

# VERMONT YANKEE NUCLEAR POWER STATION

<b>ADMINISTRATIVE PROCEDURE</b>
---------------------------------

**AP-10049**

**REVISION 04**

**EQUIPMENT IMPORTANT TO EMERGENCY RESPONSE**

USE CLASSIFICATION: **INFORMATIONAL**

CATEGORY: **ADMINISTRATIVE**

RESPONSIBLE PROCEDURE OWNER: **Manager Emergency Preparedness**

<b>REQUIRED REVIEWS</b>
10CFR50.54(q) EN-LI-100

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## 1.0 PURPOSE

This procedure provides the Vermont Yankee listing of equipment important to emergency response. This procedure is designed to be used in conjunction with the guidance in EN-EP-202.

## 2.0 DISCUSSION

The guidance provided in V-EN-EP-202 assists personnel in assessing the impact of out of service EP equipment. Attachment 1 of this procedure provides a plant specific listing of EP equipment and compensatory measures.

In order to protect the health and safety of the public, licensees are required to follow and maintain in effect, emergency plans that meet the standards of 10CFR 50.47(b) and 10CFR 50 appendix E. Equipment required to meet these regulations must be capable of functioning at all times, or if there is a loss of function, compensatory measures must be taken to restore the function until the equipment is repaired. A loss of emergency response function may occur from planned maintenance or unplanned equipment failures.

In some cases, installed redundant equipment provides adequate compensatory measures. In other cases, the Technical Specifications (TS) or Technical Requirements Manual (TRM) provides adequate compensatory actions. The emergency plan is designed as a last line of defense to address design basis accident events at a nuclear power plant, including the capability of protecting public health and safety during and following an accident. Therefore, regulations that govern EP equipment may require more timely restoration than technical specifications or other administrative controls. Actions site personnel take to return degraded or out-of-service EP equipment to service should be commensurate with the significance of the associated emergency response function.

Based on being in a permanently defueled condition and the restriction imposed by 10 CFR 50.82(a)(2) that operation of the reactor or emplacement or retention of fuel into the reactor vessel is prohibited, and provided that an acceptable evaluation, e.g., pursuant to 10 CFR 50.54(q)(3), has been performed, Vermont Yankee will remove from service those systems and equipment that: support operation of the reactor; are not required to prevent or mitigate the consequences of a fuel handling accident in the spent fuel pool (SFP); are not required to support SFP cooling operations; and are not necessary to classify an EAL applicable in the defueled (DEF) mode. Equipment which has been removed from service or is planned to be removed from service during the decommissioning process is noted as such in Attachment 1. Those EALs which are not possible in the DEF mode are noted as such in Attachment 1.

### **3.0 APPLICABILITY**

- 3.1. The purpose of EN-EP-202 is to ensure that when equipment important to emergency response (emergency preparedness (EP) equipment) is removed from service for maintenance or is in a degraded condition, the correct restoration priority is assigned, compensatory measures are implemented, and the equipment is restored to a functional condition promptly.
- 3.2. This procedure applies to all Vermont Yankee Nuclear Power Station personnel that authorize the removal from service, or determines the operability of any equipment listed in Attachment 1 of this procedure.

### **4.0 REFERENCES**

#### **4.1. Performance References**

- 4.1.1. V-EN-EP-202, Equipment Important to Emergency Preparedness

#### **4.2. Developmental References**

- 4.2.1. USNRC Information Notice 2005-19, Effect of Plant Configuration Changes on the Emergency Plan, dated July 18, 2005
- 4.2.2. INPO 10-007, Equipment Important to Emergency Response
- 4.2.3. AP 3125, Emergency Plan Classification and Action Level Scheme

### **5.0 REQUIREMENTS**

#### **5.1. Technical Specification Requirements**

- 5.1.1. Vermont Yankee Nuclear Power Station Emergency Plan
- 5.1.2. Off-Site Dose Calculation Manual (ODCM)
- 5.1.3. Vermont Yankee Physical Security Plan
- 5.1.4. All Technical Specifications
- 5.1.5. NUMARC/NESP-007 (NEI 99-01), "Methodology for Development of Emergency Action Levels", Rev. 5, dated February 2008

