

FEB 10 1985

MEMORANDUM FOR: C. J. Heltemes, Jr., Director
Office for Analysis and Evaluation
of Operational Data

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

SUBJECT: NRR CONTACTS FOR AEOD RECOMMENDATION TRACKING

As requested in your memorandum of January 15, 1986, we have reviewed the AEOD recommendation status summaries you sent us. NRR staff contacts for the programs in which the recommendations are being addressed have been updated and are indicated on the enclosed marked-up copies of the status summary sheets. Per the telephone conversation between K. Seyfrit of your staff and M. Caruso of mine, we are forwarding the information regarding corrected contacts to you now and will send over any very recent updates to the status of the recommendations following review by the Division of Safety Review and Oversight (DSRO). It is our understanding that the status of recommendations was updated by your staff in December 1985.

In addition, I am enclosing a copy of my December 30, 1985 memorandum to NRR Division Directors which will help you in the future to identify NRR contacts for generic issues being resolved.

Original Signed by

H. R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Updated AEOD Recommendation Status Summaries.
2. Memo of 12/30/85, HDenton to NRR Div. Dirs., "Transfer of Responsibility for Generic Issues Scheduled for Resolution."

cc: K. Seyfrit
T. Speis
W. Minners
R. Bosnak
K. Kniel
S. Newberry

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MCaruso

ORAS *MAC*
MCaruso:dm
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AEOD*



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

FEB 10 1985

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In addition, I am enclosing a copy of my December 30, 1985 memorandum to NRR Division Directors which will help you in the future to identify NRR contacts for generic issues being resolved.

A handwritten signature in dark ink, appearing to read "HR Denton", is positioned above the typed name of the sender.

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

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T. Speis
W. Minners
R. Bosnak
K. Kniel
S. Newberry

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C101

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "St. Lucie Natural Circulation Cooldown"

RECOMMENDATION 1

Provide a supply of cooling water to reactor coolant pump seals that will not be disabled by a single failure.
(Recommendation 4e)

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DE/ECB NRR/DSRO/EIB	J. Jackson	High	Not Scheduled	Proceeding satisfactorily. Will be addressed as part of Generic Issue 65, "Component Cooling Water System Failures." Generic Issue 65 comprises task 2 of Generic Issue 23, "Reactor Coolant Pump Seal Failures" and will address the reliability of RCP seal cooling systems. The program will determine what steps, if any, NRC should take to increase the reliability of the component cooling water supply to the RCP seals. We will continue to monitor this issue to assure that the recommendation is addressed.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C105

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "Calvert Cliffs Unit 1 Loss of Service Water on May 20, 1980"

RECOMMENDATION 1

Installation of dual atmospheric dump valve capability for each steam generator on two-loop PWRs.
(Study recommendation 8(b)3)

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/AEB	T. Quay/F.	High	Not scheduled	Proceeding satisfactorily. This originally was to have been addressed by revision to SRP 15:6.3 as part of Generic Issue 67.5.1, "Reassessment of Radiological Consequences Following a Postulated Steam Generator Tube Rupture." It has now been incorporated into USI A-45, "Shutdown Decay Heat Removal Requirements."
NRR/DST/SPEB	R. Colmar			
	E. Akstulewicz			
<i>NRR/DSRO/RSIB</i>	<i>A. Marchese</i>			

RECOMMENDATION 2

Review of steam generator tube rupture (SGTR) analyses for plants licensed prior to the SRP. (Study recommendation 8(b)2)

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/RSB	T. Marsh	Medium	Not scheduled	Proceeding satisfactorily. Will be addressed as part of Generic Issue 67.5.2, "Re-evaluation of SGTR Design Basis Event." Tube ruptures are actively being investigated on a generic basis within USI A-47, "Safety Implications of Control Systems" and NTOL licensing issues.
NRR/DST/SPEB	R. Colmar			
<i>NRR/DSRO/EIB</i>	<i>A. Szukiewicz</i>			

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Case Study AEOD/C105 (continued)

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "Calvert Cliffs Unit 1 Loss of Service Water on May 20, 1980"

RECOMMENDATION 3

Revise SRP 9.2.2 to clarify isolation of nonsafety-related portions of service water system.
(Study recommendation 8(a)6)

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

~~NRR/DST/ASB~~
~~NRR/DST/SPEB~~

NRR/DSE0/SPEB

L. Riani

Nearly resolved.
No value impact
needed.

