



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I**
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

August 9, 2013

Mr. Christopher Wamser
Site Vice President
Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
Vernon, VT 05354

**SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION – NRC INTEGRATED
INSPECTION REPORT 05000271/2013003 AND INDEPENDENT SPENT FUEL
STORAGE INSTALLATION REPORT 07200059/2013001**

Dear Mr. Wamser:

On June 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vermont Yankee Nuclear Power Station. The enclosed inspection report documents the inspection results, which were discussed on July 16, 2013, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one NRC-identified and two self-revealing findings of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. However, because of the very low safety significance, and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest any NCVs in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Vermont Yankee. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at Vermont Yankee.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the

NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web Site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Fred L. Bower III, Acting Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket Nos. 50-271, 72-059
License No. DPR-28

Enclosure: Inspection Report 05000271/2013003 and 07200059/2013001
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C. Wamser

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V. Campbell, OEDO
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-271, 72-059

License No. DPR-28

Report No. 05000271/2013003 and 07200059/2013001

Licensee: Entergy Nuclear Operations, Inc.

Facility: Vermont Yankee Nuclear Power Station

Location: Vernon, VT 05354

Dates: April 1, 2013 through June 30, 2013

Inspectors: S. Rutenkroger, PhD, Senior Resident Inspector, Division of Reactor
Projects (DRP)
R. Clagg, Acting Senior Resident Inspector, DRP
S. Rich, Resident Inspector, DRP
B. Sienel, Resident Inspector, DRP
J. Furia, Senior Health Physicist, Division of Reactor Safety (DRS)
J. Nicholson, Health Physicist, Division of Nuclear Materials Safety
T. O'Hara, Reactor Engineer, DRS
J. DeBoer, Project Engineer, DRP
J. Laughlin, Emergency Preparedness Inspector, Office of Nuclear
Security and Incident Response (NSIR)

Approved by: Fred L. Bower III, Acting Chief
Reactor Projects Branch 5
Division of Reactor Projects

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SUMMARY

IR 05000271/2013003, 07200059/2013001; 04/01/2013 – 06/30/2013; Vermont Yankee Nuclear Power Station; Adverse Weather Protection, Equipment Alignment, and Refueling and Other Outage Activities.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. There was one NRC-identified finding and two self-revealing findings of very low safety significance (Green), all of which were non-cited violations (NCVs), documented in this report. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Components Within Cross-Cutting Areas," dated October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated January 28, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4.

Cornerstone: Mitigating Systems

- Green. A self-revealing NCV of Title 10 *Code of Federal Regulation* (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," was identified because Entergy did not promptly identify and correct two separate conditions adverse to quality related to flood protection of the switchgear rooms. Specifically, mechanical screw-type flood seals were not promptly replaced with reliable foam seals and an open drain line was not promptly identified and corrected allowing for water intrusion pathways into the switchgear rooms. Entergy's corrective action to restore compliance consisted of placing the issue into the corrective action program and sealing all the potential pathways with Sylguard by April 8, 2013.

The inspectors determined that the failure to identify the flood pathways was a performance deficiency that was within Entergy's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the protection against external events attribute of the Mitigating Systems cornerstone and affected the objective to ensure the availability and reliability of systems that respond to external events to prevent undesirable consequences. Specifically, the failed flood barriers provided an external flood water pathway that could potentially impact the reliability and availability of both electrical switchgear rooms during a design basis flood event. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 4 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding was of very low safety significance (Green) because, in spite of the failed flood barriers, sufficient water removal capability was available to ensure there was no loss of electrical switchgear safety function. The switchgear would still have been able to perform its function because the water level would have been maintained below floor level using the additional sump pump capacity available on site. The inspectors determined that the finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because Entergy did not identify these issues in a timely manner commensurate with their safety significance. Specifically, Entergy had opportunities as part of the extent of condition from a 2012 flood seal failure and as part of the Fukushima flooding walkdowns to identify the additional possible flood paths and did not. [P.1(a)] (Section 1R01)

- Green. The inspectors identified a NCV of Technical Specification (TS) 6.4, "Procedures," because Entergy did not implement a barrier breach permit required by procedure. Specifically, Entergy personnel created three open penetrations to the "A" emergency diesel generator (EDG) room when the barrier breach permit for the planned modification allowed only one hole at a time. Entergy's corrective action to restore compliance consisted of placing the issue into their corrective action program and installing the tubing and grouting the three holes.

The inspectors determined that Entergy's failure to properly implement a barrier breach permit by opening three holes in the "A" EDG room west wall instead of only one was a performance deficiency that was reasonably within Entergy's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). Specifically, the capability of the "A" EDG room west wall to limit the intrusion of a high energy line break into the "A" EDG room was reduced more than allowed and accepted by the barrier breach permit, and the equipment within the "A" EDG room was only qualified for a mild environment (i.e. not a steam or high temperature environment). Additionally, the finding is similar to IMC 0612, Appendix E, "Examples of Minor Issues," examples 3.i. and 3.j., more than minor descriptions, because the accident analysis calculation had to be re-performed to assure the accident analysis requirements were met and there was reasonable doubt on the operability of the equipment without the re-analysis. In accordance with IMC 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the finding is a deficiency affecting the qualification of a mitigating structure but the structure maintained its functionality. Specifically, the "A" EDG room west wall would have sufficiently limited the intrusion of steam from a design basis high energy line break (HELB) to maintain the operability of equipment within the "A" EDG room. The inspectors determined that the finding has a cross-cutting aspect in the Human Performance area, Work Control component, because Entergy personnel did not appropriately coordinate work activities by incorporating actions to address the need to keep personnel apprised of the operational impact of work activities. Specifically, Entergy identified the need for compensatory measures for the barrier breach permit (i.e., drilling only one hole at a time), but the necessary actions were not sufficiently communicated to maintenance or operations personnel [H.3(b)] (Section 1R04)

Cornerstone: Barrier Integrity

- Green. A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified because Entergy did not establish a procedure controlling plant equipment appropriate to the circumstances for activities affecting quality. Specifically, the procedure for the control of plant equipment did not require identifying and tagging the switches of deenergized equipment that continued to have control power. As a result, the reactor building ventilation was operated in a manner that dislodged an engineered blowout panel rendering secondary containment inoperable. Entergy's corrective action to restore compliance consisted of entering the issue into their corrective action program and implementing a night order to place a caution tag on the control switches of components that are deenergized and continue to have control power available.

The inspectors determined that Entergy's inadequate procedure for the control of plant equipment such that deenergized loads that continued to have control power were not identified or tagged was a performance deficiency that was reasonably within Entergy's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the procedure quality attribute of the Barrier Integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the lack of identification and/or tagging of the switches for "A" reactor building ventilation resulted in dislodging a secondary containment blowout panel that rendered secondary containment inoperable. In accordance with IMC 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," issued February 28, 2005, the inspectors determined that this finding is of very low safety significance (Green) because it did not increase the likelihood of a loss of reactor coolant system inventory, did not degrade the ability to terminate a leak path or add reactor coolant system inventory, and did not degrade the ability to recover decay heat removal if it was lost. Specifically, at the time secondary containment was rendered inoperable, the reactor coolant system was fully flooded, the event did not increase the likelihood of any initiating event, and secondary containment was not required to be operable at the time given no fuel movement, core alterations, or operations with a potential for draining the reactor vessel in progress. The inspectors determined that the finding had a cross-cutting aspect in the Human Performance area, Resources component, because Entergy's procedures did not ensure that components in the field were labeled sufficiently and completely, during the bus deenergization, to assure nuclear safety [H.2(c)]. (Section 1R20)

REPORT DETAILS

Summary of Plant Status

Vermont Yankee Nuclear Power Station (VY) began the inspection period in a planned refueling outage. On April 4, 2013, VY commenced start-up and achieved 100 percent power on April 7. On April 8, operators reduced power to 50 percent for a series of planned control rod pattern adjustments and returned VY to steady-state 100 percent power on April 11. On June 8, operators reduced power to 80 percent for planned offsite electrical line maintenance and returned to 100 percent power the following day. Except for planned circulating water system chlorination activities, VY remained at or near 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 2 samples)

.1 External Flooding

a. Inspection Scope

From March 19 to April 26, 2013, the inspectors performed an inspection of the external flood protection measures for VY. The inspectors reviewed procedures, design documents, and the individual plant examination for external events which depicted the design flood levels and protection areas containing safety-related equipment to identify areas that may be affected by external flooding. The inspectors conducted a general site walkdown of all external areas of the plant, including the control building and fuel oil storage tank house to ensure that Entergy erected flood protection measures in accordance with design specifications. In addition, the inspectors observed the pump-outs of switchgear room and yard manholes that flooded on March 19. The inspectors also reviewed operating procedures, work orders, and condition reports for mitigating external flooding during severe weather to determine if Entergy established adequate measures to protect against external flooding events.

b. Findings

Introduction. A self-revealing NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified because Entergy did not promptly identify and correct two separate conditions adverse to quality related to flood protection of the switchgear rooms. Specifically, mechanical screw-type flood seals were not promptly replaced with reliable foam seals and an open drain line was not promptly identified and corrected allowing for water intrusion pathways into the switchgear rooms.

Description. On March 19, 2013, while VY was shut down for a refueling outage, maintenance workers were replacing cables in manholes in the switchgear rooms when water began entering the manholes. Entergy used two electric sump pumps in the manholes indoors to remove the water, as well as a gas-powered pump to remove water from a manhole outside the switchgear rooms. Several manholes in the yard were found

filled with water from dredging operations that had been allowed to pool on top of a manhole outside the protected area. The conduits between the yard manholes and the switchgear room manholes are designed to be sealed against flooding in order to protect the safety-related switchgear from the effects of a design basis flood.

On March 23, during their followup inspections, Entergy found a mechanical screw-type flood seal inside MH-S2 had rotated in place and allowed water to flow from the yard manholes into the switchgear room manholes. The seal was initially reinstalled and then replaced with a foam seal the next day. Entergy reviewed a list of screw-type flood seals from Minor Modification 97-030 that installed all seals for the switchgear rooms, and either replaced them with Sylguard foam seals or verified that they had been replaced previously.

On March 27, as a continuation of the followup inspections, Entergy found that although an original plant drawing showed a sump pump in manhole MH-S1 that discharges through a check valve and block valve to the storm drain system. A field change had removed the pump and valves without implementing an approved design change. The check valve had served to prevent reverse-flow from the storm drains into the manhole and its removal left the manhole with a 2 inch water intrusion path. Entergy wrote condition report CR-VTY-2013-2229 and took corrective action to seal this pathway by capping the pipe. All potential pathways were sealed by April 8. On April 26, Entergy wrote CR-VTY-2013-3057 to document that the post-Fukushima flooding walk downs performed in September and October of 2012 were a missed opportunity to identify the open 2-inch pipe.

