

JUL 2 2 1982

Docket No. 50-271

Vermont Yankee Nuclear Power Corporation
Mr. E. W. Jackson
Manager of Operations
411 Western Avenue
Drawer 2
West Brattleboro, Vermont 05301

Gentlemen:

Subject: Emergency Preparedness Appraisal 50-271/82-05

To verify that licensees have attained an adequate state of onsite emergency preparedness, the Nuclear Regulatory Commission is conducting special appraisals at each power reactor site. These appraisals are being performed in lieu of certain routine inspections normally conducted in the area of emergency preparedness. The objectives of the appraisal at each facility are to evaluate the overall adequacy and effectiveness of emergency preparedness and to identify areas of weakness that need to be strengthened. We use the findings from these appraisals as a basis not only for requesting individual licensee action to correct deficiencies and effect improvements, but also for effecting improvements in NRC requirements and guidance.

During the period of March 16-24, 1982, the NRC conducted an appraisal of the emergency preparedness program for the Vermont Yankee Nuclear Power Station. Areas examined during this appraisal are described in the enclosed NRC Region I Inspection Report No. 50-271/82-05. Within these areas, the appraisal team reviewed selected procedures and representative records, inspected emergency facilities and equipment, observed work practices, and interviewed personnel.

The findings of this emergency preparedness appraisal indicate that certain corrective actions are required in your emergency preparedness program. These are discussed in Appendix A, "Significant Emergency Preparedness Findings". Significant findings for which you have made acceptable commitments to resolve were discussed in the Confirmatory Action Letter dated April 28, 1982 and a clarification letter dated May 7, 1982. All significant findings, except Appendix A, Item 10 were addressed in this letter. Copies of the letters are enclosed (Enclosures 5 and 6).

Other areas needing improvements are discussed in Appendix B, "Emergency Preparedness Improvement Items."

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Vermont Yankee Nuclear Power Corporation 2

In conjunction with the aforementioned appraisal, emergency plans for your facility were reviewed by the Emergency Preparedness Licensing Branch, Division of Emergency Preparedness, Office of Inspection and Enforcement. The results of this review indicate that certain deficiencies exist in your emergency plan. These are discussed in Appendix C, "Emergency Preparedness Evaluation Report."

Appendices A, B, and C of this letter contain an inclusive listing of all outstanding emergency preparedness items at your facility at this time.

We recognize that an explicit regulatory requirement pertaining to each item identified in Appendices A, B, and C may not currently exist. Notwithstanding this, you are requested to submit a written statement within thirty (30) days of the date of this letter, describing your planned actions for improving each of the items identified in Appendix A and the results of your consideration of each of the items in Appendix B. This description is to include, (1) actions which have been taken, (2) actions which will be taken, and (3) a schedule for completion of actions for each item. With regard to Appendix C, you are requested to provide to this office within 120 days of the date of this letter, page changes to the emergency plan correcting each deficiency or provide written justification as to why you believe a revision should not be made. Copies of these changes are to be submitted in accordance with the procedures delineated in Section 50.54(q), Part 50, Title 10, Code of Federal Regulations.

With regard to item 10 in Appendix A, based on a telephone conversation between Mr. E. W. Jackson of your staff and Mr. H. W. Crocker of this office on July 6, 1982, we understand that you will revise your Emergency Plan within 120 days from the date of this letter.

Notwithstanding your previous commitments to take corrective actions for the items contained in Appendix A, additional time may be made available if there is good cause. Problems experienced during and subsequent to the event on April 24, 1982 may result in the need for additional revisions to your Emergency Plan and implementing procedures, for example. As was discussed by our Regional Administrator, Mr. Ronald C. Haynes, with you and Mr. Conway on July 9, 1982, if your present commitments to upgrade your plan and procedures do not provide adequate time for a thorough job, then we will give prompt consideration to a request for additional time.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosure will be placed in the NRC Public Document Room, unless you notify this office by telephone within ten days of the date of this letter and submit written application to withhold information contained therein within thirty days of the date of this letter. Such application must be consistent with the requirements of 2.790(b)(1). The telephone notification of your intent to request withholding, or any request for an extension of the 10 day period which you believe necessary, should be made to the Supervisor, Files, Mail, and Records, USNRC Region I, at (215) 337-5223.

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The reporting requirements contained in this letter affect fewer than ten persons and, therefore, are not subject to Office of Management and Budget clearance as required by PL 96-511.

Should you have questions concerning this inspection, we will be pleased to discuss them with you. Should have questions concerning the items of Appendix C, please contact Mr. R. Van Niel, Emergency Preparedness Licensing Branch at (301) 492-4535.

