U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-271/86-26

Docket No. 50-271

License No. DRP-28

Licensee: Vermont Yankee Nuclear Power Corporation
RD 5, Box 169
Brattleboro, Vermont 05301

Facility Name: Vermont Yankee Nuclear Power Station

Inspection At: Brattleboro, Vermont

Inspection Conducted: December 2-4, 1986

Inspectors: J A Schumacher for 12/22/86
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Inspection Summary: Inspection on December 2-4, 1986 (Report No. 50-271/86-26

Areas Inspected: Routine announced emergency preparedness inspection and observation of the licensee's partial-participation annual emergency exercise performed on December 3, 1986. The inspection was performed by a team of six NRC Region I and contractor personnel.

Results: No violations were identified. Emergency response actions were adequate to provide protective measures for the health and safety of the public.

DETAILS

1. Persons Contacted

The following licensee representatives attended the exit meeting held on December 4, 1986.

Edward H. Salomon, Engineer, YNSD
G. Dean Weyman, Senior Chemistry and HP Engineer
Edward C. Porter, Radwaste Coordinator
Remi Morrissette, Plant Health Physicist
Tim McCarthy, ALARA Engineer
Elaine Keegan, Environmental Coordinator
Alfred Chesley, Simulator Supervisor
Dick Slauenwhite, Senior Simulator Instructor
John G. Robinson, Director Environmental Engineering, YNSD
William Riethle, Manager Radiation Protection, YNSD
Thomas P. Fuller, Radiation Protection Engineer, YNSD
Edward J. Wojnas, EP Engineer, YNSD
John H. Babbitt, Training
Fred J. Deal, Training
Robert J. Wanczyk, Technical Services Superintendent
Donald Reid, Operations Supervisor
Gary LeClair, Assistant Operations Supervisor
James Pelletier, Plant Manager
Warren Murphy, Vice President and Manager of Operations
Stanley Jefferson, Exercise Coordinator

In addition, the inspectors interviewed and observed the actions of numerous licensee emergency response personnel.

2. Emergency Exercise

The Vermont Yankee partial-participation exercise (limited off-site participation) was conducted on December 3, 1986 from 7:30 A.M. until 12:15 P.M.

2.1 Pre-exercise Activities

Prior to the emergency exercise, NRC Region I representatives held meetings and had telephone discussions with licensee representatives to discuss objectives and scope and content of the exercise scenario. As a result, changes were made in order to clarify certain objectives, revise certain portions of the scenario and ensure that the scenario provided the opportunity for the licensee to adequately demonstrate their emergency response capability including those areas previously identified by NRC as in need of corrective action.

NRC observers attended a licensee briefing on December 2, 1986, and participated in the discussion of emergency response actions expected during the various phases of the scenario. Suggested NRC changes to the scenario were made by the licensee. In addition, portions of the scenario were changed in response to procedural changes. These changes were discussed during the briefing. The licensee stated that controllers would intercede in exercise activities to prevent scenario deviation or disruption of normal plant operations.

The exercise scenario included the following events:

- Fuel damage as evidenced by a reactor coolant sample with high radioiodine;
- Turbine casing penetration;
- RWCU pipe break outside of the primary containment with failure to isolate,
- Release of activity to the atmosphere (release path through the Plant Stack);
- Declaration of Unusual Event, Alert and Site Area Emergency classifications;
- Calculation of off-site dose consequences; and
- Recommendation of protective actions to state officials.

2.2 Activities Observed

During the conduct of the licensee's exercise, six NRC team members made detailed observations of the activation and augmentation of the emergency organization, activation of emergency response facilities, and actions of emergency response personnel during the operation of the emergency response facilities. The following activities were observed:

1. Detection, classification and assessment of scenario events;
2. Direction and coordination of the emergency response;
3. Notification of licensee personnel and off-site agencies of pertinent plant status information;
4. Communications/information flow, and recordkeeping;
5. Assessment and projection of off-site radiological dose and consideration of protective actions;

6. Provision for in-plant radiation protection;

7. Performance of off-site and in-plant radiological surveys;

8. Maintenance of site security and access control;

9. Performance of technical support, repair and corrective actions;

10. Assembly and accountability of personnel; and

11. Management of Recovery Operations.

3. Exercise Observations

The NRC team noted that the licensee's activation and augmentation of the emergency organization, activation of the emergency response facilities, and use of the facilities were generally consistent with their emergency response plan and implementing procedures. The team also noted the following actions of the licensee's emergency response organization that were indicative of their ability to cope with abnormal plant conditions:

- Actions by plant operators were prompt and effective, and would have placed the plant in a safe condition;

- Event classification was completed accurately and within a reasonable time from event recognition;

- OSC team briefings and debriefings were thorough and complete;

- TSC personnel were knowledgeable and participated enthusiastically in the exercise;

- The EOF was staffed and activated in a timely manner. All areas exhibited good knowledge and use of procedures;

- Dose assessment activities were prompt and correct for the situation.

The NRC team identified the following areas which need to be evaluated by the licensee for corrective action. These items will be evaluated during a subsequent inspection.

- The off-site monitoring teams reported their locations by use of landmarks. Many of these landmarks were not labeled on the map and presented some difficulty in determining the precise location of the individual teams (50-271/86-26-01).

- The TSC Coordinator was not actively involved in EAL discussions with the Control Room and EOF and in fact declined to participate in an EAL discussion (50-271/86-26-02).

4. Licensee Actions on Previously Identified Items

The following open items were identified during previous inspections (Inspection Reports 50-271/85-09 and 50-271/85-13). Based upon discussions with licensee representatives, examination of procedures and records, and observations made by the NRC team during the exercise the following Open Items were not repeated and are closed:

- (CLOSED) 50-271/85-09-02: Difficulties in use of emergency procedures noted during table-top discussions.

- (CLOSED) 50-271/85-13 02: EAL was not identified by licensee players for the Alert.

- (CLOSED) 50-271/85-13-03: Free play (in exercise) was limited by Controller.

- (CLOSED) 50-271/85-13-04: Communications between CR and other ERFs was distracting.

- (CLOSED) 50-271/85-13-10: The Health Physics Supervisor did not consistently advise or provide any special HP precautions.

- (CLOSED) 50-271/85-13-14: Status boards in EOF should include at least: Chronology of significant events; current emergency classification; PAR; and States Protective Action.

- (CLOSED) 50-271/85-13-15: The Radiological Assistant did not assume a management position.

- (CLOSED) 50-271/85-13-17: Dose assessment procedure U.D. 3513 and 3515 are inadequate.

- (CLOSED) 50-271/85-13-19: A) Dose assessment personnel only tracked the release, B) Actual dose projections were never done.

- (CLOSED) 50-271/85-13-20: Information flow of radiological and meteorological data was slow.

- (CLOSED) 50-271/85-13-22: Proper radiation units were omitted during a number of radio transmissions.

- (CLOSED) 50-271/85-13-23: Team departure was delayed approximately 30 minutes due to lack of radiation monitoring.

- (CLOSED) 50-271/85-13-26: The scenario was difficult to review because of the manner in which it was organized and presented.

The following items were identified during the previous exercise (Inspection Report 50-271/85-13). Based upon discussions with licensee representatives, examination of procedures and records, and observations made by the NRC team during the exercise these items will remain open pending further licensee action. Clarification of these findings is as follows:

- (OPEN) 50-271/85-13-01: CR personnel took action independently and were slow to pass information to the TSC.

The coordination between the Control Room and TSC for operator corrective actions should be improved. The operators took actions that were not coordinated (however, not incorrect) with the TSC. Additionally, the TSC did not adequately communicate the basis for their decisions to Control Room personnel. The TSC and Control Room should work together as a team to help ensure the optimum actions are taken for any given situation.

- (OPEN) 50-271/85-13-05: Overall direction of plant activities (TSC) did not appear to be fully coordinated.

Direction of the TSC response was informal and could possibly impair the TSC's ability to perform as evidenced by the following: an informal redi-message system; status board discrepancies; no formal briefings; and infrequent informal briefings. This resulted in staff members not properly prioritizing required tasks, not performing certain tasks (leak rate calculations) and not trending key plant parameters. In addition, although the Control Room and EOF were aware that the TSC had activated, there was never a formal announcement made.

- (OPEN) 50-271/85-13-06: Excessive noise levels in the TSC.

Although there has been considerable improvement in this area since the last exercise, the level of noise present does not allow for optimum facility operations. The noise was continuous, and at times excessive, and often masked PA announcements and internal requests. The noise was compounded by overcrowding of personnel, and by the placement of radios and speakerphones in the TSC.

- (OPEN) 50-271/85-13-07: TSC did not aggressively followup and coordinate plant activities.

See response to 50-271/85-13-05.

- (OPEN) 50-271/85-13-08: Technical reviews in the TSC were inadequate.

The personnel assigned to the TSC appear to have the necessary knowledge and training to perform technical reviews. However, the scenario did not present problems of a nature for the TSC personnel to demonstrate their capabilities in this area.

5. Licensee Critique

The NRC team attended the licensee's post-exercise critique on December 4, 1986, during which the key licensee controllers discussed observations of the exercise. The critique adequately highlighted areas for improvement (which the licensee indicated would be evaluated and appropriate actions taken).

6. Exit Meeting and NRC Critique

Following the licensee's self-critique, the NRC team met with the licensee representatives listed in Section 1 of this report. The team leader summarized the observations made during the exercise.

The licensee was informed that most previously identified items were adequately addressed. with the exception of those identified in Section 3, and no violations were observed. Although there were areas identified for corrective action, the NRC team determined that within the scope and limitations of the scenario, the licensee's performance demonstrated that they could implement their Emergency Plan and Emergency Plan Implementing Procedures in a manner which would adequately provide protective measures for the health and safety of the public.

Licensee management acknowledged the findings and indicated that they would evaluate and take appropriate action regarding them.

At no time during this inspection did the inspectors provide any written information to the licensee.