

SUMMARY OF IE BULLETIN 77-01 24 HOUR REPORTS JUL 2 1975
OF UNQUALIFIED CLASS IE EQUIPMENT

Item 11

COMPONENT	NO. OF PLANTS REPORTING	BASIS FOR CONTINUED OPERATION PENDING FINAL RESOLUTION
1. NAMCO VALVE STEM MOUNTED LIMIT SWITCHES	14 UNITS	IN GENERAL THE SWITCHES ONLY PROVIDE VALVE POSITION INDICATION. WHERE CONTROL FUNCTIONS COULD BE AFFECTED THE DESIGN IS FAIL SAFE AND/OR A REDUNDANT/DIVERSE COMPONENT IS AVAILABLE
2. CONTAINMENT ISOLATION VALVE OPERATORS	1-3 UNIT STATION	THE VALVES WILL BE LOCKED CLOSED AND DERNERGIZED EXCEPT WHEN USED DURING NORMAL PLANT OPERATIONS AND UNDER CONTINUOUS SURVIELANCE
3. INSULATED INSTRUMENT AND CONTROL CABLE TERMINAL LUGS	1-2 UNIT STATION	THE ARRANGEMENT OF THE LUGS HAS BEEN CHECKED AND SCREWS TIGHTENED TO ASSURE THAT THE TERMINATION WILL NOT FAIL EVEN IF ALL THE INSULATION COMES OFF.
4. ALUMINUM LIMIT SWITCH HOUSINGS ON CONTAINMENT ISOLATION VALVES	2 UNITS AT ONE 3 UNIT STATION	THE VALVE SAFETY FUNCTION IS PERFORMED WITHIN 45 SEC. AFTER A DBA. TESTS SHOW NO FUNCTIONAL DEGREATION FOR 24 HOURS. REDUNDANT VALVES ARE LOCATED OUTSIDE CONTAINMENT. IF FAILURE OCCURS LONG TERM: THE VALVE COULD BE RETURNED TO SERVICE FROM OUTSIDE CONTAINMENT.
5. ASCO PILOT SOLENOID VALVES FOR MISC. VALVE AIR OPERATORS	10 UNITS	THE VARIED APPLICATION OF THESE PILOT VALVES REQUIRES A PLANT UNIQUE EVALUATION. IN EACH CASE THE BASIS IS SOME COMBINATION OF THE FOLLOWING: A REDUNDANT/DIVERSE COMPONENT, LOCK IN SAFE POSITION, RECENT OPERABILITY TESTS AND INSPECTIONS, POST ACCIDENT MITIGATING ACTIONS.

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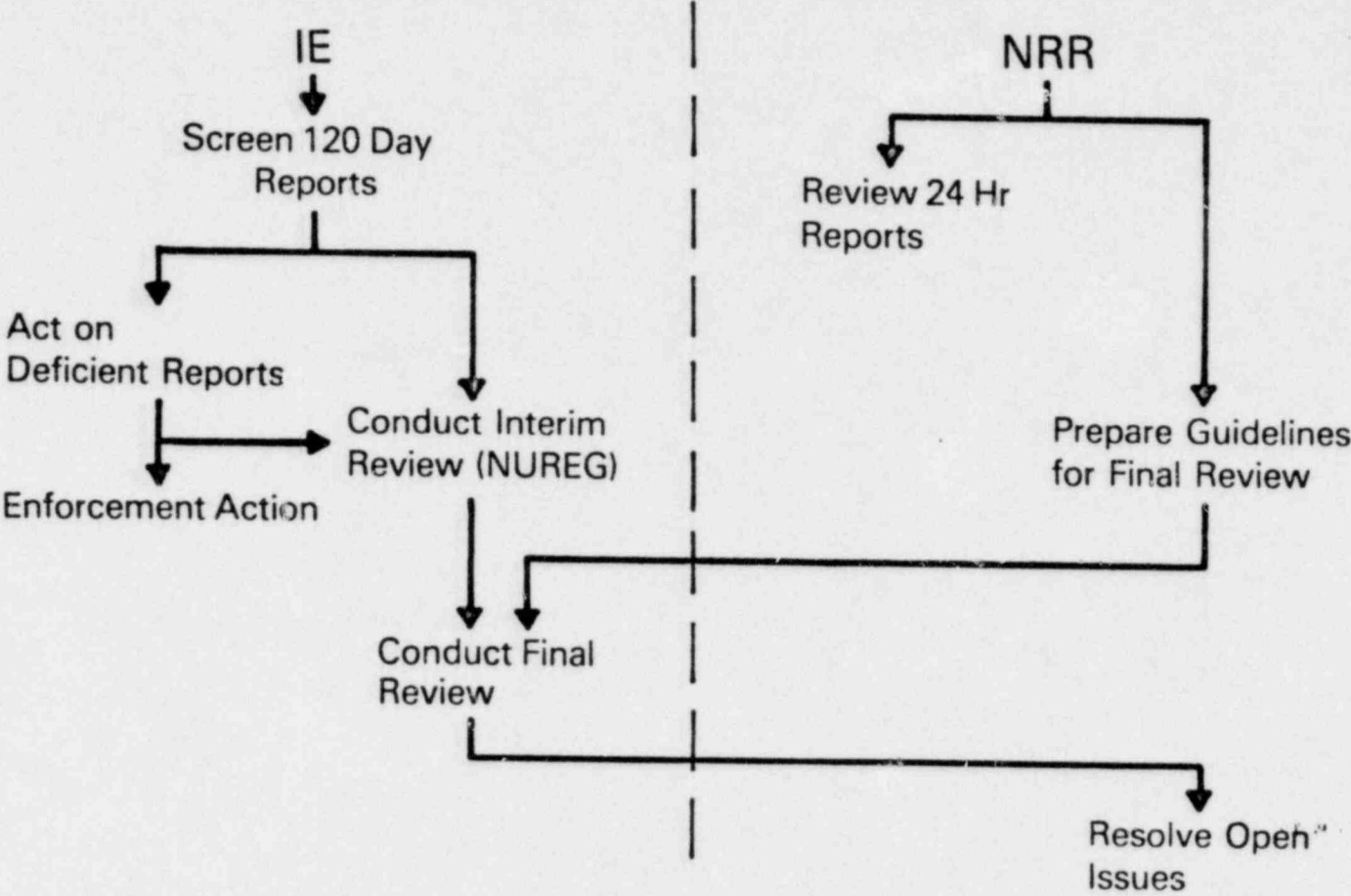
PURPOSE OF BULLETIN 79-01