Not necessary

Proceeding satisfactorily. Will be addressed in resolution of Generic Issue 36. Completion scheduled for June 1986. The SRP has been revised to address this recommendation and the recommendation will be processed as a "no new requirements" issue.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C105 (continued)

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "Calvert Cliffs Unit 1 Loss of Service Water on May 20, 1980"

RECOMMENDATION 5

IST of check valves in the instrument air system used to isolate safety-related portions of the system.
(Study recommendation 8(a)2)

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DST/SPEB <i>NRR/DSRO/SPEB</i>	W. Milstead	Low/drop	None planned	Not proceeding satisfactorily. This issue is to be addressed as part of Generic Issue 43, "Contamination of Instrument Air Lines." AEOD does not agree with the prioritization given. NRR has agreed to review the prioritization when the AEOD Case Study on Air System is issued. The AEOD Case Study is expected to be completed during the next year.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Memorandum to Harold Denton from C. J. Heltemes, dated May 2, 1983

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: Response to NRR Comments on AEOD Report, "Calvert Cliffs Unit 1 Loss of Service Water on May 20, 1980"

RECOMMENDATION 1

Accessibility of ADVs for local manual operations for RCS cooldown following a steam generator tube rupture.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DST/618 NRC/DSEL/RSIB	A. Marchese	High	Not scheduled	Proceeding satisfactorily. Currently included in USI A-45. A site walkdown survey of nine plants substantiated the AEOD concern of ADV accessibility. At some plants, the ADVs were readily accessible, while ADVs at other plants were difficult to open manually and may cause personnel radiation exposure.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Memorandum dated January 20, 1982 from C. Michelson to Harold R. Denton

Responsible AEOD Engineer: M. Chiramal/F. Ashe

TITLE OR SUBJECT: Safety Concerns Associated with Reactor Vessel Level Instrumentation in BWPs

RECOMMENDATION 1

Safety-related low-low reactor vessel level start of HPCI and RCIC systems should not be prevented or delayed by nonsafety-related high level trip.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

~~NRR/DST/RSB~~
NRR/DSRO/RSIB

~~W. Hodges~~
J. Joyce

High

Not scheduled

Proceeding satisfactorily. Assigned as Generic Issue 101.

RECOMMENDATION 2

Protective functions of narrow range level instrumentation must be assured in spite of adverse control system protection system interaction.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

~~NRR/DST/RSB~~
NRR/DSRO/EIB

A. Szukiewicz

High

Not scheduled

Proceeding satisfactorily. On-going USI-A47 and Generic Issue 101.

REFERENCE: Memo dated March 19, 1982 from H. R. Denton to C. Michelson

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C202

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "Flow Blockage by Bivalve Mollusks at Arkansas Nuclear One and Brunswick"

RECOMMENDATION 1

Capability to measure cooling water flow should be provided for all safety-related equipment.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRR/DSRO/EIB	C. Hickey	Medium	Not scheduled*	Proceeding satisfactorily. Pending generic action on biofouling. Generic Issue 51

RECOMMENDATION 2

Develop and implement biofouling control strategies.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRR/DSRO/EIB	C. Hickey	Medium	Not scheduled*	Proceeding satisfactorily. Pending generic action on biofouling. Generic Issue 51

*May not be required, if necessary, will be scheduled following completion of Generic Issue 51, "Proposed Requirements for Improving the Reliability of Open Cycle Service Water Systems." The Generic Issue is incorporating Task V of Project FIN B-2977 by RES into GI-51.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C202 (continued)

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "Flow Blockage by Bivalve Mollusks at Arkansas Nuclear One and Brunswick"

RECOMMENDATION 3

Periodic inspection of service water system piping.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRR/DSRO/EIB	C. Hickey	Medium	Not scheduled*	Proceeding satisfactorily. Pending generic action on biofouling. Generic Issue 51

RECOMMENDATION 4

Periodic verification of overall heat transfer coefficient on multiple pass heat exchangers.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRR/DSRO/EIB	C. Hickey	Medium	Not scheduled*	Proceeding satisfactorily. Pending generic action on biofouling. Generic Issue 51

*May not be required, if necessary, will be scheduled following completion of Generic Issue 51, "Proposed Requirements for Improving the Reliability of Open Cycle Service Water Systems." The Generic Issue is incorporating Task V of Project FIN B-2977 by RES into GI-51.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C202 (continued)

