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OXSEN,A.L. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
MARTIN,J.B. Region 5 (Post 820201)

SUBJECT: Forwards justification for continued plant operation w/ unsatisfactory Licensed Operator Requalification Program,per 910312 meeting w/NRC.Individuals & crews who failed util or NRC exam removed from licensed duties.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

March 14, 1991
G02-91-052

Docket No. 50-397

J.B. Martin
Regional Administrator
United States Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Subject: BASIS FOR CONTINUED OPERATION FOR WNP-2, FOLLOWING PROGRAM FAILURE OF THE LICENSED OPERATOR REQUALIFICATION PROGRAM

On March 12, 1991, representatives from the Supply System met with members of your staff to discuss the unsatisfactory crew and individual performance during our recent requalification examinations, as well as the failure of our Requalification Program. While our staffs might disagree on individual issues, we are in total agreement that our program did fail and that selected licensed personnel did not demonstrate performance to our standards. The Supply System takes this situation very seriously and is committed to an aggressive root cause analysis and corrective action plan.

I have personally reviewed our basis for continued operation and have discussed the details with the Plant Manager and the Technical Training Manager and their staffs. I have concluded that the safe operation of WNP-2 should be allowed to continue based on the following:

1. We immediately removed those individuals and crews from licensed duties who failed either the Supply System or NRC examination.

2. We have created a four-shift rotation comprised of licensed operators who successfully demonstrated their abilities during a joint NRC/Supply System Requalification Examination in either 1990 or 1991. Three of these shifts have trained together during the last requalification cycle and the fourth shift is composed of seasoned licensed operators who have recently completed additional crew training on the simulator.

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3. We have developed a comprehensive four-module training program that focuses on the preliminary lessons learned from our recent exam failures and are presenting this to each of the four shifts. This training includes evaluation to ensure the lessons are indeed learned.

4. We have structured the crew compliment to reduce the administrative duties of the required licensed operators.

5. We will provide increased management and quality assurance monitoring of Control Room activity to ensure our corrective action plan is effective. The details of these initiatives are described in the attached document.

In addition, I will personally discuss performance expectations and recent lessons learned with each of the four crews with emphasis on the Supply System policy regarding adherence to Emergency Operation Procedures prior to the upcoming operational evaluation.

My staff is ready to fully support the operational evaluation of our four shift crews on March 19 and 20, 1991. The Supply System is committed to provide the necessary resources to return to a six-shift rotation and to regain the program status of our Requalification Program.

Sincerely,

A.L. Oxsen
Deputy Managing Director (MD #387)

sg

Attachment

cc: Document Control Desk - NRC
P.L. Eng - NRC
R.C. Sorenson - NRC (901A)
BPA (399)
NS Reynolds - Winston & Strawn

JUSTIFICATION FOR CONTINUED OPERATION

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

The 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 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 a four shift rotation. See Attachment I for details of Crew personnel qualifications.

2. Operations personnel 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 Job Performance Measurements. 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 as operational teams. The added fourth shift consists of crew members that passed the March 1990 or 1991 joint NRC/Supply System requalification exam. The current shift rotation schedule conforms to overtime requirements specified in the WNP-2 Plant Technical Specifications.

4. The added shift was given command and control team training to strengthen their capabilities to operate as a team on shift rotation. This training was conducted by the Operations Manager and a Simulator Instructor on March 10, 1991. The training included a round table discussion of expectations in accident management, procedure adherence, and crew communications. The issues addressed in this JCO were also presented. The crew then ran five scenarios in the simulator. Following each scenario, the Operations Manager reviewed the scenario with the crew, stressing his expectations for crew performance.

5. A four phase training sequence has been developed to both reinforce and strengthen crew performance. The four phases are 1) an in-depth discussion with Operations Management (Operations Manager or Assistant Operation Manager) on identified crew weaknesses, management expectations, and crew performance, 2) a table top discussion on EOP usage and development, 3) simulator training focusing on accident management using dynamic scenarios with freeze action to allow for discussion and correction, and 4) a series of formal examination scenarios designed to evaluate performance. All of the above training will be completed by March 18, 1991. See Attachment II for a detailed outline of the training.

6. Operating crew composition includes 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 shift in the past. One additional operationally experienced person has been assigned to Crews B, D, and E to handle operational administrative functions such as clearance order processing. This will allow for two licensed Control Room Operators on each crew to be dedicated to Reactor Operator tasks. Further, the Operations Manager will review the daily work schedule to ensure adequate crew staffing is available to support proposed work. Work activities will be deleted from the schedule if the Operations Manager determines they would unnecessarily burden the Operations Crew.