Identify Electrical Equipment Required to
Function Under Accident Conditions and
Determine Adequacy of Environmental
Qualification

BULLETIN OBJECTIVES

- Expedite Licensee Review of Electrical Equipment Qualification
- Require Prompt Evaluation and Report of Unqualified Equipment
- Require Documentation of Qualification of Equipment
 - Component Description
 - Accident Environment
 - Qualification Environment
 - Manner of Qualification
- Feedback Generic Issues to All Facilities

RESPONSIBILITY FOR ACTIONS



INTERIM REVIEW

- Performed by Task Group
Regional Personnel
IE:HQS
NRR
- FSAR Commitments for Qualification
- Verification of Reports by Inspections

IE BULLETIN 79-01 24 HR. REPORTS OF UNQUALIFIED CLASS IE EQUIPMENT

Component	No. of Plants Reporting
NAMCO Valve Stem Mounted Limit Switches	14 Plants at 9 Different Stations
Containment Isolation Valve Operators	3 Plants at 1 Station
Insulated Instrument and Control Cable Terminal Lugs	2 Plants at 1 Station
Aluminum Limit Switch Housings on Containment Isolation Valves	2 Plants at 1 Three Unit Station
ASCO Pilot Solenoid Valves for Misc. Valve Air Operators	10 Plants at 7 Different Stations

SUMMARY AND STATUS OF CORRECTIVE ACTIONS

31 Plants Have Reported Unqualified Equipment

- All Have Agreed to Replace Equipment Where a Safety Function Is Affected
- Six Plants Have Completed Replacement; All Will Be Completed by Next Refueling

Continued Operation Pending Replacement Is Based on a Plant Specific Evaluation of a Combination of the Following Factors

- Redundant/Diverse Component
- Importance of the Function (e.g., Indication Only)
- Locking Component in the Safety Position
- Administrative Action and Operating Procedures
- Recent Operability Tests and Inspections
- Post Accident Mitigating Actions Available
- Fail Safe Design Features

GUIDELINES AND ACCEPTANCE CRITERIA FOR FINAL REVIEWS

- Will Be Developed by DOR In Conjunction With a Preliminary Review of Selected Licensee 120 Day Responses and SEP Information
- General Acceptance Guidelines Will Be Established With Particular Emphasis on the Following Aspects of IEEE 323-1974
 - Service Conditions
 - Test Sequence
 - Margin
 - Radiation
 - Aging
 - Testing and Analysis Methods

EQUIPMENT QUALIFICATION AGING

REG GUIDE 1.89 REQUIRES:

