ENERGY NORTHWEST

P.O. Box 968 ■ Richland, Washington 99352-0968

July 1, 2002
GO2-02-105

Docket No. 50-397

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Subject: **COLUMBIA GENERATING STATION OPERATING LICENSE NPF-21 2002 QUALITY AUDIT EMERGENCY PREPAREDNESS PROGRAM**

Enclosed is a copy of the 2002 Columbia Generating Station, Emergency Preparedness Program audit report that was submitted to you April 2002, without a cover letter. This is transmitted to your organization in accordance with NUREG-0654, Section II, Criterion P.9.

The audit results found evidence of declining performance in several areas of the Columbia Generating Station Emergency Preparedness Program. However, the identified deficiencies do not diminish the program's capabilities in protecting the health and safety of the public in the event of an emergency.

If you have any questions regarding the audit, please contact JL Pierce, Supervisor Emergency Preparedness at (509) 377-8524.

Respectfully,

D. W. Coleman

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Enclosure: Quality Audit AU-EP-02

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Columbia Generating Station

Emergency Preparedness Program Audit

AU-EP-02

April 08, 2002

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QUALITY SERVICES REPORT

Emergency Preparedness Program

Audit Report AU-EP-02

Audit Entrance Date: February 12,2002
Audit Exit Date: March 13, 2002

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TABLE OF CONTENTS

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EXECUTIVE SUMMARY

This dedicated Quality audit was performed to determine the overall health of the Columbia Generating Station Emergency Preparedness (EP) Program. The results of this evaluation have determined that the implementation of the Emergency Plan is in a degraded condition. Most significantly, weaknesses in equipment and facility readiness testing and requirements tracking are jeopardizing the program's integrity. Several recent Problem Evaluation Requests have documented that facility readiness has not been maintained, and facility and equipment testing could not be confirmed complete. The declining health of the program warrants management's immediate attention. A detailed, in-depth recovery plan needs to be developed and implemented immediately to address those areas of the program at risk.

In December of 2001, the station received a Yellow Finding Notice of Violation from the NRC due to a breakdown in Emergency Preparedness' ability to demonstrate that elements of the risk significant planning standard (b)(10) had been met. Primarily, this pertained to evacuation of lessees within the exclusion area residing within the Site One perimeter. The audit team's review of the station's response to the finding revealed that the use of the Corrective Action Program in addressing this matter was inadequate. Specifically, recognition of the extent of the problem did not occur initially and the resolution of the identified problems regarding Site One evacuation was insufficient. Although actions are in place to address the issues listed in the Yellow Finding, the results of the process used by Emergency Preparedness needs further explanation. A clarification in the relationships between the identified problems and the documented actions will help to lessen the station's vulnerability to additional regulatory scrutiny.

The areas found satisfactory during this audit period will not be highlighted as part of this summary. Instead, the crosscutting issues, which are negatively affecting the health of the program, will be targeted for discussion.

The following conditions have contributed to the program's decline:

> Records to document Emergency Preparedness activities as specified in the Emergency Plan have not been handled properly. In some cases, the records are incomplete, irretrievable, and are not being retained as required. For this reason, program requirements cannot be verified as complete.
>
> The tracking and statusing of program requirements is currently inadequate. A standardized process to adequately outline the required performance and resulting documentation to support program requirements has not been used. Instead, the program relies upon varying databases, with varying results. Comprehensive and effective program monitoring has been lost.

The effectiveness of the evacuation plan has not been fully demonstrated. Specifically, an Exclusion Area and facility evacuation has not been conducted in the last six years. Also, monitoring objectives of the Radiological Monitoring and Health Physics drills have not been performed in the last two years. This is contrary to the requirements NUREG 0654, "Radiological Emergency Response Training Evaluation Criteria."

Program and organizational interfaces needs improvement. In some cases, informal practice rather than established processes has been relied upon in documenting changes or deficiencies related to EP. Prioritizing corrective maintenance for EP equipment, set point changes for the Emergency Response Data System, and communicating failed equipment tests are examples where interfaces have been inadequate to support the Emergency Plan.

Administrative controls have been less than effective in some cases. Several of the implementing procedures have not been kept current, the mechanisms used to track program requirements are not adequate, and untimely document submittal following changes to the Emergency Plan indicate administrative controls have not been appropriately applied.

The need for supplemental resources is a significant element to be considered in outlining the program's improvement initiatives. The current EP staff is overly challenged to successfully put forth the level-of-effort required to implement recovery plan actions and maintain routine program activities. Concurrent with the development of a recovery plan, the need for resources, with the requisite skills and experience, should be considered to make the prospects for program improvements more likely.

PURPOSE AND SCOPE

Title 10 of the Code of Federal Regulations, Part 50.54(t) and the Operational Quality Assurance Program Description Appendix III, Section 2.2.8 (f) requires an independent audit of the Columbia Generating Station Emergency Preparedness program.

The following areas were assessed:

- Organization
- Facilities and equipment
- Training
- Emergency plan, implementing procedures, and instructions
- Problem identification and review
- Drill and exercise readiness testing
- Interface with offsite agencies
- Performance indicators

REPORT DETAILS

Section 1.0 - Organization

Section 1.1 - Emergency Response Organization (ERO)

The review of procedures and the Emergency Plan determined that supporting organizations' responsibilities are clearly delineated and properly established for the ERO. Through review of the ERO assignment lists, it was concluded that the principal organizations are adequately staffed for initial response and have augmented support on a continuous basis. Augmentation goals have been established and administrative mechanisms are in place to ensure initial staffing and augmentation goals can be met. However, the following area for enhancements should be considered for program improvement:

A new auto dialer was purchased and installed three years ago in conjunction with eight new phone lines. However, the new auto dialer has never been fully programmed with scenario rosters and other data needed to make it operational due to higher priority work. Several months of work are necessary to fully implement the new auto dialer. Resources should be made available now so that the new auto dialer is tested and implemented, and all the "bugs" worked out, well before the graded exercise this fall. The following recommendation is offered:

Quality Recommendation (AU-EP-02-A)

Apply the necessary resources to put the new auto dialer into full operation to support needed program improvement.

Section 1.2 - Emergency Preparedness Roles and Responsibilities

An evaluation of the recent changes within the organization was performed during the audit that included a new Corporate Emergency Preparedness, Safety and Health Officer (CEPSHO), splitting the CEPSHO position into an EP Supervisor and an Industrial Safety & Occupational Health Supervisor, and creating a Manager, Resource Protection, who is responsible for EP, Security, Industrial Safety and Occupational Health. The recent organizational changes documenting the Emergency Preparedness department relocation to the Resource Protection organization was incorporated in Revision 28 to the Emergency Plan. No discrepancies were noted.

These organizational changes have increased the EP staff to one full time supervisor and five full time planners. Additionally, EP is in the process of filling a contract position to aid in the completion of the corrective actions for the NRC Yellow Finding. The resources applied to address the Yellow Finding during this past nine months have been significant and have detracted from day-to-day maintenance of the program. Interviews with EP staff indicated that at least two full time planners have been addressing the NRC concerns, with a large amount of work still to be performed in this area. The present EP manpower will be challenged to meet day-to-day responsibilities, such as preparing for the graded exercise, implementing corrective actions arising from the NRC Yellow Finding, and addressing the backlog of work that includes training 17 individuals for ERO positions and making the new auto dialer operational. The need for supplemental resources is a significant element to be considered in mapping the program's future activities.

Section 1.3 - Program Interfaces

A review of all of the EP organization responsibilities as prescribed in the Emergency Plan and implementing procedures was performed to determine adequacy of the interfaces necessary to support program implementation. This review resulted in the identification of several ineffective relationships that are described in the paragraphs below.

Security procedures for the notification and evacuation process are not referenced in Appendix 2 of the Emergency Plan and are not periodically reviewed by EP as required by PPM 13.14.9, "Emergency Program Maintenance." The lack of an annual review of the Site One Emergency Plan has been identified and is being addressed in PER 201-1793, CAP 1. There is no procedural guidance to perform a review of the security procedures that implement the notification and evacuation phase of the Emergency Plan. Because this is required by Sections 8.1.a and 8.1.b of the Emergency Plan, a PER was initiated.

Quality Finding (PER 202-0635)

Security procedures that implement the notification and evacuation phase of the Emergency Plan are not reviewed.

During the startup review process for the last forced outage, EP received a call from the restart committee. A question was asked if a failed public address speaker in building 52 was a startup constraint. EP stated that this was clearly not a startup constraint; however, guidance for this determination provided in an EP instruction does not provide adequate criteria in making this decision. Established criteria for EP startup restraints would provide consistent methodology and minimize any startup delays. Quality initiated a PER to document this issue.

Quality Finding (PER 202-0623)

Insufficient criteria are available for determining plant restart holds for emergency planning issues.

Site One activities, which may affect Columbia Generating Station, are presently outside the 50.59 and Licensing Document Change Notice (LDCN) processes. As they are within the owner-controlled area, Site One activities can have a direct effect on Columbia Generation Stations licensed activities. A review of licensing procedures failed to identify provisions for the evaluation of Site One activities.

The Site One Site Manager and the Supervisor, Regulatory Services were interviewed. Both stated that there was not a process for evaluating Site One activities, which affect Columbia Generating Station's ability to meet regulatory requirements. Some limited evaluation against the FSAR requirements has been conducted. However, a generic list of items requiring Columbia Generating Station review for Licensing, EP, Industrial Safety, Environmental, and FSAR site description elements should be provided to Site One. This would allow timely notification of the need for an evaluation by Columbia Generating Station. The following PER was initiated to address this issue:

Quality Finding (PER 202-0624)

Site One activities that may affect Columbia Generating Station are presently outside the 50.59 and LDCN processes.

A review of the various change processes that might affect the implementation of the Emergency Plan was performed. In several instances, the change processes were determined to be satisfactory and in other cases, processes did not directly support the actions of the Emergency Response Organization in implementing the Emergency Plan.

The following change processes for Columbia Generating Station were reviewed:

- Plant Modification Process - No issues were noted with the plant modification process. Interviews with Emergency Planning staff indicated that they were given the appropriate design changes to review before implementation. This was supported by the guidance in Engineering Instruction 2.8, "Generating Facility Design Change Process," that provides guidance for sending design changes to EP for review.

- Work Management Process - A review of the work management function interface with EP was performed, specifically, the identification of failed EP equipment and the prioritization of repairs. Interviews with EP staff indicated that they were often notified of equipment failures if the failure had an obvious effect on EP (e.g., Technical Support Center [TSC] ventilation). The EP staff indicated that they were not notified of others, such as a recent failure of the plant public address system, and past failures of TSC radiation monitors.

  A review of SWP-MAI-01, "Work Management - Planning, Scheduling and Work Activities," that provides instruction for the prioritization of work, makes no reference to EP facilities or equipment. Interviews indicated that EP takes contingency actions for failed equipment, such as failed radiation monitors in the centers. This maintains the capability of facilities and equipment to support implementation of the Emergency Plan. In some cases, EP receives courtesy calls when it is recognized that failed equipment affects implementation of the Emergency Plan. These calls are inconsistent, as the work management process has no specific guidance. SWP-MAI-01 prescribes that a senior reactor operator (SRO) review impact of a loss of system availability against the requirements of the FSAR. This step indirectly identifies the Emergency Plan; however, review has been inconsistent with no guidance to notify EP to allow compensatory actions. The work management process does not specifically require evaluation of EP equipment reliability or contingencies for failed equipment. The following PER was initiated:

Quality Finding (PER 202-0636)

The work management process does not specifically require evaluations for Emergency Plan contingencies or EP operational unavailability goals.