7. An additional SRO-certified, STA-qualified individual is available to augment each shift on an on-call basis. The on-call STA will report to the Control Room within one hour of an Emergency declaration or Shift Manager request. The duties of the on-call STA are described in Attachment III. It is intended that the on-call STA will assist the on-shift crew management with the implementation of the emergency plan, allowing them to focus on more operationally demanding aspects of the emergency plan.

8. The Supply System will increase Plant Management monitoring of shift operations to at least once per day during four shift crew operation. The overviews will be conducted by the Deputy Managing Director, Plant Manager, Operations Manager, or Assistant Operations Manager. In addition to normal monitoring activities, compliance with this JCO will also be monitored. Each overview will be documented and sent to the Deputy Managing Director.

9. The WNP-2 Plant QA Department will increase the monitoring activities of its Operations Surveillance Group for in-plant activities 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. See Attachment IV for Surveillance Details.

10. As a result of preliminary determination, specific deficiencies in the requalification program have been identified by the Supply System. Actions to correct the deficiencies are in progress. The fundamental 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 the root cause analysis in order to bring the program into compliance. Preliminary Root Cause results are expected by March 28, 1991. See Attachment V for details of Root Cause Team personnel.

Attachments to JCO

I. Current Four Shift Operation Crew Personnel Details

II. Outline of Four Phase Training

III. On-call STA Duties

IV. QA Surveillance Details

V. Root Cause Team

VI. Additional Details for JCO for Operator Requalification Program Unsatisfactory

Attachment 1 to JCO

WNP-2 Operations Crew Experience and Requalification Details

Name	Crew	Position/ License	Years of WNP-2 Operating Experience	Date Last SS Requal	Date Last NRC Requal	Part of Crew that Failed 91 Requal
Becker	B	SM/SRO	8	Feb/Mar90	Mar91	
Taylor	B	CRS/SRO	8	Feb/Mar90	Mar91	A
Prescott	B	SSS/SRO	8	Feb/Mar90	Mar91	F
Gallagher	B	SSS/SRO	8	Feb/Mar90	Mar91	
Herrington	B	CRO/RO	8	Mar91	Mar90	B
Westergard	B	CRO/RO	5	Mar91	Mar90	B
Mann	C	SM/SRO	8	Feb/Mar90	Feb90	
Estes	C	CRS/SRO	8	Feb/Mar90	Feb90	
Henderson	C	SSS/SRO	3	Feb/Mar90	Feb90	
Blake	C	CRO/RO	5	Feb/Mar90	Feb90	
Hughes	C	CRO/RO	5	Feb/Mar90	Feb90	
Ramos	C	CRO/RO	5	Feb/Mar90	Aug90	
Langdon	D	SM/SRO	8	Feb/Mar90	Feb90	
Rockey	D	CRS/SRO	8	Feb/Mar90	Feb90	
Hendrick	D	SSS/SRO	6	Feb/Mar90	Mar90	
Gregory	D	CRO/RO	5	Feb/Mar90	Feb90	
Woods	D	CRO/RO	5	Feb/Mar90	Feb90	
Hancock	E	SM/SRO	8	Feb/Mar90	Feb/Mar90	
Zimmerman	E	CRS/SRO	8	Feb/Mar90	Feb/Mar90	
Strote	E	SSS/SRO	8	Feb/Mar90	Feb/Mar90	
Nelson	E	CRO/RO	5	Feb/Mar90	Feb/Mar90	
Ruckert	E	CRO/RO	4	Feb/Mar90	Feb/Mar90	

Attachment II to JCO

CONTENT OUTLINE OF OPERATOR TRAINING ADDRESSING INITIAL LESSONS LEARNED FROM THE 1991 LICENSED OPERATOR ANNUAL REQUALIFICATION EXAMINATION

Based on initial examination analysis, the following training sequence has been developed and implemented to address with each operating crew the significant lessons learned from the conduct of the recent Licensed Operator Annual examination.

The elements of this training sequence are as follows:

Module 1. An indepth discussion of management expectations and administrative issues. The intent is to reinforce and clear up any identified administrative misconceptions.

Module 2. A table top discussion of E.O.P. issues. This will focus on issues involving E.O.P. usage and development.

Module 3. Training on accident management conducted in the simulator. This will involve the execution of dynamic scenarios which allow for freeze action discussion and correction.

Module 4. A series of formal examination scenarios that will be developed and conducted on each crew to evaluate crew comprehension and understanding of the materials covered in modules one, two and three. Each scenario will inc scenario critique and individual questioning.