Sincerely,

Original Signed By:

George H. Smith
George H. Smith, Director
Division of Emergency Preparedness
and Operational Support

Enclosures:

- 1. Appendix A, Significant Emergency Preparedness Findings
- 2. Appendix B, Emergency Preparedness Improvement Items
- 3. Appendix C, Emergency Preparedness Evaluation Report
- 4. NRC Region I Inspection Report Number 50-271/82-05
- 5. Confirmatory Action Letter, dated April 28, 1982
- 6. NRC Region I Letter dated May 7, 1982

cc w/encls:

Mr. Warren P. Murphy, Plant Manager
 Mr. W. F. Conway, President and Chief Executive Officer
 Mr. J. B. Sinclair, Licensing Engineer
 Mr. L. H. Heider, Vice President
 Public Document Room (PDR)
 Local Public Document Room (LPDR)
 Nuclear Safety Information Center (NSIC)
 State of New Hampshire
 State of Vermont
 NRC Resident Inspector

bcc w/encls:

Region I Docket Room (with concurrences)
 Chief, Operational Support Section (w/o encls)

MM
 RI:DEPOS
 Mojta/gwc
 7/21/82

RI:DEPOS
 Crocker
 7/22/82
YAY
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 Snyder
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 Smith
 7-22-82

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APPENDIX A

SIGNIFICANT EMERGENCY PREPAREDNESS FINDINGS

Based on the results of the NRC's appraisal of the Vermont Yankee Emergency Preparedness Program conducted March 16-24, 1982, the following improvements are required: (References are to Sections in NRC Region I Inspection Report No. 50-271/82-05).

1. Perform a study to determine how the intent of the augmentation goals of NUREG-0654, Table B-1 can be achieved after the declaration of an emergency. The results of this study will be documented and a copy forwarded to the NRC Region I office for review and evaluation along with a description of compensatory measures for any augmentation goals not met. (See Section 2.2)
2. Inspect and repair as necessary the reach rod couplings for the post-accident reactor water sampling panel to ensure proper valve manipulation. (See Section 4.1.1.5)
3. Evaluate whether containment samples are representative because of iodine plate-out in the sample vials and correct any deficiencies identified. Provide a written report on the results to the NRC Region I office. (See Section 4.1.1.6)
4. Resolve the problems with the meteorological sensor resulting from foliage growth in the vicinity of the meteorological tower. (See Section 4.2.1.4)
5. Revise the implementing procedures to direct the Emergency Director, Emergency Coordinator or Recovery Manager, as appropriate, to recommend either shelter or evacuation as core conditions or projected doses dictate to all the plume EPZ States (Vermont, New Hampshire, and Massachusetts) and provide the criteria for making these recommendations. Provide training for those individuals on the criteria for making protective action recommendations relating to offsite consequences and provide offsite officials with an opportunity to review these criteria and their bases (see NUREG/CR 1131). (See Sections 5.3, 5.4.2, 6.1)
6. Revise the procedure containing Emergency Action Levels (EALs) to address the requirements of NUREG-0654, Appendix 1. Train the Control Room staff and other appropriate individuals on the revised procedures. (See Section 5.3.1)
7. Provide a backshift call-in documented method for notifying all appropriate emergency organization personnel down to the working level. (See Section 5.4.1)

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8. Revise the assessment procedures to: provide for initially obtaining an estimate of thyroid dose rate when plant conditions indicate that an offsite problem may exist (this should include the criteria used to indicate when to perform this function); provide a method for making initial dose projections if installed Control Room instrumentation is inoperable; provide a criteria for recommending protective actions based on core conditions; and provide Control Room personnel with the relationship of high-range containment readings to core condition (i.e., gap release or core melt). (See Section 5.4.2)
9. Provide new procedures or revise existing ones to include methods to distinguish radioiodine from noble gases for in-plant, site boundary, and offsite radiological air sampling. such procedures should include: trigger levels for purging and counting of characoal cartridges on a high resolution system and for alternate use of silver zeolite cartridge. (See Section 5.4.2.3)
10. Provide the NRC with a revised Emergency Plan which contains a description of the systems and procedures used to assure that plume EPZ State/local officials have the capability to make a public notification decision within 15 minutes for situations requiring urgent sheltering or evacuation. (See Section 6.1)

APPENDIX B

EMERGENCY PREPAREDNESS IMPROVEMENT ITEMS

Based on the results of the NRC's appraisal of the Vermont Yankee Emergency Preparedness Program conducted March 16-24, 1982, the following items should be considered for improvement: (References are to Sections in NRC Region I Inspection Report No. 50-271/82-05)

1. Provide, in the onsite EPC job description, the authority to contact the Plant Manager directly as needed on emergency planning items. (See Section 1.0)
2. Formalize the provisions for ongoing training of the plant EPC. (See Section 1.0)
3. Provide for notifying appropriate personnel when key emergency functions (e.g., offsite protective action recommendation) are transferred to the Recovery Manager. (See Section 2.1)
4. Provide a procedure to maintain the Emergency Personnel Assignment List to ensure that personnel are qualified; that the appropriate emergency functions are addressed, and sufficient coverage is maintained. (See Section 2.1)
5. Provide specifically for radwaste operations and representation at the State EOCs (if requested) in the emergency organization. (See Section 2.1)
6. Offer emergency training to the officers of fire, police and ambulance/-rescue companies who have mutual aid agreements with licensee's primary support companies. (See Section 3.1)
7. Provide for training workers on major emergency procedure and equipment changes to include hands-on training if applicable. (See Section 3.1)
8. Provide additional training to Emergency Directors/Shift Supervisors in classifying accidents and in initiating dose calculations (i.e., either doing the calculations themselves or delegating to an HP tech or STA). (See Section 3.2)
9. Provide additional training to individuals who perform dose calculations including use of the offsite dose rate nomogram and TI-59 calculator. (See Sections 3.2)