In 2012, Entergy submitted licensee event report (LER) 05000271/2012-001, "Potential to Flood Switchgear Room Due to Missing Conduit Flood Seal." This LER documented the failure of a screw-type flood seal identical to the one that allowed the water into the switchgear rooms. As part of the corrective actions for this issue in condition report CR-VTY-2012-2391, Entergy performed a drawing review and identified three screw-type flood seals that were still installed, including the failed one in MH-S2. Entergy wrote work requests to replace the screw-type seals with foam seals. The corrective action was closed to these work requests, and remained incomplete until the water intrusion in March.

Entergy performed an apparent cause evaluation, under CR-VTY-2013-2430, on the March flood seal failure and identified that the corrective action was incorrectly closed to work requests instead of appropriately prioritized work orders, contrary to procedure EN-LI-102, "Corrective Action Process." In addition, the inspectors identified that the corrective action for CR-VTY-2012-2391 did not identify two additional screw-type flood seals that were also replaced with foam seals in March. The extent of condition review from the 2012 seal failure did not direct a sufficiently thorough drawing review or a visual inspection of the manholes, so Entergy did not identify the 2 inch drain line or two additional screw-type flood seals prior to the water intrusion. Additionally, the post-Fukushima flooding walkdowns provided an opportunity to identify the two additional seals. The inspectors determined that this missed opportunity represented a failure to promptly identify a condition adverse to quality.

Entergy calculated the flow rates through the flood pathways, including design basis leakage of 30 gallons per minute (gpm) through the entire population of properly sealed

conduits. They determined that the maximum flow rate through the 2 inch pipe would be 37 gpm, and that the maximum flow rate through a 4 inch conduit with a tilted flood seal would be 35 gpm. Although only one seal rotated in place, the other four seals were not challenged with any water pressure from the dredging water. In addition, the screw-type flood seals were never tested for use in electrical conduits which have a slightly larger internal diameter than the intended plumbing pipe. With potentially five deficient flood seals and one drain without a check valve, the total in-leakage into the switchgear room from the six penetrations in the event of site-wide flooding would be 242 gpm. This exceeds the 200 gpm total combined capacity of the two gas-powered pumps specified for flood mitigation in OPOP-PHEN-3127, "Natural Phenomena."

However, as demonstrated by the response to the actual dredging water intrusion on March 19, various other sump pumps were available on-site capable of removing water from the manholes in the switchgear rooms such that the safety function of the switchgear equipment was preserved.

Analysis. The inspectors determined that the failure to identify the flood pathways was a performance deficiency that was within Entergy's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the protection against external events attribute of the Mitigating Systems cornerstone and affected the objective to ensure the availability and reliability of systems that respond to external events to prevent undesirable consequences. Specifically, the failed flood barriers provided an external flood waters pathway that could potentially impact the reliability and availability of both electrical switchgear rooms during a design basis flood event. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 4 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding was of very low safety significance (Green) because, in spite of the failed flood barriers, sufficient water removal capability was available to ensure there was no loss of electrical switchgear safety function. The switchgear would still have been able to perform its function because the water level would have been maintained below floor level using the additional sump pump capacity available on site.

The inspectors determined that the finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program component, because Entergy did not identify these issues in a timely manner commensurate with their safety significance. Specifically, Entergy had opportunities as part of the extent of condition from the 2012 flood seal failure and as part of the Fukushima flooding walkdowns to identify the additional possible flood paths and did not. [P.1(a)]

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective equipment, and non-conformances are promptly identified and corrected. Contrary to the above, from May 24, 2012, to April 8, 2013, Entergy failed to promptly identify and correct the deficient flooding pathways designed to withstand a flood event. Entergy's corrective action to restore compliance consisted of replacing the existing flood seals with Sylguard foam seals and capping the open drain pipe by April 8. Because this violation was of very low safety significance (Green), and Entergy entered the issue into their corrective action program (CR-VTY-2013-02064, CR-VTY-2013-02229, CR-VTY-2013-02391, CR-VTY-2013-02430, and CR-VTY-2013-02807), this violation is being treated as an NCV,

consistent with Section 2.3.2 of the Enforcement Policy. (**NCV 05000271/2013003-01, Inadequate Corrective Actions for Sealing Flood Pathways into the Electrical Switchgear Rooms**)

.2 Summer Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors performed a review of plant features and procedures for the operation and continued availability of the offsite and alternate AC power system to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed Entergy's procedures affecting these areas and the communications protocols between the transmission system operator and Entergy. This review focused on changes to the established program and material condition of the offsite and alternate AC power equipment. The inspectors assessed whether Entergy established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system. The inspectors evaluated the material condition of the associated equipment by interviewing the responsible system engineer, reviewing condition reports and open work orders, and walking down portions of the offsite and AC power systems including the 345 kilovolt (kV) and 115 kV switchyards.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

Partial System Walkdowns (71111.04 – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- "A" EDG during reactor core isolation cooling (RCIC) quarterly surveillance on May 8
- "B" standby gas treatment during "A" standby gas treatment maintenance on May 28
- Control rod drive system after maintenance on May 3
- "A" standby liquid control (SLC) during "B" SLC planned maintenance on June 26

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the Updated Final Safety Analysis Report (UFSAR), TS, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Entergy staff had properly identified equipment issues and entered them into

the corrective action program for resolution with the appropriate significance characterization.

b. Findings

Introduction. The inspectors identified a Green NCV of TS 6.4, "Procedures," because Entergy did not implement a barrier breach permit required by procedure. Specifically, Entergy personnel created three open penetrations to the "A" EDG room when the barrier breach permit for the planned modification allowed only one hole at a time.

Description. On May 8, 2013, Entergy personnel drilled three 1.5 inch diameter holes in the west wall of the "A" EDG room, FB-018-1-252, and stuffed the holes with Kaowool insulation for a 24 hour wait period. The holes were drilled as part of an ongoing plant modification to install tubing that will improve the ability to chemically treat the service water system. When the inspectors reviewed the status of the work and the associated barrier breach permit, the inspectors noted that the permit stated only one hole (penetration) per EDG room was allowed at a time. In addition to other functions, this wall of the EDG room comprises a fire, HELB, environmental, flooding, and missile (e.g. tornado) barrier. As such, procedure OPAP-BCP-0077, "Barrier Control Process," required a barrier breach permit to be established for any opening created in the EDG wall. In order to maintain operability of the equipment within the EDG room (which is qualified as a mild environment, i.e. not a steam or high temperature environment), including the "A" EDG, the permit established a number of compensatory measures, such as limiting the work activity to a single penetration at a time. When the inspectors questioned the status (three drilled holes filled with Kaowool), Entergy personnel initially concluded that the permit limited the work activity to only one open hole at a time, defined as only one hole not filled with Kaowool at a time.

The inspectors reviewed the engineering evaluation and associated calculations supporting the permit and questioned Entergy personnel's initial assessment. Specifically, the inspectors concluded that although Kaowool insulation filling the hole would reasonably serve to mitigate some events, such as a fire or a local break of steam piping associated with the house heating boiler system, the pressure gradient from a HELB from the main steam lines would dislodge the Kaowool from the holes resulting in an open penetration exceeding the existing analyzed case (a single opening 2 inches in diameter). Entergy personnel reviewed the conditions and agreed with the inspectors' assessment.

In the meantime, Entergy workers had completed the installation of the tubing and filled the remaining space with grout. Entergy initiated condition report CR-VTY-2013-03368, briefed maintenance personnel that only one hole/tube was to be installed at a time for the upcoming "B" EDG room work, and performed an evaluation which determined that existing conservative assumptions existed in the HELB calculations to conclude the equipment within the "A" EDG room had remained operable. In particular, the design basis calculation for steam intrusion assumed the peak pressure existed for 30 seconds while the design basis calculation for pressure determined that the entire pressure pulse actually dissipated in approximately six seconds.

Analysis. The inspectors determined that Entergy's failure to properly implement a barrier breach permit by opening three holes in the "A" EDG room west wall instead of only one was a performance deficiency that was reasonably within Entergy's ability to

foresee and correct and should have been prevented. This finding is more than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). Specifically, the capability of the “A” EDG room west wall to limit the intrusion of a HELB into the “A” EDG room was reduced more than allowed and accepted by the barrier breach permit, and the equipment within the “A” EDG room was only qualified for a mild environment (i.e. not a steam or high temperature environment). Additionally, the finding is similar to IMC 0612, Appendix E, “Examples of Minor Issues,” examples 3.i. and 3.j., more than minor descriptions, because the accident analysis calculation had to be re-performed to assure the accident analysis requirements were met and there was reasonable doubt on the operability of the equipment without the re-analysis. In accordance with IMC 0609.04, “Initial Characterization of Findings,” and IMC 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the finding is a deficiency affecting the qualification of a mitigating structure but the structure maintained its functionality. Specifically, the “A” EDG room west wall would have sufficiently limited the intrusion of steam from a design basis HELB to maintain the operability of equipment within the “A” EDG room.

The inspectors determined that the finding had a cross-cutting aspect in the Human Performance area, Work Control component, because Entergy personnel did not appropriately coordinate work activities by incorporating actions to address the need to keep personnel apprised of the operational impact of work activities. Specifically, Entergy identified the need for compensatory measures for the barrier breach permit (i.e., drilling only one hole at a time), but the necessary actions were not sufficiently communicated to maintenance or operations personnel. [H.3(b)]

Enforcement. TS 6.4, “Procedures,” requires that written procedures be implemented covering maintenance operations which could have an effect on the safety of the reactor. Contrary to this, Entergy failed to implement procedure OPAP-BCP-0077, “Barrier Control Process.” Specifically, three holes were opened in the “A” EDG room west wall when the barrier breach permit limited the work to one hole at a time from May 8 to 10, 2013. Entergy’s corrective action to restore compliance consisted of installing the tubing and grouting the three holes. Because this violation was of very low safety significance (Green), and Entergy entered this issue into their corrective action program (CR-VTY-2013-03368), this violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. **(NCV 05000271/2013003-02, Failure to Maintain Compensatory Measures Required for a Barrier Breach Permit for the “A” Emergency Diesel Generator Room)**

1R05 Fire Protection (71111.05)

Resident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Entergy controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression

equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Northeast corner room, elevation 213' + 232', RB-1
- Southeast corner room, elevation 213' + 232', RB-2
- Cable vault, ASD-2
- Intake structure
- Northwest corner room, elevation 213', RCIC, + 232', RB-1S

b. Findings

No findings were identified.

