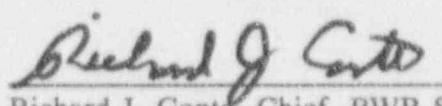
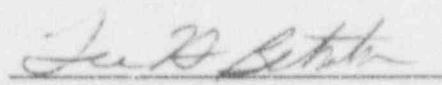


U.S. NUCLEAR REGULATORY COMMISSION
REGION I

REQUALIFICATION PROGRAM EVALUATION

REPORT NO.	92-03 (OL)	
FACILITY DOCKET NO.	50-271	
FACILITY LICENSE NO.	DPR-28	
LICENSEE:	Vermont Yankee Nuclear Power Corporation RD 5, Box 169 Ferry Road Brattleboro, Vermont 05301	
FACILITY:	Vermont Yankee Nuclear Power Station	
EXAMINATION DATES:	February 10 - 14, 1992	
NRC EXAMINERS:	P. Bonnett, Senior Operations Engineer D. Odland, Sonalyst C. Carroll, Sonalyst	
CHIEF EXAMINER:	 S. Hansell, Operations Engineer	<u>3/10/92</u> Date
REVIEWED BY:	 Richard J. Conte, Chief, BWR Section Operations Branch, DRS	<u>3/11/92</u> Date
APPROVED BY:	 Lee H. Bettenhausen, Chief Operations Branch Division of Reactor Safety	<u>3/12/92</u> Date

VERMONT YANKEE 1992 PROGRAM EVALUATION/EXAMINATION SUMMARY
(REPORT NO. 50-271/92-03)

Written and operating examinations were administered to four Reactor Operators (ROs) and eight Senior Reactor Operators (SROs). These operators were divided into three crews, two operating crews and one staff crew. The examinations were graded concurrently by the NRC and the facility training staff. As graded by the facility and the NRC, all four ROs and all eight SROs examined passed all portions of the examination. All three crews that were evaluated performed satisfactorily on the simulator portion of the examination as graded by the NRC and the facility.

In general, the licensed operator requalification (LOR) program sample plan, job performance measures (JPMs), simulator scenarios, and written exam questions that were used for the licensed operator requalification training program are consistent with the criteria in the Examiners Standard. The facility's efforts in this area were positive improvements from the training material weaknesses noted during the previous NRC requal exam. The quality of the reference and examination material was the last long term corrective action for the LOR program. Based on the above, the LOR unresolved item was closed (section 5.0, No. 271/91-02-01)

No particular program strengths were noted. However, significant improvement was noted in the level of detail and objective review by facility evaluators since the requalification exam in 1991. Some individual strengths and weaknesses are discussed in section 2.2 of the report. A program weakness was identified during the preparation of the NRC administered requalification exams. The total number of dynamic simulator scenario evaluation guides (SEGs) in the requalification exam bank has not grown to meet the Examiners Standard. This item is discussed in detail in section 3.5 of the report.

The inspector assessed the licensee's corrective actions for two Emergency Preparedness items related to the license operator training program. The first item was the control of reactor water level below the top of active fuel during an anticipated transient without a scram (ATWS). Based on the crew's exam performance, the Emergency Preparedness exercise weakness is closed (section 4.0, open item No. 271/91-26-01). The second item, a 1991 NRC requalification exam corrective action, was an Area For Improvement in that "the Chemistry Technician assigned as Control Room Communicator was not familiar with his duties." The details for the two Emergency Preparedness items are contained in section 4.0 of the report.

A meeting was conducted on March 4, 1992, to discuss training program deficiencies identified on an inspection in October 1991 and, in particular, as related to the LOR program. The licensee generally agreed with the NRC findings. Clarification was provided. The licensee indicated that they should be able to meet the requested written response due date (section 8).

DETAILS

1.0 Introduction

The NRC administered requalification examinations to 12 licensed operators (4 ROs and 8 SROs). Two operating crews and one staff crew were evaluated. The examiners used the process and criteria described in NUREG 1021, "Operator Licensing Examiner Standards," Rev. 6. The Job Performance Measure (JPM) portion of the examination was administered using the method of one operator tested by one facility evaluator who is observed by one NRC examiner as described in ES-603, "Requalification Walk-Through Examination," of NUREG 1021.

