

CERTIFIED

MINUTES OF THE ACRS SUBCOMMITTEE MEETING ON
THE PROGRAM FOR QUALIFICATION OF
SAFETY-RELATED EQUIPMENT
MAY 5, 1982
WASHINGTON, D.C.

JUL 6 1982

The ACRS Subcommittee on the Program for Qualification of Safety-Related Equipment met on May 5, 1982, at 1717 H Street, N.W., Washington, D.C. The purpose of this meeting was to discuss the final version of the proposed Rule 10 CFR 50.49, "Environmental Qualification of Safety-Related Electric Equipment for Nuclear Power Plants." A copy of the notice for this meeting is included as Attachment A. A list of attendees is included as Attachment B. The schedule for this meeting is included as Attachment C, and the handouts for this meeting are included in the ACRS Files. Selected portions of the handouts are included as Attachment D. The meeting was begun at 8:30 a.m., with a short executive session in which Mr. Ray, the Subcommittee Chairman, summarized the objectives of the meeting. The meeting was adjourned on May 5, 1982 at 5:00 p.m. All portions of this discussion were held in open session.

The ACRS members present were J. J. Ray (Chairman), J. Ebersole, and M. Bender. ACRS consultants present were P. Davis and W. Lipinski. The principal NRC Staff present were S. Aggarwal, W. Johnston, R. Mattson, and D. Sullivan. Members of Industry who expressed their views were W. Steigelmann of Synergic Resources Corporation, P. Holzman representing the Utility Group on Equipment Qualification, N. Shirley of General Electric, A. Roby of the Atomic Industrial Forum, and R. Reeves of the Tennessee Valley Authority. The NRC Designated Federal Employee was Dr. R. Savio, ACRS. Other members of the ACRS Staff included A. Cappucci.

INTRODUCTORY STATEMENT

Mr. Jeremiah Ray, Subcommittee Chairman, introduced the members of the Subcommittee and stated the purpose of the meeting. He pointed out that the meeting was being conducted in accordance with the provisions of the Federal Advisory Committee Act and the Government in the Sunshine Act.

Mr. Ray recognized the hand delivery of written comments on the Rule from Ebasco Services and entered them into the record.

DESIGNATED ORIGINAL

Certified By

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INTRODUCTORY STATEMENT (CONT'D)

The Subcommittee Chairman also made it clear to the NRC Staff that he expected them to address the ACRS concerns expressed at the July 22, 1981 Electrical Systems Subcommittee meeting and the subsequent full Committee meeting in August 1981. At that time he introduced Mr. Satish Aggarwal of the Office of Nuclear Regulatory Research.

BACKGROUND FOR FINAL RULE DEVELOPMENT

Mr. Aggarwal stated that the proposed Rule presented to the Electrical Systems Subcommittee contained seismic and dynamic qualification. It also included all equipment important to safety. Upon presentation to the full Committee in August 1981, the Staff redefined the scope of the Rule, limiting application to essentially Class 1E equipment. Mr. Aggarwal explained why the NRC Staff deleted seismic and dynamic qualification from the final Rule. He stated that value impact had not been developed for seismic and dynamic qualification. This issue would be addressed through an advanced notice of rulemaking which would allow the NRC Staff to develop a good value impact statement. This alternative plus others were presented to the Commissioners in November 1981 which included all equipment qualification for NTOLs, equipment qualification for all plants, including operating plants, and the submission of a qualification schedule.

Mr. Aggarwal stated that he believed that the NRC Staff would not require single prototype sequence testing (seismic and environmental) in the future, demonstrate only that the electrical equipment can withstand seismic qualification requirements. Mr. Ebersole suggested multiple prototypes with individual mechanical tests (seismic and environmental) after aging. Mr. Bender expressed concern that this might be left to interpretation by the licensee. For example, some licensees could age their equipment and then perform tests, while others might perform analysis because of the event not being reproducible by sequential testing. Mr. Aggarwal explained that there were four acceptable qualification methods involving this and would go through them later in the presentation.

Mr. Ray expressed concern that the industry is still vulnerable to an expensive replacement program by issuing two rules (seismic and environmental). Mr. Aggarwal indicated that the seismic and dynamic qualification rule under development would be of a confirmatory nature. It would not require any more than what is required by the present regulations.

Mr. Bender questioned the NRC Staff as to the number of plants which could be affected by this rule considering the extent of "grandfathering" involved. They indicated that operating plants whose equipment qualification program has started 90 days after the issuance of the Rule would not be required to re-qualify their equipment. Qualification by analysis would be acceptable on these plants, but would not be acceptable in the future.