- Instrument Set Point Change Process - A review of the instrument set point change process was performed to evaluate the relationships with EP. Interviews with EP staff indicated that they were infrequently informed of instrument set point changes that affected their program, primarily the instruments that feed the Emergency Response Data System (ERDS). A review of the procedure that guides the set point change process determined there was no direction to notify EP or Licensing for ERDS instrument set point changes. Interviews with Engineering determined that there was a standard practice to notify Licensing of a set point change when it is noted that the instrument provides an input to ERDS as identified on the master data sheet. The master datasheet is not a controlled document and does not require that EP be notified when changes affect the program.

  A review of the ERDS data points identified 13 instrument alarm set points that require NRC notification within 30 days of a set point change per PPM 1.10.1, "Notifications and Reportable Events." Administrative processes for instrument set point changes to ERDS inputs do not directly support required NRC notifications. The following PER was initiated to document this concern:

Quality Finding (PER 202-0663)

The instrument set point change process does not include the NRC notification requirement for ERDS set point changes.

Quality Finding (PER 202-0663)

The instrument set point change process does not include the NRC notification requirement for ERDS set point changes.

- Procedure Revision Process - Prior to this audit, Quality identified a weakness with the procedure revision process during a review of a proposed new procedure that implements the Outage Control Center (OCC) in the TSC. This review noted that EP had not been assigned a cross discipline review in accordance with SWP-PRO-02, "Preparation, Review, and Distribution of Procedures." The procedure revision process did not ensure that a review was performed to determine that there was no adverse affect on the TSC. This issue was documented in the following PER:

Quality Finding (PER 202-0374)

New procedure PPM 1.16.13, "Activation of the Outage Command Center for Forced, Refueling, Dispatch, or Other Plant Outages," which uses the TSC as the Outage Control Center was not formally reviewed by EP.

An additional concern was identified by Quality in the review and distribution of plant procedures. Recent changes to EP procedures, that included changes referencing Site One as a result of the Yellow Finding, were not routed to Site One personnel for review and acknowledgement of the revised procedures. This was documented in the following PER:

Quality Finding (PER 202-0695)

Columbia Generating Station procedure revision process does not include Site One for review or notification of procedure changes.

Section 2.0 – Maintenance of Emergency Preparedness Equipment

Section 2.1 – Scheduled Testing

EP related equipment, listed in the Emergency Plan, was cross-checked with established preventative maintenance or surveillances tasks to ensure equipment was incorporated into scheduled testing. A sample of testing tasks was chosen to verify the tasks are included in the testing schedule. The testing schedule was verified to include the following selected activities:

- Emergency offsite air compressor, MSH-EQ-C/3
- Monthly inventory of equipment and supplies of the nurses station
- Sound powered phone lines and headsets
- Emergency Operations Facility Diesel Generator
- Public Address System including the ASHE substation and ISFSI facility
- Operational checks of the facsimile transmission network

Section 2.2 - Testing Observations

Testing was observed and the procedural instructions were reviewed for the following equipment associated with the Emergency Preparedness program:

- FPP-2.23, "Kootenai Facility Fire Pump Water Supply"
- TSI-6.2.26, "Bi Weekly Site One Siren Remote Control Test"
- TSI-6.2.32, " Bi Weekly Emergency Response River Siren Polling Test"
- TSI 6.2.25, "Weekly Crossroads Siren Polling Test"

During observations of the performance of TSI 6.2.26 it was noted that the Nuclear Security Officer in the Security Communications Center (SCC) was unfamiliar with how to perform the telephone keystrokes. The keystrokes are listed in the procedure and are required to remotely activate the sirens. The procedure directs the guard to dial "*#" as the first two digits of the six digit code. The last four digits are numerical. After an unsuccessful attempt, the technician had to coach the guard to include the nomenclature prior to entering the four digit numerical code. The technician indicated similar coaching was necessary in the past. A more clear and direct method of listing the six telephone keystrokes for activation of the Site One sirens needs to be devised.

The growl test (Bi Weekly Site One Siren Remote Control Test) is performed simultaneously on the siren above Site One gate 1-1 and the siren on the Site One service building. The communications technician controlling the test is located inside the guardhouse to push an interrupt button to stop the sirens immediately to prevent the siren from completely spinning up. Sound from the siren on the service building cannot be distinguished from the siren above gate 11 in the current test procedure process. A method of routinely verifying activation of both sirens needs to be developed. As a result of the problems with the use of the growl testing procedure, the following PER was written:

Quality Finding (PER 202-0542)

Problems were identified with performance of Site One siren remote testing procedure.

Further evaluation of the siren system identified that the crossroads siren is of a different design than the 11 river sirens. The river sirens provide reliable feedback from their poll tests that indicate the batteries are charged and that no malfunctions exist in their electronic components. In the case of the crossroads siren, the test provides indication that AC power is available to the 12 VDC charger. Although both the 12 VDC and 24 VDC batteries are fed from the same 120VAC power supply, no remote capability to communicate with the 24 VDC battery that actually operates the siren has been established. For this reason, the polling test does not meet requirements for verifying operability of the crossroad siren.

Additionally, it was noted that the SCC control and activation circuit for the crossroads siren has no assigned preventative maintenance tasks. This circuitry communicates via the telecommunications multiplex system with the radio signal device in the Kootenai building to remotely alert and cancel the crossroads siren. The crossroads siren has been fully activated on three occasions since June 2001, which has demonstrated siren operability.

As a result of problems noted with the method of testing the crossroads siren and the lack of established preventative maintenance for the control and activation circuit, the following PER was written:

Quality Finding (PER 202-0543)

Crossroads siren polling test does not status the crossroad siren's operability as intended.

The possible failure of a siren(s) due to inadequate testing and the result of personnel not being aware a response is required were further considered during this evaluation. Discussions with personnel that work in the records vault identified a condition of a facility with insufficient communication equipment. This is an area where personnel could not hear an emergency notification. This condition was documented on the following PER:

Quality Finding (PER 202-0554)

Building 64 records vault does not have speakers or other means available to support notification of emergency/evacuation notifications.

No problems were noted during observations of the testing of the Kootenai diesel fire pump or with polling of the river sirens.

Section 2.3 – Equipment Testing Documentation

A process review including recurring Plant Tracking Log (PTLs) entries, Emergency Planning Instructions (EPIs), and activities managed in the PASSPORT system was performed. The team's focus was on activities performed within the EP organization to determine that records that support the program are being prepared, reviewed, approved, and transmitted for incorporation into the records retention system.

EP uses the PTL database to perform recurring tests and surveillances and track program requirements. Using the PTL query for "R" (recurring) and Emergency Preparedness (EP) organization code (28400), seventy-five PTLs were identified. Sixty-five PTL items were selected for review after they were determined to be applicable to this audit. These items are internal to the department and assigned to EP personnel. Recurring PTLs were selected to determine if a status for each recurrence was entered that would provide a record (history) for the item.

Quality reviewed these PTL items and categorized them into five areas. The category "Equipment Testing and Maintenance" was selected to review PTLs for record documentation and retention. Of the twenty-six PTLs in this category, three were found with no status update and twelve had incomplete status updates. Two of the several examples are included below:

- PTL R-150208-Conduct the ERDS Test. This test is performed quarterly as defined in PPM 13.14.4, "Emergency Equipment." The test is conducted using an Emergency Planning Instruction (EPI). The EPI has no provision for test approval even though the instruction includes a requirement that the Emergency Preparedness Program Lead oversee the testing process and validate the results. In addition, the PTL does not have a test result status for 2000 or 2001. No results of tests are sent to records.

- PTL R-153957-Test NRC FTS 2000 Phones at the Control Room, TSC and OSC. This test is performed monthly as defined in PPM 13.14.4. This activity was changed over from PASSPORT to PTL early in 1999. No status has been entered since April 26, 2001. No results of tests are sent to records.

Of the sixty-five PTL items reviewed, regardless of priority or importance, twenty-nine were found incomplete in providing a status for the recurring activity. These examples demonstrate that essential emergency equipment test and maintenance results are not being recorded, reviewed or approved, and entered into the records retention system.

A review of EPIs was performed to determine that records of emergency equipment test and maintenance activities described in the instructions were maintained. Examples of equipment testing and maintenance where records were not maintained are included below:

- EPI-04, "Self-Assessment Program," requires weekly walk downs of emergency facilities and equipment. This walk down documents the status of equipment, supplies and condition of the OSC, TSC, and EOF. The form calls out several equipment tests. This form is maintained by EP but not reviewed or sent to records.

- EPI-08, "Emergency Preparedness Sign Maintenance," describes the location and maintenance requirements for warning signs posted within the 10-Mile Emergency Planning Zone. These signs provide warning and direction for transient personnel. Inspections are required annually. A form is used to document the inspection. No record of the inspection could be found and the results are not sent to records storage.

Concerns with the Emergency Preparedness processes used for documentation and processing of records were reviewed with EP personnel. The following PER was written to document process discrepancies:

Quality Finding (PER 202-0728)

Processes that support performance of maintenance and testing by the Emergency Preparedness organization are not adequate to ensure documentation, review or approval, and results are entered into the records retention system.

A sample of work packages and procedures/instructions supporting emergency equipment testing were reviewed. The review included PPM 13.14.4 "Emergency Equipment" and attachments, which list the equipment to be tested. Various departments within Energy Northwest share the responsibility for performing maintenance and calibration on the EP equipment necessary to implement the provisions of the Emergency Plan. This review concluded that PPM 13.14.4 was inconsistent and contained numerous errors identified below:

- The listed tests and the associated databases (PASSPORT and PTL) are incorrectly referenced
- Tests are tracked by departmental databases that are not referenced
- The frequency for several surveillances are not established in the procedure
- The test frequency in the procedure is mis-aligned with the work instructions

Prior to the review of PPM 13.14.4, Quality had reviewed a previous revision as part of the procedure revision process. Discrepancies including incomplete references, incorrect position titles, conflicting instructions, and improper references to the work management process were identified and discussed with the procedure coordinator. These discrepancies indicate inattention to detail in the maintenance of this procedure. The following PER was written to address the procedure concerns:

Quality Finding (PER 202-0564)

PPM 13.14.4 contains numerous errors and inconsistencies.

During this audit the EP staff identified that the Energy Northwest Office Complex (ENOC) was not in a state of readiness following a facility visit. EP has taken credit for this facility in the Emergency Plan as one of the offsite monitoring locations. Although evacuation kits stored in the facility are part of the EP equipment maintenance program, the facility itself had not been scheduled in facility walkdown activities to assure facility readiness. This oversight in identifying the ENOC in PPM 13.14.4 and establishing a walkdown schedule will be addressed as part of the disposition in the above mentioned PER.