An entrance meeting was held with the licensee on January 28, 1992, at the beginning of the examination preparation week. The personnel contacted during the examination are listed in Attachment 1. The members of the combined NRC/facility examination team and the facility evaluators are also identified in Attachment 1.

2.0 Summary of Requalification Program/Examination Results

2.1 Individual Examination Results

The following is a summary of the individual examination results:

NRC Grading	RO Pass/Fail	SRO Pass/Fail	Total Pass/Fail
Written	4/0	8/0	12/0
Simulator	4/0	8/0	12/0
Walk-Through	4/0	8/0	12/0
Overall	4/0	8/0	12/0

Facility Grading	RO Pass/Fail	SRO Pass/Fail	Total Pass/Fail
Written	4/0	8/0	12/0
Simulator	4/0	8/0	12/0
Walk-Through	4/0	8/0	12/0
Overall	4/0	8/0	12/0

2.2 Facility Generic Strengths/Weaknesses Based on Individual Performance

A strength is an examination item performed to a level higher than the Examiner Standard criteria.

Operating Test Strengths:

- Direction and control of reactor water level between TAF and -31 inches during an ATWS event.
- Shift response to an unexpected loss of Emergency Response Facility Instrument System (ERFIS/SPDS) computer.
- Recognition of most offnormal trends prior to annunciation of the overhead alarm.

The following is a summary of generic weakness noted from the results of the individual requalification examinations. This information is being provided to aid the licensee in upgrading the requalification training program.

Written Examinations

A written examination weakness is a knowledge area in which less than two/thirds of the examinees achieve a satisfactory evaluation.

- Knowledge of the plant conditions which will close the recirculation pump discharge valves.
- Ability to determine systems available for use in reactor water level control.
- Ability to diagnose a component failure in the feedwater level control system.
- Ability to determine the low pressure coolant injection (LPCI) system injection capabilities during a large break loss of coolant accident (LOCA).

Walk-Through Examinations

A walk-through weakness is a knowledge or ability item in which less than two-thirds of the examinees achieve a satisfactory evaluation. Another example of a walk-through weakness could be the unsatisfactory performance of an important JPM task even though it may not be a critical step.

- Knowledge and ability of electrical panel operations. Two examples are: 1) electrical breakers were not reset when required; 2) understanding of how to determine operation of the synchroscope.
- Knowledge of the relationship between voltage and reactive load on the diesel generators.
- Verification of system indications and response after controls were manipulated.
- Missed or overlooked procedure steps during the performance of JPM tasks.

Dynamic Simulator Examinations

A dynamic simulator weakness is a crew or individual operator performance that results in a simulator competency grade of one on a scale of one to three.

- Ability to maintain reactor pressure, following a scram, within the band prescribed by the shift supervisor.
- Referencing plant procedures for follow up actions taken for plant and system malfunctions.
- Transitioning down the reactor water level control leg of OE-3101, "RPV Control Procedure", with an ATWS in progress.
- Re-alignment of the residual heat removal (RHR) system flow to maximize injection into the reactor vessel.

3.0 Requalification Program Evaluation Results

3.1 Examiner Standards Evaluation Criteria

The licensed operator requalification performance meets the criteria established in ES-601, paragraphs C.2.b.(1)(a-c) and C.2.b.(2)(a-f).

The pass/fail comparison of criterion of C.2.b.(1)(a) is no longer used as a program evaluation criteria.

100% of the operators passed the examination satisfying the criterion of C.2.b.(1)(b).

All three crews evaluated were determined to be satisfactory on the dynamic simulator portion of the examination satisfying the criterion of C.2.b.(1)(c).

The facility and NRC evaluators agreed on all of the crew evaluations, therefore criterion C.2.b.(2)(a) is not applicable.

The facility trains and evaluates operators in all positions permitted by their licenses. The ROs were evaluated in all positions during the dynamic simulator portion of the examination. The facility adequately corrected the program weakness of RO rotational practice noted in the 1991 NRC requalification exam. For the purposes of the program evaluation, criterion C.2.b.(2)(b) is not considered applicable.

The facility evaluators were determined to be satisfactory, therefore criterion C.2.b.(2)(c) is satisfied.

