UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 1, 1994

GROUP: BOILING WATER REACTORS OWNERS' GROUP

SUBJECT: SUMMARY OF MEETING HELD ON MAY 17, 1994, TO DISCUSS TOPICAL REPORT-1, "APPLICATION OF PROBABILISTIC SAFETY ASSESSMENT TO GENERIC LETTER 89-10 IMPLEMENTATION," NEDC-32264

On May 17, 1994, NRC staff members met at Rockville, Maryland, with members of the Boiling Water Reactors Owners Group (BWROG) at a public meeting to discuss Topical Report-1, dated November 1993, on motor-operated valve (MOV) importance ranking submitted to the NRC in December 1993 and comments made in an April 20, 1994, BWROG/NRC conference call. Twenty-two operating plants (of a total of 35 operating BWRs) were represented by utility personnel attending the meeting. A list of people attending the meeting is provided in Enclosure 1.

At the meeting, specific aspects of the report were discussed. The slides used in the meeting are included as Enclosure 2. The BWROG's Topical Report, NEDC-32264, defines a process that takes a plant specific probabilistic risk assessment and uses it to prioritize MOVs included in the Generic Letter (GL) 89-10 program. This approach requires looking at all valves in the program to determine if they are showing up in the probabilistic safety assessment (PSA) and, if not, documenting why the valve is not a significant contributor to risk. A deterministic evaluation is performed to ensure that the design basis function determined in response to GL 89-10 is modeled, if required, in the PSA. On the basis of the deterministic review, valves will be added until all valves are prioritized. The Topical Report divides the valves into three general risk categories; low, medium, and high. On the basis of these risk categories, the frequency of periodic testing will be determined.

It is not the purpose of the Topical Report to eliminate valves from initial dynamic testing per the GL. Also, the purpose of the Topical Report is not to justify removing valves from the GL 89-10 program. However, the NRC and BWROG understand that individual licensee's could utilize these models as part or all of the basis for these approaches based on plant specific PSAs. These uses are not part of the approval for the Topical Report. BWROG pointed out that they plan to use the PSA as a basis for prioritization for maintenance rule implementation and graded quality assurance programs. These specific applications were not considered at this meeting.

Questions were asked about initial component operability and the definition of grouping as used in the PSA. The following responses were given and used as the bases for the remainder of the discussions during the meeting. The PSA assumes that valves/components are operable, then assumes that a valve/component fails when demanded. Grouping as used in PSA analysis means valves that result in failure of a safety function. As an example of this, a failure of a

valve might cause a loss of a train of decay heat removal function. Therefore, subsequent valve failures in the same train are not important from a decay heat removal perspective since the function for that train was lost when the first valve failed.

The deterministic method is based on expert review. The expert review is by personnel with probabilistic risk assessment experience to ensure that assumptions used in the plant specific analyses do not exclude failure modes that may contribute to cut sets that result in increases in risk that could affect the overall risk importance level of the valve. Only general guidance is given in the Topical Report on the requirements for members on the expert review panel.

The five models, A-F, included in the Topical Report covered the following types: BWR-3; BWR-4; BWR-5; and BWR-6 in combination with Mark 1, 2, and 3 containments. In determining which valves fit in the high, medium, and low risk categories, sensitivity analyses were performed. The NRC stated that the assumptions on which the sensitivity analyses were based needed clarification to ensure that specific plants could verify assumptions to ensure that plant specific sensitivities were not eliminated. Similarly, truncation of the cut sets was studied to ensure truncation did not affect the population of high and medium risk valves. Common-mode failure scenarios assumed an initial failure probability for the first valve and assumed the failure probability of the rest of the valves in the group (PSA definition) equal to one. As a result of the analyses performed, no valves changed risk category. The overall process determined that the plant specific PSAs are a good tool to determine risk categories for MOVs.

Model D reflects Monticello design. In the case of Monticello, only 2 risk categories were used, high and low. For the valves in the GL 89-10 program, 31 were determined to be in the higher risk category. Since not all valves in the GL 89-10 program were determined to contribute to the final cut sets, a deterministic review of the remaining valves was performed. This resulted in the addition of 31 valves, with 17 of these 31 being added to the higher risk category. The remainder were determined to be low risk. An example of valves added to the list from a deterministic approach are those valves that must function to isolate in case of design basis line breaks. The majority of these valves were determined to be in the low priority category. Flooding resulting from line breaks is modeled in the PSAs.

