



NUCLEAR ENERGY SERVICES, INC.

DOCUMENT NO. 80A2972 REV. 4

PAGE 1 OF 1

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN

FOR

LIMERICK GENERATING STATION

UNIT 1

PREPARED FOR

PHILADELPHIA ELECTRIC COMPANY

PHILADELPHIA, PA

| | | |
|--------------------------------------------------|----------------------------------------------|--------------|
| Project Application 5551 | Prepared By N. Holland <i>Norman Holland</i> | Date 4/22/82 |
| APPROVALS | | |
| TITLE/DEPT. | SIGNATURE | DATE |
| Supervisory Engineer Testing Programs | <i>Thomas B. Thelildse</i> | 21 May 84 |
| Program Standards Manager | <i>L. J. Hayes</i> | 5/21/84 |
| Project Manager | <i>W. B. S. L.</i> | 5/21/84 |
| Quality Assurance Manager | <i>Mary- Ellen Alling for SIT</i> | 5-21-84 |
| CONTROLLED COPY | | |
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| 8406200153 840615 PDR ADOCK 05000352 A PDR | | |

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN

FOR

LIMERICK GENERATION STATION

UNIT 1

REVISION LOG





REVISION LOG

DOCUMENT NO. 80A2972

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| REV. NO. | DATE | PAGE NO. | DESCRIPTION | APPROVAL |
|----------|----------|----------------|-----------------------------------------------------------------------------------|-------------------|
| 0 | 4/22/82 | | Original Issue | |
| 1 | 8/06/82 | All | Completely Reissued per CRA No. 2724 | <i>R. Holland</i> |
| 2 | 8/16/82 | All | Revised to correct typing errors and to incorporate Bechtel comments per CRA 2731 | <i>R. Holland</i> |
| 3 | 10/18/82 | | Renumbered First 7 Pages | <i>R. Holland</i> |
| 3 | 10/18/82 | 2of7 | Updated Revision Log | |
| 3 | 10/18/82 | 3of7 | Updated Revision Log | |
| 3 | 10/18/82 | 5of7 | Added Clarification of Valve Stroke Timing | |
| 3 | 10/18/82 | 6of7 | Added Definition of Cold Shutdown Testing | |
| 3 | 10/18/82 | 4of4 | Revised No. of Pages for M-41, M-51 (Sh1&Sh2) | |
| 3 | 10/18/82 | M-01 All | Revised Page Numbers | |
| 3 | 10/18/82 | M-01 2of4 | Revised Test Requirements | |
| 3 | 10/18/82 | M-01 3of4 | Added Relief Request 01-01 | |
| 3 | 10/18/82 | M-01 4of4 | Added Relief Request 01-02 | |
| 3 | 10/18/82 | M-11(1) 8of10 | Corrected Typo | |
| 3 | 10/18/82 | M-11(1) 9of10 | Corrected Typo | |
| 3 | 10/18/82 | M-11(1) 10of10 | Corrected Typo | |
| 3 | 10/18/82 | M-11(2) 2of17 | Corrected Typo | |
| 3 | 10/18/82 | M-11(2) 3of17 | Corrected Typo | |
| 3 | 10/18/82 | M-11(2) 5of17 | Corrected Typo | |
| 3 | 10/18/82 | M-11(3) 2of3 | Corrected Typo | |
| 3 | 10/18/82 | M-11(3) 3of3 | Added Remark | |
| 3 | 10/18/82 | M-12 5of6 | Corrected Typo | |
| 3 | 10/18/82 | M-41 All | Revised Page Numbers | |
| 3 | 10/18/82 | M-41 2of21 | Revised Test Requirements | |
| 3 | 10/18/82 | M-41 13of21 | Added Page with 1 New Valve | |
| 3 | 10/18/82 | M-49 5of9 | Revised Remarks | |
| 3 | 10/18/82 | M-49 6of9 | Revised Remarks | |



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| REV. NO. | DATE | PAGE NO. | DESCRIPTION | APPROVAL |
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| 3 | 10/18/82 | M51(1) All | Revised Page Numbers | |
| 3 | 10/18/82 | M51(1) 3of15 | Revised Test Requirements | |
| 3 | 10/18/82 | M51(1) 9of15 | Revised Remarks | |
| 3 | 10/18/82 | M51(1) 15of15 | Added Relief Request 51-03 | |
| 3 | 10/18/82 | M51(2) All | Revised Page Numbers | |
| 3 | 10/18/82 | M51(2) 3of16 | Revised Test Requirements | |
| 3 | 10/18/82 | M51(2) 7of16 | Revised Remarks | |
| 3 | 10/18/82 | M51(2) 10of16 | Revised Remarks | |
| 3 | 10/18/82 | M51(2) 13of16 | Revised Remarks/Test Requirements | |
| 3 | 10/18/82 | M51(2) 16of16 | Added Relief Request 51-03 | |
| 3 | 10/18/82 | M52 8of12 | Corrected Valve Numbers | |
| 3 | 10/18/82 | M52 9of12 | Corrected Valve Numbers | |
| 3 | 10/18/82 | M55 5of11 | Revised Remarks | |
| 3 | 10/18/82 | M55 6of11 | Revised Remarks | |
| 3 | 10/18/82 | M55 7of11 | Corrected Typo | |
| 3 | 10/18/82 | M56 2of4 | Corrected Typo | |
| 3 | 10/18/82 | M59 4of7 | Corrected Valve Number | |
| 3 | 10/18/82 | M59 5of7 | Corrected Valve Number | |
| 3 | 12/14/82 | M51(1) 6of15 | Revised Remarks | |
| 3 | 12/14/82 | M51(2) 6of16 | Revised Remarks | |
| 4 | 5/21/84 | - | Revised to correct typing errors and to incorporate Bechtel and Peco comments per CRA 4237 | <i>Ramon Holland 5/21/84</i> |
| 4 | 5/21/84 | All | Reformatted Entire Document | |
| | | | Revision Log | |
| 4 | 5/21/84 | 1 | Added Title Page | |
| 4 | 5/21/84 | 2thru 16 | Revised Page Numbers | |



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| 4 | 5/21/84 | 2 thru 16 | Updated Revision Log | |
| | | | List of Effective Pages | |
| 4 | 5/21/84 | 1 thru 9 | Added List of Effective Pages Section | |
| | | | Program Plan Text | |
| 4 | 5/21/84 | 1 | Added Title Page | |
| 4 | 5/21/84 | 2 thru 6 | Revised Page Numbers | |
| 4 | 5/21/84 | 2 | Revised Referenced Page Number | |
| 4 | 5/21/84 | 3 | Revised Addenda Reference and Added | |
| | | | Paragraphs 1 thru 5 | |
| 4 | 5/21/84 | 4 | Revised Paragraph 6 | |
| 4 | 5/21/84 | 5 | Revised Addenda Reference | |
| 4 | 5/21/84 | 6 | Added NRC Reference | |
| | | | Pump List | |
| 4 | 5/21/84 | 3 | Changed Number of Footnotes and Added | |
| | | | Footnote Number 8 | |
| 4 | 5/21/84 | 4 | Revised Drawing Revision Numbers | |
| | | | Pump Table | |
| 4 | 5/21/84 | 2 | Revised Table and Added Footnote ** | |
| 4 | 5/21/84 | 3 | Revised Table | |
| 4 | 5/21/84 | 4 | Deleted Relief Request | |
| 4 | 5/21/84 | 5 | Deleted Relief Request | |
| | | | Appendix B | |
| 4 | 5/21/84 | 2 | Corrected Typos, Revised PV Test Re- | |
| | | | quirement and Added Definition of (P) | |
| 4 | 5/21/84 | 4 | Added New Systems to Index and Revised | |
| | | | No. of Page Column | |
| | | M-01 | | |
| 4 | 5/21/84 | 3 | Corrected Typo | |



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| | | M-11 Sh.1 | | |
| 4 | 5/21/84 | 2 | Revised Remarks | |
| 4 | 5/21/84 | 3 | Revised Remark (11-0001D) | |
| | | | Changed to Passive Valves (HV-11-105: | |
| | | | HV-11-107) | |
| 4 | 5/21/84 | 4 | Changed Normal Position to C | |
| 4 | 5/21/84 | 5 | Changed Normal Position to C (EV-11-132D) | |
| | | | Changed Normal Position to O (HV-11-133C: | |
| | | | HV-11-133D) | |
| 4 | 5/21/84 | 6 | Changed Normal Position to O | |
| 4 | 5/21/84 | 8 | Deleted Valves HV-11-205: HV-11-207: | |
| | | | 11-0043: HV-11-231A: HV-11-231B | |
| 4 | 5/21/84 | 9 | Deleted Page | |
| 4 | 5/21/84 | 10 | Deleted Page | |
| | | M-11 Sh.2 | | |
| 4 | 5/21/84 | 2 | Changed From Passive to Quarterly Testing | |
| | | | and Added Remarks | |
| 4 | 5/21/84 | 3 | Added P in Pass. Column (11-1006) | |
| | | | Changed From Passive to Quarterly Testing | |
| | | | and Added Remarks (HV-11-055A,B) | |
| 4 | 5/21/84 | 5 | Deleted Remarks (11-0034A,B) | |
| | | | Added Leak Test Requirements to Remark | |
| | | | (11-0062) | |
| 4 | 5/21/84 | 9 | Added Leak Test Requirements to Remark | |
| 4 | 5/21/84 | 10 | Added Leak Test Requirements to Remark | |
| 4 | 5/21/84 | 17 | Added 2 Valves | |
| | | M-11 Sh.3 | | |
| 4 | 5/21/84 | 2 | Changed From Passive to Quarterly Testing | |



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| | | | and Added Remarks | |
| | | | Deleted Valve (HV-11-227) | |
| 4 | 5/21/84 | 3 | Replaced Valve HV-11-228 With Valve | |
| | | | 11-0039 and Added Remark | |
| | | | Replaced Valves 11-2006 and 11-2008 with | |
| | | | Valves HV-11-048 and HV-11-078 and Added | |
| | | | Remarks | |
| | | M-12 | | |
| 4 | 5/21/84 | 1 | Corrected System Name | |
| 4 | 5/21/84 | 2 | Removed Flow Test Direction From Remarks | |
| | | | (12-0001A,B,C,D) and Corrected Flow Test | |
| | | | Direction in Remarks (12-0030: 12-0031) | |
| 4 | 5/21/84 | 3 | Changed Normal Position to 0 (HV-12-031A, | |
| | | | B,C,D). Changed Normal Position to | |
| | | | C (HV-12-032A,B) | |
| 4 | 5/21/84 | 4 | Changed Normal Position to C (HV-12-032C,D) | |
| 4 | 5/21/84 | 5 | Deleted Valves HV-12-210: HV-12-211: | |
| | | | HV-12-213 | |
| | | M-13 | | |
| 4 | 5/21/84 | 2 | Corrected Valve Numbers (HV-13-109: | |
| | | | HV-13-110). Revised Valve Category | |
| | | | HV-13-108: HV-13-109: HV-13-110: HV-13-111) | |
| | | | Corrected Actuator Type and Normal | |
| | | | Position (HV-13-109: HV-13-110) | |
| | | | Added Leak Testing to Test Requirements | |
| | | | (HV-13-108: HV-13-109: HV-13-110: | |
| | | | HV-13-111). Added Remarks (HV-13-109: 110) | |
| 4 | 5/21/84 | 3 | Changed Valve Category. | |



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| | | M-15 Sh.6 | | |
| 4 | 5/21/84 | 1 | New Page | |
| 4 | 5/21/84 | 2 | New Page | |
| | | M-20 | | |
| 4 | 5/21/84 | 1 | Corrected Typo and Revised Page Number | |
| 4 | 5/21/84 | 2 thru 13 | Corrected System Name and Revised Page Numbers | |
| 4 | 5/21/84 | 2 | Corrected Class to - (All Valves) | |
| | | | Deleted Remarks (20-1046A,B,C,D) | |
| 4 | 5/21/84 | 3 | Corrected Class to - (All Valves) | |
| 4 | 5/21/84 | 4 | Corrected Class to - (All Valves) | |
| 4 | 5/21/84 | 5 | Corrected Class to - (All Valves) | |
| 4 | 5/21/84 | 6 | Corrected Class to - (All Valves) | |
| 4 | 5/21/84 | 7 | Corrected Class to - (20-1161A,B,C,D) | |
| 4 | 5/21/84 | 8 | Corrected Valve Type (20-1124A,B,C,D: 20-1125A) | |
| 4 | 5/21/84 | 9 | Corrected Valve Type | |
| 4 | 5/21/84 | 13 | Corrected Valve Type | |
| 4 | 5/21/84 | 14 | New Page | |
| 4 | 5/21/84 | 15 | New Page | |
| 4 | 5/21/84 | 16 | New Page | |
| 4 | 5/21/84 | 17 | New Page | |
| | | M-26 Sh.3 | | |
| 4 | 5/21/84 | 1 | New Page | |
| 4 | 5/21/84 | 2 | New Page | |
| | | M-40 | | |
| 4 | 5/21/84 | 5 | Corrected Valve Number (HV-40-1F008) | |
| | | M-41 | | |



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| 4 | 5/21/84 | 2 | Removed Stroke Timing Requirements and | |
| | | | Revised Remarks (HV-41-1F032A,B) | |
| | | | Corrected Valve Type (HV-41-F074A,B) | |
| | | | Removed Stroke Timing Requirements and | |
| | | | Revised Remarks (HV-41-1F074A,B) | |
| 4 | 5/21/84 | 3 | Corrected Actuator Type and Added Remarks | |
| 4 | 5/21/84 | 4 | Corrected Actuator Type and Added Remarks | |
| 4 | 5/21/84 | 5 | Corrected Drawing Coordinates (PSV41- | |
| | | | 1F037A,B). Revised Valve Category and | |
| | | | Actuator Type (PSV41-1F013E,H,K,M,S) | |
| | | | Added Stroke Timing to Test Requirements | |
| | | | and Changed Alternate Testing to | |
| | | | Refueling (PSV41-1F013E,H,K,M,S) | |
| 4 | 5/21/84 | 6 | Corrected Drawing Coordinates | |
| 4 | 5/21/84 | 7 | Corrected Drawing Coordinates | |
| 4 | 5/21/84 | 9 | Corrected Class and Changed Leak Test | |
| | | | Requirements (HV-41-133A,B) | |
| | | | Corrected Drawing Coordinates (41-1F036E,H) | |
| 4 | 5/21/84 | 10 | Corrected Drawing Coordinates | |
| 4 | 5/21/84 | 11 | Corrected Drawing Coordinates | |
| 4 | 5/21/84 | 12 | Corrected Drawing Coordinates (PSV41- | |
| | | | 1F097M,N,S) | |
| | | | Corrected Valve No. (HV-41-130A) | |
| | | | Corrected Class (HV-41-130A,B: 41-1036A,B) | |
| | | | Corrected Size (41-1036A,B) | |
| | | | Revised Leak Test Requirements | |
| | | | (HV-41-130A,B: 41-1036A,B) | |
| | | | Added Remarks (41-1036A,B) | |



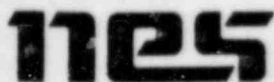
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| 4 | 5/21/84 | 13 | Added 6 Valves | |
| 4 | 5/21/84 | 14 | Revised Alternate Testing Requirements | |
| 4 | 5/21/84 | 15 | Revised the Basis For Relief | |
| 4 | 5/21/84 | 18 | Changed Valve Category | |
| | | | Corrected Test Requirement | |
| | | | Revised Basis For Relief | |
| 4 | 5/21/84 | 19 | Removed Valve HV-41-154A and Added | |
| | | | Valve HV-41-130A | |
| | | | Corrected Class | |
| | | | Revised Basis for Relief | |
| 4 | 5/21/84 | 20 | Corrected Typo | |
| 4 | 5/21/84 | 21 | Corrected Class | |
| | | | Revised Alternate Testing Requirements | |
| | | M-42 | | |
| 4 | 5/21/84 | 1 | New Page | |
| 4 | 5/21/84 | 2 | New Page | |
| | | M-43 | | |
| 4 | 5/21/84 | 1 thru 5 | Revised Page Numbers | |
| 4 | 5/21/84 | 2 | Corrected Valve Type (HV-43-1F023A,B: | |
| | | | HV-43-1F031A,B) | |
| | | | Changed Valves to Passive, Deleted | |
| | | | Quarterly Testing, Deleted Relief Request | |
| | | | Reference and Alternate Testing | |
| | | | (HV-43-1F023A,B) | |
| 4 | 5/21/84 | 3 | New Page | |
| 4 | 5/21/84 | 4 | Deleted Valves HV-43-1F023A,B) | |
| | | | Corrected Valve Function | |
| 4 | 5/21/84 | 5 | New Page | |



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| | | M-44 | | |
| 4 | 5/21/84 | 2 | Corrected Valve Type | |
| | | | Corrected Actuator Type | |
| | | | Removed Stroke Time Test Requirements | |
| | | | Added Remark | |
| | | M-46 | | |
| 4 | 5/21/84 | 1 | New Page | |
| 4 | 5/21/84 | 2 | New Page | |
| 4 | 5/21/84 | 3 | New Page | |
| | | M-47 | | |
| 4 | 5/21/84 | 1 thru 4 | Corrected System Name | |
| 4 | 5/21/84 | 2 | Corrected Valve Numbers (XV-47-1F011: | |
| | | | XV-47-1F181: XV-47-1F010: XV-47-1F180) | |
| | | | Corrected Relief Request Reference | |
| | | | (47-1-14) | |
| 4 | 5/21/84 | 3 | Added 4 Valves | |
| 4 | 5/21/84 | 4 | Correct Typo | |
| | | M-48 | | |
| 4 | 5/21/84 | 1 thru 9 | Revised Page Numbers | |
| 4 | 5/21/84 | 6 | New Page | |
| 4 | 5/21/84 | 9 | New Page | |
| 4 | 5/21/84 | M-49 | | |
| 4 | 5/21/84 | 2 | Revised Remark (HV-49-1F002) | |
| | | | Corrected Typo (HV-49-1F013) | |
| 4 | 5/21/84 | 6 | Corrected Drawing Coordinates | |
| 4 | 5/21/84 | 7 | Corrected Typo (HV-49-1F060) | |
| 4 | 5/21/84 | 9 | Revised Basis For Relief | |
| | | M-50 | | |



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| 4 | 5/21/84 | 4 | Corrected Valve Number (FV-50-113) | |
| | | M-51 Sh.1 | | |
| 4 | 5/21/84 | 1 thru 16 | Revised Page Numbers | |
| 4 | 5/21/84 | 2 | Changed Alternate Test Performed to | |
| | | | Refueling | |
| 4 | 5/21/84 | 3 | Changed Alternate Test Performed to | |
| | | | Refueling | |
| 4 | 5/21/84 | 4 | Changed From Passive to Quarterly Testing | |
| | | | (HV-51-1F026B) | |
| | | | Added Relief Request Reference and | |
| | | | Alternate Testing Requirements | |
| | | | (HV-51-1F041B) | |
| 4 | 5/21/84 | 5 | Added Relief Request Reference and | |
| | | | Alternate Testing Requirements | |
| | | | (HV-51-1F041D) | |
| | | | Changed Alternate Test Performed to | |
| | | | Refueling (HV-51-1F050B) | |
| 4 | 5/21/84 | 13 | New Page | |
| 4 | 5/21/84 | 14 | Corrected Valve Number (HV-51-1F008) | |
| | | | Corrected Valve Number (HV-51-1F023) | |
| | | | Revised Basis for Relief and Alternate | |
| | | | Testing Requirements | |
| 4 | 5/21/84 | 15 | Added Valves (HV-51-1F041A,B,C,D) | |
| | | | Added New Valves to Function | |
| | | | Revised Basis for Relief and Alternate | |
| | | | Testing Requirements | |
| 4 | 5/21/84 | 16 | Revised Basis for Relief and Alternate | |
| | | | Testing Requirements | |



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| | | M-51 Sh.2 | | |
| 4 | 5/21/84 | 2 | Changed Alternate Test Performed to Refueling | |
| 4 | 5/21/84 | 3 | Changed Alternate Test Performed to Refueling | |
| 4 | 5/21/84 | 4 | Changed Alternate Test Performed to Refueling (HV-51-1F022: HV-51-1F023) Changed From Passive to Quarterly Testing (HV-51-1F026A) | |
| 4 | 5/21/84 | 5 | Added Relief Request Reference and Alternate Testing Requirements | |
| 4 | 5/21/84 | 6 | Changed Alternate Test Performed to Refueling | |
| 4 | 5/21/84 | 12 | Corrected Drawing Coordinates | |
| 4 | 5/21/84 | 13 | Added 3 Valves | |
| 4 | 5/21/84 | 14 | Corrected Valve Number (HV-51-1F008) Corrected Valve Number (HV-51-1F023) Revised Basis for Relief and Alternate Testing Requirements | |
| 4 | 5/21/84 | 15 | Added Valves (HV-51-1F041A,B,C,D) Added New Valves to Function Revised Basis for Relief and Alternate Testing Requirements | |
| 4 | 5/21/84 | 16 | Revised Basis for Relief and Alternate Testing Requirements | |
| | | M-52 | | |
| 4 | 5/21/84 | Thru 13 | Revised Page Numbers | |
| 4 | 5/21/84 | 3 | Changed Remarks (52-1F003A,B,C,D) | |



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|----------|---------|----------|------------------------------------------|----------|
| | | | Changed Category and Removed Leak | |
| | | | Testing Requirements (52-1F004A) | |
| 4 | 5/21/84 | 4 | Added Relief Request Reference and | |
| | | | Alternate Testing Requirements | |
| 4 | 5/21/84 | 5 | Changed Remarks | |
| 4 | 5/21/84 | 6 | Changed Remark (52-1F036D) | |
| | | | Corrected Typo (HV-52-1F039A,B) | |
| | | | Deleted Stroke Time Requirement, changed | |
| | | | Alternate Test Performed to Refueling | |
| | | | and Added Remark (HV-52-108) | |
| 4 | 5/21/84 | 8 | Added Valve 52-1034 in Place of | |
| | | | Deleted Valve 52-1033 | |
| 4 | 5/21/84 | 11 | Added 5 New Valves | |
| 4 | 5/21/84 | 12 | New Page | |
| 4 | 5/21/84 | 13 | New Page | |
| | | M-55 | | |
| 4 | 5/21/84 | 2 | Deleted Relief Request Reference and | |
| | | | Alternate Testing Requirements | |
| 4 | 5/21/84 | 4 | Changed Category and Deleted Leak | |
| | | | Testing (HV-55-1F041) | |
| | | | Corrected Valve Number (55-1F045) | |
| | | | Corrected Class (HV-55-1F071) | |
| 4 | 5/21/84 | 6 | Corrected Valve Category | |
| 4 | 5/21/84 | 7 | Corrected Size (55-1058) | |
| | | | Deleted Valve 55-2047 | |
| | | | Added Valves HV-55-120 and HV-55-121 | |
| 4 | 5/21/84 | 10 | Revised Basis for Relief and Alternate | |
| | | | Testing Requirements | |



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|----------|---------|--------------|-----------------------------------------|----------|
| 4 | 5/21/84 | 11 | Deleted Valve HV-55-1F006 | |
| | | | Deleted Valve HV-55-1F006 From Function | |
| | | | Revised Basis For Relief | |
| | | M-56 | | |
| 4 | 5/21/84 | 2 | Corrected Size | |
| 4 | 5/21/84 | 3 | Added New Valve | |
| | | M-57 Sh.1 | | |
| 4 | 5/21/84 | 2 | Changed Valve Category and Added Leak | |
| | | | Test Requirements (HV-57-162) | |
| | | | Revised Remark (HV-57-113) | |
| 4 | 5/21/84 | 3 | Changed Valve Category and Added Leak | |
| | | | Test Requirements (HV-57-161) | |
| | | | Corrected Size and Revised Remark | |
| | | | (HV-57-125) | |
| 4 | 5/21/84 | 4 | Corrected Drawing Coordinates and | |
| | | | Revised Remark (HV-57-122) | |
| | | | Changed Valve Category and Added Leak | |
| | | | Test Requirements (HV-57-163) | |
| 4 | 5/21/84 | 7 | Corrected Size | |
| 4 | 5/21/84 | 8 | Changed Valve Category and Added Leak | |
| | | | Test Requirements | |
| 4 | 5/21/84 | 9 | Changed Valve Category and Added Leak | |
| | | | Test Requirements (HV-57-164) | |
| | | | Added 3 New Valves | |
| | | M-59 | | |
| 4 | 5/21/84 | thru 13 | Revised Page Numbers | |
| 4 | 5/21/84 | 2 | Corrected Valve Numbers and Class. | |
| 4 | 5/21/84 | 3 | Corrected Class (59-1121; 59-1139) | |