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "Flow Blockage by Bivalve Mollusks at Arkansas Nuclear One and Brunswick"

RECOMMENDATION 5

Periodic verification of cooling water flow to all safety-related equipment should be specified in technical specifications.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB <i>NRR/DSRO/EIB</i>	C. Hickey	Medium	Not scheduled*	Proceeding satisfactorily. Pending generic action on biofouling. Generic Issue 51

*May not be required, if necessary, will be scheduled following completion of Generic Issue 51, "Proposed Requirements for Improving the Reliability of Open Cycle Service Water Systems." The Generic Issue is incorporating Task V of Project FIN B-2977 by RES into GI-51.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Case Study AEOD/C203 and Memorandum dated May 28, 1982

Responsible AEOD Engineer: E. J. Brown

TITLE OR SUBJECT: Survey of Valve Operator - Related Events Occurring During 1978, 1979, and 1980.
(See also Recommendation 1 on page S-503-1)

RECOMMENDATION 1

Existing guidance to bypass thermal overload protective devices associated with safety-related valve motor operators should be reassessed.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DE/MEB NRR/DSRO/EIB	R. Busnak O. Rothberg	Medium	Not scheduled	Not Proceeding satisfactorily. Based on a letter from the Director NRR dated 2/23/83, a plan was to be developed to address this subject. This was included as part of a proposed draft plan for Generic Issue II.E.6, "In situ Testing of Valves." However, it is our understanding that this effort has not been funded for FY-86.

RECOMMENDATION 2

Improved methods and procedures for the setting of torque switches should be developed and evaluated relative to valve operability and functional qualification.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DET NRR/DSRO/EIB	_____ O. Rothberg	Medium	Not scheduled	Proceeding satisfactorily. Based on a letter from the Director, NRR dated 2/23/83, an existing RES program was to be expanded to address this subject. This has been included in the Research Contract "Valve Performance Testing," B3050.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Case Study AEOD/C204 "San Onofre Unit 1 Loss of Salt Water Cooling Event on March 10, 1980," dated July 1982

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: "Single Failure Vulnerability of San Onofre 1's Salt Water Cooling System"

RECOMMENDATION 1

Ongoing efforts of the SEP focus on single failure vulnerability and consequences for the salt water cooling system and other equivalent service and cooling water systems.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DL/SEP NRR/DL/ORBS DPLB/SEPB	E. McKenna W. Paulson	High (SEP topic IX-3)		Proceeding satisfactorily. NRR has reviewed SEP plants for such vulnerabilities. Modifications have been made at SEP plants as appropriate. San Onofre has made several modifications and is performing a reliability analysis of the modified salt water cooling system. The analysis is scheduled for completion in May, 1986.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Memorandum, C. Michelson to Chairman Ahearne, "New Unresolved Safety Issues" dated August 4, 1980/
Memo C. Michelson to H. Denton, "Resolution of Issue Concerning Steamline Break with Small LOCA,"
dated June 23, 1982, Case Study AEOD/C205, "ATOG as Applied to the April 1981 Overfill Event at ANO-1"

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: Safety Implications of Steam Generator Transients and Accidents

RECOMMENDATION 1

Combined primary/secondary side blowdown should be a USI for B&W plants.

RESPONSIBLE
OFFICE/DIV/BR

~~DPLB/RBB~~
~~NRR/DST/RSB~~
RES

CONTACT

R. Jones
Sheron
Young
B. Beckner

PRIORITY

High

CRGR
REVIEW

STATUS

Proceeding satisfactorily. B&W licensees/EPRI/NRC are jointly funding a test facility to obtain integral systems test data to resolve the uncertainties associated with B&W plant response to SBLOCA and other transients and accidents.

RECOMMENDATION 2

TAP-A47 should focus on equipment modifications or additions to preclude SG overfill as a credible event.