MODULE 1. MANAGEMENT EXPECTATIONS AND ADMINISTRATIVE ISSUES

DISCUSSION ITEMS:

1. Emphasize that no question is too stupid
2. Shift Manager is responsible to implement corrective actions when identified.
3. All administrative expectations will be resolved and absolutely complied with.
4. Emphasize training module purposes
   - Modules 1 - 4 (Scope and Content)

5. Review Sequence Of Events
   - Basis of Programmatic Failure
   - Root Cause team
   - Crew restructuring
   - Operational Evaluation
   - Hot License class future status
   - Requal annual examination suspension

6. Review all Individual Simulator Individual Critical Tasks (ISCTs) and associated performance indicators.

7. Detailed review of all crew and individual failures to emphasize the basis for failure.

8. Specific Lessons Learned Thus Far.

COMMUNICATIONS

a. Lack of specific instructions to plant and control room operators led to some confusion.
   - Failed to use EPN or other equipment identification.
   - Inadequate use of plant wide communications to increase awareness of plant personnel.
   - Failure to provide specific instructions.
     - Control pressure between x and y
     - Reduce power to x

b. Failure to acknowledge and follow up on communications and prompt from other crew members such as:
   - Do we need to initiate ARI?
   - Should we trip the recirc pumps?

c. Failure of CROs to ensure that CRS and SM heard or understood messages sent.

USE OF INDICATIONS

d. Failure to use redundant indications and information.
   - Indicating lights, voltage, and breaker indication to verify DG was closed onto bus when it was manually tripped.
   - Failure to identify and recognize automatic response of ESF equipment.
     - HPCS-V-4 failure to open
   - Didn't recognize when or if plant was responding correctly to actions taken.

PROCEDURES

e. Overall plant procedure usage was good up to the point of using the EOPs.
   - Good use of alarm response, abnormals and Tech Specs.

f. Most crews failed to follow the EOPs as they were written.
   - Attempts to rationalize steps and actions taken.
   - Some attempts to second guess or outsmart scenarios.

COMMAND AND CONTROL

g. CRS tended to lose focus.
   - Easily distracted by unimportant plant parameters.
   - Attention was given to minor details during an ATWS.

CREW PROBLEMS

h. Overall control board awareness was weak.
i. Didn't back up other members of the crew.
   - No second verification of indications.
j. Inadequate follow-up on all possible avenues to mitigate degraded plant conditions.
   - RCIC-V-8 manual closure.

SIMULATOR

k. Review physical differences between the simulator and the main control room locations.
   - Fuse holders
   - Panel locations (simulator is different than the plant)
   - Key lockers.

9. Additional Background Information Covering the Simulator Examination Lessons Learned.

a. Operator Stress
   - Failure to take actions to reduce stress prior to examination

b. Failure to follow the EOPs
   - Lack of totally clear management expectations in the use of EOPs (second guessing the EOPs)

c. EOP knowledge deficiencies
   - clear understanding of entry and exit requirements
   - application of stated level control bands
   - differences between rev 4 EOPs and earlier revisions of the EOPS

d. Less than optimum communications among the crews
   - two way communications poor (poor acknowledgement of information)
   - Failure to provide specific instructions, such as operating control bands (directions were non-specific)
   - Lack of response to directions from the CRS to CRO
   - Lack of response on the part of the CRS when receiving info from the CRO (i.e. CRO did not ensure the CRS understood the information, no repeatbacks)

e. Less than optimum control board awareness
   - Failure to use redundant indications and information
   - Failure to follow-up on previous indications and information
   - Failure to recognize and correctly respond to indications
   - Failure to recognize automatic response of ESF equipment

f. Less than optimum command and control
   - Crews did not back-up each other as effectively as possible
   - No second verification of indications and operating configurations
   - Loss of the big picture on the part of individual crew members (CRS tended to lose focus)
   - CRS did not periodically let the crew know where they were in the EOPs

g. Less than optimum accident management strategies utilized by the crews

MODULE 2 EMERGENCY OPERATING PROCEDURE ISSUES

I. PPM 5.1.1, RPV Control
   A. Entry Conditions
      1. Re-enter procedure when another entry condition occurs
      2. Possible exit from procedures
         a. Procedure terminating cues
         b. Emergency no longer exists and no entry conditions present