#### **5.2. Commitments & Obligations**

- 5.2.1. None

#### **5.3. Internal Commitments**

- 5.3.1. None

## 7.0 DEFINITIONS

- 7.1. Alternate Indication: A backup means of monitoring a parameter or condition which should approximate the primary indication it is replacing.
- 7.2. Category A Equipment: Equipment that provides:
- 7.2.1. The sole indication, or very little redundancy, for a parameter used to assess an emergency action level (EAL) threshold.
  - 7.2.2. The sole means of fulfilling an emergency response function.
- 7.3. Category B Equipment: Equipment that has redundant components or trains that fulfill an emergency response function or redundant indications for a parameter used to assess an EAL threshold.
- 7.4. Compensatory Measure: A temporary means to mitigate the degradation or loss of emergency response function or of maintaining the emergency response function until the equipment is restored to a fully functional condition.
- 7.4.1. A compensatory measure is the best available means to maintain the emergency preparedness function. Compensatory measures may include, but are not limited to, redundant equipment.
  - 7.4.2. Compensatory measures are put in place prior to scheduled equipment outages and design modifications and immediately following equipment loss or facility functional failures, to prevent or mitigate any loss of function that could result from the removal of the equipment from service.
  - 7.4.3. Each compensatory measure is evaluated against the station emergency plan requirements. This is to determine the capability of the compensatory measure's function and should state the allowed duration of the interim compensatory measure. This duration may be different than the time allowed by technical specifications or equipment control guidelines/technical requirements manual. The review is documented and includes an analysis, conclusion, and approval of the compensatory measure. \*This documentation may be in the form of an approved, specific procedure which identifies compensatory measures in advance, for specific EP equipment.
  - 7.4.4. Compensatory measures are incorporated into the emergency preparedness and work management processes. The work prioritization matrix appropriately addresses EP equipment and adjusts/raises priority when the compensatory measure put in place exceeds the time allowed in the evaluation or procedure, or when the compensatory measure itself fails.
  - 7.4.5. Compensatory measures that rely on periodic monitoring also have an event-based trigger that prompts immediate and more frequent monitoring. For example, periodic sampling (such as once a shift) may be used to compensate for a nonfunctional vent radiation monitor. However any increase in elevated area or airborne radiation levels in the affected buildings after the compensatory measure is put in place should trigger immediate and more frequent sampling.

- 7.4.6. A formal tracking method is implemented to ensure compensatory measures are in place and are completed on time.
- 7.5. Emergency Action Level (EAL): A condition or set of conditions that require entry into the Emergency Plan at a specified emergency classification level (Unusual Event, Alert, Site Area Emergency or General Emergency).
- 7.6. Equipment Important to Emergency Response (EP Equipment): Includes systems, structures, and components, including essential tools and equipment, necessary to ensure the ability of the station to implement the emergency plan. The level of detail used in tracking these items should be sufficient to allow the user to identify any loss or degradation of function that supports the emergency plan.
- 7.6.1. Essential tools and equipment include, but are not limited to, such items as facility computer links to the plant computer, dedicated telephone lines, hand-held radiation survey meters, air samplers, and specially-equipped radiation monitoring team vehicles. Loss or degradation of these items would result in the loss of an emergency response function, as identified in the emergency plan.
- 7.6.2. In contrast, nonessential tools and equipment are those items which, although useful, would not result in a loss of function or diminish the emergency response capability and are not considered equipment important to emergency response.
- 7.7. Emergency Response Facility (ERF) – Facilities, buildings, and structures, identified in the emergency plan and which include systems and equipment identified in the plan that are used for emergency response during declared emergency plan events.
- 7.8. Functional Readiness: The availability of emergency response facilities and EP equipment, maintained to ensure the highest degree of reliability and a constant state of readiness. Consult the documents listed in the References section for regulatory guidance related to “unavailable time” and restoration timeliness.
- 7.9. Loss of Function: The inability of a facility, system or component, including essential tools and equipment, to fulfill its emergency response purpose.
- 7.10. Maintenance: Scheduled maintenance, periodic testing, or emergent equipment failures that can result in a loss of emergency response function. For the purposes of station work management, certain equipment important to EP is considered “plant equipment” because it is required to be maintained by federal or state regulatory compliance as defined in MTAP-10084. Maintenance encompasses the following activities (which are further subdivided into categories per MTAP-10084).
- 7.10.1. Corrective maintenance (CM) represents a level of degradation of plant equipment that has failed or is significantly deficient such that failure is imminent (within its operating cycle/preventive maintenance interval) and it no longer conforms to or cannot perform its design function.
- 7.10.2. Deficient maintenance (DM) is any work on a plant component where there is potential or actual degradation that does not threaten the component’s design function or performance criteria.
- 7.10.3. Other maintenance (OM) is work that does not reflect a material condition deficiency on plant equipment.
- 7.10.4. Toolpouch Maintenance is a methodology by which work is accomplished that does not require work documents to be initiated.

- 7.10.5. Contingency Maintenance is work to be performed if a component is found to be in a degraded state during other repairs or inspections.
- 7.11. Timely Restoration – The emergency plan is designed as a last line of defense to address design basis accident events at a nuclear power plant, including the capability of protecting public health and safety during and following the accident. Therefore, regulations that govern EP equipment may require more timely restoration than technical specification or other administrative controls. Actions site personnel take to return degraded or out-of-service EP equipment to service should be commensurate with the significance of the associated emergency response function.