The facility has administrative controls to preclude an RO or SRO who does not possess an active license from performing licensed duties without satisfying the requirements of 10 CFR 55.53 to restore the license to active status. There were no indications of deficiencies in this area, therefore criterion C.2.b.(2)(d) is satisfied.

The examination materials for all portions of the examinations required minor modifications prior to administration to meet the NUREG 1021 standards. The problems with the materials did not appear to be caused by a lack of quality control and no changes were required after the examinations were administered, therefore, criterion C.2.b.(2)(e) was considered satisfied. In general, the facility's corrective actions in this area were positive improvements from the problems noted during the 1991 NRC requalification examination.

3.2 Requalification Examination Sample Plan

The sample plan submitted by the facility met the guidelines of the Examiner Standard. Proposed examinations were submitted that had been developed to meet the sample plan.

Modifications were made to the examinations proposed by the facility to more effectively evaluate the areas that were covered during the requalification cycle. For example, three of the four proposed simulator scenarios were anticipated transient without a scram (ATWS) scenarios. One of two similar ATWS scenarios was replaced with a secondary containment high temperature and loss of main condenser vacuum scenario. The examiner questioned the appropriateness of the sample selection for the proposed simulator exam scenarios since the staff crew was scheduled to be evaluated with all four scenarios (this item is also addressed in section 3.5).

3.3 Written Examinations

Changes were made to the written examination questions during examination preparation to clarify the question or raise the level of knowledge evaluated by the question. Some questions were replaced for the same reasons.

The questions in the examination bank contained estimated response times as specified by the Examiners Standards. Most of the estimated response times in the examination bank appeared to be too high. The NRC staff questioned the time validation of the proposed exam questions. The facility stated that the validation times listed on the individual exam questions were excessive and they performed an independent and integrated time validation for the proposed exams. The facility was confident that their method for time validation resulted in an exam length that meets the criteria in the Examiners Standard. The candidates actual exam time met the criteria in the Examiners Standard.

Further, the overall results of the examinations indicated that the examinations discriminated between satisfactory and unsatisfactory operator performance. The two static simulator written exams were high quality and objective exams.

3.4 Walk-Through Examinations

Minor changes were made to the JPMs during examination preparation to clarify task standards and instructor cues. A few of the JPM questions were changed because the procedure used to perform the task contained the correct answer, making the question a direct look-up.

The crew briefing was changed to inform the operators that all forms associated with a task were considered part of the JPM. The reason for adding this statement was because the NRC exam team viewed the surveillance test paper work just as important as the actual pump run or valve stroke test. The forms become the written record to document that a required surveillance was performed and showed system operability.

3.5 Dynamic Simulator Examinations

The facility examination bank consisted of 19 valid simulator scenario evaluation guides (SEGs) which did not meet the specifications of the Examiners Standards. The expectation is that the facility will start with a bank of 15 scenarios and increase its examination bank by five scenarios per year until at least 30 scenarios are developed. Therefore, Vermont Yankee should have had 25 scenarios for this year's examination. The scenarios are to be developed until all expected or plausible abnormal and emergency situations to which control room operators are expected to respond are covered.

In general, the SEGs in the bank were consistent with the criteria in the Examiners Standard. The facility had improved the quality of SEGs since the 1991 NRC requalification exam. The scenarios contained individual simulator critical tasks (ISCTs) that met the criteria in the Examiners Standards. A few minor corrections were made to the ISCTs.

Three of the four SEGs proposed by the facility required use of the failure to scram (ATWS) procedures. All three ATWS SEGs would have been used to evaluate the four SROs in the staff crew. The content of the annual licensed operator requalification training did not reflect such a high percentage of ATWS training. One of the three ATWS scenarios was replaced with a modified total loss of main condenser vacuum. The loss of vacuum scenario was a recent plant event.

3.6 Simulator Fidelity

The 1991 NRC requal exam noted that the simulator contained Primary Containment modelling problems. The simulator modelling problems still exist at the simulator (Attachment 3). The NRC exam team questioned the status of the corrective actions for the primary containment model. The examiners were told that a new primary containment model is ready for installation into the simulator computer. The NRC noted the importance of the facility to implement and verify the validity of the new primary containment model. The primary containment model has a direct impact on the realism of the existing simulator scenario exam bank and a questionable model could lead to negative training of licensed operators.