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| | | | Added Relief Request References and | |
| | | | Alternate Testing Requirements | |
| | | | (HV-59-101: HV-59-102) | |
| | | | Corrected Actuator Type (HV-59-129A,B) | |
| 4 | 5/21/84 | 4 | Added Valve Types | |
| 4 | 5/21/84 | 5 | Deleted Fail Safe Testing Requirements | |
| | | | (HV-59-151A,B) | |
| | | | Corrected Class (SV-59-152B: | |
| | | | PSV-59-152A,B: PSV-59-153A,B) | |
| 4 | 5/21/84 | 6 | Corrected Class (SV-59-150A: SV-59-152A) | |
| | | | Added 5 New Valves | |
| 4 | 5/21/84 | 7 | New Page | |
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| | | M-60 | | |
| 4 | 5/21/84 | 2 | Added Class (60-1073: 60-1074) | |
| | | | Added Valve 60-1026 | |
| | | M-61 | | |
| 4 | 5/21/84 | 2 | Added 3 New Valves | |
| | | M-87 Sh.2 | | |
| 4 | 5/21/84 | 1 thru 3 | Revised Page Numbers | |
| 4 | 5/21/84 | 2 | Added 3 New Valves and Added Remark | |
| | | | for Valve HV-87-120A | |
| 4 | 5/21/84 | 3 | New Page | |
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| | | 5 | 4 | | | | |
| | | 6 | 4 | | | Total | |
| | | 7 | 4 | | | 5 | |
| | | 8 | 4 | | | | |
| | | 9 | 4 | | | | |
| | | Total | | Appendix B | - | 1 | 4 |
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| Text | | 1 | 4 | | | 4 | |
| | | 2 | 4 | | | | |
| | | 3 | 4 | Main Steam | M-01 | 1 | 4 |
| | | 4 | 4 | | | 2 | 4 |
| | | 5 | 4 | | | 3 | 4 |
| | | 6 | 4 | | | 4 | 4 |
| | | Total | | | | | |
| | | 6 | | | | Total | |
| | | | | | | 4 | |
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| | | 3 | 4 | | | | |
| | | 4 | 4 | | | | |
| | | Total | | | | | |
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| Emerg. Svc. | | | | | | | |
| Water | M-11 Sh. 1 | 1 | 4 | | | | |
| | | 2 | 4 | Emerg. Svc. | | | |
| | | 3 | 4 | Water | M-11 Sh. 3 | 1 | 4 |
| | | 4 | 4 | | | 2 | 4 |
| | | 5 | 4 | | | 3 | 4 |
| | | 6 | 4 | | | Total | |
| | | 7 | 4 | | | 3 | |
| | | 8 | 4 | | | | |
| | | 9 | 4 | | | | |
| | | 10 | 4 | RHR Svc. Water | M-12 | 1 | 4 |
| | | Total | | | | 2 | 4 |
| | | 10 | | | | 3 | 4 |
| | | | | | | 4 | 4 |
| | | | | | | 5 | 4 |
| Emerg. Svc. | | | | | | 6 | 4 |
| Water | M-11 Sh. 2 | 1 | 4 | | | Total | |
| | | 2 | 4 | | | 6 | |
| | | 3 | 4 | | | | |
| | | 4 | 4 | | | | |
| | | 5 | 4 | Reactor Encl. | | | |
| | | 6 | 4 | Cooling Water | M-13 | 1 | 4 |
| | | 7 | 4 | | | 2 | 4 |
| | | 8 | 4 | | | 3 | 4 |
| | | 9 | 4 | | | Total | |
| | | 10 | 4 | | | 3 | |
| | | 11 | 4 | | | | |
| | | 12 | 4 | | | | |
| | | 13 | 4 | | | | |
| | | 14 | 4 | Compressed Air | M-15 Sh. 6 | 1 | 4 |
| | | 15 | 4 | | | 2 | 4 |
| | | 16 | 4 | | | Total | |
| | | 17 | 4 | | | 2 | |
| | | Total | | | | | |
| | | 17 | | | | | |

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| Diesel Fuel | | | | MSIV Leakage | | | |
| and Air | M-20 | 1 | 4 | Control | M-40 | 1 | 4 |
| | | 2 | 4 | | | 2 | 4 |
| | | 3 | 4 | | | 3 | 4 |
| | | 4 | 4 | | | 4 | 4 |
| | | 5 | 4 | | | 5 | 4 |
| | | 6 | 4 | | | total 5 | |
| | | 7 | 4 | | | | |
| | | 8 | 4 | | | | |
| | | 9 | 4 | | | | |
| | | 10 | 4 | | | | |
| | | 11 | 4 | Nuclear Boiler | M-41 | 1 | 4 |
| | | 12 | 4 | | | 2 | 4 |
| | | 13 | 4 | | | 3 | 4 |
| | | 14 | 4 | | | 4 | 4 |
| | | 15 | 4 | | | 5 | 4 |
| | | 16 | 4 | | | 6 | 4 |
| | | 17 | 4 | | | 7 | 4 |
| | | total 17 | | | | 8 | 4 |
| | | | | | | 9 | 4 |
| | | | | | | 10 | 4 |
| | | | | | | 11 | 4 |
| | | | | | | 12 | 4 |
| Rad Monitor | M-26 Sh. 3 | 1 | 4 | | | 13 | 4 |
| | | 2 | 4 | | | 14 | 4 |
| | | total 2 | | | | 15 | 4 |
| | | | | | | 16 | 4 |
| | | | | | | 17 | 4 |
| | | | | | | 18 | 4 |
| | | | | | | 19 | 4 |
| | | | | | | 20 | 4 |
| | | | | | | 21 | 4 |
| | | | | | | total 21 | |
| | | | | | | | |

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| | | | | CRD - Part B | M-47 | 1 | 4 |
| | | | | | | 2 | 4 |
| | | | | | | 3 | 4 |
| Vessel Inst. | M-42 | 1 | 4 | | | 4 | 4 |
| | | 2 | 4 | | | | |
| | | Total | | | | total | |
| | | 2 | | | | 4 | |
| | | | | | | | |
| | | | | | | | |
| | | | | SLC | M-48 | 1 | 4 |
| Reactor Recirc. | M-43 | 1 | 4 | | | 2 | 4 |
| | | 2 | 4 | | | 3 | 4 |
| | | 3 | 4 | | | 4 | 4 |
| | | 4 | 4 | | | 5 | 4 |
| | | 5 | 4 | | | 6 | 4 |
| | | | | | | 7 | 4 |
| | | Total | | | | 8 | 4 |
| | | 5 | | | | 9 | 4 |
| | | | | | | | |
| Reactor Water | M-44 | 1 | 4 | | | total | |
| Cleanup | | 2 | 4 | | | 9 | |
| | | | | | | | |
| | | Total | | | | | |
| | | 2 | | RCIC | M-49 | 1 | 4 |
| | | | | | | 2 | 4 |
| | | | | | | 3 | 4 |
| | | | | | | 4 | 4 |
| CRD-Part A | M-46 | 1 | 4 | | | 5 | 4 |
| | | 2 | 4 | | | 6 | 4 |
| | | 3 | 4 | | | 7 | 4 |
| | | | | | | 8 | 4 |
| | | Total | | | | 9 | 4 |
| | | 3 | | | | | |
| | | | | | | total | |
| | | | | | | 9 | |
| | | | | | | | |
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| RCIC Turbine | M-50 | 1 | 4 | RHR | M-51 Sh. 2 | 1 | 4 |
| | | 2 | 4 | | | 2 | 4 |
| | | 3 | 4 | | | 3 | 4 |
| | | 4 | 4 | | | 4 | 4 |
| | | | | | | 5 | 4 |
| | | Total | | | | 6 | 4 |
| | | 4 | | | | 7 | 4 |
| | | | | | | 8 | 4 |
| RHR | M-51 Sh.1 | 1 | 4 | | | 9 | 4 |
| | | 2 | 4 | | | 10 | 4 |
| | | 3 | 4 | | | 11 | 4 |
| | | 4 | 4 | | | 12 | 4 |
| | | 5 | 4 | | | 13 | 4 |
| | | 6 | 4 | | | 14 | 4 |
| | | 7 | 4 | | | 15 | 4 |
| | | 8 | 4 | | | 16 | 4 |
| | | 9 | 4 | | | | |
| | | 10 | 4 | | | Total | |
| | | 11 | 4 | | | 16 | |
| | | 12 | 4 | Core Spray | M-52 | 1 | 4 |
| | | 13 | 4 | | | 2 | 4 |
| | | 14 | 4 | | | 3 | 4 |
| | | 15 | 4 | | | 4 | 4 |
| | | 16 | 4 | | | 5 | 4 |
| | | | | | | 6 | 4 |
| | | Total | | | | 7 | 4 |
| | | 16 | | | | 8 | 4 |
| | | | | | | 9 | 4 |
| | | | | | | 10 | 4 |
| | | | | | | 11 | 4 |
| | | | | | | 12 | 4 |
| | | | | | | 13 | 4 |
| | | | | | | | |
| | | | | | | Total | |
| | | | | | | 13 | |
| | | | | | | | |
| | | | | | | | |

| Section | P&ID | Page | Rev. | Section | P&ID | Page | Rev. |
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| | | | | CAC | M-57 Sh. 1 | 1 | 4 |
| | | | | | | 2 | 4 |
| | | | | | | 3 | 4 |
| Fuel Pool | | | | | | 4 | 4 |
| Cooling | M-53 | 1 | 4 | | | 5 | 4 |
| | | 2 | 4 | | | 6 | 4 |
| | | | | | | 7 | 4 |
| | | Total | | | | 8 | 4 |
| | | 2 | | | | 9 | 4 |
| | | | | | | | |
| HPCI | M-55 | 1 | 4 | | | Total | |
| | | 2 | 4 | | | 9 | |
| | | 3 | 4 | | | | |
| | | 4 | 4 | Primary Ctmt. | | | |
| | | 5 | 4 | Inst. Gas | M-59 | 1 | 4 |
| | | 6 | 4 | | | 2 | 4 |
| | | 7 | 4 | | | 3 | 4 |
| | | 8 | 4 | | | 4 | 4 |
| | | 9 | 4 | | | 5 | 4 |
| | | 10 | 4 | | | 6 | 4 |
| | | 11 | 4 | | | 7 | 4 |
| | | | | | | 8 | 4 |
| | | Total | | | | 9 | 4 |
| | | 11 | | | | 10 | 4 |
| | | | | | | 11 | 4 |
| | | | | | | 12 | 4 |
| HPCI Turbine | M-56 | 1 | 4 | | | 13 | 4 |
| | | 2 | 4 | | | | |
| | | 3 | 4 | | | Total | |
| | | 4 | 4 | | | 13 | |
| | | | | | | | |
| | | Total | | | | | |
| | | 4 | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| Section | P&ID | Page | Rev. |
|---------------|------------|------------|------|
| Primary Ctmt. | | | |
| Leak Testing | M-60 | 1 | 4 |
| | | 2 | 4 |
| | | Total 2 | |
| Liquid | | | |
| Radwaste | M-61 | 1 | 4 |
| | | 2 | 4 |
| | | Total 2 | |
| Drywell | | | |
| Chilled Water | M-87 Sh. 2 | 1 | 4 |
| | | 2 | 4 |
| | | 3 | 4 |
| | | Total 3 | |

| Section | P&ID | Page | Rev. |
|---------------|------|-------------|------|
| Control | | | |
| Enclosure | | | |
| Chilled Water | M-90 | 1 | 4 |
| | | 2 | 4 |
| | | 3 | 4 |
| | | 4 | 4 |
| | | 5 | 4 |
| | | 6 | 4 |
| | | 7 | 4 |
| | | 8 | 4 |
| | | 9 | 4 |
| | | 10 | 4 |
| | | 11 | 4 |
| | | 12 | 4 |
| | | Total 12 | |

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PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN
FOR
LIMERICK GENERATION STATION
UNIT 1
PROGRAM PLAN TEXT





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| 3. Pump and Valve Inservice Testing Program Plan | 6 | |
| 3.1 Pump List and Relief Requests | | |
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1. INTRODUCTION AND TEST BASES

The Preservice/Inservice Inspection Program Plans for Limerick Generating Station, Unit 1, owned by Philadelphia Electric Company, consists of three parts, they are:


- Preservice Inspection Program Plan for Nuclear Piping Systems
- Preservice/Inservice Inspection Program Plan for the Reactor Pressure Vessel
- Pump and Valve Inservice Testing Program Plan

This volume contains the Pump and Valve Inservice Testing Program Plan.

This program has been prepared in compliance with the ASME Boiler and Pressure Vessel Code, Section XI, Subsections IWP and IWV, 1980 Edition through the Winter 1981 addenda. Exceptions (relief requests) and clarifications are noted in the Plan. This program complies with the current USNRC requirements for Pump and Valve Inservice Testing Programs. 

According to 10CFR50.55a, the edition of the Code applicable to the Pump and Valve Inservice Testing Programs is the Code in effect 12 months prior to the issuance of the operating license. Accordingly, this plan will be revised as necessary, to meet the requirements of the new editions and addenda as applicable.

In addition to the specific relief requests included in the Plan, the following exceptions and clarifications are applicable:

1. The pump test frequency shall be in accordance with IWP-3260. The valve test frequencies shall comply with IWV-3411, 3422, 3511, 3521 and 3610. However, if the performance of a certain test would place the plant in an unsafe condition (eg. other redundant safety-related equipment out of service), or if radiation levels are higher than those consistent with the ALARA concept, then such testing shall be deferred until the conditions no longer exist.
2. Constraints on Unit start-up (and operation) due to inoperable equipment shall be determined by the Limiting Conditions for Operation given in the plant Technical Specifications. 
3. Category A valves that perform a containment isolation function will be tested to meet the criteria of appendix J to 10CFR50. Category A valves which perform a pressure isolation function will be tested to meet Section XI requirements (IWV-3420).
4. Excess flow check valves are not listed in appendix B of this Program Plan. They will be leak rate and operability tested in accordance with the plant Technical Specifications.
5. Standby Diesel Generator skid mounted valves (FSAR Figures 9.5-9 through 9.5-11) are not listed in appendix B of this Program Plan. Their operability will be verified in conjunction with Standby Diesel Generator tests performed in accordance with the plant Technical Specifications.

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6. IWV-3417 requires corrective action if the measured stroke time for a valve which normally strokes in ten seconds or less varies by fifty percent from the last measured time. IWV-3413 allows measurement to the nearest second for stroke times of ten seconds or less. For rapid actuating solenoid and air operated valves with stroke times of five seconds or less, the application of the above criteria could result in requiring corrective action when the valves are functioning normally. To preclude this, the following criteria will be used for valves with normal stroke times of five seconds or less. If the stroke time is determined to be less than five seconds the valve will be considered operable without comparing stroke time with previous test results. If the time exceeds five seconds corrective action will be taken. For valves with stroke times greater than five seconds the requirements of IWV-3417 and IWV-3413 will apply.

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2. TEST PLAN DESCRIPTION

According to 10 CFR 50.55a(g), the Section XI Pump and Valve Inservice Testing Program shall be initiated at the start of facility commercial operation.

This Plan has been prepared in accordance with the requirements of the ASME Section XI, 1980 edition, up to and including 1981 Winter Addenda. The Plan shall be in effect for the first 120-month period and shall be updated thereafter every 120 months to the edition of the code in effect 12 months prior to the start of each 120-month period.

The requirements and record formats for inservice testing of Class 1, 2 and 3 pumps and valves installed at Limerick Generating Station Unit 1 have been defined per Section XI, Subsections IWP and IWV, as well as per NRC recommendations in "Guidance for Preparing Pump and Valve Testing Program Descriptions and Associated Relief Requests Pursuant to 10 CFR 50.55a(g)".

Cold shutdown inservice testing will be performed under the following conditions. Testing will commence as soon as cold shutdown conditions are achieved, but not later than 48 hours after shutdown, and continue until all tests are complete or the plant is ready to return to power. Completion of all testing is not a prerequisite to return to power. Any testing not completed at one cold shutdown will be performed during subsequent cold shutdowns that may occur before refueling. For planned long duration cold shutdowns where all valve testing will be completed the above mentioned 48 hour criteria will not apply. Certain valves specified as cold shutdown maybe tested during the mode change approaching cold shutdown conditions.

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3. PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN

The following sections comprise the Limerick Generating Station Unit 1 Pump and Valve Inservice Testing Program Plan and are discussed in detail in their corresponding Appendices.

3.1 PUMP LIST AND RELIEF REQUESTS

The safety-related Class 1, 2 and 3 pumps that are provided with an emergency power source are addressed in the program. Safety-related components are those pumps required to safely shut down the plant or mitigate the consequences of an accident.

Appendix A identifies the selected pumps with all additional information, including relief requests, required by the NRC guidance contained in "Guidance for Preparing Pump and Valve Testing Program Descriptions and Associated Relief Requests Pursuant to 10CFR50.55a(g)", hereinafter referred to as "NRC Staff Guidance" 4

3.2 VALVE LIST AND RELIEF REQUESTS

The safety-related Class 1, 2 and 3 valves are addressed in the program. Safety-related components are those valves required to safely shut down the plant or mitigate the consequences of an accident.

Appendix B includes detailed information to support requests for relief from testing requirements for each affected valve as required by the "NRC Staff Guidance".



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APPENDIX A

PUMP LIST AND RELIEF REQUESTS

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PUMP LIST NOMENCLATURE

The following abbreviations have been used in the pump test table.

| | |
|----------------|-------------------------------------|
| N | = Rotative Speed |
| P _i | = Inlet Pressure |
| ΔP | = Differential Pressure Across Pump |
| Q _f | = Flow Rate |
| V | = Vibration Amplitude |
| T _b | = Bearing Temperature |
| Q | = Quarterly |
| X | = Measurement/Observation Per IWP |
| C | = Cold Shutdown |
| L | = Lubricant Level or Pressure |
| R | = Relief Request |

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PUMP LIST

The list for safety-related Class 1, 2 and 3 pumps provided with an emergency power source is presented in this Appendix.

The pump test tables indicate the test parameters to be measured or observed and specifies the test frequencies. Footnotes 1 through 8 refer to amplifications, deviations and exceptions to the code requirements and are further discussed below:



- (1) Pump with constant speed drive, speed is not measured since test will be performed at nominal motor nameplate speed as required by Section XI, IWP-3100.
- (2) Inlet pressure to be calculated from the inlet liquid level. The liquid level will be measured while establishing and verifying Reference Data sets and used as information during subsequent test analysis.
- (3) Bearing temperature measurement not required (IWP-4310) since bearings are in the pumped fluid flow path.
- (4) Bearing temperatures are measured once a year as stipulated by Section XI, IWP-3300.
- (5) Lubricant level or pressure not observed because of bearing lubrication design.
- (6) Bearing temperature measurements not performed since bearings are an integral part of the pump drive unit and are not accessible to perform temperature measurements.
- (7) Instrumentation to be installed.
- (8) Bearing temperature measurement is not performed since bearings are antifriction type in a static oil bath. Temperature rise of such bearings occurs over a period of seconds or minutes immediately prior to failure. Yearly measurement would be meaningless.



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| RHR Service Water | M-12 | 21 | 4 |
| Diesel Fuel Oil Transfer | M-20 | 24 | 4 |
| Standby Liquid Control | M-48 | 16 | 3 |
| Reactor Core Isolation Cooling | M-50 | 19 | 1 |
| Residual Heat Removal | M-51 Sh.1 | 26 | 2 |
| Residual Heat Removal | M-51 Sh.2 | 26 | 2 |
| Safeguard Piping Fill | M-52 | 25 | 2 |
| Core Spray | M-52 | 25 | 4 |
| High Pressure Coolant Injection | M-56 | 21 | 1 |
| Control Room Chilled Water | M-90 | 15 | 2 |



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PUMP INSERVICE TESTING PROGRAM PLAN



TABLES AND RELIEF REQUESTS

FOR


LIMERICK GENERATING STATION

UNIT 1



PUMP TEST TABLE
Document No. 80A2972

| SYSTEM | PUMP LIST | | MEASURED PARAMETERS | | | | | | | | | |
|------------------------------------|-----------|-----------|---------------------|-------|---------------|-----|-----|----|----------------|---|-------------------------------|-------------------------------------------------------------------------------------|
| | PUMP I.D. | P& I.D. | COORD | CLASS | TEST FREQ. | N | Pi | ΔP | Q _f | V | T _b ⁽⁴⁾ | L |
| Standby Liquid Control | 1A-P208 | M-48 | D-5 | 2 | Q | (1) | (2) | X | X | X | (6) | X |
| | 1B-P208 | | C-5 | | | | | | | | |  |
| | 1C-P208 | | B-5 | | | | | | | | | |
| High Pressure Coolant Injection | 10-P204 | M-56 | E-4 | 2 | Q | X | X | X | X | X | X/(8)** X |  |
| | | | | | | | | | | | | |
| Core Spray | 1A-P206 | M-52 | C-5 | 2 | Q | (1) | X | X | X | X | (3) | (5) |
| | 1B-P206 | | C-4 | | | | | | | | | |
| | 1C-P206 | | C-4 | | | | | | | | | |
| | 1D-P206 | | C-3 | | | | | | | | | |
| Emergency Service Water | 0A-P548 | M-11 Sh-1 | G-7 | 3 | Q | (1) | (2) | X | X | X | (3) | (5) |
| | 0B-P548 | | G-3 | | | | | | | | | |
| | 0C-P548 | | G-5 | | | | | | | | | |
| | 0D-P548 | | G-2 | | | | | | | | | |
| RHR Service Water | 0A-P506 | M-12 | E-7 | 3 | Q | (1) | (2) | X | X | X | (3) | (5) |
| | 0B-P506 | | E-4 | | | | | | | | | |
| | 0C-P506 | | E-5 | | | | | | | | | |
| | 0D-P506 | | E-2 | | | | | | | | | |

* All (numbers) refer to footnotes on page 3 of Appendix A

** Main Coolant Pump/Booster Pump 

PUMP TEST TABLE
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| SYSTEM | PUMP LIST | | COORD | CLASS | FREQ. | N | MEASURED PARAMETERS TEST | | | | | |
|--------------------------------|-----------|-----------|-------|-------|-------|-----|--------------------------|------|----|---|----------------------------------------------------------------------------------------------|-----|
| | PUMP I.D. | P& I.D. | | | | | Pi | ΔP | Qf | V | Tb ⁽⁴⁾ | L |
| Reactor Core Isolation Cooling | 10-P203 | M-50 | E-5 | 2 | Q | X | X | X | X | X | (8)  | X |
| Residual Heat Removal | 1A-P202 | M-51 Sh-2 | B-3 | 2 | Q | (1) | X | X | X | X | (3) | (5) |
| | 1C-P202 | | B-3 | | | | | | | | | |
| | 1B-P202 | M-51 Sh-1 | C-6 | | | | | | | | | |
| | 1D-P202 | | B-7 | | | | | | | | | |
| Safeguard Piping Fill | 1A-P256 | M-52 | F-3 | 2 | Q | (1) | X(7) | X(7) | X | X | X | X |
| | 1B-P256 | | E-3 | | | | | | | | | |
| Diesel Oil Transfer | 1A-P514 | M-20 | G-7 | 3 | Q | (1) | (2) | X | X | X | (3) | (5) |
| | 1B-P514 | | F-7 | | | | | | | | | |
| | 1C-P514 | | E-7 | | | | | | | | | |
| | 1D-P514 | | D-7 | | | | | | | | | |
| Control Room Chilled Water | 0A-P162 | M-90 | D-4 | 3 | Q | (1) | X | X | X | X | (6)  | (5) |
| | 0B-P162 | | D-5 | | | | | | | | | |

* All (number s) refer to footnotes on page 3 Appendix A



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APPENDIX B
VALVE LIST AND RELIEF REQUESTS

VALVE LIST NOMENCLATURE



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The following abbreviations have been used in the valve list.

