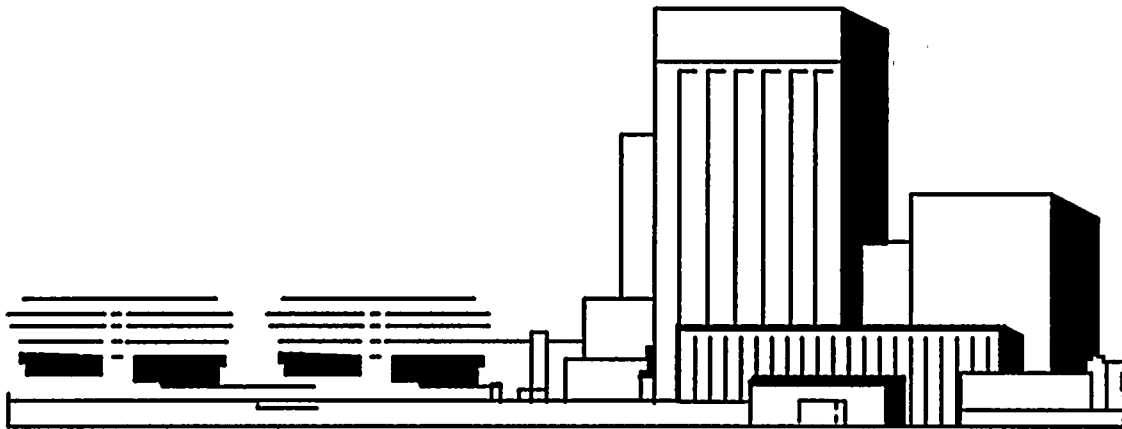


# Quality Department Audit Report



## WNP-2 EMERGENCY PREPAREDNESS PROGRAM

Audit 298-008  
April 10, 1998

Audit Dates: February 23 through March 5, 1998  
Entrance Meeting: February 23, 1998  
Exit Meeting: March 18, 1998



WASHINGTON PUBLIC POWER  
**SUPPLY SYSTEM**

9805070336 980428  
PDR ADOCK 05000397  
F PDR

## TABLE OF CONTENTS

Executive Summary.....	1
Purpose and Scope.....	2
Report Details	
Section 1.0 Emergency Plan Implementing Procedures .....	2
Section 2.0 Emergency Response Organization Training.....	4
Section 3.0 Readiness Testing.....	5
Section 4.0 Equipment and Facilities.....	7
Section 5.0 Interfaces with State and Local Governments .....	8
Section 6.0 Problem Identification and Resolution .....	9
Section 7.0 Dose Assessment Capabilities.....	11
Section 8.0 Personnel Qualifications .....	12
Section 9.0 Emergency Response Organization Staffing Levels.....	13
FSAR Review and Response to 10 CFR 50.54(f) Request for Information.....	14
Appendix A Personnel Contacted.....	15
Appendix B References .....	17
Appendix C Quality Recommendations, Findings, and Strengths.....	19



---

**EXECUTIVE SUMMARY**

An independent audit of the WNP-2 Emergency Preparedness Program is performed at least once every twelve months as required by Title 10 of the Code of Federal Regulations, Part 50.54(t) and Operational Quality Assurance Program Description (OQAPD) Appendix III, Additional Quality Program Requirements. The audit team assessed specific areas as required by NUREG 0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

The results of the audit indicate that activities which make up the WNP-2 Emergency Preparedness Program are implemented and conducted in accordance with governing regulations and are capable of protecting the health and safety of the public in the event of an emergency. The Emergency Preparedness (EP) organization has continued to demonstrate a strong desire for self-improvement. This was illustrated by their program ownership, pro-active identification and resolution of problems, and communication with offsite agency personnel. However, the success of the Emergency Preparedness Program is dependent on the support and participation of all Supply System organizations. The primary issues identified during this audit related to a lack of ownership of the line organizations for their portions of the program.

As a result of this audit, three Problem Evaluation Requests (PERs) were issued in the following areas: Line organizations are not assuring that personnel are qualified and assigned to the appropriate qualification group; with the reduction in shift compliment and changes in shift schedule, management has not assured that minimum Emergency Response Organization (ERO) shift staffing has been maintained; and processes that effect emergency preparedness have been changed without notifying the Emergency Preparedness Department or updating the Emergency Plan. Twelve Quality Recommendations were issued to correct minor errors in the Emergency Plan and implementing procedures or for suggested program improvements.

In addition, three "proper use" gold cards were issued during the course of the audit for commendable individual performance.

D.K. Atkinson 4/10/98  
D.K. Atkinson, Manager, Quality Department

A.S. Barber 4/10/98  
A.S. Barber, Supervisor, Quality Services

J.W. Massey 4/10/98  
J.W. Massey, Audit Team Leader (ATL)

**AUDIT TEAM**

KM Gunter	Quality
JC Latta	Quality
MK Laudio	Quality
JG Dockter	Administration Services
TA Rogers	Franklin County
	Emergency Management

## PURPOSE AND SCOPE

An independent audit of the WNP-2 Emergency Preparedness Program is required every twelve months by 10 CFR 50.54(t) and the OQAPD Appendix III, Section 2.2.8(f).

Specific areas assessed are described in 10 CFR 50, Appendix E and NUREG 0654, Section II.P.9 and include:

- Emergency Plan and Implementing Procedures
- Emergency Response Organization (ERO) Training
- Readiness Testing - (Drill Observation)
- Equipment and Facilities
- Interfaces with State and Local Governments

In addition, the following additional areas were included in the scope of this audit:

- Problem Identification and Resolution
- Dose Assessment
- Personnel Qualifications
- Staffing Levels (Emergency Response Organization)

## REPORT DETAILS

### Section 1.0 - Emergency Plan and Implementing Procedures

A review was conducted to determine if the Emergency Plan Implementing Procedures (Volume 13 of the Plant Procedure Manual (PPM)) satisfy the requirements of the WNP-2 Emergency Plan. Additionally, the review verified that the requirements of 10 CFR 50, Appendix E and NUREG-0654 were contained in the Emergency Plan. The review concluded that the WNP-2 Emergency Preparedness Program satisfies the regulatory requirements. However, some deficiencies were identified in the Emergency Plan and procedures that need to be corrected. The deficiencies that could potentially result in a decrease in effectiveness of the program have been submitted on PERs for further review. The details of the noted deficiencies and the strengths of the program are recorded under the appropriate sections of this report.

