



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

August 11, 1989

Sabana
ENCLOSURE 3
REMOVED.

MEMORANDUM FOR: James M. Taylor
Acting Executive Director
for Operations

FROM: Edward L. Jordan, Chairman
Committee to Review Generic Requirements

SUBJECT: MINUTES OF CRGR MEETING NUMBER 164

The Committee to Review Generic Requirements (CRGR) met on Wednesday, June 28, 1989 from 12:00-5:00 p.m. A list of attendees for this meeting is attached (Enclosure 1). The following items were addressed at the meeting:

1. W. Houston (RES) and W. Beckner (RES) presented for CRGR review a proposed guidance document for the IPE process, NUREG-1335. The Committee recommended issuing the proposed guidance subject to resolution of several concerns and concurrence by OGC and NRR. The Committee requested that the revised NUREG be returned to the Committee for review prior to issuance. This matter is discussed in Enclosure 2.
2. A. Thadani (NRR), F. Rosa (NRR) and O. Chopra (NRR) presented for CRGR review 21 SRP sections revised to reflect new requirements and staff positions being implemented in connection with the Station Blackout Rule. The Committee recommended in favor of issuing the revised SRP sections, subject to resolution of several recommendations. This matter is discussed in Enclosure 3.
3. J. Richardson (NRR) and R. Herman (NRR) presented for CRGR review a proposed bulletin related to stress corrosion cracking in Anchor Darling Valves. The Committee recommended in favor of issuing the proposed bulletin provided the staff determines the valve population size involved and whether industry will initiate corrective actions without a bulletin. This matter is discussed in Enclosure 4.

In accordance with the EDO's July 18, 1983 directive concerning "Feedback and Closure of CRGR Reviews," a written response is required from the cognizant office to report agreement or disagreement with the CRGR recommendations in these minutes. The response, which is required within five working days after receipt of these minutes, is to be forwarded to the CRGR Chairman and if there is disagreement with CRGR recommendations, to the EDO for decisionmaking.

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Questions concerning these meeting minutes should be referred to Jim Conran (492-9855).

Original Signed by:
E. L. Jordan

Edward L. Jordan, Chairman
Committee to Review Generic
Requirements

Enclosures:
As stated

cc w/enclosures:
Commission (5)
SECY
J. Lieberman
P. Norry
M. Malsch
Regional Administrators
CRGR Members

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A. Thadani (w/enc.)
F. Rosa (w/enc.)
O. Chopra (w/enc.)
W. Beckner (w/enc.)
W. Houston (w/enc.)
J. Richardson (w/enc.)
R. Herman (w/enc.)
E. Jordan (w/enc.)
J. Heltemes (w/enc.)
J. Conran (w/enc.)
C. Sakenas (w/enc.)

OFC	: AEOD:CRGR	: AEOD-DD	: C/CRGR/AEOD	:	:	:	:
NAME	: CSakenas	: JHeltemes	: EJJordan	:	:	:	:
DATE	: 8/07/89	: 8/10/89	: 8/11/89	:	:	:	:

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Date 3/27/90

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REMARKS

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Material Related to CRGR Meeting No. 164
to be made Publicly Available

1. Memo dated August 11, 1989, for J. Taylor from E. Jordan, subject: Minutes of CRGR Meeting Number 164, including two enclosures which were not previously released:
 - a. Enclosure 2, a summary of discussions of a proposed guidance document for the IPE Process (NUREG-1335), including two attachments.
 - b. Enclosure 4, a summary of discussions of a proposed bulletin on Stress Corrosion Cracking in Anchor Darling Valves, including one attachments.
2. Memo dated June 14, 1989, for E. Jordan from E. Beckjord forwarding review materials on a proposed guidance for conduct of IPE (NUREG-1335).
3. Memo dated June 13, 1989, for E. Jordan from J. Snizek forwarding review materials on a proposed bulletin on Stress Corrosion Cracking in Anchor Darling Valves.

Sent to PDR on: 3/27/90

Note: This is a partial release. Material related to discussion of SRP sections related to the Station Blackout Rule are not yet releasable.
(ENCLOSURE 3 TO 8/11/89 MEMO)

ATTENDANCE LIST
FOR
CRGR MEETING NO. 164

June 28, 1989

CRGR MEMBERS

E. Jordan
D. Ross
F. Miraglia (for J. Snizek)
R. Bernero
J. Moore (for J. Goldberg)
L. Reyes

CRGR STAFF

C. J. Heltemes
J. Conran
C. Sakenas

NRC STAFF

W. Houston	T. G. Scarbrough
W. Minners	C. Y. Cheng
A. Thadani	C. Berlinger
W. Beckner	J. Richardson
J. Murphy	R. Herman
P. Kadambi	C. E. Rossi
F. Eltwaila	
G. Kelly	
E. Chow	
F. Coffman	
J. Glynn	
D. Houston	
T. E. Collins	
J. Flack	
W. T. Pratt (BNL)	
A. Viette-Cook	
A. Serkiz	
F. Rosa	
J. Knight	
J. Wermiel	
R. Architzel	
M. El-Zeftawy	
O. Chopra	
C. D. Sellers	
T. K. McLellan	
L. B. Marsch	