RESPONSIBLE
OFFICE/DIV/BR

~~NRR/DST/GIB~~
NRR/DSR/EIB

CONTACT

A. Szukiewicz

PRIORITY

High

CRGR
REVIEW

STATUS

Proceeding satisfactorily. On-going Generic Issue A-47. NUREG/CR-4385 entitled "Effect of Control System Failures on Transients, Accidents, and Core Melt Frequencies at a Westinghouse PWR" has been published in support of A-47 resolution.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C301

Responsible AEOD Engineer: M. Chirama1

TITLE OR SUBJECT: "Failure of Class 1 E Safety-Related Switchgear Circuit Breakers to Close to Demand"

RECOMMENDATION 1

Provide for monitoring the status of the closing circuit of Class 1 E Circuit Breakers and for appropriately selected breakers such as diesel generator output breakers, make the status indication available to the control room operator.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

~~NRC~~
NRR/DSRO/SPEB

~~L. Riant~~
K. Knie1

Proceeding satisfactorily. NRR is re-prioritizing Generic Issue 55 based on Reference 3.

RECOMMENDATON 2

In the short-term, licensees of operating reactors should establish regular local surveillance of Class 1 E switchgear circuit breakers to monitor the readiness status of the spring-charging motor of each unit.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

~~NRR~~
NRR/DSRO/SPER

~~L. Riant~~
K. Knie1

Proceeding satisfactorily. (See status of Recommendation 1.)

C-301-1

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C301 (continued)

Responsible AEOD Engineer: M. Chiramal

TITLE OR SUBJECT: "Failure of Class 1 E Safety-Related Switchgear Circuit Breakers to Close on Demand"

RECOMMENDATION 3

In addition to the above, measures that tend to preclude dirty or corroded contacts, poor electrical connections, blown control circuit fuses, and improper return of breakers to operable status should be incorporated into the maintenance procedures and used in actual maintenance practice.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/SPEB

~~L. Riani~~
K. Knief

Proceeding satisfactorily. (See status of Recommendation 1)

RECOMMENDATION 4

Shift operating personnel should receive periodic training in the logic and operation of circuit breakers equipped with anti-pumping controls.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/SPEB
IE

~~K. Knief~~
~~L. Riani~~
V. Thomas

NA

Proceeding satisfactorily.
(See status of Recommendation 1.)
IE issued Information Notice 83-50 advising licensees of the problems; however, there is little evidence that licensees have reacted to that information. This concern is being reconsidered in NRR re-prioritization of the issue.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C301 (continued)

Responsible AEOD Engineer: M. Chiramal

TITLE OR SUBJECT: "Failure of Class 1 E Safety-Related Switchgear Circuit Breakers to Close on Demand"

- REFERENCES:
- 1) Memo to C. H. Heltemes, Jr. from H. R. Denton, June 17, 1983 "AEOD April 1983 Report on Failure of Class 1 E Safety-Related Switchgear Circuit Breakers to Close on Demand"
 - 2) Memo to D. G. Eisenhut from R. L. Spessard, June 1, 1984, "Unmonitored Failures of Class 1 E Safety-Related Switchgear Circuit Breakers to Close on Demand"
 - 3) Memo to R. M. Bernero from H. R. Denton, March 27, 1985 "Scheduled for Resolving and Completing Generic Issue No. 55 - Failure of Class 1 E Safety-Related Switchgear Circuit Breakers to Close on Demand"
 - 4) Memo to H. R. Denton from C. J. Heltemes, Jr., April 12, 1985 "Generic Issue No. 55 - Failure of Class 1 E Safety-Related Switchgear Circuit Breakers to Close on Demand"
 - 5) Memo to C. J. Heltemes, Jr. from H. R. Denton, May 9, 1985 "AEOD Concerns Regarding Generic Issue No. 55"

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Memorandum from C. H. Heltemes, Jr. to H. Denton, dated March 16, 1984

Responsible AEOD Engineer: D. Zukor

TITLE OR SUBJECT: Low Temperatures Overpressure Events at Turkey Point Unit 4, AEOD/C401

RECOMMENDATION 1

Correct the LTOP technical specifications for the 5 areas identified in the report.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DST/RSB
DSRO/RSIB

~~J. Pittman~~
Ed Throm

Medium

Proceeding Satisfactorily. NRR has identified this activity as new generic issue 94. NRR/DST has revised the prioritization to "high" based on our memorandum dated 6/3/85. We agree with the current priority classification.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C403

Responsible AEOD Engineer: S. Rubin

TITLE OR SUBJECT: Edwin I. Hatch Unit 2 Plant Systems Interaction Event on August 25, 1982

RECOMMENDATION 1

Evaluate the common mode failure potential of safety systems due to the harsh environment of breaks outside containment being back channelled through floor drain systems.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRR/DSRO/EIB	A. Singh D. Thatcher	High	Not scheduled	Proceeding satisfactorily. This recommendation is being evaluated as part of Generic Issue No. 77, "Back Flow Protection in Common Equipment and Floor Drain Systems." Implementation of Generic Issue No. 77 is currently in progress with an expected completion date of 8/86.