The NRC was concerned about the clarity of the discussion in the report on assumptions inherent in the various models. BWROG suggested an implementation or application document requiring verification of assumptions to ensure that all plants that used the Topical Report would be bounded by the models. This implementation document could be incorporated into the Topical Report. The NRC stated that this could potentially address this comment and ensure uniformity of plant specific submittals referencing the Topical Report. In response to the BWROG question of where do we go from here, it was recommended the Topical Report be revised to address NRC comments.

Specific questions asked by the NRC and the answers supplied by the BWROG are given in Enclosure 3.

A telephone call between the NRC and the BWROG was held on May 24, 1994, to address two questions raised after the meeting. A record of the conversation is included in Enclosure 4.

Linda L. Gundrum

Linda L. Gundrum
Acting Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Enclosures:
1. Meeting Attendance List
2. Meeting Slides
3. Questions and Answers
4. Record of Telephone Conversation

cc w/enclosure:
Meeting Attendees
See next page

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ORIGINAL SIGNED BY

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See next page

OFFICE	LA:PDIII-3	Acting PM:PDIII-3	BC:EMEB	PD:PDIII-3
NAME	MRushbrook	LGundrum:lm	TLChan	JHannon
DATE	5/26/94	5/26/94	5/26/94	5/ /94

OFFICIAL RECORD COPY FILE NAME: G:\BWROG.MIN

SUMMARY OF BWROG MEETING OF MAY 17, 1994

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ENCLOSURE 1

MEETING ATTENDANCE

DATE: May 17, 1994

LOCATION: OWFN 1-F-5

PURPOSE: DISCUSSION OF BWROG'S TOPICAL REPORT ON GL 89-10 MOV PRIORITIZATION FOR FUTURE TESTING

NAME	AFFILIATION	PHONE
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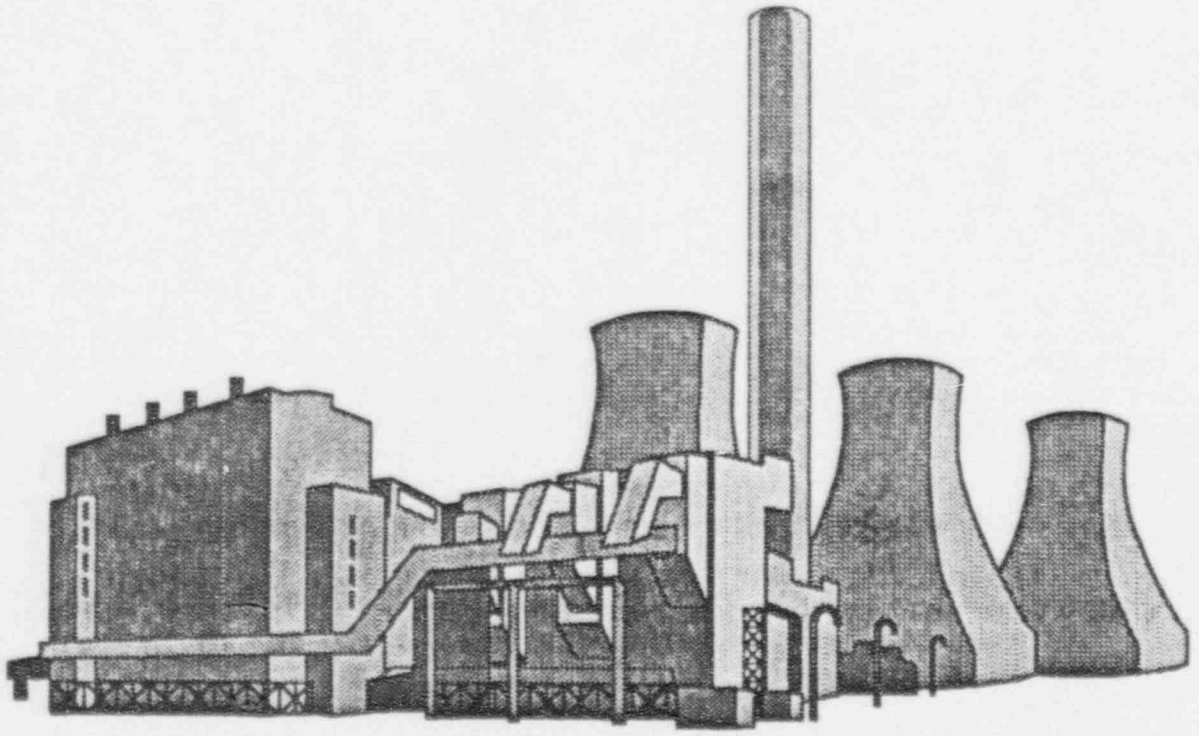
Mike Cheok	NUS	301-258-2529
Steve Long	NRC	301-504-1077
John Hannon	NRC	301-504-1389

