

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-271/88-04

Docket No. 50-271

License No. DPR-28

Priority --

Category C

Licensee: Vermont Yankee Nuclear Power Corporation

Facility Name: Vermont Yankee

Inspection At: Vernon, Vermont

Inspection Conducted: February 8-11, 1988

Inspector:

CJA for A. Krasopoulos
A. Krasopoulos, Reactor Engineer

4/1/88
date

Also participating in the inspection and contributing to the report were:

R. Hodor, Mechanical Systems Specialist, BNL
K. Sullivan, Electrical Systems Specialist, BNL

Approved by:

CJ Anderson
C. J. Anderson, Chief, Plant Systems
Section, DRS

4/1/88
date

Inspection Summary: Inspection on February 8-11, 1988 (Report No. 50-271/88-04)

Areas Inspected: Special, announced team inspection of the licensee's effort to comply with the requirements of 10 CFR 50, Appendix R, Section III. G, J and L concerning fire protection features to ensure the ability to achieve and maintain safe shutdown.

Results: The team verified that the licensee is in compliance with the requirements of 10 CFR 50 Appendix R. The licensee has an analysis and a program assuring separation of safe shutdown trains. This separation will assure that in the event of a fire, one safe shutdown train will remain available to shut the plant down. The team identified one violation of the requirements and four items remained unresolved. The violation stems from the failure to install emergency lights in plant areas requiring shutdown actions. With regard to the unresolved items, one item is a commitment to install fire retardant on electrical cables traversing the combustible free zones. The other three unresolved items involve commitments to upgrade and document portions of the associated circuit analysis. These analyses will be completed 180 days upon receipt of this report.

DETAILS

1.0 Persons Contacted

1.1 Vermont Yankee Nuclear Power Corporation (VY)

- * J. P. Pelletier, Plant Manager
- * J. K. Thayer, Engineering Manager
- * E. A. Sawyer, Manger of Engineering Services
- * R. Moschella, Sr. Engineer
- * T. White, Project Engineer
- * D. Girroir, Sr. Engineer
- * P. Johnson, Sr. Electrical Engineer
- * H. Metell, Engineering Support Supervisor
- * R. D. Pagodin, Technical Services Superintendent
- * G. J. LeClair, Assistant Operations Supervisor
- * E. Taintor Jr., QA Coordinator
- * M. Sontag, Operations Training Instructor
- * M. Bronson, Sr. Control Room Operator
- * J. Desicets, Shift Supervisor
- * S. Jefferson, Assistant and Plant Manager
- * R. Swenson, Sr. Engineer
- * D. Phillips, Sr. Electrical Engineer
- * A. Klein, Fire Protection Engineer
- * R. January, Sr. Electrical Engineer
- * D. Reid, Operations Superintendent

1.2 U.S. Nuclear Regulatory Commission (NRC)

- * G. E. Grant, Senior Resident Inspector
- * J. B. McDonald, Resident Inspector

* Denotes those present at the exit interview.

2.0 Follow Up of Previous Inspection Findings

(Closed) Violation (83-26-01) Multiple Instances Where the Separation Requirements of Appendix R Section III G Were Not Met

The NRC in an inspection conducted on August 29-September 2, 1983 identified examples of violations of the 10 CFR 50 Appendix R requirements. They are as follows:

- a) The licensee did not provide the required protection to redundant trains of systems (cable trays from both divisions) located in the northwest corner of the Reactor Building (RB).
- b) The licensee did not provide adequate separation for the redundant control cables of the HPCI and RCIC inboard isolation valves V23-15 and V13-15, respectively.

- c) The licensee did not provide adequate separation and protection for the redundant safe shutdown related Motor Control Centers (MCC) 89B and 9D in that the 20 feet combustible free zone separating them contained combustibles in the form of open cable trays and did not have a means of suppression.
- d) The licensee did not provide suppression and detection for the redundant instrument rack located at elevation 280' East RB.
- e) The licensee did not provide suppression and detection for the redundant MCC 8B and 9B in the personnel monitor of the RB.

Since these violations were identified the following corrective actions were implemented by the licensee:

For Item a), the licensee installed additional suppression in the area above the cable trays. This would assure that a fire in one cable division would not propagate to the redundant division about 20 feet away. In addition, detection was provided throughout the zone. These modifications were completed on February 2, 1985. The inspector verified that the installation of the sprinkler and detection systems meet the NFPA standards.

