

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-309/85-03

Docket No. 50-309

License No. DPR-36 Priority - Category C

Licensee: Maine Yankee Atomic Power Company
83 Edison Drive
Augusta, Maine 04336

Facility Name: Maine Yankee Nuclear Power Station

Inspection At: Wiscasset, Maine

Inspection Conducted: February 4-8, 1985

Inspectors: Craig Z. Gordon
Craig Z. Gordon, Emergency Preparedness
Specialist

5-30-85
date

Raymond H. Smith
Raymond H. Smith, Emergency Preparedness
Specialist

5/30/85
date

Approved by: T. L. Harster for
T. L. Harster, Chief, Emergency Preparedness
Section, DRSS

5/31/85
date

Inspection Summary: Inspection on February 4-8, 1985 (Report No. 50-309/85-03)

Areas Inspected: Routine, unannounced followup inspection of changes to the emergency preparedness program, knowledge and performance of duties, and licensee audits; and inspection of emergency response facilities (ERF's) to determine readiness for appraisal. The inspection involved 66 inspector-hours by two regional based inspectors.

Results: No items of noncompliance or deviations were observed.

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DETAILS

1. Persons Contacted

E. T. Boulette, Assistant Plant Manager
P. M. Briggs, Information Coordinator
*R. C. Crosby, QA Section Head
L. Croteau, Specialty Training Section Head
*S. D. Evans, Emergency Preparedness Coordinator
*J. H. Garrity, Plant Manager
A. Jones, Quality Assurance Engineer
*S. E. Nichols, Licensing Section
S. Shelansky, Health Physics Instructor
*D. Sturniolo, Assistant Technical Support Department Head
*D. Whittier, Licensing Section Head
W. Wicks, Training Support Coordinator

*Denotes attendance at exit meeting on February 8, 1985.

2. Licensee Actions on Previously Identified Items

a. As a result of NRC Inspection No. 84-05 conducted on March 19-23, 1984, two violations were identified:

- (1) 10 CFR 50, Appendix E, Section IV.B. states in part, "Emergency Action Levels shall also be reviewed with the State and local governmental authorities on an annual basis."

Contrary to the above requirements, the licensee did not review the Emergency Action Levels with State governmental authorities on an annual basis prior to March, 1983.

- (2) 10 CFR 50.54(q) states in part that "a licensee authorized to possess and/or operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b) and 10 CFR 50, Appendix E." With respect to distribution of emergency planning information to the public, Section 8.1.2.7 of the Maine Yankee Emergency Plan states that "This information will be disseminated by methods including but not limited to bill stuffers, telephone book inserts, postings in public locations, and leaflets made available through community officials."

Contrary to the above requirements, the licensee did not follow the Emergency Plan by employing dissemination methods of public information as stated in Section 8.1.2.7 of the Plan.

Based upon our review of the licensee's response on June 22, 1984 and discussions with management staff during this inspection, we determine the status of each violation to be as follows:

- (1) Maine Yankee personnel stated that event classification and associated minimum response measures necessary to protect health and safety has been and continues to be reviewed each year with State and local authorities (emphasis added). However, it remained unclear to us specifically what actions, e.g., regularly scheduled meetings and minutes thereof, identification of State and local personnel involved in each review, formal activities and interface with responsible offsite authorities, etc. were and currently are being taken by Maine Yankee in order to satisfy the requirements of 10 CFR 50, Appendix E, IV.B. The response raised another concern with respect to the licensee's administrative procedures. Since section IV.B. of Appendix E also states that "emergency action levels shall be discussed and agreed on by the applicant and State and local governmental authorities ...", it did not appear to us that such actions were being taken because plan revisions are provided to document holders solely through controlled distribution.

During the inspection, the licensee agreed to take steps for corrective action by transmitting to offsite authorities on an annual basis a copy of the Emergency Plan's emergency action level scheme as it relates to the four emergency classifications. The inspectors reviewed the letter of February 19, 1985 to D. King, City Council Chairman, City of Bath, Maine, and determined that it adequately covers this information. The opportunity for discussion is also offered to the State or local authorities upon their request or in connection with annual refresher training provided by the licensee. Based upon the licensee's actions and program changes, it appears that the intent of 10 CFR 50, Appendix E, IV.B, is now satisfied and this item is considered closed.