BWROG/NRC MEETING ON MOV IMPORTANCE RANKING



MAY 17, 1994

ENCLOSURE 2

MEETING PURPOSE

- DEFINE OUTSTANDING ISSUES
- DEFINE RESOLUTION METHOD
- ESTABLISH RESOLUTION SCHEDULE

BACKGROUND

- THE RISK BASED REGULATION COMMITTEE WORKED WITH INDUSTRY EXPERTS
- METHODS WERE DEVELOPED TO RANK VALVES TO ACHIEVE CONSISTENT RESULTS WITH DIFFERENT PSA METHODOLOGIES
- FIVE REFERENCE PLANT ANALYSES WERE CONDUCTED TO DEMONSTRATE METHODOLOGY AND COMPARE RESULTS
- APPLICATION MATRIX WAS DEVELOPED IN CONJUNCTION WITH THE BWROG VALVE TRG COMMITTEE

BACKGROUND (Continued)

- INTRODUCTORY MEETING WITH NRC , SUMMER 1993
- REPORT WAS WRITTEN AND SUBMITTED TO NRC IN DECEMBER 1993
- CONFERENCE CALL WITH BWROG/NRC WAS HELD IN APRIL 20, 1994

MOV RANKING PROCESS

- EXAMINE PSA FOR APPLICATION TO GL 89-10 (LEVELS 1 AND 2)
- REVIEW GL 89-10 VALVES NOT IN PSA
- RANK PSA VALVES WHICH WERE MODELED BOTH IMPLICITLY AND EXPLICITLY
- COMPILE RESULTS IN THREE CATEGORIES
- CONVENE EXPERT PANEL TO REVIEW RESULTS
- INTEGRATE PSA RESULTS WITH MOV APPLICATION MATRIX

VALIDATION OF METHODOLOGY

- EMPLOYED SENSITIVITY STUDIES TO EXAMINE
  - TRUNCATION
  - FAILURE RATES
  - COMMON CAUSE
- VALIDATED PROCESS
- REPORT DOCUMENTED PROCESS UTILIZED ON FIVE REFERENCE PLANTS

CONFERENCE CALL RESULTS

- NRC REVIEW IS WITH MECHANICAL AND PSA BRANCHES
- PSA COMMENTS WERE SUMMARIZED AS:
  - MULTI-VALVE ISSUES WHICH INCLUDE A DISCUSSION OF MECHANISTIC INITIATORS OF COMMON CAUSE FAILURES
  - REFERENCE PLANT SPECIFIC QUESTIONS
- MECHANICAL BRANCH ISSUES SIMILAR TO THOSE PROVIDED ON NUMARC REPORT