Quality identified discrepancies with the siren testing methods and the resulting documentation earlier in the audit period documenting this condition in the following PER:

Quality Finding (PER 201-2565)

Siren testing requirements and frequency are not described in PPM 13.14.4.

The audit team found similar problems with EP equipment testing during this dedicated audit. This indicates a generic weakness in work performance and documentation. Specifically, several work activities were sampled to determine if records from support organizations were initiated, completed and properly filed.

The sample included the following work items:

- Work order tasks for siren polling testing for year 2001
- PTL items for the crash phone tests performed on December 26, 2001 through January 23, 2002
- EP facility walkdown performed December 17, 2001
- Telecommunications radio-base EP equipment testing due December 31, 2001

The results of this sample of work items on EP equipment tests revealed the following types of conditions:

- Work documents are incomplete, with data missing
- Work is being performed without the support of an instruction
- Work performed under PASSPORT lacked adequate work instructions
- Work documentation has not been sent to plant records, but instead is housed in department files
- Work documentation is destroyed and cannot be retrieved
- PASSPORT work packages that include the use of a drawing with work details are filed without the drawing
- Instructions do not reference PPM 13.14.4, when applicable
- Acceptability of test results is not indicated
- Problems identified when performing EP equipment tests are not documented through a PER
- Problems identified when performing EP equipment tests are not communicated to EP

The following PERs were initiated to address the work document concerns:

Quality Finding (PER 202-0562)
Method of documentation for EP equipment testing is inconsistent and in some cases inadequate.

Quality Finding (PER 202-0560)
Discrepancies were identified in the Telecommunications services instructions (TSI) supporting EP equipment.

Quality Finding (PER 202-0561)
Records are not being maintained for EP equipment tests as required.

PASSPORT generated work orders that support EP testing were sampled to determine if documentation is retrievable from plant files. The sampling determined the selection of PASSPORT work items were retrievable.

Section 3.0 – Training

Section 3.1 – Emergency Preparedness Personnel Qualifications

The core training requirements for emergency planners within the organization were discussed with department personnel and were reviewed using the Personnel Qualification Database (PQD). The training requirements are properly outlined in the database and assigned duties are aligned to the position-specific qualifications. The newest emergency planner was not current on all qualifications. However, this could be expected due to his short time in the organization. Currently there is no conflict with position-specific qualification requirements due to the nature of his assigned work. All other emergency planners meet the position-specific qualifications. Based upon interviews with EP staff and review of qualifications, personnel are adequately indoctrinated, trained, and qualified to perform emergency preparedness functions.

Section 3.2 – Emergency Response Organization

Training requirements for the ERO positions are listed in the PQD. Training effectiveness is initially measured by the results of the testing administered for each ERO training module. The effectiveness of ERO training is further measured by team performance and drill critiques. The Systematic Approach to Training (SAT) process is used to determine the content of initial and continuing position specific training. Lesson plans are influenced and revised according to student and supervisor feedback, by team performance during drills, and by changes to hardware and performance expectations. Three training lesson plans were reviewed: "Emergency Dose Projection Systems (EPDS)," "Emergency Classification," and "Emergency Planning Overview." All plans had changes incorporated related to the feedback mechanisms previously discussed. Form and content were aligned with the SAT model.

On a monthly basis, EP performs a sort of ERO personnel coming due for position-specific training requirements. EP then notifies the individuals and the appropriate administrative staff within the organization. A cross section of 27 individuals from the four ERO teams were selected and referenced against the four PQD codes for drill attendance. All but one individual had satisfied the drill attendance requirement. However, this individual had observed two drills. The PQD indicated that he has received position-specific training for his position, and in accordance with procedural requirements, is fully qualified to perform his ERO function.

The qualifications as listed in PQD, Section 2.8 for the individual ERO team members that function as Information Coordinator, TSC Administrative Manager, and Control Room Information Coordinator were verified to be current using the PQD database.

Management's expectation is that all ERO team members participate in at least one drill per year. Individuals who did not participate in a drill during 2001 received remediation through training. The remedial training was position-specific one-on-one training and included procedure changes, areas for improvement, strengths, and weaknesses identified in the previous drills, and any position-specific errors that occurred.

This remedial training to make up for drill participation is infrequently performed and contained the elements of refresher training recommended by INPO 96-009. Quality considered this remedial training adequate for its designed purpose.

The PQD qualifications for the Dose Projection Health Physicist for each of the four ERO teams were selected for review. All were verified to be current in the database. The training is one-on-one with the instructor in a format similar to on-the-job-training (OJT). The course outline includes hands-on training involving three dose projection scenarios that have to be fully demonstrated to meet training completion objectives. Also the individual is required to observe a dose projection health physicist on another ERO team perform during a drill. Two individuals qualified for this ERO function were contacted and asked about the quality of their training. Both individuals expressed confidence in the combination of training and supporting procedures in performing dose projections error free.

Off-site personnel, including firemen, hospital and ambulance workers, and law enforcement personnel, receive training from their respective county emergency planning organizations as prescribed by NUREG-0654, Section 0, "Radiological Emergency Response Training Evaluation Criteria." This training is observed by a member of the Energy Northwest EP organization and by the Federal Emergency Management Agency (FEMA) on a periodic basis. In conjunction with the training, documentation of the lesson plans and training attendance is a responsibility of the counties. Several Emergency Planners in different counties, responsible for training records, were contacted and county records were sampled and reviewed. Training to offsite support agencies is being conducted and properly documented, in accordance with NUREG-0654. No deficiencies were noted in this area.

The Designated Site Authority (DSA) at Site One also acts as the Site Emergency Manager (SEM) in the event of an emergency. The primary duty of the SEM is to assure notification of all people onsite within 15 minutes and assure evacuation within one hour. A check of the PQD for the individuals who perform the role of DSA/SEM indicated that only one had performed in an emergency drill. The Site One Manager (and SEM) was contacted regarding expectations for training and participation in emergency drills. The manager indicated that Site One has not participated in drills unless the requirement to evacuate is contained in the drill scenario. Site One held an evacuation drill recently that required notification and evacuation, including sweeps to assure notification and evacuation had been accomplished. In order to assure all personnel assigned the function of SEM are practiced at performing their role as Site Emergency Manager, the following recommendation is made:

Quality Recommendation (AU-EP-02-B)

Assign the Site One Emergency Manager as an ERO team position to assure all individuals who fill this role are trained and practiced at their emergency response duties.

Training on emergency evacuations is provided to BPA ASHE Substation personnel by EP staff on an annual basis. The training lesson material included a handout covering the concept of emergency preparedness, the Columbia Generating Station 1.2 mile Exclusion Area, evacuation notification methods, and the reporting requirements including the assembly area at 3000 George Washington Way. The content of this lesson material was adequate to provide BPA Ashe Substation personnel evacuation guidance. A laminated EP informational aid on emergency evacuation has been provided to BPA ASHE Substation personnel to support emergency response. The laminate is designed to fit on identification necklaces with the identification badges. Training elements and documentation were deemed adequate.

Section 4.0 - Review of Emergency Plan and Implementing Procedures

Section 4.1 - Review of the Emergency Plan

The current status for the Independent Spent Fuel Storage Installation (ISFSI) operation requires a review of the Emergency Plan. A comparison was performed to ensure all elements of the 10 CFR 72.32(b) regulations were incorporated into the Emergency Plan. This review was tracked in the Plant Tracking Log database. EP has determined there will be no decrease in effectiveness with the anticipated ISFSI program changes as documented in LBIE-01-020. The Columbia Generating Station Emergency Plan has not yet been revised to include the requirements of 10 CFR 72.32(b). EP has established May 24, 2002 for completion of the Emergency Plan revision and approval by the Plant Operations Committee. Volume 13 procedure revisions will occur in parallel with the Emergency Plan approval. The required training for the new Emergency Action Levels (EALs) is scheduled for completion by the end of May 2002.

Section 4.2 - Emergency Plan Administration

A review of revisions to the Columbia Generating Station Emergency Plan was performed to determine that the appropriate reviews were performed, the plan was updated, and the correct approvals were obtained. Since the previous audit, there have been four approved revisions to the Emergency Plan. The synopses of changes were reviewed for revisions 28 through 31.

NUREG 0654, identifies that each organization shall update its EP plan and agreements as needed. These documents require review and certification to be current on an annual basis. Although the PTL identifies an annual review, Section 8.2 of the Emergency Plan does not include the requirement for "annual" review. Additionally, this same reference has not been incorporated into the Emergency Plan Appendix 5, NUREG 0654 Cross Reference. The implementing procedure and the driving PTL requires this annual review. The following recommendations are offered to enhance program alignment:

Quality Recommendation (AU-EP-02-C)

Revise Section 8.2 of the Emergency Plan to include "annual" review.

Quality Recommendation (AU-EP-02-D)

Revise Appendix 5 of the Emergency Plan to include NUREG 0654, Section P, and Responsibility for the Planning Effort, Evaluation Criteria 4.

Procedural guidance for review and revision to the Emergency Plan is coordinated between PPM 13.14.9, "Emergency Program Maintenance," EPI-16, "Emergency Plan Change Processing," and SWP-LIC-03, "Licensing Document Change Process." A review of PPM 13.14.9 determined that the implementing procedure contained the required guidance for plan reviews that includes responsibilities, required actions, topic, frequency, and scope. The guidance provided in the implementing procedure, as well as the other supporting guidance for maintaining the Emergency Plan, was satisfactory

Quality performed a review of the PTL item that tracks the annual review and update of the Emergency Plan. The PTL entry had incorrect information, incomplete references, and provided no status for the annual review performed in 2001. Entries in 1999 and 2000 indicate revisions to the Emergency Plan were performed. However, there were no entries for 2001 to document the need for review or evaluate that revisions were initiated. Discrepancies in PTL and the methods for tracking EP activities have been documented in PER 202-0728, previously mentioned.

Section 4.3 – Review of Changes to the Emergency Plan

Changes identified in the "Synopsis of Changes" document were correctly implemented in the applicable revisions 28 through 31 of the Emergency Plan. Additionally, all of the changes identified were found in revision 31 of the Emergency Plan. Revised pages were appropriately marked to indicate where changes occurred as required. No concerns were identified.

The Emergency Plan revisions, since the previous audit, were reviewed to determine that correct approvals were obtained. Copies of the signed revisions were reviewed and the proper approvals were found in accordance with the Emergency Plan.

Appendix E of 10 CFR 50 requires the submittal of any changes to the Emergency Plan to the Commission within 30 days of such changes. A review of transmittal letters issued for Emergency Plan revisions 28 through 31 was performed to determine that changes were submitted within 30 days. For the last three revisions, submittal of the Emergency Plan revisions exceeded the 30 days. These revisions were submitted, 50, 41 and 37 days respectively. This concern was discussed with the Supervisor, Emergency Preparedness and documented in the following PER:

Quality Finding (PER 202-0598)

The last three revisions to the Emergency Plan were not submitted within 30 days as required.

Revisions 28 through 31 of the Emergency Plan were reviewed in conjunction with the implementing procedures to ensure changes had been adequately incorporated and that a reduction of effectiveness received appropriate evaluation.