RECOMMENDATION 2

Supplemental arrangements should be provided to assure timely isolation of the affected floor drain system if the results of the above evaluation result in unacceptable common-mode safety system failures.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRR/DSRO/EIB	A. Singh D. Thatcher	High	Not scheduled	Proceeding satisfactorily. This recommendation is being evaluated as part of Generic Issue No. 77, "Back Flow Protection in Common Equipment and Floor Drain Systems." Implementation of GI-77 is currently in progress with an expected completion date of 8/86.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Memorandum from C. J. Heltemes, Jr. to H. Denton, dated July 23, 1984.

Responsible AEOD Engineer: D. Zukor

TITLE OR SUBJECT: Case Study-Steam Binding of Auxiliary Feedwater Pumps

RECOMMENDATION 1

PWR licensees should establish a method to regularly monitor the AFW system to minimize the potential for steam binding.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DST/SPEB

NRR/DSRO/RSIB

A Spano

High

TBD

Proceeding satisfactorily.
Identified as new Generic
Issue 93. Task Action Plan
issued 1/22/85. An IF Bulletin
has been issued.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C501 NUREG/CR-3551

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: "Safety Implications Associated with In-Plant Pressurized Gas Storage and Distribution Systems in Nuclear Power Plants"

RECOMMENDATION 1

Require procedures to provide protection to prevent unacceptable damage to safety-related equipment from portable gas cylinder missiles.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

IE/EPER
~~NRR/SPEB~~
NRR/PSRO/SPEB

D. Kirkpatrick
~~R. Colman~~
K. Kniehl

Unresolved. Reviewed by IE and NRR. No action at this time. IE considered issuing an IN on this item. However, IE has decided not to issue a notice at this time. IE will consider an information notice if "pressurized gas related events" do occur in the future. NRR believes that SRI 3.5.1.1 and 3.5.1.2 are adequate, and that no NRR action is necessary.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C501 NUREG/CR-3551 (continued)

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: "Safety Implications Associated with In-Plant Pressurized Gas Storage and Distribution Systems in Nuclear Power Plants"

RECOMMENDATION 2

Require Protection to prevent hydrogen explosions or fires in areas containing or impacting operation of safety related equipment.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

~~NRR/SPEB~~

~~R. Colmar~~

NRR/DSRO/SPEB
- - - - -

K. Kniel

Proceeding satisfactorily. SPEB is presently prioritizing the matter of backfitting requiring the installation of excess-flow valves on hydrogen lines in operating plants. (Safety issue No. 106 "Piping and the Use of Highly Combustible Gases in Vital Areas.")

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C501 NUREG/CR-3551 (continued)

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: "Safety Implications Associated with In-Plant Pressurized Gas Storage and Distribution Systems in Nuclear Power Plants"

RECOMMENDATION 3

Identification of lines and tanks.

<u>OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>REVIEW</u>	<u>STATUS</u>
NRR/SPEB	R. Colmar	Drop		
NRR/DSRO/SPEB	K. Kniel			Unresolved. No NRR action planned. NRR believes that without a risk assessment demonstrating how the identification of lines and tanks will significantly affect core melt frequencies and/or radiological releases, the NRC would not have the authority to require such identification.
				AEOD recognizes the fact that proper line and tank identification is an example of low cost, simple, good housekeeping at the plants, the cost of which would be dwarfed by plant specific risk assessments. AEOD believes that the issue of proper line and tank identification should be addressed by NRR's Division of Human Factors; however, presently there are no regulatory bases to justify such action.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Case Study Report AEOD/C502

Responsible AEOD Engineer: Peter Lam

TITLE OR SUBJECT: "Overpressurization of Emergency Core Cooling Systems in Boiling Water Reactors"

RECOMMENDATION 1

Disable the nonsafety-related air operator associated with the testable isolation check valve on the injection line in the emergency core cooling systems.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DBWRL/RSB NRR/DSRO/RSIB	W. Hodges H. Woods	High	December 1986	Proceeding satisfactorily. Assigned as new Generic Issue 105 with an expedited schedule of resolution.