For Item b), the licensee rerouted conduit 11188JSIIX, RCIC Control Cable and provided an alternate power supply to the inboard isolation valve V13-15. The inspection verified that the modifications were implemented and that the proper separation exists between the cables of the redundant RCIC and HPCI systems.

For Item c), the licensee provided component separation by relocating the power supply to V13-15 from MCC 89B at elevation 262' to MCC 8B at elevation 280' RB south side. In addition, an alternate power supply was provided for this valve at MCC 9B located at elevation 280' north side. The net effect of this change is the RCIC and HPCI inboard isolation valves cables are not in the same fire zone precluding damage to simultaneous loss of both HPCI and RCIC from a fire in this area.

For Item d), the licensee installed detection in the area of the instrument racks. This work was completed on August 8, 1987. The licensee also requested relief from the requirement to install suppression in the area of the instrument racks. The NRC in a Safety Evaluation Report (SER) dated December 1, 1986 granted the licensee an exemption from the requirement to install suppression in the area.

For Item e), the licensee protected the cables with a 3 Hour fire wrap. This work was completed on August 8, 1987. The inspector reviewed the work performed by the licensee in response to the violation and found that the corrective actions are adequate.

This item is resolved.

(Closed) 83-26-03 (Inspection Follow Up Item) Revision of the Service Water/Alternate Cooling Operating Procedures

This item identified the concern that certain procedure steps were not grouped together such that the operators performing these steps had to return to the same area repeatedly.

The licensee revised the procedure providing the operators with more efficient directions. The inspector walked down this procedure simulating the procedural steps and did not identify any unacceptable conditions.

This item is resolved.

(Closed) 83-26-04 (Unresolved Item) Emergency Lights

The team reviewed the emergency lighting systems installed to assist plant shutdown in the event of a fire and a concurrent loss of off-site power.

The emergency lighting is a requirement of 10 CFR 50 Appendix R Section III J. This requirement states that emergency lights with 8 hour battery power supply shall be installed in all areas needed for operation of safe shutdown equipment, and in access and egress routes thereto.

The team observed that the licensee did not provide any such emergency lights in the Control Room. The explanation given by the licensee was that three different power sources are provided for the Control Room (CR) lighting. These systems are the normal off-site power, and the emergency power from the emergency diesels which power the AC lighting system. The station batteries also provide power to a DC lighting system in the control room.

The team observed that all three power systems could be lost if a fire occurred in the Cable Vault, since the cables from all three systems are routed through this area. The licensee reviewed this condition and installed emergency lights in the Control Room prior to the team leaving the site.

In addition, the team observed that the licensee did not provide emergency lights in the torus catwalk area where personnel must be dispatched to perform shutdown actions. Also the emergency lighting in Fire Area RB-5 was inadequate in that it was located too far from the panel to provide adequate illumination. With regard to the lack of emergency lights in the torus catwalk area the licensee relies on lights powered by the diesels. However, this system was not reviewed for acceptance by NRC.

The lack of emergency lights in the areas described above constitutes a violation of 10 CFR 50 Appendix R Section III. J requirements (88-04-01).

The team observed that the area where the fire fighters assemble and dress did not have emergency lighting. The licensee stated that battery powered emergency lights will be installed in the area.

3.0 Purpose

This inspection was performed to ascertain that the licensee is in conformance with 10 CFR 50, Appendix R, Sections III. G, J, and L, including exemptions approved by the Office of Nuclear Regulation (NRR).

4.0 Background

The licensee is required to comply with the requirements of 10 CFR 50 Appendix R, Sections III. G, J, and L. The schedule for compliance with the above requirements is set forth in 10 CFR 50.48.

Section III. G of Appendix R requires that fire protection is provided to ensure that one safe shutdown train remains available in the event of a fire. Section III. J requires that emergency lights are installed in all areas required for safe shutdown purposes and Section III. L specifies the requirements for alternate shutdown capability.

The licensee, during an inspection conducted in August 1983, Report No. 83-26, was inspected to verify compliance with the above requirements. This inspection identified several examples of violations of these requirements. The violations were corrected as indicated in Section 2.0 of this report.

5.0 Correspondence

Correspondence between the licensee and the NRC concerning compliance with Section III. G, J, and L was reviewed by the inspection team in preparation for the site visit. Attachment 1 to this report is a listing of the correspondence reviewed.

