

Report No. 50-397/90-11
Docket No. 50-397
License No. NPF-21
Licensee: Washington Public Power Supply System
Facility Name: Washington Nuclear Project No. 2
Inspection at: Region V Office
Inspection Conducted: March 12, 1991
Inspectors:

Approved By:

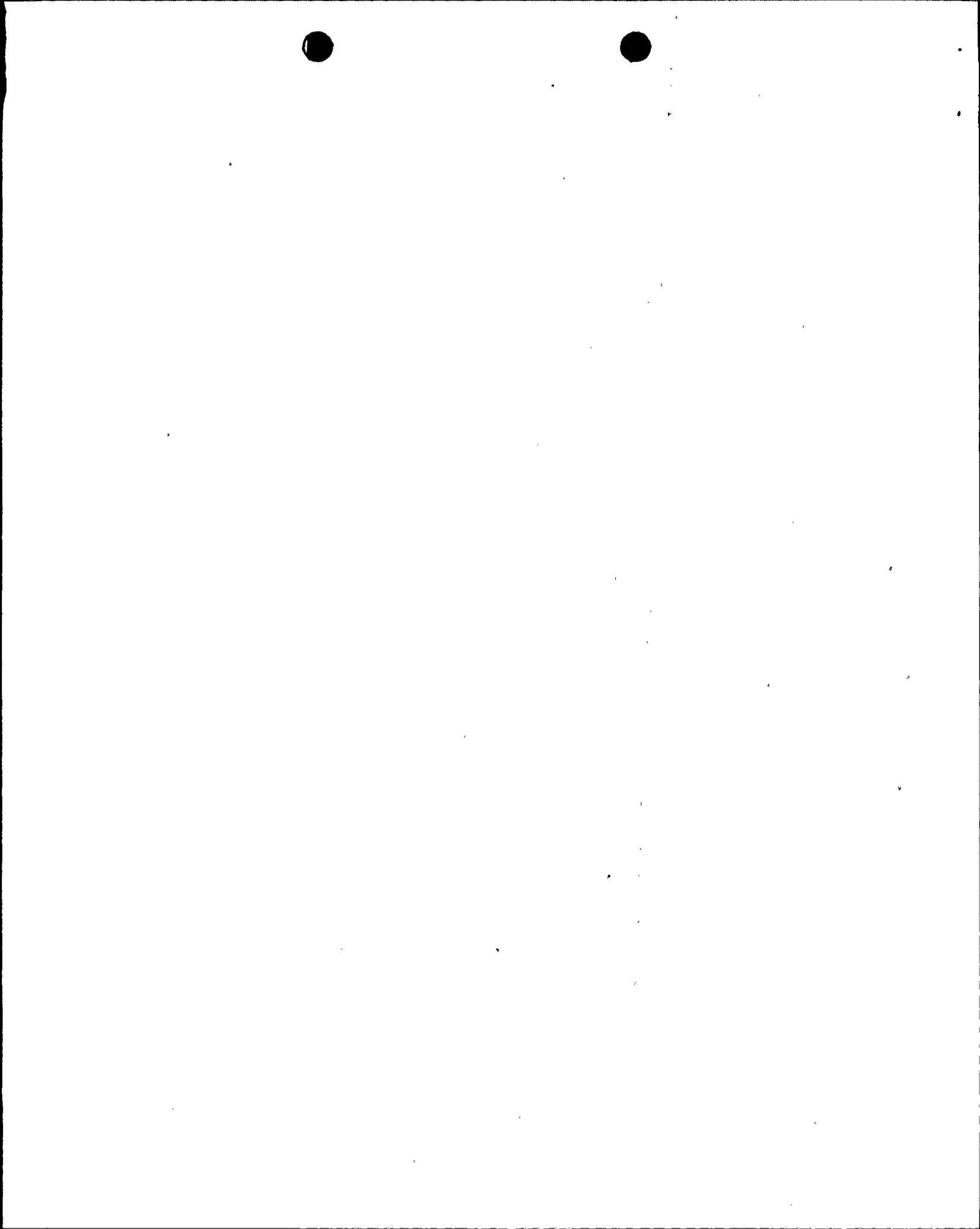
L. F. Miller
L. F. Miller, Chief, Operations
Section

4/2/91
Date Signed

Summary:

The licensee presented their Basis for Continued Operation and schedule for implementation.

The results of the requalification program evaluation were that the program was unsatisfactory.



