RAS M-341

Entergy	QUALITY ASSURANCE DIVISION VERMONT YANKEE NUCLEAR POWER PLANT

AUDIT NO.: QA-8-2004-VY-1

TITLE: Engineering Programs

ACTION ORGANIZATIONS:

Design Engineering
System Engineering

AUDIT TEAM:

B. E. Hall, ENN/VY/QA,	ATL
H. Heilman, ENN/VY/QA	ATM
Nick Love, Constellation	Tech Specialist

AUDIT DATES: 9/20/04 – 9/30/04 **Exit:** 10/07/04

PREPARED BY:

B. E. Hall 11/22/04 B E Hall
Audit Team Leader / Date

APPROVED BY:

Thomas P. White 11/22/04
Quality Assurance Manager / Date

Distribution

VY- Site VP, J. Thayer
VY- GM Plant Operations, K. Bronson/W. Maguire
VY- Dir. Nuclear Safety, R. J. Wanczyk
VY- Manager Training, M. Desilets
VY- Manager Technical Support, B. M. Finn
VY- Manager Planning/Scheduling, S. Jefferson
VY- Manager Maintenance, P. Corbett
VY- Manager Operations, C. Wamser
VY- Director of Engineering, J. Dreyfuss
WPO- Director of Oversight, M. Colomb
VY SRC Distribution, S. Sandstrum
VY Manager, Licensing
VY Manager Design Engineering, J. Callaghan
VY Manager System Engineering, G. Wierzbowski
WPO- QA Manager, R. Patch
IPEC QA Manager, J. Perrotta
PNPS QA Manager, W. Grieves
JAF QA Manager, D. Wallace
Echelon- Dir. of Oversight, Early C. Ewing
Echelon- QA Manager, Wenstrom Edge

Template Secy-028

DS-03

EXECUTIVE SUMMARY

The audit team concluded that the four engineering programs evaluated during this audit, Reactor Vessel Internals, Check Valve, Relief Valve, and Environmental Qualification Programs were effective and were being administered and maintained in a manner that meets regulatory requirements/commitments and supports safe and reliable plant operation.

The team concluded that while the Flow Accelerated Corrosion Program was technically sound, a number of the administrative/documentation issues identified did not meet regulatory requirements.

The following table summarizes results for evaluated elements:

Elements	Result	Number of CRs/AFIs
EQ Program	Satisfactory	2 CRs 2 AFIs
Check Valve Program	Satisfactory	1 CR 3 AFIs
Flow Accelerated Corrosion Program	Unsatisfactory	2 CRs
Relief Valve Program	Satisfactory	1 CR 1 AFI
Reactor Vessel Internals Program	Satisfactory	1 CR 1 AFI

Overall Results

The audit team identified five findings, two compliance CRs, and seven areas for improvement. None of the findings or areas for improvement, individually or in the aggregate, were indicative of significant programmatic weaknesses which would impact the overall effectiveness of the Engineering Programs assessed. However, as previously noted, there were administrative / documentation issues with the Flow Accelerated Corrosion Program which need to be corrected.

Findings

RFO 24 FAC documentation not yet completed.
(CR-VTY-2004-03061 Cat C – Design Engineering M&S)

QA records not handled in accordance with procedures.
(CR-VTY-2004-03062 Cat C – Design Engineering M&S)

Multiple versions of MOVATS software in Check Valve Program.
(CR-VTY-2004-03087 Cat C – System Engineering Components)

Relief valve as-found testing near miss.
(CR-VTY-2004-03039 Cat B – Work Control)

QDR 8.6 does not clearly document how Amphenol connectors with Rexolite are qualified.
(CR-VTY-2004-03032 Cat C – Design Engineering EI&C)

Compliance

LO-CA issued instead of CR during IVVI Self-Assessment.
(CR-VTY-2004-03086 Cat D – System Engineering Code Programs)

Master EQ List references deleted QDR 8.9.
(CR-VTY-2004-03106 Cat D – Design Engineering EI&C)

Areas for Improvement

LO-VTYLO-2004-00512

CA – 1 The following documents need to be updated: OP 4223 needs to reflect new equipment, software, and practices. Vendor Manual VYEM 0250 needs to be evaluated to determine if it should be retained and updated or deleted.

CA – 2 ESP training activities should be developed for the Check Valve Program similar to those for the MOV/AOV Program

CA – 3 Submit VYAPF 0700.03 to training to get training credit for the two component engineers who completed off-site check valve diagnostic training.

CA – 4 A maximum and minimum examination distance for the camera is established at the time of resolution demonstration check. Each examination record should indicate the distance the camera was from weld or verify that the camera was within the resolution range. The distance of the lens to the examination surface cannot be determined from the current QA records.

CA – 5 The relief valve scheduling spread sheet should use the installation date rather than the as-found testing date to schedule the next test since the as-found test can be performed up to 90 days or one year after the valve is replaced. This can lead to incorrect due dates for the 48 month interval and the ten year mandatory test dates.

CA – 6 The EQ Health Report should include all outstanding corrective actions related to EQ, not just those assigned to the EQ Coordinator. The current EQ Health report indicates no corrective actions are outstanding against the program. However, there are open corrective actions open to other departments for EQ issues. (CR-VTY-2001-00983 "EQ MCC Component Replacements Not Performed by End of EQ Life," Corrective Actions 1, 4, 8, 9, 13)

CA – 7 The EQ Coordinator should note in the program health report the OEs that he had seen during the period of the report. Currently if no actions are taken there is no documentation that he has reviewed any OEs.

AUDIT PURPOSE, SCOPE, AND METHODOLOGY

Purpose:

The purpose of this audit was to determine whether selected Engineering Programs have been adequately maintained and administered to effectively meet regulatory requirements/commitments and support safe and reliable plant operation.

Scope:

The selected engineering programs included the Environmental Qualification (EQ) Program, the Check Valve Program, the Flow Accelerated Corrosion (FAC) Program, the Relief Valve Program, and the Reactor Vessel Internals Program. Each program was checked to verify that it was being maintained current, that software used by the program was current and in the SQA program if applicable, and that required inspections/surveillances have been identified and implemented. In checking that the program was current, the impact of design changes, Extended Power Uprate (EPU), regulatory changes, deviations from codes and standards, industry positions, and industry experience was considered.

Methodology:

The audit was performed through interviews with engineering personnel and others as appropriate and through the examination of procedures and documentation.

AUDIT DETAILS

Program Maintenance / Instructions, Procedures, Drawings

Plant Modifications

The audit team members concluded that adequate programmatic "hooks" existed to ensure that program engineers would be included in reviews of design changes affecting their programs and that programs have been adequately updated to reflect design changes. There was an exception noted in the EQ Program which is discussed below.

Environmental Qualification

During a review of several Qualification Documentation Review (QDR) Packages, it was noted that inboard electrical penetration Amphenol connectors were included in the Victoreen HRRM Package (QDR 8.6). The qualified life of these connectors was identified as 2.61 years. During a review of work orders to verify that the connectors had been replaced at the required frequencies, it was determined that new connectors were evaluated for this application per Equivalency Evaluation (EE) 1101. QDR 8.6 had not been adequately updated to reflect the new component with a longer qualified life. EE-1101 was considered inadequate because it did not reference the test report, a 10CFR50.49 requirement, needed to qualify the new connectors to IEEE-323. Thus, EE-1101 did not provide for an adequate evaluation of a critical characteristic for this EQ application. The EQ Program owner was unaware that these connectors had been replaced with a longer life component and wrote **CR-VTY-2004-03032 to document the issue.** An operability determination concluded that this issue was not an operability concern. This modification was not recent and changes made to the EE process should preclude recurrence.

The auditor also noted during the QDR reviews that the EQ Master List still referenced QDR 8.9.1 which had been previously deleted. **CR-VTY-2004-03106 documented this issue.**

Check Valve Program

Based upon a review of ENN and VY procedures, the auditor verified that the responsibilities of the Check Valve Program Coordinator (CVPC) included a review of plant design changes involving the addition, deletion, or change in station check valves. Although the CVP was not specifically included on the distribution of pending design changes, Component Engineering and/or the IST Coordinator were. Based on a discussion with the IST Program Coordinator, he has a good working relationship with the CVPC for interface of all aspects of the two programs. The review of design changes for program impact was discussed with the CVPC who stated that he would be included for review if a check valve was affected. He was included in the review of the EPU design change which added a third safety valve (he is also the Relief Valve Program Coordinator).