## 8.0 RESPONSIBILITIES

- 8.1. The **Manager, Licensing and Corrective Action** is responsible for ensuring that the corrective action program supports tracking and trending of deficiencies related to EP equipment and for providing guidance on compliance with the station licensing basis and related reportability issues.
- 8.2. The **Managers, Engineering** are responsible for ensuring that engineering support is provided as required, in the planning and execution of work on equipment important to EP, and for assuring that configuration control processes account for impact on emergency preparedness functions and equipment.
- 8.3. The **Manager, Emergency Preparedness** is responsible for maintaining oversight of EP facilities and equipment, as well as ensuring that work and change-related processes include appropriate screening requirements to identify impacts to the EP program. The Manager Emergency Preparedness also has the overall responsibility for assuring the development and maintenance of a document containing a current list of equipment required for assessing EAL initiating conditions and for performing ERF functions, and for providing guidance on applicable compensatory actions for indicators and equipment not available for use. It is recommended that the definitions of category A and B equipment be included in this site document.
- 8.4. The **Operations Shift Manager** is responsible for ensuring that appropriate actions, including identification, tracking, and compensatory measures, are taken when EP equipment or emergency response facilities are degraded or removed from service.
- 8.5. The **Operations Shift Manager / Emergency Director** has the responsibility to utilize the information in the Compensating Measures procedure in making EAL classifications.
- 8.6. The **Manager, Production/Maintenance** is responsible for ensuring that work on EP-related equipment within the scope of the work management program is appropriately prioritized and scheduled.
- 8.7. **Operations Senior Manager/Shift Manager or Manager, Production/Maintenance** has the responsibility for reviewing plant equipment that is out of service and its impact on EAL determinations and emergency response facility availability. In addition he/she has the responsibility to utilize the information in the Compensating Measures procedure as a reference to establish contingencies and take actions for planned instrument or equipment outages or during the recovery from an unplanned outage for the ERF equipment or instruments providing indication for EAL determinations.

## 9.0 PROCEDURE

### 9.1. General Guidelines

- 9.1.1. If an EAL entry condition is determined by a single (Category A) instrument which has no Technical Requirements Manual (TRM) or Technical Specification (TS) required compensatory action, then preplanned, documented compensatory actions should be provided to address the alternate means of making the EAL entry determination when the instrument is inoperable. This preplanned action must be implemented immediately upon removal of the instrument from service (or discovery that it is out of service).
- 9.1.2. If an EAL entry condition is determined by a single instrument which has a TRM or TS required compensatory action, then that compensating action may be used as the alternative action for EAL entry provided that the compensatory action can be accomplished in a reasonably short time frame.
- 9.1.3. If an EAL entry condition is part of a statement with multiple OR clauses, each of which is directed at the same parameter, then each clause in the OR statement can be considered as compensatory action for the others, assuming the subject clause can itself be met (e.g. does not rely on the out of service instrument also).
- 9.1.4. If an EAL entry condition contains several different process monitoring instruments which are monitoring separate processes or parameters, but are grouped in the EAL so that any of them can initiate entry into the EAL, then they do not serve as compensating action for one another.
- 9.1.5. If an EAL entry condition is monitored by multiple instruments (at least two), then no preplanned compensation is required, provided a TRM or TS action exists (such as sampling) to address the loss of both instruments.
- 9.1.6. If multiple different parameters are being monitored in a single instrument, or redundant instruments, then each of the parameters must have its own compensating action (e.g. different actions for the particulate, iodine and noble gas channels).
- 9.1.7. Compensating actions need not be based on an exact replication of the monitored parameter; a reasonable approximation can suffice in the case where only one instrument is installed and the parameter is not otherwise controlled.
- 9.1.8. Some EALs use parameters which are indicated by multiple alarms and indications, some of which require brief diagnostic efforts by the shift crew, or which may be determined by actions which are obvious. These do not require preplanned documented contingencies, unless all means of determination are lost.

- 9.1.9. Timeliness of restoration actions should be commensurate with the significance of the degraded emergency response function.

## 9.2. **Discovery of Degraded or Non-Functional EP Equipment**

- 9.2.1. Refer to Attachment 1 to identify EP Equipment.
- 9.2.2. Implement Compensatory Measures for the Category "A" EP Equipment as described in Attachment 1.
- 9.2.3. EP Equipment identified as Category "B" may be out of service without designating Compensatory Measures.
- 9.2.4. Document the degraded or non-functional EP Equipment in the Corrective Action Program.
- 9.2.5. Create a Work Order to repair degraded EP Equipment.
- 9.2.6. Contact the Emergency Plan Duty Officer to assist in informing the Emergency Response Organization of the status of out of service EP Equipment and any associated Compensatory Measures.