The Emergency Plan requires an internal review of the plan and an independent audit of the emergency plan and implementing procedures every twelve months. The Emergency Plan has been revised five times within the last three years. Since it has been less than a year since Revision 19 was issued (4/3/97), and Revision 20 is in a review stage, it can be concluded that the Plan has been reviewed at least annually during the last few years. A review of previous audit reports concluded that appropriate areas were assessed, the audits were independent of EP personnel, and the audits were performed within twelve months.

10 CFR 50, Appendix E states: "Licensees who are authorized to operate a nuclear power facility shall submit any changes to the Emergency Plan or procedures to the Commission, within 30 days of such changes." The audit team verified that Revision 19 to the WNP-2 Emergency Plan, dated March 27, 1997, was sent to the NRC within 30 days of the revision date.

**Section 1.0 - Emergency Plan and Implementing Procedures - continued**

Revision 19 was submitted to the NRC on April 3, 1997, as documented by Supply System letter to the NRC, GO297-062. A brief review of the synopsis of changes was performed to determine whether any of the changes reduced the effectiveness of the plan. In particular, ERO staffing changes made were reviewed. In each case, the staffing change was justified based on the position being assumed by another member or the position eliminated due to increased efficiency. These changes are in accordance with the guidance in PPM 1.3.43, Licensing Basis Impact Determination, regarding changes to the Emergency Plan.

A review of the Emergency Plan (Rev. 19) and the PPM database found that the 30-day requirement for submitting changes to the emergency procedures was not contained in the Plan or WNP-2 Plant Procedures. The Supply System has met this requirement by including the Nuclear Regulatory Commission (NRC) on the distribution list for changes to the Volume 13 Emergency Procedures. Records Control personnel have been submitting Volume 13 changes to the NRC within the required time limit using a Desktop Instruction, but were not aware that this was a regulatory requirement. Therefore, Quality issued the following recommendation:

**QUALITY RECOMMENDATION AU298-008-A**

Assigned to: Tim Messersmith

Due Date: June 9, 1998

*Incorporate the 10 CFR 50, Appendix E requirement to submit any changes to the Emergency Plan or procedures to the NRC within 30 days of such changes into an appropriate WNP-2 procedure.*

Sitewide Procedure SWP-PRO-03, Section 3.2.3.1.2 states: "Whenever a requirement or commitment is satisfied by a statement in the body of a procedure, the statement should be identified by placing the requirement or commitment number in braces, right justified, immediately following the statement." This statement is a management expectation to assure that when a procedure is revised all requirements and commitments are identified and considered. None of the emergency procedures reviewed contained braces to identify tracked requirements and commitments. As a result, Quality issued the following recommendation:

**QUALITY RECOMMENDATION AU298-008-B**

Assigned to: Tim Messersmith

Due Date: June 9, 1998

*Annotate Regulatory Requirements and Commitments in the emergency procedures in accordance with SWP-PRO-03.*

During the review of the Emergency Plan, it was discovered that a canceled procedure (PPM 13.10.15) was still listed in Appendix 2 of the Plan as an Implementing Procedure. Also, in Section 5.2.1 the Emergency Plan states, "that other meteorological information is available from Battelle." The referenced procedures for meteorological data states, "PNNL as the backup source for this type of information." As a result, the following Quality recommendation was issued:

## Section 1.0 - Emergency Plan and Implementing Procedures - continued

### QUALITY RECOMMENDATION AU298-008-C

Assigned to: Tim Messersmith

Due Date: June 9, 1998

*Update the list of Emergency Plan implementing procedures in the WNP-2 Emergency Plan, Appendix 2, and replace the reference to Battelle with PNNL in Section 5.2.1.*

## Section 2.0 - Emergency Response Organization Training

The WNP-2 Emergency Plan, the Qualification Directory Manual, the Emergency Preparedness training course catalog, and the Sitewide Procedure (SWP) on ERO training was reviewed. The review found that appropriate training is offered for each identified ERO position. The training includes specific training for certain positions as well as general training requirements for all ERO positions. There are also provisions for annual refresher training.

The WNP-2 Emergency Plan states that training for state and county agencies will be made available by WNP-2. WNP-2 also provides Medical Services Support Training to local hospitals and fire departments. A letter is sent to appropriate offsite organizations each year. The letter gives individuals responding to an emergency the opportunity to attend WNP-2 General Employee Training (GET) or specific EP training.

Annual refresher training is provided for all ERO personnel. This training is provided in several ways including drills, classroom training, and mail out material. EP monitors all ERO personnel to verify that training requirements are being met. EP notifies individuals, and their management, via e-mail when their training is coming due. EP removes the individual from the automatic dialer system (ADS) immediately when refresher requirements become delinquent, and notifies the individual and their management. A program has been initiated where EP is notified by Security immediately upon receiving a 16440 form for termination of an employee. EP then removes the terminated employee from the ADS. For those individuals who receive all required training but are unable to participate in an annual emergency drill, EP provides a mail out test as a refresher. When the mail-out is completed and returned to EP, the Personnel Qualification Database (PQD) is updated. The audit team concluded that necessary mechanisms are in place to track ERO qualifications and personnel are properly notified when re-qualification is due.

### STRENGTH

*Emergency Preparedness personnel are diligent at tracking qualifications for those individuals listed as ERO members. Appropriate management is notified prior to individuals losing their qualifications and also when qualifications expire.*

Despite EP's efforts to track and notify ERO personnel when required training is needed, line management and supervision have not assured that all individuals assigned to the ERO satisfy qualification requirements prior to becoming delinquent. The line organizations have recognized the problem with re-qualifying shift workers who have limited time to meet all their training needs. The administrative assistants for each shop have taken responsibility to re-schedule the tasks such as mask

## Section 2.0 - Emergency Response Organization Training - continued

fits and medical examinations in blocks. This will allow meeting the ERO requirements for each crew at one time. The shops have also worked with Health Physics (HP) to arrange for the required facilities to be provided on the day where the most number of shift personnel are available. EP is working with the line organizations to assure that a fully trained ERO organization is maintained.