R. Mattson presented a rationale for eliminating equipment qualification of cold shutdown equipment from the Rule as was required by the Commissioners. He indicated that equipment qualification should not drive decay heat removal reliability. He said that qualification of this equipment would be part of the Staff's evaluations for overall decay heat removal availability.

As part of his presentation (see Attachment D1), Dr. Mattson identified to the Subcommittee the Staff's planned actions for cold shutdown equipment, including: (1) implementation of RSB 5-1, (2) maintaining Regulatory Guide 1.139, (3) deletion of qualification requirements from the Rule, and (4) resolution of TAP A-45. He indicated that it was important to understand where you started from to get to cold shutdown, what equipment was required and the environment it would see. For example, from normal operation, the equipment would not see a harsh environment. Therefore, no need to qualify it. He stated that the only circumstance where equipment would be qualified were design basis accidents and under these conditions the cold shutdown equipment would receive qualification under the present Rule.

Mr. Bender questioned Dr. Mattson on one slide (see Attachment D2) which stated that safety grade = safety related. He verified that the interpretation referred to a functional purpose and not necessarily to any attribute of the equipment. Mr. Bender indicated that this could also lead one to

the conclusion that safety grade could be acquired without environmental qualification. Dr. Mattson agreed.

A discussion ensued between the NRC Staff and the Subcommittee concerning what equipment is used for normal and abnormal shutdown, the NRC Staff pointing out that it is not all safety grade. They further discussed the controversy surrounding cold shutdown vs. hot shutdown. Dr. Mattson indicated that industry felt that hot shutdown was a safer condition. Dr. Mattson disagreed. He indicated that it depended on the accident involved. He also indicated that a plant could not stay at hot standby with very many failures for very long.

Mr. Ebersole questioned the NRC Staff concerning the qualification of post-fire shutdown equipment. Most of this equipment is in a "mild environment" and qualified for such, while isolation is provided by dampers with melt out links which actuate at temperatures in excess of equipment overload. This could cause hot gases to enter the room and shut down the backup board. The NRC Staff indicated they would look into this problem and report back to the Subcommittee at a later date.

Mr. Ray asked Dr. Mattson if he agreed with Mr. Aggarwal's request that the Subcommittee try to persuade the full Committee to take a position on the deletion of the cold shutdown requirement. Dr. Mattson replied that it would be good for the full Committee to do this in its comments on the Rule.

OUTLINE OF THE SIGNIFICANT TECHNICAL ISSUES

Satish Aggarwal outlined the principal technical issues identified in the public comments (see Attachment D3) and proceeded through a paragraph-by-paragraph analysis of public comments and changes to the Rule.

DETAILED PARAGRAPH-BY-PARAGRAPH DISCUSSION OF THE RULE

Mr. Aggarwal indicated that seismic and dynamic qualification requirements were not included in paragraph (a) of the Rule. He stated that these requirements would be addressed by future rulemaking. He also indicated that sequence testing (seismic and environmental) would not be required for operating plants, only for NTOLs and newer plants. Mr. Bender cautioned the NRC Staff to ascertain whether seismic effects may contribute to the

equipment inability to survive. Mr. Aggarwal maintained that the NRC Staff could look at this issue at any time.

Mr. Aggarwal stated that the new rule would not require ripping out equipment if two prototypes, one for seismic and one for environmental, were used. Mr. Bender questioned whether this was obvious to industry because of separating the seismic from environmental qualification. The NRC Staff stated that Industry felt the Staff had taken a practical view and were responsive.

Mr. Ray indicated the Rule was responsive to Industry and that "grandfathering" older plants that have already started testing was practical. He suggested that the NRC Staff take the same approach with development of the Seismic Rule. The NRC Staff also stated that plants which have qualified their equipment to IE Bulletin 79-01B or NUREG-0588 prior to 90 days after the effective date of the Rule would not require requalification.