1R07 Heat Sink Performance (711111.07A – 1 sample)

a. Inspection Scope

The inspectors reviewed the “B” EDG jacket water and lube oil heat exchangers to determine their readiness and availability to perform their safety functions. The inspectors reviewed the design basis for the component and verified Entergy’s commitments to NRC Generic Letter 89-13. The inspectors observed the draining and cleaning of both heat exchangers as well as their reassembly. The inspectors discussed the results of the most recent inspection with engineering staff and reviewed pictures of the as-found and as-left conditions. The inspectors verified that Entergy initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the heat exchanger did not exceed the maximum amount allowed.

b. Findings

No findings were identified.

1R08 In-service Inspection Activities (71111.08G - 1 sample)

a. Inspection Scope

A review of implementation of in-service inspection (ISI) program activities for monitoring degradation of the reactor coolant system boundary and risk significant piping system boundaries for the Vermont Yankee Nuclear Power Station was conducted from March 25-29, 2013, during refueling outage 30 (RFO30). The sample selection was based on the inspection procedure objectives and risk priority of those components and systems where degradation would result in a significant increase in risk of core damage. The inspector reviewed documentation, observed in-process non-destructive examinations (NDE), and interviewed inspection personnel to verify that the activities were performed in accordance with the requirements of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI, 1998 Edition, 2000 Addenda.

Nondestructive Examination and Welding Activities (IMC Section 02.01)

The inspector performed observations of selected NDE activities and reviewed documentation of nondestructive examinations. Specifically, the inspector conducted direct observation of data analysis in progress, interviewed NDE technicians, reviewed applicable NDE procedures, inspection data records, work order packages, and documentation of the following NDE activities. NDE activities reviewed included observation of ultrasonic testing (UT) in the field and review of documentation of liquid penetrant testing (PT), radiographic testing (RT) and visual testing (VT-1 and VT-3).

ASME Code Required Examinations

- The inspector conducted a direct field observation of the UT of weld number RH31-2, a Class 1 weld, in a 24-inch residual heat removal piping system. The inspector observed calibration of the UT equipment, the measurement of the contour of the weld, a partial scanning of the weld, and reviewed the inspection procedure and the completed data sheet from the inspection.
- The inspector reviewed a sample of ASME, Section XI, Subsection IWE, containment visual inspection data sheets and engineering acceptance forms from the prior refueling outage (RFO29) and from the present outage. The inspector also reviewed the engineering disposition of conditions noted on the data sheets and reported in CR-VTY-2011-04843 during RFO29.
- The inspector reviewed the results of UT inspections completed on the following reactor pressure vessel nozzles: N9, inner radius; N9, nozzle to vessel weld; N-10, nozzle to safe end weld; and the N4A nozzle inner radius.

The inspector reviewed a sample of personnel certifications for NDE technicians performing examinations and verified that the inspections were performed in accordance with approved procedures and that the results were reviewed and evaluated by certified Level III NDE personnel.

Augmented or Industry Initiative Examinations

The inspector reviewed inspection records of visual inspections conducted on reactor vessel internals components. These inspections were conducted in accordance with the industry initiative using the Boiling Water Reactor Vessel and Internals Project, In Vessel Visual Inspection Program. These inspections monitor and record the condition of the reactor vessel internal components. Specifically, the inspector reviewed VT examination data records and reviewed the disposition of indications noted by the inspectors. The inspector verified that the activities were performed in accordance with applicable examination procedures and industry guidance. An identified, recordable indication on the number 19 jet pump beam was dispositioned by the vendor (General Electric-Hitachi) and by Entergy when the jet pump was replaced. All other recorded indications were dispositioned by the NDE examiner (General Electric-Hitachi) and Entergy as acceptable for further service.

Review of Originally Rejectable Indications Accepted by Evaluation

The inspector reviewed a sample of corrective action reports which documented originally rejectable conditions. The inspector reviewed the Entergy actions to investigate, evaluate and/or analyze the reported conditions and reviewed the Entergy

documents which demonstrated that the reported conditions were acceptable for further service. All of the instances reviewed had occurred after completion of RFO29 and during RFO30, the present outage.

Repair/Replacement Activities Including Welding Activities

- The inspector reviewed the repair/replacement plan, which replaced the high pressure coolant injection system steam line drain piping (Work Order 260915). The inspector reviewed the welder qualifications, the weld material control documentation, and the post replacement testing performed to verify successful completion of the replacement. This repair was completed in accordance with ASME Section XI requirements.
- The inspector reviewed the repair/replacement plan, for the replacement of flow switch high (FSH-11-54), in the standby liquid control system (Work Order 237473, and Engineering Change EC33982). The body of the flow switch is an ASME Class 1 reactor coolant system component. The flow switch had failed and Engineering specified replacement of the flow switch. The inspector reviewed the work order and the engineering change package for the replacement of this flow switch. The inspector also observed the review of the radiographs of the flow switch body performed by the Entergy Level III NDE Technician. The flow switch body was welded and the repair was completed in accordance with ASME Section XI requirements. The inspector also reviewed the post maintenance testing intended to be completed during the operational pressure test for this repair.
- The inspector reviewed the replacement of the 8-inch, service water piping (18B) in the Reactor Building South East Corner Room (Work Order 300444). The inspector reviewed the work order, and the post maintenance testing planned to be completed when the replacement of the piping was completed. This repair was completed in accordance with ASME Section XI requirements.
- The inspector reviewed the repair of marks discovered on the 28-inch reactor recirculation piping. The marks were the result of the removal of temporary supports and shims used to temporarily brace the piping during the replacement of the B recirculation system pump motor. The indications were removed by buffing the surface of the pipe and conducting UT wall thickness measurements and surface examinations (penetrant examinations). All NDE results were acceptable with wall thickness values remaining above minimum wall thickness values. This repair was completed in accordance with ASME Section XI requirements.

Identification and Resolution of Problems (IMC Section 02.05)

The inspector reviewed a sample of corrective action reports, which identified NDE indications, deficiencies and other nonconforming conditions since the previous refueling outage and during the current outage. The inspector verified that nonconforming conditions were properly identified, characterized, evaluated, that corrective actions were identified and addresses the reported conditions. The inspector verified that reported conditions were appropriately entered into the Vermont Yankee corrective action program for resolution.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 – 2 samples).1 Quarterly Review of Licensed Operators' Requalification Testing and Traininga. Inspection Scope

The inspectors observed licensed operator simulator training on May 16 and 23 which included the failure of select components prior to the accident conditions followed by a loss of the inner and outer seals of a recirculation pump combined with the loss of the equipment required to isolate the recirculation pump resulting in a loss of coolant accident. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the technical specification action statements entered by the crew. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Rooma. Inspection Scope

The inspectors observed control room operators on April 4 and 5 during a planned startup following the completed refueling outage. The inspectors observed the pre-job briefings, including reactivity briefs, to verify that roles and responsibilities, critical steps, expected results and hold points were discussed. The inspectors verified that procedure use, crew communications, and response to alarms met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 1 sample)a. Inspection Scope

The inspectors reviewed the buildings and structures system to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, corrective action program documents, maintenance work orders, and maintenance rule basis documents to ensure that Entergy was identifying and properly evaluating performance problems within the scope of the maintenance rule. For the buildings and structures system, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with

10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and verified that the (a)(2) performance criteria established by Entergy staff were reasonable. Additionally, the inspectors ensured that Entergy staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 5 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Entergy performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Entergy personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When Entergy performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's work week manager to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Main generator turbine overspeed test, RCIC alternate shutdown and quarterly surveillance testing, and actuation of the startup transformer deluge system during plant startup from RFO30
- Uninterruptible power supply (UPS) – 1B maintenance and testing and "D" residual heat removal service water pump maintenance – WW1321
- "B" EDG electrical and heat exchanger maintenance – WW1324
- Green risk with RCIC and the "B" control rod drive pump out of service – WW1319
- Yellow risk for "B" residual heat removal system surveillance and Vernon tie maintenance – WW1317

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 4 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- Condensate storage tank level instrument for high level annunciator alarm was found out of tolerance, condition report CR-VTY-2013-01078 initiated on February 26
- “A” standby gas treatment demister filter differential pressure was higher than the acceptance criteria, condition report CR-VTY-2013-03179 initiated on May 4
- Core Spray A 8 inch diameter pipe was found to have a 16 inch air void inside of it following ultrasonic examinations, condition report CR-VTY-2013-03380 initiated on May 15
- “B” EDG overloaded, condition report CR-VTY-2013-3950 initiated on June 14

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to Entergy’s evaluations to determine whether the components or systems were operable. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 7 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- “A” service water pump capacity test after pump lift on April 1
- RCIC-22 gasket line repair on April 3
- Main generator turbine overspeed test on April 5
- High pressure cooling isolation start-up run after outage valve maintenance on April 5
- Battery bank B-UPS-1B replacement, testing on May 22
- “B” control rod drive water pump overhaul on May 3
- “B” EDG inspections and testing after overload on June 15

b. Inspection Scope

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 1 sample)a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk for the maintenance and refueling outage (RFO 30), which ended April 5. The inspectors reviewed Entergy's implementation of outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions of the heat up and startup processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable technical specifications when taking equipment out of service
- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing
- Status and configuration of electrical systems and switchyard activities to ensure that TS were met
- Monitoring of decay heat removal operations
- Impact of outage work on the ability of the operators to operate the spent fuel pool cooling system
- Activities that could affect reactivity
- Maintenance of secondary containment
- Fatigue management
- Tracking of startup prerequisites
- Walkdown of the drywell to verify that debris had not been left which could block the emergency core cooling system suction strainers
- Startup and ascension to full power operation
- Identification and resolution of problems related to refueling outage activities

b. Findings

Introduction. A self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified because Entergy did not establish a procedure controlling plant equipment appropriate to the circumstances for activities affecting quality. Specifically, the procedure for the control of plant equipment did not require identifying and tagging the switches of deenergized equipment that continued to have control power. As a result, the reactor building ventilation was operated in a manner that dislodged an engineered blowout panel rendering secondary containment inoperable.

Description. During RFO30 in March 2013, Entergy deenergized the 480 Volt alternating current (Vac) electrical bus 6 for planned maintenance. During this deenergization, the "A" reactor building HVAC system exhaust fan had no supply power. This equipment was not tagged or identified to indicate that its supply power was deenergized. However, the 125 Volt direct current (Vdc) control power was still available. On March 18, reactor building HVAC was in service with the "B" supply and exhaust fans running, and the fans tripped on low intake air temperature, as designed, due to falling outdoor air temperatures. Although reactor building HVAC is normally in service to maintain

appropriate temperature conditions for operating personnel and equipment within the building, its safety-related function consists of isolating during an accident in order to not affect secondary containment which would be ventilated and maintained at a negative pressure by standby gas treatment under accident conditions.

