APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-382/90-20 License: NPF-38

Docket: 50-382

Licensee: Entergy Operations, Inc. (EOI)

Facility Name: Waterford-3 Steam Electric Station (WSES)

Inspection At: WSES near Killona, Louisiana

Inspection Conducted: October 22-26, 1990

Inspector: _____ 11-16-90
Nemen M. Terc, Emergency Preparedness Analyst (NRC Team Leader) Radiological Protection and Emergency Preparedness Section — Date

Accompanying Personnel:
S. McCrory, License Examiner, NRC
L. Wilborn, Radiation Specialist, NRC
G. Bryan, Engineer, Comex Corporation
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Approved: Blaine Murray 11/16/90
Blaine Murray, Chief, Radiological Protection and Emergency Preparedness Section — Date

Inspection Summary

Inspection Conducted October 22-26, 1990 (Report 50-382/90-20)

Areas Inspected: Routine, announced team inspection of the licensee's performance and capabilities during an annual exercise of the emergency plan and procedures. The inspection team observed activities in the control room (CR), technical support center (TSC), emergency operations facility (EOF), and operations support center (OSC) during the exercise.

Results: Within the areas inspected, no violations or deviations were identified. One exercise weakness involving unnecessary delays of in-plant teams was identified by the inspection team (paragraph 8).

The performance of the licensee during the 1990 exercise was very good. The licensee demonstrated ability to protect the health and safety of emergency workers and the public by effectively identifying, classifying accident conditions, making accurate and timely notifications to offsite officials, taking adequate protective actions onsite, making timely and conservative protective action recommendations to the states, performing adequate technical reviews to mitigate accident consequences, and determining the magnitude of site releases.

Improvements from previous exercises were noted. One of these improvements pertained to prompt notifications of offsite authorities from the control room. Another improvement noted pertained to information flow between the TSC technical staff and dose assessors.

DETAILS

1. Persons Contacted

EOI

*Raymond F. Burski, Director, Nuclear Safety
*Larry W. Laughlin, Licensing Manager
*James J. Lewis, Jr., Onsite Emergency Preparedness Supervisor
*Richard L. Thomas, Principle Oversight Engineer
*Guy G. Miller III, Emergency Planning and Procedures Coordinator
*A. S. Lockhart, Quality Assurance Manager
*Michael L. Layton, Radiochemistry/Environmental Manager
*Frank T. Englebracht, Manager, Emergency Planning and Administration
*John R. McGaha, General Manager, Plant Operations
*Ross P. Barkhurst, Vice President, Operations, WSES
*R. G. Azzarello, Director, Engineering and Construction
*Mark D. Phillippe, Senior Engineer

NRC

*Ward Smith, Senior Resident Inspector, WSES

The inspection team also held discussions with other station and corporate personnel in the areas of security, health physics, operations, training, and emergency response.

*Denotes those present at the exit interview.

2. Followup on Previous Inspection Findings (92701)

(Closed) Exercise Weakness (382/8824-03): Poor Information Flow Within the TSC - This weakness was identified during the 1988 exercise, in NRC Inspection Report 50-382/88-24. During the 1990 exercise, the inspector noted that information flow between the technical staff in the TSC and dose assessors was very good. In particular, core damage information was accurately and readily transferred to dose assessors.

(Closed) Exercise Weakness (382/8924-02): Poor Information Flow Within the TSC - This weakness was identified during the 1989 exercise, in NRC Inspection Report 50-382/89-24. It consisted of two parts: a shortfall of information during the interruption of the safety parameter display system (SPDS), and poor information flow between the TSC staff and dose assessors responsible for performing offsite dose projections. During a drill conducted on September 19, 1990, the control room staff demonstrated good information flow by providing the TSC staff updates of vital information pertaining to plant status. In addition, during the 1990 exercise, the licensee simulated the failure of the operations hot line (OHL) which is the primary means of communication between the EOF and other ERFs and between EOF and offsite agencies. The staff readily

identified the problem and took adequate compensatory actions to prevent the EOF from being isolated from the communication network. In addition, during the 1990 exercise, the inspector noted that the information flow between the technical staff in the TSC and dose assessors was very good. In particular, the inspectors determined that core damage information was accurately and readily transferred to dose assessors.

(Closed) Exercise Weakness (382/8924-04): Inadequate Radiological Controls - This weakness was identified during the 1989 exercise, in NRC Inspection Report 50-382/89-24. The inspectors determined that during the 1989 exercise, offsite teams were exposed to simulated high radiation fields with significant radioiodine airborne contamination without adequate protection. The inspectors noted that on February 2, 1990, the licensee added written procedural guidance to direct the protection of offsite radiation monitoring teams. Furthermore, training lessons were reviewed to incorporate the new guidance on March 29, 1990, and training was conducted for 50 emergency responders. During the 1990 exercise, offsite environmental monitoring teams used adequate personnel protective means, including respirators.

3. Program Areas Reviewed

The inspection team observed licensee activities in the CR, TSC, OSC, and EOF during the exercise. The inspection team also observed emergency response organization staffing, facility activation, event detection, event classification, operational assessment, notifications of licensee personnel, notifications of offsite agencies, formulation of protective action recommendations, offsite dose assessment, in-plant corrective actions, security/accountability activities, and recovery operations.