10. Provide additional training to personnel who would perform post-accident sampling/analysis and main stack sampling/analysis to include typical exposure rates that may be encountered during the above procedures and in methods for counting high-level samples using the GeLi system. (See Section 3.2)
11. Review the responsibilities of the Radiological Assistant and determine the need for delegating some of the individual's duties during an emergency. (See Section 3.2)
12. Assure that records are kept on training of offsite medical personnel. (See Section 3.2)
13. Provide thyroid dose nomograms in the Control Room (See Section 4.1.1.1)
14. Complete the study evaluating the need for HEPA and charcoal filtration of the Control Room ventilation system and document the conclusions to the Nuclear Regulatory Commission. (See Section 4.1.1.1)
15. Provide designated office space for each major TSC functional subgroup; and take steps to reduce crowding in the TSC communications center. (See Section 4.1.1.2)
16. Designate and equip an alternate EOF sufficiently distant from the site that it would not be rendered uninhabitable by shifting meteorology conditions (following review of the proposed AEOF location by NRC:HQ). (See Section 4.1.1.4) N1518
17. Establish a location for the Eberline SAM-II air sample counter such that it need not be unplugged, thereby eliminating the required warm-up/stabilization time. (See Section 4.1.1.4)
18. Provide adequate shielding for transporting high-activity reactor coolant samples to the analysis laboratory. (See Section 4.1.1.5)
19. Determine the maximum reactor coolant sample concentrations that could be analyzed under worst-case accident conditions. (See Section 4.1.1.5)
20. Determine the maximum containment sample concentrations that could be analyzed under worst case accident conditions. (See Section 4.1.1.6)
21. Develop plans and procedures for post-accident sampling and analysis of liquid from systems known to be contaminated or normally contaminated with radioactive material. The procedure should contain the following guidance: whether the liquids can or should be transferred to other storage facilities, processed or discharged; precautions to be taken during sampling; and immediate actions required to evaluate the radiation levels of the liquids. (See Section 4.1.1.8)

22. Provide an assembly area outside of the site area that could be used under conditions requiring immediate evacuation of the nearby site and as a reassembly area for reentry operations. (See Section 4.1.2.1)
23. Provide for showering contaminated persons at the alternate EOF and for liquid waste disposal. (See Section 4.1.2.3)
24. Provide copies of decontamination procedures at each decontamination location. (See Section 4.1.2.3)
25. Conduct a survey to identify local resources that could be used to support the expanded emergency organization that would respond to an emergency. (See Section 4.1.3)
26. Provide backup instruments at the EOF for the offsite monitoring teams. (See Section 4.2.1.)
27. Ensure that adequate procedures for calibration of the high-range stack and containment monitors are in place prior to the next scheduled calibration. (See Section 4.2.1.2)
28. Improve the display of the temperature difference parameter in the Control Room. The size and scale of the recorder was insufficient to determine differences in stability class. (See Section 4.2.1.4)
29. Provide for a dedicated system of communications among the CR, TSC, EOF and OSC. (See Section 4.2.3)
30. Ensure that action will be completed on the pager system to correct deficiencies identified during backshift tests. (See Section 4.2.3)
31. Relocate the emergency communication equipment in the Control Room such that it will not interfere with Control Room immediate actions. (See Section 4.2.3)
32. Review the emergency procedures to ensure that they contain sufficient precautions and caution statements. (See Section 5.1)
33. Review the Control Room emergency alarm, abnormal occurrence procedures to ensure that all references to other procedures are correct. (See Section 5.2)
34. Review the Control Room emergency alarm, abnormal occurrence procedures to identify those procedures where direct event classifications can be made and to ensure that the direct classifications are correct. (See Section 5.2)
35. Reference the procedure containing the emergency phone numbers or provide the appropriate numbers at the steps in the implementing procedures requiring their use. (See Section 5.4.1)

