is to attempt to determine the impact of each approach on safety and other safety systems, cost, schedule, regulatory acceptance, and engineering feasibility. Care should be taken not to become too involved or detailed in this process or the technique will lose its effectiveness. It is more important to assess the relative importance of these factors for the problems being considered.
- d. The fourth step is to determine the relative effectiveness of each alternative considering the potential impact and priority of each factor identified in the third step.
- e. The last step is to make a selection based on the fourth step and by comparing the overall impact of each proposed solution to the importance of the problem itself.

When the working group chairman feels that the group has reached an agreement that a draft is ready for outside review and comment, the draft shall be sent to the management committee chairman.

2.8 The subsequent review process is detailed in NUPPSCO policy 2.6. Guidance is also given in the Synopsis, "Working Group Response to Comments", attached to this policy. The management committee shall review the standard to provide technical comments. If this review also consists of a management committee ballot, NUPPSCO may also review the standard at the same time. The standard should be sent to ICONS for its review; the draft used for ICONS review is usually the preballot draft (see Section 2.4 of Policy 2.6).

NUPPSCO shall normally perform two reviews: 1) a technical review in parallel with or following the management committee review and 2) a review to form the basis for the consensus ballot. A consensus body (such as NUPPSCO) is authorized by ANSI and supported by ANS to vote on standards as representatives of all national interests having substantial concern with and technical competence in the work of the committee. A public review is held by ANSI in parallel with or following this ballot.

The working group shall redraft the standard to incorporate comment resolutions (as necessary) following each review. The advantage of parallel reviews, therefore, is fewer redrafting sessions.

2.9 When the results of a management committee or NUPPSCO review or ballot are discussed in a committee meeting, the working group chairman (or his alternate) shall be present to help resolve the comments. The entire working group should attend the NUPPSCO review sessions to better understand the comments and to hold a concurrent meeting to resolve the comments and redraft the standard. To assist in this process, members of the reviewing committee shall make every attempt to send a copy of all comments to the working group chairman at least ten days prior to the meeting. NUPPSCO policy 3.7 shall be referred to by the working group chairman. The working group should consider all of the review comments, but need not respond to each commenter. When a standard is submitted to NUPPSCO for ballot, all technical changes made from the previously-reviewed draft shall be clearly indicated (preferably by sidebars). In the case of the consensus ballot, it is necessary to respond to each comment, but comments may be consolidated into a single reply for the purpose of responding to all commenters. See also the Synopsis, "Working Group Response to Comments," attached to this policy.

In the case of negative (disapproved) ballots (from the NUPPSCO consensus ballot), the working group shall write to each negative balloter and request that he reconsider his ballot based on the new draft prepared in response to all comments. If this process results in one or more negative ballots being retained, all NUPPSCO members shall be given an opportunity to reconsider their ballots, taking into account the negative ballots and the reasons therefor.

In the case of comments received from the ANSI public review, the working group shall respond to each commenter with a copy to ANSI; the letter of response shall include notification that the commenter has 15 working days in which to reply if he is not satisfied with the attempted resolution of his comments.

Utilitization of the comment resolution form (copy attached) can eliminate having to write individual letters of response. The working group should prepare a general cover letter, a copy of the comment resolution forms, and a copy of the new draft to send to each commenter. As a minimum, the working group shall include the rewritten portion of the standard when a substantial change has been made to resolve a comment. The working group shall refer to NUPPSCO policy 2.7 for additional guidance

- 2.10 After completion of the NUPPSCO consensus ballot, completion of the required response to each commenter (with formal requests for withdrawal of any negative ballots), and reconsideration of ballots has been permitted (if needed because of outstanding negative ballots), the NUPPSCO Chairman shall determine if consensus exists. If a majority of all ballots received are affirmative and if these ballots represent a reasonable balance of industry interests, the Chairman may determine that a consensus exists. If two-thirds or more of all eligible balloters have balloted affirmatively, the chairman shall rule that consensus exists. (Specifically, see the requirements of Section 5.3 of Policy 1.1 and Policy 1.3.)