   B. RPV Level Control Steps
      1. Verification of Isolations, ECCS response, and EDG response
         a. Reminder to check subsequent to entry if appropriate signals occur at a later time
      2. Discuss reasoning for exiting to Emergency Depressurization and then RPV Flooding if RPV Level cannot be determined
      3. Describe reasons for terminating injection if S.P. Level reaches 52'
      4. Discussion of RPV injection systems:
         a. Order of preferred use is not required, but recommendation. Must use based on plant conditions.
         b. Caution against depressurizing in excess of 100 degrees per hour in order to reduce RPV pressure below shut-off head of low pressure systems.
         c. Describe priorities of cool down rate vs. level restoration.
            1. If cool down rate cannot be controlled, restore level without regard for rate of cool down.
            2. All other cases, cool down rate takes priority over restoration as long as RPV level is > TAF

      5. Resetting ADS timer to prevent depressurization as long as RPV level is > TAF

      6. Discuss isolating leakage paths with suspected core damage.
         a. Discuss core damage indications

      7. Discuss alignment of Normal/ECCS injection sources

      8. Discuss alignment of Alternate Injection Sources

9. Emphasize being prepared to initiate ADS AT TAF
   a. Discussion of PPM 5.1.3, Emergency Depressurization
      1. Discuss reasoning for preventing LP ECCS form injecting with a high D/W pressure signal present during depressurization.
      2. Describe consequences of not preventing injection if depressurizing during an ATWS.
      3. Explain reason for verification of S.P. Level prior to opening SRVs.
      4. Discuss basis for ensuring at least 5 SRVs open
         a. Describe actions to be taken if all 7 ADS SRVs do not open.

10. Remind of override stating that RPV level is increasing and path to take when it does increase.

11. Discuss Steam Cooling without high volume injection systems available.
    a. Exit to Emergency Depressurization when a high volume system is available.
    b. When level indication is no longer available, exit to Emergency Depressurization and then RPV Flooding.
    c. Review RPV Flooding
       1. Describe differences with the reactor shutdown and during an ATWS.

12. Describe sequential methods of maintaining adequate core cooling when submergence is not possible.
    a. At least 2/3 core height and rated spray flow
    b. At least 6000 gpm (HPCS or LPCS)
    c. Containment Flooding

C. RPV Pressure Control Steps
   1. Describe purpose for all override boxes
   2. Explain why pressure is to be reduced to 930 psig if SRVs are cycling
      a. Describe conditions under which this pressure band is not appropriate
         1. MSIVs shut
         2. Condenser not available
         3. DEH malfunctions
   3. Discuss possible pressure bands
      a. Below HCTL
         1. Describe consequences of exceeding HCLL
      b. Below SRVTPLL
         1. Describe Consequences of exceeding SRVTPLL
      c. Below 1037 psig
         1. Preferred systems
            a. Bypass valves
            b. SRVs
            c. Alternate pressure control systems
         2. Discuss reasonable pressure band (800 - 1000 psig)

   4. Describe sequence of events to initiate cooldown after stabilizing RPV pressure

   5. Discuss exit of procedure

D. RPV Power Control Steps
   1. Exit to PPM 3.3.1, Reactor Scram

II. PPM 5.1.2, Failure to Scram
   A. Discuss procedure entry

   B. Discuss first override to exit procedure

   C. Explain differences between RPV Pressure Control in PPMs 5.1.1 AND 5.1.2

   D. Discuss flow paths in RPV Level Control section of procedure
      1. Reasoning for inhibiting ADS and consequences of not doing so with LP ECCS injection
      2. Level band of Level 1 to Level 8
         a. Latitude allowed operators with this band
      3. Forced Level Power Control
         a. Conditions
            1. > 5% power
            2. > 110 degrees in S.P. Pool
            3. Heat input into containment
            4. Less than 2 SLC pumps operating
         b. Describe effects RPV level has on power during this control strategy
         c. Discuss exit and level restoration
      4. Discuss RPV level limit of -192" (Minimum Steam Cooling Water Level)
      5. Discuss exit from procedure

   E. Describe Power Control Strategy
      1. ARI initiation is quick back-up for RPS failures
      2. Power reduction essential for containment response mitigation
         a. Purpose for running back and down shifting before tripping if TG or RFPs running
         b. Tripping pumps irrespective of power to flow map regions
      3. Removal of RPS fuses for electric ATWS
      4. Resetting/bypassing ARI required to reset scram
      5. Preferred method of inserting rods
         a. If scram can be reset
            1. Scram/reset/rescram
            2. Individual rod scrams
         b. Scram cannot be reset
            1. Driving rods at P603
            2. Individual scrams by manually venting O/P areas
      6. Describe need to inject SLC at 110 degrees S.P. temperature
         a. Action to take if both SLC do not inject
         b. Alternate injection
      7. Discuss exit to PPM 5 1.1