The operators attempted to restart reactor building HVAC in order to restore normal ventilation and maintain the required negative differential pressure. During this evolution, the operators identified control power indication was lit for "A" reactor building HVAC and attempted to utilize these components along with available "B" components. As a result, the operators closed the power supply circuit breaker for the "A" exhaust fan which satisfied the supply fan start logic, but the exhaust fan and damper were not actually supplied with power. As a result, the "A" and "B" supply fans started and ran with no exhaust fan running or exhaust damper open.

With the supply fans running and no exhaust, the reactor building pressurized. By design, two of two reactor building steam tunnel to turbine building heater bay blowout panels and one of 39 reactor building outer wall blowout panels dislodged. The positive pressure within the reactor building exceeded the release setpoint of the steam tunnel panels and was in the lower setpoint range for the outer wall panels. Although secondary containment was not required to be operable by TS at the time since the plant was in a cold shutdown condition and no fuel movement, core alterations, or operations with a potential for draining the reactor vessel were in progress, the ability of secondary containment to contain any potential accident release was adversely affected when it was intended and planned to be available.

Entergy performed a root cause evaluation and identified that procedure AP 0125, "Plant Equipment," did not require identifying and labeling equipment with supply power deenergized and control power still available. As such, when operators control plant equipment in this configuration potential adverse consequences can result. Entergy's corrective actions included initiating condition reports CR-VTY-2013-01777 and CR-VTY-2013-01858, implementing a night order to place a caution tag on the control switches of components that are deenergized and continue to have control power available, restoring operability of secondary containment via replacement of seals and a temporary modification, and revising AP 0125 to properly tag and control deenergized equipment.

Analysis. The inspectors determined that Entergy's failure to establish an adequate procedure for the control of plant equipment such that deenergized loads that continued to have control power were not identified or tagged was a performance deficiency that was reasonably within Entergy's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the Procedure Quality attribute of the Barrier Integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents of events. Specifically, the lack of identification and/or tagging of the switches for "A" reactor building ventilation resulted in dislodging a secondary containment blowout panel rendering secondary containment inoperable. In accordance with IMC 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," issued February 28, 2005, the inspectors determined that this finding is of very low safety significance (Green) because it did not increase the likelihood of a loss of reactor coolant system inventory, did not degrade the

ability to terminate a leak path or add reactor coolant system inventory, and did not degrade the ability to recover decay heat removal if it was lost. Specifically, at the time secondary containment was rendered inoperable, the reactor coolant system was fully flooded, the event did not increase the likelihood of any initiating event, and secondary containment was not required to be operable at the time given no fuel movement, core alterations, or operations with a potential for draining the reactor vessel in progress.

The inspectors determined that the finding has a cross-cutting aspect in the Human Performance area, Resources component, because Entergy's procedures did not ensure that components in the field were labeled sufficiently and completely during the bus deenergization to assure nuclear safety [H.2(c)].

Enforcement. 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances. Contrary to this, Entergy conducted activities affecting quality utilizing procedure AP 0125, "Plant Equipment," which did not include instructions appropriate to the circumstances on March 18, 2013. Specifically, AP 0125 did not require identifying and labeling equipment which retained control power with supply power deenergized such that reactor building ventilation was operated in a manner that dislodged an engineered blowout panel rendering secondary containment inoperable. Entergy's corrective action to restore compliance consisted of implementing a night order to place a caution tag on the control switches of components that are deenergized and continue to have control power available. Because this violation was of very low safety significance (Green), and Entergy entered this issue into their corrective action program (CR-VTY-2013-01777 and CR-VTY-2013-01858), this violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. **(NCV 05000271/2013003-03, Inadequate Procedure for Configuration Control Results in a Dislodged Secondary Containment Blowout Panel Due to Reactor Building Ventilation System Pressurization)**

1R22 Surveillance Testing (71111.22 – 6 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TS, the UFSAR, and Entergy's procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- Scram time testing on April 2
- Reactor core isolation cooling alternate shutdown once every other cycle surveillance on April 5
- Drywell equipment and floor drain leakage calculations once per shift on May 31 (RCS)
- Diesel fire pump surveillance on April 23

- High pressure coolant injection system testing on June 19 (IST)
- “A” and “B” SLC quarterly surveillance on June 26

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)

a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures and the Emergency Plan located under ADAMS accession number ML13120A029 as listed in the Attachment.

Entergy determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Emergency Plan, and that the revised Emergency Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of Entergy-generated changes; therefore, this revision is subject to future inspection.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06 – 1 sample)

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on May 16 and May 23 which required emergency plan implementation by an operations crew. Entergy planned for this evolution to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that Entergy evaluators noted the same issues and entered them into the corrective action program.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational/Public Radiation Safety

2RS7 Radiological Environmental Monitoring Program (71124.07 – 1 sample)

During the week of April 22-26, 2013, the inspector: (1) verified that the radiological environmental monitoring program (REMP) quantifies the impact of radioactive effluent releases to the environment and sufficiently validates the integrity of the radioactive gaseous and liquid effluent release program; (2) verified that the REMP is implemented consistently with Entergy's TS and/or the off-site dose calculation manual (ODCM) and to validate that the radioactive effluent release program meets the design objective in Appendix I to 10 CFR Part 50; (3) ensured that the REMP monitors non-effluent exposure pathways, was based on sound principles and assumptions, and validated that doses to members of the public were within the dose limits of 10 CFR Part 20, "Standards for Protection against Radiation," and 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations,". The inspector used the requirements in 10 CFR Part 20; 10 CFR Part 50, Appendix A, Criterion 60, "Control of Release of Radioactivity to the Environment;" 10 CFR 50, Appendix I, "Numerical Guides for Design Objectives and Limiting Conditions for Operations to Meet the Criterion As Low as is Reasonably Achievable (ALARA) for Radioactive Material in Light-Water-Cooled Nuclear Power Reactor Effluents;" 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations;" 40 CFR Part 141, "Maximum Contaminant Levels for Radionuclides;" the guidance in Regulatory Guides 1.23, 4.1, and 4.15, NUREG 1301 or 1302, as well as applicable industry standards and Entergy procedures as criteria for determining compliance.

a. Inspection Scope

The inspector reviewed the annual radiological environmental operating reports, and the results of any Entergy assessments since the last inspection, to verify that the REMP was implemented in accordance with the plant TS and the ODCM. The inspector reviewed the report for changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, inter-laboratory comparison program, and analysis of data.

The inspector reviewed the ODCM to identify locations of environmental monitoring stations.

The inspector reviewed the UFSAR for information regarding the environmental monitoring program and meteorological monitoring instrumentation.

The inspector reviewed the annual effluent release report and the 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," report to determine if Entergy was sampling for the predominant radionuclides to be released in effluents.

Site Inspection

The inspector walked down air sampling stations and thermoluminescent dosimeter (TLD) monitoring stations to determine whether they were located as described in the ODCM and to determine the equipment material condition.

For the air samplers and TLDs selected above, the inspector reviewed the calibration and maintenance records to verify that they demonstrate adequate operability of these components. Additionally, the inspector reviewed the calibration and maintenance records of composite water samplers.

The inspector verified that Entergy had initiated sampling of other appropriate media upon loss of a required sampling station.

The inspector observed the collection and preparation of environmental samples from different environmental media. The inspector verified that environmental sampling was representative of the release pathways as specified in the ODCM and that sampling techniques were in accordance with procedures.

Based on direct observation and review of records, the inspector verified that the meteorological instruments are operable, calibrated, and maintained in accordance with regulatory guidance and Entergy procedures. The inspector verified that the meteorological data readout and recording instruments in the control room and at the tower were operable.

The inspector verified that missed and/or anomalous environmental samples were identified and reported in the annual environmental monitoring report. The inspector reviewed Entergy's assessment of any positive sample results. The inspector reviewed the associated radioactive effluent release data that was the source of the released material.

The inspector selected SSCs that involved or could reasonably involve licensed material for which there is a credible mechanism for licensed material to reach ground water, and verified that Entergy had implemented a sampling and monitoring program sufficient to detect leakage of these SSCs to ground water.

The inspector verified that records of leaks, spills, and remediation since the previous inspection were retained in a retrievable manner.

The inspector reviewed any significant changes made by Entergy to the ODCM as the result of changes to the land census, long-term meteorological conditions (3-year average), or modifications to the sampler stations since the last inspection. The inspector reviewed technical justifications for any changed sampling locations. The inspector verified that Entergy performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

The inspector verified that the appropriate detection sensitivities with respect to TS/ODCM were used for counting samples. The inspector reviewed quality control charts for maintaining radiation measurement instrument status and actions taken for degrading detector performance.

The inspector reviewed the results of the inter-laboratory comparison program to verify the adequacy of environmental sample analyses. The inspector verified that the inter-laboratory comparison test included the media/nuclide mix appropriate for the facility.

Identification and Resolution of Problems

The inspector verified that problems associated with the REMP are being identified at an appropriate threshold and were properly addressed for resolution in the corrective action program. The inspector verified the appropriateness of the corrective actions for a selected sample of problems documented by Entergy that involved the REMP.

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08 – 1 sample)

During May 13-17, 2013, the inspector verified the effectiveness of Entergy's programs for processing, handling, storage, and transportation of radioactive material. The inspector used the requirements of 10 CFR Parts 20, 61, and 71, and 10 CFR Part 50, Appendix A, Criterion 63, "Monitoring Fuel and Waste Storage," and Entergy procedures required by the TS/Process Control Program (PCP) as criteria for determining compliance.

a. Inspection Scope

The inspector reviewed the solid radioactive waste system description in the UFSAR, the PCP, and the recent radiological effluent release report for information on the types, amounts, and processing of radioactive waste disposed.

The inspector reviewed the scope of quality assurance audits performed for this area since the last inspection. The inspector reviewed the results of the audits performed since the last inspection of this program and evaluated the adequacy of Entergy's corrective actions for issues identified during those audits.

Radioactive Material Storage

The inspector inspected areas where containers of radioactive waste were stored. The inspector verified that the radioactive materials storage areas were controlled and posted as appropriate.

The inspector verified that Entergy had established a process for monitoring the impact of long-term storage (e.g., buildup of any gases produced by waste decomposition, chemical reactions, container deformation, loss of container integrity, or re-release of free-flowing water) sufficient to identify potential unmonitored, unplanned releases, or nonconformance with waste disposal requirements. The inspector verified that there were no signs of swelling, leakage, or deformation.

Radioactive Waste System Walkdown

The inspector walked down accessible portions of liquid and solid radioactive waste processing systems to verify and assess that the current system configuration and operation agree with the descriptions in the UFSAR, ODCM, and PCP.