The NRC Staff next discussed the issue of mild environment qualification as it relates to the Rule. The Office of Nuclear Regulatory Research suggested that discussions of mild environment be placed in Regulatory Guide 1.89, while NRR, because of industry comments, suggested that mild environment be discussed in the Rule. Considerable discussion ensued as to what constitutes a mild environment, the Staff indicating any environment other than the accident environment. They also pointed out that this qualification would be handled through the purchase specifications. Mr. Bender pointed out that equipment sees a mild environment all the time. Also, that a mild environment is a routine environment and that the equipment will qualify itself while installed. Mr. Ebersole expressed concerns about abnormal operating occurrences which are not covered by the Rule. These included high-low pressure pipe breaks, operation of fire-fighting equipment, fires, etc. How would equipment qualify to survive in these environments? The NRC Staff pointed out that pipe breaks were a design basis event and were covered, but fire-induced environments were out of the scope of the Rule. The Staff suggested they remove references to mild environments from the Rule and insert into Regulatory Guide 1.89.

Mr. Ebersole pointed out that limiting harsh environments to design basis events is rather narrow. He indicated that there were other industrial type accidents for which equipment should be qualified for, such as steaming, flooding, spraying from fire action, numerous events which are not anticipated operational occurrences or design basis events. The NRC Staff stated that these conditions were not included in the Rule.

The NRC Staff discussed misinterpretation by industry of references to dose rates in the Rule. Industry indicated in its comments that the NRC Staff could require running radiation dose rate tests for 40 years to eliminate dose rate effects. The NRC Staff's intent was to allow accelerated radiation aging but to consider dose rate effects. This issue would be discussed in Regulatory Guide 1.89. The Staff position on accepting analysis for equipment qualification includes justifying this analysis with partial test type data. The Staff does not intend to accept analysis alone.

The NRC Staff pointed out that the provision in the proposed Rule requiring plants to justify continued operation pending meeting qualification requirements was deleted. They explained that at the time the proposed Rule was written, all plants had not met this requirement (justification of continued operation). However, since that time, this work has been completed.

RESOLUTION OF ACRS COMMENTS

Mr. Aggarwal discussed the need for a value impact evaluation. He submitted the NRC Staff's value impact statement for the final Rule to the Subcommittee. He stated that the NRC Staff's position has not changed. Studies for value impact were not required because the final Rule only codifies existing requirements and does not place new costs or obligations on industry. At that time the Chairman indicated to the NRC Staff that there was another comment by the Electrical Systems Subcommittee concerning an interpretable designation of equipment involved. The Staff indicated they had narrowed the scope and included a typical list of systems and components in Regulatory Guide 1.89.

Mr. Bender indicated that the Staff was not aware of the burden of this Rule on the industry because value impact was not performed on the Rule or on the codified guidelines. He suggested that the Staff present at least one case study of a power plant with a list of equipment covered by the Rule to demonstrate reasonable value impact. Dr. Johnston of NRR promised to have the list to Mr. Bender before May 7, 1982. Mr. Bender also pointed out that without determining what equipment is affected and how it's tested, that the Rule is premature. Mr. Ray advised the Staff to reflect on Mr. Bender's comments.

Mr. Ray questioned the NRC Staff as to the proposed schedule for Regulatory Guide 1.89. The Staff stated that because of manpower difficulties priorities were given to resolution of the comments on the proposed Rule. The NRC Staff indicated that comments on the regulatory guide were voluminous and would be resolved by the winter of 1982. Mr. Ray indicated that it would be desirable to publish both the Rule and the Regulatory Guide concurrently. The Staff indicated that the public was aware of the Staff's opinion concerning testing requirements and that this was the best they could do at this time.

INDUSTRY COMMENTS

Mr. W. Steigelmann of Synergic Resources Corporation stated that changes were required to clarify definitions such as electrical equipment, device, component, harsh environment, mild environment, and qualified life. He also indicated that the Rule should be dropped because it did not include seismic and dynamic qualification. He further stated that the industry is usually uncertain as to future requirements concerning this issue.

Mr. P. Holzman representing the Utility Group on Equipment Qualification stated that the Rule should make it clear that equipment already qualified under NUREG-0588, or the DOR Guidelines will not be required to be requalified under the Rule. He further indicated that this could be accomplished by adding footnotes to the Rule indicating this. His main concern was after the Rule had been published and the "Statement of Consideration" had been removed this would not be clear. The Staff stated that this information belongs in Regulatory Guide 1.89. Other areas discussed by Mr. Holzman were aging requirements and the feasibility of duplicating aging, replacing equipment at the end of qualified life, acceptability of qualification by analysis, the required equipment list, limit of Rule to safety-related equipment in a hostile environment, and sequential testing for seismic and LOCA. Significant comments were:

- Aging methodology for complex equipment is not adequate for full life qualification. Therefore, codification of this requirement will cause difficulty for industry.
- Aging can be addressed in the Rule by defining specific aging mechanisms.
- The NRC Staff says details on aging requirements belong in the Regulatory Guide.
- Wording implied only testing would be acceptable by the Rule.