III. PPM 5.2.1, Primary Containment Control

   A. D/W Temperature Control
      1. Review methods of controlling temperature

2. Review consequences of spraying D/W if:
   a. S.P. level is > 52'
   b. DW/P and DW/T are on wrong side of DSIL curve

B. S.P. Temperature Control
   1. Emphasize that procedure calls for ALL AVAILABLE S. P. COOLING
   2. Discuss coordination of S.P. temperature and RPV pressure to maintain within HCTL
      a. Describe consequence of exceeding HCTL

C. Primary Containment Pressure Control
   1. Remind crews that venting is possible but not appropriate with a leak into the D/W
   2. Emphasize need to monitor W/W pressure
      a. Used for all strategy changes
      b. Use of S.P. sprays
      c. Describe unstable steam condensation with < 5% (1% actual) non-condensibles in steam
      d. Explain need to spray D/W if W/W pressure exceeds 8 psig
      e. Consequences of exceeding PSPL and need to E/D
      f. Actions to be taken if W/W pressure exceeds PCPL

D. Primary Containment Water Level
   1. Low level
      a. Describe calculation of dT-hc
   2. High Water level

MODULE 3. ACCIDENT MANAGEMENT TRAINING

I. Discussion
   A. Use of simulator
      1. Freeze the simulator when:
         a. Requested by the crew
         b. Confusion on the part of any crew member is apparent
         c. Inadequate performance of any competency is apparent
            1. Procedure use
            2. Panel awareness
            3. Communications
            4. Shift direction/management
            5. Board manipulations
            6. EPIPs and Tech Spec use

      2. Fully discuss appropriate aspects of the scenario during freeze
         a. Accident mitigation strategy
         b. Potential problems and contingency planning
         c. Consequences of following incorrect EOP paths
         d. Most efficient resource management to accomplish desired outcome

II. Scenarios
   A. Loss of High Pressure Feed
      1. Initial Conditions 100% power

2. RFP A trips (inadvertent manual trip)
   a. Monitor Runback, power reduction, and RPV level
   b. Investigate cause of trip
3. Loss of Start-Up and Back-up power
   a. Investigate cause of loss
   b. Comply with Tech Spec LCOs and TSAS
4. All CBPs trip and DG-3 Lock-out
   a. Direct Reactor scram
   b. Verify Reactor shutdown
   c. Initiate RCIC for RPV/L control
   d. Take manual RPV/P control with SRVs
   e. Investigate cause for loss of HPCS DG
5. RCIC trips
   a. Investigate cause of trip and attempt to restore
   b. Monitor Containment parameters as MSIVs close (-50" RPV/L)
6. SP/T > 90 degrees
   a. Initiate RHR-P-2A/B in S.P. Cooling
   b. Request maintenance assistance to restore HPCS and/or RCIC
   c. Verify at least 2 ECCS systems available for RPV injection
   d. Direct ADS timer resetting to prevent initiation
   e. Brief crew regarding Emergency Depressurization at TAF
7. Electricians discover loose lead on HPCS Lockout relay (when RPV/L is below -129")
   a. Direct repair and restoration of HPCS
   b. Direct RPV/L restoration to +13" to +54" with HPCS
8. RPV/L between +13" and +54"
   a. Direct FAZ recovery

B. Loss of High Pressure Feed with Failure of ADS SRVs
1. Initial Conditions 100% power
2. Loss of Start-Up and Back-up power
   a. Investigate cause of loss
   b. Comply with Tech Spec LCOs and TSAS
3. Both RFPs trip
   a. Direct Reactor scram
   b. Verify Reactor shutdown
   c. Initiate RCIC for RPV/L control
4. RCIC trips
   a. Investigate cause of trip and attempt to restore
   b. Monitor Containment parameters as MSIVs close (-50" RPV/L)
   c. Take manual RPV/P control with SRVs
   d. Direct HPCS injection to restore RPV/L
5. DG-1 Fails
   a. Investigate cause of failure
6. HPCS Pump trips
   a. Investigate loss of HPCS pump
7. SP/T > 90 degrees
   a. Initiate RHR-P-2B in S.P. Cooling
   b. Request maintenance assistance to restore HPCS, RCIC, and DG-1
   c. Verify at least 2 ECCS systems available for RPV injection

d. Direct ADS timer resetting to prevent initiation
e. Brief crew regarding Emergency Depressurization at TAF
f. Direct RPV E/D when RPV/L reaches -161"

8. 3 SRVs fail to open
   a. Open additional SRVs until 7 SRVs are open
   b. Direct action to restore RPV/L to between +13" and +54" with RHR-P-2B/2C
   c. Control RHR injection to restore RPV/L
   d. Return RHR-P-2B to S.P. Cooling

