

March 1982

TECHNICAL EVALUATION OF THE LICENSEE'S RESPONSE TO
NUREG 0737, ITEM II.E.4.2, POSITION 7,
CONTAINMENT ISOLATION DEPENDABILITY--
HIGH RADIATION SIGNAL TO PURGE/VENT VALVES

By

W. O. Wade
D. H. Laudenbach

EG&G, Inc.
Energy Measurements Group
San Ramon Operations

INTRODUCTION AND BACKGROUND

As a consequence of the incident at TMI-2, implementation of a number of new requirements has been recommended for operating reactors. These new requirements are described in NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980. The NRC staff has requested licensees to verify that these TMI action plan requirements have been met. This report provides an evaluation of the response to Action Plan Item II.E.4.2, Position 7, by the designated licensees.

DESIGN BASIS OR REVIEW CRITERIA

Position 7 requires that containment purge/vent isolation valves must close on a high radiation signal.

The NRC staff has determined that any purge/vent isolation valves sealed closed during plant operating modes 1 through 4, in accordance with SRP 6.2.4, Item II.6.f. (NUREG 0800) satisfy the requirements of Position 7 without a radiation closure signal, since these valves are not expected to be open following an accident.

The evaluation of the licensee response is to verify that purge/vent isolation valves that are not sealed closed by plant technical specifications in plant operating modes 1 through 4 close automatically on a high radiation signal. The evaluation does not include a review of radiation monitor location, quality, redundancy, nor isolation/separation from non-safety systems.

EVALUATION AND CONCLUSIONS

Based on our review of the documentation listed in the attachment, we conclude that the following plants satisfy the requirements of the Review Criteria detailed above and meet the Position 7 requirements of II.E.4.2, NUREG-0737:

| <u>PLANT</u> | <u>TAC NO.</u> |
|---------------------|----------------|
| 1. Arkansas 1 | 44828 |
| 2. Beaver Valley | 44830 |
| 3. Calvert Cliffs 1 | 44837 |
| 4. Calvert Cliffs 2 | 44838 |
| 5. Cook 1 | 44842 |
| 6. Cook 2 | 44843 |
| 7. Cooper | 44839 |

| | <u>PLANT</u> | <u>TAC NO.</u> |
|-----|----------------|----------------|
| 8. | Duane Arnold | 44847 |
| 9. | Indian Point 2 | 44857 |
| 10. | Indian Point 3 | 44858 |
| 11. | La Crosse | 44860 |
| 12. | Monticello | 44865 |
| 13. | North Anna 1 | 44867 |
| 14. | North Anna 2 | 44868 |
| 15. | Palisades | 44873 |
| 16. | Point Beach 1 | 44877 |
| 17. | Point Beach 2 | 44878 |
| 18. | Salem 1 | 44886 |
| 19. | Surry 1 | 44890 |
| 20. | Surry 2 | 44891 |

CEB#14/#20

ATTACHMENT

NUREG 0737, TASK II.E.4.2
REVIEW DOCUMENTS

A-1

| <u>REACTOR</u> | <u>LICENSEE</u> | <u>ACCESSION NO.</u> | <u>DATE</u> | <u>REMARKS</u> |
|-------------------------|------------------------------|----------------------|-------------------------|-----------------|
| ARKANSAS, Units 1 and 2 | Arkansas Power and Light Co. | NRC letter | - 3/30/79 ^a | Pos. 6 (Unit 2) |
| | | 8012290188 | - 12/19/80 | Pos. 5 and 7 |
| | | 8101060355 | - 12/31/80 ^b | No Information |
| | | 8003030250 | - 2/22/80 ^a | Pos. 7 (Unit 2) |
| | | 8103090535 | - 2/27/81 ^b | Pos. 5 |
| | | 8103160490 | - 3/11/81 | Pos. 5 |
| | | 8104080398 | - 3/31/81 | Pos. 5 |
| | | NRC letter | - 1/4/82 | Pos. 6 |
| BEAVER VALLEY, Unit 1 | Duquesne Light Co. | 8101050321 | - 12/31/80 | Pos. 5 and 6 |
| | | 8107100255 | - 7/1/81 | Pos. 7 |

^aSupporting document from B-24 issue data base.^bDocuments received 4/13/81 for review of Position 5..^cUpdated material received 9/24/81.^dUpdated material received 12/4/81.

ATTACHMENT (Continued)

NUREG 0737, TASK II.E.4.2
REVIEW DOCUMENTS

| REACTOR | LICENSEE | ACCESSION NO. | DATE | REMARKS |
|-------------------------------|-----------------------------------|---------------|-------------------------|-------------------|
| CALVERT CLIFFS, Units 1 and 2 | Baltimore Gas and Electric Co. | 7912190403 | - 12/14/79 ^a | Pos. 1 |
| | | 8004100277 | - 4/7/80 ^a | Pos. 7 |
| | | 8012190117 | - 12/15/80 | Pos. 6 and 7 |
| | | 8101060333 | - 12/30/80 | Pos. 5 |
| | | 8101270611 | - 1/23/81 | Pos. 1 to 4 |
| | | 8108180126 | - 8/11/81 ^c | Pos. 7 |
| | | NRC letter | - 10/20/81 ^d | II.E.4.2 |
| | | 8112140191 | - 12/7/81 ^a | Pos. 6 |
| COOK, Units 1 and 2 | Indiana and Michigan Electric Co. | 8101130217 | - 1/8/81 ^c | Pos. 5, 6, and 7 |
| | | SER | - 10/30/81 ^d | |
| | | EGG-EA5098 | - 3/80 ^a | Pos. 6 |
| | | NRC letter | - 10/30/81 | Pos. 5 and 6 |
| COOPER | Nebraska Public Power District | 7912280542 | - 12/18/79 ^a | Pos. 7 and Pos. 1 |
| | | 8101050466 | - 12/30/80 | Pos. 5 and 6 |
| | | 8107070348 | - 6/30/81 | Pos. 7 |
| | | 1183-4149 | - 6/80 ^a | Pos. 7 |
| | | NRC letter | - 10/26/81 | Pos. 6 |

^aSupporting document from B-24 issue data base.^bDocuments received 4/13/81 for review of Position 5.^cUpdated material received 9/24/81.^dUpdated material received 12/4/81.

ATTACHMENT (Continued)

NUREG 0737, TASK II.E.4.2
REVIEW DOCUMENTS

| <u>REACTOR</u> | <u>LICENSEE</u> | <u>ACCESSION NO.</u> | <u>DATE</u> | <u>REMARKS</u> |
|-----------------------------|------------------------------------|----------------------|-------------------------|------------------------|
| DIANE ARNOLD | Iowa Electric Light and Power Co. | 7912310369 | - 12/14/79 ^a | Pos. 7 and Pos. 1 |
| | | - - - - | - 12/31/80 | Pos. 5 and 6 |
| | | 8107070317 | - 7/1/81 | Pos. 6 |
| INDIAN POINT, Units 1 and 2 | Cons. Edison Co. of NY, Inc. | 8003140208 | - 3/11/80 ^a | Pos. 1 |
| | | 8006110051 | - 5/28/80 ^a | Pos. 7 |
| | | 8103030722 | - 2/26/81 | Pos. 5, 6, 7, (Unit 2) |
| | | 8107070391 | - 7/1/81 | No Information |
| | | NRC letter | - 11/29/81 | Pos. 6 (Unit 2) |
| INDIAN POINT, Unit 3 | Power Authority of the State of NY | - - - - | - 3/2/79 ^a | Pos. 7 |
| | | - - - - | - 12/28/79 ^a | Pos. 1 |
| | | x...x476 | - 12/30/80 | Pos. 5, 6, and 7 |
| | | 8103040697 | - 2/27/81 ^d | Pos. 1 to 4 |
| | | NRC letter | 11/24/81 | Pos. 6 |

^aSupporting document from B-24 issue data base.^bDocuments received 4/13/81 for review of Position 5.^cUpdated material received 9/24/81.^dUpdated material received 12/4/81.

ATTACHMENT (Continued)

NUREG 0737, TASK II.E.4.2
REVIEW DOCUMENTS

| <u>REACTOR</u> | <u>LICENSEE</u> | <u>ACCESSION NO.</u> | <u>DATE</u> | <u>REMARKS</u> |
|---------------------------|---------------------------------|----------------------|-------------------------|-------------------|
| LA CROSSE | Dairyland Power Cooperative | 7902140219 | - 2/1/79 ^a | Pos. 7 |
| | | SER(SEPB-DUR)- | 3/14/80 | Pos. 7 and Pos. 1 |
| | | 810....181 | - 1/16/81 | Pos. 5 |
| MONTICELLO | Northern States Power Co. | 7901091095 | - 1/3/79 ^a | Pos. 7 |
| | | 7911210410 | - 11/14/79 ^a | Pos. 1 |
| | | 8001230102 | - 1/17/80 ^a | Pos. 1 |
| | | 8003050529 | - 2/26/80 ^a | Pos. 7 |
| | | - - - - | - 12/30/80 ^b | Pos. 5 and 6 |
| | | - - - - | - 1/30/81 ^b | Pos. 5 |
| | | 8103100206 | - 3/2/81 ^b | Pos. 7 |
| NORTH ANNA, Units 1 and 2 | Virginia Electric and Power Co. | NRC letter | - 11/13/81 | Pos. 6 |
| | | 8012190354 | - 12/15/80 ^c | Pos. 5, 6, and 7 |
| | | 8106260145 | - 6/18/81 ^c | Pos. 5 and 7 |

^aSupporting document from B-24 issue data base.

^bDocuments received 4/13/81 for review of Position 5.

^cUpdated material received 9/24/81.

^dUpdated material received 12/4/81.

ATTACHMENT (Continued)

NUREG 0737, TASK II.E.4.2
REVIEW DOCUMENTS

| | <u>REACTOR</u> | <u>LICENSEE</u> | <u>ACCESSION NO.</u> | <u>DATE</u> | <u>REMARKS</u> |
|-----|----------------------------|-------------------------------------|----------------------|-------------------------|-----------------------|
| | PALISADES | Consumers Power Co. | - - - - | - 12/19/80 ^C | Pos. 5, 6, and 7 |
| | | | 7911270348 | - 11/21/79 ^a | Pos. 6 |
| | | | 7911290378 | - 11/27/79 ^a | Pos. 1 |
| A-5 | POINT BEACH, Units 1 and 2 | Wisconsin Electric Power Co. | 8012300404 | - 12/23/80 ^C | Pos. 5, 6, and 7 |
| | | | - - - - | - 2/4/81 ^b | No Information |
| | | | - - - - | - 3/31/81 ^b | Schedule Only |
| | | | 8109220705 | - 9/14/81 ^d | II.F.1.4, 5 and 6 |
| | | | NRC letter | - 11/23/81 | Pos. 6 |
| | SALEM, Units 1 and 2 | Public Service Electric and Gas Co. | SER (DSS) | - 3/22/79 ^a | Pos. 6 and 7 (Unit 2) |
| | | | 7910160529 | - 10/5/79 ^a | Pos. 6 (Unit 1) |
| | | | 8101070329 | - 12/31/80 ^C | Pos. 5 |
| | | | 8105040260 | - 4/23/81 ^C | Pos. 5 |
| | | | - - - - | - 12/22/81 | Pos. 6 |

^aSupporting document from B-24 issue data base.^bDocuments received 4/13/81 for review of Position 5.^cUpdated material received 9/24/81.^dUpdated material received 12/4/81.

ATTACHMENT (Continued)

NUREG 0737, TASK II.E.4.2
REVIEW DOCUMENTS

| <u>REACTOR</u> | <u>LICENSEE</u> | <u>ACCESSION NO.</u> | <u>DATE</u> | <u>REMARKS</u> |
|----------------------|---------------------------------|----------------------|-------------------------|------------------|
| SURRY, Units 1 and 2 | Virginia Electric and Power Co. | 8012190354 | - 12/15/80 ^C | Pos. 5, 6, and 7 |
| | | 8106260145 | - 6/18/81 ^C | Pos. 5 and 7 |

- ^aSupporting document from B-24 issue data base.
^bDocuments received 4/13/81 for review of Position 5.
^cUpdated material received 9/24/81.
^dUpdated material received 12/4/81.