Flow Accelerated Corrosion

Section 3.2.12 of PP 7028 identified that one of the responsibilities of the FAC Inspection Program Coordinator is to "update/maintain the 'FAC Susceptible Piping Identification' document to reflect plant changes as required." Section D.5 requires revision of the CHECWORKS module to reflect current plant design and operation. AP 6008 requires the Mechanical & Structural Group to review all VYDCs. AP 0020 also requires MMs to be reviewed by Mechanical & Structural unless it is checked NA for their review.

Relief Valve Program

Procedures PP 7204 and OP 4261 for IST and BOP valves include notes relative to changes to the program and equipment and the associated reference to the design document.

One pending change to the Safety & Relief Valve (S&RV) Program under ER-04-1222 was not routed to the program engineer for required review; however, the IST Engineer was a required reviewer for the change. The S&RV Program Engineer became involved when questioned on the need for pre-installation setpoint verification and provided input to the change originator by e-mail on 09/22/04. This omission was discussed with the originator who assumed that IST was the proper individual to respond. A further review revealed that ENN-DC-115, "ER Response Development," includes Programs and Component Engineering for impact screening. This appeared to be a misunderstanding and not a programmatic issue.

The auditor verified that procedure OP 4201 was revised by Maintenance Support to reflect the addition of a third safety valve installed for EPU.

Both procedure changes had the required documentation packages with approvals retained in Curator.

Reactor Vessel Internals Program

The Reactor Vessel Internals Program is driven primarily through the implementation of Procedure PP 7027, which maintains the inspections and examinations that are required under the BWRVIP Program. Although there are no current plant modifications that would affect this program, steam dryer cracking was being evaluated for scope increase. This was based upon the industry issues involving steam dryer cracking and the VY steam dryer cracks that were identified and repaired during RFO 24.

Extended Power Uprate

Section 10, of Volume 2 of the "Vermont Yankee Nuclear Power Station Extended Power Uprate BOP Engineering Report" addresses the impact of the Extended Power Uprate (EPU) on various programs. Four of the five programs selected for this audit were addressed explicitly in section 10. The auditor considered that the fifth, Safety & Relief Valve was implicitly addressed as part of the IST Program. Based upon reviews of these sections and discussions with the program engineers, the auditors concluded that the impact of the EPU on Engineering Programs was being adequately addressed.

Environmental Qualification

Due to temperature and radiation increases during accident scenarios, 181 pieces of equipment would need to be requalified and 1 modification was required. The EQ Coordinator stated that he was actively working on completing the required requalifications. As a check the auditor reviewed QDR 6.14, Rome XLPE/PVC Cable, which would be impacted. This review found the manner of evaluating qualification for radiation dose to be adequate and appropriate to assess increased dose from the power up-rate. No issues were identified with EPU impact.

Check Valve Program

The main impact of the EPU would be on feedwater flow, steam flow and the generator. The report concluded that there would be no programmatic effect on the Check Valve Program, but that degradation rates could be affected by the EPU. Although it concluded that the normal inspection process should be adequate to identify changes in the valve degradation rate, it recommended that the program coordinator review the parameter changes caused by the EPU to identify any recommended testing or inspection frequency changes. The Check Valve Engineer has requested information on any velocity changes resulting from the EPU for further consideration of PM changes. The auditor had no further issues.

Flow Accelerated Corrosion

The impact on the FAC Program of changes in the temperature, pressure, and velocity due to the power uprate were considered. Based upon evaluations of individual system impacts, it was concluded that there would be minimal impact on FAC and that no additional systems would need to be added to the FAC Program. The report also recommended new CHECWORKS runs to identify possible changes in FAC concerns (increased erosion rates, reduced useful components life, etc.). The new flows will be included in the new CHECWORKS model once version 1.0G is approved.

Relief Valve Program

The EPU impact on the IST Program would be evaluated as part of the EPU change process. Modifications/changes are evaluated as part of the modification process for changes in system/component design requirements.

The Safety & Relief Valve Engineer indicated that he had been involved with EPU changes and had reviewed the design change packages. He has been satisfied with the interface between himself and the EPU staff. Pending procedure changes have been made to reflect the modifications made during RFO 24.

Reactor Vessel Internals Program

The report noted that the In Vessel Visual Inspection (IVVI) Program was revised prior to each refueling outage. Since the EPU would be implemented following an outage, the program update prior to the outage should include any required EPU information [Dryer inspections and repairs were completed during RFO 24]. GE Task Report TO302, "Reactor Vessel Integrity Stress Evaluation," evaluated the expected EPU stress in many components/locations.

The auditor obtained and reviewed a copy of the "Licensee Identified Commitment Form" in accordance with ENN-LI-106, which demonstrated that a process was in place for preparing an action plan for the monitoring of the Steam Dryer. This document outlined a number of one-time commitment actions relative to the analysis, inspection and reporting actions and their respective scheduled completion dates. It was noted that several of the commitment actions had near term completion dates as well as indeterminate dates. A search of LOCRs using a key word of "steam dryer" showed that LOCRs had been written to track various steam dryer requirements.

Regulatory Changes

The auditors concluded that regulatory changes were being adequately addressed. No issues were identified by the auditors.

Environmental Qualification

There have been no recent regulatory changes impacting the VY EQ Program.

Check Valve Program

Regulations mandating elements and testing of the Check Valve Program are Technical Specifications, the IST Program, and ASME OM-1998 Edition through ASME OMb-2000 Addenda. The Check Valve Program procedure has been revised for the new code requirements of the 4th IST interval.

Relief Valve Program

Current 4th interval IST requirements for test frequency and expansion testing have been included in the Program procedure, PP 7204, "Safety & Relief Valve Program." Procedures have been revised to reflect the correct codes for the 4th IST interval.

Reactor Vessel Internals Program

Program procedure PP 7027 "Reactor Vessel Internals Management Program" was reviewed, and was determined to address the necessary requirements for adequately implementing the BWRVIP Program. The procedure provides the necessary direction for the responsible individuals to review and initiate actions that may be required upon the issuance of NRC correspondence, information notices, BWRVIP documents and G.E. bulletins, etc., as they apply to Vermont Yankee. In turn, the information obtained from these documents is incorporated into the various inspection plans that are implemented during refueling outages.

To determine the adequacy of the prepared inspection plan, a comparison between PP 7027, Appendix A "Reactor Vessel Internals Components Inspection Scope and Schedule" and the RFO 24 Reactor Vessel Services In Vessel Visual Inspection Final Report was performed. Both were obtained from Curator. A sample of activities was randomly selected from the RFO 24 schedule, with respect to the method of examination and the relative frequency of the examination. These activities were compared with the RFO final report to determine if the appropriate examinations were performed. In all instances reviewed, the report confirmed that the required examination method and frequency were correct. In several instances, due to limited accessibility of the examined component, a partial examination was performed and documented as such. The assessor had contacted the Site Reactor Internals Engineer, to ascertain whether or not the examination sufficiently evaluated the component under examination. The engineer indicated that the inspection of the accessible portion of the component revealed no recordable indications, and was therefore deemed acceptable until such time that the reactor internals are accessible due to disassembly. The auditor subsequently confirmed that Technical Justification No. 2004-02, dated March 26, 2004 was issued for the deferral of inspection of inaccessible welds and Technical Evaluation No. 2004-0018 dated April 2004 addressed inspection of portions of shroud horizontal welds.

Code and Standards Deviations

Deviations from codes and standards, where applicable, have been adequately addressed. No issues were identified by the auditors.

Environmental Qualification

Based on discussion with the EQ Program owner, VY has not requested any deviations from NRC EQ Program requirements.

Check Valve Program

The Check Valve Program does not have deviations from approved codes and standards but implements and tracks deviations developed and approved under the IST Program. Several changes which were noted to valve testing/inspection frequencies were verified to be addressed with document changes, PM Basis Database changes, and EMPAC Asset schedule changes.

Changes from regulatory standards relative to the 4th interval IST Program and implemented or tracked through the CVP have been approved under NRC Letter NVY 03-078.