C. Primary Leak
1. Initial Conditions at 100% power
2. Small leak in D/W develops
   a. Note increase in unidentified leakage
   b. Note increase in D/W pressure
   c. Direct reactor scram
3. Loss of TR-S upon generator trip
   a. Note available power (TR-B and DGs)
   b. Initiate RCIC for RPV/L control
   c. Monitor Containment parameters
   d. Initiate W/W Spray with increasing D/W pressure
4. W/W pressure reaches 8 psig
   a. Verify SP/L < 52'
   b. Verify DW/P and DW/T within DSIL
   c. Initiate DW spray to control containment pressure
5. RPV/L decreasing with RCIC injection
   a. Direct HPCS injection to control RPV/L between +13" and +54"
6. DW/P decreasing to 1.68 psig
   a. Direct DW Spray termination after WW/P is below 1.68 psig
   b. Direct and RPV cool down not to exceed 100 degrees per hour

D. Electric ATWS
1. Initial Conditions 100% power (Electric ATWS and failure of ARI present).Directed to begin a down power for a sequence exchange
2. Report of a fire in SH-5
   a. Direct Fire Brigade to respond (per Fire PPM)
   b. Deenergize SH-5 (Trips RRC-P-1A)
   c. Take actions for entry into single loop
   d. Comply with TSAS for single loop
3. Turbine trips
   a. Take scram actions and recognize failure to scram
   b. Initiate ARI
   c. Inhibit ADS
   d. Run-back RRC-P-1B, x-fer to slow speed, then trip
   e. Direct RPV level and pressure control
      1. Maintain RPV/P between 930 and 1000 psig to maximize heat rejection to condenser
   f. Monitor SP/T for 110 degrees
   g. Direct SLC injection if reaches 110 degrees

4. Realize scram valves not open

a. Direct RPS fuse removal
b. Pull RPS fuses and verify all rods inserted

5. All rods fully insert
   a. Exit PPM 5.1.2 and direct RPV/P and RPV/L control per PPM 5.1.
   b. Execute PPM3.3.1, Reactor Scram

E. Hydraulic ATWS
1. Initial Conditions 100% power (hydraulic ATWS present with a blocked/full SDV)
2. Turbine Trips (pressure spike due to power being beyond the capacity of bypass valves initiates ARI and RRC-P trips)
   a. Recognize failure to scram
   b. Verify ARI initiated
   c. Inhibit ADS
   d. Verify RRC-Ps tripped
   e. Control RPV/P between 800 and 1000 psig with SRVs
   f. Direct RCIC initiation for RPV/L control
   g. Monitor SP/T
3. SP/T approaches 110 degrees
   a. Initiate SLC before reaching 110 degrees
   b. Declare SAE
4. Note only one SLC pump operating
   a. Direct an RPV/L reduction until:
      1. Power is < 5
      2. All SRVs remain closed w/ DW/P < 1.68#
      3. RPV/L is between -161" and -192"
   b. Drive control rods at P-603
      1. Start both CRD pumps
      2. Close CRD-V-34
      3. Bypass RSCS and RWM
      4. Insert rods with "continuous insert"
   c. Maintain RPV/L at the level present when RPV power decreased to < 5%

MODULE 4 EXAMINATION SCENARIOS

I. Examination Conduct
A. Set-up simulator

B. Select Examination Scenarios (2 minimum 3 if time permits)
1. 82-RDE-0089-E1, Loss H. P. Feed
2. 82-RDE-0089-E9, Loss TSW/ATWS
3. 82-RDE-0089-E12, Loss Vacuum/SOBPV
4. 82-RDE-0089-E16, RCIC Leak Into Reactor Building
5. 82-RDE-0089-E20, Station Blackout
6. 82-RDE-0089-E21, ATWS/SLC Pump Failure
7. 82-RDE-0089-E22, LOCA/HPCS-v-4 Failure

C. Brief Outside Evaluators

D. Review Examiners briefing checklist with crew in classroom

E. Provide Shift Turnover and start exam

F. Terminate exam at Termination Cue

G. Ask questions as appropriate
   1. Staff evaluators first
   2. Outside evaluators next
   3. Record evaluation results
   4. Compare with outside evaluators' results

II. Repeat for additional scenarios

III. Critique crew's performance

Attachment III to JCO

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 report to the Control Room within one hour of notification.

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.

