

U.S. NUCLEAR REGULATORY COMMISSION REGION I
OYSTER CREEK NUCLEAR GENERATING STATION

Report No. 50-219/91-11 (OL)
Facility Docket No. 50-219
Facility License No. DPR-16
License: GPU Nuclear Corporation
P. O. Box 388
Forked River, New Jersey 08731
Facility: Oyster Creek Nuclear Generating Station
Examination Dates: April 9 - 11, 1991
June 11, 1991
June 14, 1991
June 20 - 21, 1991
Inspection Dates: April 22 - 26, 1991
Examiners: M. Daniels, Sonalysts (NRC Contractor)
T. Easlick, Enforcement Specialist
D. Odland, Sonalysts (NRC Contractor)
S. Pullani, Sr. Operations Engineer
T. Walker, Sr. Operations Engineer

Chief Examiner: Richard J. Conte Sr. 2/10/91
Donald J. Florek, Sr. Operations Engineer Date

Approved By: Richard J. Conte 2/10/91
Richard J. Conte, Chief, BWR Section, Date
Operations Branch, Division of Reactor
Safety

Examination Summary

Examination Report No. 50-219/91-11(01

Written and operating examinations were administered to four Reactor Operators (ROs) and eight Senior Reactor Operators (SROs). These operators were divided into two crews; one operating crew and one staff crew. The examinations were graded concurrently by the NRC and the facility training staff. As graded by the NRC, one Senior Reactor Operator failed the April 9, 1991, written portion of the examination and subsequently passed a June, 11, 1991, retake examination. One Senior Reactor Operator failed the simulator portion of the examination. All others passed the examination and both crews were determined to be satisfactory.

The licensee's licensed operator training program was determined to be satisfactory based on the criteria established in section ES-601 of NUREG-1021, Rev. 6. The facility supplied test outline was comprehensive and covered the entire examination. However, changes were required to be made to the facility proposed examination in order to meet the criteria for examination content of NUREG-1021, Rev. 6.

As described in section 6, one violation was identified for failure to conduct medical examinations on three licensed operators every two years as required by 10 CFR 55.21. The facility administrative controls were not adequate to assure that this requirement is met. (Violation 219/91-11-01)

In section 7 of this report licensee actions to previous inspection findings, with respect to licensed operator training, were closed (Items 90-05-01, 90-05-02, 90-05-03, 90-80-01, 90-80-02 and 90-80-03). Item 90-80-04 remains open pending further licensee action.

DETAILS

1.0 INTRODUCTION

The NRC staff administered requalification examinations to 12 licensed operators (4 ROs and 8 SROs). One operating crew and one staff crew were evaluated. The examiners used the process and criteria described in NUREG-1021, "Operator Licensing Examiner Standard," Rev. 6.

The personnel contacted during the examination are listed below. The members of the combined NRC/facility examination team, and the facility evaluators are also identified.

An entrance meeting was held in the Region I offices on January 14, 1991, during which a review of the process and criteria described in NUREG-1021 was performed with the facility personnel listed below.

On March 22, 1991, a meeting was held in the Region I offices at the request of the facility licensee, during which the facility described the progress made in responding to the weaknesses identified in the April 1990 requalification examination and the June 1990 NUREG-1220 review. Attachment 1 contains the facility handouts from the meeting.

The written and JPM portion of the examination was conducted at Oyster Creek without any major problems or delays. The simulator portion of the examination was conducted on the Nine Mile Point Unit 1 simulator in accordance with an exemption to 10 CFR 55.45 granted by the NRC on March 25, 1991. The use of a nonspecific simulator resulted in simulator scenarios with a limited coverage of symptoms/events for which to evaluate operator and crew performance. The examination content as administered is summarized in Attachment 2.

2.0 PERSONS CONTACTED

GPUN

R. Barrett, Plant Operations Director (1, 2, 3, 4, 5)
J. Barton, Oyster Creek Director (3, 4, 6)
J. Boyle, Operations (1, 2, 3, 4, 5)
G. Busch, Manager of Licensing (4)
R. Coe, Director Training and Education (3, 4, 5, 6)
G. Cropper, Operator Training Manager (1, 2, 3, 4, 5, 6)
J. Custer, General Physics Simulator Instructor (5)
M. Heller, Licensing Engineer (3, 4, 6)
J. Knubel, Licensing Director (6)
J. Kowalski, Manager Plant Training (3, 4, 6)
S. McCann, Instructor (1, 3, 4, 6)
D. Rodgers, General Physics Simulator Instructor (5)
C. Silvers, Instructor (1, 2, 4, 5)