- (2) With respect to information provided to the public, the existing language in the Emergency Plan is appropriate to meet the requirements of 10 CFR 50.47(b)(7) and 10 CFR 50 Appendix E. To carry out their public information program, various efforts have been put forth by the Maine Yankee organization. The inspectors reviewed the public information brochures and the methods for dissemination of information to the public during calendar year 1984. The inspectors determined that the methods of dissemination used for the general public and the transient population

appear to satisfy the above requirements. It was also noted that the methods used were in accordance with the Emergency Plan revision dated July 20, 1984. Licensee actions in this area are adequate and this item is considered closed.

- b. (Closed) 50-309/84-05-01 Expand Figure 6.7, Volume II to include MYAPC interrelationships with private sector organizations and offsite support services, e.g., NSSS supplier, architectural engineer, etc. (Appendix C, item A.1).

Page 5.8 of the Emergency Plan identifies secondary sources of assistance which reflect specific offsite support services (Combustion Engineering, Stone and Webster) for use in the event of a prolonged response and recovery.

- c. (Closed) 50-309/84-05-02 Identify in Volume II the organization(s) that have the primary responsibility for activation of the Public Emergency Alerting System for providing emergency information to the public. (Appendix C, item A.2).

Figure III-1, "Public Emergency Alert System" describes the communication pathway for offsite organizations involved in providing information to the public. The Maine State Police is identified as the organization which has the initial responsibility for siren activation following notification from Maine Yankee control room personnel.

- d. (Closed) 50-309/84-05-03 Show which onsite personnel (backshift) and augmentation personnel are qualified to perform the tasks associated with performance of the functions listed on pages 5.5 and 5.6 of Volume II and clarify the language of section 5.3, paragraph 2. (Appendix C, item B.2.)

Table 6-1, "Task Assignments for Emergency Activities, Minimum and Full Shift Conditions", has been revised to identify major functional areas (plant operations, direction and control, notifications, radiological assessment, operational assessment, protective actions, security) and the individuals who perform each function during backshift (minimum shift) and augmentation (full shift). The language on page 5.3 has also been clarified.

- e. (Closed) 50-309/84-05-04 Revise the Emergency Action Levels (EAL's) in the Plan to address observable and symptomatic indicators (e.g., instrument readings, equipment status indications, alarm annunciators) necessary to characterize initiating conditions. (Appendix C, item D.1.)

Table 4-1 has been clarified to contain examples of emergency action levels for each emergency classification. The implementing procedure 2.50.0, "Declaration of Emergency Condition", includes a table of EALs which contain measurable/observable indications of plant systems.

- f. (Closed) 50-309/84-05-05 Describe the step(s) in the protective action decisionmaking process leading to the activation of the Public Emergency Alerting System (PEAS) and transmission of emergency information to demonstrate that public notification decision making and activation of the public information system will be accomplished promptly. (Appendix C, item E.4)

Page 6.8 of the Emergency Plan has been revised to indicate that the Maine State Police communications center makes the calls for public notification via the Emergency Broadcast System (EBS) and NOAA weather radio after emergency declaration. Activation of the Public Emergency Alerting System (PEAS) occurs during Site Area and General Emergency classifications. The EBS stations and NOAA weather radio are instructed to promptly broadcast pretaped emergency messages to the public.

- g. (Closed) 50-309/84-05-06 Specify in the Plan or reference by procedure the organizational titles and alternates for both ends of the communication links which would be involved in initiating emergency response actions. (Appendix C, item F.1).

Page 6.7 of the Emergency Plan has been revised to indicate that the Maine State Police Headquarters in Augusta, Maine are notified via the dedicated hotline by the Plant Shift Superintendent or Shift Operating Supervisor (alternate) for initial notifications.

- h. (Closed) 50-309/84-05-07 Indicate that the Operations Support Center will include respiratory and communications equipment as identified in Criterion H.9 of NUREG-0654. (Appendix C, item H.8)

Table 7-2 of the Emergency Plan has been revised to include full face respirators, respirator cartridges, organic canisters, shoe covers, and communications equipment for offsite survey teams. Inspection of the OSC verified that these items are in place and ready for use.