Upon a determination of consensus, the ANS SSC shall certify that all consensus procedures have been adhered to. ANSI is then notified that consensus for approval has been achieved, and approval by the ANSI Board of Standards Review is requested.

- 2.11 ANS Headquarters shall then proceed with publication of the standard. The working group chairman receives a final copy of the standard as edited by ANS prior to printing. All working group members receive a copy of the printed standard.

Upon approval of a standard, the NRC considers the standard for endorsement in one of its official documents. Exceptions or additions to the standard may be made by the NRC if it is endorsed. Such exceptions or additions can usually be anticipated through the NRC's participation in the working group and through its detailed comments during the review process.

## SYNOPSIS

### WORKING GROUP RESPONSE TO COMMENTS

#### 1. Review Comments

All written comments should be responded to using the comment forms (see Policy 2.7). Both responses and comments may be consolidated by subject or location if the group feels this is more efficient.

#### 2. Ballot Comments

All ballot comments shall be addressed. The group is strongly urged to use the comment forms. It is helpful to supply portions of the text that have had substantive revisions made along with comment responses. Responses other than acceptance should include a rationale, such as the technical basis, a compromise among conflicting expert opinion, or specific reference to an authority. See the Appendix to Policy 2.6 for further guidance on making substantial responses.

The working group shall write to each negative commenter individually supplying responses to his comments. This letter shall request that the balloter upgrade his ballot to approve or approve with comment based on the group's responses to his negative comments. A deadline shall be indicated for the balloter to respond; 30 days from receipt of the ballot response is suggested. The letter shall also request that if the balloter feels he cannot upgrade his ballot, that he specifically state why.

Any difficulty in getting timely responses from negative balloters shall be brought to the attention of the responsible management committee chairman, the NUPPSCO secretary, and the NUPPSCO chairman - in that order and to the extent necessary.

#### 3. Subsequent Steps

- 3.1 Copies of all comment responses, accompanying letters, and responses back from balloters shall be sent to the NUPPSCO secretary by the working group. Upon receipt of replies from each negative balloter, the working group chairman and the NUPPSCO Secretary shall discuss the final ballot tally and agree on the results.
- 3.2 If one or more negative ballots remains unresolved, the NUPPSCO secretary shall ask those NUPPSCO members who originally voted to reconsider their position in view of the outstanding negatives. Appropriate background material pertaining to those negatives shall also be sent. A review period of 30 days is set,

during which members may change their votes. No response is necessary unless a balloter decides to change his position and submit technical reasons therefor.

- 3.3 When all negative ballots have been cleared or reconsideration has been completed, the management committee chairman and the NUPPSCO chairman shall review all the documentation and the revised standard. If all procedures have been followed, all ballot comments responded to, and no major substantive changes have been made (except those agreed to in a NUPPSCO meeting) , the revised draft shall be released for certification by the SSC that all procedures have been met for obtaining consensus.
- 3.4 In the event major changes have been made in the standard, rebalot shall take place and the above procedure repeated. The need for rebalot shall be determined by the NUPPSCO chairman in consultation with the working group chairman and the cognizant management committee chairman.
- 3.5 Upon certification by the SSC, the standard shall be sent to the ANSI Board of Standards Review by the NUPPSCO secretary for approval as an American National Standard.
- 3.6 The working group chairman shall assist ANS staff with editing and publication details, as necessary, and shall have the opportunity to review the document and release it for printing.

The chronology of standards development from the perspective of a typical working group in NUPPSCO is provided in Policy 3.3.

## NUPPSCO POLICY 3.5

### TYPES OF STANDARDS

#### 1. Purpose

NUPPSCO efforts are devoted to the development of standards for utilization by the nuclear industry. These standards fall into one of three general categories. This policy provides a definition of the types of standards which NUPPSCO has under its cognizance as a consensus body and how these categories may be used.