Flow Accelerated Corrosion

By letter dated March 19, 2001, VY requested approval from the NRC to use Code Case N-597 which was an alternative approach to evaluating components when the section thickness has been reduced below code minimum thickness. NRC approval was received by letter dated July 21, 2001.

Relief Valve Program

The IST 4th interval code deviations have been approved and accepted under NRC Letter NVY 03-078. The auditor verified that procedure OP 4201 referenced the proper codes for the 4th IST interval.

Reactor Vessel Internals Program

Based upon spot checks the auditor confirmed that exceptions made due to weld accessibility and deferrals were documented and justified.

Industry Alignment

In general, the auditors concluded that the programs reviewed were acceptably aligned with industry positions. As discussed below, VY's approach to the EQ Program is more fragmented than others, but this was discussed with engineering management who had already recognized some of these issues and was evaluating approaches to resolve them.

Environmental Qualification

The QDR Packages reviewed had strong technical content and were organized in a manner that made the required information easy to find. This provides a strong basis for the program. Current industry efforts are focused on internal communications and retention of configuration control.

Based on review of procedure ENN-LI-100, ENN-DC-115 and ENN-DC-329, the recent implementation of these procedures at VY would appear to offer some enhancement to the oversight and feedback available to program owners. This may mitigate some of the potential for future disconnects between the maintenance organization's component replacements and engineering's oversight responsibilities.

However, these procedures which impact the EQ Program are partitioned in a manner that fragments program oversight accountability between licensing, engineering, and maintenance. ENN-LI-100 makes no reference to the EQ Program and ENN-DC-115 is a classification and screening process for engineering aspects only. The applicable procedures, including VY AP's offer only very limited flow charts identifying how the programs processes are supposed to work or how the various parts of the organization interface with each other. These issues were discussed with Engineering management.

Program health is a significant aspect of the INPO EQ Program Guideline currently in preparation. Audit health reports for quarter 2003-Q4 and 2004-Q1 were reviewed. The 2004-Q1 report indicates no CR CA's open against the EQ Program at this time. In fact, this is because the applicable performance indicator has been interpreted to apply only to CR CA's assigned to the EQ Program owner as opposed to those impacting the program as a whole. The industry position would be that the health report is intended to capture full program scope at the plant. CR–VTY-2001-0983 has five open items against it relating to non-performance of EQ component replacements. **This issue was documented as CA6 of LO VTYLO-2004-00512.**

Check Valve Program

This scope element was discussed with the Check Valve Engineer. The program was originally developed based on the industry documents as identified in the program procedure purpose section and references. The review and inspection processes used in the development of the program are documented in curator under SOER 86-03. Corrective maintenance is factored into the program and subsequent PMs revised based on findings. Additional balance-of-plant check valves which were considered a risk to generation, but were not originally covered in the SOER 86-03, have also been included in the program. Based on a review of the type valves tested, the test methods, maintenance, intrusive and non intrusive inspections, the program and test methods appear to be in alignment with industry expectations.

Flow Accelerated Corrosion

Surveillance 99-016 verified that the VY FAC Program met both NRC expectations and industry guidelines as defined in Generic Letter 89-08, "Erosion/Corrosion - Induced Pipe Wall Thinning

Program uses CHECWORKS, an EPRI sponsored code, as a tool for prioritizing inspections and tracking data. VY also participates in CHUG, an EPRI sponsored CHECWORKS user's group.

Relief Valve Program

The S&RP was developed based upon EPRI/NMAC guidance with recommendations from INPO included for balance-of-plant valves. The inputs and methodologies used in the development are discussed in the procedure as a historical reference. There have been no new initiatives in the area that are not included in the current program.

Reactor Vessel Internals Program

Program procedure PP 7027 "Reactor Vessel Internals Management Program" was reviewed, and was determined to address the necessary requirements for adequately implementing the BWRVIP Program. The procedure provides the necessary direction for the responsible individuals to review and initiate actions that may be required upon the issuance of NRC correspondence, information notices, BWRVIP documents and G.E. bulletins, etc., as they apply to Vermont Yankee. In turn, the information obtained from these documents is incorporated into the various inspection plans that are implemented during the respective refueling outage.

During documentation reviews, it was noted that it could not be determined how the IVVI examinations were conducted, with respect to the measured distance between the lens of the camera and the examination surface. Procedure NE 8048, Rev. 1, paragraph 4.1.2 states in part, that "...the lens to object distance required to discern the target on the Sensitivity, Resolution, and Contrast Standard (SRCS) becomes the maximum distance examinations can be performed from the examination surface." Although the distance/range of the camera lens to the examination surface is determined and documented during the sensitivity, resolution and contrast standard, it cannot be readily determined how the distance is determined/maintained during actual visual examinations. **This was addressed in CA 4 of LO VTYLO-2004-00512.**

Industry Events

All of the program engineers were receiving OE relevant to their program and were aware of significant industry events involving their programs. The auditors concluded that industry events were being adequately addressed.

Environmental Qualification

As a part of the program health assessment, industry operational experience (OE) and NRC Information Notices (IN's) are to be screened for EQ Program impact. A sample of four recent OE's and three NRC IN's with potential EQ Program applicability were submitted to the Technical Support OE Coordinator to determine specifically how they had been addressed. All of the IN's were found in the Technical Support files with documentation to address the extent of their VY applicability including two which were evaluated to actually have direct EQ impact. One of these was entered in QDR 8.6 to address its specific applicability at VY.

Of the four OE's, all were distributed. Two were recognized as having potential EQ impact and sent to I&C/Electrical. None of the IN's and OE's reviewed by the auditor originated during the most recent two health report periods. However, while five additional OE's were issued during the 2003-Q4 and 2004-Q1 periods, none are noted as having been reviewed in the health reports. In discussions with the EQ Coordinator, he indicated that he does not normally identify OEs that he reviewed unless they required action. If no actions were taken, he does not document that he has reviewed the OE. The auditor recommended identifying in the program health report the OEs that he had reviewed during the reporting period even if no action was required. **This was documented as CA 7 of LO VTYLO-2004-00512.**

The EQ Program owner was very knowledgeable of industry events, and of the general applicability of operational experience at other plants to VY equipment.

Check Valve Program

The CV Program Engineer receives OE from the Entergy OE distribution as well as the System EPIX Coordinator. The OE evaluated each quarter is documented on the CV Program Health Report. A review of the last two health reports indicated that twelve OE related to check valves were reviewed. There were no specific changes to equipment, inspections or testing required from the reviews and no commitments resulted.

Flow Accelerated Corrosion

Industry events are identified and the bases for performing or not performing additional inspections were documented in the VY Piping FAC Inspection Program PP 7028 - 2004 Refueling Outage." The Coordinator was aware of the details of the piping failure that occurred in Japan and indicated that he has an action item (LO-OEN-2004-00272 CA-00003) to look for similar piping arrangements at VY.

Relief Valve Program

OE was discussed with the site OE coordinator, System Engineering EPIX Coordinator and the S&RV Program Engineer. OE that has been reviewed is documented in the Program Health Report. There has been no OE that required specific program changes or commitments generated. However, OP 4200 was revised based upon a concern received from Pilgrim Station involving hydrogen entrapment in the piping downcomer region. The S&RV Program Engineer receives OE for review from the ENN distribution as assigned by the morning screening as well as from the System Engineering OE screener. Seventeen OE reviews were documented in the health report.

Reactor Vessel Internals Program

Steam dryer cracking is currently the most significant industry OE issue in this area. This issue will drive further examination of this component in future examination/inspection activities. A Licensee Identified Commitment Form per Procedure ENN-LI-106 was initiated to identify specific actions that will be required to assist in the assessment of this component. This document contained commitments that will incorporate augmented examinations into the Vessel Internals Inspection Program.

Software/ Software Quality Control

With the exceptions noted below, the auditors considered that software was being adequately controlled. There were several issues identified with software QA, but none of them directly compromised the integrity of the results.

Environmental Qualification

VY had EPRI's System 1000 software for materials library reference, but it was not yet in use because it had not been through the SQA Program. The EQ Database, which was developed in 1997, was included in the SQA Program as Level A software. However, the EQ Coordinator indicated that there had been a data corruption problem which IT had been unable to recover. The verified hard copy of the database is considered the Q copy. Since none of the EQ software was being used for Q purposes, this was considered acceptable.