Sitewide Procedure SWP-EPP-01, "Emergency Response Organization Training," under the initial training section, states: "Upon completion of training, the students are normally required to pass a written exam, or to demonstrate performance-based actions, e.g., during a drill or exercise." Performance-based scenarios are conducted with the Center Directors to ensure their proficiency. However, for many ERO positions, performance-based actions are not performed until a drill or exercise. Interviews with ERO participants and observations of the drill conducted in November 1997 found that many of the new personnel did not fully understand their duties as ERO members. On several occasions, during the drill, coaching of these individuals was required by the EP representative or other personnel in the center. Those interviewed also noted that after their first drill they felt more proficient in performing their duties. The EP organization has recognized, from observation and after action reports, that first time participants are uncomfortable in their emergency center roles.

EP is initiating a practice of assigning an experienced coach with new personnel filling emergency center positions. This practice should increase the efficiency of the drill and alleviate the apprehensions of the first time responders. However, immediately upon notification that an individual has completed the required classroom training, EP updates the automatic dialer and notifies the individual that they have been activated in the system. Since drills are conducted annually, the potential exists for personnel to be required to respond to an actual emergency prior to participating in performance-based actions. Since initial training is performed year round, quality recommends the following:

### QUALITY RECOMMENDATION AU298-008-D

Assigned to: Tim Messersmith

Due Date: June 9, 1998

*Expand the initial training for emergency center personnel involved with communications, log keeping, and team tracking to include performance-based actions.*

## Section 3.0 - Readiness Testing (Drill Observations)

Since there were no drill activities scheduled during the performance of this audit, the audit team used observations gathered during the Team B drill performed November 18, 1997, to determine if identified concerns had been adequately resolved by the EP organization. During the November drill, Quality personnel were stationed in the Emergency Offsite Facility (EOF), Technical Support Center (TSC), Operations Support Center (OSC), and Joint Information Center (JIC). Additionally, a Quality individual accompanied one of the field teams performing radiological monitoring. In general, Quality concluded that drill performance was adequate in the centers assessed. Strengths were cited in the teamwork observed in the field teams, EOF, and JIC. Quality's assessment of the drill performance was supported by Emergency Preparedness Drill Report 97-4.





**Section 3.0 - Readiness Testing (Drill Observations) - continued**

Quality observed issues concerning the staffing of the OSC in that initially no Equipment Operators (EO's) were available to support the drill. Also, there were no Chemistry Technicians available. In addition, the scheduled OSC Communicator was not present. As a result, an individual who was present to observe the position (and was qualified in the position) was called on to participate.

Problems with staffing the OSC has been a repeat drill concern. Specific actions taken by EP personnel to resolve these actions have resulted in improved performance. For the EOs, arrangements have been made with Operations Training to schedule the training week EOs for drill participation rather than trying to use on-shift EOs who also have concurrent plant duties. Agreements were made with Chemistry Technicians to clarify their participation during drills. Chemistry Technicians are directed to report to the OSC and sign in, after which they return to the laboratory. The individual performance issue associated with the OSC Communicator was addressed with the individual's supervisor who took appropriate actions. For the subsequent drills performed since November 1997, participation has been well supported with a full complement of EOs, Chemistry Technicians, HPs, and craft personnel.

Quality personnel attended the training provided to the Controller/Evaluators prior to the drill and also the training given to players the day of the drill. During the Controller/Evaluator training, it was noted that the Controllers were reminded to use the drill as an opportunity to provide training. The use of drills as a training method and the role of Controllers in providing that training was a concern from the previous Emergency Preparedness audit. During the player training, it was noted that there was not a mechanism employed to capture player comments/suggestions or to provide feedback to the player making the suggestion. Several suggestions and much discussion was not captured by the EP organization. Therefore, the following recommendation is issued:

**QUALITY RECOMMENDATION AU-298-008-E**

Assigned to: Tim Messersmith

Due Date: June 9, 1998

*Provide a mechanism to capture information, comments, and suggestions provided during pre-drill training sessions. This mechanism should have a feedback loop to the individual providing the information.*

The drill report dated December 18, 1997, was evaluated for identified strengths and weaknesses. The report is formatted such that it provides an overall summary of the drill as well as individual center summaries. Individual drill objectives are identified for each center and are categorized as follows: Demonstrated, Not Demonstrated, Demonstrated with Issue, Not Observed, or Not Applicable. Two of the nineteen drill objectives were not demonstrated. One was the ability to recognize Emergency Action Levels and classify the incident (Control Room). The other was the activation and staffing of emergency facilities (OSC). In discussions with Emergency Planners, it was determined that corrective actions were being taken to address these issues. However, there was no apparent tracking mechanism used to identify those corrective actions. This does not agree with the Section 4.10 of the Drill and Exercise Manual which states the drill report shall "ensure items requiring corrective action are placed into an appropriate activity tracking system."

---

**Section 3.0 - Readiness Testing (Drill Observations) - continued**

Player comments are solicited after each drill. These are reviewed by EP staff and those that require follow-up actions are entered into a Regulatory Affairs database within the PTL system. Priorities, due dates, and responsible individuals are identified in the database, as well as the name of the player submitting the comment. All comments entered into the database for the 1997 drills were reviewed for appropriate priorities, reasonable due dates, and repeat issues. Approximately 113 player comments were reviewed. Of these, 67 were entered into the database. If a comment is not entered into the database and the player requests a reply, there is no mechanism to ensure a reply is provided. A review was conducted of the latest Final After Action Report (FAAR) which documented an event where WNP-2 entered Technical Specification Action Statement 3.0.3. The report identified eight areas for improvement. These were not tracked in the Regulatory Affairs Action database. From the noted examples, there is no consistency as to what is tracked in the database. As a result of the issues raised above, the following recommendation was issued:

**QUALITY RECOMMENDATION AU298-008-F**

Assigned to: Tim Messersmith

Due Date: June 9, 1998

*Identify items that should be tracked in the Regulatory Affairs database. Items to consider include: Replies to player comments, controller/evaluator concerns, drill objectives not demonstrated, and FAAR areas for improvement.*

Items were selected from the drill player comments to determine if follow-up action had been performed. Four player comment forms noted where telephone numbers were not correct in the Emergency Phone Directory. These are reviewed and verified on a quarterly basis, but since some moves had been made (JIC, County EOC) in the interval they had not been updated. A check of the latest directory, dated December 1997, indicated that the telephone number changes had been incorporated except for one number. In this case, the Authorized Nuclear Insurer (ANI) number had a typographical error. The correct number was also located in a separate section of the directory. When notified of this discrepancy, EP personnel immediately corrected the database.