RECOMMENDATION 2

Perform leakage testing of the testable isolation check valve prior to plant startup after each refueling outage or following maintenance, repair or replacement of the valve.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DBWRL/RSB NRR/DSRO/RSIB	W. Hodges H. Woods	High	December 1986	Proceeding satisfactorily. Assigned as new Generic Issue 105 with an expedited schedule of resolution.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study Report AEOD/C502

Responsible AEOD Engineer: Peter Lam

TITLE OR SUBJECT: "Overpressurization of Emergency Core Cooling Systems in Boiling Water Reactors"

RECOMMENDATION 3

Reduce human errors in maintenance and surveillance testing activities.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DBWRL/RSB NRR/DSRO/RSIB	W. Hodges H. Woods	High	December 1986	Proceeding satisfactorily. Assigned as new Generic Issue 105 with an expedited schedule of resolution.

RECOMMENDATION 4

Study reducing the frequency of surveillance testing of the isolation barriers of the emergency core cooling systems during power operation.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DBWRL/RSB NRR/DSRO/RSIB	W. Hodges H. Woods	High	December 1986	Proceeding satisfactorily. Assigned as new Generic Issue 105 with an expedited schedule of resolution.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C503

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: "Decay Heat Removal Problems at U.S. PWRs," December 1985

RECOMMENDATION 1

NRR assess the need for NRC requirements to improve planning, co-ordination, procedures, and personnel training during shutdown to ensure the availability of the DHR system.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/RSIB

P. NORIAN

The case study has been recently issued. NRR is presently reviewing it. Contact has not yet been determined.

RECOMMENDATION 2

NRR require PWR licensees to have a reliable method of measuring and monitoring reactor vessel level during shutdown modes of operation and corresponding technical specification requirements for operability.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/RSIB

P. NORIAN

The case study has been recently issued. NRR is presently reviewing it. Contact has not yet been determined.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C503 (continued)

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: "Decay Heat Removal Problems at U.S. PWRs," December 1985

RECOMMENDATION 3

NRR require licensees to improve the man-machine interfaces related to DHR operation.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/RSIB

P. Norian

The case study has been recently issued. NRR is presently reviewing it. Contact has not yet been determined.

RECOMMENDATION 4

NRR should consider DHR suction bypass lines as alternatives to redundant drop lines (if A-45 concludes that single drop line configurations are unacceptable).

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/RSIB

P. Norian

The case study has been recently issued. NRR is presently reviewing it. Contact has not yet been determined.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Case Study AEOD/C503

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: "Decay Heat Removal Problems at U.S. PWRs," December 1985

RECOMMENDATION 5

NRR consider removal of autoclosure interlocks to minimize loss-of-DHR events.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/RSIB

P. Norian

The case study has been recently issued. NRR is presently reviewing it. Contact has not yet been determined.

RECOMMENDATION 6

NRR should address the issue of DHR system redundancy to ensure that the DHR system is available during Mode 4, and the early stages of Mode 5.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/RSIB

P. Norian

The case study has been recently issued. NRR is presently reviewing it. Contact has not yet been determined.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Memo: C. Michelson to R. Mattson, "NRC Action Plan Developed as a Result of TMI-2 Accident - Draft 3, Task II.E.3 Decay Heat Removal," April 24, 1980

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: Reliability of DHR Systems

RECOMMENDATION 1

Reliability of DHR systems should be reviewed and where necessary upgraded on an expedited basis.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

~~NRR/DST/STB~~
NRR/DSRO/RSIB

A. Marchese

High

Proceeding satisfactorily.
TAP A-45

Contractor performing work which
will address this issue - NUREG
report expected February, 1986.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Memorandum dated July 15, 1980 from C. Michelson to H. R. Denton

Responsible AEOD Engineer: M. Chirama

TITLE OR SUBJECT: Operational Restrictions for Class 1 E 120 VAC Vital Instrument Buses

RECOMMENDATION 1

Impose Technical Specification requirements concerning operational restrictions for Class 1 E 120 Vac Vital Buses on operating plants.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/PSB NRR/DSRO/EIB	D. Chopra D. Thatcher	High	Not scheduled	Proceeding satisfactorily. Currently being pursued under Generic Issue 48.