- i. (Closed) 50-309/84-05-08 Provide a central point for the receipt and analysis of all field monitoring data or coordination of sample media to include that provided by State, local, and site efforts (Appendix C, item 4.10).

Offsite field teams dispatched from the EOF are comprised of both licensee and Maine representatives. Data and samples obtained by licensee personnel are analyzed in the site chemistry laboratory; data and samples obtained by State personnel are transferred to State laboratories in Augusta. Section 6 of the Maine State Emergency Plan provides for analysis of data and measurements taken by State field teams.

- j. (Closed) 50-309/84-05-09 Describe or reference by procedure the method used for determining release rates/projected doses when instruments (effluent and containment) used for dose assessment are inoperable or offscale (Appendix C, item I.3.)

Section 6.3.3 of the Emergency Plan includes nomograms and computer code methodology for determining release rates and offsite dose projections from the plant primary vent stack, uncollected containment leakage, and steam generator main steam lines. The Plan was revised to direct the user to Implementing Procedure 2.50.10, "Evaluation of Radiological Data" which adequately describes dose projection methodology in detail.

- k. (Closed) 50-309/84-05-10 Provide a detailed description of the provisions for rapid dose assessment, addressing the items specified in Criterion I.8 of NUREG-0654. (Appendix C, item I.4)

Emergency Plan Implementing Procedure 2.50.16 "Protective Action Recommendations" describes the provisions for making rapid dose assessments by Control Room and on-shift personnel through use of the plant computer or nomograms, evaluating and comparing results with EPA protective action guides, and providing protective measures to the public.

- l. (Closed) 50-309/84-05-11 Describe or reference by procedure the provisions for distribution of self-reading and permanent record dosimeters to emergency workers including offsite personnel (NRC, State, etc.). (Appendix C, item K.2)

Section 6.6.1 of the Emergency Plan has been revised to include issuance of personnel dosimetry to EOF responders who do not possess it when they arrive. A reference to Emergency Plan Implementing Procedure 2.50.14, "Emergency Radiation Exposure Control" which describes exposure guidance and personnel dosimetry requirements during emergency conditions has also been provided in the Emergency Plan.

- m. (Closed) 50-309/84-05-12 Describe the formal training program provided to each of the categories set forth in 10 CFR 50, Appendix E, IV.F.a-i. This should include training on operations under accident conditions (e.g., special radiological protection considerations) as well as general emergency training and specialized emergency training (Appendix C, item O.4).

Section 8.1.2, "Training" of the Emergency Plan has been revised in its entirety to describe the Maine Yankee Emergency Plan Training Program. A summary of training modules which identifies general and specialized training given to the following emergency personnel is described: Plant Shift Superintendents (PSS), Emergency Coordinators (EC), Interim Emergency Coordinators, offsite monitoring teams, manpower coordinators, offsite local assistance organizations, fire brigades, security, and dosimetry assistants.

- n. (Closed) 50-309/84-05-13 Describe how revised Plan pages for inclusion of Emergency Plan Implementing Procedures will be noted in accordance with 10 CFR 50, Appendix E, V. (Appendix C, item P.3).

Section 8.2 of the Emergency Plan has been revised to indicate that changes to Emergency Plan Implementing Procedures are reviewed in accordance with Technical Specifications. The NRC is identified in the "External Controlled Distribution List" as one of the offsite authorities which receives controlled copies of any Plan revisions.

- o. (Open) 50-309/84-05-14 Personnel identified as Emergency Coordinators should be provided with additional practical training to test knowledge and demonstrate actual use of Emergency Plan Implementing Procedures. Such training should be in the form of table-top discussions and cover Emergency Action Levels (EAL), dose assessment, protective action recommendations, etc.

The inspectors reviewed Training Module 4A (Emergency Coordinator) and Module 4B (Plant Shift Superintendent as Interim Emergency Coordinator) which describes the training and lesson plans given to individuals who would be designated as Emergency Coordinators during emergencies. The details of practical training is outlined in the modules. At the time of the inspection, the licensee had taken steps to schedule formal implementation (walk-throughs and table-top discussions) of these modules. This item is to remain open until formal implementation is completed.