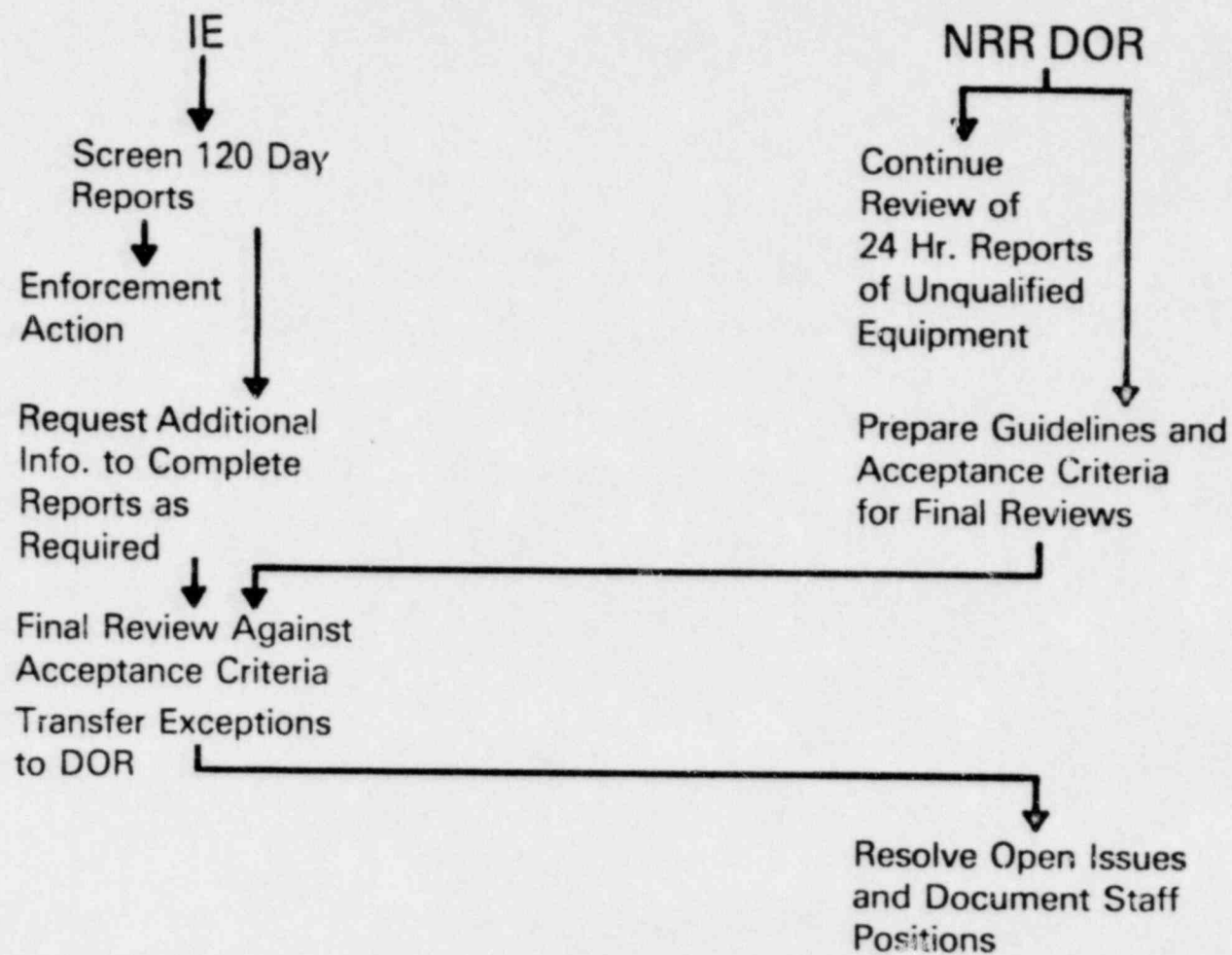
- IEEE STD 323-1974 Including Aging for SER's Issued After July 1, 1974
- Aging Not Required for SER's Issued Before July 1, 1974

Ongoing Aging Programs:

- NRC Confirmatory Research Program Studies Discussed in NUREG-0413
 - Single Environment — Combined Environment
 - Rate Effects — Alternate Damage Indicators
- SEP Aging Reviews Discussed in NUREG-0458
 - Operating Experience
 - Maintenance and Surveillance Records
 - Specific Consideration of Cable Aging Including On-Site Inspections

**PENDING COMPLETION OF
PORTIONS OF THE SEP AND THE
CONFIRMATORY RESEARCH
PROGRAM DEALING WITH AGING,
THE STAFF HAS NOT REQUIRED
THAT AGING BE ADDRESSED IN
THE LICENSEE'S RESPONSES TO
IE BULLETIN 79-01**