Quality reviewed the change from the Shift Technical Advisor (STA) position to an STA function assigned to an on-staff SRO. It was determined that the responsibilities and associated authorities are established in the FSAR, Technical Specifications, Emergency Plan and appropriate procedures. The changes have been effectively implemented. The training related to the change, including that for the Emergency Response SRO, is adequate. Organizational structure, process, and program changes have been implemented in accordance with requirements.

The reviewed changes to the Emergency Plan have been addressed in implementing procedures and did not constitute a reduction in effectiveness. No further action is warranted.

Section 5.0 - Implementing Procedures and Instructions

Section 5.1 - Planning Standards

The audit team developed a matrix of elements comprised of the risk significant planning standards described in 10 CFR 50.47. These elements were compared with the Emergency Plan and the implementing procedures to determine that requirements are adequately incorporated. All corresponding elements were found in the Emergency Plan. Results also revealed the referenced procedures provide sufficient detailed direction to ensure federal regulations are being implemented. No concerns were identified.

Section 5.2 - Notification and Evacuation

A comparison of the Emergency Plan with implementing procedures was performed to specifically determine that protective actions for the plume pathway Emergency Planning Zone (EPZ) are established for emergency workers and the public. The protective actions for emergency workers and the public, required by the Emergency Plan, are implemented through several procedures. The range of protective actions addressed includes evacuation, sheltering, and the administration of a thyroid-blocking agent, potassium iodide (KI). PPM 13.2.1 provides specific guidance for application of the EPA Protective Action Guides to emergency workers and the public.

Focus was directed toward determining the adequacy of the established guidance and level of understanding for personnel within the Exclusion Area regarding the evacuation process. The audit team reviewed the General Employee Training (GET) handout for plant access, regarding emergency response preparedness. The following elements were found inadequate:

- The handout makes reference to dialing extension 6541 for information regarding the alerting tones. When listening to the recorded message regarding the Exclusion Area Alarm, the instructions request personnel to report to the warehouse parking lot behind Supply System Headquarters. This is no longer a designated assembly area.
- The GET handout needs additional information to adequately describe personnel actions in response to a 3-minute siren for Site Area Emergency and Exclusion Area evacuations.

The following PER was written to document these concerns with GET information:

Quality Finding (PER 202-0430)

General Employee Training does not adequately describe the notification process for personnel within the Exclusion Area boundary.

Selected individuals, located within the "Owner Controller Area" but who do not enter the "Protected Area," were interviewed. Specific questions were asked to determine the level of understanding in how they would expect to be notified and what initial actions should be taken in an emergency. The following results were obtained from specific groupings of individuals:

- Site One individuals - The specific results indicate that 29 of 38 individuals questioned, correctly conveyed the elements of the Site One specific emergency response training. A review of EP training documents show all of these individuals questioned had received the Site One emergency response training.

- Bonneville Power Administration staff assigned to the Ashe Substation - All persons interviewed knew the appropriate emergency response in the event that the Exclusion Area is evacuated.

- Energy Northwest Personnel - Approximately 92 percent knew the appropriate emergency response in the event the Exclusion Area is evacuated.

In response to the survey results, Emergency Preparedness management developed a mail-out that was distributed via e-mail. The mail-out contained abbreviated Emergency Northwest emergency response and evacuation instructions. The instructions were distributed to managers and administrative assistants with the direction that managers ensure the information was reviewed with company personnel within one week. Based upon the team's follow-up two weeks after the mail-out, approximately half of the company personnel had not been briefed on the handout information. This method of reinforcing the guidance for notification and evacuation within the exclusion area was inadequate and did not satisfy management's expectations. The following PER was written to address this issue:

Quality Finding (PER 202-0697)

Deficiencies were identified with the Emergency Preparedness briefing handout.

Employees that are issued a blue-badge do not have access to the Protected Area (PA). These employees are not required to be qualified through Protected Area Access Training. Information concerning actions to be taken in an emergency is provided by supervision when completing the New Hire Checklist. General Information Handbook (GIH) 4.1.5, "Candidate Selection Process," requires that the hiring manager assure the checklist is completed and forwarded to Nuclear Training within 14 days of hire.

A spot check of the names associated with the PQD code showed the checklists are being processed as required. Interviews of a limited selection of blue-badged employees in the Deschutes Building revealed they recalled they should listen to the public announcement for instructions following an announcement of an emergency condition. More formalized training on emergency response is in the process of being developed, specifically, for personnel who require access to the Exclusion Area but not the Protected Area. This action is a result of PER 202-0098.

Although the team concluded an adequate process has been outlined to support Exclusion Area evacuations, some areas for enhancement were identified during the process review and interviews. As a result, the following recommendations are offered:

Quality Recommendation (AU-EP-02-E)

Replace the existing map included in the roadblock kit with a more detailed map that shows where to park and where to go upon arrival at the ENOC.

Quality Recommendation (AU-EP-02-F)

Incorporate a specific step addressing Gate 1-1 Guardhouse evacuation signs into the Site One Emergency and Evacuation Response Plan as well as SWI 7.01.

Quality Recommendation (AU-EP-02-G)

Develop a method by which Site One emergency preparedness documents are integrated into the Columbia Generating Station library for reference and periodic review.

Section 6.0 - Problem Identification and Resolution

Section 6.1 - Review of Self Assessments

Quality's review of self-assessments performed by EP in this last year found that the organization has used the process as an effective tool to identify issues that need resolution. Problems identified are being documented using the corrective action process. The scope of completed self-assessments and those scheduled indicates EP is self-critical in seeking areas for improvement. Self-assessment topics included ERO performance quality, an Operating Experience review, and Maintenance and Operations interface related to ERO staffing.

In some cases the EP assessment recommendations had not been entered into PTL for tracking. This is due in part to a lack of awareness by the EP staff of the site-wide guidance. Similar administrative tracking problems with self-assessments has been identified in other recent audits, indicating that procedure guidance could be a contributor. The need for a review of the procedure guidance has been assigned to the Self-Assessment Coordinator via PTL.

The following PER was written to document the failure to track actions as prescribed in SWP-ASU-02, " Energy Northwest Self-Assessment Program."

Quality Finding (PER 202-0641)

Self-Assessment recommendations not tracked in PTL as required.

Section 6.2 - Corrective Action Review

A review of a sample of PERs and Corrective Actions Plans (CAPs) related to Emergency Preparedness was performed. By comparing the problem statement and information in the PERs with the resolutions developed, it was apparent that the majority of PERs have a complete and accurate identification of the problem.

The review of PER resolutions shows the cause dispositions, "Evaluate Only" and "Apparent Cause" are being assigned in accordance with SWP-CAP-01, " Problem Evaluation Requests." Generally, the cause identified in the resolution is logically connected with the problem stated in the PER. The remedial corrective actions within resolutions and corrective actions documented as CAPs are reasonable in relation to the cause(s) identified. An investigation of corrective actions tracked in PTL found that corrective actions are being completed as scheduled for most PERs. About 15 percent of the corrective actions had received extensions of the due date in accordance with SWP-CAP-01. Of the sample of EP assigned CAPs closed since January, six were closed late. In no case was the closure more than two days overdue.

There were few cases of events that were similar enough to be classed as repeat events. Prior to August, 2000 there were seven PERs related to on-call ERO team members not staffing positions as planned or attending ERO meetings. The reported situation did not result in failing to staff ERO positions in any of these instances because alternate team members filled the open position(s). After August 2000, there were no similar events indicating that corrective actions were effective.

The majority of Emergency Preparedness related PERs deal with problems/issues that are tightly defined and amenable to straight-forward corrective actions. These situations are being identified and resolved in accordance with the Corrective Action Program and consistent with the expectations of management.

Section 6.3 - Significant PER Review

The two significant PERs related to Emergency Preparedness initiated in the audit period were reviewed. For PER 201-0896, the root cause for the problem of unevaluated modifications to the TSC was determined to be a lack of commitment by Columbia Generating Station to the TSC. This led to the belief that the TSC and the resources it utilizes are available without the need for evaluation to be used as the Outage Control Center. The root cause analysis resulted in six corrective actions being implemented. CAP six directs a procedure to be written for outage control of the TSC. Completion of this CAP has a high likelihood of preventing recurrence of similar events.

For PER 201-1793, the root cause was determined to be inadequate monitoring by the Emergency Preparedness organization of Site One notification and evacuation Emergency Plan implementation. Further discussion of this PER is discussed in the following section.

Section 6.4 – Problem Evaluation Requests Addressing the Yellow Finding

A review was conducted of PERs written to address NRC issues regarding notification and evacuation of individuals residing at Site One. This review evaluated the adequacy of the resolutions and the corrective actions taken or planned. Based on the following PER reviews, Quality determined that the EP organization did not adequately implement the PER process to promptly correct problems identified with the notification and evacuation of lessee/employees at Site One.

EP did not initially acknowledge the extent of the problem:

- The problem was inaccurately stated in the original PER when the issues were known
- The original root cause identified Site One with primary responsibility for the problem
- The root cause took five months to disposition and was revised three times

Resolution of the identified problems regarding Site One evacuation was inadequate:

- Some cause statements did not connect with issues described in the problem statements
- Identified corrective actions did not address the cause or problem statement
- Identified deficiencies in corrective action implementation were not corrected
- Some issues listed in the problem statement were not addressed in the cause or corrective actions

Therefore, the following PER was initiated:

Quality Finding (PER 202-0763)

Resolution of identified problems regarding evacuation of Site One was inadequate.

A matrix was developed to compare the NRC Notice of Violation (NOV) issues with the corrective actions addressing the resolution of the issues. This comparison found that issues that had not been resolved in the root cause and earlier PERs, were addressed in PER 202-0098 to document the receipt of the NRC Yellow Finding. If implemented, corrective actions address all issues stated in the NOV.

Although corrective actions address the initial concerns, the overall approach was not systematic, and is difficult to follow. For this reason, the methodology needs to be clarified to ensure the documentation establishes a clear relationship between the identified problems and actions taken in response.

The PERs written in response to the NRC's concerns and the resulting Yellow Finding, were reviewed and a short synopsis of each has been provided on Attachment D of this report.

Section 6.5 - Follow-Up To Corrective Actions From Previous Audit Findings

A review of previous Quality audits in the area of Emergency Preparedness disclosed that issues concerning Site One were identified as early as 1992. A review of the 1992 Emergency Preparedness audit was conducted to determine the effectiveness of corrective actions taken to address deficiencies in the Site One and Exclusion Area notification and evacuation process. In 1992, audit findings were documented and tracked to completion on Quality Finding Reports (QFRs). Quality verified that the QFR actions were completed and were adequate to correct the identified issues. Although the corrective actions appeared to be effective at the time, there is no indication that a Quality follow-up for effectiveness was performed. The corrective actions relied on the Site One gatehouse officer to assure that notification and evacuation was performed. In 1995, the gatehouse officer was removed and the change management process did not adequately address the affect on the actions taken in response to the 1992 audit finding.

The only subsequent audit that assessed notification and evacuation of the public was 294-014. However, the audit did not look at Site One or the Exclusion Area. As a result of the inadequate follow-up the following PER was initiated:

Quality Finding (PER 202-0602)

Quality oversight of Emergency Preparedness did not meet expectations.