Nuclear Regulatory Commission/NRC Contractors

L. Bettenhausen, Chief Operations Branch (3, 6)
 E. Collins, Senior Resident Inspector (4)
 R. Conte, Chief, BWR Section (3, 6)
 M. Daniels, Sonalysts (1)
 T. Easlick, Enforcement Specialist (1, 5, 6)
 D. Florek, Sr. Operations Engineer (1, 3, 4, 5, 6)
 W. Hodges, Director, Division of Reactor Safety (6)
 D. Odland, Sonalysts (1)
 S. Pullani, Sr. Operations Engineer (6)
 W. Ruland, Chief Section 4B, Division of Reactor Projects (6)
 T. Walker, Sr. Operations Engineer (1, 5)

Notes:

- (1) Member - Combined Facility/NRC Examination Team
 (2) Facility evaluator
 (3) Attended Entrance on January 14, 1991
 (4) Attended Interim Exit Meeting on April 12, 1991
 (5) Attended Exit on June 21, 1991
 (6) Attended Oyster Creek Requalification Program Presentation on March 22, 1991

3.0 EXAMINATION RESULTS

3.1 Requalification Individual Results

The following is a summary of the individual examination NRC and facility results for both the requalification examination and the retake examination for the one SRD who failed the written portion of the examination in April 1991.

NRC Grading	RO Pass/Fail	SRC Pass/Fail	TOTAL Pass/Fail
Written	4 / 0	7 / 1	11 / 1
Simulator	4 / 0	7 / 1	11 / 1
Walk-Through	4 / 0	8 / 0	12 / 0
Overall	4 / 0	6 / 2	10 / 2

Facility Grading	RO Pass/Fail	SRO Pass/Fail	TOTAL Pass/Fail
Written	4 / 0	7 / 1	11 / 1
Simulator	4 / 0	7 / 1	11 / 1
Walk-Through	4 / 0	8 / 0	12 / 0
Overall	4 / 0	6 / 2	10 / 2

NOTE: The SRO who failed the written portion of the examination passed a retake examination on June 11, 1991.

3.2 Generic Strengths and Weaknesses

The following is a summary of generic strengths and weaknesses noted by the NRC from the results of the individual requalification examinations. This information is being provided to aid the licensee in upgrading the requalification training program. No response to these generic strengths and weaknesses is required.

The operators were well trained and prepared for the walk-through portion of the requalification examination. The operators were very methodical in performing the JPM task and extensively described the expected response prior to actually simulating the task. As a result, the NRC did not observe major areas of generic weakness during the walkthrough portion of the examination. During the walk-through portion of the examination, the following areas were not satisfactorily performed by more than two-thirds of the operators.

- The ability to purge the control room with the control room HVAC.
- Knowledge of the reason why the reactor is vented during containment flooding when containment water level reaches 365 inches.
- Knowledge of the purpose of the automatic MSIV closure when the mode switch is in RUN and the reactor pressure is less than 850 psig.
- Knowledge of the sequence of events that occur when the carbon dioxide flooding system is manually initiated in the 4160V switchgear room.

As far as the written examination is concerned, there were three areas in which less than two thirds of the operators obtained a satisfactory response.

- SRO and RO knowledge of the conditions that cause an automatic isolation of the isolation condenser.
- SRO and RO knowledge of the signals required to initiate torus spray during an accident condition.
- SRO knowledge of the administrative controls for isolating a core spray system during refueling.

During the simulator portion of the examination, the reactor operator alarm response and control board operation was considered to be a strength considering that the simulator was not a site specific simulator. While some specific individual communications required improvement, generally, the communications among the crew members was effective. During the first week of simulator examinations, command and control was considered weak. However, the improvement was noted in the command and control area during the second week. Generic weaknesses were noted in the use of emergency operating procedures (EOPs), emergency plan classification and reactor building evacuations.

- The crews were weak in anticipating the actions that the EOPs require; this resulted in delays of recovery actions. For example, if the crews had anticipated that the EOPs would have directed use of fire water for vessel injection, the in-plant valve lineup activities could have been directed so that when the plant conditions would have directed vessel injection, this would have occurred without delay.
- The crews were weak in the prioritization of EOP actions. For example, during an ATWS condition, the crew was more concerned about actions to maintain water level rather than directing actions to insert the control rods utilizing the alternate rod insertion system.
- The crews were weak in using placekeeping methods. The crews utilized inconsistent methods or did not utilize placekeeping methods to determine where they are in the EOPs and what portions of the EOPs are being used.
- The crew weakness in the area of the emergency plan included one incorrect emergency classification and the appearance that the GSS only performed a cursory review of the emergency classification recommended to him by the shift technical advisor.
- The crews were slow to evacuate the reactor building when high radiation existed inside the building.

3.3 OTHER FINDINGS

During the JPM portion of the examination, the plant was in the middle of a refueling outage. The facility did an excellent job in minimizing control room outage work during the JPM portion of the examination.