6.0 Post-Fire Safe Shutdown Capability

6.1 Systems Required for Safe Shutdown

The licensee stated that the design basis fire is a fire without off-site power availability. The safe shutdown systems for this case are shown in Attachment 2. Reactor scram would be manually initiated from the Control Room (CR). Vessel overpressurization is prevented by self-actuation of the Safety Relief Valves (SRVs). Either Reactor Core Isolation Cooling System (RCIC) or High Pressure Coolant Injection System (HPCI) may be used for high pressure coolant makeup.

With Division I power available, decay heat removal is accomplished by HPCI, or the SRVs dumping steam to the suppression pool, with the Residual Heat Removal (RHR) System in the Suppression Pool Cooling (SPC) mode removing heat from the suppression pool.

After depressurization, the Reactor Heat Removal (RHR) System would be placed in Shutdown Cooling (SDC) mode. If both the SDC and Control Rod Drive (CRD) pumps are available, CRD pump flow is used for low pressure coolant makeup. If the CRD system is unavailable, coolant inventory can be maintained by either one Low Pressure Coolant Injection (LPCI) or core spray pump which would supply water to the reactor when the reactor low pressure permissive has been satisfied.

Four RHR pumps are available for LPCI injection with pumps A and B powered by Division II and pumps C and D powered by Division I, and two completely independent core spray systems are available with system A powered by Division II and system B by Division I.

If Division II power is available, high pressure makeup is provided by the RCIC system. Vessel overpressure protection is identical to the case with Division I power. Following depressurization, either RHR pump A or B in the LPCI mode or core spray A may be used to maintain inventory.

Alternate safe shutdown for the Control Room, Cable Vault, Battery Room, or Switchgear Rooms, is initiated from the Control Room by a manual scram of the control rods. In order to maintain reactor coolant inventory, the RCIC System will be used to provide makeup water. For hot shutdown, decay heat removal will be accomplished by the RCIC and RHR Systems in conjunction with the safety relief valves. A number of other systems including HPCI, Core Spray, and LPCI (in conjunction with ADS valve operation) can be used for shutdown. For suppression pool cooling, the RHR System will be used with the Service Water Systems to provide cooling. For cold shutdown, the RHR System will be used in the shutdown cooling mode.

The above systems will be monitored and controlled from the Control Room or RCIC control panel. The power sources for operations of the above systems will be provided by the emergency diesel generators and 125 V battery sources.

6.2 Alternate Safe Shutdown Areas

The licensee's safe shutdown analysis identified the need to provide alternate safe shutdown capability in the Control and the Cable Spreading Room.

6.3 Remaining Plant Areas

Safe Shutdown Plant Systems not in compliance with the requirements of Section III. G.2 of Appendix R must be provided with an alternate safe shutdown system unless an exemption request has been approved by the Commission.

The licensee requested a number of exemptions to certain requirements of Appendix R which were evaluated and granted by the NRC. Attachment 3 of this report is a listing of the areas where exemptions were requested.

7.0 Inspection Methodology

The inspection team examined the licensee's capabilities for separating and protecting equipment, cabling and associated circuits necessary to achieve and maintain hot and cold shutdown conditions. This inspection sampled selected fire areas which the licensee had identified as being in compliance with the Section III.G.

The following functional requirements were reviewed for achieving and maintaining hot and cold shutdown:

- Reactivity control
- Pressure control
- Reactor coolant makeup
- Decay heat removal
- Support systems
- Process monitoring

The inspection team examined the licensee's capability to achieve and maintain hot shutdown and the capability to bring the plant to cold shutdown conditions in the event of a fire in various areas of the plant. The examination included a review of drawings, safe shutdown procedures and other documents. Drawings were reviewed to verify electrical independence from the fire areas of concern. Procedures were reviewed for general content and feasibility.

Also inspected were fire detection and suppression systems and the degree of physical separation between redundant trains of Safe Shutdown Systems (SSSs). The team review included an evaluation of the susceptibility of the SSSs to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression system.

The inspection team examined the licensee's fire protection features provided to maintain one train of equipment needed for safe shutdown free of fire damage. Included in the scope of this effort were fire area boundaries (including walls, floors and ceilings), and fire protection of openings such as fire doors, fire dampers, and penetration seals.

The inspection team also examined the licensee's compliance with Section III.J, Emergency Lighting. The results of the inspection in this area are discussed in Section 2.0 of this report. Appendix R, Section III.O, Oil Collection System for the Reactor Coolant Pump, is not an Appendix R requirement for plants, such as Vermont Yankee, since the containment is inerted during normal operations.