Prior to 1996, audits did not include a requirement to follow-up on corrective actions from previous audit findings. The 2001 audit was performed under a standard audit plan that will be used as the basis for future plans. The standard audit plan has a checklist question for review of the effectiveness of the corrective actions from previous audits and, as a result of the root cause on the NRC Yellow Finding, includes direction to evaluate processes for the notification and evacuation of individuals within the exclusion area.

Most of the corrective actions reviewed were effective in correcting the problems noted in the audit findings. Repeat audit issues that have not been adequately resolved include inadequate records management and lack of configuration control for emergency facilities. Records management issues were again identified in the 2002 audit and documented on PER 202-0728. Configuration control issues are documented in audits as early as 1993 to the most recent on PER 297-0205. Corrective actions for 297-0205 have been extended several times and are not scheduled until 2005. However, interim actions are in place to assure that facility changes are reviewed for regulatory requirements. There are outstanding actions for each of the identified findings.

Section 7.0 - Readiness Testing

Section 7.1 - Drill and Exercise Requirements

The team reviewed the Emergency Preparedness drill and exercise schedules for 1999, 2000, 2001. The NUREG 0654 required elements and objectives were compared to the Emergency Plan.

The review included PPM 13.14.8, "Drill and Exercise Program," EPI-3, "Maintaining The Six Year Plan" EPI-21 "Drill and Exercise Performance," and the Six Year Plan dated 1996 to ensure that all of the NUREG 0654 requirements and other commitments were demonstrated.

The Six Year Plan, dated October 26, 1995, contains a matrix showing commitments and requirements, but has not been kept current and cannot be relied upon to provide a means of tracking and statusing program requirements. The following PER was initiated to address this concern:

Quality Finding (PER 202-0559)

The Emergency Preparedness Six Year Plan has not been maintained current as required.

The EP staff self-identified that the program's evacuation plans had not been fully demonstrated. In review of program requirements, it was discovered that two evacuation drills, Exclusion Area Evacuation and Facility Evacuation had not been performed in this past six-year period. Further it was determined that these evacuations had not been incorporated into the Six-Year Plan, which was a contributor to this oversight. These problems were documented in the corrective action process as follows:

- Demonstrations by drill evacuation of the Exclusion Area to the ENOC has not been performed in the past 6 years - (202-0530)
- Demonstration by drill of the evacuation and relocation of emergency facilities has not been performed in the past 6 years - (202-0529)
- The Six Year Plan failed to include evacuation and relocation of emergency centers and owner-controlled areas - (202-0528)

A review of drill documentation was performed to determine whether drills and exercises have been performed as required by the Emergency Plan and implementing procedures. It was determined that all required ERO drills, biennial exercises, and communication drills have been performed with the exception of those listed above. However, there is no evidence of the performance of Radiological Monitoring and Health Physics drills for the last two years. These drills are typically held during ERO drills and require the following actions:

- Radiological Monitoring Drill - collect, sample, and analyze sample media (water, air, soil, and vegetation) on a annual frequency
- Health Physics Drill - respond to and analyze simulated elevated airborne and liquid samples and direct radiation measurements in the environment on a semi-annual frequency

The absence of documentation makes it unclear as to whether the objectives in these two areas have been met. The following PER was written to document this discrepancy:

Quality Finding (PER 202-0601)

No documented evidence of required sampling performed during the Radiological Monitoring and Health Physics Drills for 2000 and 2001 can be found.

Some difficulty was experienced in confirming the schedule and completion of drill requirements and program objectives. This was due to the methods currently being used by the staff to schedule and status requirements. This includes PTL, the Six Year Plan, EPI-21 and the specific drill package and the associated drill reports. For example, the scope and objectives of the drill/exercises are not clearly worded to identify which NUREG -0654 drill/exercise requirements are being addressed and if any other additional objectives must be met to satisfy the commitments. The current requirement tracking methods used by EP is limiting their effectiveness in providing program oversight. To ensure program requirements are properly included in scheduled activities and to provide adequate documentation of performance, the following recommendations are offered:

Quality Recommendation (AU-EP-02-H)

Develop a database program to track required tasks, which includes the source of the requirement, required frequency of performance, schedule performance, and specific location (PTL) for tracking completion.

Quality Recommendation (AU-EP-O2-I)

List all specific requirements/commitments to be demonstrated in any specific drill/exercise in the objectives of the drill package. Ensure that the list of drill participants includes all the centers and players within each center that are needed to satisfy the objectives.

Section 7.2 - Team C Drill Observation

Since there were no drill activities scheduled during the performance of this audit, the audit team used observations gathered during the Team "C" drill performed August 28, 2001 to determine the adequacy of drill play performance. During the August drill, Quality personnel were stationed in the Alternate Emergency Operations Facility (EOF), TSC, OSC, Joint Information Center (JIC) and at Site One. In general, Quality concluded that drill performance was adequate in the locations assessed.

This drill scenario required EOF participants to report to the Alternate EOF. There was confusion at the start of the drill due to the change in location. This change resulted in a delay in manning of the required environmental field teams and in the EOF being completely staffed; however, EOF activation was completed within the one-hour minimum time.

During Team "C" drill performance, notifications to Site One personnel and security actions relative to notifications and follow-up "sweeps" were observed. These elements were the result of immediate actions placed into effect due to the NRC concerns regarding the Exclusion Area evacuation affecting personnel located in the Exclusion Area at the Site One.

Personnel staged at Site One monitored the time and type of notifications received. The first notification was at 12:20 when the Site One Emergency Manager provided an informational briefing to the staff concerning the emergency notification (Alert at 12:05 due to earthquake). No actions were required from workers at this time.

At 1310 an emergency announcement was provided to Site One personnel instructing them to go home. At 1318 the call tree was initiated for Site One tenants. By 1329 all tenants had been contacted either by phone or a personal visit.

Additionally during this drill, security officers were observed performing site sweeps and the Security Manager stationed at the EOF was observed identifying emergency actions for a Site One evacuation. All required actions were performed successfully, in accordance with PPM 13.5.3 "Evacuation of Exclusion Area and/or Nearby Facilities."

Post play briefings were self-critical with common problems being identified including field team priorities in the TSC, timeliness of field team dispatch and communication difficulties due to equipment problems. Several items that were discussed were identified as repeat issues. The drill play provided an opportunity for ERO personnel to demonstrate their proficiency. Overall, acceptable priorities were identified and the required actions were initiated to address protection of the public and plant personnel. The team "C" drill performance was deemed satisfactory.

Section 8.0 - Interface with Offsite Agencies

The Emergency Plan states that Energy Northwest will establish interfaces with outside support for onsite emergency response. Annually Energy Northwest reviews the Memoranda of Understanding (MOUs), Letters of Agreement, supporting plans and contracts with outside support agencies to ensure they remain accurate and applicable to Columbia Generating Station activities. Several MOUs, letters of agreement, and contracts were reviewed and determined to adequately address the services to be provided as stipulated in the Emergency Plan and PPM 13.14.9, "Emergency Program Maintenance." However, while reviewing the Fire and Ambulance contract, it was determined that neither the Fire Protection nor Emergency Preparedness departments had conducted an annual customer review and update with the Hanford Fire Department since 1999. Services have continued uninterrupted; however, an annual agreement has not been established. A PER was initiated to document and track resolution of this concern:

Quality Finding (PER 202-0472)

Hanford Site Support Services, Fire and Ambulance Agreement not annually reviewed or updated as required.

Additionally, Emergency Plan, Revision 31, Figure 3-1, Appendix 1, Appendix 3 and PPM 13.14.9 were not in alignment with the MOU and Letters of Agreement. The aforementioned documents do not consistently reflect the outside agency resources that are part of agreements and MOUs with Energy Northwest.

The following PER was initiated to address this discrepancy:

Quality Finding (PER 202-0684)

The Emergency Plan, Revision 31, Figure 3-1, Appendix 1 Appendix 3 and PPM 13.14.9 are not in alignment to MOU and Letters of Agreement.

Various off-site agency personnel were interviewed to ensure that agreements and contracts between Energy Northwest and their facility had been reviewed. As part of the interviews, agency personnel were asked to comment on their relationship with Columbia Generating Station. These agencies have stated that they are informed of all revisions to the Emergency Plan and their communication with the planners continues to be strong. Outside support agencies were afforded opportunities for input to their specific agreements or contracts and changes were incorporated as needed. Some agencies stated that the Lead, Offsite Emergency Preparedness Programs, made frequent visits to their facilities to assess their readiness to support the agreed or contracted services. The general level of satisfaction in relationship and interface with Energy Northwest was very high.

Section 9.0 - Performance Indicators (PIs)

An evaluation of the Emergency Preparedness Performance Indicators for the first through fourth quarters of 2001 determined, from the limited sample selection, the submittals were accurate and complete. The following EP data for each quarter was reviewed:

- Number of drill, exercise, and actual event opportunities during reporting month
- Number of drill, exercise, and actual event opportunities performed timely and accurately during the month
- Emergency Response Organization Drill Participation
- Number of Key ERO members at the end of month
- Total key ERO members that have participated in a drill, exercise, or actual event in the previous eight quarters
- Alert and Notification System Reliability
- Total number of ANS sirens tested during the reporting month
- Number of successful ANS siren-tests during reporting month
- Work Order Tasks for the ANS siren tests

A comparison review of PPM 1.10.10, "Regulatory Performance Assessment Indicator Reporting" and NEI 99-02, "Voluntary Submission of Performance Indicator Data," was performed to verify compliance and program implementation. The program was found in compliance with the NEI guidance; however, the following program enhancements are offered:

Several elements of the NEI guidance have not been placed into the governing procedure. Although the guidance is being properly followed, additional elements should be included in the procedure to include guidance for making changes to previously submitted data and instructions for verifying submitted data is received without corruption.

Quality Recommendation AU-EP-02-J

Incorporate all the core elements of NEI 99-02 into the implementing procedure.

Additionally, the Performance Indicator Program Coordinator (PIPC) is responsible for the preparation of the internal monthly PI report and preparation of quarterly PI reports to the NRC. There are two Licensing personnel currently who can prepare the reports.

Development of a Qualification Group Code in PQD would support the position-specific qualifications training requirements needed for this position.

Quality Recommendation AU-EP-02-K

Develop a Qualification Group Code in PQD for the Performance Indicator Program Coordinator position.

Attachment E of this report displays the Emergency Preparedness performance indicators.

ATTACHMENT A - PERSONNEL CONTACTED

Personnel	Title		
SC Ackley	Senior Quality Auditor, Quality Services	*	
JD Arbuckle	Technical Specialist, Licensing		
GL Baumgartner	Technician, Construction and Maintenance Services		
DL Beecher	Health Physicist, ERO Team B Dose Projection		
BF Bond	Supervisor, Construction Maintenance Services	*	
M Bozeman	Manager, Comanche Peak Emergency Planning		
Y Burgess	Administrative Clerk, Design Engineering		
KE Butler	Inspector, Quality Control	*	
B Calvert	Planner, Benton County Emergency		
PE Campbell	Technical Specialist III, Licensing		
SW Clark	Telecommunications Technician		
DW Coleman	Manager, Performances Assessment & Regulatory Programs	*	#
MS Collins	Senior Quality Auditor, Quality Services	#	
DW Culver	Manger, Construction Maintenance		
M Damarotsky	ENW Site One		
KM Engbarth	Supervisor, Quality Services MAINT/Plant Support	* #	
WA Estes	Maintenance	#	
DW Fraley	WNP-1 Site Manager	* #	
RJ Givin	Security Manager, Security		
JA Gloyn	Security Support Supervisor		
SR Goodwin	Senior Quality Auditor, Quality Services	#	
SM Grunst	Supervisor, Administrative Services		
BJ Hahn	Senior Quality Auditor, Quality Services	#	
JC Hanson	Manager, Training	#	
TR Harrington	ENW Site One		
KL Harris	Engineering Tec Spec VI		
VR Harris	Maintenance	*	
AM Hedges	Records Management Specialist, Administrative Services		
DB Holmes	Emergency Planner 4	#	
KJ Holt	WNP-1 Technical Specialist		
DR Huckfeldt	Administrative Assistant III, EP		
JP Ittner	Emergency Planner 4	*	
PJ Ingersoll	Manager, Projects	*	
SR Jerrow	Manager, Operations Support, Operations		
CL Jolley	Administrative Services Supervisor		
RE Jorgensen	Lead, Emergency Preparedness	* #	
WA Keil	Supervisor, Regulatory Services		
ME Khayyat	Nurse, Occupational Health		
AF Klauss	Lead, Offsite Emergency	* #	
JM Kohl	Technical Support Specialist II, Administrative Services		

M Lemke	Manager, Diablo Canyon Emergency Planning	
DF Maley	BECB Contractor	
SJ Martin	Administrative Assistant IV, Security	#
JW Massey	Senior Quality Auditor, Quality Services	#
LS May	Specialist, Security	
PA May	Engineer, Design Engineering	
DW McCullough	Lead, Telecommunications	
DW Merhar	Manager Work Team 2, Maintenance	
C Morgan	Manager, South Texas Project Emergency Planning	
DC Mueller	Emergency Planner 5	*
LC Oakes	Engineer, Site One	* #
DR Orcutt	Program Manager, Labor Relations	*#
WS Oxenford	Plant General Manager	#
JV Parrish	Chief Executive Officer	#
NT Patrou	Coordinator Hot Licensing	*
CL Perino	Manager, Licensing	
JF Peters	Manager, Radiological Services	#
LS Peters	Specialist, Investment Recovery	* #
JL Pierce	Supervisor, Emergency Preparedness	* #
TJ Powell	Technical Specialist VII,	
LA Pritchard	Senior Quality Auditor, Quality Services	#
SJ Rejniak	Senior Quality Auditor, Quality Services	#
CL Robinson	Senior Quality Auditor, Quality Services	#
TA Rogers	Planner, Franklin County Emergency	
WH Sawyer	Supervisor, Quality Services OPS/ENG	#
SL Scammon	Manager, ISFSI Program	
FA Schill	Technical Specialist VI, Licensing	
RV Seidl	Supervisor, Engineering Services	
RN Sherman	Performance Indictor Program Coordinator	
AL Sherman	Lead, Security Access Authority	
GO Smith	Vice President, Generation	#
ME Tuel	HP Staff Advisor 3	*
LA Walli	Administrative Assistant III, Licensing	
GM Watson	Records Management Specialist, Administrative Services	
RL Webring	Vice President Operations Support/PIO	* #
SD Wood	Supervisor, Chemistry	#
JE Wyrick	Manager, Resource Protection	*
ND Zimmerman	Manager, ISFSI Project	

* Audit Entrance Attendee – February 12, 2002
\# Audit Exit Attendee – March 13, 2002

ATTACHMENT B - SUMMARY OF FINDINGS AND RECOMMENDATIONS

Findings

PER 201-2565	Siren testing requirements and frequency are not described in PPM 13.14.4.
PER 202-0374	New procedure PPM 1.16.13, "Activation of the Outage Command Center for Forced, Refueling, Dispatch, or Other Plant Outages" which uses the TSC as the Outage Control Center was not formally reviewed by EP.
PER 202-0623	Insufficient criteria are available for determining plant restart holds for Emergency Planning issues.
PER 202-0624	Site One Activities that may affect Columbia Generating Station are presently outside the 50.59 and LDCN processes.
PER 202-0663	The instrument set point change process does not include the NRC notification requirement for ERDS set point changes.
PER 202-0635	Security procedures that implement the notification and evacuation phase of the Emergency Plan are not reviewed.
PER 202-0636	The work management process does not specifically require evaluations for Emergency Plan contingencies or EP operational unavailability goals.
PER 202-0559	The Emergency Preparedness Six Year Plan has not been maintained current as required.
PER 202-0641	Self-assessment recommendations not tracked in PTL as required.
PER 202-0601	No documented evidence of required sampling performed during the Radiological Monitoring and Health Physics Drills for 2000 and 2001 can be found.
PER 202-0564	PPM 13.14.4 contains numerous errors and inconsistencies.
PER 202-0562	Method of documentation for EP equipment testing is inconsistent and in some cases inadequate.
PER 202-0561	Records are not being maintained for EP equipment tests as required.
PER 202-0560	Discrepancies were identified in the telecommunication services instructions (TSIs) supporting EP equipment.

PER 202-0543	Crossroads siren polling test does not status the crossroad siren's operability as intended.
PER 202-0542	Problems were identified with performance of Site One siren remote testing procedure.
PER 202-0554	Building 64 records vault does not have speakers or other means available to support notification of emergency/evacuation notifications.
PER 202-0695	Columbia Generating Station procedure revision process does not include Site One for review or notification of procedure changes.
PER 202-0430	General employee training (GET) does not adequately describe the notification process for personnel within the exclusion area boundary.
PER 202-0472	Hanford Site Support Services, Fire and Ambulance agreement not annually reviewed or updated as required.
PER 202-0684	The Emergency Plan, Revision 31, Figure 3-1, Appendix 1 Appendix 3 and PPM 13.14.9 are not in alignment to MOUs and Letters of Agreement.
PER 202-0598	The last three revisions to the Emergency Plan were not submitted within the 30 days as required.
PER 202-0728	Processes that support performance of maintenance and testing by the Emergency Preparedness organization are not adequate to ensure documentation, review or approval, and results are entered into the records retention system.
PER 202-0697	Deficiencies were identified with the Emergency Preparedness briefing handout.
PER 202-0763	Resolution of identified problems regarding evacuation of Site One was inadequate.
PER 202-0602	Quality oversight of Emergency Preparedness did not meet expectations.

Recommendations

AU-EP-02-A	Apply the necessary resources to put the new auto dialer into full operation to support needed program improvement.

AU-EP-02-B	Assign the Site One site Emergency Manager as an ERO team position to assure all individuals who fill this role are trained and practiced at their emergency response duties.
AU-EP-02-C	Revise Section 8.2 of the Emergency Plan to include "annual" review.
AU-EP-02-D	Revise Appendix 5 of the Emergency Plan to include NUREG 0654, Section P, and Responsibility for the Planning Effort, Evaluation Criteria 4.
AU-EP-02-E	Replace the existing map included in the roadblock kit with a more detailed map that shows where to park and where to go upon arrival at the ENOC.
AU-EP-02-F	Incorporate a specific step addressing Gate 1-1 Guardhouse evacuation signs into both the Site One Emergency and Evacuation Response Plan as well as SWI 7.01.
AU-EP-02-G	Develop a method by which Site One emergency preparedness documents are integrated into the CGS Library for reference and periodic review.
AU-EP-02-H	Develop a database program that can track required tasks, which includes the source of requirement, the required frequency of performance, schedule performance and specific location (PTL) for tracking completion.
AU-EP-02-I	List all specific requirements/commitments to be demonstrated in any specific drill/exercise in the objectives of the drill package. Ensure that the list of drill participants includes all the centers and players within each center needed to satisfy the objectives.
AU-EP-02-J	Incorporate all the core elements of NEI 99-02 into the implementing procedure.
AU-EP-02-K	Develop a Qualification Group Code in PQD for the Performance Indicator Program Coordinator position.

ATTACHMENT C – FUNCTIONAL AREA MATRIX

Code	Categories/Elements	Activity Report No.	Comments
EP01	Organization	2429, 2043	
EP02	Training	2593, 2595, 2589, 2580, 2581, 2577, 2576, 2526, 2546,	
EP03	Instructions, and Procedures	2603, 2602, 2583, 2578, 2544, 2548, 2534, 2527, 2489, 2384, 2526, 2589, 2593, 2580, 2581	
EP16	Corrective Action	2602, 2603,2585, 2587, 2523, 2486	
EP17	Quality Records	2599, 2509	
EP18	Quality Audits	2664	
EP21	Facilities and Equipment	2589, 2551, 2509, 2487	
EP22	Offsite Interfaces	2584	
EP23	Readiness Testing	2648, 2650, 2663, 2526, 1982, 2007, 19751987, 1989,	
EP2	Performance Indicators	2510	

ATTACHMENT D - CORRECTIVE ACTION REVIEWS

PER 201-0569

This PER was written on April 12, 2001 to address concerns raised by the NRC regarding emergency notification and evacuation of Site One lessees. The problem statement, which focuses on accountability, is a mischaracterization of the issue since eight of the nine identified corrective actions address issues other than accountability, it is clear that the PER originator/dispositioner was aware of the identified issues but inaccurately stated the problem. A review of PER corrective actions determined that EP did not take responsibility for the issues and directed all corrective action at Site One and Procurement.

PER 201-1793

This PER was written on August 23, 2001 to document NRC concerns on the adequacy of the evacuation process at Site One. The issues listed in the problem statement were similar to those listed on PER 201-1829. The resolution was determined to require a root cause analysis to establish corrective action to prevent recurrence. The root cause analysis was completed on September 27, 2001 but has been revised three times since that time. The latest revision occurred on January 30, 2002. The original root cause was inadequate change management at Site One. However, the latest version describes the root cause as inadequate program monitoring of Site One by EP. A contributing cause was Site One change management. This indicates that EP did not originally recognize responsibility for the problem.

The root cause took credit for actions already taken and all but one of the corrective actions were directed at the root and contributing cause. However, some of the issues listed in the problem statement were not addressed by identified corrective actions or previous corrective actions.

PER 201-1829

This PER was written on August 28, 2001 to resolve NRC identified issues that were not addressed in PER 201-0569. The problem statement listed specific issues that were not addressed. The dispositioner focused on two corrective actions that were not adequately implemented. The apparent causes were directed at why these corrective actions were not adequate. The apparent cause did not address the items listed in the problem statement. The PER corrective actions were directed at training the Emergency Response Organization staff in the corrective action process and involving the Licensing organization in all NRC inspection activities. The corrective actions did not address the issues listed in the problem statement or the inadequately implemented corrective actions described in the apparent cause. The disposition of PER 201-1829 is inadequate in that there is no connection between the problem statement, the resolution, and the corrective actions.