Valve Type

| | | | |
|----|-------------------|----|--------------------|
| GL | Globe | SK | Stop Check |
| GT | Gate | BL | Ball |
| RL | Relief | TW | Three Way |
| CK | Check | RD | Rupture Disk |
| EX | Explosive | PR | Pressure Regulator |
| AN | Angle | PL | Plug |
| BF | Butterfly | | |
| DI | Diaphragm | | |
| XC | Excess Flow Check | | |

Actuator Type

| | |
|----|-------------------------------------------------------------------------------------------------------|
| MO | Motor Operated |
| AO | Air-Piston Operated |
| EM | Electro-Mechanical |
| SA | Self-Actuated |
| AD | Air-Diaphragm  |
| MA | Manual |
| EX | Explosive |
| HY | Hydraulic |
| SO | Solenoid |
| EH | Electro-Hydraulic  |

Test Frequency

| | |
|---|----------------------------------------------------------------------|
| Q | Quarterly |
| C | Cold Shutdown |
| R | Refueling (also used for relief valve test and explosive valve test) |


Definitions

(P) - A passive valve is any valve which is not required to change position to accomplish a specific function and for which the Code does not require operability testing.

Normal Position

| | |
|----|------------------------------------------------------------|
| O | Open |
| C | Closed |
| LO | Locked Open |
| LC | Locked Closed |
| TH | Throttled |
| -- | Position Depends upon system condition (e.g. check valves) |

Test Requirements

| | |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ET | Exercise Test |
| ST | Measure Stroke Time |
| FS | Fail Safe Test |
| RT | Relief Valve Test |
| XT | Explosive Valve Test |
| RD | Rupture Disk Test in Compliance with Section XI |
| PV | Passive Valve - operating convenience and maintenance valve which is excluded from testing by ASME, Section XI.  |
| LJ | Leak rate test for containment isolation per Appendix J |
| LP | Leak rate test for Pressure isolation per Section XI |
| LC | Leak rate test for valves which communicate with the primary coolant system and which perform a containment isolation function as well as a pressure isolation function |

Note: Position indications will be verified in accordance with IWV-3300




















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VALVE LIST

The lists for safety - related class 1,2, and 3 valves and associated relief requests are presented in this appendix. Valve lists are arranged sequentially by P&ID number and Relief Requests are located following each set of valve lists. The standard format recommended by the NRC Staff in their "Guidance for Preparing Pump and Valve Testing Program Descriptions and Associated Relief Requests Pursuant to 10 CFR 50.55a(g)" has been used to the extent practical to provide the required information.

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| Emergency Service Water | M-11 (Sh.1) | 21 | 10 |
| Emergency Service Water | M-11 (Sh.2) | 25 | 17 |
| Emergency Service Water | M-11 (Sh.3) | 18 | 3 |
| RHR Service Water | M-12 | 21 | 6 |
| Reactor Enclosure Cooling Water | M-13 | 18 | 3 |
|  Compressed Air | M-15(Sh.6)  | 0 | 2  |
| Diesel Fuel Oil Transfer & Air Starting | M-20 | 24 | 17 |
|  Plant Process Radiation Monitor | M-26(Sh.3)  | 4 | 2  |
| MSIV Leakage Control | M-40 | 11 | 5 |
| Nuclear Boiler | M-41 | 17 | 21 |
|  Nuclear Boiler Vessel Instrumentation | M-42  | 17 | 2  |
| Reactor Recirculation Pump | M-43 | 22 | 5 |
| Reactor Water Cleanup | M-44 | 21 | 2 |
|  Control Rod Drive Hydraulic - Part A | M-46  | 20 |  3  |
|  Control Rod Drive Hydraulic - Part B | M-47 | 17 | 4 |
| Standby Liquid Control | M-48 | 16 | 9  |
| Reactor Core Isolation Cooling | M-49 | 23 | 9 |
| RCIC Pump Turbine | M-50 | 19 | 4 |
| Residual Heat Removal | M-51 (Sh.1) | 26 | 16 |
| Residual Heat Removal | M-51 (Sh.2) | 26 | 16 |
| Core Spray | M-52 | 25 | 13  |
| Fuel Pool Cooling and Cleanup | M-53 | 22 | 2 |
| High Pressure Coolant Injection | M-55 | 24 | 11 |
| HPCI Pump Turbine | M-56 | 21 | 4 |
| Containment Atmosphere Control | M-57 (Sh.1) | 17 | 9 |
| Primary Containment Instrument Gas | M-59 | 17 | 13  |
| Primary Containment Leak Testing | M-60 | 11 | 2 |
| Liquid Radwaste Collection | M-61 | 19 | 2 |
| Drywell Chilled Water | M-87 (Sh.2) | 16 | 3  |
| Control Enclosure Chilled Water | M-90 | 15 | 12 |

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-01

MAIN STEAM SYSTEM

MAIN STEAM SYSTEM

P&ID NO: M-01
DOCUMENT NO. 80A2972PAGE: 2 of 4
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| HV-01-108 | 2 | D-8 | B | | 6 | GT | MO | O | ET-Q ST-Q | 01-01 | ET-C ST-C | |
| HV-01-109 | 2 | C-8 | B | | 6 | GT | MO | C | ET-Q ST-Q | | | |
| HV-01-111 | 2 | G-8 | B | | 8 | GT | MO | O | ET-Q ST-Q | | | |
| HV-01-150 | 2 | G-8 | B | | 4 | GT | MO | O | ET-Q ST-Q | 01-02 | ET-C ST-C | |

RELIEF REQUEST BASIS

01-01

System: Main Steam

P&ID: M-01

Valve ID: HV-01-108

Valve Category: B

ASME Class: 2

Function: Reactor feed pump high pressure steam supply and recombiner pre-heater steam supply.

Test Requirement: Exercise valve quarterly

Basis for Relief: Reactor feed water pumps operate on high pressure steam during low power operation and low pressure steam during high power operation. Stroking this valve at low power will trip the plant from loss of feed water, stroking this valve at power will jeopardize the availability of the entire feedwater system which in the event of a unit trip or small break accident is a major source of high pressure makeup to the vessel.



Alternate Testing: Exercise and time at cold shutdown.

RELIEF REQUEST BASIS

01-02

System: Main Steam

P&ID: M-01

Valve ID: HV-01-150

Valve Category: B

ASME Class: 2

Function: Steam jet air ejector steam supply

Test Requirement: Exercise valve quarterly

Basis for Relief: This valve is in the supply line to the steam jet air ejectors. Stroking the valve closed during normal operation could result in a plant trip due to loss of main condenser vacuum.

Alternate Testing: Exercise and time at cold shutdown.

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-11 (SH.1)

EMERGENCY SERVICE WATER SYSTEM

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #1
DOCUMENT NO. 80A2972PAGE: 2 of 10
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|----------------------------|
| HV-11-011A | 3 | D-8 | B | | 20 | BF | MO | O | ET-Q ST-Q | | | |
| HV-11-011B | 3 | D-8 | B | | 20 | BF | MO | O | ET-Q ST-Q | | | |
| HV-11-015A | 3 | D-1 | B | | 20 | BF | MO | O | ET-Q ST-Q | | | |
| HV-11-015B | 3 | D-1 | B | | 20 | BF | MO | O | ET-Q ST-Q | | | |
| 11-0001A | 3 | G-7 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 11-0001B | 3 | G-3 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 11-0001C | 3 | G-6 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. |



EMERGENCY SERVICE WATER SYSTEM




P&ID NO: M-11 #1
DOCUMENT NO. 80A2972PAGE: 3 of 10
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-------------------------------------------------------|
| 11-0001D | 3 | G-2 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 11-0064A | 3 | D-7 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| 11-0064B | 3 | D-7 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| 11-0065A | 3 | D-2 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| 11-0065B | 3 | D-2 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| HV-11-105 | 3 | F-8 | B | P | 4 | GT | MO | C | PV | | | |
| HV-11-107 | 3 | F-8 | B | P | 4 | GT | MO | C | PV | | | |






EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #1
DOCUMENT NO. 80A2972PAGE: 4 of 10
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| HV-11-131A | 3 | C-6 | C | | 6 | SK | SA MO | -- O | ET-Q ST-Q | | | Forward flow test. Operator used for reverse flow test. |
| HV-11-131B | 3 | C-5 | C | | 6 | SK | SA MO | -- C | ET-Q ST-Q | | | Forward flow test. Operator used for reverse flow test.  |
| HV-11-131C | 3 | C-6 | C | | 6 | SK | SA MO | -- O | ET-Q ST-Q | | | Forward flow test. Operator used for reverse flow test. |
| HV-11-131D | 3 | C-5 | C | | 6 | SK | SA MO | -- C | ET-Q ST-Q | | | Forward flow test. Operator used for reverse flow test.  |
| HV-11-132A | 3 | C-7 | B | | 6 | GT | MO | O | ET-Q ST-Q | | | |
| HV-11-132B | 3 | C-6 | B | | 6 | GT | MO | C | ET-Q ST-Q | | |  |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #1
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| HV-11-132C | 3 | C-6 | B | | 6 | GT | MO | O | ET-Q ST-Q | | | |
| HV-11-132D | 3 | C-5 | B | | 6 | GT | MO | C | ET-Q ST-Q | | |  |
| HV-11-133A | 3 | C-6 | C | | 6 | SK | SA MO | C C | ET-Q ST-Q | | | Forward flow test. Operator used for reverse flow test. |
| HV-11-133B | 3 | C-5 | C | | 6 | SK | SA MO | -- O | ET-Q ST-Q | | | Forward flow test. Operator used for reverse flow test.  |
| HV-11-133C | 3 | C-6 | C | | 6 | SK | SA MO | C C | ET-Q ST-Q | | | Forward flow test. Operator used for reverse flow test. |
| HV-11-133D | 3 | C-5 | C | | 6 | SK | SA MO | -- O | ET-Q ST-Q | | | Forward flow test. Operator used for reverse flow test.  |
| HV-11-134A | 3 | C-7 | B | | 6 | GT | MO | C | ET-Q ST-Q | | | |

EMERGENCY SERVICE WATER SYSTEM

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REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| HV-11-134B | 3 | C-6 | B | | 6 | GT | MO | O | ET-Q ST-Q | | | 4 |
| HV-11-134C | 3 | C-6 | B | | 6 | GT | MO | C | ET-Q ST-Q | | | |
| HV-11-134D | 3 | C-5 | B | | 6 | GT | MO | O | ET-Q ST-Q | | | 4 |
| 11-1005A | 3 | B-7 | B | P | 6 | GL | MA | O | PV | | | |
| 11-1005B | 3 | B-6 | B | P | 6 | GL | MA | O | PV | | | |
| 11-1005C | 3 | B-6 | B | P | 6 | GL | MA | O | PV | | | |

EMERGENCY SERVICE WATER SYSTEM

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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-1005D | 3 | B-5 | B | P | 6 | GL | MA | O | PV | | | |
| PSV-11-107A | 3 | B-6 | C | | 3/4 | RL | SA | C | RT-R | | | |
| PSV-11-107B | 3 | B-5 | C | | 3/4 | RL | SA | C | RT-R | | | |
| PSV-11-107C | 3 | B-6 | C | | 3/4 | RL | SA | C | RT-R | | | |
| PSV-11-107D | 3 | B-5 | C | | 3/4 | RL | SA | C | RT-R | | | |
| 11-0002A | 3 | G-7 | B | P | 20" | GT | MA | O | PV | | | |
| 11-0002B | 3 | G-3 | B | P | 20 | GT | MA | O | PV | | | |

EMERGENCY SERVICE WATER SYSTEM

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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-0002C | 3 | G-6 | B | P | 20 | GT | MA | O | PV | | | |
| 11-0002D | 3 | G-2 | B | P | 20 | GT | MA | O | PV | | | |

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EMERGENCY SERVICE WATER SYSTEM

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-11 (SH-2)

EMERGENCY SERVICE WATER SYSTEM

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 2 of 17
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------------------------------------------|
| HV-11-041 | 3 | A-7 | B | | 8 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-042 | 3 | B-7 | B | | 3 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-043 | 3 | C-8 | B | | 3 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-11-044 | 3 | C-2 | B | | 8 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-051A | 3 | G-5 | B | | 6 | GT | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction |
| HV-11-051B | 3 | E-5 | B | | 6 | GT | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction |
| HV-11-052A | 3 | G-5 | B | | 6 | GT | AO | O | ET-Q ST-Q FS-Q | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------------------------------------------|
| HV-11-052B | 3 | E-5 | B | | 6 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| 11-1044 | 3 | B-2 | C | | 10 | CK | SA | — | ET-Q | | | Reverse flow test only |
| 11-1006 | 3 | B-7 | B | P | | GT | MA | O | PV | | | |
| HV-11-054A | 3 | G-5 | B | | 6 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-11-054B | 3 | E-5 | B | | 6 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-11-055A | 3 | G-5 | B | | 6 | GT | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction |
| HV-11-055B | 3 | E-5 | B | | 6 | GT | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction |



EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 4 of 17
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------|
| HV-11-071 | 3 | A-7 | B | | 8 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-072 | 3 | B-7 | B | | 3 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-073 | 3 | C-8 | B | | 3 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-11-074 | 3 | C-2 | B | | 8 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| 11-0031A | 3 | F-4 | B | P | 6 | GT | MA | O | PV | | | |
| 11-0031B | 3 | D-4 | B | P | 6 | GT | MA | O | PV | | | |
| 11-0032A | 3 | F-4 | C | | 6 | CK | SA | -- | ET-Q | | | Forward flow test only. |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 5 of 17
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 11-0032B | 3 | D-4 | C | | 6 | CK | SA | — | ET-Q | | | Forward flow test only. |
| 11-0034A | 3 | F-4 | B | P | 6 | GT | MA | C | PV | | | |
| 11-0034B | 3 | D-4 | B | P | 6 | GT | MA | C | PV | | | |
| 11-0062 | 3 | D-8 | C | | 3 | CK | SA | — | ET-Q * | | | Manual operator used for test. * Valve to be leak tested at refueling (not to exceed 10gpm) See FSAR question 410.52 |
| 11-0069 | 3 | D-7 | C | | 3 | CK | SA | — | ET-Q | | | Manual operator used for test. |
| HV-11-101A | 3 | F-6 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-101B | 3 | F-3 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |

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EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 6 of 17
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-11-101C | 3 | G-6 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-101D | 3 | G-3 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-101E | 3 | F-6 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-101F | 3 | F-3 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-101G | 3 | G-6 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-101H | 3 | G-3 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-103A | 3 | E-6 | B | | 3 | GL | AO | C | ET-Q ST-Q FS-Q | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-11-103B | 3 | E-6 | B | | 3 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-104A | 3 | C-6 | B | | 4 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-104B | 3 | C-3 | B | | 4 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-104C | 3 | C-5 | B | | 4 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-104D | 3 | C-4 | B | | 4 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-104E | 3 | B-6 | B | | 4 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-104F | 3 | B-3 | B | | 4 | GT | AO | C | ET-Q ST-Q FS-Q | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 8 of 17
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-11-104G | 3 | B-5 | B | | 4 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-104H | 3 | B-4 | B | | 4 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-106A | 3 | D-6 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-106B | 3 | D-6 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-121 | 3 | A-8 | B | | 8 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-11-123 | 3 | A-8 | B | | 8 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-11-124 | 3 | D-1 | B | | 10 | GT | AO | C | ET-Q ST-Q FS-Q | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 9 of 17
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| HV-11-125 | 3 | C-1 | B | | 8 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-11-126 | 3 | C-2 | B | | 8 | GT | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-11-127 | 3 | B-1 | B | | 10 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-11-128 | 3 | D-1 | B | | 10 | GT | AO | C | ET-Q ST-Q FS-Q | | | |
| 11-1007 | 3 | B-7 | C | | 8 | CK | SA | -- | ET-Q | | | Manual operator used for test. |
| 11-1009 | 3 | D-2 | C | | 8 | CK | SA | -- | ET-Q | | | Manual operator used for test. |
| 11-1011 | 3 | C-8 | C | | 8 | CK | SA | -- | ET-Q * | | | Manual operator used for test. * Valve to be leak tested at refueling (not to exceed 10gpm) See FSAR question 410.52 |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 10 of 17
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 11-1012 | 3 | D-2 | C | | 8 | CK | SA | -- | ET-Q * | | | Manual operator used for test. * Valve to be leak tested at refueling (not to exceed 10gpm) See FSAR question 410.52 |
| 11-1014A | 3 | C-6 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1014B | 3 | C-3 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1014C | 3 | C-5 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1014D | 3 | C-4 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1015A | 3 | C-7 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1015B | 3 | C-2 | B | P | 4 | GL | MA | O | PV | | | |



EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 11 of 17
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-1015C | 3 | C-4 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1015D | 3 | C-3 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1015E | 3 | B-7 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1015F | 3 | B-2 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1015G | 3 | B-4 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1015H | 3 | B-3 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1016A | 3 | B-6 | B | P | 1 | GL | MA | O | PV | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 12 of 17
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-1016B | 3 | B-3 | B | P | 1 | GL | MA | O | PV | | | |
| 11-1016C | 3 | B-5 | B | P | 1 | GL | MA | O | PV | | | |
| 11-1016D | 3 | B-4 | B | P | 1 | GL | MA | O | PV | | | |
| 11-1017A | 3 | B-6 | B | P | 1 | GL | MA | O | PV | | | |
| 11-1017B | 3 | B-3 | B | P | 1 | GL | MA | O | PV | | | |
| 11-1017C | 3 | B-5 | B | P | 1 | GL | MA | O | PV | | | |
| 11-1017D | 3 | B-4 | B | P | 1 | GL | MA | O | PV | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 13 of 17
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-1018A | 3 | B-7 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1018B | 3 | B-2 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1018C | 3 | B-4 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1018D | 3 | B-3 | B | P | 4 | GL | MA | O | PV | | | |
| 11-1020A | 3 | D-6 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1020B | 3 | D-6 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1021 | 3 | D-7 | B | P | 2 | GL | MA | O | PV | | | |

EMERGENCY SERVICE WATER SYSTEM

F&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 14 of 17
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-1022 | 3 | E-6 | B | P | 3 | GL | MA | O | PV | | | |
| 11-1023A | 3 | E-6 | B | P | 3 | GL | MA | O | PV | | | |
| 11-1023B | 3 | E-6 | B | P | 3 | GL | MA | O | PV | | | |
| 11-1024 | 3 | E-6 | B | P | 3 | GL | MA | O | PV | | | |
| 11-1025A | 3 | F-6 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1025B | 3 | F-3 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1025C | 3 | F-6 | B | P | 2 | GL | MA | O | PV | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 15 of 17
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-1025D | 3 | F-3 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1026A | 3 | F-6 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1026B | 3 | F-3 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1026C | 3 | G-6 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1026D | 3 | G-3 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1026E | 3 | F-6 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1026F | 3 | F-3 | B | P | 2 | GL | MA | O | PV | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 16 of 17
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-1026G | 3 | G-6 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1026H | 3 | G-3 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1027A | 3 | F-7 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1027B | 3 | F-2 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1027C | 3 | G-7 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1027D | 3 | G-2 | B | P | 2 | GL | MA | O | PV | | | |

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #2
DOCUMENT NO. 80A2972PAGE: 17 of 17
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 11-1008 | 3 | D-2 | B | P | 8 | GT | MA | O | PV | | | |
| 11-1019 | 3 | D-6 | B | P | 2 | GL | MA | O | PV | | | |
| 11-1010 | 3 | C-8 | B | P | 8 | GT | MA | O | PV | | | |
| 11-1013 | 3 | D-1 | B | P | 8 | GT | MA | O | PV | | | |

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Rev. 4

VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-11 (SH-3)

EMERGENCY SERVICE WATER SYSTEM

EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #3
DOCUMENT NO. 80A2972PAGE: 2 of 3
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|----------------------------------------------|
| HV-11-046 | 3 | B-7 | B | | 6 | GT | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction. |
| HV-11-047 | 3 | B-2 | B | | 6 | GI | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction. |
| HV-11-049 | 3 | E-1 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction. |
| HV-11-076 | 3 | B-7 | B | | 6 | GT | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction. |
| HV-11-077 | 3 | B-2 | B | | 6 | GT | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction |
| HV-11-079 | 3 | D-1 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | Passive valve during Unit 2 construction |



EMERGENCY SERVICE WATER SYSTEM

P&ID NO: M-11 #3
DOCUMENT NO. 80A2972PAGE: 3 of 3
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|------------------------------------------|
| 11-0039 | 3 | D-1 | C | | 2 | CK | SA | -- | ET-Q | | | Not installed until Unit 2 operation. |
| 11-0040 | 3 | D-1 | B | P | 2 | GT | MA | C | PV | | | |
| HV-11-048 | 3 | C-1 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | Not installed until Unit 2 operation. |
| HV-11-078 | 3 | C-1 | B | | 2 | GL | AO | C | ET-Q ST-Q FS-Q | | | Not installed until Unit 2 operation. |

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Rev 4

VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-12

RHR SERVICE WATER SYSTEM

| A

RHR SERVICE WATER SYSTEM

P&ID NO: M-12 #1
DOCUMENT NO. 80A2972PAGE: 2 of 6
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|----------------------------|
| 12-0001A | 3 | E-6 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 12-0001B | 3 | E-4 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 12-0001C | 3 | E-5 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 12-0001D | 3 | E-3 | C | | 20 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 12-0030 | 3 | C-7 | C | | 6 | CK | SA | -- | ET-Q | | | Reverse flow test only. |
| 12-0031 | 3 | C-7 | C | | 6 | CK | SA | -- | ET-Q | | | Reverse flow test only. |
| HV-12-017A | 3 | A-6 | B | | 20 | BF | MO | C | ET-Q ST-Q | | | |



RHR SERVICE WATER SYSTEM

P&ID NO: M-12 #1
DOCUMENT NO. 80A2972PAGE: 3 of 6
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| HV-12-017B | 3 | A-4 | B | | 20 | BF | MO | C | ET-Q ST-Q | | | |
| HV-12-031A | 3 | B-6 | B | | 30 | BF | MO | O | ET-Q ST-Q | | | |
| HV-12-031B | 3 | B-3 | B | | 30 | BF | MO | O | ET-Q ST-Q | | | |
| HV-12-031C | 3 | B-6 | B | | 30 | BF | MO | O | ET-Q ST-Q | | | |
| HV-12-031D | 3 | B-3 | B | | 30 | BF | MO | O | ET-Q ST-Q | | | |
| HV-12-032A | 3 | B-5 | B | | 30 | BF | MO | C | ET-Q ST-Q | | | |
| HV-12-032B | 3 | B-4 | B | | 30 | BF | MO | C | ET-Q ST-Q | | | |

RHR SERVICE WATER SYSTEM

P&ID NO: M-12 #1
DOCUMENT NO. 80A2972PAGE: 4 of 6
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| HV-12-032C | 3 | B-5 | B | | 30 | BF | MO | C | ET-Q ST-Q | | | |
| HV-12-032D | 3 | B-4 | B | | 30 | BF | MO | C | ET-Q ST-Q | | | |
| HV-12-034A | 3 | A-5 | B | | 30 | BF | MO | C | ET-Q ST-Q | | | |
| HV-12-034B | 3 | A-4 | B | | 30 | BF | MO | C | ET-Q ST-Q | | | |
| HV-12-110 | 3 | E-8 | B | P | 4 | GT | MO | C | PV | | | |
| HV-12-111 | 3 | A-6 | B | | 30 | BF | MO | C | ET-Q ST-Q | | | |
| HV-12-112 | 3 | D-7 | B | | 36 | BF | MO | C | ET-Q ST-Q | | | |



RHR SERVICE WATER SYSTEM

P&ID NO: M-12 #1
DOCUMENT NO. 80A2972PAGE: 5 of 6
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| HV-12-113 | 3 | A-6 | B | | 30 | BF | MO | C | ET-Q ST-Q | | | |
| HV-12-114 | 3 | D-7 | B | | 36 | BF | MO | C | ET-Q ST-Q | | | |
| 12-0002A | 3 | D-6 | B | P | 20 | GT | MA | O | PV | | | |
| 12-0002B | 3 | D-5 | B | P | 20 | GT | MA | O | PV | | | |

RHR SERVICE WATER SYSTEM

P&ID NO: M-12 #1
DOCUMENT NO. 80A2972PAGE: 6 of 6
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 12-0002C | 3 | D-4 | B | P | 20 | GT | MA | O | PV | | | |
| 12-0002D | 3 | D-3 | B | P | 20 | GT | MA | O | PV | | | |

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-13

REACTOR ENCLOSURE COOLING WATER SYSTEM

REACTOR ENCLOSURE COOLING WATER SYSTEM

P&ID NO: M-13 #1
DOCUMENT NO. 80A2972

PAGE: 2 of 3
REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|------------------------------|
| HV-13-106 | 2 | F-6 | A | | 4 | GT | MO | O | ET-Q ST-Q LJ-R | 13-01 | ET-R ST-R | |
| HV-13-107 | 2 | H-7 | A | | 4 | GT | MO | O | ET-Q ST-Q LJ-R | 13-01 | ET-R ST-R | |
| HV-13-108 | 2 | F-5 | A | | 3 | GT | MO | O | ET-Q ST-Q LJ-R | 13-01 | ET-R ST-R | |
| HV-13-109 | 2 | F-5 | A | P | 3 | GT | MO | C | PV LJ-R | | | Electrically Disconnected |
| HV-13-110 | 2 | G-8 | A | P | 3 | GT | MO | C | PV LJ-R | | | Electrically Disconnected |
| HV-13-111 | 2 | G-7 | A | | 3 | GT | MO | O | ET-Q ST-Q LJ-R | 13-01 | ET-R ST-R | |



RELIEF REQUEST BASIS

13-01

System: Reactor Enclosure Cooling Water **P&ID:** M-13

Valve ID: HV-13-106: HV-13-107: HV-13-108: HV-13-111

Valve Category: A



ASME Class: 2

Function: Cooling water to reactor recirculation pump seal and motor oil coolers, containment isolation.