## 9.3. **Removing EP Equipment from Service for Planned Maintenance**

- 9.3.1. Refer to Attachment 1 to identify EP Equipment.
- 9.3.2. Category "A" may be removed from service for maintenance or testing without compensatory measures in place provided:
  - A. Personnel removing the equipment from service remain in the immediate area

AND

  - B. The EP Equipment can be restored to service promptly.
- 9.3.3. If the conditions of Step 9.3.2 cannot be met for Category "A" EP Equipment, then implement appropriate Compensatory Measures as described in Attachment 1 prior to removing the equipment from service for maintenance or testing.
- 9.3.4. EP Equipment identified as Category "B" may be out of service without designating Compensatory Measures.
- 9.3.5. The Emergency Plan Duty Officer will assist in informing the Emergency Response Organization of the status of out of service EP Equipment and any associated Compensatory Measures, prior to the start of work.

## 9.4. **Removing EP Equipment from Service to Support the Decommissioning Process**

- 9.4.1. Provided the equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF), Category "A" and "B" equipment may be removed from service while VY is in the DEF mode without designating Compensatory Measures, unless specifically noted that Compensatory Measures are required.

## 10.0 RECORDS

10.1. None

## 11.0 REVISION SUMMARY

11.1. 2.0 Discussion

- Added discussion of permanent cessation of operations and permanent removal of fuel from reactor vessel, including its impact on EALs and mode applicability

11.2. 4.1 Performance References

- Revised EN-EP-202 to V-EN-EP-202
- Deleted 4.1.2 EN-PL-191, Compensating Measures for Out of Service EAL Equipment - Procedure is superseded by V-EN-EP-202, Equipment Important to Emergency Preparedness

11.3. 7.4.3 Compensatory Measure

- Removed reference to NRC SDP finding significance evaluation criteria

11.4. 7.10 Maintenance

- Updated EN-WM-100 to MTAP-10084

11.5. 8.0 Responsibilities

- Sections 8.1 and 8.6 are combined - Updated Manager, Licensing to Manager, Licensing and Corrective Action and consolidated responsibilities
- Section 8.7, Changed title of Manager, Planning, Scheduling and Outages to Manager, Production/Maintenance
- Section 8.8, Changed title of Operations Manager to Operations Senior Manager and changed title of Manager, Planning, Scheduling and Outages to Manager, Production/Maintenance

11.6. 9.4 – Removing EP Equipment from service to Support the Decommissioning Process

- New Section 9.4 - Added paragraph describing appropriate actions for Category "A" and "B" equipment

11.7. Attachment 1, Equipment Important to Emergency Response and Compensatory Measures

- RM-17-155, Revised OP-2611 to CHOP-STAK-2611 and OP-3513 to EPOP-RAD-3513
- ARMs, Separated ARM #13 and ARM #20 through 26 from other ARMs; revised Compensatory Action to indicate none required when in the DEF mode; and added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF).

- Fire Detection System – Revised Compensatory Measures to indicate compensatory measures in accordance with TRM 3.13 and APO042.
- DG-1-1A and DG-1-1B, revised Compensatory Action to indicate none required when in the DEF mode and added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF).
- Bus DC-1 & 2, Added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF).
- Period Meters 7-44A, B, C, D, Revised Compensatory Action to indicate none required when in the DEF mode and revised Comment box to indicate equipment has been removed from service to support decommissioning activities.
- APRMs, Revised Compensatory Action to indicate none required when in the DEF mode and revised Comment box to indicate equipment is not used in the permanently defueled condition and has been removed from service to support decommissioning activities
- RPIS (Full Core Display), Revised Compensatory Action to indicate none required and added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF). Revised Comment box to indicate equipment is not used in the permanently defueled condition.
- RPV Level (multiple assets), Revised Compensatory Action to indicate none required when in the DEF mode and added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF). Revised Comment box to indicate equipment is not used in the permanently defueled condition.
- RPV Pressure (multiple assets), Revised Compensatory Action to indicate none required when in the DEF mode and added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF). Revised Comment box to indicate equipment is not used in the permanently defueled condition.
- Torus Temperature (multiple assets) - Revised Compensatory Action to indicate none required when in the DEF mode and added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF). Revised Comment box to indicate equipment is not used in the permanently defueled condition.

- Containment Pressure (multiple assets), Revised Compensatory Action to indicate none required and added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF). Revised Comment box to indicate equipment is not used in the permanently defueled condition.
- Containment Radiation (multiple assets), Revised Compensatory Action to indicate none required and added note stating that equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF). Revised Comment box to indicate equipment is not used in the permanently defueled condition.
- Added Note to end of table to identify that equipment that has been, or will be, removed from service to support the decommissioning activities and is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF).
- Emergency Response Organization Notification System – Updated OP-3547 to EPOP-SEC-3547
- Meteorological Tower Wind Speed (multiple assets) – Updated OP-3513 to EPOP-RAD-3513
- Meteorological Tower Wind Direction (multiple assets) – Updated OP-3513 to EPOP-RAD-3513
- Meteorological Tower Ambient Temperature (multiple assets) – Updated OP-3513 to EPOP-RAD-3513
- Deleted ODPS
- Deleted METPAC
- Updated to include URI
- Field Monitoring Team Vehicles – Updated OP-3510 to EPOP-OSMT-3510
- Deleted ERDS
- TSC – Updated OP-3507 to EPOP-EREC-3507
- OSC – Updated OP-3507 to EPOP-EREC-3507
- Added Note \*\* stating that based on Mode Applicability, this EAL cannot be declared in the DEF mode. Based on being in a permanently defueled condition and the restriction imposed by 10 CFR 50.82(a)(2), operation of the reactor or emplacement or retention of fuel into the reactor vessel is prohibited.

