

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-382/90-27

Operating License: NPF-38

Docket: 50-382

Licensee: Entergy Operations, Inc.
P.O. Box B
Killona, Louisiana

Facility Name: Waterford Steam Electric Station, Unit 3 (W3SES)

Inspection At: W3SES site, Taft, Louisiana

Inspection Conducted: December 17-21, 1990

Inspectors: *L. D. Gilbert* 1/4/91
L. D. Gilbert, Reactor Inspector, Materials
and Quality Programs Section, Division of
Reactor Safety Date

for *J. Barnes* 1/7/91
R. C. Stewart, Reactor Inspector, Materials
and Quality Programs Section, Division of
Reactor Safety Date

Approved: *J. Barnes* 1/7/91
I. Barnes, Chief, Materials and Quality
Programs Section, Division of Reactor Safety Date

Inspection Summary

Inspection Conducted December 17-21, 1990 (Report 50-382/90-27)

Areas Inspected: Routine, announced inspection of the licensee's inservice testing (IST) program for pumps and valves.

Results: No anomalies were noted during review of the licensee's first 10-year IST program with respect to the requirements of Section XI of the ASME Code. Observation of surveillance tests and review of data for completed surveillance tests indicated that the licensee was satisfactorily implementing the IST program.

DETAILS

1. PERSONS CONTACTED

Entergy Operations, Inc.

- *J. R. McGaha, General Manager, Plant Operations
- *G. M. Davis, Events Analysis Reporting and Response Manager
- *G. G. Davie, Operations Assessment and Information Dissemination Manager
- *A. S. Lockhart, Quality Assurance Manager
- *W. E. Day, Trending, Compliance and Response Supervisor
- *J. G. Hoffpauir, Maintenance Superintendent
- *D. P. Constance, Shift Technical Advisor
- *B. R. Loetzerich, Licensing Engineer
- T. Schreckengast, Control Room Supervisor
- H. Lewis, Reactor Operator
- G. Boerschig, Shift Technical Advisor
- L. T. Lehmann, Mechanical Maintenance Supervisor
- H. Aubert, Mechanical Maintenance Supervisor

NRC

- *S. D. Butler, Resident Inspector

*Denotes those present at the exit meeting on December 21, 1990.

The inspectors also contacted other licensee personnel during this inspection.

2. INSERVICE TESTING OF PUMPS AND VALVES (73756)

The purpose of this inspection was to assess the licensee's inservice testing (IST) program, including implementation, with respect to the requirements of the ASME Code and Generic Letter 89-04, "Guidance On Developing Acceptable Inservice Testing Programs."

2.1 IST Program Review

The licensee's first 10-year IST program for pumps and valves consisted of the "Pump and Valve Test Plan," Revision 5, Change 1; administrative procedures which assigned responsibilities for implementing the IST Plan; and surveillance procedures for performing the tests required by the IST Plan. The IST program is based on the requirements of the 1980 Edition through the Winter of 1981 Addenda of Section XI of the ASME Code and relief requests for both pumps and valves. The IST Plan including relief requests was approved by NRR on February 7, 1989, for Revision 5 and September 22, 1989, for Change 1. The inspectors additionally ascertained that Revision 6 of the IST Plan was submitted to NRR on September 22, 1988, for which a Safety Evaluation Report has not currently been issued. The licensee is currently working with NRR to resolve issues related to the relief requests for Revision 6. Licensee personnel additionally informed the inspectors that, since Revision 6 was

submitted prior to issue of Generic Letter 89-04, a draft Revision 7 has been prepared to appropriately address generic letter positions. Other documents reviewed during the inspection are listed in Attachment 1.

2.2 Observation Of Inservice Tests

The inspectors witnessed all four of the valves scheduled for inservice testing during the week of this inspection. The first test was performed on Valves GWM-104 and GWM-105 using the surveillance requirements specified in paragraph 7.16 of Procedure OP-903-032. These valves are air operated and perform as containment isolation valves for the gaseous waste management (GWM) system piping that penetrates the containment building. The second test was performed on Valves FP-601A and FP-601B using the surveillance requirements specified in paragraph 7.13 of Procedure OP-903-032. These valves are air operated and perform as containment isolation valves for the fire protection (FP) system piping that supplies water to the containment building. The Code Class 2 valves were all designated in the IST Plan as valve Category A with a stroke time limit of 7 seconds for the GWM valves and 10 seconds for the FP valves. The inspectors verified that the reactor operator stroked and timed the valves specified by the surveillance procedure. The stroke time measured using a calibrated stop watch, was 1 second for the GWM valves and 4 seconds for the FP valves. The results of the surveillance tests were documented by the reactor operator on both the Surveillance Test Record form and the Valve Stroke Times form in the Section XI Pump and Valve Reference Data/Acceptance Criteria Notebook for each of the valves. The inspectors observed that the Shift Technical Advisor (STA) reviewed the surveillance test records to verify that the entries had been correctly made to the Notebook before signing the data sheets as required by Procedure OP-100-011. The Control Room Supervisor (CRS) acknowledged that he was responsible for reviewing the test data and declaring the component operable or inoperable. Since the test results met the stroke time limits specified for each of the four valves, the CRS signed the surveillance test reports and declared the valves operable. The STA also reviewed the test data in accordance with the requirements of Procedure OP-100-011 to determine if the valve would require increased frequency testing. Since the stroke times measured for the four valves were below the increased frequency limit of 2 seconds for the GWM valves and 6 seconds for the FP valves, the valves would not require increased frequency testing. There were no pump tests scheduled during the inspection period; therefore, none were witnessed.