Some discussion was held concerning testing vs. qualification as terminology in the Final Rule. Mr. Bender and Mr. Ray cautioned the Staff as to the use of these terms in the Rule. It was indicated that qualification was the better term because it included analysis. Mr. Ray suggested that the NRC Staff meet with Mr. Holzman to discuss his views. The Staff agreed.

Mr. N. Shirley of General Electric stated that issuance of Regulatory Guide 1.89 six months after issuance of the Rule was a mistake. He indicated that Industry has gone through quite a bit of agony trying to determine what the NRC Staff requirements were on implementing equipment qualification. He also stated that separation of seismic and dynamic qualification from environmental was another mistake. He stated that Industry is committed to IEEE-323 and 323 requires seismic qualification and the seismic qualification guidance is not being provided.

Mr. A. Roby of the Atomic Industrial Forum indicated that the NRC Staff has emphasized the role of testing to a point where other methods of qualification were reduced to insignificance. He suggested that the Staff have a wider acceptance of analysis in lieu of testing. Mr. Roby pointed out the expense involved in preparing a central file list of Class 1E equipment located in a mild environment. The Staff indicated that if identification documentation of this equipment was adequate and not scattered in numerous distant locations, a central listing was not necessary.

Mr. Ron Reeves of TVA expressed concerns about the Rule not being explicit in terms of implementation on NTOLs. Specifically, he expressed concern over differences between the Rule and commitments made by NTOL applicants. Dr. Johnston of the NRC Staff indicated that there should not be differences, but that there may be an interpretation problem. Also, the Rule did not state whether it applied to this group of plants. Mr. Bender suggested that the Staff clarify this.

Mr. Ray offered time to industry representatives at the full Committee meeting on May 7, 1982. Malcom Philips requested time for the Nuclear Utility Group on Equipment Qualification. Mr. Ray stated he would allow them ten minutes.

ACRS COMMENTS

Mr. Ray stated that the consensus of the Subcommittee was that a letter to Chairman Palladino could be written concerning the final Rule. Included in the letter would be the Subcommittee's major concerns. These are:

- Lack of synchronism between Regulatory Guide 1.89 and the final Rule.
- Deletion of the seismic qualification requirement from the final Rule.
- Application of the Rule to NTOLs.

Mr. Ray invited comments from the ACRS consultants, Messrs. Lipinski and Davis. Mr. Davis expressed concern over the ambiguity associated with defining exactly what equipment is included. Dr. Lipinski indicated to the NRC Staff that qualification by full testing on existing plants would not be practical. He indicated it would have to be performed by other methods such as analysis. The Subcommittee agreed.

The meeting was adjourned at 5:00 p.m.

NOTE: Additional meeting details can be obtained from a transcript of this meeting available in the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C., or can be purchased from Alderson Reporting Company, Inc., 400 Virginia Avenue, S.W., Washington, D.C. 20024, (202) 554-2345.

Advisory Committee on Reactor Safeguards, Subcommittee on Qualification Program for Safety Related Equipment; Meeting

The ACRS Subcommittee on Qualification Program for Safety Related Equipment will hold a meeting on May 5, 1982, Room 762, 1717 H Street, NW, Washington, DC. The Subcommittee will discuss the proposed final version of the rule 10 CFR 50.49, "Environmental Qualification of Electrical Equipment for Nuclear Power Plants", and time permitting proposed rulemaking for the accreditation of qualification testing organizations.

In accordance with the procedures outlined in the Federal Register on September 30, 1981 (46 FR 47903), oral or written statements may be presented by members of the public, recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Subcommittee, its consultants, and Staff. Persons desiring to make oral statements should notify the Designated Federal Employee as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements.

The entire meeting will be open to public attendance except for those sessions which will be closed to protect proprietary information (Sunshine Act Exemption 4). One or more closed sessions may be necessary to discuss such information. To the extent practicable, these closed sessions will be held so as to minimize inconvenience to members of the public in attendance.

The agenda for subject meeting shall be as follows: Wednesday, May 5, 1982—8:30 a.m. until the conclusion of business.

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, may exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will then hear presentations by and hold discussions with representatives of the NRC Staff, their consultants, and other interested persons regarding this review.

Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call to the cognizant Designated Federal Employee, Dr. Richard Savic or Staff Engineer, Mr. Anthony Cappucci (Telephone 202-634-3267) between 8:15 a.m. and 5:00 p.m., EST.

We have determined, in accordance with subsection 10(d) of the Federal Advisory Committee Act, that it may be necessary to close portions of this meeting to public attendance to protect proprietary information. The authority for such closure is Exemption (4) to the Sunshine Act, 5 U.S.C. 552b(c)(4).

Dated: April 19, 1982.
John C. Hoyle,
Advisory Committee Management Officer.
(FR Doc. 82-11233 Filed 4-22-82; 8:44 am)
BILLING CODE 7530-01-06

TIME 8:30 AM

MEETING ROOM 762

DATE 5-5-82

Attachment B1

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

MEETING

Qualification Program for
Safety Related Equipment

ATTENDEES PLEASE SIGN BELOW

(PLEASE PRINT)
NAME

BADGE NO.

AFFILIATION

(PLEASE PRINT) NAME	BADGE NO.	AFFILIATION
1 CAMPBELL, W.E. Jr	A0121	NRC-RES-DET-MSER
2 HINTZE, A.S.	B0383	NRC-RES-DEPT-ICB Washington Public Power Supply System
3 JOSHI R.G.		
4 TP HARRALL		DUICE POWER COMPANY
5 M H Philips		Debenoise & Liberman
6 PHIL HOLZEMAN		EPM, INC
7 CHARLES ADER		STONE & WEBSTER ENG. CORP
8 Bob LaGrange	B0295	NRC/NRR/DE/ECB
9 FRANCIS AKSTULEWICZ	A-0016	NRC/NRR/DSI
10 BRIAN C. RYDER		TELEDYNE ENGINEERING SERVICES
11 Paulette Tremblay		NUS
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Time 8:30 AM

MEETING ROOM 762

DATE 5-5-82

B2

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

MEETING

Qualification Program for
Safety Related Equipment

ATTENDEES PLEASE SIGN BELOW

(PLEASE PRINT)
NAME

BADGE NO.

AFFILIATION

(PLEASE PRINT) NAME	BADGE NO.	AFFILIATION
1 MICHAEL P. HORRELL		EBRAC SERVICES INC
2 CHARLES R. PIERCE		SOUTHERN CO. SERVICES
3 MARYLEE M SLOSSON		NUTECH
4 Noel Shultz		GE
5		
6		
7 L. SHAO		NRC
8		TUW
9 K. Connor		Doc-Sound, Pennsylvania
10 Laysa		AT&T
11 N.K. GARG		NUS Corporation.
12 C.G. DRAUGHTON		WESTINGHOUSE
13 R. LANCASTER		WYLE LABS
14 E.W. Thomas		Squire D Co
15 W. H. Steigelmann		SRC
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PROPOSED SCHEDULE FOR THE
ACRS SUBCOMMITTEE MEETING ON THE QUALIFICATION
PROGRAM FOR SAFETY RELATED EQUIPMENT
WASHINGTON, D.C.
MAY 5, 1982

5/4/82
ATTACHMENT
C

May 5, 1982

	<u>ESTIMATED TIME</u>	<u>PRESENTATION TIME</u>
I. Executive Session	15 Min.	8:30 - 8:45 am
II. Report by the NRC Staff		
A. Background for develop- ment of the final rule	15 Min.	8:45 - 9:00 am
B. Outline of the significant technical issues	15 Min.	9:00 - 9:15 am
C. Analysis of the final rule by detailed discussion of changes	2 Hrs	9:15 - 11:15 am
***** BREAK *****	15 Min.	11:15 - 11:30 am
D. Resolution of ACRS and public comments	1 Hr.	11:30 - 12:30 pm
***** LUNCH *****	1 Hr.	12:30 - 1:30 pm
III. Presentations by Members of the Public and Industry		
A. Synergic Resources Corporation - W. Steigleemann	15 Min.	1:30 - 1:45 pm
B. Nuclear Utility Group on Equipment Qualification / P. HOLZMAN	30 Min.	1:45 - 2:15 pm
C. General Electric - Noel Shirley	30 Min.	2:15 - 2:45 pm
D. AIF - A. ROBY	15 Min.	2:45 - 3:00 pm
***** BREAK *****	15 Min.	3:00 - 3:30 pm
E. TVA - R. REEVES	30 Min.	3:00 - 3:30 pm
F. General Discussion and ACRS Comments	30 Min.	3:00 - 3:30 pm