**12.0 ATTACHMENTS**

ATTACHMENT 1 – EQUIPMENT IMPORTANT TO EMERGENCY RESPONSE AND  
COMPENSATORY MEASURES

**ATTACHMENT 1 – EQUIPMENT IMPORTANT TO EMERGENCY RESPONSE AND COMPENSATORY MEASURES****CLASSIFICATIONS**

<b>Asset Name</b>	<b>Asset Description</b>	<b>Category</b>	<b>Compensatory Measures</b>	<b>IC/EAL</b>	<b>Reference/Comment Allowed Outage Time Reportability</b>
RM-17-155	Stack High Range Monitor Gas 3	A	Stack sampling in accordance with CHOP-STAK-2611 & EPOP-RAD-3513	AG1.1 AS1.1	Stack monitor reading is indication of offsite release.
RM-17-156 RM-17-157	Stack Gas Monitor, Gas 1 or Gas 2	B	Off-site Dose Calculation Manual Table 3.1.2	AA1.1 AU1.1	Stack monitor reading is indication of offsite release
FT-108-22	Stack Flow Instrument	B	Substitute HVAC based flow for ERFIS point C198	AG1.1 AS1.1 AA1.1 AU1.1	
RM-17-351	SW Discharge Header Radiation Monitor	B	Off-site Dose Calculation Manual Table 3.1.1.	AA1.2 AU1.2	Provides indication of liquid radiological release. Chemistry takes daily grab samples in accordance with OP 2617.
RM-17-350	Liquid Radwaste Discharge Radiation Monitor	B	Off-site Dose Calculation Manual Table 3.1.1.	AA1.2 AU1.2	Provides indication of liquid radiological release. Samples analyzed and release rate independently verified if a discharge is planned in accordance with OP 2617.
LT-19-63A LT-19-63B	SFP low level alarm SFP level transmitters	B	No compensatory measures are required.	AA2.2 AU2.1	Provides indication of fuel damage in the Spent Fuel Pool Area
ARM #14 (18-22-14) ARM #15 (18-25-15)	Refuel Floor West and Spent Fuel Pool	B	RP Daily Surveys of affected area (OP 2135).	AA2.1 AU2.1	Provides indication of fuel damage in the Spent Fuel Pool Area
RM -17-452A RM -17-452B	Rx Bldg Vent Exhaust South/North Radiation Monitor	B	Compensatory measures in accordance with TS 3.2.3 (Item 3)	AA2.1	Provides indication of a potential release
RM-17-453A RM-17-453B	Refuel Floor West/East Radiation Monitor	B	Compensatory measures in accordance with TS Table 3.2.3 (Item 4)	AA2.1 AU2.1	Provides indication of fuel damage in the Spent Fuel Pool Area

## CLASSIFICATIONS

Asset Name	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
ARM #1 (18-25-1) ARM #2 (18-21-2) ARM #3. (18-21-3) ARM #4 (18-25-4) ARM #5 (18-25-5) ARM #6 (18-25-6) ARM #7 (18-25-7) ARM #8 (18-25-8) ARM #9 (18-25-9) ARM #10 (18-25-10) ARM #11 (18-25-11) ARM #12 (18-25-12) ARM #14 (18-22-14) ARM #15 (18-25-15) ARM #16 (18-20-16)	Area Radiation Monitors	B	Although any area may have only a single area radiation monitor, high radiation levels would be detected by monitors in adjacent areas. RP Daily Surveys of affected area (OP 2135)	AU2.2	Provides indication of elevated radiation levels
ARM #13 (18-25-13) ARM #20 (18-21-20) ARM #21 (18-25-21) ARM #22 (18-21-22) ARM #23 (18-21-23) ARM #24 (18-25-24) ARM #25 (18-21-25) ARM #26 (18-20-26)	Area Radiation Monitors	B	No compensatory measures are required when in the DEF mode.	AU2.2	Provides indication of elevated radiation levels.  As described in this procedure, Category B equipment may be out of service without designating compensatory measures when in the DEF mode.
SM 117-1 AR 117-1 MODEM-117-2A MODEM-117-2B SMIB-117-1	Seismic Monitor Seismic Workstation (SWS)	B	No compensatory measures are required.	HA1.1 HU1.1	Provides indication of a seismic event
Fire Detection System	Fire	B	Compensatory measures in accordance with TRM 3.13 and AP0042.	HU2.1	Provides indication of fire in the plant