8.0 Inspection of Protection Provided for Safe Shutdown Systems

8.1 Protection in Various Fire Area

The team reviewed the protection provided to SSSs and work in progress in selected fire areas for compliance with Appendix R, Section III.G.1, 2 and 3. Particular attention was paid to the Reactor Building, RB, since this building contains the majority of the Shutdown Systems. It was also in the RB that the majority of the Violations from the Appendix R requirements were identified during the inspection described in Inspection Report 83-26.

The Reactor Building is a single structure. It consists of a single fire area separated into fire zones along an east-west line. The zones are established based upon plant physical layout, as well as special separation inherent in the design. Fire zones on the north side primarily contain Division II equipment, while zones on the south side primarily contain Division I equipment. The principal safe shutdown systems associated with Division I include HPCI, Core Spray B, RHR C&D, RHR Service Water B&D, and Service Water B&D. The principal safe shutdown systems associated with Division II include RCIC, Core Spray A, RHR, A&B, RHR Service Water A&C, and Service Water A&C.

The established separation zones ensure that either the south side (Division I power) or north side (Division II power) fire zones are protected in the event of a fire in the opposite zone. The controls and instrumentation necessary to support these systems also maintain divisional separation.

The review of the Reactor Building identified the following concern:

The licensee identified several 20 foot combustible free zones in support of exemption requests from the Appendix R requirements. These combustible free zones were described in a submittal to NRR to be areas where the cable trays traversing the zone would be protected with a fire retardant. The fire retardant would be applied on either side of the combustible free zone in bands 5 to 7 feet long providing fire stops from one fire zone to the other.

The NRC issued a Safety Evaluation Report (SER) dated December 1, 1986 accepting the use of the fire retardant. However, the SER stated that this material should be applied over the entire 20 ft. zone, separating redundant components. It should not be limited to bands on the sides of the combustible free zones.

The discrepancy was acknowledged by the licensee in an internal document but was not brought to the attention of NRC/NRR. The licensee, during the inspection, agreed to provide the protection described in the SER as soon as plant conditions permit. In addition, the licensee established fire watches in the areas involved until the modifications are completed. This is an unresolved item. (88-04-02)

8.2 Safe Shutdown Procedures Review

The team reviewed procedure number OP3126, Revision 3, dated February 5, 1988 titled "Shutdown using Alternate Shutdown Methods".

The scope of this review was to ascertain that the shutdown could be attained in a safe and orderly manner, to determine the level of difficulty involved in operating equipment, and to verify that there was no dependence on repairs for achieving hot shutdown.

The team did not identify any unacceptable conditions however, the licensee agreed to address the following team observations:

1. Step No. 3 of the procedure lists immediate actions to be taken by the operators prior to leaving the control room. The included; Step 3B - run back recirculation pumps to minimum, Step 3C - manually scram the reactor, Step 3D - close at least one MSIV per steamline, Step 3E - open HPCI-24, and Step 3F - place ADS bypass switch to "Bypass".

The NRC noted that only one manual action is allowed prior to exiting the control room. In subsequent discussions, it was determined that all of these actions could be performed outside the control room if necessary.

2. Appendix A "Alternate Shutdown Methods Flow Diagram" was difficult to read because of its reduction from the original. The licensee concurred and agreed to investigate methods for making the diagram more legible.
3. Step numbers had not been assigned to instructions in Appendix C for operating RHR in the "Torus Cooling Mode" or "Shutdown Cooling Mode." The licensee agreed to add the step numbers to the procedure.

Procedure Walk-Through

The team walked through selected portions of procedure No. OP3126 to determine by simulation that shutdown from outside the control room could be attained in an orderly and timely fashion. The procedure walk-through was accomplished by four members of the licensee's operations support staff.

The walkdown was initiated from the Control Room with the following initial conditions:

- Reactor at 100% power with systems lined up in normal full power configuration.
- Credit for one manual action prior to evacuating the Control Room.
- Loss of offsite power.
- Manual start of the emergency diesel generators.