3.7 Conclusion of Program Strengths/Weaknesses

No particular program strengths were noted. However, significant improvement was noted in the level of detail and objective review by facility evaluators since the requalification exam in 1991. Further, improvements were noted in the quality of reference and examination material.

A program weakness was identified during the preparation of the NRC administered requalification exams. The total number of dynamic simulator scenario evaluation guides (SEGs) in the requalification exam bank has not grown to meet the Examiners Standard. This item is discussed in detail in section 3.5 of the report.

4.0 Annual Emergency Preparedness Exercise Follow-up

Scope/Background

The NRC observed a full participation Emergency Preparedness Exercise at the Vermont Yankee Power Station on November 6, 1991, and documented the findings in NRC inspection report No. 50-271/91-26. The NRC inspection team noted an exercise weakness and an area for improvement related to the licensed operator training programs. The inspector verified the corrective actions for the two items during the NRC requal exam and prep week prior to the exam.

Findings

Vermont Yankee responded to the two Emergency Exercise items in a letter to the NRC dated January 17, 1992. The response contained the facility's root cause analysis and corrective actions for the following two items: (1) Exercise Weakness, NRC Open Item 91-26-01, "Reactor water level was not promptly restored when level dropped below the prescribed level in the Emergency Operating Procedure (EOP)," and (2) an Area For Improvement was "the Chemistry Technician assigned as Control Room Communicator was not familiar with his duties." The NRC and Vermont Yankee management discussed the facility's corrective actions for the above items during a conference call on January 24, 1992.

The inspector assessed the adequacy of the corrective actions for the "exercise weakness" during the licensed operator requalification exam. The requalification exam contained a simulator ATWS scenario similar to the Emergency Exercise scenario. Scenario events included a failure of the main pump, failure of the turbine bypass valves, and an increase in the total water temperature. The scenario required the shift supervisor to direct the lowering of reactor water level to between the top of active fuel (TAF) and -31 inches below TAF. Two of the three crews examined were evaluated on this scenario. Both crews performed satisfactorily during the scenario and demonstrated positive control of reactor water level for the entire scenario. The Power/Level Control EOP had been revised since the Emergency Exercise to provide improved reactor level control guidance during an ATWS.

The inspector assessed the adequacy of the corrective actions for the "area for improvement." The facility assigned the role of plant communicator to the chemistry technician as part of the 1991 NRC requalification program corrective actions. The inspector and chemistry technician training instructor discussed the training administered to the chemistry technicians. The inspector verified that the chemistry technicians had received additional training since the emergency exercise. The training was conducted in the simulator and included hands-on use of the appropriate communication equipment. Classroom training was also administered to address the problems noted during the NRC emergency exercise. The chemistry technician instructor stated that communicator training will be added to the chemistry technician annual refresher training. The facility will evaluate the adequacy of the annual refresher training. The chemistry technician communicator training will be adjusted, if needed, to ensure the chemistry technicians can fulfill their role as plant communicators.

Conclusions

The two crews' strong performance on the ATWS scenario demonstrated that the corrective actions were effective. Based on the above information, Open Item No. 91-26-01 is closed and the corrective actions for the chemistry technicians are satisfactory. The NRC expects that the facility will take advantage of the next emergency preparedness exercise and utilize the chemistry technician in the role of communicator.

5.0 Licensee Actions On Previous Findings

(CLOSED) Unresolved Item (UNR 50-271/91-02-01) Unsatisfactory Requalification Program.

The NRC training inspection report No. 50-271/91-81 noted that the requalification program unresolved item would remain open until completion and inspection of the long term corrective actions. The examiner verified that the last two long term corrective actions from the licensed operator requal program were completed satisfactorily.

The last two items were: (1) plant management observation of the operating crews and (2) the licensed operator requal materials meet the criteria in the Examiners Standard. The inspector verified that Vermont Yankee plant management completed their crew observation the week of February 3, 1992. The inspector reviewed the licensed operator requalification training material in the Region I office parallel to the NRC requal exam review. In general, the sample plan, the JPMs, simulator scenarios, and written exam questions are consistent with the criteria in the Examiners Standard. The facility's efforts in this area are positive improvements from the training material weaknesses noted during the previous NRC requal exam. Based on the above, this item is closed.