The inspector identified radioactive waste processing equipment that was not operational and/or was abandoned in place, and verified that Entergy had established administrative and/or physical controls to ensure that the equipment would not contribute to an unmonitored release path and/or affect operating systems or be a source of unnecessary personnel exposure.

The inspector reviewed the adequacy of any changes made to the radioactive waste processing systems since the last inspection. The inspector verified that changes from what was described in the UFSAR were reviewed and documented.

The inspector identified processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers. The inspector verified that the waste stream mixing, sampling procedures, and methodology for waste concentration averaging were consistent with the PCP, and provided representative samples of the waste product for the purposes of waste classification.

For those systems that provide tank recirculation, the inspector verified that the tank recirculation procedure provided sufficient mixing.

The inspector verified that Entergy's PCP correctly described the current methods and procedures for dewatering waste.

Waste Characterization and Classification

The inspector identified radioactive waste streams, and verified that Entergy's radiochemical sample analysis results were sufficient to support radioactive waste characterization. The inspector verified that Entergy's use of scaling factors and calculations to account for difficult-to-measure radionuclides was technically sound and based on current analyses.

For the waste streams identified above, the inspector verified that changes to plant operational parameters were taken into account to (1) maintain the validity of the waste stream composition data between the annual or biennial sample analysis update, and (2) verified that waste shipments continued to meet applicable requirements.

The inspector verified that Entergy had established and maintained an adequate Quality Assurance program to ensure compliance with applicable waste classification and characterization requirements.

Shipment Preparation

The inspector reviewed the records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and Entergy verification of shipment readiness. The inspector verified that the requirements of any applicable transport cask certificate of compliance had been met. The inspector verified that the receiving licensee was authorized to receive the shipment packages.

The inspector determined that the shippers were knowledgeable of the shipping regulations and that shipping personnel demonstrated adequate skills to accomplish the

package preparation requirements for public transport. The inspector verified that the licensee's training program provided training to personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities.

Shipping Records

The inspector identified non-excepted package shipment records and verified that the shipping documents indicate the proper shipper name; emergency response information and a 24-hour contact telephone number; accurate curie content and volume of material; and appropriate waste classification, transport index, and shipping identification number. The inspector verified that the shipment placarding was consistent with the information in the shipping documentation.

Identification and Resolution of Problems

The inspector verified that problems associated with radioactive waste processing, handling, storage, and transportation, were being identified by Entergy at an appropriate threshold, were properly characterized, and were properly addressed for resolution in their corrective action program. The inspector verified the appropriateness of the corrective actions for a selected sample of problems documented by Entergy that involved radioactive waste processing, handling, storage, and transportation. Entergy generated six condition reports to document material condition deficiencies identified during this inspection.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Reactor Coolant System Specific Activity and Reactor Coolant System Leak Rate (2 samples)

a. Inspection Scope

The inspectors reviewed Entergy's submittal for the reactor coolant system specific activity and reactor coolant system leak rate performance indicators for the period of April 1, 2012, through March 31, 2013. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors also reviewed reactor coolant system sample analysis and control room logs of daily measurements of reactor coolant system leakage, and compared that information to the data reported by the performance indicator. Additionally, the inspectors observed surveillance activities that determined the reactor coolant system identified leakage rate and reviewed the chemistry effectiveness indicator data.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 1 sample)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Entergy entered issues into their corrective action program at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the corrective action program and periodically attended condition report review group meetings.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues to identify trends that might indicate the existence of more significant safety issues, as required by Inspection Procedure 71152, "Identification and Resolution of Problems." The inspectors reviewed the VY corrective action program database for the first and second quarters of 2013, to assess condition reports written in various subject areas (equipment problems, human performance issues), as well as individual issues identified during the NRC's daily condition report review (Section 4OA2.1).

b. Findings and Observations

No findings were identified.

The inspectors reviewed the adverse trend identified with component mispositioning in the Operations department documented in CR-VTY-2012-05493. Entergy's first quarter of 2013 trend report documented that the success criteria for this trend (no level one, two, or three mispositioning events for a four month period) had not yet been achieved. The inspectors reviewed the data and noted that only one event was recorded through April, a level three in February which represented minor safety significance (a level three represents a misposition with no operational consequences). However, the inspectors noted multiple such events during the month of May. Entergy's corrective actions have primarily focused upon recognizing error likely traps and improving the use of human error prevention tools. Although appropriate, the inspectors determined that continued focus is warranted in order to further improve configuration control, attention to detail, and communications in the field associated with routine, low significance tasks.

The inspectors evaluated condition report CR-VTY-2013-01078 associated with the condensate storage tank level instrument for high level annunciator alarm being found out of tolerance (Section 1R15). The inspectors determined that this condition was identified by Entergy five times in the past three years with no corrective actions taken and the associated condition reports were screened as "D" for trending. Although the past two surveillances had failed as-found criteria, the inspectors determined that the instrument being out of tolerance did not represent an issue of concern since the as-found setpoints were sufficient to alert operators prior to overfilling the tank. However, the inspectors concluded that the frequent failure of a component to meet its required surveillance criteria warranted recognition as an adverse trend with appropriate corrective actions to resolve the condition. Initially, Entergy staff initiated condition report CR-VTY-2013-03244 which was likewise screened "D" for trending. Following further discussion, Entergy staff initiated a second condition report, CR-VTY-2013-03334, screened as "C" to correct and address the potential adverse trend.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 1 sample)

(Closed) LER 05000271/2013-001-00: Potential to Flood Switchgear Room Due to Missing Flood Seal

On March 19, 2013, Entergy discovered water from dredging operations had entered manholes in the switchgear rooms that were open for work during the RFO. On March 23, Entergy identified that the water entered through a displaced, screw-type flood seal in an underground conduit. On March 27, during an extent of condition review, Entergy identified that a sump pump and check valve shown on drawings of the manhole drainage system did not exist, leaving a 2 inch open line between the storm drain system and the switchgear room manhole system. As a result, the design controls to protect against flooding for the switchgear rooms were compromised. The enforcement aspects of this issue are discussed in Section 1R01. The inspectors did not identify any new issues during the review of this LER. This LER is closed.

4OA5 Other Activities

.1 Operation of an Independent Spent Fuel Storage Installation (ISFSI) at Operating Plants (60855 - 1 sample; 60855.1 - 1 sample)

a. Inspection Scope

The inspector evaluated Entergy's activities related to long-term operation and monitoring of their Independent Spent Fuel Storage Installation (ISFSI), and verified that activities were being performed in accordance with the Certificate of Compliance (CoC), TS, regulations, and Entergy procedures.

The inspector performed tours of the ISFSI pad to assess the material condition of the pad and the loaded HI-STORM 100 over packs (HI-STORMs). The inspector also verified that transient combustibles were not being stored on the ISFSI pad or in the vicinity of the HI-STORMs. The inspector verified that Entergy was performing daily HI-STORM surveillances in accordance with TS requirements. The inspector reviewed the actions taken by Entergy in response to snow blockage of the HI-STORM vents during a winter storm in February 2013 (CR-VTY-2013-00787).

The inspector interviewed reactor engineering personnel and reviewed Entergy's program associated with fuel characterization and selection for storage from the last ISFSI loading campaign in May 2012. The inspector verified that the criteria met the conditions for cask and canister use as specified in the CoC. The inspector also confirmed that physical inventories were conducted annually and were maintained as required by the regulations.

The inspector reviewed radiological records from the last ISFSI loading campaign to confirm that radiation and contamination levels measured on the casks were within limits specified by the TS and consistent with values specified in the UFSAR. The inspector reviewed radiation protection procedures and radiation work permits associated with ISFSI operations. The inspector also reviewed annual environmental reports to verify that areas around the ISFSI pad and the ISFSI site boundary were within limits specified in 10 CFR Part 20 and 10 CFR Part 72.104.

The inspector reviewed condition reports and the associated follow-up actions that were generated since VY's last loading campaign to ensure that issues were entered into the corrective action program, prioritized, and evaluated commensurate with their safety significance. There were no 10 CFR 72.48 screenings since the last inspection in June 2011.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On July 16, the inspectors presented the inspection results to Mr. Christopher Wamser, Site Vice President, and other members of the Entergy staff who acknowledged the inspection results. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION**KEY POINTS OF CONTACT**Vermont Yankee Personnel

C. Wamser, Site Vice President
 V. Fallacara, General Manager of Plant Operations
 M. Romeo, Director of Nuclear Safety
 J. Boyle, Engineering Director
 J. Bengtson, CA&A Manager
 P. Corbett, Quality Assurance Manager
 J. Hardy, Chemistry Manager
 D. Jones, Operations Manager
 M. McKenney, Emergency Preparedness Manager
 P. Ryan, Security Manager
 K. Stupak, Manager, Training and Development
 D. Tkatch, Radiation Protection Manager
 R. Wanczyk, Licensing Manager
 M. LeFrancois, Acting ISI Manager
 P. Paradis, Maintenance Manager
 K. Swanger, Project Manager Dry Fuel Storage
 J. Rogers, Design Engineering Manager
 R. Routhier, Maintenance Support Supervisor
 A. Haumann, Design Engineer

LIST OF ITEMS OPENED, CLOSED, DISCUSSED AND UPDATEDOpened/Closed

05000271/2013003-01	NCV	Inadequate Corrective Actions for Sealing Flood Pathways into the Electrical Switchgear Rooms (Section 1R01)
05000271/2013003-02	NCV	Failure to Maintain Compensatory Measures Required for a Barrier Breach Permit for the "A" Emergency Diesel Generator Room (Section 1R04)
05000271/2013003-03	NCV	Inadequate Procedure for Configuration Control Results in a Dislodged Secondary Containment Blowout Panel Due to Reactor Building Ventilation System Pressurization (Section 1R20)

Closed

05000271/2013-001-00	LER	Potential to Flood Switchgear Room due to Missing Conduit Flood Seal (Section 4OA3)
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LIST OF DOCUMENTS REVIEWED

In addition to the documents identified in the body of this report, the inspectors reviewed the following documents and records.