PER 201-2565

This PER was written on November 15, 2001 to document deficiencies in the testing of sirens. This PER was the result of a Quality Services review of siren testing. The problem statement lists all issues identified in the review. The apparent cause addresses the problem statement and the corrective actions are adequate to address the apparent cause. This PER corrected the originally identified problems with sirens.

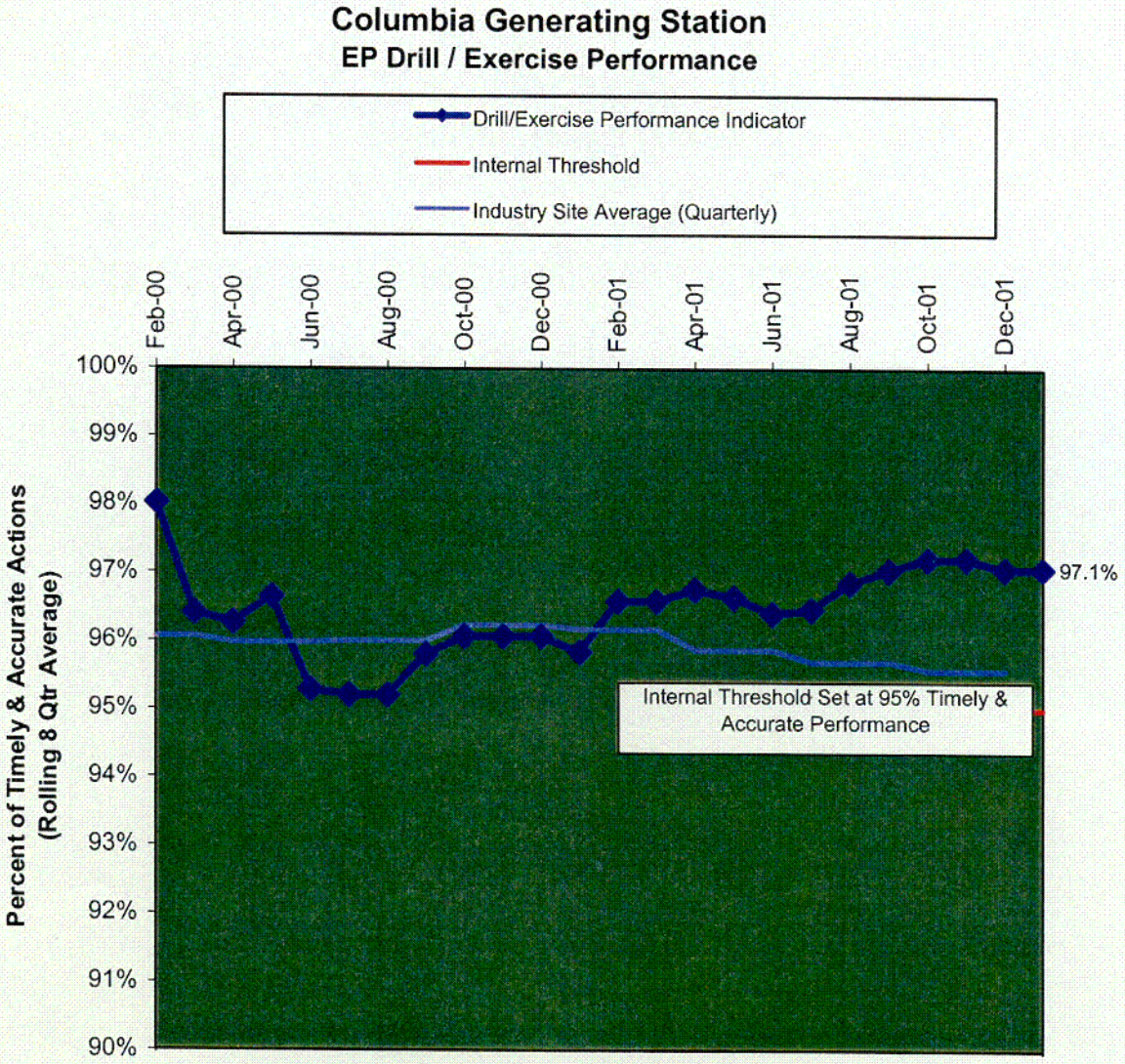
PER 201-2601

This PER was written on November 24, 2001 to document that the crossroads siren was inoperable for 14 months. This PER was written seven months after the issue was first identified. Although the problem statement was adequate, the apparent cause statement did not include a cause. The corrective actions were designed to raise the awareness of the EP staff. There were no actions directed at preventing equipment from being out of service for long periods of time or for implementing contingencies if they are out of service.

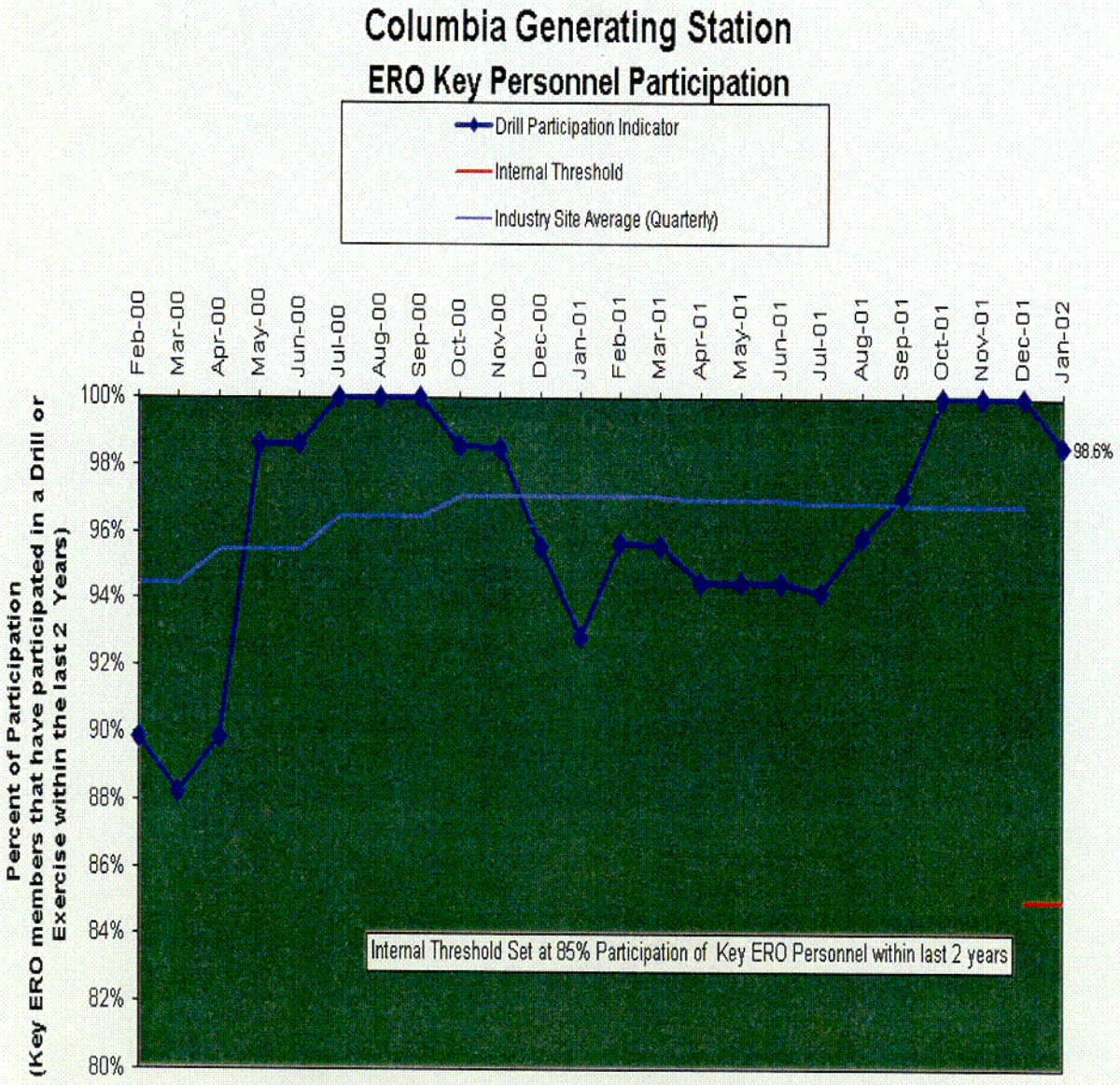
PER 202-0098

This PER was written on January 10, 2002 to document an NRC Yellow Finding related to notification and evacuation of lessee employees at Site One. The issues noted in the Notice Of Violation (NOV) were listed in the as additional information on the PER. This PER took credit for the root cause performed under PER 201-1793 and for corrective actions taken on the previously noted PERs. However, 24 corrective actions were added. These additional corrective actions addressed identified issues that were not addressed in the previous PERs, inadequate corrective actions from the previous audits, and corrective actions to improve performance.