(CLOSED) Open Item (271/91-26-01): Emergency Preparedness Exercise Weakness.

The open item details are covered in section 4.0

(OPEN) Items (271/91-81-01 through 07): Training Program Deficiencies

The NRC staff conducted a meeting to discuss these issues prior to the NRC requested licensee response. The details are documented in section 8 of this report.

6.0 Unresolved And Open Items

Unresolved items are matters about which more information is required in order to determine whether they are acceptable, an item of non-compliance or a deviation. Unresolved items addressed during the inspection are discussed in Sections 4, 5, and 8.

An open item is a matter that requires further review and evaluation by the NRC staff, including an item pending specific action by a licensee and a previously identified violation, deviation, unresolved item, or programmatic weakness.

7.0 Exit Meeting

An exit meeting was held at the conclusion of the examinations at the Vermont Yankee corporate office on February 14, 1992. The personnel in attendance are listed in Attachment 1. The NRC results of the individual examinations were presented. The requalification program evaluation was further discussed in Region I on March 4, 1992. The NRC findings related to the 1991 Emergency Drill Exercise were also presented.

8.0 Meeting to Discuss the Results of the Training Inspection (Inspection Report No. 50-271/91-81)

On March 4, 1992, the licensee met at the NRC offices in King of Prussia, Pennsylvania to discuss their response to training program deficiencies (Attachment 4) identified in the NRC inspection report, and, in particular, as to how these deficiencies related to the LOR program. Those in attendance are identified in Attachment 1.

Attachment 4 is the licensee handout notes provided to the NRC staff. Overall, the licensee agreed with the inspection report findings and discussed their approach to resolving the deficiencies. They stated that training department directives will be strengthened.

NRC staff provided clarification of the issue associated with test items for learning objectives (271/91-81-05). A problem noted during the inspection was that certain lesson plans did not distinguish enabling objectives from terminal objectives. The licensee representatives acknowledged this finding and they indicated their willingness to commit to at least one test item per terminal objective along with distinguishing terminal versus enabling objectives. They also stated that they were not aware of any requirements to have at least one question per objective. The NRC staff indicated that the licensee should document their approach in this area. It was noted that questions dealing with enabling objectives may well be needed to enhance the size of the licensee's question bank, especially with respect to meeting the examiner standard, in the LOR area.

The licensee indicated that the requirements for annual program evaluations were under review and future licensee internal requirements were not yet defined. They indicated they would review the past evaluation recommendation dispositions to ensure appropriate actions were taken (50-271/91-81-07).

At the conclusion of the meeting, the NRC staff expressed satisfaction with the manner in which Vermont Yankee was addressing the deficiencies in the training program.

ATTACHMENT 1

PERSONS CONTACTED

Vermont Yankee Nuclear Power Corporation

W. Murphy, Senior Vice President of Operations (5)
R. Sojka, Operations Support Manager (3), (5)
D. Reid, Plant Manager (3), (5)
R. Wanczyk, Operations Superintendent (1), (3)
J. Herron, Operations Supervisor (3)
L. Doane, Assistant Operations Supervisor (1), (3), (4)
M. Mervine, Training Manager (1), (2), (3), (5)
E. Harms, Operations Training Supervisor (1), (2), (3), (4), (5)
M. Gosekamp, Operations Training Instructor (1), (2), (3), (4)
S. Brown, Operations Training Instructor (1), (2), (3), (4)
M. Romeo, Operations Training Instructor (1), (2), (3), (4)
B. Finn, Operations Training Instructor (2), (3), (4)
B. Pittman, Shift Supervisor (1), (2), (3), (4)
W. Sherman, Vermont State Representative (3)

Nuclear Regulatory Commission

M. Hodges, Director, Division of Reactor Safety (5)
W. Lanning, Deputy Director, Division of Reactor Safety (2)
R. Conte, Chief, BWR Section (3), (5)
P. Bonnett, Senior Operations Engineer (1), (2), (3), (4)
S. Hansell, Operations Engineer (1), (2), (3), (4), (5)
H. Eichenholz, Senior Resident Inspector (2), (3), (5)
P. Harris, Resident Inspector (2)
D. Odland, Examiner (SONALYST) (1), (2), (4)
C. Carroll, Examiner (SONALYST) (1), (2), (4)
J. Rogge, Chief, Reactor Projects Section, 3A (5)
L. Bettenhausen, Chief, Operations Branch (5)
J. Williams, Senior Operations Engineer (5)
P. Sears, Project Manager, NRR (5)
J. Linville, Chief, Projects Branch 3 (5)