PSA RANKING MULTI-VALVE ISSUES

- SYSTEM COMMON CAUSE FAILURE MODELED - PROVIDES QUANTITATIVE INFORMATION FOR RANKING

- INTER-SYSTEM (ACROSS SYSTEM) COMMON CAUSE FAILURE NOT MODELED - QUALITATIVE APPROACH WAS USED

MULTI-VALVE ISSUES ADDRESSED IN REPORT

- DIFFERENCES IN MOV FUNCTION, SIZE, AND ENVIRONMENT LEAD TO LOW PROBABILITY OF INTER-SYSTEM FAILURES
- SENSITIVITY STUDIES OF LOW RANKED VALVES INDICATE MULTI-VALVE ISSUES UNIMPORTANT FOR RANKING
- NUMBER OF MOVs IN HIGH RISK CATEGORY DO NOT INCREASE SIGNIFICANTLY WITH INCREASING FAILURE RATE
- INTER-SYSTEM MOV FAILURES DO NOT OBSCURE VALVES IN HIGH RISK CATEGORY
- EXPERT PANEL REVIEW IS A KEY PORTION OF QUALITATIVE REVIEW

OVERVIEW OF INTER-SYSTEM IMPORTANCE

- TESTING ONE MOV IN COMMON CAUSE FAILURE GROUP REDUCES GROUP IMPORTANCE

- MECHANISTIC REVIEW
  - INJECTION
  - HEAT REMOVAL
  - REACTIVITY
  - CONTAINMENT ISOLATION
  - SUPPORT SYSTEMS

OVERVIEW OF INTER-SYSTEM IMPORTANCE (Continued)

- REFERENCE PLANT D SENSITIVITY STUDY ADJUSTED COMMON CAUSE FAILURE PROBABILITIES
- OPERATOR RECOVERY OF GL 89-10 FAILURE MODES NOT CREDITED
- INITIAL GL 89-10 TESTING REDUCES UNCERTAINTY IN COMMON CAUSE FAILURE PROBABILITY

REFERENCE PLANT SPECIFIC QUESTIONS

OUTSTANDING ISSUES WITH RESPECT TO NUMARC REPORT

ISSUE	ACTION	CONCLUSION
TRUNCATION LIMITS	SENSITIVITY STUDIES LOWERED TRUNCATION VALUE	LITTLE OR NO IMPACT ON RANKING
COMMON CAUSE	ALREADY DISCUSSED	LITTLE OR NO IMPACT ON RANKING
ASSUMED FAILURE RATES	SENSITIVITIES PERFORMED WITH HIGHER FAILURE RATES (TABLE A-3)	LITTLE OR NO IMPACT ON RANKING
OPERABILITY OF MOVs	LICENSEE IS RESPONSIBLE TO DETERMINE OPERABILITY	N/A TO BWROG REPORT
DESIGN MARGIN	ADDRESSED BY BWROG MOV COMMITTEE	N/A TO BWROG REPORT
STATIC VS. DYNAMIC TESTS	BEING ADDRESSED BY BWROG MOV COMMITTEE	N/A TO BWROG REPORT

TABLE 3 APPLICATION OF RISK IMPORTANCE RELATIVE TO GENERIC LETTER 89-10

RISK [a] CATEGORY	SCOPE & DB REVIEW	INITIAL TEST SCHEDULES	UPGRADE	PERIODIC [c][d] PERFORMANCE VERIFICATION	POST MAINTENANCE/ MODIFICATION TESTING
High	Yes	Risk significant schedule	In accordance with current licensing commitment on risk significant schedule	Every 2-3 outages	***Static test*** when torque & thrust output are affected.
Medium	Yes	Resource appropriate schedule -- sooner than low risk valves	Resource appropriate schedule, not to exceed current licensing commitments	Every 5-7 outages	***Static test*** when normal operability is affected -- less severe than high risk.
Low[b]	Yes	Resource appropriate schedule	Based on plant performance considerations only	Every 8-10 outages	***Static test*** based on plant performance considerations only.

a. Resolution of emerging technical issues should be evaluated commensurate with a valve's category.

b. Low risk valves =
- GL 89-10 valves modeled in the PSA and determined to be of low risk significance.
- GL 89-10 valves not modeled in the PSA and confirmed to be of low risk significance.

c. May be altered based on performance as trending information is available. Definition of acceptable performance verification may be modified based on technological advances.

d. Valve testing should consider combinations of equipment that may be out of service during the testing. Certain combinations of equipment out of service could lead to high risk configurations.