36. Provide information in the offsite monitoring procedure for obtaining a vehicle for use during site boundary and offsite monitoring. (See Section 5.4.2.1)
37. Provide instructions in the offsite monitoring procedure for determining when the monitoring team is located in the plume (GM open -- closed window). (See Section 5.4.2.1)
38. Develop a simple checklist of radiation protection concerns and precautions for in-plant survey teams under post-accident conditions. Such a checklist could be appended to an existing procedure or issued as a new in-plant survey procedure. (See Section 5.4.2.3)
39. Provide high-range (0-25R, 1-100R) pocket dosimeters for special monitoring situations. (See Section 5.4.2.3)
40. Establish provisions for rapidly supplementing the onsite supply of silver zeolite cartridges. (See Section 5.4.2.3)
41. Add the Control Room to the list of areas requiring radiological habitability assessment contained in Appendix VI to procedures OP 3501, 3502, and 3503. (See Section 5.4.2.3)
42. Revise procedure OP 3530 "Post Accident Sampling" to include the following items:
 - Table of Contents and Listing of Equipment;
 - precautions concerning expected dose rate using NUREG-0737 source terms;
 - data sheets and provisions for reporting and returning all original data sheets to the appropriate emergency organizational elements; and
 - reference to procedure DP 2630 to perform conductivity measurements on post-accident reactor coolant samples. (See Sections 5.4.2.4 through 5.4.2.9)
43. Address the assignment of duties for REMP samples to be collected during an emergency, and reference applicable Environmental Laboratory procedures in station procedure OP 3509. (See Section 5.4.2.12)
44. Establish criteria for distribution of potassium iodine for thyroid blocking. (See Section 5.4.3)
45. Develop a procedure for immediate evacuation to a predetermined location and to provide a reassembly area to be used by personnel reporting to the site if conditions warrant. This should include a revision to the call-up procedures to allow directing off-duty augmentation personnel to this location. (See Section 5.4.3.2)

46. Provide forms or a log at the EOF and alternate EOF for recording names of contaminated individuals, contamination levels, decon method used and results of the decon. (See Section 5.4.3.4)
47. Establish contamination action levels which would require further assessment (i.e., whole-body counting, urinalysis). (See Section 5.4.3.4)
48. Provide additional survey instruments at the EOF dedicated for personnel monitoring or make provisions for supplementing supplies during an emergency. (See Section 5.4.3.4)
49. Make the emergency exposure criteria for emergency workers consistent with the EPA Emergency Worker and Lifesaving Activity Protective Action Guides given in EPA-520/1-75-001. (See Section 5.4.3.5)
50. Develop a repair/corrective action procedure for use by OSC, TSC, and EOF personnel which would identify items necessary for consideration, planning, and briefing of teams prior to task performance. (See Section 5.4.5)
51. Provide for backshift exercises, and for a backshift test of the off-duty emergency organization call-in system. (See Section 5.5.2)
52. Provide for additional communications test in accordance with 10 CFR 50, Appendix E, III.(E)(9). (See Section 5.5.2)
53. As part of the audit process, observe drills and exercises, conduct followup to ensure that corrective actions have been actually performed and interview/walk-through personnel to check the adequacy of training. (See Section 5.5.4)
54. Review the Emergency Plan and procedures to ensure compatibility with the anticipated USNRC Region I response to the site during an emergency. (See Section 6.1)
55. Expand the public information mailout/posters to include sheltering information, improvised respiratory protection, and forms of releases and their relationship to protective actions. (See Section 6.2)

APPENDIX C
EMERGENCY PREPAREDNESS EVALUATION REPORT
BY THE
DIVISION OF EMERGENCY PREPAREDNESS
OFFICE OF INSPECTION AND ENFORCEMENT
U.S. NUCLEAR REGULATORY COMMISSION
IN THE MATTER OF
VERMONT YANKEE NUCLEAR POWER STATION
DOCKET NO. 50-271
APRIL 1982

INTRODUCTION

The Vermont Yankee Nuclear Power Corporation filed with the Nuclear Regulatory Commission a revision to the Vermont Yankee Emergency Plan dated February 1982.

The plan was reviewed against the requirements in Section 50.47 of 10 CFR Part 50, the requirements in Appendix E to 10 CFR Part 50, and the guidance of Regulatory Guide 1.101, Revision 2, October 1981.

This evaluation report follows the format of Part II of NUREG-0654 in that each of the Planning Standard titles are listed and followed by a summary of the applicable portions of the plan and the deficiencies that relate to that specific standard. The final section of this report provides our conclusions.

A. ASSIGNMENT OF RESPONSIBILITY (ORGANIZATIONAL CONTROL)

Emergency Plan:

- ° The Federal, State, local and private sector organizations that are intended to be part of the overall response organization for the Emergency Planning Zones are identified.
- ° A concept of operations and its relationship to the total effort is specified.
- ° For Site Area and General Emergencies the Recovery Manager will report to the site where he will be responsible for the direction of the total emergency response.
- ° Written agreements referring to the concept of operations developed between Federal, State and local agencies and other support organizations having an emergency response role within the EPZs are appended to the plan. Organizations included are the States of Vermont, Massachusetts and New Hampshire, NOAA, Peter Bent Brigham Hospital, Town of Vernon, Brattleboro Hospital, fire department, and rescue and ambulance service.
- ° The Administrative Supervisor will be responsible for assuring continuity of resources.