REFERENCES: 1. Memo dated September 29, 1980 from H. Denton to C. Michelson
2. Memo dated October 25, 1983 from H. Denton to D. Eisenhut

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Memo dated August 27, 1980 from C. Michelson to H. R. Denton

Responsible AEOD Engineer: M. Chiramal

TITLE OR SUBJECT: Tie Breaker Between Redundant Class 1 E Buses - Point Beach Nuclear Plant Units 1 & 2

RECOMMENDATION 1

Interconnection between redundant safety-related electrical load groups should comply with requirements of Regulatory Guide 1.6.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/PSB	M. Srinivasan	Medium	Not scheduled	Proceeding satisfactorily.
NRR/DSRO/EIB	D. Thatcher			Generic Issue 49 has been established for this issue.

REFERENCE: Memo dated October 16, 1980 from H. R. Denton to C. Michelson

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Memorandum to H. R. Denton from C. Michelson, dated January 19, 1981

Responsible AEOD Engineer: E. J. Brown

TITLE OR SUBJECT: Degradation of Internal Appurtenances in LWRs

RECOMMENDATION 1

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DST NRR/DSRO/SPEB	H. Vander Molen	Draft priority was determined to be low. (Generic Issue #35)	Not scheduled	Proceeding satisfactorily. Agreement between NRR and AEOD to include evaluation of loose parts as possible missiles during SG blowdowns has been reached. Additionally, it was agreed that AEOD would conduct a data search to identify loose parts affecting ESF system reliability to assist NRR in evaluating ESF system concerns (Reference 1). Results of the data search will be compiled and forwarded to NRR.

REFERENCE: Memo, K. V. Seyfrit to W. Minners, February 15, 1985, "Evaluation of of Generic Issue No. 35, Degradation of Internal Appurtenance in LWRs"

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Memorandum from C. Michelson to V. Stello and H. Denton, "Immediate Action Memo: Common Cause Failure Potential at Rancho Seco - Dessicant Contamination of Air Lines," September 15, 1981.

Responsible AEOD Engineer: H. Ornstein

TITLE OR SUBJECT: Air Plant Systems

RECOMMENDATION 1

Obtain licensees' experience and assessment of this problem and determine course of corrective action if required.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DST/SPEB NRR/DSRO/SPEB	W. Milstead	Low/Drop		Not proceeding satisfactorily. NRR Prioritized this issue (Generic Issue 43); and recommended that it be dropped. AEOD does not agree with the prioritization, and sent NRR a memo requesting NRR hold this issue in abeyance until an AEOD report is written on this subject including additional operational experience. The AEOD Case Study is expected to be completed during early 1986. NRR has agreed to this approach. A recent ACRS memo related to NRR's prioritization of generic issues also indicated agreement with this approach.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Memorandum from C. Michelson to R. Vollmer and R. Mattson dated February 24, 1982

Responsible AEOD Engineer: M. Chiramal

TITLE OR SUBJECT: Spurious Trip of the Generator Lockout Relay Associated with a Diesel Generator Unit

RECOMMENDATION 1

Should explicitly verify that seismic qualification of all protective devices used in the control and protection circuitry of DG units has been performed with these devices in their energized, de-energized, tripped and non-tripped states.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR NRR/OSRO/EIB	P. Y. Chen T. CHANG	High	Not scheduled	Proceeding satisfactorily. Issue will be incorporated into USI A-46.

REFERENCE: Memorandum from H. R. Denton to C. Michelson dated May 11, 1982

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Engineering Evaluation AEOD/E215

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "Salt Water System Flow Blockage at Pilgrim NPS by Blue Mussels"

RECOMMENDATION 1 Internal inspection of RBCCW HX supply headers

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRC/DSRO/EIB	C. Hickey	Medium	Not scheduled*	Proceeding satisfactorily. Pending generic action on biofouling Generic issue 51

RECOMMENDATION 2 Periodic measurement of overall heat transfer coefficient on RBCCW HXs at Pilgrim

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRC/DSRO/EIB	C. Hickey	Medium	Not scheduled*	Proceeding satisfactorily. Pending generic action on biofouling. Generic Issue 51.

RECOMMENDATION 3 Periodic measurement of Salt Water System flow to RBCCW HXs

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB NRC/DSRO/EIB	C. Hickey	Medium	Not scheduled*	Proceeding satisfactorily. Pending generic action on biofouling. Generic Issue 51.

*May not be required. If necessary, will be scheduled following completion of Generic Issue 51, "Proposed Requirement for Improving the Reliability of Open Cycle Service Water Systems." The Generic Issue is incorporating Task V of Project FIN B-2977 by RES into GI-51.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Memo dated June 1, 1982 from C. Michelson to H. R. Denton and R. C. DeYoung

Responsible AEOD Engineer: M. Chiramal

TITLE OR SUBJECT: Degradation of BWR Scram Pilot Solenoid Valves due to Abnormal Power Supply Voltages

RECOMMENDATION 1

Implementation of RPS power monitoring system in BWRs should consider ac line losses and voltage drops between RPS power supplies and loads connected to them.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/PSB	_____	High	Not required	Resolved. Being addressed under MPA C-11 "RPS Power Supplies (BWRs)." Review has been completed for all operating BWR units.
NRE/DBWRL/EICSB	M. SRINIVASAN			

REFERENCE: Memo dated August 13, 1982 from H. Denton to C. Michelson

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Engineering Evaluation AEOD/E304

Responsible AEOD Engineer: T. Cintula

TITLE OR SUBJECT: "Backflow Protection in Common Equipment and Floor Drain Systems"

RECOMMENDATION 1

Provide backflow protection for drain systems in older operating plants.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/DSI/ASB	A. Singh	High	8/86 (If backfit is required)	Proceeding satisfactorily. This issue is being addressed in Generic Issue 77. The task action plan for Generic Issue 77 has been prepared and approved. Implementation of the plan is currently in progress with an expected completion date of 8/86.
NRR/DSRO/EIB	D. Thatcher			

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Special Study Report - C. J. Heltemes, Jr. to H. R. Denton dated January 13, 1984

Responsible AEOD Engineer: E. Trager

TITLE OR SUBJECT: "Human Error in Events Involving Wrong Unit or Wrong Train"

RECOMMENDATION 1

Consider the need for further clarification or guidance on what constitutes an acceptable independent verification program.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR NRR/DHFT/HFIB	Unknown F. Rowsome		N/A	Under Review. NRR was to consider as a part of Maintenance and Surveillance Program Plan (MSPP). Scope of plan has been reduced so that plan may no longer be a suitable vehicle for resolution of recommendation.

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE: Special Study Report - C. J. Heltemes, Jr. to H. R. Denton dated January 13, 1984

Responsible AEOD Engineer: E. Trager

TITLE OR SUBJECT: "Human Error in Events Involving Wrong Unit or Wrong Train"

RECOMMENDATION 1

NRR review wrong unit/wrong train events and develop appropriate guidance to minimize such events.

<u>RESPONSIBLE OFFICE/DIV/BR</u>	<u>CONTACT</u>	<u>PRIORITY</u>	<u>CRGR REVIEW</u>	<u>STATUS</u>
NRR/PPAS/TOSB NRR/DHFS AEOD/NAS	G. Wilson E. Trager E	High as Generic Issue HG-02	N/A	Proceeding satisfactorily. NRR and AEOD will spend about 1/3 man-year over next several months on plant visits and reviews to determine/whether WU/WT events should be taken up as an issue separate from the Maintenance and Surveillance Program Plan (MSPP).
NRR/DHFT/HFIB	F. Rowsome			

AEOD RECOMMENDATION TRACKING SYSTEM

RECOMMENDATION

SOURCE:

Special Study Report AEOD/S503 and Memorandum, Heltemes to Denton dated September 19, 1985.
(See also recommendations related to AEOD/C203 on pages C203-1 and C203-2.)

Responsible AEOD Engineer: E. J. Brown

TITLE OR SUBJECT: "Evaluation of Revent Valve Operator Motor Burnout Events"

RECOMMENDATION 1

In view of the more than 200 motor burnout events, the NRR plan to address motor burnout should be expedited.

RESPONSIBLE
OFFICE/DIV/BR

CONTACT

PRIORITY

CRGR
REVIEW

STATUS

NRR/DSRO/EIB

A. Rothberg

Not proceeding satisfactorily.
This issue was to have been
addressed in Generic Issue II.E.6,
"In Situ Testing of Valves;"
however, no contract for this
effort has been funded for FY 86.