Closing the turbine bypass valves when emergency depressurization is required and performing alternate rod insertion actions were inconsistently performed by the two crews in the simulator. The procedure to perform individual rod scrams in 2000-ABN-3200.06 is not clear to return the switch to normal after the rod is inserted. This resulted in an unanticipated automatic reactor scram during one of the scenarios. The facility acknowledged the examiner findings and agreed to pursue them.

During the preparation of the written examination, the examiner noted that Oyster Creek procedure 106 "Conduct of Operations," did not contain the duty and responsibility for the reactor operator to shut down the reactor when he determines that the safety of the reactor is in jeopardy as is required of the SRO. This provision is stated in ANSI N 18.7 1976. When brought to the attention of the licensee, the licensee initiated a change to procedure 106 to include this duty and responsibility for the reactor operator.

4.0 REQUALIFICATION PROGRAM EVALUATION RESULTS

The facility program for licensed operator requalification training was rated as SATISFACTORY in accordance with the criteria established in ES-601, paragraphs C.2.b.(1)(a-c) and C.2.b.(2)(a-f).

4.1 Examination Results

The facility grading was as conservative as the NRC grading on 100% of the pass/fail decisions satisfying the criterion of C.2.b.(1)(a).

Ten of twelve operators passed the examination satisfying the criterion of C.2.b.(1)(b).

All crews evaluated passed the simulator examination satisfying the criterion of C.2.b.(1)(c).

There was no unsatisfactory crew evaluation so that the criterion C.2.b.(2)(a) is not applicable.

The facility trained and evaluated the operators in all the positions permitted by their individual licenses satisfying criterion C.2.b.(2)(b). See section 7.0, unresolved item 90-05-03, for the NRC evaluation of a previous unresolved item.

All facility evaluators were determined to be satisfactory so that criterion C.2.b.(2)(c) is satisfied.

The facility 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) were not assessed during this requalification examination.

There were no changes to test items after the examination so that criterion C.2.b.(2)(e) is satisfied.

The operators failed by the facility were also failed by the NRC, thus satisfying criterion C.2.b.(2)(f). However, the facility evaluators utilized higher standards than the NRC examiner standards to determine a pass/fail on JPMs. The facility determined that several JPM tasks were not performed satisfactorily when the operator did not strictly adhere to the procedure in the non-critical task areas.

5.0 REQUALIFICATION EXAMINATION PREPARATION

The facility supplied both a test outline and a proposed examination. The facility test outline was comprehensive and covered the entire examination including written, JPM and simulator. The test items were tied to learning objectives. The content breakdown of the examination was developed based on the topics included in the requal cycle as well as topics not included in the requal cycle.

The examiner requested a number of changes to the proposed written examination so that the questions would satisfy the examiner standards. Many of the questions on the "A" portion of the examination were replaced because they were procedural and administrative questions and many of the "B" portion questions were replaced because they were systems type questions. Many questions were reworded for clarity or to remove unnecessary information. The facility responded very cooperatively to the examiners requested changes with the minimal guidance provided and made the required changes. Part of the difficulty in developing the written portion of the examination was that the A and B examination banks also mixed the type of questions. For example, approximately 40% of the A bank contains questions that more properly belong in the B bank. In addition, the questions in the examination bank are not sorted by system so that the bank is somewhat difficult to use to find a question related to a system.

In the retake written examination, the facility did not apply the lessons learned from the development of the initial requalification examination. The facility proposed a static examination essentially the same as the examination that the operator initially did not pass. In addition, the facility proposed an examination with the A and B portion questions intermixed. The examiner had to request the facility to make several changes to the examination to meet the examiner standards. The facility was very cooperative in making the requested changes.

The facility proposed 10 JPMs and 10 alternates. To meet the examiner standards for JPM administration, 20 JPMs were needed. The team utilized

the original 10 proposed JPMs and 5 of the alternate JPMs. Three JPMs were selected by the team from the facility JPM bank; two JPMs from the facility examination bank were combined into one JPM, and one new JPM was developed. The JPM questions selected were based on the facility examination bank, but many questions required modification to clarify the question to obtain the desired answer or to revise the question to obtain a 2 to 3 sentence short answer response. As a result of the preparation activities, the JPMs were of high quality with established performance standards, required operator actions, expected plant response, and appropriate specification of evaluator cues. The facility was very cooperative in the revision of the JPM portion of the examination.

The simulator portion of the examination was validated three weeks before administration. The scenarios were revised to assure that each operator would be exposed to two critical tasks in the scenario sets. The scenarios were revised to obtain critical tasks as defined in the examiner standards. This was complicated a little by the differences that exist between Oyster Creek and the Nine Mile Point Unit 1 simulator. Reactor operators were only given credit for completing critical tasks for those tasks that required no additional assistance from the simulator floor instructor. For example, the task for placing torus cooling in service is significantly different at the simulator than at Oyster Creek such that an instructor directs the operator which valves to manipulate to place torus cooling in service. Seven scenarios were validated.