Enclosure 2 to the Minutes of CRGR Meeting No. 164
Proposed Guidance for the Conduct of IPE (NUREG-1335)

June 28, 1989

TOPIC

W. Houston (RES) and W. Beckner (RES) presented for CRGR review the proposed licensee IPE guidance document, NUREG-1335, "Individual Plant Examination: Submittal Guidance." This guidance document was referred to in the IPE Generic Letter (GL 88-20); when approved and issued to licensees, it starts the clock for submittal of licensees' proposed IPE programs within 60 days, as specified in GL 88-20. Copies of the slides used by the staff to guide their presentation and the discussion with the Committee at this meeting are enclosed (Attachment 1).

BACKGROUND

1. Draft NUREG-1335 dated June 1989 was submitted for CRGR review in this matter; that document was transmitted by memorandum dated June 14, 1989, E. S. Beckjord to E. L. Jordan. The draft NUREG included the following appendices and enclosures:
 - a. Appendix A - "Approach to the Level 2 Portion of the IPE"
 - b. Appendix B - "PRA References"
 - c. Appendix C - "NRC Response to Comments and Questions"
 - d. Appendix D - "Staff Review Guidance"
 - e. Appendix R - "List of References"
2. The draft NUREG-1335 was submitted to CRGR for review by CRGR prior to obtaining OGC and NRR concurrence. At the request of the CRGR staff, NRR provided their (draft) review comments on the NUREG for CRGR consideration at this meeting (Attachment 2).

CONCLUSIONS/RECOMMENDATIONS

The Committee did not complete their review of the proposed IPE guidance document at this meeting; continuation of the review was tentatively scheduled for the planned CRGR meeting on July 26, 1989. Although the review of this item was not completed at this meeting, in their discussions with the staff the Committee offered several general comments and suggested a number of specific modifications for improvement of the proposed guidance document; principal among these were the following:

1. NRR's draft review comments on the proposed NUREG (Attachment 2) were made available for Committee consideration; but the resolution of NRR's final comments and NRR's official concurrence were still pending at the time of this meeting. Concurrence by OGC was also still pending, and the Committee had not had the chance to consider OGC comments in any form. The staff stated that resolution of all known major interoffice comments had been accomplished, and that status was reflected in the draft NUREG submitted for CRGR review. No significant problems were anticipated by RES in obtaining final formal concurrence by OGC and NRR. The Committee agreed to continue their review of this item on the basis of RES' representations in that regard, but recommended that the staff try to resolve all interoffice comments and obtain concurrences before the next meeting on this item; the staff agreed to do so. It was understood that if RES failed to do so, and subsequent comment resolution resulted in substantive change to the package, a complete re-review of this item by CRGR might be required.
2. In response to CRGR questions regarding Appendix D of the proposed NUREG, ("Staff Review Guidance") the staff affirmed that the proposed NUREG was intended to provide both the detailed licensee guidance and the staff review guidance promised explicitly in GL 88-20. The Committee's expectation had been that much more detailed review guidance, of a kind that would facilitate decision-making regarding the adequacy of licensees' IPE submittals, would be provided. The staff stated that the intended IPE review effort was to be process oriented, and was not intended to concentrate on details of the licensee's analyses. RES felt, therefore, that the limited general review guidance proposed in Appendix D was appropriate and adequate. The Committee noted, however, that Appendix D clearly indicates that the staff will perform some detailed review or audit of IPE submittals; and they were skeptical that the very limited amount of very general guidance provided in the (two page) proposed Appendix D in the draft NUREG would be useful to reviewers in determining the acceptability of those IPE submittals subjected to detailed scrutiny by staff reviewers.

After much discussion on this point, the staff agreed that if, at any point in the process, the need is seen for additional review guidance beyond that contained explicitly either in Appendix D or appropriate references cited in Appendix R of the NUREG, the proposed additional guidance will be submitted to CRGR for review. (This agreement does not apply to procedural guidance for the IPE review. The staff has already anticipated the need for additional procedural guidance for the IPE review teams; but this guidance will not contain acceptance or decision criteria of the kind that would require review by CRGR.)
3. There was discussion of how the evaluation of proposed enhancements to Mark I containments (reviewed by CRGR at Meeting Nos. 152 and 155) might be folded into the IPE effort, in view of recent developments in the Commission's recent consideration of the Mark I issue. The Committee recommended that the staff be prepared at the next meeting on this item to discuss possible revisions to the NUREG-1335 package to address the coordination of these two severe accident-related efforts in the IPE context.