Test Requirement: Exercise test quarterly.

Basis for Relief: Exercising this valve during plant operation removes reactor recirculation pump seal and motor oil cooler water flow. Disruption of flow during pump operation will result in damage to the recirculation pump seals. Recirculation pump operation can only be terminated during refueling.

Alternate Testing: Exercise and time during refueling.

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-15 (Sh-6)

COMPRESSED AIR



COMPRESSED AIR

P&ID NO: M-15 Sh 6
DOCUMENT NO. 80A2972

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Rev 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 15-1139 | 2 | D-8 | A | P | 3 | GT | MA | C | PV LJ-R | | | |
| 15-1140 | 2 | D-8 | A | P | 3 | GT | MA | C | PV LJ-R | | | |

4



VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-20

DIESEL FUEL OIL TRANSFER AND AIR STARTING SYSTEMS



DIESEL FUEL OIL TRANSFER
AND AIR STARTING SYSTEMS



P&ID NO: M-20
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PAGE: 2 of 17
REV 4



| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1046A | - | G-7 | C | | 2 | CK | SA | -- | ET-Q | | | |
| 20-1046B | - | F-7 | C | | 2 | CK | SA | -- | ET-Q | | | |
| 20-1046C | - | E-7 | C | | 2 | CK | SA | -- | ET-Q | | | |
| 20-1046D | - | E-7 | C | | 2 | CK | SA | -- | ET-Q | | | |
| 20-1044A | - | G-7 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1044B | - | F-7 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1044C | - | E-7 | B | P | 2 | GL | MA | 0 | PV | | | |



DIESEL FUEL OIL TRANSFER
AND AIR STARTING SYSTEMS



P&ID NO: M-20
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PAGE: 3 of 17
REV 4



| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1044D | - | E-7 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1080A | - | G-7 | B | P | 2 | GL | MA | C | PV | | | |
| 20-1080B | - | F-7 | B | P | 2 | GL | MA | C | PV | | | |
| 20-1080C | - | E-7 | B | P | 2 | GL | MA | C | PV | | | |
| 20-1080D | - | E-7 | B | P | 2 | GL | MA | C | PV | | | |
| 20-1045A | - | G-7 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1045B | - | F-7 | B | P | 2 | GL | MA | 0 | PV | | | |



DIESEL FUEL OIL TRANSFER
AND AIR STARTING SYSTEMS



P&ID NO: M-20
DOCUMENT NO. 80A2972

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REV 4



| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1045C | - | E-7 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1045D | - | E-7 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1048A | - | G-6 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1048B | - | F-6 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1048C | - | E-6 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1048D | - | E-6 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1157B | - | F-6 | B | P | 2 | GL | MA | 0 | PV | | | |





| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1157C | - | E-6 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1157D | - | E-6 | B | P | 2 | GL | MA | 0 | PV | | | |
| 20-1158A | - | G-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1158B | - | F-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1158C | - | E-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1158D | - | D-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1159A | - | G-4 | B | P | 1½ | GL | MA | LO | PV | | | |



DIESEL FUEL OIL TRANSFER
AND AIR STARTING SYSTEMS



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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1159B | - | F-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1159C | - | E-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1159D | - | D-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1160A | - | G-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1160B | - | F-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1160C | - | E-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1160D | - | D-4 | B | P | 1½ | GL | MA | LO | PV | | | |



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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1161A | - | G-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1161B | - | F-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1161C | - | E-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1161D | - | D-4 | B | P | 1½ | GL | MA | LO | PV | | | |
| 20-1113A | 3 | G-2 | B | P | 2 | GL | MA | C | PV | | | |
| 20-1113B | 3 | G-2 | B | P | 2 | GL | MA | C | PV | | | |



DIESEL FUEL OIL TRANSFER
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1113C | 3 | G-2 | B | P | 2 | GL | MA | C | PV | | | |
| 20-1113D | 3 | G-2 | B | P | 2 | GL | MA | C | PV | | | |
| 20-1124A | 3 | G-2 | B | P | 2 | PL | MA | 0 | PV | | | |
| 20-1124B | 3 | G-2 | B | P | 2 | PL | MA | 0 | PV | | | |
| 20-1124C | 3 | G-2 | B | P | 2 | PL | MA | 0 | PV | | | |
| 20-1124D | 3 | G-2 | B | P | 2 | PL | MA | 0 | PV | | | |
| 20-1125A | 3 | G-1 | B | P | 2 | PL | MA | 0 | PV | | | |





| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1125D | 3 | G-1 | B | P | 2 | PL | MA | 0 | PV | | | |
| 20-1114A | 3 | F-2 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1114B | 3 | F-2 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1114C | 3 | F-2 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1114D | 3 | F-2 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1115A | 3 | F-2 | B | P | 1 | GL | MA | C | PV | | | |





| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1115D | 3 | F-2 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1116A | 3 | F-1 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1116B | 3 | F-1 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1116C | 3 | F-1 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1116D | 3 | F-1 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1119A | 3 | F-2 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1119B | 3 | F-2 | B | P | 1 | PL | MA | 0 | PV | | | |

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|------------------------|
| 20-1119C | 3 | F-2 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1119D | 3 | F-2 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1123A | 3 | F-1 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1123B | 3 | F-1 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1123D | 3 | F-1 | B | P | 1 | PL | MA | 0 | PV | | | |
| 20-1118A | 3 | F-2 | C | | 1 | CK | SA | -- | ET-Q | | | Reverse Flow Test Only |
| 20-1118B | 3 | F-2 | C | | 1 | CK | SA | -- | ET-Q | | | Reverse Flow Test Only |



| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|------------------------|
| 20-1118C | 3 | F-2 | C | | 1 | CK | SA | -- | ET-Q | | | Reverse Flow Test Only |
| 20-1118D | 3 | F-2 | C | | 1 | CK | SA | -- | ET-Q | | | Reverse Flow Test Only |
| 20-1122A | 3 | F-1 | C | | 1 | CK | SA | -- | ET-Q | | | Reverse Flow Test Only |
| 20-1122B | 3 | F-1 | C | | 1 | CK | SA | -- | ET-Q | | | Reverse Flow Test Only |
| 20-1122C | 3 | F-1 | C | | 1 | CK | SA | -- | ET-Q | | | Reverse Flow Test Only |
| 20-1122D | 3 | F-1 | C | | 1 | CK | SA | -- | ET-Q | | | Reverse Flow Test Only |
| 20-1115B | 3 | F-2 | B | P | 1 | GL | MA | C | PV | | | |

DIESEL FUEL OIL TRANSFER
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1115C | 3 | F-2 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1123C | 3 | F-1 | B | P | 1 | PL | MA | O | PV | | | |
| 20-1125B | 3 | G-1 | B | P | 2 | PL | MA | O | PV | | | |
| 20-1125C | 3 | G-1 | B | P | 2 | PL | MA | O | PV | | | |
| 20-1157A | 3 | G-6 | B | P | 2 | GL | MA | O | PV | | | |



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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| PSV-20-128A-1 3 | | F-2 | C | | 1/2 | RL | SA | C | RT-R | | | |
| PSV-20-128B-1 3 | | F-2 | C | | 1/2 | RL | SA | C | RT-R | | | |
| PSV-20-128C-1 3 | | F-2 | C | | 1/2 | RL | SA | C | RT-R | | | |
| PSV-20-128D-1 3 | | F-2 | C | | 1/2 | RL | SA | C | RT-R | | | |
| PSV-20-128A-2 3 | | F-1 | C | | 1/2 | RL | SA | C | RT-R | | | |
| PSV-20-128B-2 3 | | F-1 | C | | 1/2 | RL | SA | C | RT-R | | | |
| PSV-20-128C-2 3 | | F-1 | C | | 1/2 | RL | SA | C | RT-R | | | |

DIESEL FUEL OIL TRANSFER
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|---------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| PSV-20-128D-2 | 3 | F-1 | C | | 1/2 | RL | SA | C | RT-R | | | |
| 20-1117A | 3 | F-1 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1117B | 3 | F-1 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1117C | 3 | F-1 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1117D | 3 | F-1 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1120A | 3 | F-1 | B | P | 1/2 | GL | MA | 0 | PV | | | |
| 20-1120B | 3 | F-1 | B | P | 1/2 | GL | MA | 0 | PV | | | |



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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1120C | 3 | F-1 | B | P | 1/2 | GL | MA | O | PV | | | |
| 20-1120D | 3 | F-1 | B | P | 1/2 | GL | MA | O | PV | | | |
| 20-1121A | 3 | F-1 | B | P | 1/2 | GL | MA | O | PV | | | |
| 20-1121B | 3 | F-1 | B | P | 1/2 | GL | MA | O | PV | | | |
| 20-1121C | 3 | F-1 | B | P | 1/2 | GL | MA | O | PV | | | |
| 20-1121D | 3 | F-1 | B | P | 1/2 | GL | MA | O | PV | | | |
| 20-1132A | - | H-2 | B | P | 1 | GL | MA | C | PV | | | |

DIESEL FUEL OIL TRANSFER
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 20-1132B | - | H-2 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1132C | - | H-2 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1132D | - | H-2 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1130A | - | G-1 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1130B | - | G-1 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1130C | - | G-1 | B | P | 1 | GL | MA | C | PV | | | |
| 20-1130D | - | G-1 | B | P | 1 | GL | MA | C | PV | | | |



VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATION STATION

UNIT 1

P&ID NO. M-26 (Sh. 3)

PLANT PROCESS

RADIATION MONITORING



PLANT PROCESS RADIATION MONITORING

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------|
| SV-26-190A | 3 | G-1 | A | | i | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-26-190B | 3 | G-1 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-26-190C | 3 | G-1 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-26-190D | 3 | G-1 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-40

MSIV LEAKAGE CONTROL SYSTEM

MSIV LEAKAGE CONTROL SYSTEM

P&ID NO: M-40
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|---------|
| HV-40-1F001B | 1 | F-7 | A | | 2 | GL | MO | C | ET-Q ST-Q LJ-R | 40-01 | ET-C ST-C | |
| HV-40-1F001F | 1 | D-7 | A | | 2 | GL | MO | C | ET-Q ST-Q LJ-R | 40-01 | ET-C ST-C | |
| HV-40-1F001K | 1 | C-7 | A | | 2 | GL | MO | C | ET-Q ST-Q LJ-R | 40-01 | ET-C ST-C | |
| HV-40-1F001P | 1 | C-7 | A | | 2 | GL | MO | C | ET-Q ST-Q LJ-R | 40-01 | ET-C ST-C | |
| HV-40-1F002B | 2 | F-7 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F002F | 2 | D-7 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F002K | 2 | C-7 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |

MSIV LEAKAGE CONTROL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| HV-40-1F002P | 2 | C-7 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F003B | 2 | E-5 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F003F | 2 | D-5 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F003K | 2 | C-5 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F003P | 2 | C-5 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F006 | 2 | E-4 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F007 | 2 | E-4 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |

MSIV LEAKAGE CONTROL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| HV-40-1F008 | 2 | F-3 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| HV-40-1F009 | 2 | F-3 | B | | 2 | GL | MO | C | ET-Q ST-Q | 40-01 | ET-C ST-C | |
| 40-1F010 | 2 | H-5 | C | | 1 | CK | SA | — | ET-Q | | | |
| 40-1F011 | 2 | C-4 | C | | 1 | CK | SA | — | ET-Q | | | |
| 40-1F012 | 2 | B-5 | B | P | 3 | GL | MA | LO | PV | | | |
| 40-1F013 | 2 | C-3 | B | P | 4 | GL | MA | LO | PV | | | |

RELIEF REQUEST BASIS

40-01

System: MSIV Leakage Control **P&ID:** M-40

Valve ID: HV-40-1F001B,F,K,P: HV-40-1F002B,F,K,P: HV-40-1F003B,F,K,P:
HV-40-1F006: HV-40-1F007: HV-40-1F008: HV-40-1F009

Valve Category: A (HV-40-1F001 B, F,K, P)
B (HV-40-1F002 B,F,K,P: HV-40-1F003 B, F,K,P: HV-40-1F006:
HV-40-1F007: HV-40-1F008: HV-40-1F009) 

ASME Class: 1 (HV-40-1F001 B,F,K,P)
2 (HV-40-1F002 B,F,K,P: HV-40-1F003 B,F,K,P: HV-40-1F006:
HV-40-1F007: HV-40-1F008: HV-40-1F009)

Function: System Control Valves

Test Requirement: Exercise test quarterly.

Basis for Relief: Valves are interlocked to prevent operation at main
steam line pressures greater than 35 psig.

Alternate Testing: Valves will be exercised and timed at cold shutdown.

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-41

NUCLEAR BOILER SYSTEM

NUCLEAR BOILER SYSTEM

P&ID NO: M-41
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|--------------------------------------------------------------|
| HV-41-1F032A | 2 | F-8 | A C | | 24 | CK | SA MO | -- O | ET-Q LJ-R | 41-01 | ET-C | Motor operator to close only |
| HV-41-1F032B | 2 | C-8 | A C | | 24 | CK | SA MO | -- O | ET-Q LJ-R | 41-01 | ET-C | Motor operator to close only |
| HV-41-109A | 2 | E-8 | A | P | 16 | GT | MO | C | PV LJ-R | | | Used only at cold shutdown to flush line |
| HV-41-109B | 2 | D-8 | A | P | 16 | GT | MO | C | PV LJ-R | | | Used only at cold shutdown to flush line |
| HV-41-1F074A | 1 | E-7 | A C | | 24 | SK | SA AO | -- O | ET-Q FS-Q LJ-R | 41-01 | ET-C FS-C | Not air testable. Air operator to assist closing only. |
| HV-41-1F074B | 1 | D-7 | A C | | 24 | SK | SA AO | -- O | ET-Q FS-Q LJ-R | 41-01 | ET-C FS-C | Not air testable. Air operator to assist closing only. |
| 41-1F010A | 1 | E-7 | A C | | 24 | CK | SA | -- | ET-Q LJ-R | 41-03 | ET-R | Reverse flow test only |

NUCLEAR BOILER SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|-----------------------------------------------------------|
| 41-1F010B | I | D-7 | A C | | 24 | CK | SA | -- | ET-Q LJ-R | 41-03 | ET-R | Reverse flow test only |
| HV-41-1F084 | I | C-7 | A | | 1 | GL | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-41-1F085 | I | C-7 | A | | 1 | GL | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-41-1F001 | I | G-6 | B | P | 2 | GL | MO | C | PV | | | |
| HV-41-1F002 | I | G-7 | B | P | 2 | GL | MO | C | PV | | | |
| PSV41-1F013A | I | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not an ADS valve. Air operator not used for operation. |
| PSV41-1F013B | I | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not an ADS valve. Air operator not used for operation. |



NUCLEAR BOILER SYSTEM

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| Valve No. | Class | Coor. | Valvr Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|--------------------------------------------------------|
| PSV41-1F013C | 1 | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not ADS valve. Air operator not used for operation. |
| PSV41-1F013D | 1 | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not ADS valve. Air operator not used for operation. |
| PSV41-1F013F | 1 | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not ADS valve. Air operator not used for operation. |
| PSV41-1F013G | 1 | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not ADS valve. Air operator not used for operation. |
| PSV41-1F013J | 1 | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not ADS valve. Air operator not used for operation. |
| PSV41-1F013L | 1 | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not ADS valve. Air operator not used for operation. |
| PSV41-1F013N | 1 | F-5 | C | | 6 | RL | SA AO | C | RT-R | | | Not ADS valve. Air operator not used for operation. |



| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------------------------------------------|
| PSV41-1F013E | 1 | G-5 | BC | | 6 | RL | AO SA | C | ET-Q ST-Q RT-R | 41-05 | ET-R | ADS valve |
| PSV41-1F013H | 1 | G-5 | BC | | 6 | RL | AO SA | C | ET-Q ST-Q RT-R | 41-05 | ET-R | ADS valve |
| PSV41-1F013K | 1 | G-5 | BC | | 6 | RL | AO SA | C | ET-Q ST-Q RT-R | 41-05 | ET-R | ADS valve |
| PSV41-1F013M | 1 | G-5 | BC | | 6 | RL | AO SA | C | ET-Q ST-Q RT-R | 41-05 | ET-R | ADS valve |
| PSV41-1F013S | 1 | G-5 | BC | | 6 | RL | AO SA | C | ET-Q ST-Q RT-R | 41-05 | ET-R | ADS valve |
| PSV41-1F037A | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | PSV41-1F037 (A thru S) are check valves. |
| PSV41-1F037B | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| PSV41-1F037C | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037D | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037E | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037F | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037G | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037H | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037J | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |

NUCLEAR BOILER SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------|
| PSV41-1F037K | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037L | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037M | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037N | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F037S | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| HV-41-1F022A | 1 | F-4 | A | | 26 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | 41-02 | ET-C ST-C FS-C | |
| HV-41-1F022B | 1 | F-4 | A | | 26 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | 41-02 | ET-C ST-C FS-C | |



NUCLEAR BOILER SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------|
| HV-41-1F022C | I | F-4 | A | | 26 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | 41-02 | ET-C ST-C FS-C | |
| HV-41-1F022D | I | F-4 | A | | 26 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | 41-02 | ET-C ST-C FS-C | |
| HV-41-1F028A | I | E-4 | A | | 26 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | 41-02 | ET-C ST-C FS-C | |
| HV-41-1F028B | I | E-4 | A | | 26 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | 41-02 | ET-C ST-C FS-C | |
| HV-41-1F028C | I | E-4 | A | | 26 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | 41-02 | ET-C ST-C FS-C | |
| HV-41-1F028D | I | E-4 | A | | 26 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | 41-02 | ET-C ST-C FS-C | |
| HV-41-1F016 | I | E-4 | A | | 3 | GT | MO | C | ET-Q ST-Q LJ-R | | | |

NUCLEAR BOILER SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-41-1F019 | 1 | E-4 | A | | 3 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| 41-1016 | 1 | F-7 | A | P | 4 | GL | MA | LC | PV LJ-R | | | |
| 41-1017 | 1 | F-7 | A | P | 4 | GL | MA | LC | PV LJ-R | | | |
| HV-41-133A | 1 | D-7 | A | | 1½ | GL | MO | C | ET-Q ST-Q LJ-R | 41-06 | ET-C ST-C | |
| HV-41-133B | 1 | D-7 | A | | 1½ | GL | MO | C | ET-Q ST-Q LJ-R | 41-06 | ET-C ST-C | |
| 41-1F036E | 3 | H-6 | C | | 1 | CK | SA | -- | ET-Q | 41-07 | ET-R | |
| 41-1F036H | 3 | H-6 | C | | 1 | CK | SA | -- | ET-Q | 41-07 | ET-R | |

NUCLEAR BOILER SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------------------------------------------|
| 41-1F036K | 3 | H-6 | C | | 1 | CK | SA | -- | ET-Q | 41-07 | ET-R | |
| 41-1F036M | 3 | H-6 | C | | 1 | CK | SA | -- | ET-Q | 41-07 | ET-R | |
| 41-1F036S | 3 | H-6 | C | | 1 | CK | SA | -- | ET-Q | 41-07 | ET-R | |
| PSV41-1F097A | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | PSV41-1F097 (A thru S) are check valves. |
| PSV41-1F097B | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097C | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097D | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |



NUCLEAR BOILER SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| PSV41-1F097E | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097F | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097G | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097H | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097J | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097K | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097L | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------------------------------------------------------------|
| PSV41-1F097M | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097N | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| PSV41-1F097S | 3 | C-4 | C | | 6 | CK | SA | -- | ET-Q | 41-04 | ET-R | |
| HV-41-130A | 1 | D-7 | A | | 1½ | GL | MO | C | ET-Q ST-Q LJ-R | 41-06 | ET-C ST-C | |
| HV-41-130B | 1 | D-7 | A | | 1½ | GL | MO | C | ET-Q ST-Q LJ-R | 41-06 | ET-C ST-C | |
| 41-1036A | 1 | D-7 | A C | | 1 | CK | SA | -- | ET-Q LP-C LJ-R | 41-08 | ET-C | Section XI, Category A, leak tested after exercising at cold shut down. |
| 41-1036B | 1 | D-7 | A C | | 1 | CK | SA | -- | ET-Q LP-C LJ-R | 41-08 | ET-C | Section XI, Category A, leak tested after exercising at cold shutdown. |

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| PSV41-112 | I | F-7 | A C | | I | RL | SA | C | LJ-R | | | Thermal Relief Valve not required to be tested under Section XI. Containment Isolation Boundary Valve. |
| HV-41-1F005 | I | G-6 | B | P | 2 | GL | MO | O | PV | | | |
| HV-41-140 | - | D-2 | B | | I | GT | MO | C | ET-Q ST-Q | | | |
| HV-41-141 | - | D-2 | B | | I | GT | MO | C | ET-Q ST-Q | | | |
| HV-41-142 | - | E-2 | B | | 3 | GT | MO | C | ET-Q ST-Q | | | |
| HV-41-143 | - | E-1 | B | | 3 | GT | MO | O | ET-Q ST-Q | | | |
| HVC-41-1F020 | 2 | D-3 | B | | 2 | GL | MO | O | ET-Q ST-Q | | | |

RELIEF REQUEST BASIS

41-01

System: Nuclear Boiler

P&ID: M-41

Valve ID: HV-41-1F032A,B; HV-41-1F074A,B

Valve Category: A C

ASME Class: 1 (HV-41-1F074A,B)
2 (HV-41-1F032A,B)

Function: Feedwater Isolation Valves

Test Requirement: Exercise test quarterly.

Basis for Relief: Testing valve during plant operation would require stopping one line of feedwater flow. This could result in a reactor scram.

Alternate Testing: Exercise test at cold shutdown (HV-41-1F032 A,B).
Exercise and fail safe test at cold shutdown (HV-41-1F074 A,B).



RELIEF REQUEST BASIS

41-02

System: Nuclear Boiler **P&ID:** M-41

Valve ID: HV-41-1F022A, B, C, D; HV-41-1F028 A, B, C, D

Valve Category: A

ASME Class: 1

Function: Main Steam line isolation valves

Test Requirement: Exercise Test quarterly.