6.0 REVIEW OF LICENSED OPERATOR MEDICAL RECORDS

Scope

The inspector reviewed the medical records of ten randomly-selected licensed operators to determine if the medical examinations were performed by a physician every two years as required by 10 CFR 55.21. 10 CFR 55.23 requires the facility licensee to certify that the medical examination requirements of 10 CFR 55.21 are satisfied. The inspector also reviewed the medical records and facility program to determine if, as a result of the medical examinations, the facility will inform the NRC within 30 days of learning of a diagnosis that would result in a conditional license or change to a conditional license as required by 10 CFR 55.25.

Findings

The review identified that three of the ten licensed operator records exceeded the two year requirement for a medical examination. The results of the three licensed operators are as follows:

<u>OPERATOR</u>	<u>EXAM DATE/RESTRICTION</u>	<u>EXAM DATE/RESTRICTIONS</u>
A	6/29/88 / None	3/21/91 / None
B	9/8/88 / None	11/1/90 / None
C	1/16/89 / None	3/22/91 / Corrective lenses

Operator A exceeded the two years by almost nine months. Operator B had exceeded the two years by almost two months. Operator C exceeded the two years by at least two months and required a medical restriction to be placed on his license. The NRC was notified of the change in medical condition of operator C in a letter dated April 23, 1991. Operator C was an inactive licensed operator and did not perform any licensed duties from the period 1/16/91 through 3/22/91. The inspector reviewed a summary listing of licensed operator examinations and determined that, as of April 11, 1991, all operators had received medical examinations within two years.

The licensee administrative control for licensed operator medical examinations is contained in procedure 102.3 "OCNGS Administrative Procedure Requirements for Certification of Candidates for NRC Operator Licenses," Revision 5. The procedure indicates that "a physical exam must be completed every two years." The procedure indicates that "the appropriate department, in coordination with the Training Department, is responsible for scheduling physical exams within their organization." The procedure does not provide clear controls for assuring that the two year medical examination requirement for license operators is met. The procedure also does not provide controls to assure that if medical examinations within the terms of the six year operator license identify conditions that require a medical restriction to be placed on the license, then the NRC is notified within 30 days.

Having identified this to the facility licensee, the facility licensee initiated an investigation into this matter. The facility identified 17 license holders who had intervals between medical exams that exceeded two years. Of the 17 operators, only one had a medical restriction needed to be added on the license as a result of the medical exam. This was operator C as identified above during the NRC review of the facility medical records. The licensee also verified that the medical examinations of all operators were current. The licensee also developed plans for corrective actions including defining clear responsibilities and procedure revisions. As of June 11, 1991, the licensee had not yet finalized the program control corrective actions so that the examiner could not assess the adequacy of the licensee corrective actions.

Conclusion

The facility licensee's failure to assure medical examinations on the three operators were performed every two years as required by 10 CFR 55.21 is considered an apparent violation. Weak administrative procedures contributed to the violation. (Violation 219/91-11-01)

7.0 LICENSEE ACTION ON PREVIOUS EXAMINATION FINDINGS

A previous NRC evaluation of the licensed operator requalification program conducted during April 9 - June 8, 1990, identified several weaknesses in

the program. These weaknesses are documented in examination report 50-219/90-05 (OL) as unresolved items 90-05-01, 90-05-02 and 90-05-03. A special training program team inspection conducted during June 25 - July 10, 1990, identified additional weaknesses in the program. These weaknesses are documented in Inspection Report 50-219/90-80 as violation 90-80-01 and unresolved items 90-80-02, 90-80-03, and 90-80-04. During a meeting between the licensee and the NRC on March 22, 1991, at the Region I office, the licensee provided the status of the corrective actions on the above issues. Attachment 1 contains the facility handouts discussed during this meeting.

During the week of April 22, 1991, the NRC reviewed the licensee's corrective actions. The results of this review are listed below.

(Closed) Unresolved Item (90-05-01): Licensed operator requalification program deficiencies in the development and implementation of acceptable standards of performance.

Section 2.6 of examination report 50-219/90-05 (OL) documented several requalification program weaknesses. The status of licensee corrective actions to the program weaknesses was discussed during the March 22, 1991, licensee meeting. The status is also documented in the meeting handout (Items 4, 11, 12, 13 and 15 of Attachment 1 of this report). The inspector reviewed the corrective actions and their status and determined that they are acceptable. Based on the conclusions of this review, this action is resolved and closed. During the conduct of the 1991 examination, there was no evidence of recurrence of the problems identified in 1990.

(Closed) Unresolved Item (90-05-02): Licensed operator program deficiency in improving the quality of poor operating procedures.