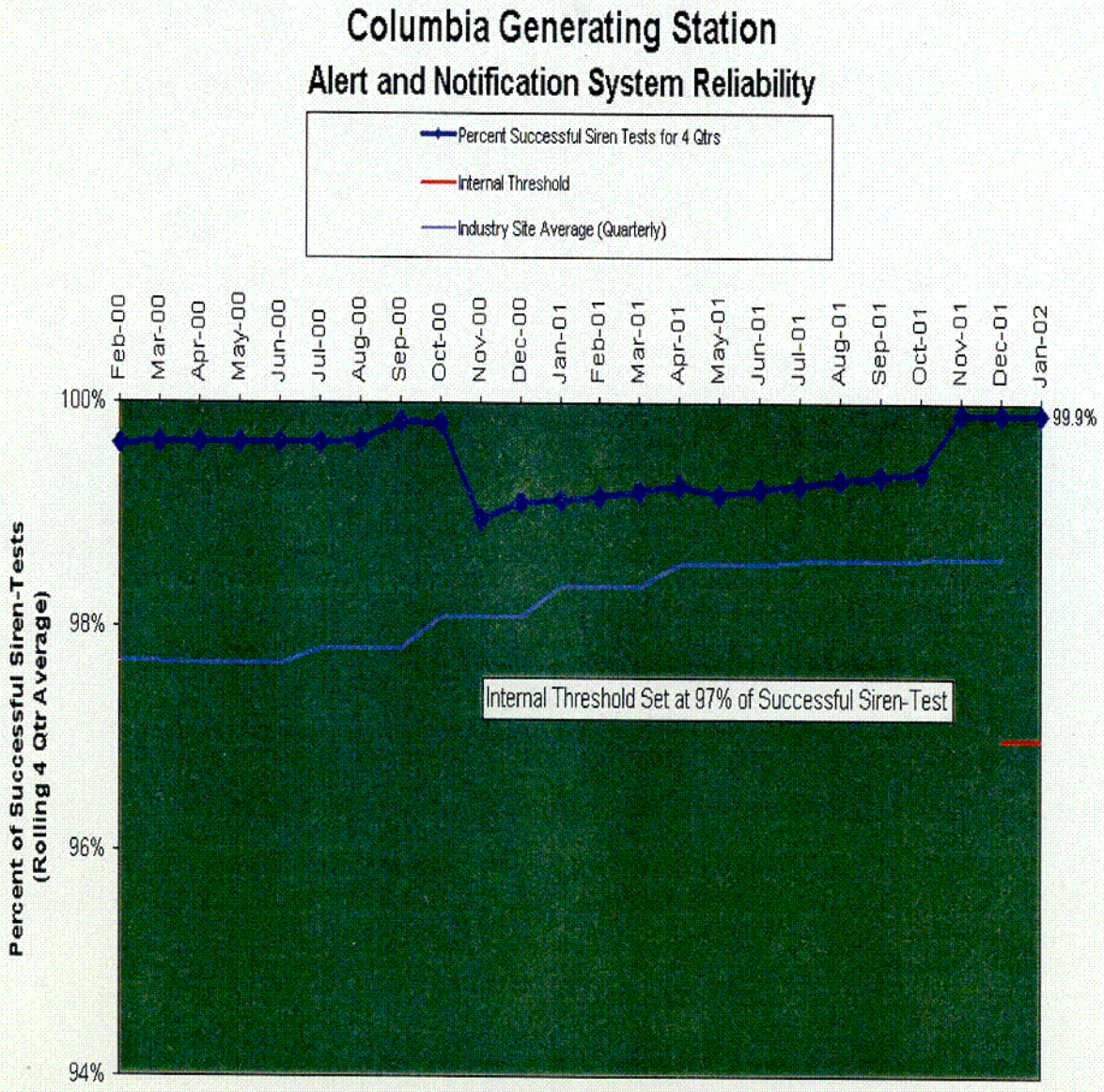
ATTACHMENT E – PERFORMANCE INDICATORS



C01


Columbia Generating Station
ERO Key Personnel Participation
Drill Participation Indicator
Internal Threshold
Industry Site Average (Quarterly)
Percent of Participation
(Key ERO members that have participated in a Drill or Exercise within the last 2 Years)
100%
98%
96%
94%
92%
90%
88%
86%
84%
82%
80%
Feb-00
Mar-00
Apr-00
May-00
Jun-00
Jul-00
Aug-00
Sep-00
Oct-00
Nov-00
Dec-00
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
Oct-01
Nov-01
Dec-01
Jan-02
98.6%
Internal Threshold Set at 85% Participation of Key ERO Personnel within last 2 years

C02


Columbia Generating Station
Alert and Notification System Reliability
Percent Successful Siren Tests for 4 Qtrs
Internal Threshold
Industry Site Average (Quarterly)
Feb-00
Mar-00
Apr-00
May-00
Jun-00
Jul-00
Aug-00
Sep-00
Oct-00
Nov-00
Dec-00
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
Oct-01
Nov-01
Dec-01
Jan-02
100%
98%
96%
94%
99.9%
Percent of Successful Siren-Tests
(Rolling 4 Qtr Average)
Internal Threshold Set at 97% of Successful Siren-Test

C03

EMERGENCY PREPAREDNESS
ERO Staffing

Comments/Plans/Actions

Number of essential and augmenting ERO positions below the target depth

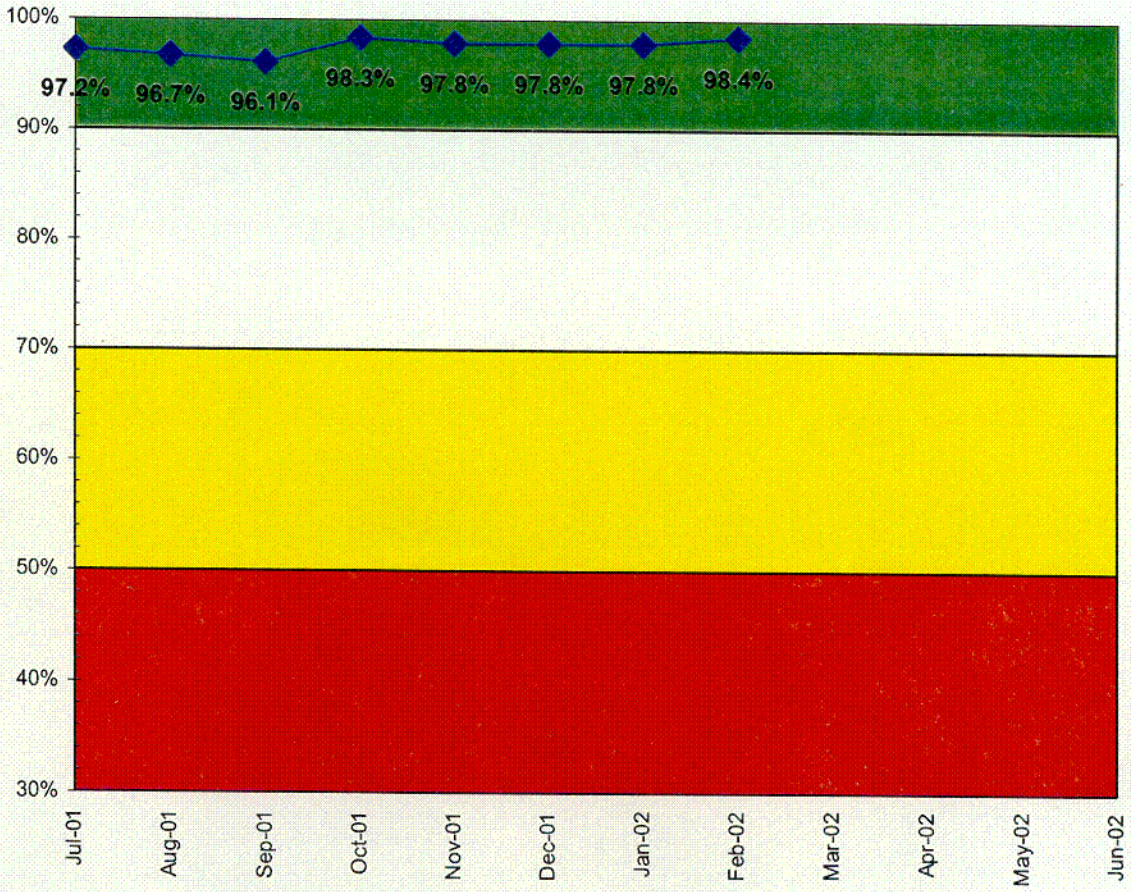
Green - All Essential and augmenting ERO positions are filled at least 3 deep with no more than 10 positions with less than 4 people in the position, and was green or white last period.

White - More than 10 essential or augmenting ERO positions are only filled 3 deep for the month, and was green, white or, yellow last period.

Yellow - Any essential or augmenting ERO position is filled at less than 3 deep for the month, and was white, yellow, or red last period.

Red - Any essential or augmenting ERO position is filled at less than 2 deep for the month, and was yellow or red last period.

Responsible Manager: JE Wyrick



C04

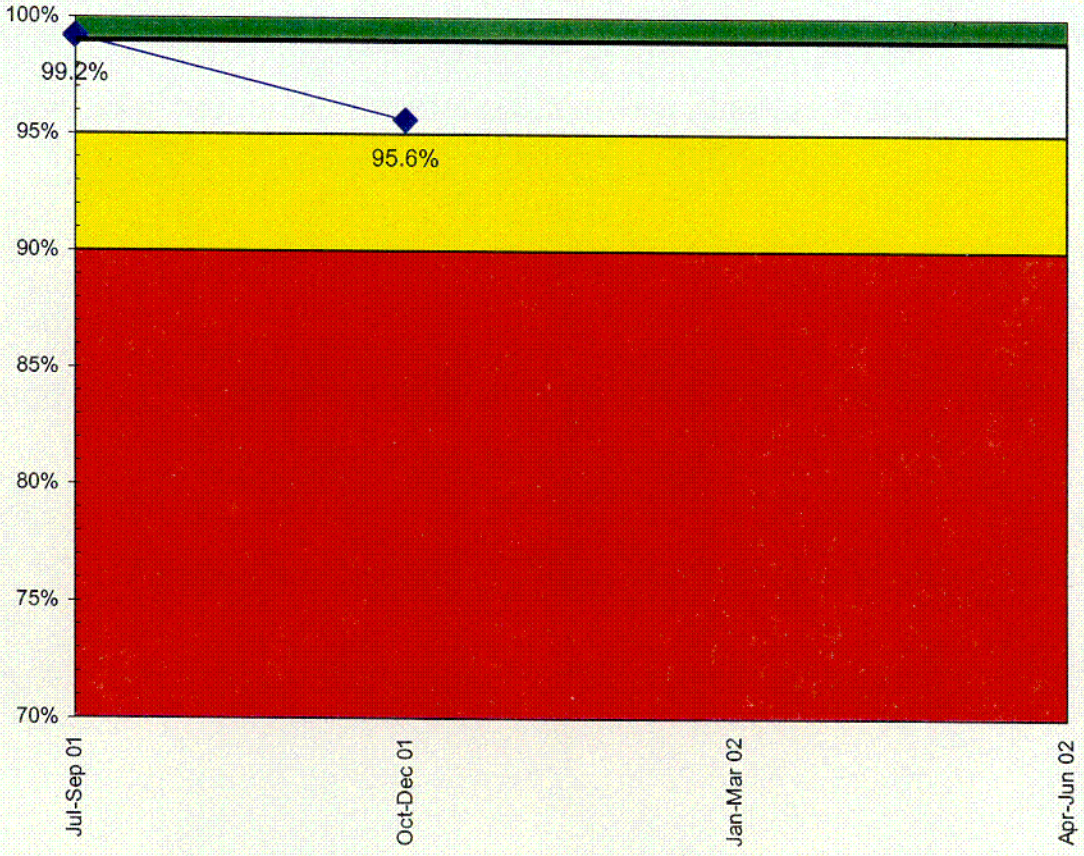
EMERGENCY PREPAREDNESS

Comments/Plans/Actions

The ratio, in percent, of the essential and augmenting ERO positions that actually respond during drills and actual events compared to the total number of essential and augmenting positions. Averaged quarterly.

Responsible Manager: JE Wyrick

Note: Two Augmenting category positions were not filled: Mechanical Craft Lead, and EOF Information Coordinator. PER 201-2873 was generated to document this issue.



C05

Distribution

DK Atkinson (PE23)
JW Baker (1035)
JD Carpenter (1032)
DW Coleman (PE20)
MS Collins (PE21)
DW Culver (911)
KM Engbarth (PE21)
DS Feldman (927O)
DW Fraley (817)
SM Grunst (927A)
JC Hanson (1028)
DB Holmes (PE30)
JP Ittner (PE30)
CL Jolley (964Y)
RE Jorgensen (PE30)
AF Klauss (PE30)
GJ Kucera (1396)
LL Long/ CNSRB 15 (927A)
TS Love (927S)
DW McCullough (1032)
CM McDonald (1028)
AE Mouncer (1396)
LC Oakes (817)
Oregon State
WS Oxenford (927M)
JV Parrish (1023)
PF Peters ((927R)
JL Pierce (PE30)
WH Sawyer (PE21)
RN Sherman (PE20)
GO Smith (PE04)
JC Tillman (927A)
RL Webring (PE08)

Off-Site Agencies (15 copies)