The team paid attention to the feasibility of each manual action, ease of access, operator familiarity with the procedural steps, communication, emergency lighting, and the direction of the operators by the Shift Supervisor. The walkdown was halted when the licensee had adequately demonstrated the capability to achieve simulated hot shutdown conditions. The following items were identified by the inspection team as concerns requiring licensee's attention:

1. The inspection team observed that the operator performing the procedure step to manually run back the recirculation pumps, encountered difficulty as a result of limited access to the Bailey Positioners. The licensee committed to review the concern and improve access to the Bailey Positioners.
2. The licensee did not demonstrate that an adequate communication system exists to shutdown the plant. The primary means of communication will be hand-held radios. The licensee did not use these radios during the inspection because use of the radios in certain plant areas would risk tripping the reactor. The licensee committed to demonstrate the adequacy of the radios when the plant is shutdown and inform the NRC resident inspector to witness the demonstration. The licensee will provide the NRC with the results of these tests.

3. The licensee did not have a time-line analysis to verify that the procedure could be implemented with the minimum man-power available. The licensee committed to perform the time-line check.

8.3 Protection for Associated Circuits

Appendix R, Section III.G requires that protection be provided for associated circuits that could prevent operation or cause maloperation of redundant trains of systems necessary for safe shutdown. The circuits of concern are generally associated with safe shutdown circuits in one of three ways:

- Common bus concern
- Spurious signals concern
- Common enclosure concern

The associated circuits were evaluated by the team for common bus, spurious signal, and common enclosure concerns. Power, control, and instrumentation circuits were examined on a sampling basis for potential problems.

The common bus associated circuit concern is found in circuits, either safety related or non-safety related, where there is a common power source with shutdown equipment and the power source is not electrically protected from the circuit of concern.

The common bus concern is made up of two items:

- Circuit Coordination
- High Impedance Faults

8.3.1 Circuit Coordination

The licensee performed a coordination analyses of the 4160V Bus No. 3, the 480 VAC system and all power sources required for alternate shutdown.

The coordination analyses identified coordination deficiencies and included recommendations to correct non-coordinated conditions. The team reviewed the analyses and maintenance records to verify that the deficiencies identified by the analyses were corrected.

The team did not identify any unacceptable conditions with either the analyses or the corrective actions taken by the licensee. The licensee performing circuit breaker and relay testing and maintenance at 18 and 36 month intervals.

During the performance of the circuit coordination review the team observed that for the 120VAC vital and instrument bus circuits the licensee could not verify proper circuit coordination. In addition, the documentation presented for the time-current characteristic curves of the 125 VDC circuits was inadequate in that it was missing review and title blocks. The team noted that these circuits are not required for alternate shutdown. However, the licensee in the Safe Shutdown Capability Analysis takes credit for the coordinated fault protection for all distribution systems. The licensee acknowledged the coordination and documentation concerns raised by the team and committed to finalize the analysis for the 120 VAC and 125 VDC circuits. The licensee agreed to inform the NRC of any deficiencies identified during the completion of this analysis.

This item is unresolved (88-04-03).

8.3.2 High Impedance Fault

The high impedance fault concern is found where multiple high impedance faults exist as loads on a safe shutdown power supply and could cause the loss of this supply prior to clearing the faults.

The team did not complete the review of this concern because the licensee's final analysis was not complete. A preliminary review of potential high impedance fault concern was performed by the licensee. This preliminary review indicated that this issue was not a concern for VY. The licensee discussed with the team, the scope of this analysis and committed to review all power supplies of concern. They agreed to inform the NRC if any deficiencies are identified as a result of this review. This item is unresolved. (88-04-04)

8.3.3 Spurious Signals Concern

The spurious signal concern is made up of 2 items:

- False motor control and instrument indications can occur such as those encountered during the 1975 Browns Ferry fire. These could be caused by fire initiated grounds, shorts or open circuits.
- Spurious operation of safety related or non-safety related components can occur that would adversely affect shutdown capability (e.g., R:R/RCS isolation valves).

The team examined, on a sampling basis, the following areas to ascertain that no spurious signal concern exists:

- High/Low pressure interfaces
- Current transformer secondaries
- General fire instigated spurious signals

8.3.4 High/Low Pressure Interfaces

The teams review of the licensee's High/Low Pressure Interface concern did not identify any unacceptable conditions.

8.3.5 Current Transformer Secondaries

The licensee performed an analysis of the open secondary circuit, current transformer (CT) concern. A discussion with licensee representatives found the analysis to be based on Vermont Yankee plant specifications which describe the physical characteristics of control cabling connected to CT secondary circuits. The analysis recognizes that if an open secondary circuit of CT were to occur, the secondary cabling may be subjected to an overvoltage condition in excess of the cables insulation rating. Such an overvoltage condition may result in damage to the cable insulation. Because of the insulation characteristics and "spiral wrap" construction of the cabling used, the analysis concluded that if such an event occurred the insulation damage to the cable would cause the CT to become self shorting, reducing the CT secondary impedance and hence, the secondary voltage, thus eliminating the concern.

The review of this analysis by the team did not identify any unacceptable conditions.

8.3.6 Fire Instigated Spurious Signals

The licensee provided isolation for fire induced spurious signals by various methods including:

- isolation/transfer control switches
- rerouting of cables
- wrapping of cables with fire rated material
- administrative controls

A review of the methods listed above by the team did not identify any unacceptable conditions.

8.4 Common Enclosure

The common enclosure associated circuit concern may be found when redundant circuits are routed together in a raceway or enclosure and they are not provided with adequate electrical isolation protection, or when a fire can destroy both circuits due to inadequate fire protection methods.

At the time of the inspection, the licensee stated that:

- Cables for redundant safe shutdown divisions are not routed within a common enclosure.
- Non-safety related cables that are routed together with cables required to achieve post fire safe shutdown are protected by an appropriate electrical isolation device.
- Non-safety related cables which share a common enclosure with cables required to achieve post fire shutdown are never routed between divisions.

The review of this issue identified the following conditions that need clarification. In the Reactor Building the team observed that certain non-shutdown related number 12AWG conductors were protected with 35 AMP fuses. 12AWG conductors are rated for 30 AMPS. The team raised the concern that a fire may cause an overcurrent condition to one of these conductors. Since these conductors are not provided with the proper size fuse, a secondary fire could start elsewhere in the building. These conductors may be routed to adjacent fire areas. This would compromise safe shutdown capability. The team did not identify any cases where this situation exists. However, the licensee could not provide assurance that this condition was analyzed and found acceptable. The licensee agreed to review this concern and inform the NRC if any deficiencies were identified. This item is unresolved. (88-04-05)

8.5 Fire Brigade Training

The licensee requested several exemptions from Appendix R requirements. These exemptions were granted partly on the belief that the fire brigade will respond promptly and extinguish any fires. For this reason the team reviewed the licensee's Fire Brigade training and readiness to respond.

The team reviewed training and drill records and also observed a drill conducted at the request of the team.

No unacceptable conditions were identified.

9.0 Unresolved Items

Unresolved items are matters for which more information is required in order to ascertain whether they are acceptable, violations, or deviations. Unresolved items are discussed in Sections 8.1, 8.3 and 8.4.

10.0 Exit Interview

The inspection team met with the licensee representatives, denoted in Section 1.0, at the conclusion of the inspection on February 11, 1988, and the team leader summarized the scope and findings of the inspection at that time.

The team leader also confirmed with the licensee that the report will not contain any proprietary information. The licensee agreed that the inspection report may be placed in the Public Document Room without prior licensee review for proprietary information (10 CFR 2.790).

At no time during this inspection was written material provided to the licensee by the team.

ATTACHMENT 1

LIST OF CORRESPONDENCE

FVY 85-38, dated April 24, 1985, requesting exemptions from the provisions of Appendix R.

FVY 85-60, dated June 28, 1985, providing Vermont Yankee's evaluation relative to IE Information Notice No. 85-09.

VYL 85-47, dated July 26, 1985, providing additional information regarding Appendix R exemption requests.

(No Number), dated August 2, 1985, providing additional information regarding Appendix R exemption requests.

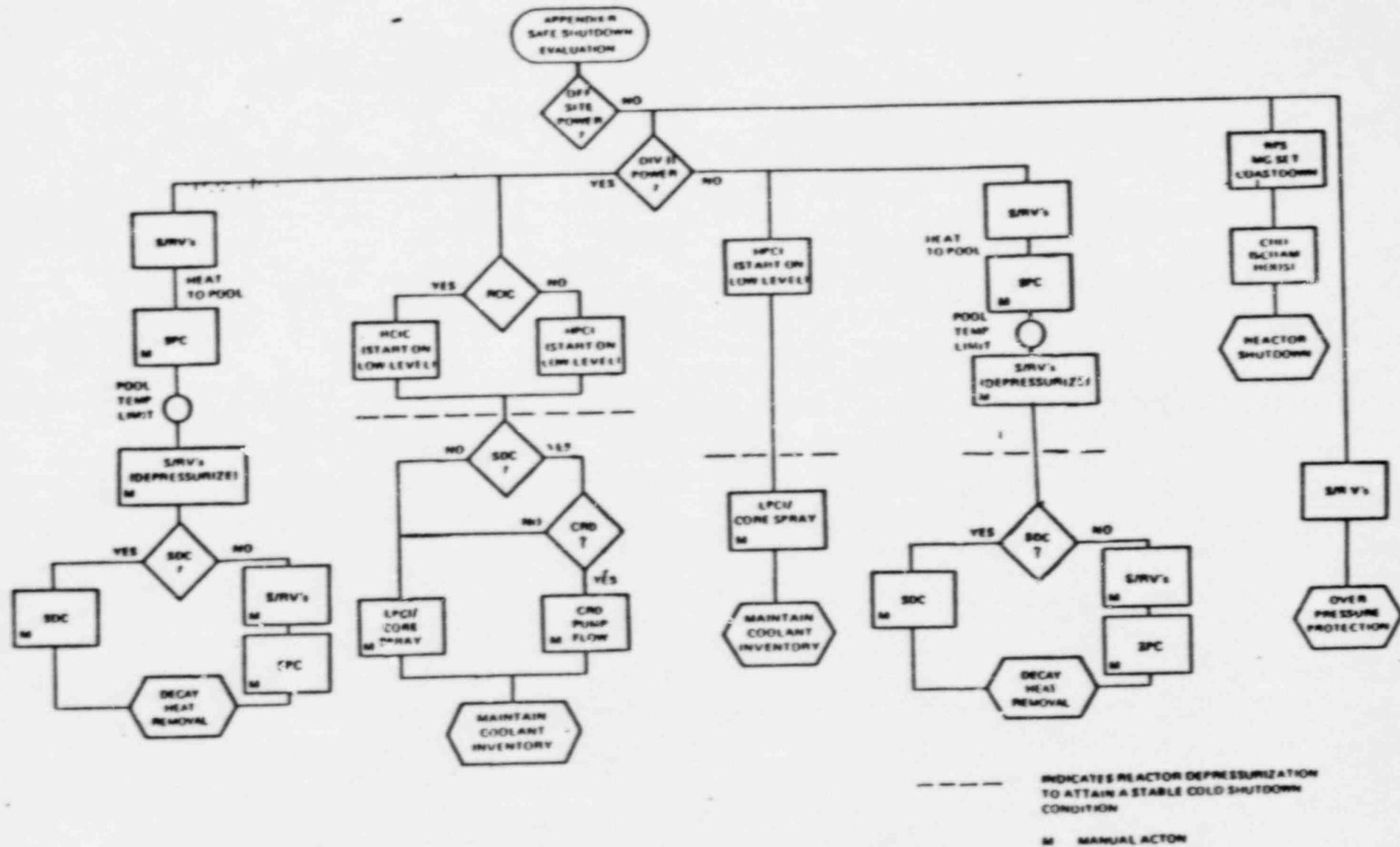
FVY 85-73, dated August 16, 1985, providing additional information regarding Appendix R exemption requests.

FVY 85-102, dated October 31, 1985, requesting exemption from the provisions of Appendix R.

FVY 86 -56, dated June 10, 1986, request for exemption special circumstances and clarification.

NVY 86-240, dated December 1, 1986, NRC letter to licensee, granting exemptions.

FFY 86-74, dated August 15, 1986, request for Appendix R exemption.



SAFE SHUTDOWN SEQUENCE FOR APPENDIX R SECTION III G EVALUATION —
 VERMONT YANKEE NUCLEAR POWER PLANT
 OFFSITE POWER NOT AVAILABLE

FIGURE 2-1

ATTACHMENT 3

EXEMPTION REQUEST AREAS AND DESCRIPTION

<u>Area or Zone(s)</u>	<u>Exemption Request</u>
1. Area RCIC - RCIC Pump/Turbine Room	Separation barrier
2. RB-1/RB-2, Reactor Building Torus Area	Suppression
3. RB-1/RB-2, Reactor Building, Northeast and Southeast Corner Rooms	Suppression
4. RB-3/RB-4, Reactor Building, Elevation 252', Northeast Corner, V'tal MCCs	Separation and Suppression
5. RB-3/RB-4, Reactor Building, Elevation 252', Northwest Corner	Separation
6. RB-5/RB-6, Reactor Building, Elevation 280', East Side, Instrument Racks	Suppression