Attachment IV to JCO

QA Surveillance Plans

WNP-2 Plant QA Department Operations Surveillance Group plans to perform a surveillance of the on-shift licensed operations staff for the purpose of determining the operators ability to focus on plant operation without undue distractions during the period of four crew rotation. The surveillance plan includes observation in the control room approximately every other day before and after morning and afternoon shift turnovers for a total of two hours minimum. The work schedule and work control activities will be reviewed on a daily basis with an eye to impact on the operational crews. The surveillance scope consists of evaluating:

Staffing and Crew compliment
Minimization of Unusual Evolutions or Tests
Communications
Control of abnormal operations (planned and unplanned)
Support provided by STAs
Unscheduled work carryovers to following shifts - (control of workload)
Minimizing of participation in routine administration tasks
Control Room Climate

Reports of each surveillance evaluation will be sent to the Plant Manager and Operations Manager.

Attachment V to JCO

Licensed Operator Requalification Program Unsatisfactory
Root Cause Evaluation Team

Name	SS Organization	SS Position
Schumann*	L&A OEA	Principal Engr
Alton	L&A OEA	Principal Engr
Higgins	L&A QA	Senior Engr
Sawyer	Operations	Shift Manager
Veitenheimer	Training	Principal Training Specialist

* Root Cause Team Leader
L&A OEA = Licensing and Assurance Operational Events Assessment
L&A QA = Licensing and Assurance Quality Assurance (WNP-2 Plant)

Attachment VI to JCO

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 four people in this category, two of whom failed in the 1991 simulator examination.

   a. Based on the NRC results, 10 of 17 (58%) 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 Requalification 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 requalification 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 I 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

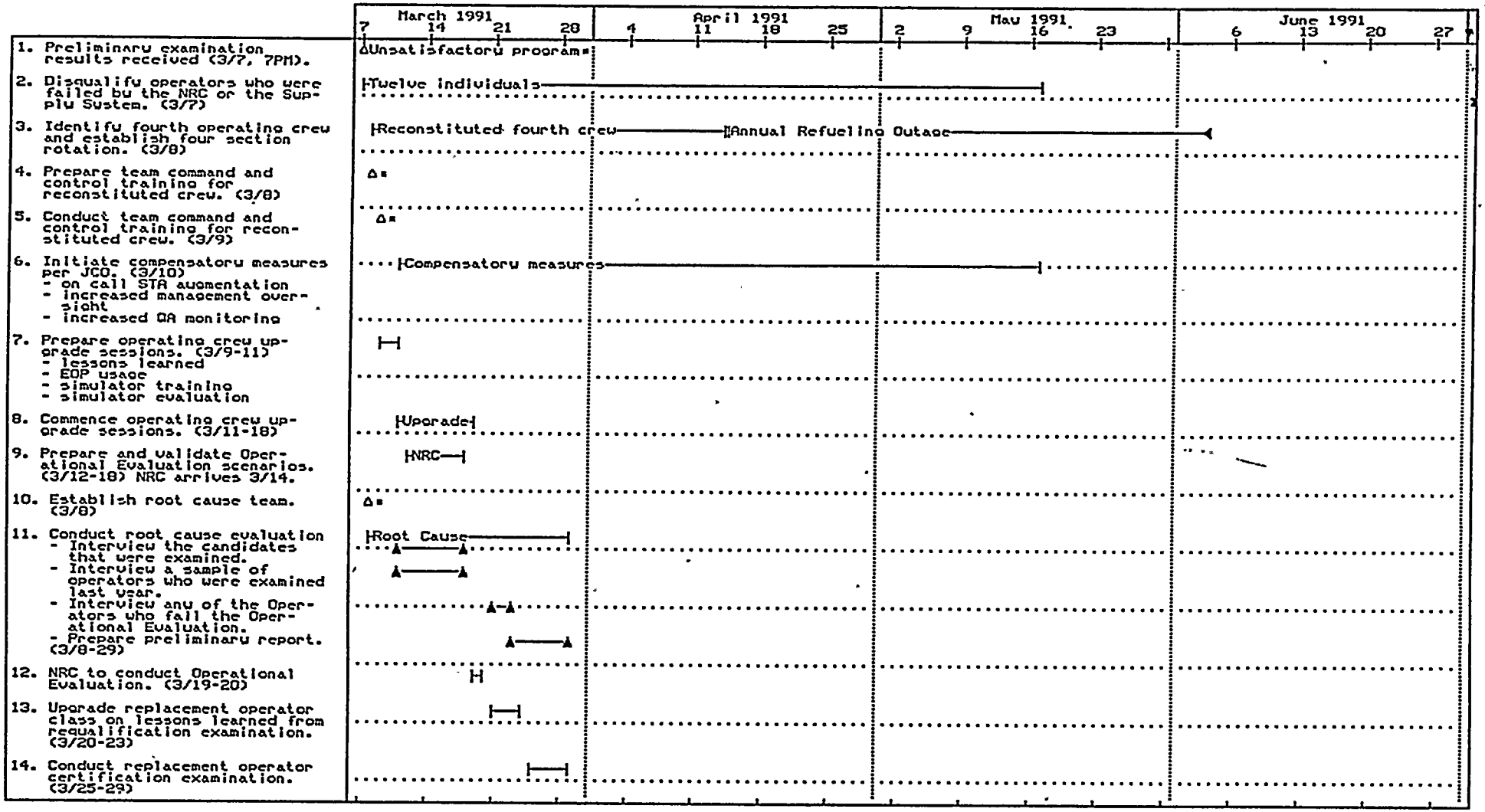
4. Shift Technical Advisor(STA)
   a. SRO certified
   b. technical degree or equivalent
   c. trained with operations crew