Vermont Yankee Nuclear Power Station Updated Final Safety Analysis Report
Vermont Yankee Nuclear Power Station Technical Specifications
Vermont Yankee Nuclear Power Station Narrative Logs, Night Orders, and Standing Orders

Section 1R01: Adverse Weather Protection

Procedures

OP 2140, "345 kV/115kV Electrical System," Revision 57
OPOP-PHEN-3127, "Natural Phenomena," Revision 10

Condition Report CR-VTY-2011-02303

CR-VTY-2011-05477
CR-VTY-2011-05618
CR-VTY-2012-02391
CR-VTY-2013-01861
CR-VTY-2013-01871
CR-VTY-2013-02064
CR-VTY-2013-02229
CR-VTY-2013-02430
CR-VTY-2013-03057

Work Orders

WO 97-2389-06
WO 345826, "HH-26, Replace Screw-Type Flood Seal with Sylguard"
WO 345823, "HH-24, Replace Screw-Type Flood Seal with Sylguard"
WO 345695, "MH-S2, Replace Failed Flood Seal or Spare Conduit"
WO 343546, "MH-P3, Replace Screw-Type Flood Seals with Sylguard"
WO 343222, "MH-P4, Replace Screw-Type Flood Seal with Sylguard"

Miscellaneous

ARS 21005, "CRP 9-7 Alarm Response Sheets," Revision 21
115 kVAC System Health Report, Q2 – 2013
345 kVAC System Health Report, Q2 – 2013
"Conduit Seal Leakage Estimate in Support of VY Minor Modification #97-030," dated 5/29/1997
EN 48847 Event Notification Worksheet
Minor Modification 97-030, Attachment A, "Conduit List"
"Switchgear Room Manholes and Conduit Banks," dated 5/3/1993

Section 1R04: Equipment Alignment

Procedures

OP 2111, "Control Rod Drive System," Revision 66
OP 2114, "Operation of the Standby Liquid Control System," Revision 36
OP 2126, "Diesel Generators," Revision 60
OPOP-SGT-2117, "Standby Gas Treatment," Revision 1

Drawings

G-191170, "Flow Diagram Control Rod Drive Hydraulic System," Revision 53
G-191171, "Flow Diagram Standby Liquid Control System," Revision 29

Condition Reports

CR-VTY-2013-03368
CR-VTY-2013-03642

Miscellaneous

Barrier Control Permit 2013-63
ECR 14814, "SW Chemical Treatment Tubing Addition Barrier Control Issues for EDG Rooms West Wall," 12/05/2012

Section 1R05: Fire Protection

Pre-Fire Plans

PFP-RB-10, "Torus South (RB-2) Elevation 213'," Revision 3
PFP-RB-8, "Torus South (RB-2) Elevation 232'," Revision 3
PFP-RB-11, "Torus North (RB-1) Elevation 213'," Revision 3
PFP-RB-9, "Torus North (RB-1) Elevation 232'," Revision 3
PFP-CB-2, "Cable Vault, Elevation 260'," Revision 3
PFP-IS, "Intake Structure," Revision 4

Miscellaneous Documents

FHA, "Fire Hazards Analysis," Revision 12

Section 1R07: Heat Sink Performance

Condition Reports

CR-VTY-2013-03848
CR-VTY-2013-03847
CR-VTY-2013-03844

Work Orders

WO 52364526, "DG-1-1B-OPEN/Inspect Heat Exchangers per OP 5202 and OP 5265"

Miscellaneous

"B" DG LCO Maintenance Plan
Component Engineering Initial Operability Recommendation for Corrosion on Cooler Heads
Emergency Diesel Generators System Health Report Q2-2013

Section 1R08: In-service Inspection Activities

Condition Reports

CR-VTY-2011-00018	CR-VTY-2011-04578	CR-VTY-2012-06115
CR-VTY-2011-00633	CR-VTY-2012-04889	CR-VTY-2012-07903
CR-VTY-2011-04029	CR-VTY-2012-05297	CR-VTY-2013-00878
CR-VTY-2011-04121	CR-VTY-2012-05891	CR-VTY-2013-00985
CR-VTY-2011-04465	CR-VTY-2012-05451	CR-VTY-2013-01786

CR-VTY-2013-01660
CR-VTY-2013-02048

CR-VTY-2013-02101
CR-VTY-2013-02175

CR-VTY-2013-03532

Drawings & Sketches

Chicago Bridge & Iron Company, dwg. 9-6201-N1 Revision 0; Supplementary Sheet for Manuf. Data Reports, Nuclear Reactor for General Electric Co. for Central Vermont Power Company, Vernon Dam, Vermont
Reactor Vessel Rollout dwg.; Reactor Vessel Penetration Locations
Entergy Nuclear Vermont Yankee, dwg. 5920-624, Revision 8, 9/26/05; REACTOR 8" DIA. NOZZLE MK N5A & B

Calculations

Entergy Vermont Yankee Unit 1, SRM Dry Tube, Indication Evaluation, 0000-0159-4046-RO, Revision 0; DRF-0000-0159-4045; March 2013

NDE Inspection Reports & Data Sheets:

Report No. VTY-UT-036, (4 pages), UT inspection of the 24" circumferential weld on the Reactor Heat Removal (RHR) system, 3/27/13.
Visual Examination of IWE Surfaces (VT-3), Report VTY11-VT-041, (16 pages); RFO-29-IWE, 11/16/11
Visual Examination of IWE Surfaces (VT-3), Report VTY11-VT-036, (13 pages); RFO-29-IWE, 11/16/11
Visual Examination of IWE Surfaces (VT-3), Report VTY11-VT-045, (12 pages); RFO-29-IWE, 11/16/11
Visual Examination of IWE Surfaces (VT-3), Report VTY11-VT-043, (12 pages); RFO-29-IWE, 11/16/11
Report VTY11-UT-044, (16 pages), (UT), Torus Bay Wall Thickness Readings (Bays 1-16), 11/14/11
Report No. VTY13-UT-029 (4 pages), (UT), 3/16/13; MS5A-F7, Circumferential Weld
Report No. VTY13-UT-030 (2 pages), (UT), 3/20/13; FW18-F3A, Circumferential Weld, Pipe to Tee
Report No. VTY13-UT-029 (4 pages), (UT), 3/16/13; MS5A-F7, Circumferential Weld
Supplemental Report No. VTY13-UT-028, (2 pages), (UT), 3/16/13; MS5A-F5, Circumferential Weld
Report No. VY RFO30-017 (UT), (6 pages), (UT), Nozzle N-9 Inner Radius, 3/21/13
Report No. VY RFO30-018 (UT), (8 pages), (UT), Nozzle N-9 Nozzle to Vessel Weld, 3/21/13
Report No. VY RFO30-019 (UT), (2 pages), (UT), Nozzle N10-SE Nozzle to Safe End Weld, 3/19/13
Report No. VY RFO30-013 (UT), (7 pages), (UT), Nozzle N4A, Nozzle Inner Radius, 3/21/13
Report No. VY RFO30-005 (UT), (7 pages), (UT), AB, RPV Top Head Circumferential Weld, 3/23/13
Report No. VYBOP-13-PT-013, (PT), (2 pages), Hammer Marks on 28" Recirculation System Piping, Loop B, 3/25/13
Report No. VYBOP-13-VE-001, (RT), (2 pages), Component ID: VY23747321C, VY23747321D, Flow Switch High FSH-11-54 REPLACEMENT
Report No.: VYBOP-13-UT-108, (1 page), 28" Recirc pipe (Tool marks), CR-VTY-2013-2101, 3/29/13
Report No.: VYBOP-13-PT-116, (5 pages), 28" Recirc pipe (Tool marks), CR-VTY-2013-2101, No Recordable Indications (NRI), 3/29/13
VT-2 Examination Report No.: VY-VT2-12-084, Component ID: ST-23-3 HPCI Drain (W.O. 260915-06

Form C-4 IWE Examination Acceptance Review Form for Torus Bays 8, 11, and 12. 5/22/13
 General Visual Examination Report, IWE Inspection of Torus Bays 8, 11, and 12; 5/3/13, (5 pages)
 General Visual Examination Report, IWE Inspection of ARC SRTIKES (on X-101D) and Light Corrosion On X-103; 5/28/13, (8 pages)
 Form C-4 IWE Examination Acceptance Review Form for ARC SRTIKES (on X-101D). 5/22/13
 Form C-4 IWE Examination Acceptance Review Form for light corrosion on X-103). 5/22/13
 General Visual Examination Report, IWE Inspection of paint flaking on drywell head and drywell; 5/28/13, (7 pages)
 General Visual Examination Report, IWE Inspection of flaking paint on Torus Bays 1 - 16; 5/3/13, (6 pages)
 Form C-4 IWE Examination Acceptance Review Form for paint flaking in torus bays 1 thru 16, 5/22/13

GE-H Indication Notification Reports & IVVI Data Sheets:

IVVI-VYRFO30-27, Title 2: Drytube 32-21
 IVVI-VYRFO30 DVD-02 title 04, FME
 IVVI-VYRFO30 DVD-27 title 28, FME
 IVVI-VYRFO30 DVD-18 title 21, FME
 IVVI-VYRFO30 DVD-06 title 06, FME
 INR-IVVI-VYR30-13-02 FME (4 pages)
 IVVI Examination Data Sheet IVVI-13-17-RDC's (22 pages)
 IVVI Examination Data Sheet IVVI-13-01-Core Plate Plug (10 pages)
 IVVI Examination Data Sheet IVVI-13-02-Core Plate Shroud (3 pages)
 IVVI Examination Data Sheet IVVI-13-03-Core Spray Piping (18 pages)
 IVVI Examination Data Sheet IVVI-13-04-Core Spray Sparger (18 pages)
 IVVI Examination Data Sheet IVVI-13-05-Feedwater Sparger (23 pages)
 IVVI Examination Data Sheet IVVI-13-06-FOSAR (3 pages)
 IVVI Examination Data Sheet IVVI-13-07-Incore Dry Tube (3 pages)
 IVVI Examination Data Sheet IVVI-13-08-Jet Pump (6 pages)
 IVVI Examination Data Sheet IVVI-13-09-Surveillance Sample Holder (4 pages)
 IVVI Examination Data Sheet IVVI-13-10-Top Guide (2 pages)

Weld Material Requisition Forms Reviewed:

101371	101370	100341
100333	102139	100340
102137	102140	100346
102132	100331	100342
102135	100332	102140
102133	100335	101369
102130	100336	101371
102131	100338	102134
101369	100337	102130

NDE Inspector Certifications Reviewed:

51162(UT)
 16331(UT)
 0881(UT)
 1087(UT)
 0718(UT)

0899(UT)
904439(RT)
655447(RT)

Welder Certifications Reviewed:

EN-0627
EN-0026
EN-0269

ASME Repair-Replacement Plans & Work Orders

WO 260915, "Replace HPCI Steam line Drain Piping"
WO 237473, "EC33982, Replacement of Flow Switch High FSH-11-54"
WO 300444, "Replace 8" SW 18B Piping in SE Corner Room RFO30"