REPORT DETAILS

1. Meeting Attendees

NRC:

- B. H. Faulkenberry, Deputy Regional Administrator, Region V
- K. E. Perkins, Deputy Director, Division of Reactor Safety and Projects, Region V
- D. F. Kirsch, Chief, Reactor Safety Branch, Region V
- R. Gallo, Chief, Operator Licensing Branch, NRR
- L. F. Miller Jr., Chief, Operations Section, DRSP, Region V
- T. Sundsmo, Operator Licensing Examiner, Region V
- G. Johnston, Operator Licensing Examiner, Region V

Supply System:

- A. L. Oxsen, Deputy Managing Director
- J. W. Baker, WNP-2 Plant Manager
- S. L. McKay, Manager of Operations
- D. R. Kobus, Manager of Technical Training
- R. B. Barmettlor, Manager of Nuclear License Training
- L. L. Grumme, Manager of Nuclear Safety Assurance

2. Discussion of the Results of Requalification Program Evaluation at WNP-2

The meeting convened at 8:30 a.m. March 12, 1991 at the NRC Region V office. Mr. Faulkenberry opened the meeting with a discussion of the purpose of the meeting, which was to review the results of the requalification program evaluation; an examination of the Supply System's justification for continued operation; corrective actions that have been implemented; and proposed corrective actions.

Mr. Miller presented the findings to date from the requalification program evaluation conducted from February 25, 1991 to March 8, 1991. Three of the four crews evaluated on the simulator examination were failed by the NRC examiners. Two of the four crews were failed by the facility evaluators. Five individuals failed the simulator examinations by the NRC examiners. The facility evaluators failed four persons in the simulator examination. Two of four operators assigned to round out the crews being evaluated were failed by the facility evaluators with one of those operators failed by the NRC examiners. The facility

evaluators and the NRC examiners disagreed on four pass/fail decisions. None of the operators were failed by the NRC in Job Performance Measures. One operator was failed by the facility evaluators on the JPMS. Two operators failed the written examination on NRC and facility evaluator grading.

Mr. Miller summarized the requirements that were not met for a satisfactory evaluation: 66% of the crews evaluated on the simulator must pass; 75% of the operators must pass all portions of the examinations; and there must be agreement between the NRC and the facility evaluators on 90% of the pass/fail decisions. He observed that none of these criteria had been met.

Mr. Oxsen spoke for the Supply System stating that the utility agreed that the performance of the operators was not up to their expectations. Mr. Oxsen further stated that the Supply System agreed with the conclusion that the operator regualification training program at WNP-2 was unsatisfactory.

The facility disagreed with the simulator examinations failures of Crew B and one of the individual failures. The disagreement arose from different interpretations of whether certain tasks were Individual Simulator Critical Tasks (ISCTs), and which individuals should be held responsible for them. Mr. Barmettlor presented the utility's position on those failures. Mr. Faulkenberry noted that although differences were present on these particular results, the facility and the NRC were in agreement with the evaluation that the regualification program was unsatisfactory.

3. Discussion of Basis for Continued Operation

Mr. Oxsen presented the facility's bases for continued operation with watchstanding crews until the operational evaluations of those crews were performed. Mr. Oxsen stated the performance of the operators during the job performance measures and written examination portions of the regualification examination established that the operators had sufficient job knowledge. One of the four crews was newly constituted of personnel who had individually passed the regualification exams. They would be given training on the simulator as a crew to build team skills prior to their assuming watch as a crew. The fourth crew's members had several years experience in the Control Room. Additional

personnel were to be added to all crews to provide support and relieve the crews of routine work, and assist in communication and support. Management and Quality Assurance would increase monitoring of shift operations. A root cause analysis utilizing some outside organization to identify corrective actions was being considered.

Mr. Perkins asked that the justification for continuing operation include addressing short term training of crews and lessons learned.

The Attachment to Bases for Continuing Operation (containing the licensee's results for the requalification evaluation), and the schedule presented by the utility for addressing training and implementing corrective actions were discussed.

4. Closing Remarks

Following a short caucus Mr. Perkins presented several issues that needed to be addressed prior to adjourning the meeting. Mr. Perkins stated that the NRC would conduct an operational evaluation on all four crews that would stand watch. Further, the NRC would need to be informed if the staff crew would be going on shift. Mr. Oxsen inquired why must the "B" crew, composed of previously examined personnel who had passed the requalification examination, also be evaluated. Mr. Perkins stated they must be evaluated as a crew because they had just been newly constituted as a crew.