- p. (Closed) 50-309/84-05-15 Upgrade the dose assessment modeling program to include:
1. Influence of terrain, building wake, and entrainment factors as a function of direction, downwind distance, and actual meteorological conditions.
 2. Modification of model output to include plume dimensions and position.
 3. Providing intermediate output of the dispersion calculation (X/Q).
 4. Identification of times when a finite plume is used in the dose model.

The inspectors reviewed Maine Yankee's Emergency Plan Implementing Procedure No. 2.50.10 "Evaluation of Radiological Data" and held a discussion (conference call on 1/7/85) with site and Yankee Atomic personnel. The inspectors determined that the computer dose model used meets the interim criteria of NUREG-0737. The licensee is currently expected to conform to the upgraded program as discussed and outlined in Inspection Report No. 84-05.

- q. (Open) 50-309/84-05-16 Provide a complete description of the meteorological monitoring program in FSAR Section 2.3.3 with a subsequent reference of this program in the Emergency Plan.

Section 7.3, "Assessment Facilities" of the Emergency Plan has been revised to reflect that the meteorological monitoring program is described in Appendix C of the FSAR. This item is to remain open until the adequacy of the program can be determined.

- r. (Open) 50-309/84-05-17 State how the new primary meteorological program conforms to recommendations made in Regulatory Guide 1.23, Rev. 1 or justify any deviations from the recommended instrument sensitivity, siting, and standard practice criteria.

Since the licensee has committed to conform with Regulatory Guide 1.23, Rev. 0, a determination will be made during a future inspection as to how this commitment is being met.

- s. (Open) 50-309/84-05-18 Provide an acceptable method for acquiring backup meteorological measurements (representative of the 10 mile EPZ) in order to assure that a continuous radiological assessment can be made during severe weather conditions (i.e., ice storms).

In order to demonstrate continuous radiological assessment capability, shift personnel are required to perform checks of all strip chart recorders at least once per shift and report unusual parameter trends to the Plant Shift Supervisor. In addition, meteorological data stored on magnetic tape was submitted by the licensee for NRC evaluation. A determination on the status of this item will be made when the magnetic tape evaluation is completed.

- t. (Closed) 50-309/84-05-19 Adopt standard technical specifications for the meteorological monitoring instrumentation.

The inspectors reviewed the licensee's meteorological monitoring instrumentation and determined that it provides adequate sensitivity so that adoption of technical specifications is not required.

3. Changes to the Emergency Preparedness Program

The inspectors reviewed the licensee records of initiated changes to the Maine Yankee Emergency Plan (EP) and Emergency Plan Implementing Procedures (EPIP) resulting from recommendations made in NRC Inspection Report Nos. 83-14, 83-17, 84-05 and 84-21, and in audits performed by the Quality Assurance department of Yankee Atomic Power Company in August and

September 1984. There have been no major changes relating to the emergency organizational structure or the administration of the emergency preparedness program after completion and implementation of the new emergency response facilities (TSC, OSC, and EOF) in 1983. Significant changes made to the EPIP's during 1984 were as follows:

- a. Procedure 2.50.16, "Protective Action Recommendations" has been revised to refer the Plant Shift Superintendent to make an initial protective action recommendation by transmitting an appropriate message based on dose projections. The messages are contained in the Site Area and General Emergency procedures and have been updated to reflect changes in population and evacuation time estimates.
- b. Procedure 2.50.5, "Emergency Plan Training" has been revised to provide a brief summary of the emergency training program in the EPIP's. The procedure identifies the different training modules given to onsite and offsite emergency response personnel, assignment of responsibilities for developing, scheduling, and determining qualification criteria for the training program, and maintaining training records.

Ongoing changes to the EPIP's are made by the Assistant Technical Support Department Head. Such changes include updating names and telephone numbers of key emergency personnel every three to six months. All changes to the EP and EPIP's are reviewed and signed by the Plant Manager and approved by the Plant Operations Review Committee (PORC).