Section 6.2 of examination report 50-219/90-05 (OL) documented the fact that the licensee failed to identify poor quality procedures and utilize the requalification program to improve the quality of procedures. The licensee's response to this concern is contained in its September 20, 1990, letter, Attachment 2, Concern 2. The response takes credit for several mechanisms then in place to address this concern: (1) operator concern program, (2) requalification on-the-job training utilizing JPMs, and (3) station document control utilizing Administrative Procedure 103. The inspector made a review of these mechanisms for their effectiveness in identifying poor quality procedures and in improving the quality of procedures. These mechanisms appear to be effective in these respects. Based on the conclusions of this review, this item is resolved and closed.

(Closed) Unresolved Item (90-05-03): Licensed operator requalification program compliance with 10 CFR 55.59(2)(ii), reactor operators given annual operating examination that is a comprehensive sample.

Section 5 of examination report 50-219/90-05 (OL) documented the fact that the licensee failed to evaluate reactor operators (RO) in all positions allowed

by the licensee during the facility-administered operating tests. The licensee response to this concern is contained in the September 20, 1990, letter, Attachment 2, Concern 3. In summary, the licensee attributed the cause of the concern to be the result of evaluating the RO in a nonsite-specific simulator and concluded that the situation will be completely alleviated when a plant reference simulator is used and in place in 1992. In an NRC letter dated December 10, 1990, the NRC agreed with the licensee's conclusion, but expected the licensee to provide interim compensatory measures, such as JPMs, until a plant reference simulator is used. The licensee has subsequently established such measures in place as evidenced by evaluating ROs in all positions using the JPM methodology during the facility administered operating tests and the recent NRC administered requalification examination. In addition, during the simulator portion of the examination, the reactor operators were rotated into different positions for each scenario. Based on this corrective action, this item is resolved and closed.

(Closed) Violation (90-80-01): The licensee failed to identify two individuals who did not demonstrate a satisfactory level of proficiency to perform licensed duties.

Section 2.4.2 of inspection report 50-219/90-80 documented a violation for failure to identify two individuals who did not demonstrate a satisfactory level of proficiency to perform licensed duties. The licensee concurred with the violation. The licensee's corrective actions are documented in its letter dated November 19, 1990. The status of these corrective actions were presented by the licensee during the March 22, 1991, meeting (Items 1, 2, 3, and 14 in Attachment 1 to this report). The inspector reviewed the status and determined that the licensee has taken sufficient corrective actions to prevent recurrence of the violation. In addition, the facility grading methods used during the requalification evaluation implemented the grading practices of the comprehensive examination administration procedure and were found to be acceptable. Based on the conclusion of this review, this item is closed.

(Closed) Unresolved Item (90-80-02): Licensee grading practices for licensed and non-licensed operator evaluations are a training program weakness.

Section 2.4.2 of inspection report 50-219/90-80 documented this training program weakness. The status of the corrective actions were presented by the licensee during the March 22, 1991, meeting (Items 1, 2, 3, and 14 in Attachment 1 to this report). The corrective actions for this unresolved item were noted to be the same as for violation (90-80-01). A significant part of these corrective actions was the development of a comprehensive administration procedure (Procedure 6231-ADM 2605.01, Training and Education Department Administrative Manual, approved on October 30, 1990). This procedure provides overall guidance to training personnel for development, administration and grading of all weekly quizzes, and comprehensive examinations. The inspector reviewed this procedure and other corrective

actions and determined that the licensee's corrective actions were adequate. Based on the conclusions of this review, this item is resolved and closed.

(Closed) Unresolved Item (90-80-03): Licensee procedure allows waiver of requalification examinations which could result in violation of 10 CFR 55.59 requirements for requalification examinations.

Section 2.4.3 of inspection report 50-219/90-80 noted that the licensee's existing procedure allows waiver of the facility-administered requalification examinations based on recent or upcoming NRC administered examinations. The procedure allowed the NRC license examination to be substituted for the facility-administered requalification examination if the NRC examination is completed within six months of the requalification examination date. The procedure also allowed licensed ROs enrolled in an SRO training program to waive the requalification examination if their upcoming NRC examination is scheduled within three months of the requalification examination date. The procedure did not ensure that the operators met the requirements of 10 CFR 55.59 for an annual operating test and biennial written examination.

The licensee revised procedure (6231-PDG-2162, License Operator Requalification Training Program, Revision 11) by changing the six month waiver provision to a three month waiver provision and specifying the 10 CFR 55.59 requirements for annual operating tests and biennial written examinations. The three month waiver provision is included to accommodate scheduling the operating test at the Nine Mile Point simulator. The licensee made a commitment that the procedure will be revised to eliminate the three month waiver provision when the plant reference simulator is available (expected in October 1992). Based on the licensee's corrective action and the commitments as described above, this item is considered resolved and closed.