DEFICIENCIES

The plan requires revision and/or additional information as follows:

1. Provide copies of the final State and local plans for those jurisdictions within the plume EPZ.
2. Provide a copy of the portion of the New York State plan that deals with their interface with Vermont Yankee on ingestion pathway actions. In addition, discuss how the appropriate New York officials will be notified of conditions requiring ingestion pathway protective actions to include the criteria for such notification.
3. Provide a map that shows the exact plume EPZ boundary in relationship to the factors specified in Section 50.47(c)(2) of 10 CFR 50 (e.g., jurisdictional boundaries or access roads etc.).
4. Identify each step in the protective action decision making and implementation process (e.g., siren activation/NOAA message) to demonstrate 24 hour capabilities.

B. ONSITE EMERGENCY ORGANIZATION

Emergency Plan:

- ° The onsite emergency organization structure and its relationship to emergency management responsibilities and normal staff titles is specified.
- ° The Plant Emergency Director is always on shift and has the authority and responsibility to immediately and unilaterally initiate any emergency actions. For Unusual Events and Alerts the TSC Coordinator will be responsible for directing the plant emergency organization upon his arrival. For Site Area and General Emergencies the Recovery Manager has this responsibility upon his arrival.
- ° Lines of succession for the Plan Emergency Director, TSC Coordinator and Recovery Manager are provided.
- ° The functional responsibilities of the key members of the emergency organization are established.
- ° Corporate administrative and technical support personnel and assistance are provided through the Nuclear Services Division (NSD) Engineering Support Center (ESC) in Westboro, Massachusetts.
- ° Technical assistance to and augmentation of the emergency organization are available from the Yankee Mutual organization and INPO.
- ° The services to be provided by local agencies for handling emergencies including fire-fighting and medical services are identified. Copies of letters of agreement are appended to the plan.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. Specify the relationship between the emergency organization and the normal staff complement down to the working level.
2. Specify the conditions under which higher level utility officials assume the responsibilities of the Plan Emergency Director, in particular the function of recommending offsite protective measures. In addition, specify that all appropriate authorities will be informed when these responsibilities are transferred to assure there is no confusion.
3. Specify the responsibilities that cannot be delegated by the Plan Emergency Director. In addition, clearly indicate who, at all stages augmentation, has the authority to make protective action recommendations offsite (i.e., Plant Emergency Director, Recovery Manager, TSC Coordinator, EOF Coordinator).

4. Provide sufficient information to demonstrate that the emergency organization goals of NUREG-0654, Table B-1 are met.

In addition, provide a discussion of the relationship of normal assignments and emergency assignments to include use of the tag board and the relationship of emergency assignments and the training categories discussed in plan Section 12. Provide a schedule for meeting the NUREG-0654, Table B-1 goals.

5. Illustrate, by a block diagram, the interfaces between and among the onsite functional areas of emergency activity, licensee headquarters support, local services support, and State and local government response organizations. For State/local governments show the interface points for, protective action recommendations, monitoring result coordination, plant access control, plant evacuee processing, and public information release.
6. Provide a letter of agreement that specifies INPO's role.

C. EMERGENCY RESPONSE SUPPORT AND RESOURCES

Emergency Plan:

- ° The Plant Emergency Director will notify the NRC in accordance with the Federal Master Plan.
- ° The expected Federal resources are specified.
- ° Radiological laboratories and their general capabilities and availability are discussed in Appendix D of the plan, "Yankee Emergency Mutual Assistance Plan."
- ° New England nuclear power plants (Vermont Yankee, Maine Yankee) and other facilities and organizations that can be relied upon in an emergency to provide assistance are identified.

DEFICIENCIES:

The plant requires revision and/or additional information as follows:

1. Provide the expected items of arrival of Federal resources.
2. Discuss resources available to support the Federal response.
3. Provide for dispatching a representative to principal offsite government emergency operations centers if requested.

D. EMERGENCY CLASSIFICATION SYSTEM

Emergency Plan:

- An emergency classification and emergency action level scheme compatible with the scheme in Appendix 1, NUREG-0654 has been established.
- The emergency action levels (EALs) in the plan addressed most of the example initiating conditions listed in Appendix 1, NUREG-0654 as well as all postulated accidents in the FSAR. However, in some cases they did not address the initiating conditions adequately.

DEFICIENCY:

The plan requires revision and/or additional information as follows:

1. Revise the EALs as discussed in Section 5.3.1 of the Emergency Preparedness Appraisal Report No. 50-271/82-05.

E. NOTIFICATION METHODS AND PROCEDURES

Emergency Plan:

- ° Procedures which describe mutually agreeable bases for notification of response organizations with the emergency action level schemes are established.
- ° The initial information to be supplied to the plume EPZ States is specified.
- ° Procedures for alerting, notifying and mobilizing emergency response personnel are established. The State Police will be notified within 15 minutes of emergency classification. However, a method for notifying working level off-duty plant personnel is not described.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. Discuss the verification of messages.
2. Discuss the administrative and physical means for notification and instruction of the public within the plume exposure pathway EPZ in sufficient detail to allow for evaluation against the criteria set forth in Appendix 3 to NUREG-0654. Include a schedule for operation readiness. Provide the results of the system test to demonstrate that it meets the design goals.
3. Provide formats for written messages intended for the public. Messages instructing the public to take shelter and to evacuate should be provided.
4. Describe the method for notifying off-duty plant emergency personnel.