Basis for Relief: Full stroke exercising results in loss of steam flow from one main steam line to the turbine and may cause unnecessary wear of the seat facings. Valve is designed for partial stroke exercising with full flow through the other steam lines during plant operation. The partial stroke test will verify operability of the valve and operator without potential for seat damage which could result from full stroke exercising during normal plant operation.

Alternate Testing: Valves will be partial stroke exercised quarterly, with full stroke exercising, timing and fail safe test at cold shutdown.

RELIEF REQUEST BASIS

41-03

System: Nuclear Boiler

P&ID: M-41

Valve ID: 41-1F010A,B

Valve Category: A C

ASME Class: 1

Function: Feedwater containment isolation valve

Test Requirement Exercise valve quarterly

Basis for Relief: The valve is inside containment and is inaccessible for testing during plant operation. The only way to verify closure is by leak testing during Appendix J test at refueling.

Alternate Testing: Exercise valve (Reverse flow test only) during Appendix J test at refueling.

RELIEF REQUEST BASIS

41-04

System: Nuclear Boiler **P&ID:** M-41

Valve ID: PSV-41-1F097 (A thru S); PSV-41-1F037 (A thru S)

Valve Category: C

ASME Class: 3

Function: Main Steam Relief and ADS blowdown line vacuum breaker check valves.

Test Requirement: Exercise Test Quarterly

Basis for Relief: Exercising valves requires entry to primary containment which operates with a nitrogen inerted atmosphere during plant operation. Valve operability can only be verified by hand exercising of valves to verify freedom of movement.

Alternate Testing: Valves will be hand exercised at refueling when entry can be made to the primary containment.

RELIEF REQUEST BASIS

41-05

System: Nuclear Boiler

P&ID: M-41

Valve ID: PSV-41-1F013E, H, K, M, S

Valve Category: B C

ASME Class: 1

Function: Automatic depressurization valves

Test Requirement: Exercise and time test quarterly.

Basis for Relief: If the valves were to fail to reclose after testing the plant would be placed in a LOCA condition. Stroke time is a function of reactor pressure and , therefore, shall not be measured during exercise testing. In addition, a recent study (BWR Owners Group Evaluation of NUREG-0737 Item II.K.3.16 Reduction of Challenges and Failures of Relief Valves) recommends that the number of ADS valve openings be reduced as much as possible. Based on this study and the potential for causing a possible LOCA condition exercise testing of the ADS valves will be delayed to refueling.

Alternate Testing: Exercise at refueling.

RELIEF REQUEST BASIS

41-06

System: Nuclear Boiler

P&ID: M-41

Valve ID: HV-41-133A,B; HV-41-130A,B



Valve Category: A

ASME Class: 1



Function: Safeguard piping fill system injection to feedwater isolation valve for seal water.

Test Requirement: Exercise valve quarterly.

Basis for Relief: These valves are upstream from check valves 41-1036A,B, which are pressure isolation valves between the high pressure Feedwater and low pressure Safeguards Piping Fill Systems. There are no system design provisions to verify the leak tight integrity of the check valves. If these valves were to be exercised during normal operation and the downstream check valve had failed the Safeguards Piping Fill System would be exposed to pressure in excess of design pressure.



Alternate Testing: Exercise and time at cold shutdown.

RELIEF REQUEST BASIS

41-07

System: Nuclear Boiler

P&ID: M-41

Valve ID: 41-1F036, E,H,K,M,S

Valve Category: C

ASME Class: 3

Function: Air inlet to MSRV operator accumulator



Test Requirement: Exercise test quarterly

Basis for Relief: Forward flow operability is verified during operation by the fact that the accumulator maintains pressure. Reverse closure can only be verified by removing the air supply. The air supply can only be removed at refueling when the system can be deactivated.

Alternate Testing Verify reverse closure at refueling.

RELIEF REQUEST BASIS

41-08

System: Nuclear Boiler

P&ID: M-41

Valve ID: 41-1036A,B

Valve Category: A C

ASME Class: 1

Function: Safeguard piping fill system injection to feedwater isolation valve for seal water.

Test Requirement: Exercise valve quarterly.

Basis for Relief: Forward flow operability can only be verified by injecting safeguard piping fill system water into the feedwater system. The safeguard piping fill system operates at a lower pressure than the normal operating feedwater system. Flow from the safeguard piping fill system into the feedwater system can only be accomplished when the feedwater system pressure is low enough to allow water injection from the safeguard piping fill system.

Alternate Testing: Valve will be forward flow exercised at cold shutdown and reverse flow closure will be verified during Appendix J, type C, valve leak testing at refueling. Valves are also pressure isolation valves and will be Section XI, Category A, leak tested after exercising at cold shutdown.

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-42

NUCLEAR BOILER

VESSEL INSTRUMENTATION



NUCLEAR BOILER VESSEL INSTRUMENTATION

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-42-147A | I | D-6 | A | | 1 1/2 | GL | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-42-147B | I | C-4 | A | | 1 1/2 | GL | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-42-147C | I | C-6 | A | | 1 1/2 | GL | Mo | O | ET-Q ST-Q LJ-R | | | |
| HV-42-147D | I | C-4 | A | | 1 1/2 | GL | MO | O | ET-Q ST-Q LJ-R | | | |

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-43

REACTOR RECIRCULATION PUMP SYSTEM

REACTOR RECIRCULATION PUMP SYSTEM

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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------|
| HV-43-1F023A | 1 | B-6 | B | P | 28 | GT | MO | O | PV | | | |
| HV-43-1F023B | 1 | A-6 | B | P | 28 | GT | MO | O | PV | | | |
| HV-43-1F031A | 1 | B-4 | B | | 28 | GT | MO | O | ET-Q ST-Q | 43-01 | ET-R ST-R | |
| HV-43-1F031B | 1 | A-4 | B | | 28 | GT | MO | O | ET-Q ST-Q | 43-01 | ET-R ST-R | |
| HV-43-1F019 | 1 | H-4 | A | | 1 | GL | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-43-1F020 | 1 | H-4 | A | | 1 | GL | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |

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REACTOR RECIRCULATION PUMP SYSTEM

P&ID NO: M-43
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 43-1004A | 1 | C-7 | AC | | 1 | CK | SA | -- | ET-Q LJ-R | 43-02 | ET-R | |
| 43-1004B | 1 | C-7 | AC | | 1 | CK | SA | -- | ET-Q LJ-R | 43-02 | ET-R | |

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RELIEF REQUEST BASIS

43-01

System: Reactor recirculation pump

P&ID: M-43

Valve ID: HV-43-1F031A,B



Valve Category: B

ASME Class: 1

Function: Reactor recirculation pump discharge valves



Test Requirement: Exercise test and time quarterly

Basis for Relief: Exercising valves can only be performed when flow in the Reactor Coolant system can be terminated without causing damage to the pumps or the reactor core.

Alternate Testing: Valves will be exercised and timed during refueling when reactor coolant system flow can be terminated.

RELIEF REQUEST BASIS

43-02

System: Reactor recirculation pump

P&ID: M-43

Valve ID: 43-1F004 A, B

Valve Category: AC

ASME Class: 1

Function: Recirculation pump seal Purge Check Valve

Test Requirement: Exercise quarterly

Basis for Relief: Valve is inside containment and can not be tested during power operation as the test connection is inside containment. Containment is maintained with a nitrogen inerted atmosphere except during refueling.

Alternate Testing: Exercise valve at refueling when entry can be made to the de-inerted containment.

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-44

REACTOR WATER CLEANUP SYSTEM

REACTOR WATER CLEANUP SYSTEM

P&ID NO: M-44
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|--------------------------------------------------------------|
| HV-44-1F001 | 1 | G-7 | A | | 6 | GL | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-44-1F004 | 1 | G-7 | A | | 6 | GL | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-44-1F039 | 2 | H-6 | A C | | 4 | SK | SA AO | -- -- | ET-Q FS-Q LJ-R | | | Not air testable. Air operator to assist closing only. |



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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-46

CONTROL ROD DRIVE HYDRAULIC SYSTEM - PART A



CONTROL ROD DRIVE HYDRAULIC SYSTEM - PART A

P&ID NO: M-46
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| HV-46-125 | -- | C-3 | B | | 1 | GL | MO | C | ET-Q ST-Q | | | |
| HV-46-126 | -- | C-3 | B | | 1 | GL | MO | C | ET-Q ST-Q | | | |
| HV-46-127 | -- | C-4 | B | | 1 | GL | MO | O | ET-Q ST-Q | 46-01 | ET-R ST-R | |
| HV-46-128 | -- | C-4 | B | | 1 | GL | MO | O | ET-Q ET-Q | 46-01 | ET-R ST-R | |

A

RELIEF REQUEST BASIS

46-01

System: Control Rod Hydraulic - Part A **P&ID:** M-46

Valve ID: HV-46-127; HV-46-128

Valve Category: B

ASME Class: -

Function: Reactor Recirculation Pump seal water block valve

Test Requirement: Exercise and time quarterly.

Basis for Relief: Exercising these valves results in loss of seal water flow to the Reactor Recirculation Pump seals. Loss of seal water could result in extensive damage to the pump seals.

Alternate Testing: Exercise and time at refueling when the Reactor Recirculation Pumps are secured and loss of seal water will not cause pump damage.



VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-47

CONTROL ROD DRIVE HYDRAULIC SYSTEM - PART B



| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|-----------------------|
| XV-47-1F011 | 2 | E-4 | A | | 2 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| XV-47-1F181 | 2 | E-5 | A | | 2 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| XV-47-1F010 | 2 | H-3 | A | | 1 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| XV-47-1F180 | 2 | H-4 | A | | 1 | GL | AO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| 47-121 | 2 | E-4 | B | P | 2 | GL | MA | LO | PV | | | |
| 47-1-14 | 2 | D-5 | C | | 3/4 | CK | SA | -- | ET-Q | 47-01 | | Typical of 185 valves |
| 47-1-15 | 2 | C-4 | C | | 1/2 | CK | SA | -- | ET-Q | 47-01 | | Typical of 185 valves |





| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-----------------------|
| XV-47-1-26 | 2 | C-5 | B | | ½ | GL | AO | C | ET-Q | 47-01 | | Typical of 185 valves |
| XV-47-1-27 | 2 | D-6 | B | | 3/4 | GL | AO | C | ET-Q | 47-01 | | Typical of 185 valves |
| 47-1-38 | 2 | C-6 | C | | ½ | CK | SA | -- | ET-Q | 47-01 | | Typical of 185 valves |
| 47-1-01 | 2 | C-6 | B | P | 1 | GT | MA | O | PV | | | Typical of 185 valves |
| 47-1-02 | 2 | D-6 | B | P | 3/4 | GT | MA | O | PV | | | Typical of 185 valves |
| 47-1-12 | 2 | D-4 | B | P | 3/4 | GL | MA | O | PV | | | |
| 47-122 | 2 | H-3 | B | P | 1 | GL | MA | LO | PV | | | |

RELIEF REQUEST BASIS

47-01

System: Control Rod Drive **P&ID:** M-47

Valve ID: 47-1-14: 47-1-15: 47-1-38: XV-47-1-26: XV-47-1-27
(to be done for all 185 HCU's)

Valve Category: B XV-47-1-26: XV-47-1-27
C 47-1-14: 47-1-15: 47-1-38

ASME Class: 2

Function: Reactor Shutdown

Test Requirement: Exercise Test Quarterly

Basis for Relief: Control Rod Scram Insertion time testing meets the intent of the ASME requirements.

Alternate Testing: Tech. Spec. Control Rod Scram Insertion time testing serves to exercise the above valves. To be performed on 10% of the HCU's each 120 days; on each individual control rod after any maintenance or modification to that rod or system was performed which would affect the scram insertion time for this rod; for all rods prior to thermal power exceeding 40% of rated thermal power following core alterations or after a reactor shutdown that is greater than 120 days.



VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-48

STANDBY LIQUID CONTROL SYSTEM

STANDBY LIQUID CONTROL SYSTEM

P&ID NO: M-48
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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------------------------------------|
| XV-48-1F004A | 2 | D-7 | D | | 1½ | EX | EX | C | XT-R | | | |
| XV-48-1F004B | 2 | C-7 | D | | 1½ | EX | EX | C | XT-R | | | |
| XV-48-1F004C | 2 | B-7 | D | | 1½ | EX | EX | C | XT-R | | | |
| HV-48-1F006A | 1 | E-8 | A C | | 2 | SK | SA MO | — O | ET-Q ST-Q LJ-R | 48-01 | ET-R | |
| HV-48-1F006B | 1 | D-8 | A C | | 2 | SK | SA MO | — O | ET-Q ST-Q LJ-R | 48-01 | ET-R | |
| 48-1F007 | 1 | C-8 | A C | | 2 | CK | SA | — | ET-Q LJ-R | 48-02 | ET-R | |
| 48-1F033A | 2 | D-6 | C | | 1½ | CK | SA | — | ET-Q | | | Exercise during pump test. Forward flow test only. |



STANDBY LIQUID CONTROL SYSTEM

P&ID NO: M-48
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Rev 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-------------------------------------------------------|
| 48-1F033B | 2 | C-6 | C | | 1½ | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| 48-1F033C | 2 | B-6 | C | | 1½ | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| PSV-1F029A | 2 | E-5 | C | | 3/4 | RL | SA | C | RT-R | | | |
| PSV-1F029B | 2 | D-5 | C | | 3/4 | RL | SA | C | RT-R | | | |
| PSV-1F029C | 2 | B-5 | C | | 3/4 | RL | SA | C | RT-R | | | |
| 48-1F036 | 1 | C-8 | B | P | 2 | GL | MA | LO | PV | | | |
| 48-1F001A | 2 | F-4 | B | P | 3 | GT | MA | LO | PV | | | |

STANDBY LIQUID CONTROL SYSTEM

P&ID NO: M-48
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 48-1F001B | 2 | F-4 | B | P | 3 | GT | MA | LO | PV | | | |
| 48-1F001C | 2 | F-3 | B | P | 3 | GT | MA | LO | PV | | | |
| 48-1F002A | 2 | E-5 | B | P | 3 | GT | MA | LO | PV | | | |
| 48-1F002B | 2 | C-5 | B | P | 3 | GT | MA | LO | PV | | | |
| 48-1F002C | 2 | B-5 | B | P | 3 | GT | MA | LO | PV | | | |

STANDBY LIQUID CONTROL SYSTEM

P&ID NO: M-48
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Rev 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 48-1F003A | 2 | D-6 | B | P | 1½ | GL | MA | LO | PV | | | |
| 48-1F003B | 2 | C-6 | B | P | 1½ | GL | MA | LO | PV | | | |
| 48-1F003C | 2 | B-6 | B | P | 1½ | GL | MA | LO | PV | | | |
| 48-1F038A | 2 | D-7 | B | P | 1½ | GL | MA | LO | PV | | | |
| 48-1F038C | 2 | B-7 | A | P | 1½ | GL | MA | LO | PV | | | |
| 48-1F038B | 2 | C-7 | B | P | 1½ | GL | MA | LO | PV | | | |

STANDBY LIQUID CONTROL SYSTEM

P&ID NO: M-48
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 48-1027 | 1 | B-8 | C | | 2 | CK | SA | -- | ET-Q | 48-03 | ET-R | |
| 48-1F017A | 2 | E-7 | B | P | 1 1/2 | GL | MA | LC | PV | | | |
| 48-1F017B | 2 | E-7 | B | P | 1 1/2 | GL | MA | LC | PV | | | |
| 48-1F017C | 2 | E-7 | B | P | 1 1/2 | GL | MA | LC | PV | | | |

4



RELIEF REQUEST BASIS

48-01

System: Standby Liquid Control **P&ID:** M-48

Valve ID: HV-48-1F006A,B

Valve Category: A C

ASME Class: 1

Function: SLC outboard containment isolation

Test Requirement: Exercise test quarterly

Basis for Relief: Closure of this valve is verified quarterly by stroking and timing using the motor operator, however, forward flow opening can only be verified by forward flow through the valve. To establish flow through the valve requires firing one of the squib valves and injecting water into the reactor using the SLC pumps which can only be done during refueling.

Alternate Testing: Exercise valve for forward flow during refueling with standby liquid control injection test. Exercise and time valve using motor operator quarterly.



RELIEF REQUEST BASIS

48-02

System: Standby Liquid Control **P&ID:** M-48

Valve ID: 48-1F007

Valve Category: A C

ASME Class: 1

Function: SLC inboard containment isolation

Test Requirement: Exercise test quarterly

Basis for Relief: Forward flow opening can only be verified by firing a squib valve and injecting water into the reactor using the SLC pumps which can only be done during refueling. Reverse closure can only be verified by leak testing which will be performed during refueling in conjunction with an Appendix J, Type C test.

Alternate Testing: Exercise valve for forward flow during refueling with standby liquid control injection test. Reverse flow closure is verified during Appendix J, Type C leak rate test.

RELIEF REQUEST BASIS

48-03

System: Standby Liquid Control

P&ID: M-48

Valve ID: 48-1027

Valve Category: C

ASME Class: 1

Function: SLC inboard isolation

Test Requirement: Exercise test quarterly

Basis for Relief: Forward flow opening can only be verified by firing a squib valve and injecting water into the reactor using the SLC pumps which can only be done during refueling.

Alternate Testing: Exercise valve for forward flow during refueling with standby liquid control injection test.



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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-49

REACTOR CORE ISOLATION COOLING SYSTEM

REACTOR CORE ISOLATION COOLING SYSTEM

P&ID NO: M-49
DOCUMENT NO. 80A2972

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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|------------------------------------------------------------------------|
| 49-1F001 | 2 | C-5 | C | P | 8 | SK | SA MA | -- LO | ET-Q PV | | | Forward flow test only. Manual locked open stop check valve. |
| HV-49-1F002 | 2 | C-6 | A C | | 2 | SK | SA MO | -- O | ET-Q ST-Q LJ-R | | | Motor operated stop check. Use motor operator to verify closure. |
| HV-49-1F007 | 1 | E-6 | A | | 3 | GL | MO | O | ET-Q ST-Q LJ-R | 49-01 | ET-C ST-C | |
| HV-49-1F008 | 1 | E-6 | A | | 3 | GL | MO | O | ET-Q ST-Q LJ-R | 49-01 | ET-C ST-C | |
| HV-49-1F010 | 2 | E-3 | B | | 6 | GT | MO | O | ET-Q ST-Q | | | |
| HV-49-1F012 | 2 | D-5 | B | | 6 | GT | MO | O | ET-Q ST-Q | 49-02 | ET-C ST-C | |
| HV-49-1F013 | 2 | D-5 | A | | 6 | GT | MO | C | ET-Q ST-Q LJ-R | 49-03 | ET-C ST-C | |



REACTOR CORE ISOLATION COOLING SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| HV-49-1F019 | 2 | C-6 | A | | 2 | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-49-1F022 | 2 | E-5 | B | | 4 | GL | MO | C | ET-Q ST-Q | | | |
| HV-49-1F025 | 2 | C-2 | B | | 1 | GL | AO | O | ET-Q ST-Q | | | |
| HV-49-1F026 | 2 | B-2 | B | | 1 | GL | AO | O | ET-Q ST-Q | | | |
| HV-49-1F029 | 2 | B-4 | B | | 6 | GT | MO | C | ET-Q ST-Q | | | |
| HV-49-1F031 | 2 | B-7 | A | | 6 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| 49-1032 | 2 | B-5 | C | | 1½ | CK | SA | — | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |

REACTOR CORE ISOLATION COOLING SYSTEM

P&ID NO: M-49
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|------------------------------------------------------------------------------------------------------------------------------|
| 49-1033 | 2 | B-5 | C | | 1½ | CK | SA | — | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation |
| HV-49-1F060 | 2 | C-6 | A | | 8 | GT | MO | O | ET-Q ST-Q LJ-R | 49-01 | ET-C ST-C | |
| HV-49-1F076 | 1 | E-6 | A | | 1½ | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-49-1F080 | 2 | A-7 | A | | 3 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-49-1F084 | 2 | C-8 | A | | 3 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| 49-1F011 | 2 | E-3 | C | | 6 | CK | SA | — | ET-Q | | | Exercise with pump test. Forward flow test only. |
| 49-1F014 | 2 | D-4 | C | | 6 | CK | SA | — | ET-Q | | | Exercise with pump test. Forward flow test only. |

REACTOR CORE ISOLATION COOLING SYSTEM

P&ID NO: M-49
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------------------------------------------------------------------------------------------------|
| 49-1F021 | 2 | C-4 | C | | 2 | CK | SA | -- | ET-Q | | | Exercise with pump test. Forward flow test only. |
| 49-1F030 | 2 | B-6 | C | | 6 | CK | SA | -- | ET-Q | | | Forward flow test only. |
| 49-1F064 | 2 | B-5 | C | | 2 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 49-1F065 | 2 | C-5 | C | | 2 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 49-1F068 | 2 | A-8 | C | | 3 | CK | SA | -- | ET-Q | | | Upstream and downstream test taps used to verify valve operability. Forward flow test only. |
| 49-1F081 | 2 | A-7 | C | | 3 | CK | SA | -- | ET-Q | | | Upstream and downstream test taps used to verify valve operability. Forward flow test only. |
| 49-1017 | 2 | A-8 | C | | 3 | CK | SA | -- | ET-Q | | | Upstream and downstream test taps used to verify valve operability. Forward flow test only. |

REACTOR CORE ISOLATION COOLING SYSTEM

P&ID NO: M-49
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------------------------------------------------------------------------------------------------|
| 49-1018 | 2 | A-7 | C | | 3 | CK | SA | -- | ET-Q | | | Upstream and downstream test taps used to verify valve operability. Forward flow test only. |
| 49-1F009 | 2 | F-3 | B | P | 6 | GT | MA | LO | PV | | | |
| 49-1031 | 2 | B-5 | B | P | 1½ | GL | MA | O | PV | | | |
| 49-1F028 | 2 | C-3 | C | | 2 | CK | SA | -- | ET-Q LJ-R | | | Forward flow test only. |



RELIEF REQUEST BASIS

49-01

System: Reactor Core Isolation Cooling **P&ID:** M-49

Valve ID: HV-49-1F007, HV-49-1F008, HV-49-1F060

Valve Category: A

ASME Class: 1 (HV-49-1F007: HV-49-1F008)
2 (HV-49-1F060)

Function: RCIC steam supply containment isolation valves
(HV-49-1F007) and (HV-49-1F008)
RCIC Turbine steam discharge to suppression pool isolation valve
(HV-49-1F060)



Test Requirement: Exercise test quarterly

Basis for Relief: Failure of one of these valves in the closed position would cause total loss of system function which would put the plant in an unsafe condition.

Alternate Testing: Exercise and time during cold shutdown.

RELIEF REQUEST BASIS

49-02

System: Reactor Core Isolation Cooling

P&ID: M-49

Valve ID: HV-49-1F012

Valve Category: B

ASME Class: 2

Function: RCIC pump discharge line

Test Requirement: Exercise test quarterly

Basis for Relief: Failure of valve in closed position would cause total loss of system function which would put the plant in an unsafe condition.

Alternate Testing: Exercise and time during cold shutdown.

RELIEF REQUEST BASIS

49-03

System: Reactor Core Isolation Cooling

P&ID: M-49

Valve ID: HV-49-1F013

Valve Category: A

ASME Class: 2

Function: RCIC injection to feedwater line

Test Requirement: Exercise test quarterly

Basis for Relief: Valve isolates Feedwater System Pressure from the RCIC System during plant operation. In order to protect the RCIC low pressure pump suction piping, valve HV-49-1F012 would have to be closed before HV-49-1F013 could be exercised. Failure of HV-49-F012 in the closed position would cause total loss of system function.

Alternate Testing Exercise and time during cold shutdown.