(Open) Unresolved Item (90-80-04): Program evaluation is a weakness for the operator training program.

Section 2.5 of inspection report 50-219/90-80 documented a number of deficiencies in the training program evaluation area. The licensee's corrective actions include two integrated program evaluations by the licensee in the third quarters of 1991 and 1992. The details of these corrective actions were discussed during the March 22, 1991, licensee meeting and are found in Attachment 1 of this report. The inspector's review of the proposed corrective actions that they will adequately address the identified deficiencies when completed. This area will be further reviewed in a future inspection. Pending such a review, this item remains unresolved.

8.0 EXIT MEETING

An exit meeting was held at the conclusion of the examination on June 21, 1990. The personnel in attendance are listed in Section 2.0 of this report. The NRC results of the examinations were presented. The facility provided a summary of their results. Requalification examination preparation and administration were discussed along with generic strengths and weaknesses of the program as discussed in this report.

ATTACHMENTS

1. Facility Handouts from March 22, 1991, meeting
2. Requalification Examination Test Items

ATTACHMENT 1

Facility Handouts from March 22, 1991, Meeting

ATTACHMENT 1

OPERATOR TRAINING PROGRAM
CORRECTIVE ACTION STATUS

OYSTER CREEK NUCLEAR GENERATING STATION

MARCH ²⁷~~25~~, 1991

AGENDA

Introduction

R. P. Coe
Training and Education Director
GPUN

Background

J. D. Kowalski
Manager Plant Training, O.C.

Operations Training Corrective
Action Status

G. W. Cropper
Operations Training Manager, O.C.

Additional O.C. Training
Department Actions

J. D. Kowalski
Manager Plant Training, O.C.

BACKGROUND

Weeks of April 9, and
April 16, 1990

Difficulties experienced on written
and JPM portions of requal exam

April 24, 1990

GPUN presentation to NRC at Region 1
on root cause of difficulties and
corrective actions

Weeks of May 14, May 21,
May 28, and June 4, 1990

Simulator portion of license requal

Week of June 25, 1990

NuReg 1220 Audit of licensed and
non-licensed Operator Training and
Tech Staff and Manager Programs.
Program evaluation and exam grading
weaknesses identified.

June 26, 1990

Formal exit for requal exam at
Region 1

Sept. 17, 1990

Enforcement Conference at Region 1
regarding exam grading issue of 1220
Audit. Root cause and corrective
actions identified.

Presentation Date - March 22, 1990

1990 NRC Licensed Operator Requal (L.O.R.) Program
Corrective Actions

- 1) A clearly defined process for technical and time validation will be established,
 - Process
 - Operations Training Section (O.T.S.) generates and reviews question for technical accuracy and clarity.
 - Operations Department performs technical and time validation of the question.
 - Two independent reviewers perform instructional technologist review for clarity and proper grammar.
 - Question accepted and loaded into computerized exam bank.
 - Status
 - Completed, Proc. 6231-ADM-2605.01 O.T.S. Comprehensive Exam Procedure.

- 2) The written exam bank will receive an independent review to improve question clarity.
 - Process
 - See No. 1 Process.
 - Status
 - Completed (on 741 questions).
 - Instructional technologists (I.T.) reviewed examination questions as the final step of the process.

- 3) The written exam bank will be technically and time revalidated.
 - Process
 - See No. 1 Process.
 - Status
 - Completed.
 - See attachment I on exam bank current status.

- 4) The JPM format and evaluation process will be modified to more thoroughly stress demonstration of procedural adherence along with the critical steps as pass/fail criteria.
 - ° Process
 - Defined in Procedure 6231-ADM-2605.01, Exhibit 5.
 - ° Status
 - Completed.
- 5) The JPM administration process will be modified as follows:
 - * ° Use of a flashlight to clearly point out switches.
 - ° Each operator will be exposed to the use of two GPUN evaluators to closely simulate the actual requal exam (as appropriate). (NOTE: Currently, dual examiner walk-thrus are in progress, Cycle 91-3 completion on 5/3/91).
 - * ° Require operators to write down task initially to minimize potential miscommunication.
 - ° The plant referenced simulator will be used when available (projected - late 1991).
 - * ° Process
 - Defined in applicable portions of Procedure 6231-ADM-2605.01, Exhibit 5.
 - ° Status
 - Completed.
- 6) The training process for JPM evaluators will be expanded to include the importance of identification and resolution of differences between utility and NRC evaluators on the spot to avoid subsequent factual disagreements.
 - ° Process
 - Defined in two training lesson plans (2660.450.0037 and 30.4.60.500.012).
 - ° Status
 - Completed.