PLANNED ACTIONS RELATED TO COLD SHUTDOWN REQUIREMENTS

- CONTINUE IMPLEMENTATION OF BTP PSB 5-1 FOR NEW OLS AS APPROVED BY RRRC
- LEAVE RG 1.139 REV 0 IN PLACE
- RECOMMEND DELETION OF COLD SHUTDOWN REQUIREMENTS FROM PROPOSED EQ RULE
- CONTINUE RESOLUTION OF USI A-45
 - REINITIATE SURVEY OF SELECTED ORs TO DETERMINE SHUTDOWN COOLING CAPABILITY AND RELIABILITY AS APPROVED BY RRRC
 - DEVELOP QUANTITATIVE AND QUALITATIVE ACCEPTANCE CRITERIA FOR SHUTDOWN COOLING REQUIREMENTS FOR EXISTING AND FUTURE PLANTS
 - ASSESS ADEQUACY OF EXISTING PLANTS' SHUTDOWN COOLING CAPABILITY AND RELIABILITY USING ACCEPTANCE CRITERIA
 - IMPLEMENT BACKFIT OF NEW LICENSING REQUIREMENTS (IF REQUIRED)

*Page revised
See 6/1/81*

SAFETY GRADE

- SAFETY GRADE = SAFETY RELATED
- SAFETY RELATED: AS DEFINED IN 10 CFR 100, APPENDIX A
 "THOSE STRUCTURES, SYSTEMS, OR COMPONENTS DESIGNED TO REMAIN FUNCTIONAL FOR THE SSE (ALSO TERMED "SAFETY FEATURES") NECESSARY TO ASSURE REQUIRED SAFETY FUNCTIONS, I.E.,:
 (1) THE INTEGRITY OF THE REACTOR COOLANT PRESSURE BOUNDARY;
 (2) THE CAPABILITY TO SHUT DOWN THE REACTOR AND MAINTAIN IT IN A SAFE SHUTDOWN CONDITION; OR
 (3) THE CAPABILITY TO PREVENT OR MITIGATE THE CONSEQUENCES OF ACCIDENTS WHICH COULD RESULT IN POTENTIAL OFF-SITE EXPOSURES COMPARABLE TO THE GUIDELINE EXPOSURES OF THIS PART."
- GENERAL DESIGN CRITERIA FOR SAFETY-GRADE EQUIPMENT/SYSTEMS
 - GDC 1 "QUALITY STANDARDS AND RECORDS"
 - QUALITY GROUP A, B OR C. SRP 3.2.2.10 CFR 50.55A & R.G. 1.26
 SRP 7.1/7.7. . . .10 CFR 50.55A(H) IEEE-279
 - QUALITY ASSURANCE PROGRAM. . . . SRP 17.1/210 CFR 50, APPENDIX B
 - GDC 2 "DESIGN BASES FOR PROTECTION AGAINST NATURAL PHENOMENA"
 - SEISMIC CATEGORY I SRP 3.2.1R.G. 1.29
 SRP 3.10R.G. 1.100
 - FLOOD PROTECTION SRP 2.4.10R.G. 1.59/1.102
 - WIND PROTECTION SRP 3.3.1
 - TORNADO PROTECTION SRP 3.3.2
 - GDC 3 "FIRE PROTECTION"
 - FIRE PROTECTION. SRP 9.5.110 CFR 50, APPENDIX R
 - GDC 4 "ENVIRONMENTAL AND MISSILE DESIGN BASES"
 - ENVIRONMENTAL QUALIFICATION. . . SRP 3.11DOR GUIDELINES NUPEG-0588
 PROPOSED RULE - ELECT. ANPR-MECH.
 - MISSILE PROTECTION SRP 3.5.R.G. 1.27, 1.76, 1.91, 1.115 & 1.117
 - EFFECTS OF PIPE BREAKS SRP 3.6.1/2. . . .R.G. 1.46
 - GDC 5 "SHARING OF STRUCTURES, SYSTEMS & COMPONENTS"
 - SHARING. SRP-SEVERAL. . . .R.G. 1.6, 1.75, 1.81

the limited supply is available, on written request to the Office of Administration, Document Management Branch, Washington, DC 20555

Multiple comments were received pertaining to the following technical issues:

- (1) Inclusion of cold shutdown requirements
- (2) Equipment operating in a mild environment
- (3) Qualification efforts already undertaken and based on NRC/IE Bulletin 79-01B/DOR Guidelines and NUREG-0588
- (4) Requirement of maintaining a central qualification file.
- (5) Consideration of time-dependent variation of relative humidity
- (6) Aging - "qualified life"
- (7) Margins - Conservatism applied during the derivation of environmental parameters
- (8) Acceptance of analysis in combination with partial test data restricted to equipment purchased prior to May 1980.
- (9) Resubmittal of justification of continued operation for operating plants
- (10) Exclusion of seismic and dynamic requirements - sequence testing on a single prototype

Based on the comments received, the following substantive changes have been incorporated into the final rule:

- (1) The requirement to qualify equipment needed to complete one path of achieving and maintaining a cold shutdown condition, has been deleted.
- (2) A new Section (f)(5) has been added, covering the qualification of equipment located in mild environments

**Advisory Committee on Reactor
Safeguards, Subcommittee on
Qualification Program for Safety
Related Equipment, Meeting**

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Dated: April 19, 1982.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 82-11233 Filed 4-23-82; 8:44 am]

BILLING CODE 7530-01-01

TIME 8:30 AM

MEETING ROOM 762

DATE 5-5-82

Attachment B1

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

MEETING

Qualification Program for
Safety Related Equipment

ATTENDEES PLEASE SIGN BELOW

(PLEASE PRINT)
NAME

BADGE NO.

AFFILIATION

(PLEASE PRINT) NAME	BADGE NO.	AFFILIATION
1 CAMP BELL, W.E. Jr	A0121	NRC - RES - DET - MSER
2 HINTZE, A.S.	B0383	NRC - RES - DFO - ICB
3 JOSHI R.G.		Washington Public Power Supply System
4 TP HARRALL		DUIKE POWER COMPANY
5 M H Philips		Debevoise & Liberman
6 PHIL HOLZEMAN		EPM, Inc.
7 CHARLES ADER		STONE & WEBSTER ENG. CORP
8 Bob LaGrange	B0295	NRC/NRR/DE/ECB
9 FRANCIS AKSTULEWICZ	A-0016	NRC/NRR/DST
10 BRIAN C. RYDER		TELEDYNE ENGINEERING SERVICES
11 Paulette Tremblay		NUS
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PROPOSED SCHEDULE FOR THE
ACRS SUBCOMMITTEE MEETING ON THE QUALIFICATION
PROGRAM FOR SAFETY RELATED EQUIPMENT
WASHINGTON, D.C.
MAY 5, 1982

5/4/82
ATTACHMENT
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May 5, 1982

	<u>ESTIMATED TIME</u>	<u>PRESENTATION TIME</u>
I. Executive Session	15 Min.	8:30 - 8:45 am
II. Report by the NRC Staff		
A. Background for develop- ment of the final rule	15 Min.	8:45 - 9:00 am
B. Outline of the significant technical issues	15 Min.	9:00 - 9:15 am
C. Analysis of the final rule by detailed discussion of changes	2 Hrs	9:15 - 11:15 am
***** BREAK *****	15 Min.	11:15 - 11:30 am
D. Resolution of ACRS and public comments	1 Hr.	11:30 - 12:30 pm
***** LUNCH *****	1 Hr.	12:30 - 1:30 pm
III. Presentations by Members of the Public and Industry		
A. Synergic Resources Corporation - W. Steigleemann	15 Min.	1:30 - 1:45 pm
B. Nuclear Utility Group on Equipment Qualification / P. HOLZMAN	30 Min.	1:45 - 2:15 pm
C. General Electric - Noel Shirley	30 Min.	2:15 - 2:45 pm
D. AIF - A. ROBY		
***** BREAK *****	15 Min.	2:45 - 3:00 pm
E. TVA - R. REEVES		
F. General Discussion and ACRS Comments	30 Min.	3:00 - 3:30 pm

PLANNED ACTIONS RELATED TO COLD SHUTDOWN REQUIREMENTS

- CONTINUE IMPLEMENTATION OF BTP PSR 5-1 FOR NEW OLS AS APPROVED BY RRRC
- LEAVE RG 1.139 REV 0 IN PLACE
- RECOMMEND DELETION OF COLD SHUTDOWN REQUIREMENTS FROM PROPOSED EQ RULE
- CONTINUE RESOLUTION OF USI A-45
 - REINITIATE SURVEY OF SELECTED ORs TO DETERMINE SHUTDOWN COOLING CAPABILITY AND RELIABILITY AS APPROVED BY RRRC
 - DEVELOP QUANTITATIVE AND QUALITATIVE ACCEPTANCE CRITERIA FOR SHUTDOWN COOLING REQUIREMENTS FOR EXISTING AND FUTURE PLANTS
 - ASSESS ADEQUACY OF EXISTING PLANTS' SHUTDOWN COOLING CAPABILITY AND RELIABILITY USING ACCEPTANCE CRITERIA
 - IMPLEMENT BACKFIT OF NEW LICENSING REQUIREMENTS (IF REQUIRED)

*Page revised
5-26-88*

SAFETY GRADE

- SAFETY GRADE = SAFETY RELATED

- SAFETY RELATED: AS DEFINED IN 10 CFR 100, APPENDIX A

"THOSE STRUCTURES, SYSTEMS, OR COMPONENTS DESIGNED TO REMAIN FUNCTIONAL FOR THE SSE (ALSO TERMED 'SAFETY FEATURES') NECESSARY TO ASSURE REQUIRED SAFETY FUNCTIONS, I.E.,:

- (1) THE INTEGRITY OF THE REACTOR COOLANT PRESSURE BOUNDARY;
- (2) THE CAPABILITY TO SHUT DOWN THE REACTOR AND MAINTAIN IT IN A SAFE SHUTDOWN CONDITION; OR
- (3) THE CAPABILITY TO PREVENT OR MITIGATE THE CONSEQUENCES OF ACCIDENTS WHICH COULD RESULT IN POTENTIAL OFF-SITE EXPOSURES COMPARABLE TO THE GUIDELINE EXPOSURES OF THIS PART."

- GENERAL DESIGN CRITERIA FOR SAFETY-GRADE EQUIPMENT/SYSTEMS

- GDC 1 "QUALITY STANDARDS AND RECORDS"

- QUALITY GROUP A, B OR C. SRP 3.2.2. 10 CFR 50.55A & R.G. 1.26
SRP 7.1/7.7. 10 CFR 50.55A(h) IEEE-279
- QUALITY ASSURANCE PROGRAM. SRP 17.1/2 10 CFR 50, APPENDIX B

- GDC 2 "DESIGN BASES FOR PROTECTION AGAINST NATURAL PHENOMENA"

- SEISMIC CATEGORY I SRP 3.2.1 R.G. 1.29
SRP 3.10 R.G. 1.100
- FLOOD PROTECTION SRP 2.4.10 R.G. 1.59/1.102
- WIND PROTECTION SRP 3.3.1
- TORNADO PROTECTION SRP 3.3.2

- GDC 3 "FIRE PROTECTION"

- FIRE PROTECTION. SRP 9.5.1 10 CFR 50, APPENDIX R

- GDC 4 "ENVIRONMENTAL AND MISSILE DESIGN BASES"

- ENVIRONMENTAL QUALIFICATION. . . SRP 3.11 DOR GUIDELINES NUREG-0588
PROPOSED RULE - ELECT. ANPR-MECH.
- MISSILE PROTECTION SRP 3.5. R.G. 1.27, 1.76, 1.91, 1.115 & 1.117
- EFFECTS OF PIPE BREAKS SRP 3.6.1/2. R.G. 1.46

- GDC 5 "SHARING OF STRUCTURES, SYSTEMS & COMPONENTS"

- SHARING. SRP-SEVERAL. R.G. 1.6, 1.75, 1.81

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Multiple comments were received pertaining to the following technical issues:

- (1) Inclusion of cold shutdown requirements
- (2) Equipment operating in a mild environment
- (3) Qualification efforts already undertaken and based on NRC/IE Bulletin 79-01B/DOR Guidelines and NUREG-0588
- (4) Requirement of maintaining a central qualification file.
- (5) Consideration of time-dependent variation of relative humidity
- (6) Aging - "qualified life"
- (7) Margins - Conservatism applied during the derivation of environmental parameters
- (8) Acceptance of analysis in combination with partial test data restricted to equipment purchased prior to May 1980.
- (9) Resubmittal of justification of continued operation for operating plants
- (10) Exclusion of seismic and dynamic requirements - sequence testing on a single prototype

Based on the comments received, the following substantive changes have been incorporated into the final rule:

- (1) The requirement to qualify equipment needed to complete one path of achieving and maintaining a cold shutdown condition, has been deleted.
- (2) A new Section (f)(5) has been added, covering the qualification of equipment located in mild environments