Mr. Faulkenberry asked Mr. Oxsen to resummairize the rationale of why the utility had confidence in the four crews that will stand watch until the operational evaluations would be conducted. Mr. Oxsen expressed that the operators had been instructed in the management expectations of adherence to procedures. Mr. Oxsen went on to express his assessment of some of the potential causes of the program failure.

Mr. Faulkenberry asked the utility representatives if they had any safety concerns with the crews. Mr. Oxsen replied they did not. Mr. Perkins asked for a commitment by the utility to express management expectations to crew "B." Mr. Baker stated that the crew had been spoken to about those



expectations. Mr. Faulkenberry inquired if there had been any personal problems that may have affected the performance of any individual operators. Mr. Baker stated there had not been any individual operators that had a significant personal problem prior to the examinations. It was agreed that the Bases for Continued Operation would be revised to address the comments received and would be formally transmitted to the Region. The meeting was adjourned at this point by Mr. Faulkenberry.



JUSTIFICATION FOR CONTINUED OPERATION
FOR WASHINGTON NUCLEAR PLANT UNIT TWO
WITH AN UNSATISFACTORY LICENSED OPERATOR
REQUALIFICATION PROGRAM

JUSTIFICATION FOR CONTINUED OPERATION

FOR WASHINGTON NUCLEAR PLANT UNIT TWO WITH AN UNSATISFACTORY LICENSED OPERATOR REQUALIFICATION PROGRAM

Washington Public Power Supply System maintains confidence that WNP-2 can continue to operate in a safe and proficient manner. The bases for this conclusion are as follows:

1. All licensed operators on the three unexamined crews currently performing licensed duties on shift demonstrated their qualification proficiency by virtue of passing a joint NRC/Supply System requalification exam in February/March 1990. A fourth crew comprised of experienced licensed operators who passed either the 1990 or 1991 joint NRC/Supply System requalification exam has been created to allow for four shift rotation..
2. Supply System job knowledge is sufficiently high as indicated by the fact that only two operators of the seventeen tested did not pass the written exam (one of these with a grade of 79.1% and the other a grade of 77.6%) and only one operator failed the JPMS. This success rate indicates that the licensed operators at WNP-2 have high technical and operational knowledge.
3. There are currently a sufficient number of qualified licensed operators and non-licensed operators for an adequate shift rotation. Four shifts of operators on eight hour shifts are assigned. The added fourth shift consists of crew members that passed the March 1990 or 1991 joint NRC/Supply System requalification exam. This added shift has been given command and control team training to strengthen their capabilities to operate as a team on shift rotation. The current shift rotation schedule conforms to overtime requirements specified in the WNP-2 Plant Technical Specifications.

4. Operator crew makeup provides three experienced teams who have operated on shift together for some time. The additional fourth crew is comprised of experienced licensed operators who all participated in the February/March 1990 or 1991 exams and passed on an individual basis. Most of these individuals have been at WNP-2 long enough to have worked together on the same shift teams in the past. Additional personnel are also being added to the on shift crews to handle duties such as clearance order processing and other routine administrative functions. This will allow the on shift operations crew to focus on operational activities.
5. An additional SRO certified STA qualified individual is also being added to augment each shift in an "on call" status. This added STA will assist in the performance of emergency plan requirements in the event of an emergency. Duties of this individual will be defined in writing and incumbents will receive instruction on these duties prior to being assigned to shift responsibility. This is intended to assist the on shift crew management with the implementation of the emergency plan, relieving them of the burden of some of the emergency plan required tasks.
6. To provide additional assurance, the Supply System will continue current Plant management monitoring of shift operations on an increased basis during temporary four shift crew operation. The Operations Manager will also monitor performance of the four crews on an increased basis during this period of time.
7. The WNP-2 Plant QA Department will increase the monitoring activities of its Operations Surveillance Group for in plant activity during this period of four crew rotation. This group is comprised primarily of SRO certified QA Engineers and will focus on crew performance based activity surveillance.
8. As a result of preliminary determination, individual deficiencies in the requalification program have been identified by the Supply System and actions to correct them are in progress. The reasons for the program level failure of the Licensed Operator Requalification Program are being addressed by an independent Root Cause Analysis team. The Supply System is committed to implementing corrective actions which arise from this effort to bring the program into compliance.