F. EMERGENCY COMMUNICATIONS

Emergency Plan:

- ° 24-hour per day notification to the State Police of Massachusetts, New Hampshire, and Vernon is provided.
- ° Communications as needed with Federal emergency response organizations are provided.
- ° Communications with backups are provided between the nuclear facility, State EOCs and radiological monitoring teams.
- ° Provisions are made for alerting or activating emergency response management personnel.
- ° Communication by the licensee with NRC Headquarters and NRC Regional Office EOCs is provided.
- ° Periodic testing of communications systems is provided.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. Since all the steps in the protective action decision making chain are not clearly specified, it can not be concluded that adequate communications links are provided with these authorities on a 24 hour basis (See NUREG-0654, Appendix 3, page 34). Provide the organizational titles and alternates for both ends of the communication links which would be involved in initiating emergency response actions to demonstrate that such station will be manned 24 hours per day.
2. Provide a coordinated communication link for fixed and mobile medical support facilities.
3. Provide a communications link with the local EOCs.

G. PUBLIC EDUCATION AND INFORMATION

Emergency Plan:

- ° The points of contact and physical locations for use by news media during an emergency (Media Center) are designated.
- ° The Director of Communications is authorized to be spokesperson for Vermont Yankee.
- ° Annual programs to acquaint news media with the emergency plans, information concerning radiation and points of contact for release of public information in an emergency are offered.
- ° Arrangements are established for timely exchange of information among designated spokespersons.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. Provide coordinated arrangements for dealing with rumors.
2. Provide a description of the information to be provided to the public to demonstrate compliance with NUREG-0654 Criterion G.1 and G.2. This should include provisions for annual distribution; inclusion of information on all protective actions to include improvised respiratory protection; posting of information for transients; providing the information in a form that will likely be available during an emergency (e.g., phonebook) and a description of the nature of a release (gas) to demonstrate the need for taking the protective actions recommendations.
3. Provide a sample copy of the public information brochure to the NRC.
4. Provide space for a limited number of news media representatives at the EOF.

H. EMERGENCY FACILITIES AND EQUIPMENT

- A Technical Support Center (TSC) and an Operational Support Center (OSC) have been established on the second and first floors of the administration building respectively. The TSC will be radiologically habitable to the same degree as the Control Room for postulated accidents. The TSC is in close proximity to the Control Room. The TSC has the capability to monitor various plant parameters needed to evaluate accident conditions. The TSC has access to the appropriate records and provisions have been made to assess habitability. The TSC will be the main communications link with the Control Room and will provide technical-assistance during an accident.
- A primary Emergency Operations Facility (EOF) has been established at the Governor Hunt House located .35 miles Southwest of the plant vent stack. A back-up EOF is located at the Town Hall of Vernon, Vermont. However, the back-up is also located within one mile of the stack. The EOF will provide information need by Federal, State and local officials for implementation of offsite response. The EOF will direct site access control, offsite and monitoring and decontamination efforts.
- The TSC, EOF and OSC are activated for Alerts, Site Area and General Emergencies.
- Back up radiological testing facilities are being provided by the Nuclear Services Division's Environmental Laboratory in Westboro, Massachusetts.

In addition, Vermont Yankee has full access to the Yankee Nuclear Services Division Mobile Environmental Laboratory.
- Wind speed, direction and temperature are measured at the 33 ft. and 295 ft. levels of the meteorological tower. An alternate meteorological tower is located onsite should the primary tower fail. Provisions to access offsite weather data are provided. For a further discussion to the interim meteorological system see Section 4.2.1.4 of the Emergency Preparedness Appraisal, Report No. 50-271/82-05.
- Provisions have been made to inspect, operationally check, and inventory emergency equipment/instruments once each month and after each use. There are sufficient reserve instruments to replace those removed from service for repair or calibration.
- Appendix B of the plan identifies emergency kits by location, content and type.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. The plan appears to address only the interim centers. Provide sufficient information on the final EOF and TSC to allow for an evaluation against the guidance of NUREG-0696. The licensee has submitted additional information on these facilities by letter and this is undergoing review; however, the plan must be expanded to fully describe the EOF and TSC to include a schedule for full operation of the final centers.
2. Specify that the activation goals of the TSC and EOF are 30 and 60 minutes. This must be coordinated with the information provided on offsite augmentation times provided in response to comments in Section B of this report.
3. For those instruments used as part of the accident classification system (EALs), specify location, type and range.
4. Discuss the capability to obtain hydrologic and seismic data.
5. Demonstrate, that as a minimum, the NRC Radiological Assessment Branch Technical Position for the Environmental Radiological Monitoring Program has been met.
6. List and identify the location of supplies and equipment for the OSC to demonstrate compliance with NUREG-0654, Criterion H.9.
7. Provide sufficient information concerning coordination of monitoring data to demonstrate compliance with NUREG-0654, Criterion H.12.
8. Provide an alternate EOF that is beyond the immediate plant area and describe the provisions for transfer to the alternate of the command control functions without interruptions.
9. Address the long term measures described in Appendix A of NUREG-0654, to include a schedule for full operational capability and how the influence of the valley terrain and changes in meteorological conditions will be considered.