5. An additional STA will be call during the remediation period.

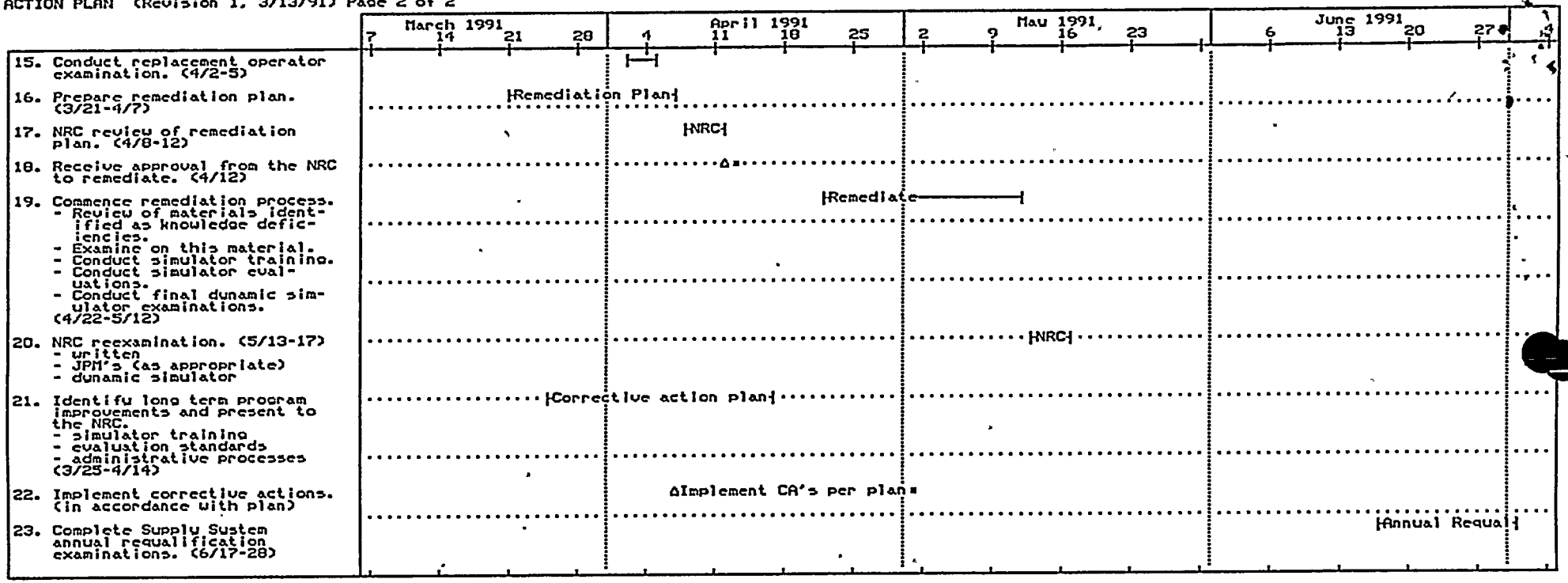
Shift Responsibilities

There are no shift responsibility changes planned.

WNP-2 UNSATISFACTORY REQUALIFICATION PROGRAM
ACTION PLAN (Revision 1, 3/13/91) Page 1 of 2



ATTACHMENT I TO JCO ATTACHMENT VI


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)
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. NRC reexamination. (5/13-17)
- written
- JPM's (as appropriate)
- dynamic simulator
NRC
21. Identify long term program improvements and present to the NRC.
- simulator training
- evaluation standards
- administrative processes
(3/25-4/14)
Corrective action plan
22. Implement corrective actions. (in accordance with plan)
Implement CA's per plan
23. Complete Supply System annual requalification examinations. (6/17-28)
Annual Requal