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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-50

RCIC PUMP TURBINE SYSTEM

RCIC PUMP TURBINE SYSTEM

P&ID NO: M-50
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|--------------------------|
| HV-50-1F004 | 2 | B-4 | B | | 1 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-50-1F005 | 2 | A-4 | B | | 1 | GL | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-50-1F046 | 2 | C-6 | B | | 2 | GL | MO | C | ET-Q ST-Q | | | |
| HV-50-1F045 | 2 | E-2 | B | | 6 | GL | MO | C | ET-Q ST-Q | | | |
| HV-50-112 | 2 | E-3 | B | | 4 | GL | MO | O | ET-Q ST-Q | 50-01 | | RCIC Trip throttle valve |
| FV-50-113 | 2 | E-3 | B | | 4 | GL | EH | O | ET-Q ST-Q | 50-01 | | RCIC Governing valve |
| PSV-50-1F018 | 2 | C-5 | C | | 1 | RL | SA | C | RT-R | | | |

RCIC PUMP TURBINE SYSTEM

P&ID NO: M-50
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| PSV-50-1F033 | 2 | C-3 | C | | 1½ | RL | SA | C | RT-R | | | |
| PSE-50-1D001 | 2 | E-4 | D | | 8 | RD | SA | C | RD-R | | | |
| PSE-50-1D002 | 2 | G-4 | D | | 8 | RD | SA | C | RD-R | | | |

RELIEF REQUEST BASIS

50-01

System: RCIC Pump Turbine

P&ID: M-50

Valve ID: HV-50-112; FV-50-113



Valve Category: B

ASME Class: 2

Function: RCIC Turbine throttle trip valve and governing valve

Test Requirement: Measure stroke time quarterly

Basis for Relief: The purpose of these valves is to regulate steam flow to RCIC turbine. Operability is adequately demonstrated by turbine operation. Valve position is steam line pressure and turbine speed dependent and therefore will not repeatedly throttle to the same position. During turbine operation, these valves move in response to control signals.

Alternate Testing: Proper operation of these valves will be verified during turbine test. No stroke time testing will be performed.



VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-51 (SH.1)

RESIDUAL HEAT REMOVAL SYSTEM

RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-51 #1
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-51-1F003B | 2 | E-3 | B | | 18 | GT | MO | O | ET-Q ST-Q | | | |
| HV-51-1F004B | 2 | C-7 | A | | 24 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-51-1F004D | 2 | C-7 | A | | 24 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-51-1F006B | 2 | B-7 | B | | 20 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F007B | 2 | C-6 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F007D | 2 | C-5 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F009 | 1 | E-8 | A | | 20 | GT | MO | C | ET-Q ST-Q LC-R | 51-01 | ET-R ST-R | |



RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO. M-51 #1
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-51-1F010B | 2 | D-5 | B | | 18 | GL | MO | C | ET-Q ST-Q | | | |
| HV-51-1F011B | 2 | D-4 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F014B | 3 | B-3 | B | | 20 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F015B | 1 | F-6 | A | | 12 | GL | MO | C | ET-Q ST-Q LC-R | 51-01 | ET-R ST-R | |
| HV-51-1F016B | 2 | G-5 | A | | 16 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-51-1F017B | 1 | F-6 | A | | 12 | GT | MO | C | ET-Q ST-Q LC-R | 51-03 | ET-R ST-R | |
| HV-51-1F017D | 1 | G-7 | A | | 12 | GT | MO | C | ET-Q ST-Q LC-R | 51-03 | ET-R ST-R | |



RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-51 #1
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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|--------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|-----------------------------------------------------|
| HV-51-1F021B | 2 | G-7 | A | | 16 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-51-1F024B | 2 | E-6 | B | | 18 | GL | MO | C | ET-Q ST-Q | | | |
| HV-51-1F026B | 2 | B-4 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F027B | 2 | E-6 | A | | 6 | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| 51-1F031B | 2 | C-5 | C | | 18 | CK | SA | — | ET-Q | | | Exercise with pump test. Forward flow test only. |
| 51-1F031D | 2 | B-5 | C | | 18 | CK | SA | — | ET-Q | | | Exercise with pump test. Forward flow test only. |
| HV-51-1F041B | 1 | F-7 | A C | | 12 | CK | SA AO | — | ET-Q LC-R | 51-02 | ET-R | Air operator used for test only. |



RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-51 #1
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-----------------------------------------------------|
| HV-51-1F041D | 1 | G-7 | A C | | 12 | CK | SA AO | -- | ET-Q LC-R | 51-02 | ET-R | Air operator used for test only. |
| 51-1F046B | 2 | D-6 | C | | 4 | CK | SA | -- | ET-Q | | | Exercise with pump test. Forward flow test only. |
| 51-1F046D | 2 | D-5 | C | | 4 | CK | SA | -- | ET-Q | | | Exercise with pump test. Forward flow test only. |
| HV-51-1F047B | 2 | D-4 | B | | 18 | GT | MO | O | ET-Q ST-Q | | | |
| HVC51-1F048B | 2 | E-4 | B | | 18 | BF | MO | O | ET-Q ST-Q | | | |
| HV-51-1F050B | 1 | F-7 | A C | | 12 | CK | SA AO | -- | ET-Q LC-R | 51-02 | ET-R | Air operator used for test only. |

RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-51 #1
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Rev 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|--------------------------------------------------------------------------------------------------------|
| PVC51-1F051B | 2 | E-2 | B | | 6 | GL | AO | C | FS-Q | | | Pressure control valve not required to be tested under Section XI. Verify fail safe closure quarterly. |
| HV-51-1F052B | 2 | E-1 | B | | 10 | GL | MO | C | ET-Q ST-Q | | | |
| LVC51-1F053B | 2 | D-4 | B | | 3 | GL | AO | C | FS-Q | | | Level control valve not required to be tested under Section XI. Verify fail safe closure quarterly. |
| PSV51-1F055B | 2 | D-4 | A C | | 6 | RL | SA | C | RT-R LJ-R | | | |
| 51-1F067B | 2 | B-8 | B | P | 20 | GT | MA | LC | PV | | | |
| HV-51-1F068B | 3 | B-4 | B | | 20 | GL | MO | C | ET-Q ST-Q | | | |

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------------------------------------------------------|
| HV-51-1F073 | 3 | E-2 | B | | 18 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F074 | 3 | E-3 | B | | 1 | GL | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-51-1F075 | 2 | E-3 | B | | 18 | GT | MO | C | ET-Q ST-Q | | | |
| 51-1F078 | 2 | E-3 | C | | 18 | CK | SA | -- | ET-Q | | | Manual actuator for testing. |
| HV-51-1F079B | 2 | D-2 | B | | 1 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-51-1F080B | 2 | D-1 | B | | 1 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| 51-1F089B | 2 | H-6 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |

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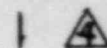
| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|----------------------------------------------------------------------|
| 51-1F089D | 2 | H-6 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 51-1F090B | 2 | G-6 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 51-1F090D | 2 | G-6 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| HVC51-1F103B | 2 | C-3 | B | | 1 | GL | MO | C | ET-Q ST-Q | | | |
| HVC51-1F104B | 2 | C-2 | A | | 1 | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| HVC51-103B | 2 | E-3 | B | P | 8 | GL | AO | C | PV | | | |
| HV-51-105B | 2 | D-6 | A | | 4 | GT | MO | O | ET-Q ST-Q LJ-R | | | |

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P&ID NO: M-51 #1
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|------------------------------------------------------------------------------------------|
| HV-51-125B | 2 | D-6 | A | | 18 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-51-142B | 1 | F-7 | A | P | 1 | GL | AO | C | PV LC-R | | | Valve opens and automatically recloses to equalize pressure across testable check valve. |
| HV-51-142D | 1 | G-7 | A | P | 1 | GL | AO | C | PV LC-R | | | Valve opens and automatically recloses to equalize pressure across testable check valve. |
| HV-51-151B | 1 | E-7 | A | P | 1½ | GL | AO | C | PV LC-R | | | Valve opens and automatically recloses to equalize pressure across testable check valve. |
| HV-51-153B | 2 | E-1 | B | | 1½ | GL | MO | C | ET-Q ST-Q | | | |
| HVC-51-154B | 2 | E-2 | B | | 6 | GL | MO | C | ET-Q ST-Q | | | |
| PSV-51-101B | 2 | D-4 | A C | | 6 | CK | SA | C | RT-R LJ-R | | | A check valve used as a vacuum breaker. Valve will be bench tested at refueling. |

RESIDUAL HEAT REMOVAL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| PSV-51-106B | 2 | C-3 | A C | | 3/4 | RL | SA | C | RT-R LJ-R | | | |
| HV-51-182B | 2 | C-5 | B | P | 22 | GT | MO | C | PV | | | |
| 51-1023 | 2 | H-4 | B | P | 16 | GT | MA | LC | PV | | | |
| 51-1032B | 2 | G-6 | C | | 4 | CK | SA | — | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 51-1033B | 2 | G-6 | C | | 4 | CK | SA | — | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 51-1115-B | 2 | A-4 | C | | 1½ | CK | SA | — | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 51-1115-D | 2 | A-5 | C | | 1½ | CK | SA | — | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |

RESIDUAL HEAT REMOVAL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|------------|-------|------------|------------|------------|---------------|-----------|-------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------|
| 51-1116B | 2 | A-4 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 51-1116D | 2 | A-5 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 51-1F065D | 1 | G-8 | B | P | 12 | GT | MA | LO | PV | | | |
| 51-1114B | 2 | B-4 | B | P | 1½ | GL | MA | O | PV | | | |
| 51-1114D | 2 | A-5 | B | P | 1½ | GL | MA | O | PV | | | |
| HV-51-157B | 3 | B-3 | B | P | 2 | GL | AO | C | PV | | | Used only at cold shutdown to flush heat exchanger. |
| HV-51-156B | 3 | B-3 | B | P | 2 | GL | AO | C | PV | | | Used only at cold shutdown to flush heat exchanger. |

RESIDUAL HEAT REMOVAL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| PSV51-1F025B | 2 | G-5 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV51-1F025D | 2 | G-6 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV51-1F030B | 2 | C-6 | A C | | 1 | RL | SA | C | RT-R LJ-R | | | |
| PSV51-1F030D | 2 | C-7 | A C | | 1 | RL | SA | C | RT-R LJ-R | | | |
| 51-1F060B | 1 | F-7 | B | P | 12 | GT | MA | LO | PV | | | |
| 51-1F065B | 1 | F-8 | B | P | 12 | GT | MA | LO | PV | | | |

RESIDUAL HEAT REMOVAL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|--------------------------------------------------------|
| HV-51-158B | 3 | B-4 | B | P | 2 | GL | AO | C | PV | | | Used only at cold shutdown to flush heat exchangers |
| 51-1F018B | 2 | C-6 | B | P | 4 | GT | MA | LO | PV | | | |
| 51-1F018D | 2 | C-5 | B | P | 4 | GT | MA | LO | PV | | | |

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**RELIEF REQUEST BASIS**

51-01 (SH.1 & SH.2)

System: Residual Heat Removal **P&ID:** M-51

Valve ID: HV-51-1F008: HV-51-1F009: HV-51-1F015A,B: HV-51-1F022: HV-51-1F023

Valve Category: A

ASME Class: 1 (HV-51-1F008: HV-51-1F009: HV-51-1F015A,B: HV-51-1F022)
2 (HV-51-1F023)

Function: Shutdown cooling valves (HV-51-1F008, HV-51-1F009 and HV-51-1F015A and B) and head spray isolation valves (HV-51-1F022 and HV-51-1F023)



Test Requirement: Exercise test quarterly

Basis for Relief: Valves are interlocked to prevent opening at reactor pressures greater than 75 psig. Exercising at reactor pressure greater than 75 psig would result in over pressurization of the system piping and could result in an inter-system LOCA. Measurement of post-operation leakage requires entry into the Primary Containment which is maintained with an inerted nitrogen atmosphere, except at refueling.



Alternate Testing: Valves will be operability tested, timed and Section XI, Category A, seat leak tested at refueling when entry can be made to the Primary Containment.

RELIEF REQUEST BASIS

51-02 (SH.1 & SH.2)

System: Residual Heat Removal **P&ID:** M-51

Valve ID: HV-51-1F050A,B: HV-51-1F041A,B,C,D

Valve Category: A C

ASME Class: 1

Function: RHR Shutdown cooling return containment isolation (HV-51-1F050A,B) Low Pressure Coolant Injection Check Valves (HV-51-1F041A,B,C,D)

Test Requirement: Exercise test quarterly

Basis for Relief: These valves perform a pressure isolation function between the high pressure Reactor Coolant System and the low pressure RHR System. There are no provisions for monitoring leakage across the valves. If the valves were exercised during normal operation and failed to re-close the potential for an inter-system LOCA exists. Measurement of post-operation leakage requires entry into the Primary Containment which is maintained with an inerted nitrogen atmosphere, except at refueling.

Alternate Testing: Valves will be operability tested and Section XI, Category A, seat leak tested at refueling when entry can be made to the Primary Containment.

RELIEF REQUEST BASIS

51-03 (SH.1 & SH.2)

System: Residual Heat Removal

P&ID: M-51

Valve ID: HV-51-1F017 A,B,C,D

Valve Category: A

ASME Class: 1

Function: LPCI Injection Valves

Test Requirement: Exercise valve quarterly

Basis for Relief: Exercising these valves during normal operation increases the possibility of an inter-system loss-of-coolant accident. If one of these valves are opened a single downstream check valve becomes the sole pressure boundary between the Reactor Coolant System and the low pressure RHR system. There are no provisions for monitoring leakage across the valves. Measurement of post-operation leakage requires entry into the Primary Containment which is maintained with an inerted nitrogen atmosphere, except at refueling.

Alternate Testing: Valves will be operability tested and Section XI, Category A, seat leak tested at refueling when entry can be made to the Primary Containment.

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-51 (SH.2)

RESIDUAL HEAT REMOVAL SYSTEM

RESIDUAL HEAT REMOVAL SYSTEM



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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-51-1F003A | 2 | D-6 | B | | 18 | GT | MO | O | ET-Q ST-Q | | | |
| HV-51-1F004A | 2 | C-3 | A | | 24 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-51-1F004C | 2 | C-2 | A | | 24 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-51-1F006A | 2 | B-2 | B | | 20 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F007A | 2 | C-4 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F007C | 2 | C-4 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F008 | 1 | E-3 | A | | 20 | GT | MO | C | ET-Q ST-Q LC-R | 51-01 | ET-R ST-R | |

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RESIDUAL HEAT REMOVAL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------------------------------------------------------------------------------------|
| HV-51-1F010A | 2 | D-4 | B | | 18 | GL | MO | C | ET-Q ST-Q | | | |
| HV-51-1F011A | 2 | D-5 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F014A | 3 | B-7 | B | | 20 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F015A | 1 | E-3 | A | | 12 | GL | MO | C | ET-Q ST-Q LC-R | 51-01 | ET-R ST-R |  |
| HV-51-1F016A | 2 | G-6 | A | | 16 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-51-1F017A | 1 | F-3 | A | | 12 | GT | MO | C | ET-Q ST-Q LC-R | 51-03 | ET-R ST-R | |
| HV-51-1F017C | 1 | F-3 | A | | 12 | GT | MO | C | ET-Q ST-Q LC-R | 51-03 | ET-R ST-R |  |

RESIDUAL HEAT REMOVAL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| PSV51-1F029 | 2 | C-4 | C | | 1 | RL | SA | C | RT-R | | | |
| HV-51-1F021A | 2 | G-3 | A | | 16 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-51-1F022 | 1 | H-2 | A | | 6 | GT | MO | C | ET-Q ST-Q LC-R | 51-01 | ET-R ST-R | |
| HV-51-1F023 | 2 | H-3 | A | | 6 | GT | MO | C | ET-Q ST-Q LC-R | 51-01 | ET-R ST-R | |
| HV-51-1F024A | 2 | D-4 | B | | 18 | GL | MO | C | ET-Q ST-Q | | | |
| HV-51-1F026A | 2 | C-5 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F027A | 2 | D-3 | A | | 6 | GL | MO | C | ET-Q ST-Q LJ-R | | | |

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RESIDUAL HEAT REMOVAL SYSTEM

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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-----------------------------------------------------|
| 51-1F031A | 2 | B-5 | C | | 18 | CK | SA | -- | ET-Q | | | Exercise with pump test. Forward flow test only. |
| 51-1F031C | 2 | B-5 | C | | 18 | CK | SA | -- | ET-Q | | | Exercise with pump test. Forward flow test only. |
| HV-51-1F040 | 2 | G-6 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F041A | 1 | F-2 | A C | | 12 | CK | SA AO | -- | ET-Q LC-R | 51-02 | ET-R | Air operator used for test only. |
| HV-51-1F041C | 1 | F-2 | A C | | 12 | CK | SA AO | -- | ET-Q LC-R | 51-02 | ET-R | Air operator used for test only. |
| 51-1F046A | 2 | C-4 | C | | 4 | CK | SA | -- | ET-Q | | | Exercise with pump test. Forward flow test only. |
| 51-1F046C | 2 | C-4 | C | | 4 | CK | SA | -- | ET-Q | | | Exercise with pump test. Forward flow test only. |

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|------------|-------|------------|------------|------------|---------------|--------------|-------------|-----------------|------------------------------------------------------------------------------------------------------------------------|
| HV-51-1F047A | 2 | C-5 | B | | 18 | GT | MO | O | ET-Q ST-Q | | | |
| HVC51-1F048A | 2 | E-5 | B | | 18 | BF | MO | O | ET-Q ST-Q | | | |
| HV-51-1F049 | 2 | G-6 | B | | 4 | GT | MO | C | ET-Q ST-Q | | | |
| HV-51-1F050A | 1 | E-3 | A C | | 12 | CK | SA AO | — | ET-Q LC-R | 51-02 | ET-R | Air operator used for test only.  |
| PVC51-1F051A | 2 | F-7 | B | | 6 | GL | AO | C | FS-Q | | | Pressure control valve not required to be tested under Section XI. Verify fail safe closure quarterly. |
| HV-51-1F052A | 2 | F-8 | B | | 10 | GL | MO | C | ET-Q ST-Q | | | |
| LVC51-1F053A | 2 | D-6 | B | | 3 | GL | AO | C | FS-Q | | | Level control valve not required to be tested under Section XI. Verify fail safe closure quarterly. |

RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-51 #2
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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|---------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|--------------------------------------------------------------------------------------------------------|
| PSV-51-122 | 2 | H-2 | A C | | 1 | RL | SA | C | LJ-R | | | Thermal relief valve not required to be tested under Section XI. Containment Isolation Boundary Valve. |
| PSV 51-1F055A | 2 | D-5 | A C | | 6 | RL | SA | C | RT-R LJ-R | | | |
| 51-1F067A | 2 | B-2 | B | P | 20 | GT | MA | LC | PV | | | |
| HV-51-1F068A | 3 | B-6 | B | | 20 | GL | MO | C | ET-Q ST-Q | | | |
| HV-51-1F079A | 2 | D-7 | B | | 1 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| HV-51-1F080A | 2 | D-8 | B | | 1 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| 51-1F089A | 2 | G-4 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |

RESIDUAL HEAT REMOVAL SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|----------------|-------|-------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|----------------------------------------------------------------------|
| 51-1F089C | 2 | G-4 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 51-1F090A | 2 | G-4 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 51-1F090C | 2 | G-4 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| HVC51-1F103A 2 | | C-7 | A | | 1 | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| HVC51-1F104A 2 | | C-7 | B | | 1 | GL | MO | C | ET-Q ST-Q | | | |
| HVC51-103A | 2 | E-7 | B | P | 8 | GL | AO | C | PV | | | |
| HV-51-105A | 2 | D-3 | A | | 4 | GT | MO | O | ET-Q ST-Q LJ-R | | | |

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|------------------------------------------------------------------------------------------------|
| HV-51-125A | 2 | D-3 | A | | 18 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-51-130 | 2 | D-3 | A | | 6 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-51-131 | 2 | D-6 | A | | 6 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-51-142A | 1 | F-2 | A | P | 1 | GL | AO | C | PV LC-R | | | Valve opens and automatically recloses to equalize pressure across testable check valve. |
| HV-51-142C | 1 | F-2 | A | P | 1 | GL | AO | C | PV LC-R | | | Valve opens and automatically recloses to equalize pressure across testable check valve. |
| HV-51-151A | 1 | E-3 | A | P | 1½ | GL | AO | C | PV LC-R | | | Valve opens and automatically recloses to equalize pressure across testable check valve. |
| HV-51-153A | 2 | F-7 | B | | 1½ | GL | MO | C | ET-Q ST-Q | | | |

RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-51 #2
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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|----------------------------------------------------------------------------------|
| HVC-51-154A | 2 | F-7 | B | | 6 | GL | MO | C | ET-Q ST-Q | | | |
| PSV-51-101A | 2 | D-6 | A C | | 6 | RL | SA | C | RT-R LJ-R | | | A check valve used as a vacuum breaker. Valve will be bench tested at refueling. |
| PSV-51-106A | 2 | C-7 | A C | | 3/4 | RL | SA | C | RT-R LJ-R | | | |
| HV-51-182A | 2 | C-5 | B | P | 22 | GT | MO | C | PV | | | |
| 51-1007 | 2 | A-4 | B | P | 16 | GT | MA | C | PV | | | |
| 51-1032A | 2 | G-4 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |
| 51-1033A | 2 | G-4 | C | | 4 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory. |

RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-5i #2
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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 51-1115A | 2 | A-5 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 51-1115C | 2 | A-4 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 51-1116A | 2 | A-5 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 51-1116C | 2 | A-4 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 51-1F060A | 1 | E-2 | B | P | 12 | GT | MA | LO | PV | | | |
| 51-1F065A | 1 | F-2 | B | P | 12 | GT | MA | LO | PV | | | |
| 51-1F065C | 1 | F-2 | B | P | 12 | GT | MA | LO | PV | | | |

RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-51 #2
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|--------------------------------------------------------|
| 51-1F083 | 2 | E-4 | B | P | 4 | GL | MA | LC | PV | | | |
| HV-51-157A | 3 | B-7 | B | P | 2 | GL | AO | C | PV | | | Used only at cold shutdown to flush heat exchanger. |
| HV-51-156A | 3 | A-7 | B | P | 2 | GL | AO | C | PV | | | Used only at cold shutdown to flush heat exchanger. |
| PSV51-1F025A | 2 | F-5 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV51-1F025C | 2 | G-4 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV51-1F030A | 2 | C-3 | A C | | 1 | RL | SA | C | RT-R LJ-R | | | |
| PSV51-1F030C | 2 | C-2 | A C | | 1 | RL | SA | C | RT-R LJ-R | | | |

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RESIDUAL HEAT REMOVAL SYSTEM

P&ID NO: M-51 #2
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-----------------------------------------------------------------------------------------------------------------|
| PSV51-1F097 | 2 | A-5 | A C | | 4 | RL | SA | C | RT-R LJ-R | | | |
| PSV51-155 | 2 | E-2 | A C | | 3/4 | RL | SA | C | LJ-R | | | Thermal relief valve not required to be tested under Section XI. Containment isolation boundary valve. |
| 51-1114A | 2 | A-5 | B | P | 1½ | GL | MA | O | PV | | | |
| 51-1114C | 2 | A-4 | B | P | 1½ | GL | MA | O | PV | | | |
| HV-51-158A | 3 | B-6 | B | P | 2 | GL | AO | C | PV | | | Used only at cold shutdown to flush heat exchanger. |
| 51-1F018A | 2 | C-4 | B | P | 4 | GT | MA | O | PV | | | |
| 51-1F018C | 2 | C-4 | B | P | 4 | GT | MA | O | PV | | | |

RELIEF REQUEST BASIS

51-01 (SH.1 & SH.2)

System: Residual Heat Removal **P&ID:** M-51

Valve ID: HV-51-1F008: HV-51-1F009: HV-51-1F015A,B: HV-51-1F022: HV-51-1F023

Valve Category: A

ASME Class: 1 (HV-51-1F008: HV-51-1F009: HV-51-1F015A,B: HV-51-1F022)
2 (HV-51-1F023)

Function: Shutdown cooling valves (HV-51-1F008, HV-51-1F009 and HV-51-1F015A and B) and head spray isolation valves (HV-51-1F022 and HV-51-1F023)

Test Requirement: Exercise test quarterly

Basis for Relief: Valves are interlocked to prevent opening at reactor pressures greater than 75 psig. Exercising at reactor pressure greater than 75 psig would result in over pressurization of the system piping and could result in an inter-system LOCA. Measurement of post-operation leakage requires entry into the Primary Containment which is maintained with an inerted nitrogen atmosphere, except at refueling.

Alternate Testing: Valves will be operability tested, timed and Section XI, Category A, seat leak tested at refueling when entry can be made to the Primary Containment.

RELIEF REQUEST BASIS

51-02 (SH.1 & SH.2)

System: Residual Heat Removal

P&ID: M-51

Valve ID: HV-51-1F050A,B; HV-51-1F041A,B,C,D

Valve Category: A C

ASME Class: 1

Function: RHR Shutdown cooling return containment isolation (HV-51-1F050A,B) Low Pressure Coolant Injection Check Valves (HV-51-1F041A,B,C,D)

Test Requirement: Exercise test quarterly

Basis for Relief: These valves perform a pressure isolation function between the high pressure Reactor Coolant System and the low pressure RHR System. There are no provisions for monitoring leakage across the valves. If the valves were exercised during normal operation and failed to re-close the potential for an inter-system LOCA exists. Measurement of post-operation leakage requires entry into the Primary Containment which is maintained with an inerted nitrogen atmosphere, except at refueling.

Alternate Testing: Valves will be operability tested and Section XI, Category A, seat leak tested at refueling when entry can be made to the Primary Containment.

RELIEF REQUEST BASIS

51-03 (SH.1 & SH.2)

System: Residual Heat Removal

P&ID: M-51

Valve ID: HV-51-1F017 A,B,C,D

Valve Category: A

ASME Class: 1

Function: LPCI Injection Valves

Test Requirement: Exercise valve quarterly

Basis for Relief: Exercising these valves during normal operation increases the possibility of an inter-system loss-of-coolant accident. If one of these valves are opened a single downstream check valve becomes the sole pressure boundary between the Reactor Coolant System and the low pressure RHR system. These are no provisions for monitoring leakage across the valves. Measurement of post-operation leakage requires entry into the Primary Containment which is maintained with an inerted nitrogen atmosphere, except at refueling.

Alternate Testing: Valves will be operability tested and Section XI, Category A, seat leak tested at refueling when entry can be made to the Primary Containment.

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Rev 4



VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-52

CORE SPRAY SYSTEM

CORE SPRAY SYSTEM

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Rev 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-52-1F001A | 2 | B-6 | A | | 16 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-52-1F001B | 2 | B-7 | A | | 16 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-52-1F001C | 2 | B-7 | A | | 16 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-52-1F001D | 2 | B-8 | A | | 16 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| 52-1F002A | 2 | B-5 | B | P | 14 | GT | MA | LC | PV | | | |
| 52-1F002B | 2 | B-3 | B | P | 14 | GT | MA | LC | PV | | | |
| 52-1F002C | 2 | B-5 | B | P | 14 | GT | MA | LC | PV | | | |

CORE SPRAY SYSTEM

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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|----------------------------|
| 52-1F002D | 2 | B-3 | B | P | 14 | GT | MA | LC | PV | | | |
| 52-1F003A | 2 | C-5 | C | | 12 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 52-1F003B | 2 | C-3 | C | | 12 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 52-1F003C | 2 | C-4 | C | | 12 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 52-1F003D | 2 | C-3 | C | | 12 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 52-1F004A | 2 | F-5 | B | | 12 | GT | MO | O | ET-Q ST-Q | | | |
| 52-1F004B | 2 | F-5 | B | | 12 | GT | MO | O | ET-Q ST-Q | | | |



CORE SPRAY SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|------------------------------------------------------------------------|
| HV-52-1F005 | 1 | F-6 | A | | 12 | GT | MO | C | ET-Q ST-Q LC-R | 52-01 | ET-R ST-R | |
| HV-52-1F006A | 1 | F-6 | A C | | 12 | CK AO | SA O | -- | ET-Q LC-R | 52-01 | ET-R | Air Operator used for test only. |
| HV-52-1F006B | 1 | F-6 | A C | | 12 | CK AO | SA O | -- | ET-Q LC-R | 52-01 | ET-R | Air Operator used for test only. |
| HV-52-1F015A | 2 | D-6 | A | | 10 | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-52-1F015B | 2 | D-6 | A | | 10 | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| 52-1F029A | 2 | F-4 | C | | 2 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory |
| 52-1F029B | 2 | G-4 | C | | 2 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory |



CORE SPRAY SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|---------------------------------------------------------------------|
| 52-1F030A | 2 | F-4 | C | | 2 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory |
| 52-1F030B | 2 | G-4 | C | | 2 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory |
| HV-52-1F031A | 2 | C-6 | A | | 4 | GL | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-52-1F031B | 2 | C-6 | A | | 4 | GL | MO | O | ET-Q ST-Q LJ-R | | | |
| 52-1F036A | 2 | C-5 | C | | 3 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 52-1F036B | 2 | C-3 | C | | 3 | CK | SA | -- | ET-Q | | | Exercise during pump test. |
| 52-1F036C | 2 | C-4 | C | | 3 | CK | SA | -- | ET-Q | | | Exercise during pump test. |



CORE SPRAY SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|------------------------------------------------------------------------------------------------|
| 52-1F036D | 2 | C-3 | C | | 3 | CK | SA | — | ET-Q | | | Exercise during pump test. |
| HV-52-1F037 | 2 | F-5 | A | | 12 | GT | MO | C | ET-Q ST-Q LP-R | 52-01 | ET-R ST-R | |
| HV-52-1F039A | 1 | E-6 | A | P | 1 | GL | AO | C | PV LC-R | | | Valve opens and automatically recloses to equalize pressure across testable check valve. |
| HV-52-1F039B | 1 | F-6 | A | P | 1 | GL | AO | C | PV LC-R | | | Valve opens and automatically recloses to equalize pressure across testable check valve. |
| HV-52-108 | 1 | F-6 | A C | | 12 | SK | SA AO | — O | ET-Q FS-Q LC-R | 52-01 | ET-R FS-R | Not air testable. Air operator to assist closing only. |
| HV-52-127 | 2 | B-2 | A | | 6 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-52-128 | 2 | B-2 | A | | 6 | GT | MO | C | ET-Q ST-Q LJ-R | | | |



CORE SPRAY SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|------------|-------|------------|------------|------------|---------------|-----------|-------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------|
| 52-1048A | 2 | B-7 | C | | 1 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 52-1048B | 2 | B-8 | C | | 1 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguards piping fill pump operation. |
| 52-1045A | 2 | C-5 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 52-1045B | 2 | C-3 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 52-1046A | 2 | C-5 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 52-1046B | 2 | C-3 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation. |
| 52-1051A | 2 | F-3 | C | | 1½ | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |

CORE SPRAY SYSTEM

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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|-------------------------------------------------------|
| 52-1051B | 2 | E-3 | C | | 1½ | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| 52-1052A | 2 | F-3 | B | P | 1½ | GL | MA | O | PV | | | |
| 52-1052B | 2 | E-3 | B | P | 1½ | GL | MA | O | PV | | | |
| 52-1F007A | 1 | F-6 | B | P | 12 | GT | MA | LO | PV | | | |
| 52-1F007B | 1 | F-6 | B | P | 12 | GT | MA | LO | PV | | | |
| 52-1034 | 2 | D-5 | B | P | 4 | GL | MA | C | PV | | | |



CORE SPRAY SYSTEM

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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 52-1F020A | 2 | C-5 | B | P | 12 | GT | MA | LO | PV | | | |
| 52-1F020B | 2 | C-3 | B | P | 12 | GT | MA | LO | PV | | | |
| 52-1F020C | 2 | C-4 | B | P | 12 | GT | MA | LO | PV | | | |
| 52-1F020D | 2 | C-2 | B | P | 12 | GT | MA | LO | PV | | | |
| PSV52-1F012A | 2 | D-5 | C | | 2 | RL | SA | C | RT-R | | | |
| PSV52-1F012B | 2 | F-4 | C | | 2 | RL | SA | C | RT-R | | | |
| PSV52-1F032A | 2 | B-5 | C | | 2 | RL | SA | C | RT-R | | | |

CORE SPRAY SYSTEM

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| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| PSV52-1F032B | 2 | B-3 | C | | 2 | RL | SA | C | RT-R | | | |
| PSV52-1F032C | 2 | B-5 | C | | 2 | RL | SA | C | RT-R | | | |
| PSV52-1F032D | 2 | B-3 | C | | 2 | RL | SA | C | RT-R | | | |
| 52-1047A | 2 | B-7 | B | P | 1 | GT | MA | O | PV | | | |
| 52-1047B | 2 | B-8 | B | P | 1 | GT | MA | O | PV | | | |
| 52-1044A | 2 | C-5 | B | P | 1½ | GT | MA | O | PV | | | |
| 52-1044B | 2 | C-3 | B | P | 1½ | GL | MA | O | PV | | | |

CORE SPRAY SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|------------|-------|------------|------------|------------|---------------|-----------|-------------|-----------------|---------|
| 52-1050A | 2 | F-3 | B | P | 2 | GL | MA | O | PV | | | |
| 52-1050B | 2 | E-3 | B | P | 2 | GL | MA | O | PV | | | |
| 52-1F010A | 2 | C-5 | B | P | 3 | GL | MA | LO | PV | | | |
| 52-1F010B | 2 | C-3 | B | P | 3 | GL | MA | LO | PV | | | |
| 52-1F010C | 2 | C-4 | B | P | 3 | GL | MA | LO | PV | | | |
| 52-1F010D | 2 | C-3 | B | P | 3 | GL | MA | LO | PV | | | |
| 52-1065A | 2 | F-2 | B | P | 1½ | GL | MA | LO | PV | | | |



CORE SPRAY SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|------------------------------------------------------------------------------------------------------------------|
| 52-1065B | 2 | E-2 | B | P | 1 1/2 | GL | MA | LO | PV | | | |
| PSV-52-127 | 2 | B-2 | AC | | 3/4 | RL | SA | C | LJ-R | | | Thermal relief valve. Not required to be tested under Section XI. Containment Isolation boundary valve. |
| HV-52-139 | 2 | B-7 | A | | 1 | GL | MO | O | ET-Q ST-Q LJ-R | | | |
| SV-52-139 | 2 | A-7 | A | | 1 | GL | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |



RELIEF REQUEST BASIS

52-01

System: Core Spray **P&ID:** M-52

Valve ID: HV-52-1F005: HV-52-1F108: HV-52-1F006A,B:HV-52-1F037

Valve Category: A (HV-52-1F005: HV-52-1F037)
AC (HV-52-1F006A,B: HV-52-108)

ASME Class: 1 (HV-52-1F005: HV-52-1F006A,B: HV-52-108)
2 (HV-52-1F037)

Function: Core Spray System Containment isolation check and block valves.

Test Requirement: Verify valve operability quarterly (HV-52-1F006A,B). Verify valve operability and fail-safe function quarterly (HV-52-108). Exercise and stroke time quarterly (HV-52-1F005: HV-52-1F037).

Basis for Relief: These valves perform a pressure isolation function between the high pressure Reactor Coolant System and the low pressure Core Spray System. There are no provisions for monitoring leakage across any of the valves. If the valves were exercised during normal operation and failed to fully re-close the potential for an inter-system-LOCA exists. Measurement of post-operation leakage requires entry into the Primary Containment which is maintained with an inerted nitrogen atmosphere, except at refueling.

Alternate Testing: Valves will be operability tested and Section XI, Category A, seat leak tested at refueling when entry can be made to the Primary Containment.



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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-53

FUEL POOL COOLING AND CLEANUP SYSTEM

FUEL POOL COOLING & CLEANUP SYSTEM

P&ID NO: M-53
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Rev 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 53-1006 | 3 | E-2 | B | P | 16 | GT | MA | C | PV | | | |
| 53-1007 | 3 | E-2 | B | P | 10 | GT | MA | O | PV | | | |
| 53-1024A | 3 | H-2 | B | P | 12 | GL | MA | C | PV | | | |
| 53-1024B | 3 | H-2 | B | P | 12 | GL | MA | C | PV | | | |
| 53-1093 | 3 | H-2 | B | P | 2 | GL | MA | LC | PV | | | |
| 53-1094 | 3 | H-2 | B | P | 2 | GL | MA | LC | PV | | | |
| 53-1092 | 3 | H-1 | B | P | 1 | GL | MA | O | PV | | | |

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-55

HIGH PRESSURE COOLANT INJECTION SYSTEM

HIGH PRESSURE COOLANT INJECTION SYSTEM

P&ID NO: M-55
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Rev 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------------------------------------|
| HV-55-1F001 | 2 | D-3 | B | | 12 | GT | MO | C | ET-Q ST-Q | | | |
| HV-55-1F002 | 1 | F-6 | A | | 10 | GL | MC | O | ET-Q ST-Q LJ-R | 55-01 | ET-C ST-C | |
| HV-55-1F003 | 1 | F-6 | A | | 10 | GL | MO | O | ET-Q ST-Q LJ-R | 55-01 | ET-C ST-C | |
| HV-55-1F004 | 2 | E-4 | B | | 16 | GT | MO | O | ET-Q ST-Q | | | |
| 55-1F005 | 2 | D-5 | C | | 14 | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| HV-55-1F006 | 2 | D-6 | B | | 12 | GT | MO | C | ET-Q ST-Q | | | |
| HV-55-1F007 | 2 | D-5 | B | | 14 | GT | MO | O | ET-Q ST-Q | 55-02 | ET-C ST-C | |




HIGH PRESSURE COOLANT INJECTION SYSTEM

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Rev 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Act. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|--------|---------------|-------|---------------|---------------|-----------|------------------|----------------------|----------------|-----------------------|--------------------------------------------------------------------|
| HV-55-1F008 | 2 | D-5 | B | | 10 | GL | MO | C | ET-Q ST-Q | | | |
| HV-55-1F010 | 2 | E-3 | B | P | 16 | GT | MA | LO | PV | | | |
| HV-55-1F011 | 2 | F-5 | B | | 10 | GT | MO | C | ET-Q ST-Q | | | |
| HV-55-1F012 | 2 | C-6 | A | | 4 | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| 55-1F019 | 2 | E-3 | C | | 16 | CK | SA | -- | ET-Q | | | Exercise during pump test. Forward flow test only. |
| 55-1F021 | 2 | C-4 | C | P | 12 | SK | SA MA | -- LO | ET-Q PV | | | Forward flow test only. Manual locked open stop check valve. |
| HV-55-1F028 | 2 | C-3 | B | | 1 | GL | AO | O | ET-Q ST-Q FS-Q | | | |

HIGH PRESSURE COOLANT INJECTION SYSTEM

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Rev 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------------------------------------------------------------------------------------------------------------|
| HV-55-1F029 | 2 | B-3 | B | | 1 | GL | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-55-1F041 | 2 | E-4 | B | | 16 | BF | MO | C | ET-Q ST-Q | | |  |
| HV-55-1F042 | 2 | B-7 | A | | 16 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| 55-1F045 | 2 | B-7 | C | | 16 | CK | SA | -- | ET-Q | | | Forward flow test only.  |
| 55-1F046 | 2 | C-4 | C | | 4 | CK | SA | -- | ET-Q | | | Exercise with pump test. Forward flow test only. |
| HV-55-1F071 | 2 | C-6 | A | | 4 | GT | MO | C | ET-Q ST-Q LJ-R | | |  |

HIGH PRESSURE COOLANT INJECTION SYSTEM

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Rev 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------------------------------------------------------------------------------------------------|
| HV-55-1F072 | 2 | C-6 | A | | 12 | GT | MO | O | ET-Q ST-Q LJ-R | 55-01 | ET-C ST-C | |
| 55-1F077 | 2 | B-5 | C | | 2 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory |
| 55-1F078 | 2 | B-5 | C | | 2 | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory |
| 55-1F080 | 2 | B-8 | C | | 4 | CK | SA | -- | ET-Q | | | Upstream and downstream test taps used to verify valve operability. Forward flow test only. |
| HV-55-1F093 | 2 | A-7 | A | | 4 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| 55-1F094 | 2 | B-8 | C | | 4 | CK | SA | -- | ET-Q | | | Upstream and downstream test taps used to verify valve operability. Forward flow test only. |
| HV-55-1F095 | 2 | C-8 | A | | 4 | GT | MO | O | ET-Q ST-Q LJ-R | | | |

HIGH PRESSURE COOLANT INJECTION SYSTEM

P&ID NO: M-55
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Rev 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HV-55-1F100 | 1 | F-6 | A | | 1½ | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| 55-1048 | 2 | D-5 | C | | 1½ | CK | SA | -- | ET-Q | | | Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operation Valve cycling is verified by system check to verify water inventory in conjunction with safeguard piping fill pump operator Upstream and downstream test taps used to verify valve operability. Forward flow test only. |
| 55-1049 | 2 | D-5 | C | | 1½ | CK | SA | -- | ET-Q | | | |
| 55-1025 | 2 | A-8 | C | | 4 | CK | SA | -- | ET-Q | | | |
| 55-1026 | 2 | A-8 | C | | 4 | CK | SA | -- | ET-Q | | | Upstream and downstream test taps used to verify valve operability. Forward flow test only. |
| HV-55-1F105 | 2 | E-4 | A | | 8 | GT | MO | C | ET-Q ST-Q LJ-R | 55-04 | ET-C ST-C | |

HIGH PRESSURE COOLANT INJECTION SYSTEM

P&ID NO: M-55
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| 55-1047 | 2 | D-5 | B | P | 1½ | GL | MA | O | PV | | | |
| 55-1058 | 2 | E-4 | C | | 8 | CK | SA | -- | ET-Q | 55-03 | ET-C | 4 |
| 55-1059 | 2 | D-6 | C | | 12 | CK | SA | -- | ET-Q | 55-03 | ET-C | |
| HV-55-120 | 2 | B-6 | A | | 2 | GL | MO | O | ET-Q ST-Q LJ-R | | | 4 |
| HV-55-121 | 2 | B-6 | A | | 2 | GL | MO | O | ET-Q ST-Q LJ-R | | | 4 |

RELIEF REQUEST BASIS

55-01

System: HPCI

P&ID: M-55

Valve ID: HV-55-1F002; HV-55-1F003; HV-55-1F072

Valve Category: A

ASME Class: 1 (HV-55-1F002; HV-55-1F003)
2 (HV-55-1F072)

Function: HPCI Steam supply and turbine exhaust valves

Test Requirement: Exercise test quarterly

Basis for Relief: Failure of one of these valves in the closed position would cause total loss of system function which would put the plant in an unsafe condition.

Alternate Testing: Exercise and time during cold shutdown.

RELIEF REQUEST BASIS

55-02

System: HPCI

P&ID: M-55

Valve ID: HV-55-1F007

Valve Category: B

ASME Class: 2

Function: HPCI Pump discharge line

Test Requirement Exercise test quarterly

Basis for Relief: Failure of valve in closed position would cause total loss of system function which would put the plant in an unsafe condition.

Alternate Testing: Exercise and time during cold shutdown.

RELIEF REQUEST BASIS

55-03

System: HPCI

P&ID: M-55

Valve ID: 55-1059; 55-1058

Valve Category: C

ASME Class: 2

Function: HPCI Pump Discharge to Core Spray
HPCI Pump Discharge to Feedwater

Test Requirement: Exercise test quarterly

Basis for Relief: Check valve 55-1058 is located downstream of motor operated valve HV-55-1F105 which is tested at cold shutdown. Since flow is required through this valve to verify operability, it cannot be tested until HV-55-1F105 is tested. Operability of valve 55-1059 can only be verified by pumping HPCI System water into the Core Spray System. This would introduce a large quantity of cold HPCI System water into the Reactor Coolant System. This can not be done during normal operation, because of adverse reactivity change and potential thermal shock problems.

Alternate Testing: Forward flow testing will be performed at cold shutdown.



RELIEF REQUEST BASIS

55-04

System: HPCI

P&ID: M-55

Valve ID: HV-55-1F105

Valve Category: B

ASME Class: 2

Function: HPCI Pump discharge to feedwater

Test Requirement: Exercise test quarterly

Basis for Relief: HV-55-1F105 valve is upstream from HPCI injection check valve 55-1058 which is the high pressure boundry valve between the feedwater and HPCI systems during plant operation. There is no provision to detect leakage past valve 55-1058. In order to protect the HPCI low pressure pump suction piping from being overpressurized valve HV-55-1F007 would have to be closed before valve HV-55-1F105 could be exercised. Failure of HV-55-1F007 in the closed position would cause total loss of system function.

Alternate Testing: Exercise and time during cold shutdown.

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-56

HPCI PUMP TURBINE SYSTEM

HPCI TURBINE SYSTEM

P&ID NO: M-56
DOCUMENT NO. 80A2972

PAGE: 2 of 4
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-----------------------------|
| HV-56-1F025 | 2 | A-5 | B | | 1 | GL | AO | O | ET-Q ST-Q FS-Q | | | |
| HV-56-1F026 | 2 | B-5 | B | | 1 | GL | AO | C | ET-Q ST-Q FS-Q | | | |
| PSV-56-1F020 | 2 | E-6 | C | | 3/4 | RL | SA | C | RT-R | | | |
| HV-56-1F059 | 2 | C-5 | B | | 2 | GL | MO | C | ET-Q ST-Q | | | |
| FV-56-111 | 2 | E-3 | B | | 10 | -- | -- | C | ET-Q ST-Q | 56-01 | | HPCI Turbine control valve. |
| FV-56-112 | 2 | E-3 | B | | 10 | -- | -- | C | ET-Q ST-Q | 56-01 | | HPCI Turbine stop valve |
| PSE-56-1D003 | 2 | E-4 | D | | -- | RD | SA | C | RD-R | | | |

| 4

HPCI TURBINE SYSTEM

P&ID NO: M-56
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|--------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| PSE-56-1D004 | 2 | G-4 | D | | -- | RD | SA | C | RD-R | | | |
| PSV-56-1F018 | 2 | C-2 | C | | 1½ | RL | SA | C | RT-R | | | |



RELIEF REQUEST BASIS

56-01

System: HPCI Pump Turbine **P&ID:** M-56

Valve ID: FV-56-111 & FV-56-112

Valve Category: B

ASME Class: 2

Function: HPCI Turbine control valve and stop valve

Test Requirement Measure stroke time quarterly

Basis for Relief: The purpose of these valves is to regulate steam flow to the HPCI turbine. Operability is adequately demonstrated by turbine operation. Valve position is steam line pressure and turbine speed dependent and therefore will not repeatedly throttle to the same position. During turbine operation, these valves move in response to control signals.

Alternate Testing: Proper response of these valves will be verified during turbine test. No stroke timing will be performed.