2.3 Review Of Surveillance Test Records

The inspectors reviewed the IST Plan and requested the completed surveillance test reports for selected pumps and valves tested during specific time periods. In addition to the surveillance test reports for the pumps, the inspectors requested the maintenance history, the pump baseline data, the manufacturer pump performance curves, and the pump trending data for each of the selected pumps. In addition to the surveillance reports for the valves, the inspectors requested a completed Valve Stroke Times form from the Section XI Pump and Valve Reference Data/Acceptance Criteria Notebook for each of the selected valves for the years of 1989 and 1990. The records were provided and are

listed in Attachment 2. The records established that the requirements of Section XI, IST Plan, Test Procedures, and Technical Specifications were met for: (a) quarterly testing of pumps and valves, (b) increased frequency testing of pumps and valves, (c) post-maintenance testing of pumps, (d) establishing reference (baseline) data for pumps, (e) verifying that valve operation is accurately indicated for valves with remote position indicators, and (f) establishing criteria for the acceptable, alert, and required action ranges for pumps and valves.

No violations or deviations were identified during this inspection.

3. EXIT INTERVIEW

An exit interview was conducted on December 21, 1990, with those personnel denoted in paragraph 1, in which the inspection findings were summarized. No information was presented to the inspectors that was identified by the licensee as proprietary.

ATTACHMENT 1

DOCUMENTS REVIEWED

Administrative Procedure UNT-7-020, "Pump and Valve Inservice Testing,"
Revision 1

Administrative Procedure OP-100-011, "Section XI Pump and Valve Reference
Data/Acceptance Criteria," Revision 2

Maintenance Procedure MM-007-015, "Trevitest of Main Steam Safety Valves,"
Revision 2

Surveillance Procedure OP-903-032, "Quarterly IST Valve Tests," Revision 7

Surveillance Procedure OP-903-008, "Reactor Coolant System Leakage
Tests," Revision 3

ATTACHMENT 2

SURVEILLANCE TEST RECORDS REVIEWED

Section XI Pump and Valve Reference Data/Acceptance Criteria Notebook

Section XI Pump Reference Data/Acceptance Criteria for:

Auxiliary Component Cooling ACC-MPMP-0001A dated 10-13-88

Auxiliary Component Cooling ACC-MPMP-0001B dated 8-19-88

Component Cooling CC-MPMP-0002A dated 2-14-86

Component Cooling CC-MPMP-0002B dated 1-31-86

Component Cooling CC-MPMP-0002A/B dated 2-5-86

Chilled Water CHW-MPMP-0002A dated 11-3-89

Chilled Water CHW-MPMP-0002A dated 12-5-89

Chilled Water CHW-MPMP-0002B dated 7-13-89

Chilled Water CHW-MPMP-0002A/B dated 6-1-84

Quarterly Pump Testing to Procedure OP-903-050 for:

Component Cooling Water Pump CC-MPMP-0001A dated 10-11-90

Component Cooling Water Pump CC-MPMP-0002A/B dated 7-19-90

Component Cooling Water Pump CC-MPMP-0002A/B dated 9-26-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001A dated 1-28-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001A dated 1-29-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001A dated 3-1-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001A dated 6-1-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001A dated 8-16-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001A dated 11-8-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001B dated 6-21-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001B dated 9-20-90

Auxiliary Component Cooling Water Pump ACC-MPMP-0001B dated 12-13-90

Quarterly Valve Testing to Procedure OP-903-033 for:

Gaseous Waste Management Valves GWM-104 and GWM-105 dated 8-1-89
Gaseous Waste Management Valves GWM-104 and GWM-105 dated 10-28-89
Gaseous Waste Management Valves GWM-104 and GWM-105 dated 1-16-90
Gaseous Waste Management Valves GWM-104 and GWM-105 dated 4-10-90
Gaseous Waste Management Valves GWM-104 and GWM-105 dated 7-3-90
Gaseous Waste Management Valves GWM-104 and GWM-105 dated 9-25-90
Gaseous Waste Management Valves GWM-104 and GWM-105 dated 12-19-90
Fire Protection Valves FP-601A and FP-601B dated 12-19-90

Evaluation of Valves for Increased Frequency Testing for:

Feedwater Valve FW-184B (Condition Identification 267225)

Cold Shutdown IST Valve Tests to Procedure OP-903-033 for:

Feedwater Valves FW-184A and FW-184B dated 1-28-89
Feedwater Valves FW-184A and FW-184B dated 11-9-89
Feedwater Valves FW-184A and FW-184B dated 3-23-90
Feedwater Valves FW-184A and FW-184B dated 7-7-90
Feedwater Valves FW-184A and FW-184B dated 8-26-90

Safety Valve Testing to Procedure MM-007-015 for:

Main Steam Safety Valve MS-MVAAA-106A dated 9-21-89
Main Steam Safety Valve MS-MVAAA-106B dated 9-22-89
Main Steam Safety Valve MS-MVAAA-108A dated 9-21-89
Main Steam Safety Valve MS-MVAAA-108B dated 9-22-89
Main Steam Safety Valve MS-MVAAA-110A dated 9-21-89
Main Steam Safety Valve MS-MVAAA-110B dated 9-22-89
Main Steam Safety Valve MS-MVAAA-112A dated 9-21-89
Main Steam Safety Valve MS-MVAAA-112B dated 9-22-89

Main Steam Safety Valve MS-MVAAA-113A dated 9-22-89

Main Steam Safety Valve MS-MVAAA-113B dated 9-22-89

Main Steam Safety Valve MS-MVAAA-114A dated 9-22-89

Main Steam Safety Valve MS-MVAAA-114B dated 9-22-89