TABLE A2

PROBABILISTIC SENSITIVITY ANALYSES
ON VALVE GROUPING (BWR A)
[NUMBER OF VALVES IN EACH CATEGORY]

1-(FV IMPORTANCE)	VALVE FAILURE RATE (FAILURE TO STROKE ON DEMAND)				
	.1	.087	.05	.012 (IPE VALUE)	.003
95	12	10	6	0	0
99	8	9	6	4	0
99.9	5	3	10	8	4
99.99	4	7	6	9	6
TOTAL *	29	29	28	21	10

* The total number of valves can be compared to the 55 valves (one unit and common) modeled in the IPE with failure modes consistent with the GL 89-10 list of valves.

TABLE A3

RELATIVE CHANGE IN CORE DAMAGE
FREQUENCY VERSUS VALVE FAILURE RATE
(BWR A)

	VALVE FAILURE RATE (FAILURE TO STROKE ON DEMAND)					
	.1	.087	.05	.012	.003	0
Multiplier on IPE CDF	6.9	5.3	2.3	1.0	.9	.8

Table D5

GL 89-10 SENSITIVITY STUDY FOR BWR D

Accident Class	Baseline Case CDF (1)	Modified Case			Optimized Case	
		CDF (2)	Delta (4)	%Dif (5)	CDF (3)	Delta (4)
IA TRAN - HIGH RPV PRESS	3.1E-06	2.3E-05	2.0E-05	0.27	3.1E-06	1.0E-08
IB STATION BLACKOUT	1.2E-05	2.3E-05	1.1E-05	0.15	1.2E-05	0.0
ID TRAN - LOW RPV PRESS	3.2E-07	6.8E-03	6.8E-03	90.89	3.2E-07	0.0
II LOSS OF CONT HEAT REMOVAL	1.3E-07	1.4E-04	1.3E-04	1.81	2.7E-07	1.3E-07
IIIA LOCA - RPV RUPTURE	1.1E-07	9.8E-05	9.8E-05	1.32	1.1E-07	0.0
IIIB LOCA - HIGH RPV PRESS	3.0E-07	3.6E-06	3.3E-06	0.04	3.0E-07	0.0
IIIC LOCA - LOW RPV PRESS	3.9E-07	3.2E-04	3.2E-04	4.32	3.9E-07	0.0
IIID LOCA - VAP SUP FAILURE	3.0E-07	3.0E-07	0.0	0.00	2.9E-07	1.0E-09

Table D5 GL 89-10 SENSITIVITY STUDY FOR BWR D (Continued)

Accident Class	Baseline Case CDF (1)	Modified Case			Optimized Case	
		CDF (2)	Delta (4)	%Dif (5)	CDF (3)	Delta (4)
IV ATWS	1.9E-06	3.4E-06	1.5E-06	0.02	3.4E-06	1.5E-06
V LOCA OUTSIDE CONT	6.7E-10	1.4E-09	7.2E-10	0.00	6.7E-10	0.0
S-TOTAL	1.8E-05	7.4E-03	7.4E-03	98.78	2.0E-05	1.6E-06
VI INTERNAL FLOOD	7.9E-06	7.3E-05	6.5E-05	0.87	7.9E-06	0.0
TOTAL	2.6E-05	7.4E-03	7.4E-03		2.8E-05	1.6E-06

Notes

1. From BWR D IPE
2. Common Cause Factor of .087 applied to every MOV which operates under high dp conditions, where high dp conditions are MOV opening or closing against reactor pressure, containment pressure or pump dicharge pressure.
3. Common Cause Factor of .087 applied only to those MOVs below a specified importance.
4. "Delta" column is a comparison against the Baseline CDF.
5. % of total change in CDF.

ENCLOSURE 3

QUESTIONS AND ANSWERS

1. If a new valve is installed, is the failure probability affected? This question is based on current testing that shows valves may require different torque values because of corrosion/chemical processes.

   The failure probability for a specific component is constant, i.e., or allowed by GL 88-20 either industry or plant specific failure rates are utilized in risk analyses. The BWROG group, Technical Review Group (TRG), better known as the MOV group is addressing this issue.

2. Does failure of a valve associated with a pump result in pump failure?

   Failure of a valve implies that the function associated with that valve fails.