4. CRGR questioned at some length the staff's intent with regard to the guidance provided to licensees in Appendix A ("Level 2 Portion of IPE"). The Committee felt that for some licensees with containment types whose severe accident response is already fairly well understood (e.g., large dry containments), there should be a clear option for licensees to assert for summary disposition that a very detailed containment analysis (such as suggested by the proposed Appendix A content) is not needed. The Committee recommended that the package be revised to make clear that the detailed containment analysis described in Appendix A is not the minimum acceptable treatment of containment expected in IPE submittals. The staff stated that it was not their intent to specify that licensees themselves must perform all the detailed containment analyses indicated in Appendix A; and they agreed to propose revisions to the guidance package to make clearer their intent in that regard.
5. The Committee recommended that the wording of Section 1.1 of the draft NUREG be modified to conform more closely with the analogous wording of GL 88-20. For example, in GL 88-20, licensees are requested, not required, to perform an IPE; and a stated objective of the IPE is, if necessary, to reduce the overall probability of core damage and release of radioactive material, etc. Also, the staff and OGC should consider the appropriateness of use of the term "reasonable assurance" in the first paragraph on page 1-5 of the draft NUREG. That term has a well established meaning that implies a required finding against existing legal requirements within the current licensing basis of operating reactors. So its use in this context could too easily be misunderstood.
6. The Committee recommended that guidance be added to Section 2.1.6.4 of the draft NUREG for licensees to consider the information developed by the staff for the resolution of Generic Issue 84 (CE plants without PORVs) for completeness in their treatment of decay heat removal in the IPE. This would involve listing as references in the NUREG and making available in the PDR the analyses and documents developed by the staff in their study to date of that generic issue.
7. The staff should clarify references to NUREG-1150 in the IPE guidance document (i.e., 1987 vs. 1989 version).
8. The staff should make clearer the distinction between IPE material intended to be submitted and that intended to be compiled/retained (e.g., at pages 2-2, 2-8, 2-9, and A-3).

The staff agreed to provide in advance of the next meeting with CRGR on this item a revised draft of NUREG-1335, reflecting the Committee's comments and recommendations from this meeting.

**CRGR REVIEW MEETING
ON
INDIVIDUAL PLANT EXAMINATION
SUBMITTAL GUIDANCE
NUREG-1335**

**R. W. HOUSTON, DIRECTOR
DIVISION OF SAFETY ISSUE RESOLUTION
OFFICE OF NUCLEAR REGULATORY RESEARCH**

**W. D. BECKNER, CHIEF
SEVERE ACCIDENT ISSUES BRANCH
DIVISION OF SAFETY ISSUE RESOLUTION**

JUNE 28, 1989

BACKGROUND

- **CRGR BRIEFED ON IPE PLANS ON NOVEMBER 25, 1987.**
- **CRGR REVIEWED THE IPE GENERIC LETTER DURING AN EXTENDED MEETING STARTING ON APRIL 18, 1988.**
- **SECY-88-205 ISSUED ON JULY 15, 1988 REQUESTED COMMISSION APPROVAL TO ISSUE THE IPE GENERIC LETTER. COMMISSION WAS BRIEFED ON AUGUST 5, 1988 AND APPROVED ISSUANCE OF THE GENERIC LETTER IN AN SRM DATED OCTOBER 14, 1988.**
- **CRGR REVIEWED THE STAFF EVALUATIONS OF THE IDCOR IPE METHODOLOGIES ON SEPTEMBER 22, 1988.**
- **STAFF EVALUATION OF THE IDCOR IPE METHODOLOGY FORWARDED TO NUMARC BY LETTER OF NOVEMBER 23, 1988.**
- **GENERIC LETTER NO. 88-20 ISSUED NOVEMBER 22, 1988.**
- **NUREG-1335, 'INDIVIDUAL PLANT EXAMINATION: SUBMITTAL GUIDANCE' DRAFT FOR COMMENT ISSUED IN JANUARY 1989.**
- **NUMARC PROVIDED UTILITY COMMENTS AND QUESTIONS ON THE GENERIC LETTER AND STAFF EVALUATION OF THE IDCOR IPE METHODOLOGIES FEBRUARY 8, 1989.**
- **WORKSHOP HELD IN FORT WORTH ON FEB 28 - MAR 2, 1989 TO ADDRESS QUESTIONS AND COMMENTS ON THE IPE GENERIC LETTER, THE IDCOR IPE METHODOLOGY EVALUATIONS AND NUREG-1335. SUBSEQUENT NUMARC AND UTILITY COMMENTS RECEIVED FOLLOWING THE WORKSHOP.**

BACKGROUND (CONTINUED)