Check Valve Program

Check Valve Program software is classified as Category A and has been controlled through the procurement process. It has been approved and tested for verification. All paperwork for compliance was available as quality records in FYI.

Multiple versions of MOVATS software (4.6.b and 4.5) were still in use to support older equipment (Maintenance Support lap top computer). SQA paperwork for new versions state old versions are retired. The computer and software should be removed from use or the SQA should be resubmitted to define and allow conditional use of older versions (**CR-VTY-2004-03087**). Based on discussion with the MOVATS Component Engineer who was involved with all six RFO 24 non-intrusive check valve tests, the MOVATS computer with version 4.6.b software was used to perform diagnostic data collection and analysis.

The ENN web software catalog for VY, which is considered non Q, was not up-to-date for MOVATS software. It listed versions 4.0.0.0, 4.5, and 4.6. As mentioned before, version 4.6.b is the software of record and Curator records show that previous revisions are retired.

Based on discussion with the previous and current CV Program Engineers, one Signature Analysis Module (SAM) notebook computer is not capable of running the newer software. Version 4.6.b is capable of being used with the Viper and UDS systems. A potential area for improvement exists by updating OP 4223 to allow the performance of check valve diagnostics using any of the available systems. **This was documented as CA 1 of LO-VTYLO-2004-00512.**

Flow Accelerated Corrosion

The Software QA Program identified CHECWORKS version 1.0F and CHECWORKS Application Manager Version 1.0D as approved software. The FAC Program Coordinator stated that he was in the process of upgrading to version 1.0G, but had not completed the software QA process. He had been using version 1.0F, but it was approved for a Windows 98 platform which was no longer available. Version 1.0G supports a Windows XP platform. Once the new version is approved, it can be used to confirm RFO 25 inspection selections and assist in the assessment of EPU impacts. The auditor considered this acceptable.

Relief Valve Program

S&RV Program IST Scheduling software has been controlled and is appropriately classified as Type B in support of Technical Specifications. A review of the software qualification package revealed that all procedural requirements were met and are documented as QA records. No concerns were identified relative to Software QA requirement implementation. For the relief valve scheduling, the auditor noted an area for improvement in the use of the spreadsheet. There are no instructions for the spreadsheet use and currently, the date of as-found testing is inputted instead of the installed date. The as-found test date (performed subsequent to replacement) could cause the next test to exceed the 48 month or 10 year requirement to be exceeded (**LO-VTYLO-2004-00512 CA 5**).

Reactor Vessel Internals Program

There were no specific software programs unique to the RVI Program.

Inspections/Surveillances

The auditors concluded that required inspections and surveillances were being performed, although issues were identified with the completion of documentation in the FAC Program and with a scheduling error which could have led to missing a 90 day requirement in the S&RV Program.

Maintenance of EQ Requirements

Based upon a review of Qualification Documentation Review (QDR) Packages to determine if adequate end of life replacements are being performed for components with qualified lives of less than 40 years, two examples were identified, one each for QDR's 8.8 and 35.3, where adequate replacements were made for items with qualified lives of 17.6 years and 3.3 years, respectively.

As discussed earlier, the review of QDR 8.6 identified that it had not been appropriately updated following an equivalent component replacement. A review of work orders verified that the new longer life components had been installed in the plant and was therefore not outside of its EQ lifetime.

Check Valve Program

Required inspections and testing requirements are identified in the program procedure. The performance of the 2004 specified testing was evaluated through the review of 30 EMPAC work orders. All scheduled inspection and testing was performed, rescheduled with appropriate change documentation, or deleted from the IST/Check Valve Programs with justification documented. No concerns were noted

Flow Accelerated Corrosion

"VY Piping FAC Inspection Program PP 7028 - 2004 Refueling Outage" identified the inspections that were to be conducted during RFO 24. The Post outage report for RFO 24 had not been written at the time of the audit, although the program procedure requires that the report be issued within 90 days. The report for RFO 23, issued on 1/22/02 was reviewed by the auditor and found to be complete, thorough and met the expectations of PP 7028. However, this document had not yet been sent to RIMs. Based upon a search of CURATOR and discussions with the FAC Engineer, it was concluded that a significant amount of FAC Program documentation had not been sent to RIMS. **These issues were documented in CR-VTY-2004-03061 and CR-VTY-2004-03062.**

Relief Valve Program

Required testing to meet code or program BOP valve expectations have been defined and tracked in the program procedure. A sample of nine IST valves scheduled for testing during 2004/2005 was selected for review. During the review of work orders and the P3 Work Week Schedule for the as-found testing, it was discovered that this activity was scheduled for 02/22/05 which would have been past the 90 day requirement. This had occurred in the past, with 4 CRs written in 2003. The corrective actions from these CRs did not prevent the potential recurrence of the same issue in this instance.
CR-VTY-2004-03039 was written to address the near miss.

Reactor Vessel Internals Program

On a sampling basis, the auditor verified that the scope of examinations/inspections required by the program procedure was performed during the In-Vessel Visual Inspection performed by AREVA. Of the components reviewed, the corresponding requirements were found to be consistent with the scope of work performed. No unsatisfactory conditions were noted.

Personnel certifications were also reviewed to verify that required personnel qualifications were current. All of the individuals responsible for performing the VT-1 and 3 Level II examinations were found to be qualified to perform these tasks during the duration of the RFO, and demonstrated the required visual acuity required to interpret their observations.

Additionally, the auditor verified on a sampling basis, that the individual in-vessel examinations did receive the required sensitivity, resolution and contrast verifications/calibrations. A comparison between the inspection data sheet and the resolution verification log was performed, which confirmed that the necessary resolution was maintained throughout the examination duration. It was observed in some instances, that the individual performing the calibration differed from the person who performed the examination. Upon investigating this concern, it was determined that this practice was acceptable, as none of the key elements of the examination, i.e. water clarity, lighting, nor equipment were affected, which would influence the video image. All of the individuals involved with the examination equipment calibration, performance and interpretation of results were verified to be qualified Level II or higher in the examination method used.

Self Evaluation and Corrective Action Effectiveness

Corrective Action Effectiveness

Based upon a review of the corrective actions associated with the Check Valve and the Safety & Relief Valve Programs, the auditor concluded that corrective actions were acceptable.

Check Valve Program

Three QAD CRs that had been generated from surveillances were reviewed to determine if the corrective actions were acceptable, effective, and timely. Equipment issues were also reviewed. One level C and two Level B CRs were reviewed with no issues identified. Overall, CR dispositions were thoroughly performed with corrective actions assigned to address the most probable or apparent causes. Corrective action disposition has been timely with extensions minimal and approvals granted and justified when required.

Safety & Relief Valve Program

Corrective actions from CRs and recommendations issued as a result of a 2002 QA assessment of the Safety and Relief Valve Program were also reviewed for acceptability, effectiveness, and timeliness. No concerns were identified.

ER-2003-1910 (Level 1) for program deficiencies identified during the 2003 NRC PI&R Inspection was reviewed. The root cause investigation was performed to the AP 0009 requirements and commitments were established for the findings of the investigation. Corrective actions relative to the S&RV Program were reviewed

Condition Reports have been issued for each relief valve failure and programmatic issues. Since the NRC finding on the program and the corrective actions of CR-VTY-2003-1910, equipment failures have been assigned as Level "B." Improvements in the content of the evaluation and subsequent disposition are evident.

Based upon the CRs and corrective action reviewed above, the auditor concluded that commitments were tracked to completion with extensions documented and approved. Overall, corrective actions were considered timely and where delays existed, appropriate justification was provided.

Self Evaluation Effectiveness

Based upon a review of selected self-assessments/benchmarks, it was concluded that the self assessments were of acceptable depth and were adequately intrusive. Recommendations were being tracked. It was noted that LOCRs were used in two instances where CRs would have been more appropriate.

Check Valve Program

A benchmarking trip was performed on 08/16/04 to compare VY's Check Valve Program to that of Seabrook Station and included the CV Program Engineer, IST Program Engineer, and a mechanical maintenance support engineer. A review of the preliminary draft of the report revealed corrective actions would be issued for the evaluation of enhancements to the program. These included employing non-intrusive digital radiography methods, procedure enhancement for dimensional checks during disassembly and inspections, development of a condition monitoring process in support of IST, the use of leak rate testing results as a trending tool for determining check valve degradation, and an effectiveness of corrective actions review.