NDT Examination Procedures

GE Hitachi Nuclear Energy Procedure: GEH-UT-311, Version 17, Procedure For Manual Ultrasonic Examination of Nozzle Inner Radius, Bore and Selected Nozzle To Vessel Regions, 11/22/11
GE Hitachi Nuclear Energy Procedure: GEH-PT-100, Version 9, Procedure For Liquid Penetrant Examination Using Fluorescent And Visible Dye Penetrant Inspection Methods, 9/13/12
GE Hitachi Nuclear Energy Procedure: GEH-UT-300, Version 11, Procedure For Manual Examination of Reactor Vessel Assembly Welds In Accordance With PDI, 11/22/11
Entergy Procedure CEP-CII-003, Revision No. 304; GENERAL VISUAL EXAMINATIONS OF CLASS MC COMPONENTS, 10/14/12
Entergy Program Section No. CEP-NDE-0965, Revision No. 3; Visual Welding Inspection ASME, ANSI B31.1 ENTERGY NUCLEAR ENGINEERING PROGRAMS, 3/5/12
Entergy Program Section No. CEP-NDE-0903, Revision No. 5; VT-3 Examination, ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/29/09
Entergy Program Section No. CEP-NDE-0902, Revision No. 7; VT-2 Examination, ENTERGY NUCLEAR ENGINEERING PROGRAMS, 8/31/09
Entergy Program Section No. CEP-NDE-0901, Revision No. 4; VT-1 Examination, ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/29/09
Entergy Program Section No. CEP-NDE-0731, Revision No. 3; Magnetic Particle Examination (MT) for ASME Section XI, ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/29/09
Entergy Program Section No. CEP-NDE-0641, Revision No. 7; Liquid Penetrant Examination (PT) for ASME Section XI, ENTERGY NUCLEAR ENGINEERING PROGRAMS, 10/12/11
Entergy Program Section No. CEP-NDE-0496, Revision No. 4; Manual Ultrasonic Examination of Dissimilar Metal Welds (ASME XI), ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/29/09
Entergy Program Section No. CEP-NDE-0485, Revision No. 9; Manual Ultrasonic Examination of Vessel Nozzle Inside Radius (Non-App. VIII), ENTERGY NUCLEAR ENGINEERING PROGRAMS, 3/20/13
Entergy Program Section No. CEP-NDE-0479, Revision No. 0; Manual Ultrasonic Through Wall and Length Sizing Of Ultrasonic Indications In Reactor Pressure Vessel Welds, ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/29/09
Entergy Program Section No. CEP-NDE-0478, Revision No. 1; Manual Ultrasonic Examination of Reactor Pressure Vessel Welds (Section XI App. VIII), ENTERGY NUCLEAR ENGINEERING PROGRAMS, 9/20/10
Entergy Program Section No. CEP-NDE-0429, Revision No. 1; Ultrasonic Examination – ASME Section XI Appendix III, ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/11/12

- Entergy Program Section No. CEP-NDE-0428, Revision No. 3; Manual Ultrasonic Through Wall Sizing In Piping Welds (ASME XI), ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/29/09
- Entergy Program Section No. CEP-NDE-0424, Revision No. 3; Manual Ultrasonic Examination of the Reactor Vessel Flange Ligament Areas (ASME XI), ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/29/09
- Entergy Program Section No. CEP-NDE-0423, Revision No. 5; Manual Ultrasonic Examination of Austenitic Piping Welds (ASME XI), ENTERGY NUCLEAR ENGINEERING PROGRAMS, 10/05/11
- Entergy Program Section No. CEP-NDE-0407, Revision No. 3; Straight Beam Ultrasonic Examination of Bolts and Studs (ASME XI), ENTERGY NUCLEAR ENGINEERING PROGRAMS, 7/29/09
- Entergy Program Section No. CEP-NDE-0404, Revision No. 5; Manual Ultrasonic Examination of Ferritic Piping Welds (ASME XI), ENTERGY NUCLEAR ENGINEERING PROGRAMS, 10/05/11
- Entergy Program Section No. CEP-NDE-0255, Revision No. 6; Radiographic Examination ASME, ANSI, AWS, Welds and Components, ENTERGY NUCLEAR ENGINEERING PROGRAMS, 11/17/10
- GE-Hitachi, VERMONT YANKEE RFO30, SITE PROCEDURE FOR JET PUMP INLET-MIXER & BEAM BOLT INSTALLATION/REMOVAL, DRF-000-0159-6786 RO, 3/23/13

Work Orders

- WO 260915, "Replace HPCI Steam line Drain Piping"
- WO 300444, "Replace 8" SW Piping in SE Corner Room, RFO30"
- WO 237473, "EC33982 Flow Switch High FSH-11-54 Replacement"
- WO 346297, "P-18-1B, Indications On Recirculation Suction Piping", (Contains ASME Form NIS-2A Repair/Replacement Certification Record for Plan NO. 346297)

Miscellaneous

- Performance Demonstration Initiative (PDI), Site Specific Configuration Mockup Requirements for Dissimilar Metal Welds, Revision C, 12/12/2012
- NRC Letter dated March 1, 2013; SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION – RELIEF REQUEST ISI-PT-02: FOURTH 10-YEAR INSERVICE INSPECTION INTERVAL (TAC NO. MF0423)
- ASME Code Case N-805, 2/25/11, Alternative to Class 1 Extended Boundary End of Interval or Class 2 System Leakage Testing of the Reactor Vessel Head Flange O-Ring Leak-Detection System, Section XI, Division 1

Section 1R12: Maintenance Effectiveness

Condition Reports

CR-VTY-2007-01414	CR-VTY-2008-04115	CR-VTY-2010-00841
CR-VTY-2008-00535	CR-VTY-2008-04221	CR-VTY-2013-01777
CR-VTY-2008-00761	CR-VTY-2008-05467	CR-VTY-2013-02064
CR-VTY-2008-02259	CR-VTY-2009-03128	CR-VTY-2013-02229
CR-VTY-2008-04111	CR-VTY-2009-03708	CR-VTY-2013-02430

Miscellaneous Documents

- Buildings System Health Report, Q4-2012
- Buildings System Health Report, Q1-2013

BLD, "10CFR50.65 Maintenance Rule Scoping Basis Document Buildings & Structures,"
Revision 6

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

AP 0172, "Work Schedule Risk Management – Online," Revision 26

Miscellaneous Documents

RHR, "Design Basis Document for Residential Heat Removal System," Revision 24
480AC, "Design Basis document for Safety Related 4.16 kV/480 Volt System," Revision 25
VY EOOS Risk Management WW1324 @ T-1
"B" DG LCO Maintenance Plan
EOOS Equipment Out of Service Tool
WW 1319 Schedule
WW 1317 Schedule
VYAPF 0172.02, "Risk Management Worksheet," Completed 4/16

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

OP 4363, "HPCI Suction Transfer on Condensate Storage Tank (CST) Low Level Functional
Test and CST Level Instrument Calibration," Revision 32
OP 4116, "Secondary Containment Surveillance," Revision 56
EN-OP-104, "Operability Determinations," Revision 6

Condition Reports

CR-VTY-2007-00673	CR-VTY-2012-05832	CR-VTY-2013-02615
CR-VTY-2008-05266	CR-VTY-2013-01078	CR-VTY-2013-02674
CR-VTY-2010-04249	CR-VTY-2013-03179	CR-VTY-2013-02727
CR-VTY-2011-01002	CR-VTY-2013-03244	CR-VTY-2013-03950
CR-VTY-2012-00910	CR-VTY-2013-03380	

Drawings

5920-04841, "Standby Gas Treatment Moisture Separator," Revision 1

Calculations

VYC-723, "Condensate Storage Tank Level (HPCI) Monitoring," Revision 3
VYC-1859, "Standby Gas Treatment System Demister Loop Seal Recovery Analysis," Revision
0

Work Orders

WO 52451448, "Ultrasonic Thickness Examination Report"
WO 354243, "DG-1-1B, Mechanical Inspections Required Post Overload"
WO 354244, "Megger Generator due to Possible Overload"

Miscellaneous Documents

SGT, "Design Basis Document for Standby Gas Treatment System/Secondary Containment,"
Revision 11
Core Spray System Health Report Q2-2013

4408FM, "Excessive Operation on Test Block," 04/21/67
Email correspondence between Entergy and Fairbanks-Morse

Section 1R19: Post-Maintenance Testing

Procedures

OP 4181, "Service Water/Alternate Cooling System Surveillance," Revision 78
OP 2111, "Control Rod Drive System," Revision 66
OPST-HPCI-4120-02, "HPCI Pump Operability Test (Quarterly)," Revision 3
EN-WM-107, "Post Maintenance Testing," Revision 4

Condition Reports

CR-VTY-2013-02508
CR-VTY-2013-02551
CR-VTY-2013-02755
CR-VTY-2013-01022

Work Orders

WO 344120, "Perform Pump/Impeller Lift Adjustment; P-7-1A"
WO 346358, "Disassemble/Inspect and Repair Leaking Swing Check Valve"
WO 314920, "B-UPS-1B; Replace B-UPS-1B Battery Bank"
WO 52462502, "P-38-1B, Pump Overhaul – Rotating Assembly Replacement"
WO 354243, "DG-1-1B, Mechanical Inspections Required Post Overload"
WO 354244, "DG-1-1B, Megger Generator due to Possible Overload"

Miscellaneous Documents

VYOPF 4181.08, "Service Water Pump Capacity Test," Completed 4/1
VYOPF 4181.04, "Service Water Pump Capacity Test Data Sheet," Completed 4/1
VYOPF 0302.21, "SW/FW Pump Capacity Calibration Data Sheet," Completed 3/31
OPST-HPCI-4120-02, Att. 1, "HPCI Pump Test Results," Completed 4/5/13
OPST-EDG-4126-02B, "Monthly "B" EDG Slow Start Operability Test," Completed 6/15/2013
OPST-EDG-4126-03B, "6 Month "B" EDG Fast Start Operability Test," Completed 6/14/2013

Section 1R20: Refueling and Other Outage Activities

Procedures

OP 0105, "Reactor Operations," Revision 95
AP 0173, "Work Schedule Risk Management – Outage," Revision 28
OPOP-CW-2180, "Circulating Water/Cooling Tower Operation," Revision 8
OPOP-SW-2181, "Service Water/Alternate Cooling Operating Procedure," Revision 8
OPOP-PHEN-3127, "Natural Phenomena," Revision 10
ON 3148, "Loss of Service Water," Revision 18
OP 5241, "Lifting Fixtures and Equipment," Revision 31
PP 7023, "Control of Heavy Loads Program Document," Revision 4
PP 7206, "Use of Lifting Systems," Revision 7
EN-MA-119, "Material Handling Program," Revision 16

Condition Reports

CR-VTY-2013-01821	CR-VTY-2013-01714	CR-VTY-2013-02280
CR-VTY-2013-02058	CR-VTY-2013-01786	CR-VTY-2013-01442
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CR-VTY-2013-01984	CR-VTY-2013-01733	

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VYOPF 4101.06, "RPV Operational System Leakage Test Leakage List," Completed 4/2/13
32-9202545, "Evaluation of Vermont Yankee Recirculation Piping with Hanger Disengaged,"
Revision 1