**Section 4.0 - Equipment and Facilities**

The WNP-2 Emergency Plan and PPM 13.14.4, Emergency Equipment, were reviewed and walkdowns were conducted of all emergency centers.

A sample of emergency kits and cabinets were inspected to verify contents listed in PPM 13.14.4. The contents of the kits and cabinets and the calibration of radiation instruments are verified periodically through Model Work Orders or through Plant Tracking System (PTL) action items. The materials in the emergency centers are restocked after each drill. The review determined that the emergency facilities are adequately stocked and that periodic verifications are being conducted.

One area of the Emergency Plan that Quality reviewed involved the three local hospitals. These hospitals serve as the primary or backup stations for the decontamination of injured personnel. The Supply System provides emergency radiological kits for each hospital to treat personnel if such a scenario occurs. Quality reviewed the list of contents of the hospital emergency kits in PPM 13.14.4, Attachment 5.3 and questioned whether a dose rate meter was included. This question was based on a

**Section 4.0 - Equipment and Facilities - continued**

possible scenario where a highly contaminated person may have emanating radiation from the contamination. Emergency Preparedness personnel pointed out that although a dose rate meter is not listed, it is part of all the kits. The Kadlec Medical Center Radiological Kit contents were verified and a dose rate meter was included. Based on this, the following recommendation was issued:

**QUALITY RECOMMENDATION AU-298-008G**

Assigned To: Tim Messersmith

Due Date: June 9, 1998

*Include a Dose Rate Meter as part of the contents listed on Attachment 5.3 of PPM 13.14.4, Hospital Radiological Emergency Kit.*

The hospital kits are tracked on Model Work Orders (MWO) both by EP and Radiation Protection (RP). Radiation Protection tracks the Thermoluminescent Dosimeters (TLD), count rate meters, and dose rate meters to ensure that they are in calibration and ready for use. EP performs quarterly checks to verify and change-out the instruments. For the MWO's to perform the quarterly checks, two of the work orders generated were incorrectly assigned to RP, while one was assigned to EP. To align the work order process with the appropriate discipline the following recommendation is issued:

**QUALITY RECOMMENDATION AU298-008H**

Assign To: Tim Messersmith

Due Date: June 9, 1998

*Ensure work orders generated to inventory hospital radiological kits are assigned to the Emergency Preparedness group.*

The audit team assessed whether emergency facilities and equipment identified by NUREG-0696 and described in the FSAR as supporting emergency response has been adequately provided and maintained. This assessment determined that sufficient equipment and facilities are in place to support emergency response.

**Section 5.0 - Interfaces With State and Local Governments**

The WNP-2 Emergency Plan, Section 4.3 and Plant Procedure Manual 13.1.1, Classifying The Emergency, require that agreements with offsite agencies be reviewed annually, with the latest revision reviewed by state and local government representatives. Interviews were conducted and the Memorandums of Understandings (MOUs), agreement letters, and contracts were reviewed. These documents are in place to ensure that the Supply System and offsite agencies communicate and review any changes in their agreements.

Various offsite personnel were interviewed to ensure that agreements and contracts between the Supply System and their facility have been reviewed and also to determine the relationship between offsite agencies and WNP-2. Some of the agreements and all of the MOUs were verified as having received the required annual review. The personnel interviewed indicated that they are informed of all revisions to the emergency plan and their communication with WNP-2 EP personnel continues to be strong. Both on and offsite personnel expressed a professional and amicable relationship with their counterparts. All personnel interviewed stated that there is an adequate level of support for each others programs and an improved response to emergency topics among their groups. Quality has determined that the EP group adequately interfaces with the offsite agencies.

## Section 5.0 - Interfaces With State and Local Governments - continued

### STRENGTH

*The Emergency Preparedness group maintains an open line of communication with offsite personnel regarding emergency preparedness issues.*

A concern was raised by the Director of Morrow County Emergency Management (Oregon). The issue regarded a disparity of map scale between WNP-2 and Department of Energy (DOE)-RL maps used to chart dose projection. It was stated that DOE and not the Supply System was unwilling to cooperate in correcting the maps. As a result, Quality recommends:

### QUALITY RECOMMENDATION AU298-008-I

Assigned To: Tim Messersmith

Due Date: June 9, 1998

*Investigate the disparities in scales dealing with exposure/ingestion county maps to determine if these differences affect the counties' ability to respond to an emergency event at WNP-2.*

## Section 6.0 - Problem Identification and Resolution

The PERs and Recommendations resulting from the 1997 Emergency Preparedness Program Audit were reviewed for effectiveness. Three PERs resulted from the 1997 audit. Two of the PERs have been completed and closed (297-0183 and 297-0198). The audit team reviewed the corrective actions associated with these PERs to determine if they were implemented effectively. The closure documentation for these PERs satisfied the instructions on the corrective action plans. There were no concerns with these PERs.

One PER remains open from last year's audit. PER 297-0205 documented that "Instructions/Procedures do not exist which maintain the license basis requirements for non power block facilities." This PER has five corrective actions, all of which are still open. These actions have been extended, and at the last time of request for extension Quality required a plan for completion as well as a justification for extension. Potential effects of the extended due dates are mitigated by Corrective Action Plan (CAP) 5 which is an interim action for the Manager of Facilities and Support Services (or designee) to review all Facility Service Requests issued until CAPs 1 through 4 are completed. As such, this action will be in place and ongoing until the other actions have been completed. Quality will continue to follow this issue and review documentation upon completion of PER 298-0205.