NOTES:

- (1) Attended Entrance Meeting, January 28, 1992
- (2) Attended Requal Prep Week, January 27 - 31, 1992
- (3) Attended Exit Meeting, February 14, 1992
- (4) Member - Combined Facility/NRC Exam Team
- (5) Attended Training Program Meeting in King of Prussia

ATTACHMENT 2
REQUALIFICATION TEST ITEMS

Simulator Scenarios

SEG-2, Recirc Flow Controller Failure, Recirc Line Break, ATWS
SEG-6, Loss of Normal Power, Condensate Pump Trip, High DW Pressure
SEG-9, Partial Scram, Turbine Trip/Bypass Valves Fail, ATWS
SEG-16, Loss of Startup XFMRS, RCIC Steam Line Break, Loss of Condenser Vacuum

Job Performance Measures

20010 - Open the MSIVs after a Group I Isolation
20015 - Isolate and Vent the Scram Header
20017 - Perform Local Firing of Squib Valves
20022 - Manual Control Rod Insertion
20031 - Fill the Torus from "A" RHR SW
20024 - Alternate Injection Using the SLC Tank
26301 - Place Battery Charger CA-1 In Service
20106 - Place Standby CRD Flow Control Valve in Service
20501 - Place "A" RHR in Torus Cooling
20901 - Perform "A" Core Spray Quarterly Surveillance
21102 - SLC Pump Quarterly Capacity Check
21704 - RCIC Manual Start and Inject into the Vessel
26201 - Transfer MCC 89B From the UPS to Maintenance Power
26204 - Energize Bus 3 from the Vernon Tie Line
26205 - Transfer Station Loads from Startup Transformers to Aux Transformers
26407 - Diesel Generator Monthly Surveillance
20101 - Place The Recirc Seal Purge System in Service
21203 - Reset A Reactor Scram
21804 - Lineup to Operate SRV-71A From the RCIC Room
22305 - Vent the Drywell Via the 3" Bypass Line

REQUALIFICATION TEST ITEMS

Written Examination

Part A - Static SimulatorPart B - Classroom

<u>92_NRC-1</u>	<u>92_NRC-2</u>	<u>SRO</u>	<u>RO</u>
843	774 (SRO only)	385 *	385 *
844	813 (SRO only)	389 *	389 *
845	849	396 *	396 *
846	850	434 *	434 *
847	851	466 *	466 *
848	853	510 *	510 *
831	854	558 *	558 *
717	768	528 *	528 *
573	731	596 *	596 *
786	347	606 *	606 *
788	401	753 *	753 *
515	186	758 *	758 *
593		832 *	832 *
409		833 *	833 *
		834 *	834 *
		835 *	835 *
		836 *	836 *
		837 *	837 *
		838 *	838 *
		839 *	839 *
		840 *	840 *
		842 *	842 *
	43	761	
	375	95	
	377	18	
	405	559	
	425	89	
	426	28	
	484	660	
	747	841	
	762	800	

* Common to RO and SRO Exam

ATTACHMENT 3
SIMULATION FACILITY REPORT

Facility Licensee: Vermont Yankee Nuclear Power Corporation

Facility Docket No: 50-271

Requalification Examinations Administered on: February 10 - 14, 1992

This form is used to report observations. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of non-compliance with 10 CFR 53.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations.