- 7) An enhanced on-the-job training program has been put in place by the Operations Department. It includes JPM walkthroughs. JPM revalidation is an on-going part of this effort.
- Status
 - Program has been implemented.
 - Program requirements have been identified in the newly created L.O.R. O.J.T. Program.
 - JPM walk-thru sessions are continuing in Cycle 91-3.
- 8) Individual JPM failures will be reviewed one-on-one with each operator involved.
- Status
 - Completed by Ops Training Coordinator.
 - NRC exam lessons learned/changes to NuReg 1021 lesson was presented to L.O.R. personnel during Cycle 91-1.
- 9) Individual written exams will be reviewed one-on-one with operators involved to upgrade their knowledge.
- Status
 - Completed by Ops Training Coordinator.
 - NRC exam lessons learned/changes to NuReg 1021 lesson was presented to L.O.R. personnel during Cycle 91-1.
- 10) Communication areas of question difficulty will be identified for inclusion in this biennial requal cycle as appropriate.
- Status
 - Completed.

11) Simulator scenarios will be enhanced to increase detail via the inclusion of more operational steps, clearly defined expected operator actions and to reduce the number of critical tasks (Prior to next simulator requalification exam). In addition, future simulator scenarios will be developed in-house utilizing the plant-referenced simulator when available.

◦ Status

- Completed.
- 15 exam scenarios revised to meet NuReg 1021, Rev. 6 requirements.
- All 15 scenarios are validated for use at Nine Mile Point Unit No. 1 Simulator.

12) A training lesson (L.P. 30.4.60.500.012) dealing with administration of JPMs, was presented to all instructors and operations personnel during Cycle 90-8 of the licensed operator requalification program.

◦ Status

- Completed.

13) A JPM writers guide will be developed and published which will improve the consistency of JPM content and level of detail of evaluation criteria.

◦ Status

- Completed.
- The JPM writer/evaluator guidelines contained within Procedure 6231-ADM-2605.01, Exhibit 5.

14) A comprehensive examination administration procedure will be developed. This will provide overall guidance to training personnel for development, administration and grading of all weekly quizzes and comprehensive examinations.

◦ Status

- Completed and approved as an instruction on 9/26/90.
- Approved as Procedure 6231-ADM-2605.01 on 10/30/90.

- 15) Using INPO's "Advanced Simulator Instructor" course as a guideline, GPUN will develop and present a site-specific course to appropriate training and operations personnel to improve evaluation and critique techniques during simulator training and evaluation sessions.

° Status

- O.C. Simulator Training Section developed and presented this specific lesson to the 1991 NRC exam team in late December 1990.
- All other facility evaluators to receive this training in March/April 1991.

1990 NRC 1220 AUDIT COMMITMENTS

Provided below are the actions taken or planned to address the two areas of weakness identified in NRC Inspection Report 90-80.

Area # 1: Trainee Evaluation

In response to the grading discrepancies identified as a result of the special NRC team inspection (NUREG 1220 Audit), a critique was commenced on June 28, 1990 and completed on July 16, 1990. Additionally, LER 90-011 was submitted on July 23, 1990 to report the non-compliance related to this matter.

The critique identified personnel error (lack of attention to detail) and inadequate procedures (lack of a comprehensive procedure on the preparation, administration, and grading of exams) as the root causes of this event. Additionally, the requalification exam bank question format and quality (short answer/essay format along with ambiguous or non-specific wording stemming from a less than adequate validation) was cited as a major contributor.

In response to these findings, the following actions were completed:

- a) By means of a written Training Department Instruction/Directive and a special departmental staff meeting, the Manager, Plant Training communicated management expectations relative to exam preparation, grading and administrative closeout to all training department personnel.
- b) The Operator Training Manager and Supervisor of Operator Training also reinforced grading expectations to all operator training personnel in writing and in a special section meeting.
- c) The critique report was required reading for all training department personnel.

Additionally, the following actions are underway:

- a) A training session on the proper development of open reference test items for all operator training instructors has been presented.

° Status

- Completed prior to September 30, 1990.
- Group working sessions to review and critique questions were initially held.
- Departmental lesson (L.P. 2660.450.0019) presented to all instructors in the fourth quarter 1990.

- b) A revalidation of the entire requalification written exam bank is on-going. Included in this effort will be the conversion of a major portion of the bank to an objective question format.
 - ° Status
 - Completed.
 - See attachment I on exam bank current status.
- c) An operator training examination administration procedure is approved and in use. This procedure addresses the "process" aspects of the various steps of examination activity including preparation, administration and grading.
 - ° Status
 - Completed and approved as an instruction on 9/26/90.
 - Approved as Procedure 6231-ADM-2605.01 on 10/30/90.

Area # 2 : Program Evaluation

Oyster Creek will perform two integrated program evaluations in the operator training area. They will be performed in the third quarters of 1991 and 1992. These evaluations will include a combined assessment of test results, programmatic critiques, on-the-job feedback, internal and external program evaluations and training staff evaluations.