4. Knowledge and Performance of Duties

The inspectors reviewed the licensee's training program, including lesson plans, drills, and training records and held discussions with key emergency response personnel. Emergency training course content, tests, and employee feedback were discussed with the Training Support Coordinator and training instructors. Employee records were reviewed to verify that initial training and retraining were provided. Records were also reviewed for individuals who have demonstrated their ability to function in emergency drills and exercises. Based upon classroom training provided and results of examinations, the inspectors determined that Plant Shift Superintendents (PSS) and individuals filling the position of Emergency Coordinator understand their emergency responsibilities and can perform their assigned duties. Walk-throughs of shift personnel were not conducted since the revised training modules which cover practical training provided to Emergency Coordinators have not been formally implemented (see Section 2.0).

The Emergency Preparedness Coordinator (EPC) has the overall responsibility for administration of the emergency training program. The Training Support Coordinator, Assistant Technical Support Department Head, and Specialty Training Section Head carry out specific duties and responsibilities of the program including determination of plant staff who should

be trained and qualified for each emergency position, supervising conduct of training, revision of lesson plans, determining qualification requirements, maintaining records and documentation, and certification of training effectiveness.

Based on the above findings, this portion of the licensee's program is acceptable. However, practical training provided to Emergency Coordinators should be completed and implemented.

5. Licensee Audits

The inspectors held discussions with licensee personnel and reviewed reports of audits performed by the Quality Assurance Department of the Yankee Atomic Power Company during August and September 1984. The audit included: review of Emergency Plan changes; review of selected Implementing Procedures; examination of emergency equipment; review of refresher training and drill results; observation of the annual exercise; updates of letters of agreement with off-site agencies; and the interface with State and local government representatives regarding review of emergency action levels and annual exercise results during annual training sessions. The licensee has a method of tracking each item listed in audit findings and a record is maintained of the resolutions.

The inspectors also reviewed the comments/recommendations from the annual exercise conducted on September 19, 1984, and noted that the tracking system used by the licensee assigns responsibility and completion dates for resolution of each item. These comments/recommendations are initiated by the licensee's critique following the annual exercise.

Based on the above findings, this portion of the licensee's program is acceptable.

6. Emergency Response Facility Readiness Check

The inspectors interviewed licensee personnel and inspected the design and layout of the Control Room (CR), Technical Support Center (TSC), Operations Support Center (OSC), and Emergency Operations Facility (EOF) in order to determine the degree of each facility's readiness for appraisal. Enclosure 2, "Checklist for Determination of Completed ERF's" contains the guidance used to make this evaluation.

The physical structures which makeup the CR, TSC, OSC, and EOF have been completed and functional since 1983. These structures were adequately used during the 1983 and 1984 emergency exercises. The TSC, OSC, EOF, and Maine Yankee simulator are housed in the same building under a closed ventilation system. A separate ventilation system is used for the Control Room. Desks, chairs, furniture, and hardware have been designated for each ERF and were available. Hookups for communications equipment (telephones and radios) are installed, operational, and tested monthly. Communications equipment is secured in storage lockers, located in the TSC

and EOF. Instrumentation for the radiation monitoring system (RMS) is in place while radiation monitoring instruments for inplant survey teams and offsite field teams are stored in the OSC. Calibration and maintenance of emergency equipment is covered in the Emergency Plan Implementing Procedures. Meteorological monitoring equipment is also installed and operational. Readouts for various meteorological indicators are obtained via the plant computer.

With regard to the data acquisition systems, the plant computer and RMS provide the current means of obtaining radiological and operational plant data. The licensee is in the process of planning and designing a comprehensive data acquisition system which is more elaborate in size and scope than the existing system. The new system will provide modifications in hardware, firmware, software, detectors, indicators, and calculational models. The Safety Parameter and Display System (SPDS) will be a part of the expanded data acquisition system. Development of procedures and training of personnel as they pertain to carrying out functions and operations for the current ERF's are ongoing licensee efforts.

Changes to procedures and training which relate to upgrade and modification will be coordinated with installation of the new system. Since installation, training, and other activities associated with operation of the data acquisition system and SPDS are not expected to be completed until sometime in calendar year 1986, appraisal of emergency response facilities is not presently warranted and should be performed after that time.

7. Exit Meeting

On February 8, 1985, the inspectors met with the individuals listed in Section 1 and summarized the scope and findings of the inspection. At no time during this inspection was written material provided to the licensee by the inspectors.