There were ten Quality Recommendations issued with the previous Emergency Preparedness Program Audit. Only one is open at this time. Recommendation AU297-005-B was issued to revise PPM 13.8.1, Emergency Dose Projection System Operations, to incorporate dose assessment enhancements. This action will be completed at the time of biennial review of the procedure, currently scheduled for April 1998. This was acceptable to Quality.

Another recommendation, that was closed based on pending actions, was evaluated to determine if the action had been completed. Recommendation AU297-005-J was issued to establish criteria to maintain the backup Post Accident Sampling System (PASS) laboratory in a state of readiness. The response to this recommendation indicated that Chemistry would revise PPM 12.1.1,



**Section 6.0 - Problem Identification and Resolution - continued**

Laboratory Quality Assurance, to provide schedule frequencies for backup PASS laboratory instrumentation. A review of PPM 12.1.1, Rev. 9, dated December 17, 1997, indicated that these actions had not been incorporated into the procedure. Since the time this recommendation was issued, Quality has established a practice of tracking actions in response to recommendations. This practice will aid the responsible individual, as well as Quality, in assuring completion of audit recommendation responses. Quality toured the PASS Laboratory and determined that it was in a state of readiness. However, Quality still believes this issue warrants action and therefore, is re-issuing the following recommendation:

**QUALITY RECOMMENDATION AU298-008-J**

Assigned to: John C. Hanson

Due Date: June 9, 1998

*Establish criteria to maintain the backup PASS Laboratory in a state of readiness.*

The remaining recommendations that had been closed were verified to have been implemented or referred to another document (PERA) that was tracking the item.

The PTL database for the Emergency Preparedness group was searched for PERs assigned to EP since January 1, 1997. The PER summaries were reviewed and considered for indications of repeat occurrences or trends. Two PERs related to the Automated Notification System (ANS) were selected for additional review. PER 297-0230 documented where the ANS transmitted an incorrect message, indicating a drill was in progress instead of the actual Unusual Event. PER 297-0740 documented where the ANS stopped processing outgoing telephone and pager messages. In the first instance, it was determined that the problem was due to the vendor failing to link the correct scenario to the correct message. Corrective actions associated with PER 297-0230 included a procurement of a device that would allow testing the system without activating ERO pagers and to check all scenarios for similar occurrences. The second PER was inconclusive in identifying a cause. Through discussions with the vendor, it was believed that an excessive amount of data stored in temporary data logs within the system caused the problem. Corrective actions included monitoring and purging of the temporary files and testing the system each 12 hours to verify operability. Quality's review of these two PERs determined that they did not represent an adverse trend or failure to prevent recurrence since the two failures were not directly related.

The most recent self-assessment performed by EP was performed February 21, 1997. This self-assessment utilized EP individuals from offsite utilities as well as personnel from the state and county emergency organizations. Three PERs and 29 recommendations resulted from the self-assessment. All recommendations have been closed except one which is dependent on the next self-assessment performance to close. Currently, EP is scheduling the next self-assessment for the first week of May 1998. The 1997 EP self-assessment was determined to be self-critical and effectively used outside resources to identify and resolve problem areas.

**STRENGTH**

*The Emergency Preparedness organization is proactive in identifying problems and implementing appropriate corrective actions.*

## Section 7.0 - Dose Assessment Capabilities

The WNP-2 Emergency Plan and applicable plant procedures were reviewed to determine if required systems are available and accessible for personnel to acquire results for dose assessments in a timely manner. Also, interviews were conducted and training reviewed to assure that capable personnel were available to perform the dose assessments.

The available WNP-2 systems include the Emergency Dose Projection System (EDPS), Backup Emergency Dose Projection System (BEDPS) and the Quick Emergency Dose Projection Systems (QEDPS). These programs are stand-alone systems which have alternate power supplies allowing for data acquisition in the event of loss of power during an emergency. These programs are also used by the offsite agencies and are comparable with the dose assessment program utilized by the Nuclear Regulatory Commission. Quality concludes that adequate systems are available to provide data for personnel to perform dose assessments in a timely manner.

There is a manual backup model for dose assessment in place for system failures noted in PPM 13.1.1, Classifying the Emergency, Attachment 5.1, Tables 3 and 4. All dose assessment personnel interviewed were aware of this backup model and stated it was presented in training but not utilized during drills. When using the QEDPS, dose assessment personnel are required to draw a dose projection map for distribution to offsite agencies. All personnel interviewed stated that they have drawn dose projection maps in drills and are comfortable in doing so. Personnel tasked with performing dose assessments were determined to be trained and qualified.

PPM 13.8.1, Emergency Dose Projection System, defines BEDPS as the backup system to EDPS and refers to the pre-planned alternate monitoring method as per Technical Specification 3.3.7.5. It was noted that Technical Specification 3.3.7.5 was not a valid document and had been removed with the implementation of Improved Technical Specifications (ITS). Therefore, Quality recommends:

### QUALITY RECOMMENDATION AU298-008-K

Assigned to: Tim Messersmith

Due Date: June 9, 1998

*Revise dose projection PPMs 13.8.1 and 13.8.2 to delete references to superseded Technical Specification 3.3.7.5 and reflect current requirements.*

Emergency Preparedness proposed to eliminate BEDPS through Rev. 20 of the Emergency Plan. It was believed that this monitoring method had been deleted with the implementation of the ITS. Revision states: "EDPS software will be upgraded by combining software features of the BEDPS and will provide an easy to use operating platform, thus allowing the removal of the BEDPS program." However, a Supply System letter to the Nuclear Regulatory Commission dated December 23, 1996, states the BEDPS is "the pre-planned alternate monitoring method as per Technical Specifications 3.3.7.5." Based on this information, EP decided to keep BEDPS in the Emergency Plan.

Emergency Plan, Section 5.1.4, Personnel Dose Assessment, refers to routine and emergency personnel exposure monitoring and dose assessments being accomplished by issuing thermoluminescent dosimeters (TLDs), electronic, or direct reading dosimeters and monitoring for airborne radioactivity. The plan also denotes that there is a 24-hour-per-day capability to



**Section 7.0 - Dose Assessment Capabilities - continued**

analyze Supply System issued dosimetry. It further states that the Supply System maintains a personnel monitoring program through the use of TLD readers and whole body counters. The requirement to provide 24-hour-per-day capability comes from NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants. Presently, the Supply System has no onsite equipment for the analyzing of TLDs. Section 6.2.8 of the Emergency Plan, Health Physics Center, states the Supply System contracts with a local vendor to process TLDs and provide results to the Supply System in a timely manner. The Supply System's local contract vendor, ThermoNuTech, has relocated from West Richland, Washington, to Albuquerque, New Mexico. Although the contract vendor is not local, EP believes that the Supply System can demonstrate the capability to analyze TLDs 24-hours-per-day and provide the results in a timely manner. Since the Emergency Plan does not reflect actual practice, the following PER was issued.

**QUALITY FINDING PER 298-0194**

*Section 6.2.8 of the Emergency Plan states that the Supply System contracts with a local vendor to process TLDs. The vendor relocated to Albuquerque, New Mexico.*

Regulatory Guide 1.23, Onsite Meteorology Programs, Rev. 0, states: "meteorological instruments should be inspected and serviced at a frequency which will assure at least a ninety percent data recovery and which will minimize extended periods of instrument outage." Quality utilized the 1996 and 1997 Annual Radioactive Effluent Report to verify that the meteorological joint recovery data submitted to the NRC annually was at least within the ninety percent acceptance criteria. The joint recovery data for these two years was found acceptable.

**Section 8.0 - Personnel Qualifications**

The Qualification Directory Manual, the November 1997 drill observations, drill after action reports, and previous drill reports were reviewed to determine if ERO members were qualified to perform their emergency center functions. Also, interviews were conducted with ERO responders. All personnel listed as ERO responders have met the qualifications required of their positions. All personnel interviewed expressed that as a first time responder they were unsure of what was required. However, each person interviewed said that after participating in a drill they were confident in their ability to perform their duties. The issue with first time responder qualifications is addressed in the training section of this report (Recommendation AU298-008-D).

PQD was reviewed against Operations, Maintenance, and Health Physics crew schedules. Individual qualification requirements were evaluated by name and by Qualification Group. Maintenance and Health Physics personnel were found to have adequate qualifications. However, two Operations' crews did not appear to have the required compliments of two ERO trained individuals. A review of training records by Operations found that required training had been conducted but some equipment operators were not entered in the appropriate Qualification Group in PQD. One shift manager stated that the requirements of PPM 1.3.1 were used to verify required shift compliment. It was also indicated that when filling vacant crew positions, ERO



## Section 8.0 - Personnel Qualifications - continued

qualifications were not always reviewed. It was assumed that fire brigade training met the qualification requirements for the ERO. As a result of the above issues, the following PER was issued:

### QUALITY FINDING PER 298-0169

*The process is inadequate for assigning new equipment operators to Emergency Response Qualification Groups.*

## Section 9.0 - Staffing Levels Emergency Response Organization

The WNP-2 ERO Personnel List, the PQD, and PPM 1.3.1 (WNP-2 Operating Policies, Programs, and Practices) were reviewed to determine if ERO staffing was adequate to respond to an emergency.

The audit team concluded that there are adequate personnel available to staff the WNP-2 ERO within the required 60-minute limit. Those personnel tracked via the PQD are assigned to one of four ERO teams who rotate through a two week period of being on-call. The Duty team is issued pagers. In the event of an emergency or during the conduct of a Notification Drill, the EP staff initiate the alert using the Dialogics Automated Notification System (DANS). ERO team members respond using a telephonic code to indicate whether they are able to report for emergency duties. Shortages are identified and replacements are called in. A "staffing check" of the oncoming ERO team is conducted the Thursday prior to shift rotation by EP staff. This check identifies any gaps in the ERO team and allows EP staff time to find personnel to fill the roster.

NUREG 0654, Rev. 1, Section II.A.4 states in part, "Each principal organization shall be capable of continuous (24-hour) operations for a protracted period. The individual in the principal organization who will be responsible for assuring continuity of resources (technical, administrative, and material) shall be specified by title." In general, the current method of staffing the ERO should provide for continuous operations. However, the WNP-2 Emergency Plan (Rev. 19), does not specify the person responsible for ensuring 24-hour continuous operations. This topic is discussed in several ERO duty position procedures and specifically in the Manpower Scheduler duty description. There are no guidelines in the emergency procedures for how long ERO personnel will man their stations after reporting. Although this requirement from NUREG 0654 is met by the word and intent of the WNP-2 Emergency Plan, it is unclear in the Volume 13 procedures that a 24-hour staffing schedule may be required. Also, there are no clear provisions in the procedures to establish a 24-hour staffing schedule for a protracted period. Therefore Quality recommends:

### QUALITY RECOMMENDATION AU298-008-L

Assigned to: Tim Messersmith

Due Date: June 9, 1998

*Revise the Emergency Plan Implementing Procedures to provide guidance for establishing and maintaining continuous 24-hour staffing of the Emergency Response organization for a protracted period.*

**Section 9.0 - Staffing Levels Emergency Response Organization - continued**

The administrative mechanisms to ensure minimum shift staffing and augmentation requirements are in place and, if used consistently by all organizations, will meet the goals of the Emergency Plan. However, some line supervisors are not aware of the ERO staffing requirements nor use the tools provided.

The WNP-2 Emergency Plan, Table 2-1 and NUREG-0654, Table B-1, specify the minimum staffing for the Supply System Emergency Response organization. These tables require two equipment operators and two maintenance personnel on-shift (around the clock) to perform emergency functions. The position of the maintenance personnel may be provided by shift personnel assigned other functions. On April 3, 1997, Rev. 19 to the WNP-2 Emergency Plan was submitted to the NRC. Attachment A of the 10 CFR 50.54(q) evaluation supporting the changes was an assessment of minimum on-shift ERO staffing. This assessment concluded that four equipment operators were needed on-shift to meet ERO requirements. The two additional equipment operators are assigned to cover the emergency maintenance function between 2:00 and 6:40 a.m. when maintenance personnel are not available on-shift. The Minimum Shift ERO Staffing Table developed by this assessment was included in PPM 1.3.1, WNP-2 Operating Policies, Programs, and Practices.

A review of qualifications for operating crews found that Operations Crews C and E have been staffed, during the hours between 2:00 a.m. to 6:40 a.m., with less than four ERO qualified equipment operators. This problem on ERO staffing resulted in:

**QUALITY FINDING PER 298-0191**

*PPM 1.3.1 requirements for minimum shift ERO staffing are not being met between 2:00 a.m. and 6:40 a.m. with qualified personnel.*

**FSAR REVIEW AND RESPONSE TO 10 CFR 50.54(f) REQUEST FOR INFORMATION**

The FSAR, Section 13.3, identifies the required support centers and emphasizes communications between those centers and the Control Room. The details of the program description are contained in the Emergency Plan. The Emergency Plan is an attachment to the FSAR and was reviewed extensively throughout this audit. There are no FSAR issues other than those delineated in the report in connection with the Emergency Plan.

There is no discussion of Emergency Preparedness or the Emergency Response organization in the 50.54(f) letter. However, under the Requirements Tracking Database discussion, the 50.54(f) letter states, "Development of the database also includes verification of where the commitment is met in the current operating programs and procedures." This statement supports Quality Recommendation AU298-008-B which pertains to identifying commitments in emergency procedures.

**APPENDIX A**  
**Personnel Contacted During the Audit**

HM Adams	Supervisor, Maintenance Craft
AL Alexander	Technical Specialist, Chemistry
TE Alton	Quality Technical Specialist
AJ Anderson	Technical Support Specialist/Administrative Services
DK Atkinson	Manager, Quality ●
LW Ball	Emergency Planner + ●
AS Barber	Supervisor, Quality Services●
RE Barnes	Mechanic
KC Beard	Director, Morrow County Emergency Management
DA Bennett	OSC Communicator
T Brown	Emergency Planner, Cooper Nuclear Station
SM Bruce	Supervisor, Control Room
DW Coleman	Acting Manager, Regulatory Affairs +●
LL Collins	Technical Support Specialist/Administrative Services
MS Collins	Quality Services
JG Dockter	Technical Support Specialist/Administrative Services +
RL Ehr	Supervisor, Engineering
JS Flood	Shift Technical Advisor
JA Gloyn	Supervisor, FFD / Training
SR Goodwin	Quality Services +●
KM Gunter	Quality Services +●
JC Hanson	Manager, WNP-2 Chemistry
M Henry	Manager, Department of Health
DW Hillyer	Manager, WNP-2 Radiation Protection+
DB Holmes	Emergency Planner +●
JP Ittner	Emergency Planner +●
RE Jorgenson	Lead Emergency Planner +●
JP Kane	Engineering General Manager+
AF Klauss	Emergency Planner ●
JA Lakey	Chemistry Technician●
AA Langdon	Assistant to the WNP-2 Plant General Manager +
JC Latta	Quality Services +●
MK Laudisio	Quality Services +●
CR Madden	Health Physics ●
RD Madden	Quality Services +
JW Massey	Quality Services +●
LL Mayne	Chemistry Specialist
JE McDonald	Science Environmental RP
KP Meehan	Emergency Planner ●
TC Messersmith	Corporate Emergency Preparedness, Health and Safety Officer +●
M Messman	Program Manager, DOE
GA Moyer	Craft Supervisor
RR Nelson	Operations Specialist

**APPENDIX A - continued**

HL Nielson	Supervisor, Chemistry
DL Overman	Technical Specialist
WA Pfitzer	Licensing +
RM Pfluger	Senior Auditor
GD Phillips	Health Physics Technician
LA Rathbun	Health Physics
JE Rhoads	Engineering
KD Saenz	Records Team Lead
DL Seever	Emergency Planner, Southern California Edison
DM Smith	Technical Support Specialist/Administrative Services
RL Webring	Vice President, Operations Support/Public Information Officer ●
JE Wyrick	Supervisor, Quality Services +

- + **Attended Entrance Meeting**
- **Attended Exit Meeting**

## APPENDIX B

### References

10 CFR 50.47            Emergency Plans  
 10 CFR 50.54            Conditions of Licenses  
 10 CFR 50                Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities  
 NUREG 0654, FEMA REP-1, Rev. 1; Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants; Section II.B  
 WNP-2 Emergency Preparedness Plan, Rev. 19  
 WNP-2 Emergency Plan, Rev. 20 Proposal  
 Emergency Dose Assessment System Users Manual  
 Volume 13 Series of Emergency Plan Implementing Procedures  
 PASSPORT Predefined Database  
 PPM 1.3.43 Rev. 12 "Licensing Basis Impact Determination"  
 Emergency Preparedness Training Course Catalog  
 SWP-TQS-01            Training, Qualification, and Simulators  
 SWP-EPP-01            Emergency Response Qualifications and Training  
 Emergency Phone Directory  
 Emergency Response Organization List  
 Emergency Response Organization Training Player Training Handout  
 IOM dated September 12, 1996, to Offsite Emergency Management Organizations, Subject: Annual Training for Offsite Agencies  
 IOM from L.W. Ball dated 01/30/98, Subject: February 1998 ERP Past Due Training Report  
 IOM from L.W. Ball dated 02/13/98, Subject: ERO Training Look Ahead Report  
 PQD ERO Late Report generated by L. W. Ball, dated 02/13/98  
 Quality Department Audit Report AU297-055, WNP-2 Training, Performance, and Qualification  
 Quality Department Audit Report AU297-005, WNP-2 Emergency Preparedness Program  
 PER 297-0816, ERO Personnel Not in Compliance With Minimum Training Requirements  
 IOM from C.L. Bliss dated 08/26/97 Subject: Craft Members of the ERO  
 PQD Scheduled Monthly Report dated 02/25/98  
 Drill and Exercise Manual for WNP-2, Rev. 6  
 Quarterly Training Drill 97-4 Drill Report, dated December 18, 1997  
 PTL Database            Regulatory Affairs Action, Internal Action Summary Report for 1997 Drills  
 Letter No. G02-89-227, Supply System to NRC, dated December 2, 1989, "Response to Notice of Violation"  
 Final After Action Report No. 31 dated March 20, 1997  
 Sample, Model Work Orders for Emergency Equipment Tracking  
 Reg Guide 1.101        Rev. 3, Emergency Planning and Preparedness for Nuclear Power Plants  
 Letter No. G02-94-263, Supply System to FEMA, "MOU Contract No. C-30061"  
 Letter No. G02-95-225, Supply System to FEMA, "WNP-2 Emergency Plan Annual Review of Supporting Agreements Contract No. C-30046"  
 Letter No. G02-95-230, Supply System to DOE, "WNP-2 Emergency Plan Annual Review of Supporting Agreements Contract No. C-00676"  
 Letter No. G02-95-236, Supply System to DOE, "WNP-2 Emergency Plan Annual review of Supporting Agreements Contract No. C-30042"