3. The report appears to assume that the failure probability of 0.087 per demand is reliable for motor-operated valves (MOVs) under high differential pressure and flow conditions. This failure probability was obtained from ITI-MOVATS by an NRC contractor during a study of the value/impact of extending the recommendations of NRC Bulletin 85-03 to all safety-related MOVs. There is insufficient evidence to justify the reliability of this failure probability for MOVs under design-basis conditions. The staff believes that the implementation of Generic Letter 89-10 by licensees will lower the failure probability, but the specific value that will result is not known. Examples where the reference to the failure probabilities needs to be corrected are as follows:

   (a) On page 3, the report refers to 0.087 as "the NRC worst case MOV failure rate." This statement is not a correct characterization of the 0.087 failure rate.

   (b) On page 9, Item 1 states that failure rate will be restored to their "correct values." However, the correct failure rates are not known.

   (c) On page 18, Section 1.4 implies that the 0.087 failure rate is correct because it is 30 times greater than the typically assumed failure rate.

   (d) The examples in Section 2.0 rely on 0.087 as the highest failure rate for MOVs with 0.003 as the lowest. The basis for these failure rates is uncertain.

   It was suggested that a failure rate of .5 would ensure that the worst case cut sets were determined.

   BWROG will review the use of 0.087. They agreed that this number does not represent "the NRC worst case MOV failure rate." They will provide guidance to what values to use for high and low failure rates. Using a

failure rate equal to .1 did not increase the number of valves in the high risk category.

4. Table 3 of the report suggests that the initial test schedule for MOVs under GL 89-10 could be adjusted based on the risk associated with the individual MOVs. Licensees should be aware that Supplement 6 to GL 89-10 provides guidance on the use of PSA studies in GL 89-10 programs and the extension of test schedules.

   The purpose of the Topical Report is not to determine initial test schedules per the provisions of GL 89-10.

   The NRC pointed out that a submittal to not test testable valves will be made by the Cooperative Efforts Group based on using a combination of probabilistic and deterministic review.

5. Table 3 in the report states that "upgrades" to low risk MOVs might be based on plant performance considerations only. The NRC regulations require that safety-related MOVs be capable of performing their safety functions. After demonstrating that an MOV is capable of performing its safety function, a licensee might determine that additional margin for the MOV is necessary because of its medium or high safety significance.

   The Topical Report does not mean to limit "upgrades" to low-risk MOVs based on plant performance considerations only. Specific "upgrades" to increase margin even on low-risk valves is the individual licensee's prerogative. Although having adequate margin to ensure that degradation, affecting operability, will not occur during the time between tests can be assumed to be included in the term "performance considerations" since it would not be acceptable to have a valve fail subsequent testing.

6. Table 3 in the report discusses a proposed schedule for periodic verification of the design-basis capability of MOVs based on risk significance. Licensees will need to justify their particular method of verifying the design-basis capability of MOVs.

   PSA does not address verifying design basis capability. This is being handled by the BWROG MOV group.

7. Table 3 in the report focuses on static testing only, for the performance of post maintenance or modification testing. However, some maintenance and modification activities will require that a dynamic test be performed to verify the design-basis capability of the MOV.

   This is understood. The purpose of the table was not to limit whether a static and dynamic test were required. This need is based on the type of maintenance and modification performed and must be specified by the licensee.

8. The prioritization examples provided in the report indicate that MOVs performing the same function have different risk rankings at various BWR

plants. For example, the isolation valves used in the HPCI and RCIC systems appear to be ranked differently at some of the example BWR plants. The differences between the MOV rankings for the example plants should be evaluated to determine if the methodology inadvertently allows MOVs with the same function to be ranked differently.

Based on the designs considered, different systems can have different risk rankings. This is the reason for reviewing the various "standard" designs. Additionally, plant specific factors, such as frequency of loss of off-site power, can affect some systems more than others. Based on the various sensitivity analyses performed, BWROG does not believe the methodology specified in the Topical Report is the reason for valves in the same system being ranked differently. It is a function of the plant specific probabilistic risk assessment which is based on system design and plant specific procedures.

9. On page 3, the report states that the NRC used risk considerations in the value/impact analysis when justifying GL 89-10 issuance. As discussed in Supplement 1 to GL 89-10, the NRC staff considered the recommendations in GL 89-10 to be necessary to satisfy the NRC regulations and therefore constituted a compliance backfit.