I. ACCIDENT ASSESSMENT

Emergency Plan

- The EALs, discussed in Section D of this report, provide some parameter values characteristic of off normal conditions.
- There are provisions to relate releases to plum center line whole body dose rate out to 10 miles under various stability classes and wind speeds. Provisions to project thyroid doses based on air-samples are also provided.
- Meteorological information is available in the Control Room and EOF.
- Dose rates will be compared to the EPA PAGs by offsite officials.

DEFICIENCIES:

1. Provide a discussion of how the results of post-accident sampling will be integrated into the dose projection method.
2. Provide the method to be used to determine release rates and projected doses if the PVS monitor and meteorological instruments are inoperable.
3. Provide sufficient information concerning offsite monitoring to demonstrate compliance with NUREG-0654, Criterion I.7 and I.8.
4. Describe the method used to measure radioiodine concentrations in air as low as 10^{-7} uCi/cc and how it was determined that the described system has this capability.
5. Provide for immediately (i.e., in the Control Room) estimating the distance from the site to which the EPA PAGs may be exceeded (not just 10 miles) and recommending the appropriate protective measures.
6. Describe the provisions for promptly determining radioiodine release rates to include the criteria for conducting offsite monitoring and monitoring response times.
7. Provide plots which show containment radiation monitor readings vs time for various accident conditions (e.g., 100% release of gap activity, and 1% and 10% of release of fuel inventory).

J. PROTECTIVE RESPONSES

Emergency Plan:

- ° The licensee has established the means to warn or advise onsite employees, contractors, and visitors of an emergency. All visitors, contractors, and unassigned personnel will be evacuated for Site Area and General Emergencies.
- ° Provisions have been made for site egress control.
- ° Provisions have been made for radiological monitoring and decontamination of people evacuated from the site.
- ° A means for accountability for all individuals onsite has been provided.
- ° Criteria for the use of protective equipment and supplies for individuals remaining onsite have been provided.
- ° Evacuation time estimates for the plume exposure EPZ are provided.
- ° Maps showing population distribution around the plant are given in Plan Figures 4.3, 4.4, 4.5, 4.6.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. State that the goal is to account for personnel within 30 minutes and discuss the measures to be taken to meet this goal.
2. Provide maps showing plume EPZ evacuation routes, sampling and monitoring points, relocation centers and shelter areas as prescribed by NUREG-0654. Criterion J.10.
3. Specify who has the authority and responsibility for ordering distribution of KI. In addition, discuss the time required to make radioiodine measurements, and how it will be assured that KI and other onsite protective measures will be taken in time to be effective.
4. Commit to recommend offsite protective measures (shelter and evacuation) based on:
 - a. the distance from the plant at which the EPA PAGs are exceeded (not just .35 miles),
 - b. plant/core conditions under core melt conditions (existing or projected) recommend evacuation of 2 miles around the site and 5 miles down wind,

- c. use of the keyhole approach (not just in a down wind direction) and
 - d. offsite factors such as evacuation times of special facilities that may effect the effectiveness of the actions recommended.
5. Provide sufficient information to demonstrate that offsite officials have capability to make public notification decisions for a full range of protective actions (e.g. shelter and evacuation) leading to activation of the public alerting system within 15 minutes for situations requiring urgent action. This should include provisions to act promptly on all the protective action recommendations to be provided by the licensee in accordance with their procedures.
 6. Provide, and integrate into the protective action discussion recommendation methodology, the expected protection afforded by local structures.
 7. Provide for an assembly area for plant evacuees beyond the area of the site (5 miles) to which personnel can be evacuated immediately without monitoring if conditions warrant. Provision for monitoring at this location should be provided.

K. RADIOLOGICAL EXPOSURE CONTROL

Emergency Plan

- Onsite exposure guidelines have been established for removal of injured persons, undertaking corrective actions, performing assessment actions, and providing first aid.
- The licensee has an onsite radiation protection program which will be implemented during emergencies. The TSC Coordinator (Plan Manager) has the authority to approve doses in excess of 10 CFR 20 limits. Before the arrival of the TSC coordinator the Shift Supervisor (Plant Emergency Director) will administer the radiation protective program.
- Provisions have been made for the distribution of self-reading and permanent record dosimeters.
- Provisions have been made for maintaining dose records for emergency workers.
- Action levels are specified for radiological decontamination.
- The means for radiological decontamination have been established.
- Means for area access control have been established.
- The means for decontamination relocated onsite personnel, including provisions for extra clothing, have been provided.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. Specify the onsite contamination control measures for drinking water and food supplies.
2. Specify the criteria for permitting return of areas and items to normal use.
3. Specifically address decontamination capability for radioiodine skin contamination.