One concern was identified during the course of the exercise. This concern was characterized as an exercise weakness according to 10 CFR 50, Appendix E.IV.F.5. An exercise weakness is a finding that a licensee's demonstrated level of preparedness could have precluded effective implementation of the emergency preparedness plan in the event of an actual emergency and, thus, needs licensee corrective action. This weakness is discussed further in paragraph 8.

4. Scenario

The 1990 WSES exercise scenario began with the loss of both low pressure safety injection pumps and both emergency diesel generators. In addition, one plant stack radiation monitor was nonfunctional because it was being calibrated. This constituted an ALERT condition due to the failure of both shutdown cooling trains. Later on, a primary to secondary leak was detected in one steam generator accompanied by a failure in the open position of a main steam relief valve. This situation, compounded by a substantial increase in the primary to secondary leak rate, resulted in a radioactive release to the environment.

No scenario weakness was identified during this exercise.

5. Control Room (82301)(1)

The inspection team observed and evaluated the CR staff as they performed tasks in response to the exercise. These tasks included detection and classification of events, analysis of plant conditions and corrective measures, protective action decisionmaking, and notifications. The performance of CR staff actions were observed to be very effective during the exercise. The CR staff was observed to properly recognize, diagnose, and respond to various degrading plant conditions. The CR staff promptly and accurately classified emergency conditions based on emergency action levels (EALs), and made initial and followup notifications to offsite agencies. In addition, information flow from the CR to other ERFs, in particular the TSC, was generally accurate, timely, and complete.

No weaknesses were identified in this area.

No violations or deviations were identified in this program area.

6. Technical Support Center (82301)(2)

The inspection team observed and evaluated the TSC staff as they performed tasks in response to the exercise. These tasks included activation of the TSC, accident assessment and classification, dose assessment, protective action decisionmaking, notifications, and technical support to the CR.

The inspectors noted that the staff performed well during the exercise. Noise levels were acceptable and permitted the clear exchange of information between emergency responders. Announcements were clear, frequent, and informative. Classifications and notifications were accurate and timely. Status boards were properly maintained. Decisions were sound and information flow between the TSC and other ERFs, and within the TSC were very good.

No weaknesses were identified in this area.

No violations or deviations were identified in this program area.

7. Emergency Operations Facility (82301)(3)

The inspection team observed and evaluated the EOF staff as they performed tasks in response to the exercise. These tasks included activation of the EOF, accident assessment and classification, offsite dose assessment, protective action decisionmaking, notifications, and interaction with state and local officials.

The inspectors noted that the EOF staff performed well during the exercise. Noise levels were acceptable and permitted the clear exchange of information between emergency responders. Announcements were clear, frequent, and informative. Classifications and notifications were accurate and timely. Decisions were sound and information flow between the EOF and other ERFs and within the EOF were good. In particular, the

inspectors noted that the EOF was able to maintain adequate information flow with other ERFs after the failure of the OHL which is the primary means of communication between the EOF and other ERFs and between the EOF and offsite agencies. During the 1990 exercise, the staff readily identified the problem and took adequate compensatory actions to prevent the EOF from being isolated from the communication network.

No weaknesses were identified in this area.

No violations or deviations were identified in this program area.

8. Operations Support Center (82301)(4)

The inspection team observed and evaluated the OSC staff as they performed tasks in response to the exercise. The tasks included activation of the OSC, and support to the CR, TSC, and EOF as well as observation of in-plant repair teams.

The inspection team noted that the OSC supervisor conducted informative briefings periodically. Technical and radiological briefings of in-plant repair teams were properly conducted. The OSC supervisor demonstrated assertive control during the activation and functional phases of the OSC during the exercise. The OSC staff demonstrated a thorough knowledge of emergency procedures. Information flow patterns between the OSC and other ERFs were good, and status boards were well maintained and promptly updated.

The inspector observed several delays and mistakes by an in-plant repair team as follows:

- The health physics technicians (HPTs) caused several delays which diminished the effectiveness of the in-plant team assigned to gag the main steam line valve. For example, the HPTs in the -4 level control point were not ready at the time the in-plant team arrived. A second delay occurred because two HPTs assigned to the in-plant repair team were not present during the team briefing conducted at the -4 level. Another delay occurred because the HPTs were not aware that the self-contained breathing apparatus (SCBAs) kits contained gas bottles.

The fact that unnecessary delays of vital repair actions were caused by HPTs is considered to be an exercise weakness (382/9020-01).

No violations or deviations were identified in this program area.

9. Security/Accountability (82301)(8)

The inspection team observed and evaluated the security staff response to the exercise. The tasks included personnel accountability of the protected area during site evacuation, access control, and evacuation of the owner controlled area.

The inspectors noted that the site evacuation of unessential personnel from the protected area, and personnel accountability proceeded promptly.

No weaknesses were identified in this area.

No violations or deviations were identified in this program area.

10. Licensee Self-Critique

The inspectors observed and evaluated the licensee's self-critique for the exercise and determined that the process of self-critique involved adequate staffing and resources and involved the participation of higher management. The inspectors noted that the licensee was able to properly identify and characterize exercise weaknesses and that for the most part they coincided with findings by the inspection team.

No violations or deviations were identified in this program area.

11. Exit Interview

The inspection team met with the senior resident inspector and licensee representatives indicated in paragraph 1 on October 26, 1990, and summarized the scope and findings of the inspection as presented in this report. The licensee acknowledged their understanding of the weakness and improvement items presented orally. Furthermore, the licensee agreed to examine the weakness and to find root causes in order to take adequate corrective measures. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspection team during the inspection.