## CLASSIFICATIONS

Asset Name	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
LI-104-9	River Water Level	B	<ol style="list-style-type: none"> <li>Local River monitoring using markings on the north side of the intake structure and the Service Water suction pipe.</li> <li>CW pump trip and Alarm 6-B-4, CIRC WTR INTAKE LVL LO TRIP</li> </ol>	HA1.6 HU1.5	Provides indication of potential flooding. Wilder Station for river level.
Diesel Generator (DG-1-1A)* (DG-1-1B)*	Onsite Power to Buses 3 and 4	B	No compensatory measures are required when in the DEF mode.	SG1.1** SS1.1** SA1.1** SU1.1** CA1.1 CU1.1**	Provides indication of loss of onsite power to emergency busses.  As described in this procedure, Category B equipment may be out of service without designating compensatory measures when in the DEF mode.
Station Blackout Diesel	Onsite Power to Buses 3 and 4	B	Maintain availability of the Vernon Hydroelectric Station.	SG1.1** SS1.1** SA1.1** CA1.1 CU1.1**	Loss of one source of onsite power to emergency busses.
Bus DC-1* Bus DC-2*	Station DC Buses	A	No compensatory measures are required.	SS7.1** CU6.1**	Provides indication of loss of control power
Period meters 7-44A, B, C, D	Source Range Nuclear Instruments	B	No compensatory measures are required when in the DEF mode.	SU2.1** CU5.1** CG2.2** CS2.3**	Equipment has been removed from service to support decommissioning activities.

APRM (7-41A) (7-41B) (7-41C) (7-41D) (7-41E) (7-41F)	Power Range Nuclear Instruments	B	No compensatory measures are required when in the DEF mode.	SG2.1** SS2.1** SA2.1**	Provides indication of a challenge to the fuel. Not used in the permanently defueled condition. Equipment has been removed from service to support decommissioning activities.
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RPIS (Full Core Display)*	Control Rod Drive Rod Position	B	No compensatory measures are required when in the DEF mode.	SG2.1** SS2.1** SA2.1**	Provides indication of a challenge to the fuel. Not used in the permanently defueled condition.  As described in this procedure, Category B equipment may be out of service without designating compensatory measures when in the DEF mode.
LI-2-3-57A* LI-2-3-58B* LI-2-3-72A* LI-2-3-72B* LI-2-3-91A* LI-2-3-91B* LI-2-3-86* LR/PR-2-3-68A* LR/PR-2-3-68*	RPV Level	B	No compensatory measures are required when in the DEF mode.	SG2.1** FG1.1** FS1.1** FA1.1** CG2.1** CS2.1** CA2.1** CU2.1** CG2.2** CS2.2** CS2.3** CU2.2** CU2.3** CU3.2**	Provides indication of a challenge to core cooling. Not used in the permanently defueled condition.  As described in this procedure, Category B equipment may be out of service without designating compensatory measures when in the DEF mode.
PI-2-3-56A* PI-2-3-56B* LR/PR-2-3-68A* LR/PR-2-3-68B*	RPV Pressure	B	No compensatory measures are required when in the DEF mode.	SG2.1** SS2.1** SA2.1** FG1.1** FS1.1** FA1.1** FU1.1**  CA3.1**	Indicates challenge to core cooling. Not used in the permanently defueled condition.  As described in this procedure, Category B equipment may be out of service without designating compensatory measures when in the DEF mode.

TI-16-19-41* TR-16-19-45* TR-16-19-40*	Torus Temperature	B	No compensatory measures are required when in the DEF mode.	SG2.1** SS2.1** SA2.1** FG1.1** FS1.1** FA1.1** FU1.1**	Indicates challenge to containment integrity. Not used in the permanently defueled condition.  As described in this procedure, Category B equipment may be out of service without designating compensatory measures when in the DEF mode.
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PT-10-101A* PT-10-101B* LI-PI-16-19-12A* LI-PI-16-19-12B* PI-16-19-36A* PI-16-19-36AB* DPT-1-158-6*	Containment Pressure	B	No compensatory measures are required when in the DEF mode.	FG1.1** FS1.1** FA1.1** FU1.1**	Indicates challenge to containment integrity. Not used in the permanently defueled condition.  As described in this procedure, Category B equipment may be out of service without designating compensatory measures when in the DEF mode.
RD-16-19-1A* RD-16-19-1B* RM-16-19-1A* RM-16-19-1B*	Containment Radiation	B	No compensatory measures are required when in the DEF mode.	FG1.1** FS1.1** FA1.1** FU1.1**	Indicates challenge to containment, fuel and RCS barriers. Not used in the permanently defueled condition.  As described in this procedure, Category B equipment may be out of service without designating compensatory measures when in the DEF mode.
Plant Annunciator System	Alarm capabilities	B	No compensatory measures are required.	SS4.1** SA4.1** SU4.1**	N/A

\* Equipment has been, or will be, removed from service to support decommissioning activities. Equipment is not used and is not necessary to declare any EAL possible in the permanently shutdown and defueled condition (Mode DEF).

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## NOTIFICATIONS

Asset Name/#	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
Emergency Notification System (ENS)	NRC FTS telephone	B	Use alternate telephone numbers in accordance with EPOP-COMM-3504.	SU4.2** CU4.1	This system is checked monthly using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.
Health Physics Network (HPN)	NRC FTS telephone	B	Use alternate telephone numbers in accordance with EPOP-COMM-3504.	SU4.2** CU4.1	This system is checked monthly using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.
InForm Notification System	Offsite Notification program that utilizes the internet to send offsite notifications	B	Use the alternate notification method (NAS) as described in EPOP-CR-3540 and EPOP-EOF-3546.		Terminal status is automatically checked by the system every 10 seconds. EP is notified of an unsuccessful test and deficiencies are entered into the corrective action program.
Nuclear Alert System (NAS)	Dedicated Off-site notification circuit	B	Use alternate telephone numbers in accordance with EPOP-COMM-3504	SU4.2** CU4.1	This system is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.

## NOTIFICATIONS

Asset Name/#	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
Emergency Alert and Emergency Evacuation Alarms	The Vermont Yankee Alert Alarm is used to notify plant personnel of the declaration of Unusual Event and Alert emergencies. The Evacuation Alarm is used to notify plant personnel to evacuate the site upon declaration of Site Area and General Emergencies.	B	No compensatory measures are required. Procedural guidance is provided for notifying plant personnel in the event of a failure of the alarms.	N/A	This system is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.
Emergency Response Organization Notification System	The Emergency Response Organization Notification System will be activated in the event of a declared emergency to mobilize the ERO. Each ERO member will be contacted with emergency information and instructions for responding.	B	No compensatory measures are required.	NA	Alternate means of notifying ERO members are provided in EPOP-CR-3540 and EPOP-SEC-3547. The Emergency Response Organization Notification System is used in conjunction with the ERO pagers

## NOTIFICATIONS

Asset Name/#	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
ERO Pagers	The ERO pagers work independent from the Emergency Response Organization Notification System.	B	No compensatory measures are required.	NA	Pagers serve as the backup ERO notification method
Alert and Notification System	Alert and Notification System	B	Sirens and Tone Alert Radios provide primary coverage.(ref. FEMA Design Report) comp measures include: <ul style="list-style-type: none"> <li>• RENTS</li> <li>• Route alerting</li> </ul>	NA	N/A
Mobile UHF Radio System	Operations Radio, Security Radio, FMT Radio	B	The radio system uses redundant repeaters. If one is found to be out of service verify that the other is functioning.	SU4.2** CU4.1	Provides onsite communications capabilities
Gai-Tronics system	Plant Intercom system	A	Verify the plant radio system is available. Use of group paging	SU4.2** CU4.1	Provides onsite communications capabilities
Commercial Telephone System	Plant Telephone System	B	Verify at least one plant telephone system is available. Voice over Internet Protocol (VoIP) phones may also be used.	SU4.2** CU4.1	Provides onsite and offsite communications capabilities
Utility Microwave	Entergy shared microwave network	B	Verify at least one plant telephone system is available.	SU4.2** CU4.1	Provides offsite communications capabilities.

## NOTIFICATIONS

Asset Name/#	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
Primary Auto Ring Down Telephone Circuit	The Primary Auto Ring Down (PARD) circuit is part of the commercial telephone system and utilizes the conference calling feature to connect the EOF/RC with the Main Control Room (MCR), TSC, OSC, and LLEA Command Post.	B	No compensatory measures are required.	N/A	In the event the PARD Telephones are not working other communications capabilities are available. This system is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.
Alternate Auto Ring Down Telephone Circuit	The Alternate Auto Ring Down (AARD) circuit is a dedicated telephone circuit and is only accessible by the telephones on the circuit.	B	No compensatory measures are required.	N/A	In the event the AARD Telephones are not working other communications capabilities are available. This system is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.

## NOTIFICATIONS

Asset Name/#	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
Power Fail Telephones	In the event that power is lost to either the Vernon or Brattleboro phone systems, or the systems fail for any reason, there are designated wall and desk telephones to allow off-site commercial telephone capability.	B	No compensatory measures are required.	N/A	In the event the Power Fail Telephones are not working other communications capabilities are available. This system is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.

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## DOSE ASSESSMENT

WST-124-2 WST-124-3 WST-124-1	Meteorological Tower Wind Speed	B	Refer to EPOP-RAD-3513	AG1.2 AS1.2 HA1.2 HU1.2	Wind speed indication is required to calculate offsite dose projections in accordance with EPOP-RAD-3513.
WDT-124-2 WDT-124-3 WDT-124-1	Meteorological Tower Wind Direction	B	Refer to EPOP-RAD-3513	AG1.2 AS1.2	Wind direction indication is required to calculate offsite dose projections in accordance with EPOP-RAD-3513.

## DOSE ASSESSMENT

Asset Name/#	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
TE-124-3 TE-124-4 TE-124-5 TE-124-1 TE-124-2	Meteorological Tower Ambient Temperature	B	Refer to EPOP-RAD-3513	AG1.2 AS1.2	Ambient temperature differential indication is required to calculate offsite dose projections in accordance with EPOP-RAD-3513.
URI	Dose Assessment Software and hardware (Control Room and EOF)	B	Perform manual dose assessment in accordance with EPOP-RAD-3513.	AG1.2 AS1.2	This equipment is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.
	Field Monitoring Team (FMT) Vehicles	B	Refer to EPOP-OSMT-3510	AG1.3 AS1.3	The Emergency Plan Duty Officer should be notified of the failure and the dedicated vehicle should be returned to service as soon as possible

## PLANT DATA NETWORK

Asset Name	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
	Field Monitoring Team (FMT) Equipment	B	If any equipment malfunctions or is missing, notify the facility in charge of radiological coordination to obtain replacements.	AG1.3 AS1.3	This equipment is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program

## PLANT DATA NETWORK

Asset Name/#	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
Plant Process Computer (PPC)	Provides remote indication and annunciation of plant parameters	B	No compensatory measures are required.	SS4.1** SA4.1** SU4.1**	N/A
Safety Parameter Display System (SPDS)	SPDS computer system provides input to data systems that are important to the ERO.	B	No compensatory measures are required.	SS4.1** SA4.1** SU4.1**	N/A

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## FACILITIES

Asset Name	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
TSC	Technical Support Center	A	If the TSC has to be evacuated, 1) The Emergency Plant Manager and immediate staff deemed necessary to deal with the emergency, should relocate to the Control Room and continue their respective roles in the Emergency Response Organization. 2) Remaining TSC staff should relocate to the EOF in support of their respective disciplines or be otherwise reassigned by the Administration and Logistics Coordinator.	N/A	Instructions for relocation of the TSC can be found in EPOP-TSC-3542 and EPOP-EREC-3507
TSC	TSC power supply	B	Necessary equipment is on plant safety-related buses. A portable generator could be used if necessary	N/A	The Emergency Plan Duty Officer should be notified of the failure and requested to check out the TSC equipment to determine if the facility is functional
TSC	TSC communications equipment (phones, faxes, PCs, PA)	B	No compensatory measures are required.	N/A	This equipment is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program
OSC	Operational Support Center	A	If the OSC has to be evacuated, the TSC will determine an alternate area for relocation. Relocation will be based on conditions at the time. Areas to be considered include PSB, Receiving Warehouse, GHH and EOF.	N/A	Instructions for relocation of the OSC can be found in EPOP-EREC-3507
OSC	OSC power supply	B	Necessary equipment is on plant safety-related buses. A portable generator could be used if necessary.	N/A	The Emergency Plan Duty Officer should be notified of the failure and requested to check out the OSC equipment to determine if the facility is functional.

## FACILITIES

Asset Name	Asset Description	Category	Compensatory Measures	IC/EAL	Reference/Comment Allowed Outage Time Reportability
OSC	OSC communications equipment (phones, faxes, PCs, PA)	B	No compensatory measures are required.	N/A	This equipment is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.
EOF	Emergency Operations Facility	A	Relocate to another suitable location in accordance with EPOP-EOF-3546.	N/A	Instructions for relocation of the EOF can be found in EPOP-EOF-3546, Attachment 1, Section 2.12.
EOF	EOF power supply	B	No compensatory measures are required. A generator will automatically activate if a power outage occurs.	N/A	The Emergency Plan Duty Officer should be notified of the failure and requested to check out the EOF equipment to determine if the facility is functional.
EOF	EOF communications equipment (phones, faxes, PCs, PA)	B	No compensatory measures are required.	N/A	This equipment is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.
JIC	Joint Information Center	B	In the event that the Joint Information Center needs to be relocated, the Alternate Joint Information Center at Landmark College in Putney, Vermont, shall be utilized.	N/A	Instructions for relocation of the JIC can be found in EPOP-3551 and EPOP-3552
JIC	JIC power supply	B	The JIC has no backup power supply. In the event that the Joint Information Center needs to be relocated, the Alternate Joint Information Center at Landmark College in Putney, Vermont, shall be utilized.	N/A	The Emergency Plan Duty Officer should be notified of the failure and requested to check out the JIC equipment to determine if the facility is functional.

**FACILITIES**

<b>Asset Name</b>	<b>Asset Description</b>	<b>Category</b>	<b>Compensatory Measures</b>	<b>IC/EAL</b>	<b>Reference/Comment Allowed Outage Time Reportability</b>
JIC	JIC communications equipment (phones, faxes, PCs, PA)	B	No compensatory measures are required.	N/A	This equipment is checked using EPOP-EQUIP-3506 and deficiencies are entered into the corrective action program.

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