Attachment 1 to JCO for Licensed Operator Requalification Program Unsatisfactory

Discussion

During the weeks of February 25 and March 4, 1991 the Supply System administered licensed requalification examinations to 17 licensed personnel. The examinations consisted of a written examination, job performance measures, and simulator examination. The simulator was assessed for team and individual performance. Four additional licensed personnel were included in the Simulator examination. During the examination, the licensed personnel were graded first by the Supply System Training Department and then by the NRC staff, thus providing the NRC with an assessment of the Supply System licensed operator requalification training program.

WNP-2 Exam Results

	RO Pass/Fail	SRO Pass/Fail	Total Pass/Fail
Written	4/1	11/1	15/2
JPM	4/1	12/0	16/1
Simulator			
a. Individual	4/5	5/7	9/12
b. Crew			1/3

Licensed Operator Requalification Program Evaluation

Overall Evaluation: Unsatisfactory

The facility performed an evaluation of the requalification program based on the examination results and the criteria of ES-601 Revision 6. The minimum sample size 12 for an NRC program evaluation was satisfied.

Criteria c.2.b.1 of ES-601 requires that each of three following criteria be met.

1. Criterion C.2.b.1.a of ES-601 requires that the Supply System grading be as conservative as the NRC grading on at least 90% of the pass/fail decisions. There is no penalty for the Supply System grading to a higher standard. This criteria does not apply to the overall test results but only to the written, simulator, and walk through portions of the examinations.

- a. The Supply System and NRC were in 100% agreement on 17 written examination pass/fail decisions.
 - b. The results of the walkdown examination were, the Supply System passed 16 of the 17 examined and the NRC passed all 17. More conservative results by the Supply System do not count as disagreement: Therefore, per this criterion the Supply and NRC are in 100% agreement.
 - c. The comparison results of the simulator individual evaluations were unsatisfactory. The Supply System failed 8 of 21 individuals and the NRC failed 7 of 21; however, 3 of the individuals failed by the NRC were not failed by the Supply System. Thus, the difference is 3 of 21, or 85% agreement.
 - d. The comparison of simulator crew evaluations was unsatisfactory. The Supply System passed 2 of 4 crews and the NRC passed 1 of 4 crews. This resulted in a 75% comparison agreement.
2. Criterion C.2.b.1.b requires that at least 75% of all operators pass the examination. Operators who participate due to crew composition requirements and who have previously passed the examination during the term of their license need not be included. The Supply System had 4 people in this category.
 - a. Based on the NRC results 12 of 17 or 70% passed the examination which is unsatisfactory.
 3. Criterion C.2.b.1.c requires that no more than 1/3 of the crews evaluated fail the examination.
 - a. Based on the NRC results 3 of 4 crews failed the simulator examination. The requirement of this criterion was not met.

Since each of the three criteria above must be met, and none were fully satisfied, the Supply System Licensed Operator Regualification Program is unsatisfactory.

In addition Criteria C.2.b.2 requires that if three or more of six additional requirements are found deficient then the regualification program shall be determined to be unsatisfactory. The Supply System Program was found deficient in 1 of the 6.

1. Criterion C.2.b.2.a requires that the Supply System evaluators concur with the NRC evaluators on all unsatisfactory crew evaluations. The Supply System and NRC differ on one crew evaluation.

Causes for failure

The Supply System has initiated a Level 1 Root Cause Evaluation (the highest and most rigorous root cause evaluation) to determine the causes of failure. A potential area for investigation is an apparent weakness in accident management techniques, including command and control, adherence to Plant Procedures, and crew communications.

Remediation

An action plan and schedule for the remediation of all crews is being developed and is presented in Attachment 3 to this JCO.

Shift Schedule

A new 4 shift rotation schedule for the remediation period has been developed. In addition to the shift work three of the crews (those to be tested March 19 and 20) will be provided with three simulator training periods. All of the above will be accomplished within the WNP-2 Plant Technical Specification overtime requirements. A further review is planned to determine the impact on the R6 refueling outage scheduled to begin April 13, 1991.

Shift Staffing

The four crew rotation provides for adequate licensed on shift staffing and complies with WNP-2 Plant Technical Specifications requirements for operational modes 1, 2, and 3. The required licensed staff includes a Shift Manager, a Control Room Supervisor, and two Reactor Operators. In addition, a non licensed Shift Technical Advisor is on site during operational modes 1,2 and 3.