1. The response of the primary containment modelling was questioned during the NRC exam week. The examiners questioned the drywell pressure and temperature response during a LOCA scenario (SEG-6). Drywell (DW) pressure increased to approximately 14.0 psig and DW temperature was 260°F. The crew initiated DW sprays at this point. DW pressure dropped to 3.9 psig within one minute but DW temp. actually increased to above 280°F within the same time frame. The DW temperature increase to above 280°F forced the crew to enter the RPV Emergency Depressurization EOP and take the appropriate actions to rapidly depressurize the plant.
2. A second example of the questionable primary containment response was noted in SEG-6. Initially, a small leak in the drywell caused DW pressure to increase to the scram setpoint and primary containment EOP entry value of 2.5 psig. Typically as DW pressure increases to 2.5 psig, DW temperature will increase proportionally and reach the 160°F EOP entry condition at approximately the same time frame. When DW pressure reached 2.5 psig the DW temperature was only reading 127°F, well below the expected value of 160°F. At the plant the typical average DW temperature can vary from 150°F in the summer to 130°F in the winter.
3. The response of the simulator to a Main Steam Line (MSL) rupture in the drywell between the MSIVs (MS11) remains a problem from the 1991 NRC requal exam. The NRC personnel observing the facility annual exam the week of January 27, 1992, noted that drywell pressure and temperature increased when the main steam line ruptured. The drywell pressure and temperature conditions improved with no operator action. The questionable simulator modelling could lead to negative training for the licensed operators.

271/91-81-01: *The task analysis is not kept current. It appears that a conscious management decision has been made not to maintain the task analysis data base.*

VY RESPONSE:

- TCR process
- Curriculum Committees
- Middle out Needs Analysis

SIGNIFICANCE:

- NRC worker interviews
- 1992 INPO Accreditation visit
- VY Replacement Examination results

271/91-81-02: *The team noted that the shift engineer training program description did not include training in Emergency Plan implementation, Emergency Operating Procedures implementation, or use of Emergency Response Facility Instrumentation (ERFIS). The incomplete program description is considered a deficiency.*

VY RESPONSE:

- Validation of Task Inventory
- Update of Program Description

SIGNIFICANCE:

- SE students have received all necessary training

271/91-81-03: *The loss of chemistry technician training completion data was identified during an internal audit by the licensee and confirmed by the team. This indicates a deficiency in the administration of individual training records.*

VY RESPONSE:

- Change of personnel
- Revised TDD-4
- Affected individual retrained and re-examined

SIGNIFICANCE:

- Isolated incident
- Affected only one individual

271/91-81-04: *The lack of clearly defined responsibilities and authority of personnel in the TDDs is considered a deficiency. (This deficiency is in reference to instructor evaluation criteria.)*

VY RESPONSE:

- TDDs will be revised

SIGNIFICANCE:

- 80 instructor evaluations conducted in 1991
- NRC observed training was effective

271/91-81-05: *The team considers the lack of test items for each learning objective to be a deficiency. (This deficiency is in reference to the LOI program.)*

VY RESPONSE:

- VY maintains an exam bank
- 942 questions in replacement exam bank

SIGNIFICANCE:

- VY Replacement Examination results

271/91-81-06: *The lack of predefined evaluation criteria for SE's performance in simulator training is considered a deficiency.*

VY RESPONSE:

- Simulator evaluation criteria will be developed

SIGNIFICANCE:

- SEs are comprehensively evaluated by written examination
- SE's participate in LOR and are evaluated with their crew

271/91-81-07: The team noted that...the annual program evaluations included recommendations for improvement. However, the recommendations are not prioritized or tracked to completion. The annual evaluations are highly variable in detail. The lack of a systematic method for generating and using the program evaluations is considered a deficiency.

VY RESPONSE:

- Program evaluations have not been effective
- Will review process and implement changes

SIGNIFICANCE:

- Use of other feedback methods
- NRC worker interviews

IMPROVEMENTS IN STAFFING/RESOURCES

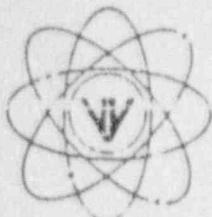
- New Training Manager & Operations Training Supervisor
- New RP and I&C Instructors
- New Administrative Assistant
- Operations training staffing

IMPROVEMENTS IN FACILITIES

- I&C and Maintenance laboratories constructed
- Installed GET CBT laboratory
- Upgraded simulator containment model
- In process of upgrading simulator instructor's station
- Chemistry laboratory to be added this year

**VERMONT YANKEE
NUCLEAR POWER CORPORATION**

Attachment 5



RD 5, Box 169, Ferry Road, Brattleboro, VT 05301

February 21, 1992

TDL 92-05
BVY 92-20

(802) 257-5271

United States Nuclear Regulatory Commission
One White Flint North
Document Control Desk
Washington, DC 20555

Attention: Mr. Samuel Hansell, Lead Examiner
USNRC Region I

References: a) License No. DPR-28 (Docket No. 50-271)
b) NUREG 1021, Operator Licensing Examiner Standards

Subject: Licensed Operator Requalification (LOR)

Dear Mr. Hansell:

A licensed operator requalification examination was jointly administered to twelve license holders at the Vermont Yankee Training Center and Station by the USNRC and the licensee during the week of February 10, 1992. Pursuant to Section ES-601 of Reference b, the Vermont Yankee Training Department conducted an LOR training program evaluation. Vermont Yankee's evaluation results are enclosed.