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
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Rev. 4

VALVE INSERVICE TESTING PROGRAM PLAN
TABLES AND RELIEF REQUESTS
FOR
LIMERICK GENERATING STATION
UNIT 1
P&ID NO. M-57 (Sh. 1)
CONTAINMENT ATMOSPHERE CONTROL SYSTEM

CONTAINMENT ATMOSPHERE CONTROL SYSTEM

P&ID NO: M-57 #1
DOCUMENT NO. 80A2972PAGE: 2 of 9
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks | |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------------------------|---------------------------------------------------------------------------------------|
| HV-57-103 | 2 | C-6 | B | P | 18 | BF | MA | LO | PV | | | Electrically disconnected |  |
| HV-57-105 | 2 | D-7 | A | | 2 | GL | MO | C | ET-Q ST-Q LJ-R | | | | |
| HV-57-118 | 2 | E-7 | A | | 2 | GL | AO | C | ET-Q ST-Q FS-Q LJ-R | | | | |
| HV-57-162 | 2 | C-7 | A | | 6 | BF | MO | C | ET-Q ST-Q LJ-R | | | |  |
| HV-57-104 | 2 | D-8 | A | | 18 | BF | AO | C | ET-Q ST-Q FS-Q LJ-R | | | | |
| HV-57-112 | 2 | F-8 | A | | 18 | BF | MO | C | ET-Q ST-Q LJ-R | | | | |
| HV-57-113 | 2 | F-6 | B | P | 24 | BF | MA | LO | PV | | | Electrically disconnected |  |

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------------------------|
| HV-57-111 | 2 | F-7 | A | | 2 | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-57-117 | 2 | F-7 | A | | 2 | GL | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-57-114 | 2 | F-7 | A | | 24 | BF | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-57-115 | 2 | G-7 | A | | 24 | BF | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-57-161 | 2 | E-8 | A | | 4 | BF | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-57-125 | 2 | C-5 | B | P | 20 | BF | MA | LO | PV | | | Electrically disconnected |
| HV-57-131 | 2 | D-3 | A | | 6 | BF | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |

CONTAINMENT ATMOSPHERE CONTROL SYSTEM

P&ID NO: M-57 #1
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------------------------|
| HV-57-109 | 2 | E-4 | A | | 6 | BF | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-57-124 | 2 | D-3 | A | | 24 | BF | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-57-147 | 2 | D-2 | A | | 24 | BF | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-57-122 | 2 | D-5 | B | P | 24 | BF | MA | LO | PV | | | Electrically disconnected |
| HV-57-163 | 2 | D-2 | A | | 4 | BF | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-57-121 | 2 | E-4 | A | | 6 | BF | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-57-123 | 2 | D-3 | A | | 24 | BF | AO | C | ET-Q ST-Q FS-Q LJ-R | | | |

CONTAINMENT ATMOSPHERE CONTROL SYSTEM

P&ID NO: M-57 #1
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------|
| HV-57-135 | 2 | D-3 | A | | 24 | BF | MO | C | ET-Q ST-Q LJ-R | | | |
| SV-57-134 | 2 | E-5 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-144 | 2 | B-2 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-133 | 2 | E-5 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-195 | 2 | B-7 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-143 | 2 | B-3 | A | | ½ | GT | SO | C | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-132 | 2 | E-5 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |

CONTAINMENT ATMOSPHERE CONTROL SYSTEM

P&ID NO: M-57 #1
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REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------|
| SV-57-142 | 2 | B-3 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-181 | 2 | C-5 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-184 | 2 | B-8 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-141 | 2 | B-3 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-150 | 2 | D-5 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-159 | 2 | B-4 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-183 | 2 | C-7 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |

CONTAINMENT ATMOSPHERE CONTROL SYSTEM

P&ID NO: M-57 #1
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REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|---------|
| SV-57-186 | 2 | B-7 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-191 | 2 | B-7 | A | | 2 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-190 | 2 | B-7 | A | | 1 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-57-116 | 2 | F-4 | A | | 1½ | GL | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-57-167 | 3 | F-4 | B | | 1 | GL | MO | C | ET-Q ST-Q | | | |
| HV-57-165 | 3 | G-4 | B | | 1 | BF | MO | C | ET-Q ST-Q | | | |
| HV-57-160A | 3 | G-4 | B | | 6 | GT | MO | O | ET-Q ST-Q | | | |

CONTAINMENT ATMOSPHERE CONTROL SYSTEM

P&ID NO: M-57 #1
DOCUMENT NO. 80A2972PAGE: 8 of 9
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|----------------------------------|
| HV-57-160B | 3 | G-4 | B | | 6 | GT | MO | O | ET-Q ST-Q | | | |
| SV-57-185 | 2 | B-8 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-145 | 2 | B-2 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| SV-57-101 | 2 | B-5 | A | | 2 | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| PSV-57-137A | 2 | C-6 | C | | 24 | CK | A | -- | ET-Q | | | Air operator used for test only. |
| PSV-57-137B | 2 | C-6 | C | | 24 | CK | SA | -- | ET-Q | | | Air operator used for test only. |
| PSV-57-137C | 2 | C-6 | C | | 24 | CK | SA | -- | ET-Q | | | Air operator used for test only. |

CONTAINMENT ATMOSPHERE CONTROL SYSTEM

P&ID NO: M-57 #1
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|----------------------------------|
| PSV-57-137D | 2 | C-6 | C | | 24 | CK | SA | -- | ET-Q | | | Air operator used for test only. |
| HV-57-164 | 2 | C-2 | A | | 6 | BF | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-57-168A | 2 | E-8 | B | | 1½ | GL | MC | C | ET-Q ST-Q | | | |
| HV-57-168B | 2 | E-1 | B | | 1½ | GL | MO | C | ET-Q ST-Q | | | |
| SV-57-139 | 2 | F-6 | A | | ½ | GT | SO | O | ET-Q ST-Q FS-Q LJ-R | | | |
| 57-1030A | 2 | F-8 | B | P | 3/4 | GL | MA | LO | PV | | | |
| 57-1030B | 2 | E-1 | B | P | 3/4 | GL | MA | LO | PV | | | |



VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-59

PRIMARY CONTAINMENT INSTRUMENT GAS

PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

P&ID NO: M-59
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REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|------------------------|
| 59-1001 | 2 | B-3 | A C | | 1 | CK | SA | -- | ET-Q LJ-R | 59-01 | ET-R | Reverse Flow Test Only |
| 59-1005A | 2 | F-3 | A C | | 1 | CK | SA | -- | ET-Q LJ-R | 59-01 | ET-R | Reverse Flow Test Only |
| 59-1005B | 2 | G-3 | A C | | 1 | CK | SA | -- | ET-Q LJ-R | 59-01 | ET-R | Reverse Flow Test Only |
| 59-1056 | 2 | D-3 | A C | | 1 | CK | SA | -- | ET-Q LJ-R | 59-01 | ET-R | Reverse Flow Test Only |
| 59-1112 | 2 | H-2 | A C | | 1 | CK | SA | -- | ET-Q LJ-R | 59-01 | ET-R | Reverse Flow Test Only |
| 59-1120A-1 | 3 | G-4 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1120B-1 | 3 | H-4 | B | P | 1 | GL | MA | 0 | PV | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|------------------------|
| 59-1121 | 3 | H-4 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1128 | 2 | H-2 | A C | | 1 | CK | SA | -- | ET-Q LJ-R | 59-01 | ET-R | Reverse Flow Test Only |
| 59-1139 | 3 | G-4 | B | P | 1 | GL | MA | 0 | PV | | | |
| HV-59-101 | 2 | C-3 | A | | 1½ | GL | MO | 0 | ET-Q ST-Q LJ-R | 59-02 | ET-C ST-C | |
| HV-59-102 | 2 | C-3 | A | | 1 | GL | AO | 0 | ET-Q ST-Q FS-Q LJ-R | 59-02 | ET-C ST-C FS-C | |
| HV-59-129A | 2 | F-3 | A | | 1 | GL | AO | 0 | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-59-129B | 2 | G-3 | A | | 1 | GL | AO | 0 | ET-Q ST-Q FS-Q LJ-R | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|------------------------------|----------------|-----------------------|--------------------------------------------------------------------|
| HV-59-131 | 2 | D-3 | A | | 1 | GL | AO | 0 | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-59-135 | 2 | B-3 | A | | 1 | GL | AO | 0 | ET-Q ST-Q FS-Q LJ-R | | | |
| HV-59-140 | - | H-6 | B | | 1 | GL | MO | 0 | ET-Q ST-Q | | | Required for venting of bypass leakage to secondary containment |
| HV-59-141 | - | H-6 | B | | 1 | GL | MO | 0 | ET-Q ST-Q | | | Required for venting of bypass leakage to secondary containment |
| HV-59-142 | - | H-6 | B | | 1 | GL | MO | C | ET-Q ST-Q | | | Required for venting of bypass leakage to secondary containment |
| HV-59-143 | - | H-5 | B | | 1 | GL | MO | C | ET-Q ST-Q | | | Required for venting of bypass leakage to secondary containment |
| SV-59-150B | 2 | H-4 | B | | 1 | GL | SO | 0 | ET-Q ST-Q FS-Q | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

P&ID NO: M-59
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REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-59-151A | 2 | H-3 | A | | 1 | GL | MO | 0 | ET-Q ST-Q LJ-R | | | |
| HV-59-151B | 2 | H-3 | A | | 1 | GL | MO | 0 | ET-Q ST-Q LJ-R | | | |
| SV-59-152B | 3 | H-4 | B | | 1 | GL | SO | 0 | ET-Q ST-Q FS-Q | | | |
| PSV-59-152A | 3 | G-4 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV-59-152B | 3 | H-4 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV-59-153A | 3 | G-4 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV-59-153B | 3 | H-4 | C | | 1 | RL | SA | C | RT-R | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

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REV 4



| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|---------|
| SV-59-150A | 3 | G-4 | B | | 1 | GL | SO | 0 | ET-Q ST-Q FS-Q | | | |
| SV-59-152A | 3 | G-4 | B | | 1 | GL | SO | 0 | ET-Q ST-Q FS-Q | | | |
| 59-1120A-2 | 3 | G-4 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1120A-3 | 3 | G-4 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1120B-2 | 3 | H-4 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1120B-3 | 3 | H-4 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1122 | 3 | H-4 | C | | 1½ | CK | SA | - | ET-Q | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 59-1141 | 3 | G-4 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1111 | 2 | H-2 | B | P | 1 | GL | MA | 0 | FV | | | |
| 59-1129 | 2 | G-2 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1023E | 3 | H-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1023H | 3 | G-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1023K | 3 | H-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1023M | 3 | G-2 | C | | 1 | CK | SA | - | ET-Q | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

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REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 59-1023S | 3 | G-2 | C | | 1 | CK | A | - | ET-Q | | | |
| 59-1024E | 3 | H-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1024H | 3 | G-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1024K | 3 | H-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1024M | 3 | G-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1024S | 3 | G-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1131E | 3 | H-2 | C | | 1 | CK | SA | - | ET-Q | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

P&ID NO: M-59
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REV 4

| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 59-1131H | 3 | G-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1131K | 3 | H-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1131M | 3 | G-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1131S | 3 | G-2 | C | | 1 | CK | SA | - | ET-Q | | | |
| 59-1018E | 3 | H-2 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1018H | 3 | G-2 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1018K | 3 | H-2 | B | P | 1 | GL | MA | 0 | PV | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

P&ID NO: M-59
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| 59-1018M | 3 | G-2 | B | P | 1 | GL | MA | 0 | PV | | | |
| 59-1018S | 3 | G-2 | B | P | 1 | GL | MA | 0 | PV | | | |
| XV-59-141A | 2 | E-4 | A | | 3/8 | BL | SO | C | ET-Q ST-Q LJ-R | | | |
| XV-59-141B | 2 | E-4 | A | | 3/8 | BL | SO | C | ET-Q ST-Q LJ-R | | | |
| XV-59-141C | 2 | E-4 | A | | 3/8 | BL | SO | C | ET-Q ST-Q LJ-R | | | |
| XV-59-141D | 2 | E-4 | A | | 3/8 | BL | SO | C | ET-Q ST-Q LJ-R | | | |
| XV-59-141E | 2 | E-4 | A | | 3/8 | BL | SO | C | ET-Q ST-Q LJ-R | | | |



PRIMARY CONTAINMENT INSTRUMENT GAS SYSTEM

P&ID NO: M-59
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| XV-59-140A | 2 | E-4 | D | | 3/8 | EX | EX | 0 | XT-R | | | |
| XV-59-140B | 2 | E-4 | D | | 3/8 | EX | EX | 0 | XT-R | | | |
| XV-59-140C | 2 | E-4 | D | | 3/8 | EX | EX | 0 | XT-R | | | |
| XV-59-140D | 2 | E-4 | D | | 3/8 | EX | EX | 0 | XT-R | | | |
| XV-59-140E | 2 | E-4 | D | | 3/8 | EX | EX | 0 | XT-R | | | |

RELIEF REQUEST BASIS

59-01

System: Primary Containment Instrument Gas **P&ID:** M-59

Valve ID: 59-1001: 59-1056: 59-1005A, B: 59-1128: 59-1112

Valve Category: A C

ASME Class: 2

Function: Inside containment instrument gas penetration isolation valves.

Test Requirement: Exercise valve quarterly

Basis for Relief: These valves are located inside the primary containment and are inaccessible for testing during plant operation. The only way to verify reverse flow closure is by leak testing during Appendix J testing at refueling.

Alternate Testing: Verify reverse flow closure during Appendix J, type C leak testing at refueling.

RELIEF REQUEST BASIS

59-02

System: Primary Containment Instrument Gas **P&ID:** M-59

Valve ID: HV-59-101, HV-59-102

Valve Category: A

ASME Class: 2

Function: Containment isolation valves to PCIG compressor suction.

Test Requirement: Exercise and time tests quarterly (HV-59-101).
Exercise, time and fail safe tests quarterly (HV-59-102).

Basis for Relief: Closing these valves during operations would make the
PCIG compressor inoperable which would remove instrument
air to essential equipment.

Alternate Testing: Exercise and time test at cold shutdown for HV-59-101.
Exercise, time and fail safe test HV-59-102 at cold shutdown.



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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-60

PRIMARY CONTAINMENT LEAK TESTING

PRIMARY CONTAINMENT LEAK TESTING SYSTEM

P&ID NO: M-60
DOCUMENT NO. 80A2972PAGE: 2 of 2
REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 60-1057 | 2 | E-4 | A | P | 3/4 | GL | MA | LC | PV LJ-R | | | |
| 60-1058 | 2 | E-4 | A | P | 3/4 | GL | MA | LC | PV LJ-R | | | |
| 60-1070 | 2 | D-4 | A | P | 3/4 | GL | MA | LC | PV LJ-R | | | |
| 60-1071 | 2 | D-4 | A | P | 3/4 | GL | MA | LC | PV LJ-R | | | |
| 60-1073 | 2 | C-4 | A | P | 3/4 | GL | MA | LC | PV LJ-R | | | |
| 60-1074 | 2 | C-4 | A | P | 3/4 | GL | MA | LC | PV LJ-R | | | |
| 60-1026 | 2 | D-6 | A | P | 1 | GL | MA | C | PV LJ-R | | | |

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-61

LIQUID RADWASTE COLLECTION SYSTEM

LIQUID WASTE COLLECTION SYSTEM

P&ID NO: M-61
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| HV-61-110 | 2 | G-7 | A | | 4 | GT | AO | C | ET-Q ST-Q LJ-R | | | |
| HV-61-111 | 2 | F-7 | A | | 4 | GT | AO | C | ET-Q ST-Q LJ-R | | | |
| HV-61-130 | 2 | D-7 | A | | 4 | GT | AO | C | ET-Q ST-Q LJ-R | | | |
| HV-61-131 | 2 | C-7 | A | | 4 | GT | AO | C | ET-Q ST-Q LJ-R | | | |
| HV-61-102 | 2 | H-6 | A | | 1½ | GL | MO | 0 | ET-Q ST-Q LJ-R | | | |
| HV-61-112 | 2 | G-7 | A | | 1½ | GL | MO | 0 | ET-Q ST-Q LJ-R | | | |
| HV-61-132 | 2 | D-7 | A | | 1½ | GL | MO | 0 | ET-Q ST-Q LJ-R | | | |

VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-87 (Sh. 2)

DRYWELL CHILLED WATER SYSTEM

DRYWELL CHILLED WATER SYSTEM

P&ID NO: M-87 (Sh.2)
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|------------|-------|------------|------------|------------|---------------|----------------------|-------------|-----------------|----------------------------------------|
| HV-87-122 | 2 | C-2 | A | | 8 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-87-123 | 2 | B-2 | A | | 8 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-87-128 | 2 | D-2 | A | | 8 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-87-129 | 2 | C-2 | A | | 8 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-87-120A | 2* | D-2 | A | | 8 | GT | MO | O | ET-Q ST-Q LJ-R | | | 2*-Class 2 equivalent per FSAR 3.2.2.g |
| HV-87-120B | 2* | C-2 | A | | 8 | GT | MO | O | ET-Q ST-Q LJ-R | | | |
| HV-87-121A | 2* | C-2 | A | | 8 | GT | MO | O | ET-Q ST-Q LJ-R | | | |



| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|-------------------------------------------|
| HV-87-121B | 2* | B-2 | A | | 8 | GT | MO | O | ET-Q ST-Q LJ-R | | | 2*-Class 2 equivalent per FSAR 3.2.2.g |
| HV-87-124A | 2* | C-1 | A | | 8 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-87-124B | 2* | B-1 | A | | 8 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-87-125A | 2* | D-1 | A | | 8 | GT | MO | C | ET-Q ST-Q LJ-R | | | |
| HV-87-125B | 2* | C-1 | A | | 8 | GT | MO | C | ET-Q ST-Q LJ-R | | | |

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VALVE INSERVICE TESTING PROGRAM PLAN

TABLES AND RELIEF REQUESTS

FOR

LIMERICK GENERATING STATION

UNIT 1

P&ID NO. M-90

CONTROL ENCLOSURE CHILLED WATER SYSTEM

CONTROL ENCLOSURE CHILLED WATER SYSTEM

P&ID NO: M-90
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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 90-0001A | - | C-7 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0001B | - | C-5 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0004A | - | E-3 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0004B | - | E-2 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0006A | - | F-7 | B | P | 4 | GT | MA | 0 | PV | | | |
| 90-0006B | - | G-7 | B | P | 4 | GT | MA | 0 | PV | | | |
| 90-0007A | - | F-5 | B | P | 4 | GT | MA | 0 | PV | | | |





| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit./ | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|------------|-------|------------|------------|------------|----------------|-----------|-------------|-----------------|-------------------------|
| 90-0007B | - | G-5 | B | P | 4 | GT | MA | 0 | PV | | | |
| 90-0008A | - | E-4 | B | P | 3 | GT | MA | 0 | PV | | | |
| 90-0008B | - | G-4 | B | P | 3 | GT | MA | 0 | PV | | | |
| 90-0010A | - | D-5 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0010B | - | D-4 | B | P | 6 | | MA | 0 | PV | | | |
| 90-0013A | - | D-4 | C | | 6 | CK | SA | -- | ET-Q | | | Forward Flow Test Only. |
| 90-0013B | - | D-3 | C | | 6 | CK | SA | -- | ET-Q | | | Forward Flow Test Only. |





| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|------------|-------|------------|------------|------------|---------------|-----------|-------------|-----------------|---------|
| 90-0016A | - | D-4 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0016B | - | D-3 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0033A | - | G-2 | B | P | 1½ | GL | MA | 0 | PV | | | |
| 90-0033B | - | G-1 | B | P | 1½ | GL | MA | 0 | PV | | | |
| 90-0034A | - | F-2 | B | P | 1 | GL | MA | 0 | PV | | | |
| 90-0034B | - | F-1 | B | P | 1 | GL | MA | 0 | PV | | | |
| 90-0035A | - | F-7 | B | P | 4 | GT | MA | 0 | PV | | | |





| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|------------|-------|------------|------------|------------|---------------|-----------|-------------|-----------------|---------|
| 90-0035B | - | G-7 | B | P | 4 | GT | MA | 0 | PV | | | |
| 90-0036A | - | F-6 | B | P | 4 | GT | MA | 0 | PV | | | |
| 90-0036B | - | G-6 | B | P | 4 | GT | MA | 0 | PV | | | |
| 90-0037A | - | F-4 | B | P | 3 | GT | MA | 0 | PV | | | |
| 90-0037B | - | G-4 | B | P | 3 | GT | MA | 0 | PV | | | |
| 90-0044A | - | D-5 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0044B | - | D-4 | B | P | 6 | GT | MA | 0 | PV | | | |





| Valve No. | Class | Coord. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|--------|------------|-------|------------|------------|------------|---------------|-----------|-------------|-----------------|---------|
| 90-0046 | - | D-4 | B | P | 6 | GT | MA | C | PV | | | |
| 90-0047A | - | C-4 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0047B | - | C-3 | B | P | 6 | GT | MA | 0 | PV | | | |
| 90-0048 | - | C-3 | B | P | 6 | GT | MA | C | PV | | | |
| 90-0049 | - | C-3 | B | P | 6 | GT | MA | C | PV | | | |
| 90-0050 | - | D-2 | B | P | 6 | GT | MA | C | PV | | | |
| 90-0051 | - | D-2 | B | P | 6 | GT | MA | C | PV | | | |



CONTROL ENCLOSURE CHILLED WATER SYSTEM

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| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|----------------------|----------------|-----------------------|---------|
| 90-0045 | - | D-4 | B | P | 6 | GT | MA | C | PV | | | |
| SV-90-045A | - | G-2 | B | | 1½ | GL | SO | 0 | ET-Q ST-Q FS-Q | 90-01 | | |
| SV-90-045B | - | G-1 | B | | 1½ | GL | SO | 0 | ET-Q ST-Q FS-Q | 90-01 | | |
| SV-90-047A | - | F-2 | B | | 1 | GL | SO | 0 | ET-Q ST-Q FS-Q | 90-01 | | |
| SV-90-047B | - | F-1 | B | | 1 | GL | SO | 0 | ET-Q ST-Q FS-Q | 90-01 | | |
| 90-0069A | - | D-5 | B | P | 2 | GL | MA | 0 | PV | | | |
| 90-0069B | - | E-5 | B | P | 2 | GL | MA | 0 | PV | | | |



CONTROL ENCLOSURE CHILLED WATER SYSTEM

P&ID NO: M-90
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-------------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 90-0083A | - | D-6 | B | P | 2 | GL | MA | O | PV | | | |
| 90-0083B | - | E-6 | B | P | 2 | GL | MA | O | PV | | | |
| PSV-90-048A | - | A-7 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV-90-048B | - | A-5 | C | | 1 | RL | SA | C | RT-R | | | |
| PSV-90-049A | - | A-7 | C | | ½ | RL | SA | C | RT-R | | | |
| PSV-90-049B | - | A-5 | C | | ½ | RL | SA | C | RT-R | | | |
| 90-0041A | - | B-6 | B | P | 1½ | GL | MA | O | PV | | | |

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 90-0041B | - | B-5 | B | P | 1½ | GL | MA | 0 | PV | | | |
| 90-0082A | - | B-6 | B | P | 1½ | GL | MA | 0 | PV | | | |
| 90-0082B | - | B-5 | B | P | 1½ | GL | MA | 0 | PV | | | |
| 90-0052A | - | F-7 | B | P | 3 | GL | MA | 0 | PV | | | |
| 90-0052B | - | G-7 | B | P | 3 | GL | MA | 0 | PV | | | |
| 90-0053A | - | F-6 | B | P | 3 | GL | MA | 0 | PV | | | |
| 90-0053B | - | G-6 | B | P | 3 | GL | MA | 0 | PV | | | |

CONTROL ENCLOSURE CHILLED WATER SYSTEM

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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 90-0054A | - | F-4 | B | P | 2 | GL | MA | 0 | PV | | | |
| 90-0054B | - | G-4 | B | P | 2 | GL | MA | 0 | PV | | | |
| 90-0020A | - | D-5 | B | P | 3/4 | GL | MA | C | PV | | | |
| 90-0020B | - | D-5 | B | P | 3/4 | GL | MA | C | PV | | | |
| 90-0021A | - | D-6 | B | P | 3/4 | GL | MA | C | PV | | | |
| 90-0021B | - | E-6 | B | P | 3/4 | GL | MA | C | PV | | | |
| 90-0027A | - | D-7 | B | P | 3/4 | GL | MA | C | PV | | | |

CONTROL ENCLOSURE CHILLED WATER SYSTEM

P&ID NO: M-90
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REV 4

| Valve No. | Class | Coor. | Valve Cat. | Pass. | Size (in.) | Valve Type | Actu. Type | Normal Posit. | Test Req. | Relief Req. | Alt. Test Perf. | Remarks |
|-----------|-------|-------|---------------|-------|---------------|---------------|---------------|------------------|--------------|----------------|-----------------------|---------|
| 90-0027B | - | E-7 | B | P | 3/4 | GL | MA | C | PV | | | |



RELIEF REQUEST BASIS

90-01

System: Control Enclosure Chilled Water

P&ID: M-90

Valve ID: SV-90-045A,B, SV-90-047A,B

Valve Category: B

ASME Class: --

Function: Standby Gas Treatment Room Unit Cooler Inlet

Test Requirement: Stroke Time Test Quarterly

Basis for Relief: Instrumentation to provide indication of valve disk position was not originally provided. Using parameters such as flow or pressure changes to determine stroke time would not give meaningful indications for these fast closing solenoid valves. Since adequate redundancy is provided by having two identical loops, quarterly exercising will be acceptable to determine operational readiness.

Alternate Testing: Exercise and fail safe tests quarterly.