LO-VTY LO-2013-00017

SWSYS, "Design Basis Document for Service Water, Residual Heat Removal Service Water
Alternate Cooling Systems," Revision 32

EXEV, "Topical Design Basis Document for External Events," Revision 2

ODCM, "Vermont Yankee Nuclear Power Station Off-Site Dose Calculation Manual," Revision
34

Temporary Modification EC 39267, "'B' Recirculation Pump and Piping Temporary Support,"
Revision 0

Calculations

32-9202545, "Evaluation of Vermont Yankee Recirculation Piping with Hanger Disengaged,"
Revision 1

Work Orders

WO 345312, "Gearbox Ratcheting, Unable to Open Valve"

Section 1R22: Surveillance Testing

Procedures

OP 4114, "Standby Liquid Control System Surveillance," Revision 73

OPST-RCIC-4121, "Reactor Core Isolation Cooling System Surveillance," Revision 2

OP 4152, "Equipment and Floor Drain Sump and Totalizer Surveillance," Revision 49

OP 4424, "Control Rod Scram Testing and Data Reduction," Revision 44

Condition Reports

CR-VTY-2013-00619

CR-VTY-2013-02989

CR-VTY-2013-02994

CR-VTY-2013-04036

Work Orders

WO 354741, "Leak in Lagging near HPCI Control Valve"

Data Sheets

OPST-HPCI-4120-03, "HPCI Pump Comprehensive Test," Completed 6/19/13

VYOPF 4424.07, "Scram Timing Checklist," Completed 4/2/13

VYOPF 4105.01, "Monthly Operational Check of Fire Pumps," Completed 3/13/13, 4/18/13,
2/16/13

VYOPF 4114.01, "SLC Pump Operability and Discharge Check Valve Test Data Sheet,"
completed 6/26/13

Miscellaneous Documents

ENN-SEP-IST-001, "Vermont Yankee Inservice Testing Program," Revision 9

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Miscellaneous Documents

Emergency Action Level Technical Bases, Revision 13

Section 2RS7: Radiological Environmental Monitoring Program

Procedures

OP4605, "Environmental Radiation Sampling and Analysis," Revision 46

Condition Reports

CR-VTY-2013-02971

Miscellaneous Documents

Offsite Dose Calculation Manual, Revision 34

Process Applicability Determination for Change to the Vermont Yankee Offsite Dose Calculation Manual, Revision 34

Updated Final Safety Analysis Report, Revision 22

Gas Meter Calibrations dated: 4/11/11; 12/24/11; 1/31/12; 2/1/12; 2/13/12

AECOM Meteorological Monitoring Network – Primary Tower Calibrations, dated 12/19/12

AECOM Meteorological Monitoring Network – Semi-Annual Backup Tower Calibration Report, dated 3/21/13

Vermont Yankee Primary Meteorological Tower Data Recovery Rates 2012

Vermont Yankee Backup Meteorological Tower Data Recovery Rates 2012

2011 Vermont Yankee Radiological Environmental Operating Report

2012 JAF Environmental Laboratory QA/QC Report

2012 Land Use Census Evaluation, dated 9/27/12

Section 2RS8: Radioactive Solid Waste Processing and Radioactive Material Handling, Storage and Transportation

Radiation Protection Training Program (RPTP)

RPA-10-007, Rev 0, RDS-1000 Resin Dewatering System RPA-10-008, Rev 9, Packaging, Shipping and Receipt of Radioactive Material

RPA-09-005, Rev 8, Receipt of Radioactive Material

RPA-10-001, Rev 4, Introduction to Radwaste Program

RPA-10-002, Rev 9, Radwaste Regulations

RPA-10-006, Rev 5, Radwaste Shipments

RPA-09-002, Rev 4, Fundamentals of Radioactive Material Control

RPA-09-003, Rev 8, Radioactive Material Control and Storage

Oversight Observation O2C-VY-2010-0421

Focused Self-Assessment LO-VTYLO-2011-00068, Low Level Radioactive Waste Characterization

Quality Assurance Surveillance Report QS-2010-VY-009

Quality Assurance Audit Report QA-14/15-2011-VY-1

Procedures

RPRP-RW-2511, "Radwaste Cask/Liner Handling," Revision 4

EN-RW-102, "Radioactive Shipping Procedure," Revision 10
 OP-2512, "Radioactive Material/Radioactive Waste Packaging," Revision 8
 EN-RW-104, "Scaling Factors," Revision 9
 EN-RW-105, "Process Control Program," Revision 3
 OPOP-SRW-2153, "Solid Radwaste," Revision 8

Condition Reports

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CR-VTY-2011-03262	CR-VTY-2012-01652	CR-VTY-2013-03394
CR-VTY-2011-03902	CR-VTY-2012-04891	

Radioactive Material Shipments:

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2012-086	2013-039	

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10 CFR Part 61, Waste Stream Sample Screening and Evaluation for: CPS Resin; DAW; RCU Resin; Waste Demin Resin

Section 40A1: Performance Indicator Verification

Procedures

AP 0094, App. C, "Performance Indicator Data Input Sheets," April 2012-March 2013

Miscellaneous Documents

CHOP-RWS-4612-01, "Reactor Water System Sampling and Treatment," Revision 5
 EN-LI-114, Att. 9.2, "NRC Performance Indicator Technique/Data Sheet," 3rd Quarter 2012 – 1st Quarter 2013

Section 40A2: Problem Identification and Resolution

Condition Reports

CR-VTY-2012-05493	CR-VTY-2013-02727	CR-VTY-2013-02981
CR-VTY-2013-00874	CR-VTY-2013-02737	CR-VTY-2013-02982
CR-VTY-2013-02508	CR-VTY-2013-02740	CR-VTY-2013-02984
CR-VTY-2013-02527	CR-VTY-2013-02744	CR-VTY-2013-02985
CR-VTY-2013-02565	CR-VTY-2013-02745	CR-VTY-2013-02986
CR-VTY-2013-02567	CR-VTY-2013-02753	CR-VTY-2013-02989
CR-VTY-2013-02584	CR-VTY-2013-02755	CR-VTY-2013-02994
CR-VTY-2013-02598	CR-VTY-2013-02756	CR-VTY-2013-03001
CR-VTY-2013-02599	CR-VTY-2013-02764	CR-VTY-2013-03008
CR-VTY-2013-02615	CR-VTY-2013-02787	CR-VTY-2013-03013
CR-VTY-2013-02616	CR-VTY-2013-02807	CR-VTY-2013-03018
CR-VTY-2013-02621	CR-VTY-2013-02809	CR-VTY-2013-03019
CR-VTY-2013-02625	CR-VTY-2013-02816	CR-VTY-2013-03024
CR-VTY-2013-02632	CR-VTY-2013-02817	CR-VTY-2013-03031
CR-VTY-2013-02662	CR-VTY-2013-02818	CR-VTY-2013-03057
CR-VTY-2013-02674	CR-VTY-2013-02826	CR-VTY-2013-03069
CR-VTY-2013-02679	CR-VTY-2013-02829	CR-VTY-2013-03088
CR-VTY-2013-02686	CR-VTY-2013-02906	CR-VTY-2013-03098
CR-VTY-2013-02714	CR-VTY-2013-02970	CR-VTY-2013-03106

CR-VTY-2013-03127	CR-VTY-2013-03336	CR-VTY-2013-03429
CR-VTY-2013-03140	CR-VTY-2013-03341	CR-VTY-2013-03442
CR-VTY-2013-03149	CR-VTY-2013-03356	CR-VTY-2013-03443
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CR-VTY-2013-03179	CR-VTY-2013-03373	CR-VTY-2013-03465
CR-VTY-2013-03184	CR-VTY-2013-03380	CR-VTY-2013-03466
CR-VTY-2013-03211	CR-VTY-2013-03381	CR-VTY-2013-03467
CR-VTY-2013-03226	CR-VTY-2013-03394	CR-VTY-2013-03468
CR-VTY-2013-03244	CR-VTY-2013-03402	CR-VTY-2013-03469
CR-VTY-2013-03248	CR-VTY-2013-03405	CR-VTY-2013-03501
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CR-VTY-2013-03305	CR-VTY-2013-03412	CR-VTY-2013-03593
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CR-VTY-2013-03334	CR-VTY-2013-03423	

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Section 40A5: Other Activities

Procedures

OP 2223, “MPC Fuel Loading Preparations and Sealing Operations,” Revision 20
OPEP-PHEN-3127, “Natural Phenomena,” Revision 10
EN-DC-212, “Caskloader Computer Code Model Development and Updating,” Revision 2
EN-DC-215, “Fuel Selection for Holtec Dry Cask Storage,” Revision 1
EN-RP-105, “Radiological Work Permits,” Revision 11
OP-DFS-03, “Annual Inspection of HI-STORMs”

Condition Reports

CR-VTY-2013-00787
CR-VTY-2012-00893
CR-VTY-2012-02208
CR-VTY-2012-02234
CR-VTY-2012-00877
CR-VTY-2012-04313

Miscellaneous

EN-RP-105, “RWP Closeout and Post Job ALARA Review, RWP # 2012-0060 Rev. 6,” dated 09/04/2012
OE Evaluations LO-WTVTY-2012-0107, LO-WTVTY-2012-00107

LIST OF ACRONYMS

AC	alternating current
ADAMS	Agencywide Documents Access and Management System
ALARA	as low as is reasonably achievable
ASME	American Society of Mechanical Engineers
CoC	Certificate of Compliance
CFR	Code of Federal Regulations
DRP	[NRC] Division of Reactor Projects
DRS	[NRC] Division of Reactor Safety
EDG	emergency diesel generator
IMC	inspection manual chapter
ISFSI	independent spent fuel storage installation
ISI	in-service inspection
IVVI	In Vessel Visual Inspection Program
LER	licensee event report
NCV	non-cited violation
NDE	Nondestructive Examination
NRC	Nuclear Regulatory Commission
NSIR	Office of Nuclear Security and Incident Response
ODCM	offsite dose calculation manual
PARS	Publicly Available Records System
PCP	process control program
PT	Liquid Penetrant Testing
QA	quality assurance
RCS	reactor coolant system
REMP	radiological environmental monitoring program
RFO 29	Refueling Outage 29
RFO 30	Refueling Outage 30
RT	Radiographic Testing
RWP	Radiation Work Permit
SDP	significance determination process
SLC	standby liquid control
SSC	structures, systems and components
TLD	thermoluminescent dosimeter
TS	technical specification(s)
UFSAR	Updated Final Safety Analysis Report
UPS	uninterruptible power supply
UT	Ultrasonic Testing
VT	Visual Testing
VY	Vermont Yankee Nuclear Power Station
WW	workweek