If you have any questions regarding these results, please contact me. Thank you.

Very truly yours,

Mark L. Mervine
Training Manager

Enclosure

cc: USNRC Regional Administrator - Thomas T. Martin
USNRC Project Manager - Patrick M. Sears - VYNPS
USNRC Resident Inspector - Harold Eichenholtz - VYNPS

REQUALIFICATION PROGRAM EVALUATION BASED ON 1992 EXAMINATIONS

1. Individual Examination Results

	<u>RO Pass/Fail</u>	<u>SRO Pass/Fail</u>	<u>TOTAL Pass/Fail</u>
Written	4/0	8/0	12/0
JPM/Walkthrough	4/0	8/0	12/0
Simulator	4/0	8/0	12/0
Overall	4/0	8/0	12/0

2. Crew Examination Results

3 of 3 Crews Passed

3. Program Evaluation Results

The facility performed an evaluation of the requalification program based on the facility's examination results. The criteria for program evaluation as specified in ES-601 was used where appropriate. The sample size (12) met the minimum requirement of ES-601. The facility results are:

- All three crews passed the simulator portion of the examination.
- 100% of the operators passed the written examination.
- 100% of the operators passed the simulator portion of the examination.
- 100% of the operators passed the JPM portion of the examination.
- All operators were trained and evaluated in all positions permitted by their individual licenses.
- Based on feedback from operators, facility observers, and the NRC team, it is felt that all the facility evaluators performed in a satisfactory manner.
- Common weaknesses on JPM's are as follows:
 - 75% of the operators administered JPM 20106 had difficulty shifting CRD flow control valves
 - 50% of the operators administered JPM 26407 had difficulty controlling VARS when the diesel was running in parallel
- Common weaknesses on the written examinations are as follows:
 - 42% of the operators missed question number two (2) on static simulator scenario 1. (Response of recirc system valves to LPC1 Logic)
 - 75% of the operators missed question number thirteen (13) on static simulator scenario 1. (Systems available for continued use in alternate level control)

3. Program Evaluation Results (cont'd)

- 33% of the operators missed question number three (3) on static simulator scenario 2. (LPCI system response to a LOCA with a DC bus de-energized)
- 42% of the operators missed question number five (5) on static simulator scenario 2. (Feedwater level control system failure)
- 33% of the operators missed question number ten (10) on the classroom examination. (Electrical safety requirements when opening a 480 V breaker)

The Simulator portion of the operating examination revealed the following weaknesses. These identified weaknesses will be addressed.

- Crews failed to recognize the significance of multiple flowpaths in the RHR system when injection was necessary
- Delays were noted between the time reactor level reached TAF and RPV-ED was actually initiated
- Two Shift Supervisors had minor difficulties in interpreting Technical Specifications
- A Shift Supervisor failed to enter the level/power control leg of OE-3102 during an ATWS condition

4. Written Examination Results

The written examination completion times fell within the guidelines of ES-602.

	<u>Classroom</u>	<u>Static I</u>	<u>Static II</u>
<u>Operator Average</u>	116 minutes	56 minutes	54 minutes

INDIVIDUALS WRITTEN EXAMINATION RESULTS

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10 CFR 2.790

INFORMATION

5. Walkthrough/JPM Examination Results

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10 CFR 2.790

INFORMATION

6. Recommendations for Improvement

JPM Evaluation

- Simulator setup does not always include all the required malfunctions and plant conditions for the JPM to be performed
- JPM's are inconsistent about how actions are verified

Simulator Evaluation Guide

- The size of the simulator scenario bank should be increased as necessary to meet the requirements to have a minimum of 30 scenarios and to cover all legs of the EOP's