- **A MAJOR ISSUE DURING THE EXTENDED APRIL 18, 1989 CRGR REVIEW OF THE IPE GENERIC LETTER WAS THE ADEQUACY OF THE GUIDANCE TO INDUSTRY IN PERFORMING THE IPE . PARTICULARLY WITH RESPECT TO THE BACK-END. THE INTENT AT THAT TIME, AS STATED IN THE GENERIC LETTER, WAS TO PROVIDE ADDITIONAL GUIDANCE AND TO HOLD WORKSHOPS PRIOR TO STARTING THE IPE PROCESS.**
- **THE CRGR INDICATED THAT THE IPE SUBMITTAL GUIDANCE DOCUMENT SHOULD BE ISSUED AS A DRAFT FOR COMMENT AND REVISED TO REFLECT COMMENTS AND QUESTIONS FROM THE WORKSHOP. CRGR WOULD THEN REVIEW THE REVISED DOCUMENT PRIOR TO FINAL ISSUANCE.**
- **AS STATED IN THE GENERIC LETTER, ISSUANCE OF THE FINAL GUIDANCE DOCUMENT WILL FORMALLY START THE IPE PROCESS, WITH INITIAL UTILITY SUBMITTALS DESCRIBING PLANS AND SCHEDULES DUE WITHIN 60 DAYS.**
- **THE IPE SUBMITTAL GUIDANCE DOCUMENT WAS ORIGINALLY CONTEMPLATED TO ALSO CONTAIN STAFF REVIEW PLANS FOR IPE SUBMITTALS. THE REVIEW PLAN SECTION OF NUREG-1335 WAS REMOVED PRIOR TO ISSUING THE DRAFT FOR COMMENT DUE TO CONCERNS ABOUT RESOURCES REQUIRED TO PERFORM THE REVIEWS AS DESCRIBED IN THE DRAFT. ALL PORTIONS OF THE DELETED REVIEW GUIDANCE THAT CONTAINED IMPLIED SUBMITTAL GUIDANCE WERE PLACED BACK IN THE DOCUMENT. AS STATED AT THE WORKSHOP, ALL GUIDANCE IS TO BE CONTAINED IN THE SUBMITTAL SECTION OF NUREG-1335 AND NO IMPLIED SUBMITTAL GUIDANCE IS TO BE INCLUDED IN STAFF REVIEW PLANS.**

IPE WORKSHOP

- THE WORKSHOP WAS ATTENDED BY OVER 300 PARTICIPANTS. IT WAS GENERALLY VIEWED TO HAVE BEEN A VERY PRODUCTIVE EXCHANGE OF INFORMATION. MANY POSITIVE COMMENTS AND QUESTIONS WERE RECEIVED, BOTH AT THE WORKSHOP AND IN SUBSEQUENT WRITTEN RESPONSES.
- ALL QUESTIONS AND COMMENTS FROM THE WORKSHOP HAVE BEEN SUMMARIZED AND ADDRESSED IN APPENDIX C OF NUREG-1335.
- INDUSTRY VIEWS ON THE ADEQUACY OF THE GUIDANCE VARIED WIDELY AND WERE SOMETIMES CONTRADICTORY. COMMENTS RANGED FROM REQUESTING MORE DETAILED GUIDANCE TO REQUESTS TO BE LESS PRESCRIPTIVE.
- IN GENERAL, UTILITIES THAT HAD EXPERIENCE WITH PRAs OR IPEMs SEEMED TO BE COMMITTED TO THE PROCESS, INDICATED THAT THEY KNEW HOW TO PROCEED, AND TENDED TO WANT FLEXIBILITY, NOT PRESCRIPTIVE GUIDANCE.
- SOME UTILITIES WITH LESS PRA EXPERIENCE SEEMED TO VIEW IPE GUIDANCE AS A NEW FORM OF "LICENSING REQUIREMENT" AND WERE CONCERNED THAT, WITHOUT SPECIFIC GUIDANCE, THEY MAY BE IN VIOLATION OF SOME "REGULATION".
- THE MAJOR AREA IDENTIFIED FOR CLARIFICATION WAS GUIDANCE ON AN ACCEPTABLE BACK-END.

IPE SUBMITTAL GUIDANCE - NURJ/G-1335

- **THE IPE SUBMITTAL GUIDANCE HAS BEEN REVISED AS A RESULT OF THE WORKSHOP COMMENTS AND QUESTIONS. MAJOR REVISIONS ARE TO PROVIDE CLARIFICATION IN A NUMBER OF AREAS, TO PROVIDE ADDITIONAL FLEXIBILITY, AND TO SPECIFICALLY ADDRESS ALL QUESTIONS AND COMMENTS FROM THE WORKSHOP.**
- **KEY SECTIONS OF THE DOCUMENT INCLUDE:**
 - **CHAPTER 1 CONTAINS THE INTRODUCTION AND OBJECTIVES OF THE DOCUMENT.**
 - **CHAPTER 2 PROVIDES A STANDARD TABLE OF CONTENTS FOR THE IPE SUBMITTAL, SPECIFIC DETAILS OF WHAT INFORMATION IS TO BE SUBMITTED AND GUIDANCE IN CERTAIN AREAS ON HOW TO PERFORM THE IPE.**
 - **APPENDIX A IS A NEW SECTION PROVIDING FURTHER GUIDANCE ON THE IPE BACK-END.**
 - **APPENDIX B IS A LIST OF PRAs THAT HAVE BEEN PERFORMED BY EITHER THE NRC OR BY INDUSTRY AND REVIEWED BY THE NRC.**
 - **APPENDIX C IS A SUMMARY OF ALL QUESTIONS AND COMMENTS FROM THE WORKSHOP AND THE NRC RESPONSE.**
 - **APPENDIX D IS A VERY SHORT SECTION ON REVIEW PLANS.**

IPE SUBMITTAL GUIDANCE - NUREG-1335 (CONTINUED)

- **MAJOR REVISIONS OF NUREG-1335 AS A RESULT OF THE WORKSHOP INCLUDE:**
 - **THE ADDITION OF THE APPENDICES, PARTICULARLY APPENDIX A CONTAINING BACK-END GUIDANCE.**
 - **FLEXIBILITY IN A NUMBER OF AREAS INCLUDING INCLUSION OF INTERNAL FLOODING AND THE SUBMITTAL FORMAT (APPROVED ON A CASE-BY-CASE BASIS FOR UTILITIES THAT HAVE ALREADY STARTED THEIR IPEs), LICENSEE PARTICIPATION IN THE INDEPENDENT REVIEW, USE OF LARGE EVENT TREE/SMALL FAULT TREE METHOD (INCLUDING SCREENING CRITERIA FOR USE WITH THIS METHOD), TREATMENT OF MULTI-UNIT SITES, AND ASSESSMENT OF THE ABILITY OF EQUIPMENT TO FUNCTION IN A SEVERE ACCIDENT ENVIRONMENT.**
 - **CLARIFICATION OF A NUMBER OF AREAS OF UTILITY MISUNDERSTANDING/CONCERN (E.G., NO NEED TO PERFORM CONTAINMENT STRUCTURAL ANALYSES, NO INTENT TO EXTEND EQ REQUIREMENTS OF 10 CFR 50.49 INTO THE SEVERE ACCIDENT AREA).**
- **ENHANCEMENTS TO THE IDCOR IPEM CONTINUE TO BE NEEDED FOR THE FRONT-END IPE ANALYSIS.**

SUBJECT: IPE SUBMITTAL GUIDANCE (NUREG 1335), DATED MAY 1989

NRR has reviewed a recent copy of NUREG-1335 and has substantial comments we believe need to be addressed and resolved prior to public issuance of the report. We also believe, however, that the CRGR could begin its review of the report having knowledge of NRR's comments by copy of this memorandum.

NRR comments are of two types -- editorial, suggesting changes in structure or noting errors; and constructive remarks on the content of passages which in our view should be improved. Many of the editorial comments have been passed on to you in a markup delivered on Friday, June 9. The two markups accompanying this memorandum are identified as "A" and "B." Below are summarized some of our remarks on selected pages:

1. The foreword needs rewriting as it appears to be the same one that was in the draft NUREG-1335 issued prior to the workshop.
2. Section 3 Staff Review Guidance has been removed to Appendix D, is only two pages, reveals staff intentions in a general way, and gives little specific information to the public on the staff review process. Essentially no information is given on criteria staff will use to agree or disagree with the licensee on the licensee's conclusions regarding vulnerabilities and fixes for them. Further, two lines on the second page indicate that the staff should review whether there are any attendant risks associated with the proposed (by the licensee) modifications. This is an important point that should be addressed by the licensee in proposing any modification, and we believe such direction to the licensees should be given in Sections 1 or 2 of the document.
3. On page 1-1 (see markup B) the list of four objectives for the IPE's is identical to that in the IPE generic letter (IPEGL) except for the elimination of the words "if necessary" at the beginning of objective (4). This omission results in an improper upward ratchet in objectives since (4) then moves closer to requiring that plant modifications be done without regard to how low the perceived plant residual risk might be. The implication is that changes are necessary if such changes help prevent or mitigate severe accidents, whether or not there are any identified "vulnerabilities" and even if plant design and operating risk is demonstrably very low.

4. Section 1.4 Goals for This Document states that a positive staff conclusion "... would be that there is reasonable assurance that the IPEM or the PRA represents the plant, its operation, and its safety strength and vulnerabilities ...". An IPEM is not intended to give reasonable assurance of "safety strength" but rather is intended to identify vulnerabilities. As a minimum, "safety strength" should be eliminated. The reasonable assurance finding should be limited to a finding that no vulnerabilities exist, i.e., the IPE objective. This section should also explicitly state, as indicated in the IPEGL on page 8, item 11, that a goal is to provide additional licensee guidance on the conduct of the IPE and associated submittals to the NRC so that the four objectives of the IPE (as stated in Section 1.1) can be achieved.
5. Section 2.4, second paragraph describes material a licensee should submit to demonstrate the quality of the utility's in-house review to validate the IPE process. The direction to provide the positions and technical backgrounds of the review team members is excessive and should be deleted.
6. On page 2-23, Section 2.5 discusses consideration of external events. The discussion should point out, as does the IPEGL, that if the licensee chooses to submit an external event examination, the staff would review it.
7. Section 2.1.6 item 7 discusses the reporting guidelines for discussions of USI's and GSI's that have been assessed, including a discussion of the technical basis for resolutions proposed. The detailed guidelines seem to require justification of the method used to identify vulnerabilities associated with the USI or GSI, and the contribution of each to core damage frequency or containment performance including uncertainties. The IPEGL states that when a licensee concludes that no vulnerability exists at its plant that is topically associated with any USI or GSI, the staff will consider the USI or GSI resolved on acceptance of the IPE results. This situation should not require the detailed analysis of each USI and GSI described in items 7 (b) and (c), and this should be clarified in item 7.
8. On page C-21, the response to question 13.2 is misleading in stating that resolution of (USI) A-45 has been achieved. The IPEGL states that the staff concluded that a generic resolution would not be cost effective, that resolution could only be achieved on a plant-specific basis, and that the most efficient way to resolve A-45 is to subsume it in the IPE, where the USI will be resolved separately for each plant. The response to 13.2 should reflect this policy.
9. Appendix C, response to 25.3; The response states that draft NUREG 1150 is available. This should be modified as the 1989 revision should be available.
10. Appendix C, response to 2.8; The response simply does not respond to the question. A more specific response on the acceptability of MAAP should be given.

Enclosure 4 to the Minutes of CRGR Meeting No. 164
Proposed Bulletin Regarding Stress Corrosion Cracking of
Internal Bolting in Anchor Darling Swing Check Valves

June 28, 1989

TOPIC

J. Richardson (NRR) and R. Herman (NRR) presented for CRGR review a proposed bulletin on stress corrosion cracking of high-hardness type 410 stainless steel internal preloaded bolting in Anchor Darling Model S350W swing check valves and valves of similar design. This concern was first raised in Information Notice 88-05, "Broken Retaining Block Studs on Anchor Darling Model S350W Swing Check Valves," issued on October 14, 1988. Copies of the slides used by the staff to guide their presentation are attached to this enclosure.

BACKGROUND

The documents submitted for CRGR review in this matter were transmitted by memorandum dated June 13, 1989, J. H. Sniezek to E. L. Jordan and included the following documents:

1. Draft bulletin
2. Response to the CRGR Charter
3. References

CONCLUSIONS/RECOMMENDATIONS

As a result of their review of this matter, including discussions with the staff at this meeting, the Committee recommended in favor of issuing the proposed bulletin subject to resolution of the following recommendations. All changes are to be coordinated with the CRGR staff.

1. Obtain through the Nuclear Plant Reliability Data System (NPRDS), the number of Anchor Darling Check valves that are in use to determine whether the number is sufficient to warrant issuance of a bulletin.
2. The bulletin should be revised to be less prescriptive by removing requested actions A.1, 5, and 6.
3. Contact NUMARC to determine the extent of industry initiated actions. In particular, obtain the status of the EPRI guidelines on this issue to determine whether the bulletin is really needed or if industry will take sufficient action on their own to resolve this issue.

**CRGR MEETING
PROPOSED BULLETIN REGARDING
ANCHOR DARLING MODEL S350W
AND SIMILAR DESIGNED CHECK VALVES
JUNE 28, 1989**

SWING CHECK VALVE

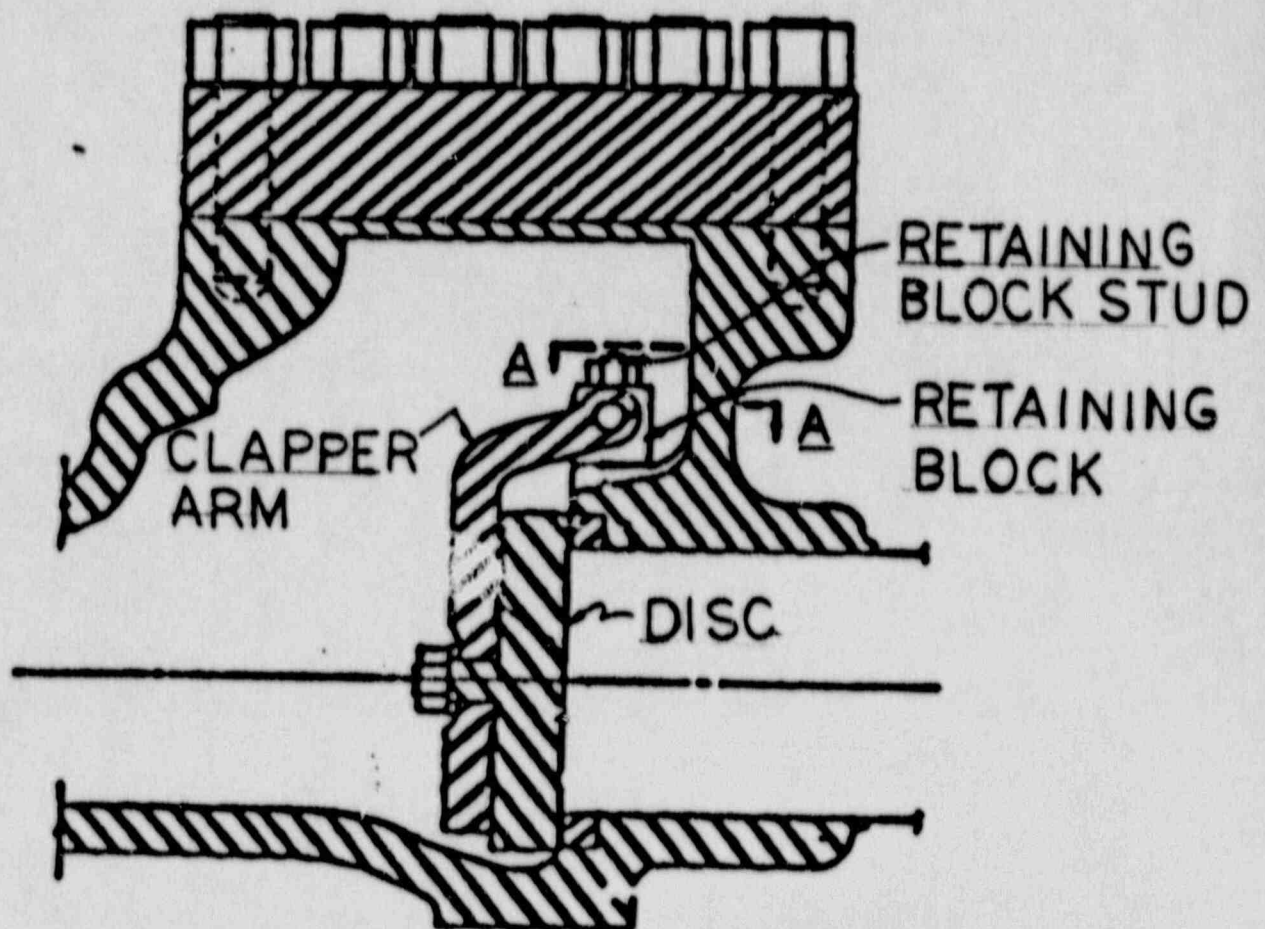
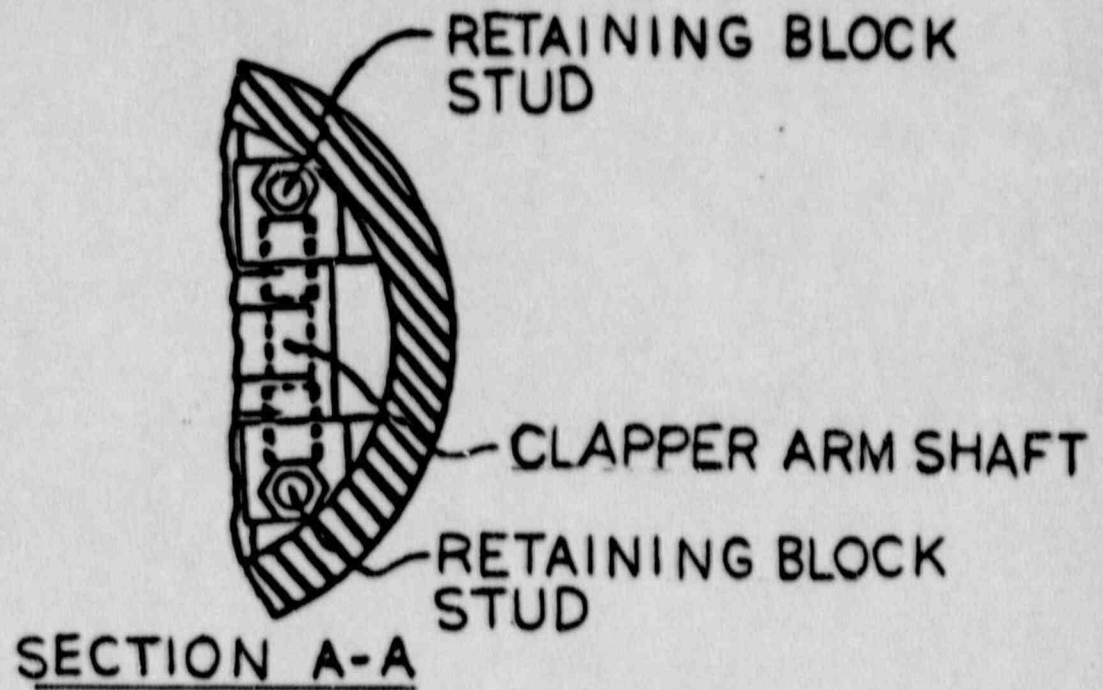


FIGURE 1

BACKGROUND

- ★ DIABLO CANYON, UNIT 2 - OCTOBER 1988, FAILURE OF
INTERNAL PRELOADED RETAINING BLOCK STUDS
TYPE 410 STAINLESS STEEL(SS) IN ANCHOR DARLING(A/D)
MODEL S350W SWING CHECK VALVES.
- ★ DC COOK, UNITS 1&2 - OCTOBER 1988, FAILURE OF
INTERNAL PRELOADED RETAINING BLOCK STUDS
TYPE 410 SS IN A/D MODEL S350W SWING CHECK VALVES.
- ★ J.A. FITZPATRICK - FEBRUARY 1987, FAILURE OF BOLTS
TYPE 410 SS IN HIGH PRESSURE COOLANT INJECTION
TERRY TURBINE THROTTLE VALVE LIFTING BEAM.
- ★ EMTB ACTION PLAN - NOVEMBER 1988, MEMO TO
MR. F. MIRAGLIA FROM MR. L. SHAO TRANSMITS
EMTB ACTION PLAN FOR A/D AND SIMILAR
DESIGNED SWING CHECK VALVES.
- ★ JANUARY 12, 1989 - 1st MEETING PER ACTION PLAN
BETWEEN NSSS OWNERS GROUP, NUMARC, AND NRC STAFF.
- ★ MARCH 28, 1989 - 2nd MEETING PER ACTION PLAN
BETWEEN NSSS OWNERS GROUP, NUMARC, AND NRC STAFF.

POTENTIAL SAFETY IMPLICATIONS

SYSTEM CONSIDERATIONS

- ★ POTENTIAL BLOCKAGE OF SYSTEM FLOW, CAUSING SYSTEM TO BE NON-FUNCTIONAL.
- ★ FAILURE OF VALVE TO RESEAT
- ★ STUD FAILURES AFFECTING MULTIPLE SWING CHECK VALVES.

MAJOR MATERIALS CONCERNS

- ★ STUD FAILURES FROM IGSCC
- ★ CASUAL FACTORS:
 - IMPROPER HEAT TREATING (HARDNESS > Rc 26)
 - IMPROPER PRE-LOAD OF STUDS DURING INSTALLATION.

NEED FOR ACTION

- POTENTIAL LOSS OF ECCS AND DECAY HEAT REMOVAL.

- COMPLIANCE WITH 10CFR 50, APPENDIX A:

- GDC 1 - *QUALITY STANDARDS AND RECORDS*

- GDC 30 - *QUALITY OF REACTOR COOLANT PRESSURE
PRESSURE BOUNDARY*

- GDC 32 - *INSPECTION OF REACTOR COOLANT
PRESSURE BOUNDARY*

- GDC 34 - *RESIDUAL HEAT REMOVAL*

- GDC 35 - *EMERGENCY CORE COOLING*

- ★ COMPLIANCE WITH 10 CFR 50.55a.

ACTIONS REQUESTED BY THE BULLETIN

- ★ FOR ALL LICENSEES OF OPERATING REACTORS
THE FOLLOWING ACTIONS ARE TO BE IMPLEMENTED:

- DOCUMENTATION REVIEW TO DETERMINE IF
SUBJECT SWING CHECK VALVES WITH ASTM
SPECIFICATION A193 GRADE B6 TYPE 410 SS
INTERNAL PRELOADED BOLTS ARE IN PLANT SERVICE.

- INSPECT A/D MODEL S350W SWING
CHECK VALVES AT FOUR WEEKS OR GREATER OUTAGES
90 DAYS AFTER RECEIPT OF THE BULLETIN.

- INSPECT ANY SIMILAR SWING CHECK VALVE
WITH INTERNAL PRELOADED BOLTS AT REFUELING OUTAGE
180 DAYS AFTER RECEIPT OF THE BULLETIN.

- ★ ALL APPLICANTS FOR OPERATING LICENSES:

- ACTIONS REQUESTED ARE AS ABOVE.

- ACTIONS REQUESTED ARE TO BE COMPLETED
BEFORE FUEL LOADING OR IF FUEL LOADING OCCURS
WITHIN 90 DAYS OF RECEIPT OF THIS BULLETIN, AT THE FIRST
REFUELING OUTAGE AFTER RECEIPT OF THIS BULLETIN.

REPORTING REQUIREMENTS

1. ADDRESSEES WHO DO NOT HAVE SUBJECT SWING CHECK VALVES SHALL WITHIN 180 DAYS OF RECEIPT OF THIS BULLETIN PROVIDE A LETTER OF CONFIRMATION TO THE NRC OF THESE FACTS.
2. ADDRESSEES WHO DO HAVE SUBJECT SWING CHECK VALVES SHALL PROVIDE A LETTER TO THE NRC WITHIN 60 DAYS OF COMPLETION OF THE INSPECTION STATING:
 - a. THE NUMBER OF VALVES INSPECTED
 - b. THE NUMBER OF VALVES FOUND TO HAVE SERVICE INDUCED CRACKING OF BOLTING.
3. DOCUMENTATION OF THE VALVE INSPECTION IS TO BE MAINTAINED BY ADDRESSEE.
4. ADDRESSEES UNABLE TO MEET THE BULLETIN'S SCHEDULES SHALL SUBMIT A REPORT WITH TECHNICAL JUSTIFICATION AND ALTERNATIVE SCHEDULES AS APPROPRIATE.