APPENDIX B - continued

PTL Database

PERs 297-0183, 297-0198, 297-0205, 297-0230, 297-0740

1997 Emergency Preparedness Program Audit 297-005

1997 Emergency Preparedness Self-Assessment

NRC Inspection Manual Chapter 2515/134, Licensee On-Shift Dose Assessment Capabilities

Reg. Guide 1.23, Rev. 0, Onsite Meteorology Programs

Reg. Guide 1.101, Rev. 3, Emergency Planning and Preparedness for Nuclear Power Plants

NRC Inspection Manual Chapter 2515/134, Licensee On-Shift Dose Assessment Capabilities

Letter No GO2-96-251, Supply System to the NRC, dated December 23, 1996, "WNP-2

Operating License NPF-21 Special Report Reactor Building Effluent Monitoring System"

NRC Inspection Manual "Dose Calculation and Assessment" No. 82207

ANSI/AN 2.5 "Standard for Determining Meteorological Information at Nuclear Power Plants

EPA-520/1-95-001-A "Manual of Protective Action Guides and Protective Actions for Nuclear Power Incidents," 1990

NRC Inspection Procedure No. 82701 "Operational Status of the Emergency Preparedness Program"

Quality Department Audit Report AU297-005, WNP-2 Emergency Preparedness Program

Quality Department Audit Report AU297-055, WNP-2 Training, Performance, and Qualification

Qualification Directory Manual, Section 2.8, Emergency Response

Qualification Directory Manual, Section 4.2, Equipment Operators

Emergency Preparedness Training Course Catalog

Emergency Phone Directory, Emergency Response Organization List

Emergency Response Organization Training Player Training Handout

Operations Logs dated 09/27/97 to 10/01/97

Operations Logs dated 02/01/98 to 02/25/98

Operations Crew Roosters dated 09/21/97 and 03/2/98

Health Physics Shift Assignments for September to October 1997 and dated January 27, 1998

PQD Reports for QUAL Groups EPAL, EPAN, EPAQ., EPCN, EPAJ, EPCP, EPAC, EPAI

PPM 1.3.1, WNP-2 Operations, Policies, Programs, and Practices

PERs 297-0816, 297, 0108

EP Response to PSA

Synopsis of Changes to WNP-2 Emergency Plan; proposed Rev. 20, dated February 23, 1998

SWP-EPP-01: Emergency Response Organization and Training; Rev. 0; dated August 5, 1997

**APPENDIX C**

**Summary of Quality Recommendations, Findings, and Strengths**

- AU298-008-A**      Incorporate the 10 CFR 50 Appendix E requirement to submit any changes to the Emergency Plan or procedures to the Commission within 30 days of such changes into a appropriate WNP-2 procedure.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-B**      Annotate Regulatory Requirements and Commitments in the Emergency Procedures in accordance with SWP-PRO-03.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-C**      Update the list of Emergency Plan implementing procedures in the WNP-2 Emergency Plan Appendix 2, and replace the reference to Battelle with PNNL in Section 5.2.1.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-D**      Expand the initial training for emergency center personnel involved with communications, log keeping, and team tracking to include performance-based actions.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-E**      Provide a mechanism to capture information, comments, and suggestions provided during pre-drill training sessions. This mechanism should have a feedback loop to the individual providing the information.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-F**      Identify items that should be tracked in the Regulatory Affairs database. Items to consider include: replies to player comments, controller/evaluator concerns, drill objectives not demonstrated, and FAAR areas for improvement.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-G**      Include a Dose Rate Meter as part of the contents listed on Attachment 5.3 of PPM 13.14.4., Hospital Radiological Emergency Kit.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-H**      Ensure work orders generated to inventory hospital radiological kits are assigned to the Emergency Preparedness group.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-I**      Investigate the disparities in scales dealing with exposure/ingestion county maps to determine if these differences effect the counties' ability to respond to an emergency event at WNP-2.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)

**APPENDIX C - continued**

- AU298-008-J**      Establish criteria to maintain the backup PASS Laboratory in a state of readiness.  
(Assigned to J.C. Hanson - Response due June 9, 1998)
- AU298-008-K**      Revise dose projection PPMs 13.8.1 and 13.8.2 to delete references to superseded Technical Specification 3.3.7.5 and to reflect current requirements.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- AU298-008-L**      Revise the Emergency Plan Implementing Procedures to provide guidance for establishing and maintaining continuous 24-hour staffing of the Emergency Response organization for a protracted period.  
(Assigned to T.M. Messersmith - Response due date June 9, 1998)
- PER 298-0194**      Section 6.2.8 of the Emergency Plan states that the Supply System contracts with a local vendor to process TLD's. The vendor relocated to Albuquerque, New Mexico.
- PER 298-0169**      The process is inadequate for assigning new equipment operators to Emergency Response Qualification Groups.
- PER 298-0191**      PPM 1.3.1 requirements for minimum shift ERO staffing are not being met between 2:00 a.m. and 6:40 a.m. with qualified personnel.
- Strength:**      Emergency preparedness personnel are diligent at tracking qualifications for those individuals listed as ERO members. Appropriate management is notified prior to individuals losing their qualifications and also when qualifications expire.
- Strength:**      The Emergency Preparedness group maintains an open line of communication with off-site personnel regarding emergency preparedness issues.
- Strength:**      The Emergency Preparedness organization is proactive in identifying problems and implementing appropriate corrective actions.