Relief Valve Program

An on-going Self Assessment (MSA 2003-015) was performed under commitment OPVY-2003-065_01. Recommendations resulting from the assessment were documented in the assessment and were entered into the corrective action process. The assessment included team members from the IST, Component Engineering, and Maintenance Support. The S&RV Program Engineer was aware of the status of all open items and is tracking the items under the program improvement plan.

Reactor Vessel Internals Program

During the course of this assessment, a review of the BWRVIP Program Self Assessment that occurred following RFO 24, was performed. Although this assessment was found to be quite comprehensive, there were at two instances noted where LOCRs were written when CRs were the appropriate documents. Both examples involved the use of an incorrect examination method and frequency which were not in accordance with BWRVIP guidelines (VT-3 versus VT-1 visual exams). A failure to comply with BWRVIP guidance should have triggered a CR, not an LOCR. **CR-VTY-2004-03086 was initiated to address this issue.**

In both instances, the VT-1 examinations produced acceptable results. Recommendations within the self assessment indicate that the applicable tables in Procedure PP 7027 will be revised to capture the correct examination method and frequency requirements.

Training/Qualifications

One of the five program engineer positions, EQ, had a qualification card item directly related to their EQ position at the time of the audit. The VY ESP Qualification Matrix indicated that position specific qualifications for all of the positions except the Reactor Internals Program Engineer were being developed for implementation across Entergy North. There is an ISI Engineer Qualification Card to be developed which could be used for the Vessel Internals. All of the current program engineers have had background, experience, and training relevant to their areas of responsibility.

Based upon a review of the training provided on check valves the auditor recommended that an ESP Qualification activity be established for check valve diagnostics and analysis equivalent to that for the MOV/AOV Programs. Also, since two component engineers had received off-site check valve diagnostic training, 0700.03 forms should be submitted to training to get training credit.
(LO VTYLO-2004-0512 CA 2 and CA 3)

Records/Document Control

While QA records and document control was acceptable within the Check Valve and Safety & Relief Valve Programs, temporary and permanent storage issues were identified within the FAC Program.

Check Valve Program and Safety & Relief Valve Programs:

Records reviewed from QA record files, packages in process, and Curator/FYI were legible and retrievable. Work order package records were legible with entries made in ink. Two instances were noted where a write-over or cross-out without initials occurred. However, this was a significant improvement over the condition of maintenance records reviewed on previous audits.

Work Order records that were completed and not transferred to RIMS were stored in the locked Work Control QA Records fire proof file cabinets. Incomplete records that have completed procedure data-sheets attached are not treated as QA records until complete. This was discussed with QA Records personnel in RIMS and is consistent with all records at the site for in-process work such as design changes and procedures where the package is not treated as a QA record until complete with the last signature. This interpretation is consistent with the QAPM and with ANSI 45.2.9.

FAC

Based upon a review of data sheets from RFO 23, and 24 and documents retrieved from CURATOR, the records are legible. However, several issues were identified with document storage and transferal to RIMs.

Although the current records from RFO 24 were being maintained in a fire proof cabinet, other QA records such as the 2002 Refueling Outage Inspection Report (RFO 23 - Fall 2002) and supporting documentation were being maintained by the FAC Program Coordinator on a bookshelf.

As discussed earlier in "Inspections / surveillances, a significant amount of FAC Program documentation had not been sent to RIMS. **These issues were documented in CR-VTY-2004-03061 and CR-VTY-2004-03062.**

LIST OF ATTACHMENTS

ATTACHMENT 1 – Personnel Contacted

ATTACHMENT 1 - PERSONNEL CONTACTED

Name	Department or Title	Contact
J. Dreyfuss	Director Engineering	1, 3
J. Callaghan	Manager Design Engineering	1, 3
J. Wierzbowski	Manager System Engineering	1, 3
A. Haumann	EQ Program Coordinator	1
E. Luciano	PM Coordinator, (C)	1
C. Rose	EPU, VY	1
J. Fitzpatrick	Senior Eng ME&S	1
S. Goodwin	Supervisor ME&S	1
J. Apostoles	Sr. Plant Mechanic, VY	1
W. Aho	VY OE Coordinator	1
T. Underkoffler	Appendix J Program Coordinator, VY	1
M. Garland	Mechanical Maintenance Supervisor, VY	1
J. Golonka	EPIX Coordinator, VY	1
R. Penny	Mgr, Eng Programs WPO	1
J. Lafferty	Sr Engineer (Nuc) WPO, VY IVVI Coord	1
W. Fields	Technical Spec IV (Nuc)	1
C. Larson	PNPS	1
J. Devincentis	Licensing Manager VY	1
L. Lukens	ISTPC, VY	1, 3
B. Smith	Maint. Support Eng., VY	1
R. Booth	Check Valve Program Coordinator	1
T. Derting	IT SQA Program Administrator, VY	1
P. Longo	MOVATS Engineer, VY	1
M. Faunce	MOV Group Engineer	1
R. Wanczyk	Director, NSA	3
J. O'Connor	QA	3
S. DiMauro	QA	3
T. White	QA Manager	3

1 – Contact
2 – Pre-Audit Conference - Informal
3 – Post–Audit Conference 10/07/04)

Entergy	CONDITION REPORT	CR-VTY-2004-03062

Originator: Hall,Bruce E
Originator Phone: 5587
ginator Group: Eng DE Manager
Operability Required: N
Supervisor Name: Callaghan,James H
Reportability Required: N
Discovered Date: 10/04/2004 13:24
Initiated Date: 10/04/2004 13:28

Condition Description:

QA records not handled in accordance with procedures

During Audit QA-8-2004-VTY-1, Engineering Programs, a number of noncompliances with plant procedures were noted, these included:

There is a significant backlog of FAC documents that have not been sent to RIMS. AP 6807, step 4.1.11.4 requires that QA records not be in temporary storage for more than 6 months.

Some QA documents that have not been sent to RIMS are not being stored in fireproof cabinets. AP 6807, section 4.1.1.1 requires completed QA records to be stored in 1 hr fire proof repositories.

CHECKWORKS predictive models have not been sent to RIMS for permanent storage as required by PP 7028, steep 6.1.2

Immediate Action Description:

gested Action Description:

TRENDING (For Reference Purposes Only):

Trend Type	Trend Code
KEY WORDS	KW-HU CLOCK RESET DEPT
CAUSE DEPT	CD-MECHANICAL - CIVIL/STRUCTURAL ENG.
HOW IDENTIFIED	HI-QAD
KEY WORDS	KW-PROCEDURE ADHERENCE
HU TYPE	HU-PRECURSOR
KEY WORDS	KW-DOCUMENTATION PROBLEM
CAUSAL FACTOR CODES	CFC-F4B4
HU EVALUATION FORM	HU-WB-PROCEDURE USE
KEY ACTIVITY	KA-DS
WORK PROCESS	WP-DM

Entergy	ASSIGNMENTS	CR-VTY-2004-03062

Version: 1

Significance Code: C - MPC & CORRECT

Classification Code: C

Owner Group: Eng DE Mech Civil Struct Mgmt

Performed By: Burger,Frederick J 10/05/2004 13:44

Assignment Description:

CR-VTY-2004-3062
Screening Data
□Significance□C - MPC & CORRECT
□Owner :□Eng DE Mech Civil Struct Mgmt
□Presented By:□Goodwin, Scott
Comments:
□A Human Performance Evaluation VYAPF 0009.05 is required for all HU identified CRs
Trending Items
DOCUMENTATION PROBLEM
ERROR PRECURSOR - HU
HU CLOCK RESET DEPT
PROCEDURE ADHERENCE
QAD Identified
All paperwork that is planned to be transferrred to RIMS has been temporarily placed in fire prrof cabinets.