IE BULLETIN 79-01 TASK ORGANIZATION



STATUS OF QUALIFICATION DOCUMENTATION

- Eleven Under SEP Review
- Four Received Extension
- Twenty-Seven Preliminary Screening
- Thirty-One Total Responses Received to Date
- Fifty-Eight Total Responses Required

PRELIMINARY SCREENING RESULTS

- ___ Proportion of Components Qualified by Test
- ___ Proportion of Components Qualified by Analysis
- ___ Proportion With Questions Remaining

QUALIFICATION OF CLASS 1E SAFETY RELATED EQUIPMENT (A-24)

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KEY PERSONNEL

TASK MANAGER A. SZUKIEWICZ X29427

OMPA ANALYST D. SCHWARZ X27106

TASK REVIEWERS

NAME	BRANCH
F. AKSTULEWICZ	AEB/DSI
T. DUNNING	ICSB/DSI
L. RUTH	CSB/DSI
J. WERMIEL	ASB/DSI

TASK MANAGER

A. Szukiewicz

TASK STATUS

• PROBLEM DESCRIPTION

The NRC staff has worked with the nuclear industry to develop standards for equipment qualification and documentation which will assure the high level of equipment reliability required for nuclear applications. This effort has culminated in the development of IEEE Standard 323, "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations." This standard and its ancillary standards have provided the focal point for the development of environmental qualification requirements in recent years.

IEEE Standard 323 was first issued as a trail use standard (IEEE Std. 323-1971) in 1971 and later, after substantial revision, as a final standard (IEEE Std. 323-1974) in 1974. Both versions of the standard set forth basic requirements for environmental qualification of electrical equipment. Specific qualification methods and procedures have been reviewed and approved by the NRC staff on a case-by-case basis as a part of individual licensing actions. These licensing actions include initial construction permit and operating license applications reviews.

• TECHNICAL ASSISTANCE CONTACT STATUS

None

• ACRS INTERFACE INFORMATION

Environmental qualification has been discussed with the ACRS during specific plant reviews & during the development of R.G.1.89 NUREG-0588 (for comment) has been provided to the ACRS. A meeting may be held with the ACRS prior to issuing NUREG-0588 in final form (which will include staff resolution of the public comments).

• STANDARDS INTERFACE INFORMATION

None

INDICATES A CHANGE IN INFORMATION

SLIPPAGE ANALYSIS TASK END DATE

1978 ANNUAL REPORT 1979

CURRENT # May 5, 1981

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AS OF WEEK ENDING: FEBRUARY 13, 1981

Evolutionary nature of the process of developing equipment qualification requirements and the case-by-case implementation of them has resulted in a diversity of methods in use and different levels of documentation content to which equipment is qualified.

Aspects of equipment qualification are being pursued at the request of the NRC staff and the nuclear industry on a case-by-case basis, in order to achieve a more uniform implementation of requirements established in IEEE Standard 323-1974. Task A-24 is one of these activities. It involved the development of interim NRC staff positions regarding how the requirements of IEEE Standard 323-1974 can be met. The positions form the basis for licensing reviews of equipment qualification programs.

REGS INTERFACE INFORMATION

None

POTENTIAL PROBLEMS

Task manager is detailed to EQB for 3 months, resulting in delay in completion of final report. Review of revised NUREG by EQB has been delayed by higher priority work.

STATUS SUMMARY

NUREG-0588 containing the interim position was issued for comment in January 1980. Following a 60 day public comment period the staff is implementing these positions in the reviews of the equipment qualification programs for the Near Term Operating License applications, and in the Licensing reviews for new plants.

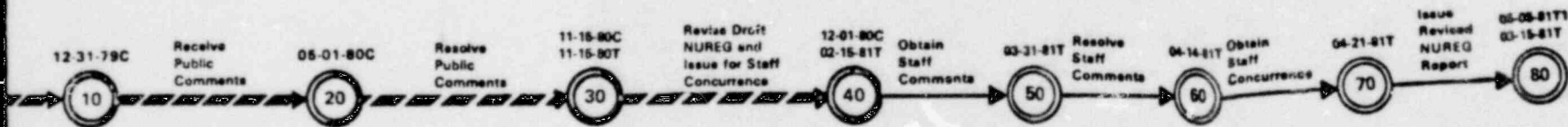
The public comment period terminated on March 17, 1980, however; comments were still being received, and accepted until May 1980. All public comments and most staff comments have been incorporated in a draft of the final NUREG. A delay in completion of the final NUREG is required to provide time for preparation and resolution of EQB comments.

FOR ORIGINAL

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QUALIFICATION OF CLASS 1E SAFETY RELATED EQUIPMENT (A-24)

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Issue Draft
NUREG-0588
for Comment



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