   A value/impact statement was performed at the time. However, the BWROG understands the intent of the comments and will modify the language.

10. On page 8, the example of the containment vent in Section 1.3.4 does not address the possibility that the actual failure probability of the MOV could be greater than the probability of operator error.

    The evaluation of human error and component failure is based on a "Module Concept." If the failure rate based on equipment failure compared to the failure rate for human error is compared ("split fraction") then the worst case can be used. For this valve, the failure rate associated with operator error was greater. This was determined on a quantitative bases.

11. On page 9, item 3(a) in Section 1.3.5 asserts that differences in valve size, function, environment, etc., lead to low probabilities of common cause failure. The weakness in the design and qualification of MOVs addressed in GL 89-10 is such that the differences listed in the report are not necessarily sufficient to remove the common-cause nature of the MOV issue. Item 3(b) is not clear in the context of the above discussion. On page 18, Section 1.4 in the third paragraph makes the same argument as item 3 and is not sufficient.

    PSA assumed valves are operable and PSA modeled any specific plant vulnerabilities.

12. On page 10, the report states that intra-system common cause failures are routinely explicitly modeled in PSAs and hence not treated in the BWROG study. The common-cause nature of the weakness in the design and

qualification of MOVs might make modeling of common cause in PSAs not sufficient.

The Topical Report demonstrates a process to use. The input has to be the plant specific probabilistic risk assessment. The types of intra-system common cause failures assumed can be addressed on plant specific submittals.

13. For Monticello, the NRC asked how many higher risk valves there were? How many high risk valves were determined by PSA and how many valves were added by the deterministic review?

There are 31 valves in the higher risk category (this plant has only two categories). Of the 31, 14 were determined by the PSA and 17 were added by the deterministic review.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001
June 1, 1994

MEMORANDUM FOR: John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

FROM: Linda L. Gundrum, Acting Project Manager
Project Directorate III-3
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Office of Nuclear Reactor Regulation

SUBJECT: FOLLOW UP TELEPHONE CONVERSATION WITH BWROG ON MOTOR-OPERATED VALVES

Two questions became apparent after the public meeting held on May 17, 1994. The questions and the answers were discussed on a conference call between T. G. Scarbrough, NRR/EMEB and Linda L. Gundrum, NRR, PD III-3 and the members of the Boiling Water Reactors Owners Group (BWROG) on May 24, 1994. The questions and answers are as follows:

1. If licensees plan to use the BWROG Topical Report to extend periodic verification schedules, do they need to notify the NRC?

   According to Items 1 and j, Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," issued June 28, 1989, the licensee was required to provide information on the schedule for periodic verification. If the licensee plans to extend their periodic verification schedule beyond the five years or three outages mentioned in GL 89-10 based on the BWROG Topical Report, they should notify the NRC and reference Topical Report NEDC 32264 and their plant specific analysis as the basis for evaluating the safety importance of each motor-operated valve (MOV).

2. Is there a way the NRC can review the revised report before it is officially submitted?

   Yes. A public meeting can be held for the purpose of giving a copy of the revised report for review. Copies of the same report will be given to attendees at the meeting and will be included with meeting minutes. A subsequent public meeting would be held to provide any additional comments or concerns the NRC has, once it has been reviewed.

There were no comments from the BWROG. The NRC stated that documentation of the telephone conversation would be appended to the meeting minutes of May 17, 1994, which are currently being prepared.

Linda L. Gundrum

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Office of Nuclear Reactor Regulation

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MRushbrook
OGC
EJordan
JCarter 11A1
GWeidenhamer
FTalbot
GJohnson
TScarbrough
JJohnson, SPSB
JSchiffgens
SLong
ACRS (10)
LPlisco (17-G-21)
BDean, (17-G-21)
BMcCabe (17-G-21)
JMitchell (17-G-21)
EKelly, Region I
CCasto, Region II
JJacobson, Region III
TWesterman, Region IV
R. Cooper, RI
E. Merschoff, RII
E. Greenman, RIII
B. Beach, RIV