- A more comprehensive and effective program evaluation process is currently under development.
- Additionally, the development of the operator training feedback instruction strengthens the feedback path and improves the quality of the programs.
- Also, a new format of the once-back-on-the-job survey solicits direct feedback on job performance related to important randomly selected tasks.

ADDITIONAL O.C. TRAINING DEPARTMENT ACTION

- Departmental Procedure 6230-ADM-2604.02 "Grading and Review of Examinations" developed and implemented (January 1991)
 - attention to detail in exam preparation and grading
 - accuracy of key
 - clear assignment of partial credit
 - quarterly management review of a sampling of exams

ATTACHMENT I

EXAM BANK REVALIDATION PROGRESS

REVALIDATED:

365 Section B Questions

376 Section A Questions
741 Questions

87 additional questions in process.

All the above questions are completely rewritten and the banks are 100% objective. The 41 additional questions that are complete as the 87 questions in validation/review/approval are the result of our on-going effort to both:

- a) maintain a living bank, and
- b) meet or exceed the NuReg 107 150 question/yr. requirement.

ATTACHMENT 2

REQUALIFICATION EXAMINATION TEST ITEMS

Written Examination - Part B

<u>TEST ITEM</u>	<u>SRO</u>	<u>RO</u>
29	1.0	1.0
46	1.0	1.0
71	1.0	1.0
202	1.0	1.0
223	1.0	1.0
226	1.0	1.0
228	1.0	1.0
244	1.0	1.0
246	1.0	1.0
252	1.0	1.0
256	1.0	1.0
283	1.0	1.0
301	-	1.0
431	1.0	1.0
432	1.0	1.0
458	1.0	1.0
460	1.0	1.0
465	1.0	1.0
470	1.0	1.0
477	1.0	-
479	1.0	1.0
767	1.0	1.0
906	1.0	-
907	1.0	1.0
908	1.0	1.0
909	1.0	1.0
910	1.0	-
921	-	1.0
922	-	<u>1.0</u>
TOTAL	26.0	26.0

Written Examination - Part A

Static Simulator Examination No. 18A

<u>TEST ITEM</u>	<u>SRO</u>	<u>RO</u>
889	1.0	1.0
890	1.0	1.0
891	1.0	1.0
892	1.0	1.0
893	1.0	1.0
894	1.0	1.0
896	1.0	1.0
897	1.0	1.0
898	1.0	1.0
899	1.0	1.0
900	1.0	1.0
901	1.0	1.0
TOTAL	12.0	12.0

Static Simulator Examination No. 11B

<u>TEST ITEM</u>	<u>SRO</u>	<u>RO</u>
11	1.0	1.0
137	1.0	1.0
332	1.0	1.0
404	1.0	-
813	1.0	1.0
815	1.0	1.0
817	1.0	1.0
822	1.0	1.0
833	1.0	1.0
902	-	1.0
903	1.0	1.0
904	1.0	1.0
905	1.0	1.0
TOTAL	12.0	12.0

Job Performance Measures (JPM)

<u>Job Performance Measure</u>	<u>Location</u>
201.01 Respond to an Uncoupled rod < 10% Power	Control Room
201.02 Respond to an Uncoupled Rod > 10% Power	Control Room
202.03 Determine Cause of Recirculation Flow Abnormality	Control Room
202.05 Startup of a Recirculation Pump	Control Room
226.02 Place Containment Spray in Dynamic Test	Control Room
261.01 Place SBGTS in Service Manually	Control Room
288.02 Purge Control Room Using Control Room HVAC	Control Room
999.A RO Prevent and Terminate Injection into the RPV	Control Room
999.B SRO Prevent and Terminate Injection into the RPV	Control Room
999.02 Vent the Drywell While Flooding Containment	Control Room
999.04 Bypass MSIV Low Low Isolation	Control Room
999.06 Vent the Reactor While Flooding the Containment	Control Room
999.08 Transfer Fire Protection Water to CST	Plant
264.02 Manually Start the EDG Locally	Plant
279.01 Line Up Fire Protection to Air Compressor	Plant
279.02 Swap the Post Filters	Plant
286.04 Line Up Fire Water to the Core Spray Pump	Plant
308.01 Operate the Remote Shutdown Panel	Plant
308.02 Operate EDG 2 from LSP-DG2	Plant
308.04 Transfer Control to LSP 1A2	Plant

Dynamic Simulator Examination

<u>Scen No.</u>	<u>Scenarios</u>
E	ATWS with Loss of Condenser Vacuum
H	Leak in the Torus
L	MPR failure with Failure of Scram Discharge Volume to Isolate
N	ATWS with Loss of Feedwater
O	Fuel Failure with Isolation Condenser Tube Rupture
P	Fuel Failure with Unisolable Leak in RWCU
S	Loss of High Pressure Feedwater