L. MEDICAL AND PUBLIC HEALTH SUPPORT

Emergency Plan

- ° Local and back-up hospital and medical services having the appropriate capabilities have been provided.
- ° Onsite first aid capability is provided.
- ° Arrangements have been made to transport contaminated victims of radiological accidents to medical support facilities.

M. RECOVERY AND REENTRY PLANNING AND POST-ACCIDENT OPERATIONS

Emergency Plan:

- ° The emergency condition shall be deemed to have terminated when, by agreement of the States of New Hampshire, Massachusetts and Vermont and the Vermont Yank Site Recovery Manager, there is no longer a need for consideration of public protection measures.
- ° The structure, functions and membership of the facility recovery organization are described.

DEFICIENCIES:

The plan requires revision and/or information as follows:

1. Provide for a method for periodically estimating total population exposure.
2. Specify guidelines for down-grading an emergency classification and for determining when consideration of offsite protective measures is no longer required.

N. EXERCISES AND DRILLS

Emergency Plan:

- ° An annual emergency preparedness exercise will be conducted that simulates an emergency resulting in conditions that would call for the mobilization of offsite authorities to allow for evaluation of their plans and integration with site planning and response.
- ° A critique of the annual exercise by State observers is provided.
- ° The exercise scenario will include objectives, time, date, simulated events, a narrative summary and a list of observers.
- ° The scenario for the exercise will be varied from year to year.
- ° Required fire drills and medical drills are provided.
- ° A critique by government observers, resulting in a formal evaluation, is provided.
- ° Deficiencies are identified in a post-exercise critique and proper corrective actions are determined by responsible plan staff.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. Provide for conducting the annual exercise at differing times of day and with some unannounced.
2. Provide for testing communications with Federal and State emergency response organizations within the ingestion pathway quarterly. Provide for testing the aspect of understanding the content of messages during the communication drills.
3. Provide communication tests that address the requirements of Section E (9) (b) and (d) of Appendix E of 10 CFR 50.
4. Provide for radiation monitoring drills that include collection and analysis of all sample media, as well as provisions for communications and record keeping.
5. Provide for health physics drills that include the analysis of inplant liquid samples with simulated elevated levels on an annual basis.
6. Provide for a backshift test (drill) of the off duty personnel call-in system.

0. RADIOLOGICAL EMERGENCY RESPONSE TRAINING

Emergency Plan:

- Site specific training is offered to such offsite emergency organizations as hospital, ambulance, rescue, and fire departments.
- Onsite emergency groups receive didactic as well as practical training. Erroneous performance during drills is addressed and corrected via critique.
- Courses equivalent to the Red Cross Multi-Media curriculum are provided to the licensee's first aid teams.
- The licensee has provided for initial and annual retraining of personnel with emergency response duties.
- A specialized training program including initial and periodic retraining sessions has been established for the following organizational categories: directors and coordinators, radiation monitoring and sampling, communications, search and rescue, security, local medical support and local fire support.

DEFICIENCIES:

The plan requires revision and/or additional information as follows:

1. Provide training for headquarters support personnel (NSD) who will respond.
2. Provide sufficient information concerning training of offsite support organization to demonstrate that NUREG-0654, Criterion 0-1 is met.
3. Provide training to the offsite officials with authority and responsibility for protective action decisionmaking on the basis on which these recommendations will be made by the site.
4. Provide training on repair and corrective actions to include use of protective equipment and work in high radiation areas.

P. RESPONSIBILITY FOR THE PLANNING EFFORT:
DEVELOPMENT, PERIODIC REVIEW AND DISTRIBUTION OF EMERGENCY PLANS

Emergency Plan

- ° Periodic revisions of the plan, as needed, including changes identified by drills and exercises, are provided.
- ° An independent review and audit of the emergency preparedness program will be conducted annually.

DEFICIENCIES:

The plan requires revision and/or additional information as follow:

1. Provide training for individuals responsible for the emergency planning effort.
2. Identify the individual with the overall authority and responsibility for radiological emergency response planning.
3. Designate an Emergency Planning Coordinator.
4. Provide a detailed listing of supporting plan.
5. Provide a listing of all of the procedures used to implement the plan such as the post-accident sampling and analysis procedures.
6. Provide for quarterly updating of telephone numbers in emergency procedures.

CONCLUSION

Based on our review, we conclude that the Vermont Yankee Emergency Plan, upon satisfactory correction of the previously identified deficiencies, will meet the requirements of 10 CFR 50.54, 10 CFR 50 Appendix E, and conform to the guidance of Regulatory Guide 1.101, Revision 2, October 1981.

The NRC evaluation of the overall state of emergency preparedness for the Vermont Yankee Site will be made following review of the findings and determinations made by FEMA on the State and local emergency response plan.