Entergy	ADMIN	CR-VTY-2004-03062

Initiated Date: 10/4/2004 13:28 **Owner Group :** Eng DE Mech Civil Struct Mgmt

Current Contact: FJB

Current Significance: C - MPC & CORRECT

Closed by: Felumb,Rhonda 3/22/2005 9:23

Summary Description:

QA records not handled in accordance with procedures

During Audit QA-8-2004-VTY-1, Engineering Programs, a number of noncompliances with PP were noted these included:

There is a significant backlog of FAC documents that have not been sent to RIMS. AP 6807, step 4.1.11.4 requires that QA records not be in temporary storage for more than 6 months.

Some QA documents that have not been sent to RIMS are not being stored in fireproof cabinets. AP 6807, section 4.1.1.1 requires completed QA records to be stored in 1 hr fire proof repositories.

CHECKWORKS predictive models have not been sent to RIMS for permanent storage as required by PP 7028, steep 6.1.2

Remarks Description:

Closure Description:

Condition Report Closure Review IAW LI-102 Section 5.9.1 Completed

Entergy	CORRECTIVE ACTION	CR-VTY-2004-03062

CA Number: 1

	Group	Name
Assigned By:	CRG/CARB/OSRC	
Assigned To:	Eng DE Mech Civil Struct Mgmt	Goodwin,Scott D
Subassigned To :	Eng DE Mech Civil Struct Staff	Fitzpatrick,James C

Originated By:	Burger,Frederick J	10/05/2004 13:48:55
Performed By:	Goodwin,Scott D	11/02/2004 15:24:21
Subperformed By:	Goodwin,Scott D	11/02/2004 15:23:28
Approved By:		
Closed By:	Felumb,Rhonda	11/02/2004 15:57:03

Current Due Date: 11/02/2004 **Initial Due Date:** 11/02/2004

CA Type: CR DISPOSITION

Plant Constraint: 0 NONE

CA Description:

CR Disposition
☐QA records not handled in accordance with procedures
☐(Review CR for Full Details)

CR-VTY-2004-3062
☐Review Screening Comments on the Assignment Tab
☐
☐The CRG has initially classified this CR as
☐Classification Code - "C"
☐Significance Code - " MPC & CORRECT"
☐
☐Follow the process provided in AP 0009 Appendix K. If during your investigations into this event it is determined
☐that the classification should be changed, contact the CA&A representative for re-consideration by the CRG.
☐
☐Perform Most Probable Cause Evaluation. Issue the appropriate CAs. (per LI 102)
☐
☐CR Disposition Guidelines: This is only a guide. It is not a substitute for the applicable procedures.
☐
☐All Attachments are to be in PDF format
☐
☐oAttach Most Probable Cause Investigation Report or Document in the Response or Sub response field
☐oEnsure all Screening Comments have been addressed in the investigation - (CR assignment tab)
☐oDevelop adequate corrective actions and issue CAs. (Due Dates per LI 102 Attachment 9.5)
☐o LT CAs Require Approval from Manager/ GMPO or Director prior to initiating
☐oAttach completed VYAPF 0009.02 (CR Trend Input Data Sheet) in accordance with Appendix E.
☐oAttach completed VYAPF 0009.05 (Human Performance Evaluation) if required. Include Cause Dept
☐ooAttach completed EN-LI-118 Attachment 9.17 (Equipment Failure Evaluation Checklist) if assigned.
☐oSpecify any references needed and enter into Ref. Items.

Response:

Review CRG Screening comments on Initiation Tab for inclusion in the report.

Subresponse :

QA records not handled in accordance with procedures.

'PC-1 [F.4.b.4] Documents not followed correctly. FAC documents such as worksheets, reports, and CHECWORKS predictive models have not been sent to RIMS for permenant storage. Also, documents not sent to RIMS are to be stored in a fireproof cabinet until they have been transmitted

Immediate/Interim Actions Completed

Item #□Action Taken

MPC-1□Placed documentation in fireproof cabinet until they are transmitted to RIMS.

□

□

Proposed/Assigned Corrective Actions

Item #□Action□	CA Type□Assigned Department	Due Date	CA #
MPC-1□Transmit FAC documentation to RIMS□CA□DE Mech Struct□		3-18-05□00002	
□□			
Closure of CR□□□CA	DE Mech Struct	4-1-05	00003

Closure Comments:

Trending data entered and additional CAs have been generated.

Attachments:

Subresp Description

Trend and HU

Attachment Header

Document Name:

CR-VTY-2004-03062 CA-00001

Document Location

Subresp Description

Attach Title:

Trend and HU

ENVY HUMAN PERFORMANCE EVALUATION FORM

CR No: CR VTY-2004-03062	Dispositioning Dept: MSD
	Cause Department: MSD

Applicable HU TRAPs:

☐ Time Pressure	☐ Vague Guidance	☐ Physical Environment
☐ Distraction/Interruption	☐ First Shift/Late Shift	☐ Mental Stress
☐ Multiple Tasks	☐ Peer Pressure	
☐ Overconfidence	☐ Change/Off-Normal	

Description of Inappropriate Act(s):	Assoc Process/Prog/Org Issue(s): X N/A
FAC personnel have not complied with procedures regarding the storage and/or transmittal of QA documents.	

Worker Behaviors:

☒ Procedure Use/Adherence	☐ Self-Checking	☐ Fitness for Duty
☐ Placekeeping	☐ Peer Checking	☐ Turnover/Handoff
☐ Spoken Communication	☐ Knowledge	☐ Problem Solving Method
☐ Written Communication	☐ Skill	

Supervisor Behaviors:

☐ Spoken Communication	☐ Task Allocation	☐ Pre-Job Brief
☐ Written Communication	☐ Clear Expectations	

Management Behaviors:

☐ Communications	☐ Change Management	☐ Scheduling/Sequencing
☐ Resource Allocation	☐ Conservative Decision Mkg	☐ Clear Expectations

Process/Programmatic/Organizational Issues:

☐ Ergonomic/Human Factors	☐ Housekeeping	☐ Procedure/Wk Pkg Quality
☐ Environmental Conditions	☐ Equipment Labeling	☐ Training

Dispositioner: T. M. O'Connor	Date Completed: 11-2-04

CR TRENDING INPUT DATA SHEET

CR No: CR-VTY-2004-03062	Dispositioning Dept: MSD
	Cause Department (if HU): MSD

NOTE

See Appendix E (CR Trending) for instructions on how to obtain information with which to complete this form

CAUSE CODES			
MPC-1 [F.4.b.4]			

KEY WORDS			
Documentation	Procedure Adherence		

WORK PROCESS	DM

KEY ACTIVITY	DS

Entergy	CORRECTIVE ACTION	CR-VTY-2004-03062

CA Number: 2

	Group	Name
Assigned By:	Eng DE Mech Civil Struct Staff	O'Connor,Thomas M
Assigned To:	Eng DE Mech Civil Struct Mgmt	Goodwin,Scott D
Subassigned To :	Eng DE Mech Civil Struct Staff	Fitzpatrick,James C

Originated By:	O'Connor,Thomas M	11/02/2004 14:04:41
Performed By:	Goodwin,Scott D	03/16/2005 15:14:49
Subperformed By:		
Approved By:		
Closed By:	Goodwin,Scott D	03/16/2005 15:14:49

Current Due Date: 03/18/2005 **Initial Due Date:** 03/18/2005

CA Type: CORRECTIVE ACTION

Plant Constraint: 0 NONE

CA Description:
Transmit FAC documentation to RIMS

Response:
Transmittal is complete. Refer to e-mail enclosed as Att 1. No further actions required for this CA.

Subresponse :

Closure Comments:

Attachments:

Resp Description
FAC Doc Transmittal E-mail

Attachment Header

Document Name:

untitled

Document Location

Resp Description

Attach Title:

FAC Doc Transmittal E-mail

Goodwin, Scott
From: Graves, Amy
Sent: Wednesday, March 16, 2005 2:43 PM
To: Goodwin, Scott
Cc: Fitzpatrick, Jim; O'Connor, Tom
Subject: FW: FAC INFO to RIMS for CR-VTY-2004-3062 CA2

Scott – Records indicated below have been transferred to RIMS in checklist number 02668. This transfer has been completed. Therefore, enabling you to close this commitment.