#### 2. Policy

The identification of new standards projects shall include an evaluation of what type of standard is intended; plant criteria, design basis, or system criteria. The purpose of this categorization is to ensure that other standards exist or are planned in the other categories to adequately supplement the work to form a complete design package for the user. It also identifies the major interfaces to be covered during the development of the standard.

The categorization shall use the following definitions:

Plant Criteria Standard. A standard that puts forth that set of non-hardware plant requirements which bound the plant design and which must be assumed for systems design.

This type of standard states the requirements for the level of adequacy of the plant and certain of its major systems, but does not necessarily limit the components of those systems except as required to meet the performance levels specified for the plant or system. The purpose of this type of standard is to specify the overall plant criteria so that consistence is maintained among: (a) plant types, (b) various systems of a plant, and (c) subsystems of a major plant system. This type of standard may include rules for: (a) classifying components, (b) setting plant conditions of design, (c) determining overall plant and individual system functional design criteria, and (d) preparing the plant safety analysis. An example of this type of standard is ANS-51.1 "Nuclear Safety Criteria for the Design of Stationary PWR Plants".

Design Basis Standard A standard that puts forth the rules and methodology for determining the need for, and the design basis of, a system or a set of related systems in a plant.

This type of standard establishes the functional foundation required to prepare the design requirements (i.e., the design basis) of the subject system(s); the specific requirements are addressed in a system criteria standard. This standard may include the plant conditions of design to be considered as design assumptions. In

some cases, this information is included in a plant criteria standard. An example of this type of standard is "Design Basis Criteria for Safety Systems in Nuclear Power Generating Stations", ANS-4.1.

System Criteria Standard A standard that puts forth the reiteria by which a system and its constituent components are to be designed to fulfill the function of the system.

This type of standard contains criteria that are the design requirements for the system. Their development is governed by the requirements, rules, and methodology set forth in plant criteria and design basis standards. This type of standard usually addresses only one functional part of a system (such as the structural requirements as opposed to the electrical, mechanical, or fluid-conveying parts). Such requirements, of course, frequently influence the design of other functional parts. Generally, standards related to plant siting and plant operation fall into this category.

## NUPPSCO POLICY 3.8

### SPECIFYING REQUIREMENTS IN A STANDARD (SHALL, SHOULD, AND MAY)

#### PURPOSE

Much discussion has taken place regarding the proper use of the verbs "shall," "should," and "may." The purpose of this policy is to explicitly define the use of these three terms, but does not indicate how to discriminate the nuclear-safety related "shall" statements from those that are not nuclear-safety related.

#### 2. DISCUSSION

Although "shall" statements are clearly mandatory, it is also necessary to have a clear understanding of "should" and "may" statements in the text of standards.

In instances where the NRC is considering referencing a new standard that contains such terms, a decision is needed on how to handle them. Three choices considered are:

- a. Direct that all such terms be used as if they are "shall" statements
- b. Ignore the subject and let the applicant and NRC reviewer decide on a case by case basis whether to make such statements mandatory.
- c. Address each "should" and "may" statement individually and direct whether it is to be mandatory.

Each of these three choices is obviously undesirable and therefore standards-writing groups need a more definitive policy to facilitate NRC endorsement. Such a policy needs to reflect the consensus that "should" and "may" statements are most logically left in the text of standards for maximum clarity and continuity. The policy also needs (1) to direct how to avoid the several ways that "should" is misused and (2) to clarify the NRC's intent when standards are endorsed or referenced. These three objectives can be met if the following steps are taken:

- a. Clearly define how verbs are to be used and interpreted.
- b. Enforce the proper usage of the verbs as the standard is being prepared, is being edited by ANS, and is being reviewed by NUPPSCO and its management committees.
- c. Have the NRC agree to employ the standard as written (that is, in accordance with the definitions given below), but supplement the standard where the NRC feels necessary with other requirements or options. The

fact that NRC representatives have participated and balloted on each standard permits this to be accomplished with little additional effort in the few cases where it might be deemed necessary.

The following policy addresses the above points, except (c), which the committee can attempt to influence only.

### 3. POLICY

Standards prepared under the cognizance of NUPPSCO shall be written to avoid ambiguity among those actions that are mandatory, recommended, or permissive. The text shall be clear in purpose and maintain technical continuity. For example, where acceptable practice includes two or more options, these options shall be clearly stated as such in the body. The number of appendices shall be kept small and shall be used to either illustrate possible approaches or to discuss known problems when clearly acceptable practice has not been widely adopted or defined.

Direction given in a standard shall be stated using one of the following verb forms.

- a. Shall, to designate a mandatory action. It is not sufficient to simply use a "shall" statement. Each requirement shall be specific, unambiguous, and within the ability of a qualified auditor to determine that the requirement has been met. This means avoiding "shall consider", "shall, if possible" and similar phrases that are not quantitative. Terms like "evaluate" and "demonstrate" carry more weight, but could still be considered difficult to properly audit.
- b. Should, to delineate a recommendation. This verb indicates that the recommended action is one of two or more acceptable actions. If the standard describes all known acceptable actions, then "shall" is to be used (in the context of "one of the following shall be done") instead of "should". Should also indicates that the issue must be addressed and that either the recommended action shall be taken or an equivalent action shall be taken and a basis given for equivalency.

This policy prohibits the use of "should" statements as a crutch in those cases where the working group is unwilling to exercise the needed unequivocal direction.

- c. May, to designate a permissive action. This verb shall not be used as a recommendation but as an indication of an added action that might otherwise be questioned as being acceptable in the context of the requirements of the standard. For example, a "may" statement might be necessary to preclude a regulatory agency from determining that such an action is not permitted simply because it was not explicitly addressed.

All "should" statements shall be placed in appendices for plant criteria standards. This class of standards puts forth the principles for the function of specified plant systems. These standards include that set of non-hardware plant requirements that bound the plant design and which shall be assumed for systems design. (See policy 3.5).

"Should" statements shall be permitted in the text of system criteria standards if the above definition of "should" is employed. These standards put forth the actual design requirements for a given system, such as performance levels, redundancy, diversity, arrangement, and safety functions (see Policy 3.5).

The writing groups, management committees, and NUPPSCO shall diligently pursue the goal of properly using "should" and "may" in accordance with the above definitions. Use of other verbs is briefly discussed in the Appendix.

## NUPPSCO POLICY 3.8

### APPENDIX

#### RELATIONSHIP TO NORMAL USAGE

Common usage of shall, should, may, and other frequently used verbs would indicate somewhat different definitions than those presented in this policy. This appendix is meant to assist the standards writer in the use of other verbs so the more common pitfalls can be avoided.

The word "may" is often used to indicate ability (to be able) or contingency. In these cases where permission is not being specifically granted, it is generally preferred to use the past tense "might". The context of the statement might dictate another word, but in any event "may" shall not be used.

The words "is," "are," "will," "need," and "must" (etc.) are often used in the context of a requirement. If a requirement is meant, then only the word "shall" is to be used.

Statements of simple fact should be avoided in the text of a standard. If such statements are needed, use of "can" and "are" (and equivalent verb forms) shall be used; "shall" and "should" shall not be used.

## NUPPSCO POLICY 3.9

### USE OF SI UNITS

#### 1. PURPOSE

This policy sets forth the requirements for the use of SI units in standards developed by NUPPSCO.

#### 2. POLICY

The use of SI units in NUPPSCO-sponsored standards shall follow the requirements set forth in NBS Special Publication 330, "The International System of Units (SI)", U.S. Department of Commerce, 1977.

SI units shall be used in all NUPPSCO-sponsored standards in one of two ways:

- a. SI units shall be provided parenthetically alongside conventional English units, or
- b. SI units shall be used exclusively.

Conversion of values from conventional to SI units shall be the responsibility of the working group.