A. Qualifications

1. Shift Manager
 - a. Current, active SRO License
 - b. Passed 1990 or 1991 requalification exam

2. Control Room Supervisor
 - a. Current, active SRO License
 - b. Passed 1990 or 1991 requalification exam

3. Reactor Operators
 - a. Current, active SRO or RO License
 - b. Passed 1990 or 1991 requalification exam

4. Shift Technical Advisor (STA)
 - a. SRO certified
 - b. technical degree or equivalent
 - c. trained with operations crew

5. An additional STA will be call during the remediation period. This is further explained in Attachment 2.

Shift Responsibilities

There are no shift responsibility changes planned.



On-Call STA

The on-call STA will be on call 24 hours a day. When offsite the on-call STA will carry an Emergency Notification pager.

The on-call STA will report to the Control Room upon declaration of any Emergency. In addition, the on-call STA can be called in at the Shift Manager's discretion.

The on-call STA will be utilized by the Shift Manager and Duty STA as required to aid the Control Room Crew in accident management. Typically these actions might include performing a comparison overview of ongoing accident mitigation activities and Plant procedures, emergency classification, core damage assessment, offsite dose projection, and preparation of emergency notification forms. The call in STA could also be used as the NRC Communicator if the Shift Manager chooses to use him in that capacity. All STAs are trained in performing these tasks and routinely perform them during operations crew simulator training.

UNP-2 UNSATISFACTORY REQUALIFICATION PROGRAM
 ACTION PLAN (Revision 0, 3/11/91) Page 1 of 2

	7 March 1991 14 21 28	4 April 1991 11 18 25	2 May 1991 9 16 23	6 June 1991 13 20 27
1. Preliminary examination results received (3/7, 7PM).	Unsatisfactory programs			
2. Disqualify operators who were failed by the NRC or the Sup- ply System. (3/7)	Twelve individuals			
3. Identify fourth operating crew and establish four section rotation. (3/8)	Reconstituted fourth crew — Annual Refueling Outage			
4. Prepare modules for team command and control training. 3/8	Δ			
5. Conduct team command and control training for recon- stituted crew. (3/9)	Δ			
6. Initiate compensatory measures per JCO. (3/10) - on call STA augmentation - increased management over- sight - increased QA monitoring	Compensatory measures			
7. Prepare operating crew upgrade sessions. (3/9-12)	—			
8. Prepare and validate Oper- ational Evaluation scenarios. (3/12-18)	NRC—			
9. Establish root cause team. (3/8)	Δ			
10. Conduct root cause evaluation - Interview the candidates that were examined. - Interview a sample of operators who were examined last year. - Interview any of the Oper- ators who fail the Oper- ational Evaluation. - Prepare preliminary report. (3/8-29)	Root Cause Δ—Δ Δ—Δ Δ—Δ			
11. Commence operating crew upgrade sessions. (3/11-16)	—			
12. NRC to conduct Operational Evaluation. (3/19-20)				
13. Upgrade replacement operator class on lessons learned from requalification examination. (3/20-23)	—			
14. Conduct replacement operator certification examination. (3/25-29)	—			

LWP-2 (NSATISFACTORY REQUALIFICATION PROGRAM)
 ACTION PLAN (Revision 0, 3/11/91) Page 2 of 2

	March 1991 7 14 21 28	April 1991 4 11 18 25	May 1991 2 9 16 23	June 1991 6 13 20 27
15. Conduct replacement operator examination. (4/2-5)				
16. Prepare remediation plan. (3/21-4/7)	[Remediation Plan]			
17. NRC review of remediation plan. (4/8-12)		[NRC]		
18. Receive approval from the NRC to remediate. (4/12)		Δ		
19. Commence remediation process. - Review of materials identified as knowledge deficiencies. - Examine on this material. - Conduct simulator training. - Conduct simulator evaluations. - Conduct final dynamic simulator examinations. (4/22-5/12)			[Remediate]	
20. Identify long term program improvements and present to the NRC. - simulator training - evaluation standards - administrative processes (3/25-4/14)		[Corrective action plan]		
21. Implement corrective actions. (in accordance with plan)		Δ Implement CA's per plan		
22. NRC reexamination. (5/13-17) - written - JPT's (as appropriate) - dynamic simulator			[NRC]	
23. Complete Supply System annual requalification examinations. (6/17-28)				[Annual Requa]