From: Fitzpatrick, Jim
Sent: Monday, March 14, 2005 8:24 PM
To: Graves, Amy
Cc: Goodwin, Scott; O'Connor, Tom
Subject: FAC INFO to RIMS for CR-VTY-2004-3062 CA2

Amy,

I have a CA to transmit FAC Program Inspection data and CHECWORKS Model data to RIMS by 3/18/03 (CR-VTY-2004-0362 CA2). There is a lot of data to be scanned.

The QA records for the 2004 RFO for the FAC Inspection program as required by PP 7028 have been assembled and indexed. They are located in the top drawer of the fire proof file in the PSB NW corner. The 2004 data package is similar to the 2001 RFO & 2002 RFO files previously sent to RIMS. These are originals so they should stay in the file.

In addition to the 2004 RFO inspection data there are 5 new documents to go to RIMS:

1. 1996 CHECWORKS Models & Results
2. 1996 EPRI CHECWORKS Database
3. 2001 EPRI CHECWORKS Database
4. EPRI CHECWORKS Wear Rate Analysis Results Cycles 20 &21
5. EPRI CHECWORKS Wear Rate Analysis Results Cycles 22B

These are also in the top drawer of the fire proof file.

Please have these scanned and sent to RIMS. I will be out of the office the remainder of this week but can be reached at 603-778-1144. Also Tom O'Connor can help to identify items. Please tell Scott when the data has been transmitted so he can close out the CA or if you need more help.

Thanks,
(Sorry for the data dump)

Jim Fitz.

Thanks,

Jim Fitz.

Entergy	CORRECTIVE ACTION	CR-VTY-2004-03062

CA Number: 3

	Group	Name
Assigned By:	Eng DE Mech Civil Struct Mgmt	
Assigned To:	Eng DE Mech Civil Struct Mgmt	
Subassigned To :		

Originated By:	Goodwin,Scott D	11/02/2004 15:09:40
Performed By:	Goodwin,Scott D	03/16/2005 19:31:42
Subperformed By:		
Approved By:		
Closed By:	Goodwin,Scott D	03/16/2005 19:31:42

Current Due Date: 04/01/2005 **Initial Due Date:** 04/01/2005

CA Type: EN CA

Plant Constraint: 0 NONE

CA Description:

Perform CR Closure review IAW EN-LI-102 requirements.

Response:

CR Disposition and all CAs have been reviewed and are considered closed. No further actions are required. IAW LI-102 requirements for closure, this CR should be closed.

Subresponse :

sure Comments:

Entergy	ADMIN	CR-VTY-2004-03061

Initiated Date: 10/4/2004 13:23 **Owner Group :** Eng DE Mech Civil Struct Mgmt

Current Contact: FJB

Current Significance: C - MPC & CORRECT

Closed by: Felumb,Rhonda 2/16/2005 16:37

Summary Description:

RFO 24 FAC documentation not yet completed

Formal documentation of FAC erosion rate on analysis/worksheets has not been completed for the data taken during RFO 24. The FAC Coordinator indicated that the Ultrasonic data had been reviewed, but the worksheets have not yet been completed to document the wear rate. Since the wear rates are not yet completed, the post outage FAC report has also not yet been completed although PP 7028, section 4.4.12 requires that the report be issued within 90 days.

Remarks Description:

Closure Description:

Condition Report Closure Review IAW LI-102 Section 5.9.1 Completed

Entergy	CONDITION REPORT	CR-VTY-2004-03061

Originator: Hall,Bruce E
Originator Phone: 5587
ginator Group: Eng DE Manager
Operability Required: N
Supervisor Name: Callaghan,James H
Reportability Required: N
Discovered Date: 10/04/2004 13:21
Initiated Date: 10/04/2004 13:23

Condition Description:

RFO 24 FAC documentation not yet completed

Formal documentation of FAC erosion rate on analysis/worksheets has not been completed for the data taken during RFO 24. The FAC Coordinator indicated that the Ultrasonic data had been reviewed, but the worksheets have not yet been completed to document the wear rate. Since the wear rates are not yet completed, the post outage FAC report has also not yet been completed although PP 7028, section 4.4.12 requires that the report be issued within 90 days. This condition report documents a QA identified issue. This issue was identified during the performance of Engineering Program Audit number QA-8-2004-VTY-1.

Immediate Action Description:

Suggested Action Description:

RENDING (For Reference Purposes Only):

Trend Type	Trend Code
KEY WORDS	KW-HU CLOCK RESET DEPT
KEY WORDS	KW-PROCEDURE ADHERENCE
HOW IDENTIFIED	HI-QAD
HU TYPE	HU-PRECURSOR
CAUSE DEPT	CD-MECHANICAL - CIVIL/STRUCTURAL ENG.
HU EVALUATION FORM	HU-TRAP-MULTIPLE TASKS
WORK PROCESS	WP-DM
HU EVALUATION FORM	HU-TRAP-DISTRACTION
KEY WORDS	KW-DOCUMENTATION PROBLEM
CAUSAL FACTOR CODES	CFC-E3Z4
CAUSAL FACTOR CODES	CFC-F4B4
KEY ACTIVITY	KA-AN
HU EVALUATION FORM	HU-WB-PROCEDURE USE

Entergy	ADMIN	CR-VTY-2004-03061

Initiated Date: 10/4/2004 13:23 **Owner Group :** Eng DE Mech Civil Struct Mgmt

Current Contact: FJB

Current Significance: C - MPC & CORRECT

Closed by: Felumb,Rhonda 2/16/2005 16:37

Summary Description:

RFO 24 FAC documentation not yet completed

Formal documentation of FAC erosion rate on analysis/worksheets has not been completed for the data taken during RFO 24. The FAC Coordinator indicated that the Ultrasonic data had been reviewed, but the worksheets have not yet been completed to document the wear rate. Since the wear rates are not yet completed, the post outage FAC report has also not yet been completed although PP 7028, section 4.4.12 requires that the report be issued within 90 days.

Remarks Description:

Closure Description:

Condition Report Closure Review IAW LI-102 Section 5.9.1 Completed

Entergy	ASSIGNMENTS	CR-VTY-2004-03061

Version: 1

Significance Code: C - MPC & CORRECT

Classification Code: C

Owner Group: Eng DE Mech Civil Struct Mgmt

Performed By: Burger,Frederick J 10/05/2004 13:32

Assignment Description:

CR-VTY-2004-3061
Screening Data
□Significance□C - MPC & CORRECT
□Owner :□Eng DE Mech Civil Struct Mgmt
□Presented By:□Goodwin, Scott
Comments:
□A Human Performance Evaluation VYAPF 0009.05 is required for all HU identified CRs
Trending Items
Cause Department -DE Mech Civil Structural
ERROR PRECURSOR - HU
HU CLOCK RESET DEPT
PROCEDURE ADHERENCE
Self-Identified
Discussed with FAC Coordinator. All RFO inspections have been evaluated and have been IR. There are no outstanding issues related to plant ops. Issue is administrative and relates to timely closure of paperwork.

Entergy	CORRECTIVE ACTION	CR-VTY-2004-03061

CA Number: 1

	Group	Name
Assigned By:	CRG/CARB/OSRC	
Assigned To:	Eng DE Mech Civil Struct Mgmt	Goodwin,Scott D
Subassigned To :	Eng DE Mech Civil Struct Staff	Fitzpatrick,James C

Originated By:	Burger,Frederick J	10/05/2004 13:41:55
Performed By:	Goodwin,Scott D	11/02/2004 15:27:19
Subperformed By:	O'Connor,Thomas M	11/02/2004 15:09:38
Approved By:		
Closed By:	Felumb,Rhonda	11/02/2004 15:50:51

Current Due Date: 11/02/2004 **Initial Due Date:** 11/02/2004

CA Type: CR DISPOSITION

Plant Constraint: 0 NONE

CA Description:

☐CR Disposition
☐RFO 24 FAC documentation not yet completed
☐(Review CR for Full Details)

CR-VTY-2004-3061
☐Review Screening Comments on the Assignment Tab
☐
☐The CRG has initially classified this CR as
☐Classification Code - "C"
☐Significance Code - " MPC & CORRECT"
☐
☐Follow the process provided in AP 0009 Appendix K. If during your investigations into this event it is determined
☐that the classification should be changed, contact the CA&A representative for re-consideration by the CRG.
☐
☐Perform Most Probable Cause Evaluation. Issue the appropriate CAs. (per LI 102)
☐
☐CR Disposition Guidelines: This is only a guide. It is not a substitute for the applicable procedures.
☐
☐All Attachments are to be in PDF format
☐
☐oAttach Most Probable Cause Investigation Report or Document in the Response or Sub response field
☐oEnsure all Screening Comments have been addressed in the investigation - (CR assignment tab)
☐oDevelop adequate corrective actions and issue CAs. (Due Dates per LI 102 Attachment 9.5)
☐o LT CAs Require Approval from Manager/ GMPO or Director prior to initiating
☐oAttach completed VYAPF 0009.02 (CR Trend Input Data Sheet) in accordance with Appendix E.
☐oAttach completed VYAPF 0009.05 (Human Performance Evaluation) if required. Include Cause Dept
☐ooAttach completed EN-LI-118 Attachment 9.17 (Equipment Failure Evaluation Checklist) .if assigned.
☐oSpecify any references needed and enter into Ref. Items.

Response:

Review CRG Screening notes on Initiation Tab for inclusion in report.

Subresponse :

FAC paperwork for RFO24 not completed within 90 days of outage as required by procedure.

MPC-1 [F.4.b.4] Documents not followed correctly; Procedure requires summary report to be issued within 90 days of outage completion. Although all data was evaluated and independently reviewed all formal worksheets had not been completed and hence the final report was not issued within the required time frame. Completion of formal worksheets is in progress with report to follow.

MPC-2 [E.3.z.4] Contributing to the problem was ongoing work and emergent issues.

Proposed/Assigned Corrective Actions

Item #	Action	CA Type	Assigned Department	Due Date	CA #
MPC-1	Complete FAC Worksheets and Issue Final Report	CA	DE Mech Struct	12-6-04	00002

Closure Comments:

Trending data entered and additional CAs have been generated.

Attachments:

Subresp	Description
	trend and hu

Attachment Header

Document Name:

CR-VTY-2004-03061 CA-00001

Document Location

Subresp Description

Attach Title:

trend and hu

ENVY HUMAN PERFORMANCE EVALUATION FORM

CR No: CR-VTY-2004-03061	Dispositioning Dept: MSD
	Cause Department: MSD

Applicable HU TRAPs:

☐ Time Pressure	☐ Vague Guidance	☐ Physical Environment
☒ Distraction/Interruption	☐ First Shift/Late Shift	☐ Mental Stress
☒ Multiple Tasks	☐ Peer Pressure	
☐ Overconfidence	☐ Change/Off-Normal	

Description of Inappropriate Act(s):	Assoc Process/Prog/Org issue(s): __ N/A
FAC personnel did not comply with procedure to complete RFO associated paperwork within 90 days of outage completion.	**Multiple ongoing tasks and emergent issues contributed to paperwork not being completed in a timely fashion.**

Worker Behaviors:

☒ Procedure Use/Adherence	☐ Self-Checking	☐ Fitness for Duty
☐ Placekeeping	☐ Peer Checking	☐ Turnover/Handoff
☐ Spoken Communication	☐ Knowledge	☐ Problem Solving Method
☐ Written Communication	☐ Skill	

Supervisor Behaviors:

☐ Spoken Communication	☐ Task Allocation	☐ Pre-Job Brief
☐ Written Communication	☐ Clear Expectations	

Management Behaviors:

☐ Communications	☐ Change Management	☐ Scheduling/Sequencing
☐ Resource Allocation	☐ Conservative Decision Mkg	☐ Clear Expectations

Process/Programmatic/Organizational Issues:

☐ Ergonomic/Human Factors	☐ Housekeeping	☐ Procedure/Wk Pkg Quality
☐ Environmental Conditions	☐ Equipment Labeling	☐ Training

Dispositioner: T. M. O'Connor	Date Completed: 11-2-04

CR TRENDING INPUT DATA SHEET

CR No: CR-VTY-2004-03061	Dispositioning Dept: MSD
	Cause Department (if HU): MSD

NOTE

See Appendix E (CR Trending) for instructions on how to obtain information with which to complete this form

CAUSE CODES			
MPC-1 [F.4.b.4]	MPC-2 [E.3.z.4]		

KEY WORDS			
Documentation	Procedural Adherence		

WORK PROCESS	AN

KEY ACTIVITY	DM

Entergy	CORRECTIVE ACTION	CR-VTY-2004-03061

CA Number: 2

	Group	Name
Assigned By:	Eng DE Mech Civil Struct Staff	O'Connor,Thomas M
Assigned To:	Eng DE Mech Civil Struct Mgmt	Goodwin,Scott D
Subassigned To :	Eng DE Mech Civil Struct Staff	Fitzpatrick,James C

Originated By:	O'Connor,Thomas M	11/02/2004 14:30:19
Performed By:	Goodwin,Scott D	02/15/2005 16:08:37
Subperformed By:	Fitzpatrick,James C	02/15/2005 16:00:15
Approved By:		
Closed By:	Goodwin,Scott D	02/15/2005 16:08:37

Current Due Date: 02/15/2005 **Initial Due Date:** 12/06/2004

CA Type: CORRECTIVE ACTION

Plant Constraint: 0 NONE

CA Description:

Complete Formal FAC worksheets and Issue Final Report

Response:

Concur with response. No further actions required for this item. SDG 2-15-05

Subresponse :

Attached .PDF file of 2004 RFO Outage FAC Inspection Report No. VY-RPT-04-00010 Rev.0.
Note the CD containing cross around piping photos is not included here. The CD and any other ENN DC-xx process forms are filed separately in the documemt control system as required by procedure.

Closure Comments:

Approval attached to DDE #2.

Attachments:

Subresp	Description
	VY-RPT-04-00010 Rev0

Attachment Header

Document Name:

Untitled

Document Location

Subresp Description

Attach Title:

VY-RPT-04-00010 Rev0

Engineering Report No. VY-RPT-04-00010 **Rev.** 0

Page 1 **of** 20

Plus attached CD

Entergy

ENTERGY NUCLEAR NORTHEAST

Engineering Report Cover Sheet

Engineering Report Title:

VERMONT YANKEE PIPING FLOW ACCELERATED CORROSION INSPECTION PROGRAM (PP 7028) 2004 REFUELING OUTAGE INSPECTION REPORT (RFO 24- Spring 2004)

Engineering Report Type:

New ☒ Revision ☐ Cancelled ☐ Superceded ☐

Applicable Site(s)

IP1 ☐ IP2 ☐ IP3 ☐ JAF ☐ PNPS ☐ VY ☒

Quality-Related: ☒ Yes ☐ No

Prepared by: James C. Fitzpatrick — Date: 2/15/05
Responsible Engineer (Print Name/Sign)

Verified/ Reviewed by: Thomas M. O'Connor — Date: 2/15/05
Design Verifier/Reviewer (Print Name/Sign)

***Reviewed by:** N/A — Date: N/A
Authorized Nuclear In-service Inspector (ANII)

Approved by: Scott D. Goodwin — Date: 2-15-05
Supervisor (Print Name/Sign)

Multiple Site Review (10)

Site	Design Verifier/Reviewer (Print Name/Sign)	Supervisor (Print Name/Sign)	Date
	N/A	N/A	N/A

*: For ASME Section XI Code Program plans per ENN-DC-120, if required.

Entergy	CORRECTIVE ACTION	CR-VTY-2004-03061

CA Number: 3

	Group	Name
Assigned By:	Eng DE Mech Civil Struct Staff	O'Connor,Thomas M
Assigned To:	Eng DE Mech Civil Struct Mgmt	Goodwin,Scott D
Subassigned To :		

Originated By:	O'Connor,Thomas M	11/02/2004 15:07:59
Performed By:	Goodwin,Scott D	02/16/2005 12:57:49
Subperformed By:		
Approved By:		
Closed By:	Goodwin,Scott D	02/16/2005 12:57:49

Current Due Date: 03/04/2005 **Initial Due Date:** 12/20/2004

CA Type: CR CLOSURE REVIEW CA

Plant Constraint: 0 NONE

CA Description:

Ensure all Corrective Actions are closed out and close CR.

Response:

CR Disposition and associated CAs reviewed. All actions required complete. No further actions are required. IAW Section 5 of LI-102 this CR should be closed.

Subresponse :

osure Comments: