

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-397/90-06

Docket No. 50-397

License No. NPF-21

Licensee: Washington Public Power Supply System  
P. O. Box 968  
3000 George Washington Way  
Richland, Washington 99352

Facility Name: Washington Nuclear Project No. 2 (WNP-2)

Inspection at: WNP-2 Site, Benton County, Washington

Inspection Conducted: March 26-30, 1990

Inspector:

*K. M. Prendergast*

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Emergency Preparedness Analyst

4/18/90  
Date Signed

Approved by:

*G. P. Yuhas*

G. P. Yuhas, Chief  
Emergency Preparedness and Radiological  
Protection Branch

4/18/90  
Date Signed

Summary:

Areas Inspected: Unannounced routine inspection of the status of Emergency Preparedness Program including; follow-up on corrective action for violations and deviations, onsite follow-up of events at power reactors, follow-up on open items, emergency detection and classification, and dose assessment. Inspection Procedures 92702, 92701, 92700, 82701, 82201, 82207.

Results: Overall, the licensee's program is adequate in the area of emergency preparedness. However, a weakness in the licensee's program for resolving drill/exercise findings was identified and is described in Section 2. Capabilities for dose assessment and emergency detection and classification were satisfactorily demonstrated and are described in Sections 6 and 7. No violations or deviations were identified.

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## DETAILS

### 1. Persons Contacted:

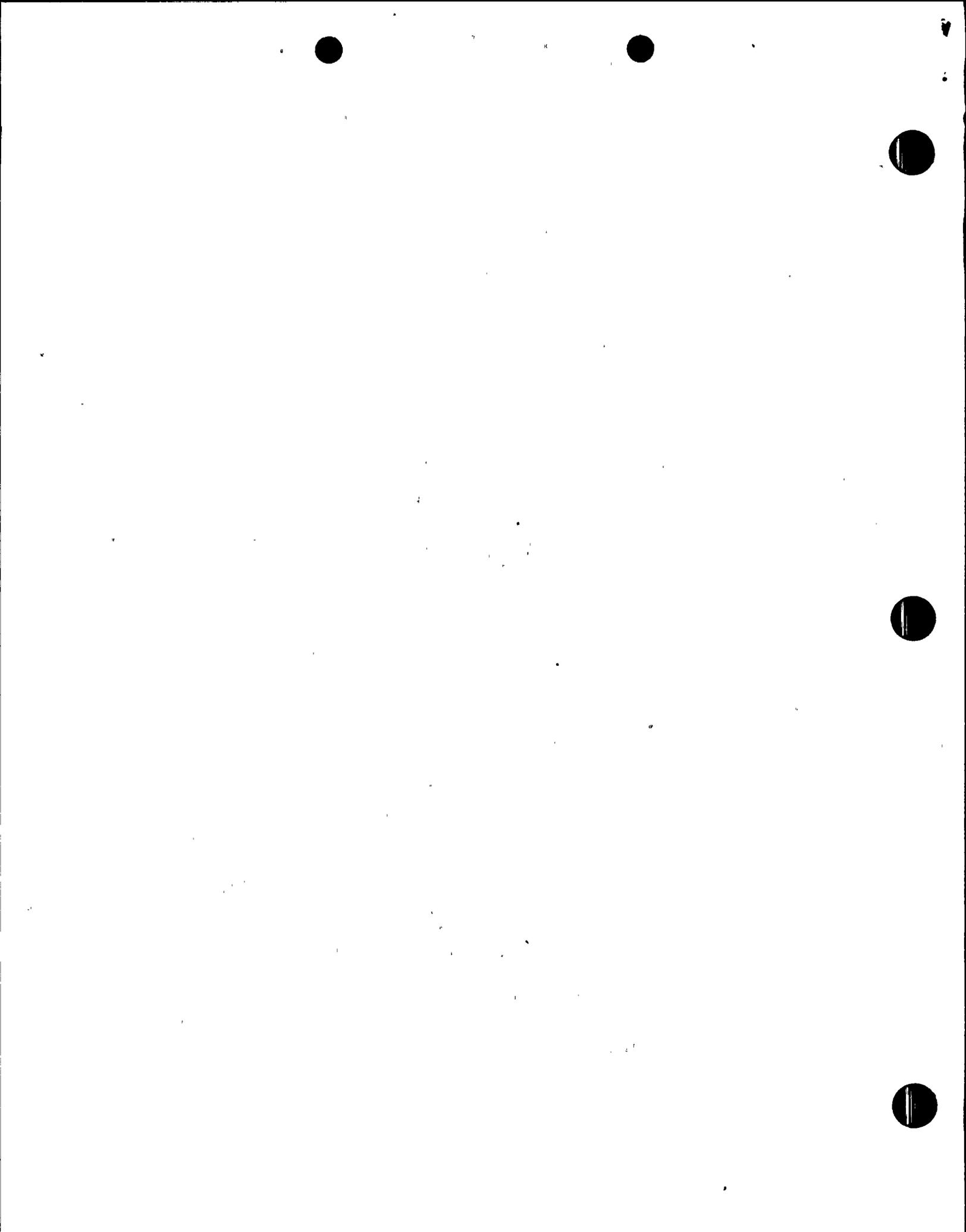
- \*L. Oxsen, Assistant Managing Director for Operations
- \*J. Baker, Assistant Plant Manager
- \*R. Chitwood, Manager, Emergency Planning
- \*S. Mckay, Operations Manager
- \*M. Monopoli, Manager, Support Services
- \*G. Sorenson, Manager, Regulatory Compliance
- \*G. Ray, Emergency Planning
- T. Messersmith, Operations Engineer
- D. Larson, Manager, Radiological Programs
- A. Klaus, Supervisor, Emergency Planning

\*Indicates personnel attending the exit interview

### 2. Follow-up On Corrective Actions For Violations and Deviations (92702)

(Open) Open Item 89-24-01, Response to violation for inadequate resolution of drill/exercise findings. The specific issues identified in the violation dealt with long standing problems involving inadequate Public Address (PA) announcements and the licensee's program for resolving drill/exercise findings. The licensee's timely response to a violation described in NRC Inspection Report 50-397/89-24 was dated January 12, 1990. The response was reviewed and noted to contain corrective actions to resolve the inadequate PA announcements and to provide for improvements in the program to correct drill/exercise deficiencies. The response contained the following actions to address the above violation: (1) the use of prompting aids to remind the individuals to write the message down and to repeat the announcement over the PA system; and (2) the development of criteria for root cause analysis and problem evaluation requests (PERs) to be incorporated into Support Services Instruction (SSI) 9.1, "Emergency Preparedness Corrective Action Record (CAR) Processing." The date for completion of these corrective actions was March 1, 1990. The inspector examined the corrective actions described in the response and evaluated the effectiveness of the licensee's program for resolving problems identified during drills/exercises. The following represent the findings in the two areas mentioned above.

- A. The licensee's corrective actions described in the response were evaluated and the following areas were identified for improvement:
  - 1. The prompting aids were in draft form and had not been completed by March 1, 1990, as stated in the response.
  - 2. The procedure did not clearly require a root cause analysis or a PER for all significant and/or repeat findings. This may have rendered the procedure ineffective in preventing a similar violation.



The problems described above were brought to the attention of the manager of emergency preparedness and prior to the exit interview, the prompting aids were in place and SSI 9.1 had been revised to clearly require root cause analysis or a PER to be performed for all significant and/or repeat findings. These actions, although late, completed the corrective actions described in their response. No further actions were deemed necessary.

- B. The inspector examined a number of CARs from selected drill and exercise findings and determined the licensee's program does not appear to address interim measures while awaiting resolution of corrective actions. The following were noted:

CAR 89-08 identified the fact that outdated procedures were being used by the radiological field team for emergency field team operations and surveys. The final corrective action for this item was still in process and involved elevating the administrative level of the field team procedures. However, it appears no interim corrective actions were planned. An inspection of the cabinets used by the field teams revealed the field team procedures had not been updated to the latest revision of Emergency Plan implementing procedures (EPIPs) 13.9.1 and 13.9.2, which were effective on March 22, 1990. The cabinets were observed to contain Revision 6 and not Revision 7 as required.

CARs 90-0003 and 90-0005 identified deficiencies in the Plant PA system. Specifically PA announcements were not heard in Buildings 56, 81, and 82. The CAR further stated the extent of the PA failure was not known. The CARs stated a test of the PA system was conducted on December 18, 1989, and verified the system was at least still not working in Building 82. A response was received and determined to be inadequate by emergency preparedness and returned to the communications section. However, no specific interim actions were identified to the inspector, to insure personnel in the above mentioned buildings would be informed of any necessary emergency announcements or instructions.

CAR 89-28 identified a less than adequate proficiency in the use of self contained breathing apparatus (SCBAs) during the 1989 exercise. The problems involved the use of SCBAs and problems encountered while exchanging the air supply tanks. As a result of the CAR, a PER was issued on January 16, 1990. However, the only action thus far appears to have been to change the name of the responder and for the new responder to evaluate training and training frequency. No action or results were available at the time of this inspection to address corrective action on this problem.

Based upon the findings stated above, the licensee's program for resolving items identified during drills and exercises appears to require a further commitment from upper level management. This item is still considered open.



3. Follow-up on Open Items (92701)

(Closed) Open Item, 88-42-02, Inability of emergency preparedness to perform root cause analysis. This item was evaluated and as stated above, there have been recent changes involving the licensee's system for corrective action and for performing root cause analysis. However, there has not been a sufficient time period elapsed to determine any improvement in this area resulting from the above stated changes. Because this item addresses the licensee's system for corrective action stated above, this item will be closed and further follow-up regarding root cause analysis will be performed under Open Item 89-24-01. This item is closed.

4. Onsite follow-up of events at Nuclear Power Plants (92700)

On March 24, 1990, at 1343, the licensee responded to a fire involving a double wide trailer within the protected area. The trailer was located approximately 50 feet from NRC offices and about 300 feet from the actual power block structures. The Control Room (CR) dispatched the site fire brigade and requested back-up fire support from the Hanford (DOE) fire department at 1344. The fire was responded to by 10 members of the plant fire brigade, which included 7 members of the operations staff, and was augmented by 7 non-fire brigade personnel who were near by. The CR sounded the fire alarm and made a PA announcement to inform plant staff of the fire. The Hanford (DOE) fire department arrived onsite at 1355 and was expeditiously assisted through security to the fire scene at 1358. The fire, according to licensee, was out on arrival of the Hanford fire department at approximately 1404. A short time later, the fire was officially declared out and clean up operations began. The shift manager and the assistant plant manager informed the inspector that EPIP 13.1.1, "Emergency Classification", was reviewed and a decision was made not to classify the event as a NOUE based on the fact the fire was not considered a threat to plant safety and was not "within the plant".

The inspector noted that the response to the fire appeared to meet the criteria contained in EPIP 13.1.1, "Emergency Classification," Attachment C, "Situation Based Guidelines Summary," which requires an unusual event to be declared for any condition at or near the plant that warrants increased awareness on the part of plant operating staff and/or emergency offsite authorities. The licensee explained that Hanford (DOE) fire department is their primary fire support and is called routinely for all fires, except for very small fires that are easily extinguishable.

Since the fire; (1) did not appear to threaten the safety of the plant, (2) was located a considerable distance from the power block, and (3) was quickly extinguished, the classification of the event was evaluated by regional management and it was determined that although the event appeared to meet the criteria in the classification procedure EPIP 13.1.1, it did not warrant the declaration of an unusual event pursuant to the shift manager's interpretation of the term "plant" in EPIP 13.1.1. No violation is proposed. The inspector noted this event presented an opportunity to demonstrate conservatism in the licensee's classification implementation. Licensee management stated they will be



reviewing their classification procedure to insure it is conservative and will place further emphasis in this area during training.

The licensee's response was effective and well coordinated with the Hanford (DOE) fire department. No violations were identified.

5. Operational Status of the Emergency Preparedness Program (82701)

Facilities and Equipment

NRC Inspection Report No. 50-396/89-39 identified problems involving equipment in the Technical Support Center (TSC) and the radiological field monitoring kits. During the previous inspection, the TSC portal radiation monitors in the TSC became inoperable and the TSC air monitoring system and filtration system were tagged out of service. Also, the licensee's field monitoring kits were found to have been returned from a drill and had not been inventoried or sealed. During this inspection, with the exception of the outdated field monitoring procedures mentioned in Section 2, the field monitoring kits were observed to be sealed and ready for use. The TSC was visited and the portal radiation monitors at the entrance to the TSC were operable and both the air sampling system and the air filtration system were observed to be operable.

Licensee performance in this program area was improved over the previous inspection.

6. Emergency Detection and Classification (82201)

To determine emergency response personnel have been properly trained and understand their responsibilities during an emergency, the Emergency Plan and implementing procedures were reviewed and interviews with key emergency response personnel were held. The following observations were made:

The review of the Emergency Plan and implementing procedures determined the licensee maintains the capability for an individual to be available, 24 hours a day, to fill the position of the Plant Emergency Director (PED). Initially the shift manager fills this position and is assisted by a senior technical advisor and the Control Room (CR) staff. Based on the interviews, it was determined that individuals designated to become PED during an emergency were aware of their responsibilities for classifying emergencies, initiating emergency actions, and recommending protective action (PARs) to State and local authorities.

The EIPs contained measurable and observable emergency action levels (EALs) to classify emergency events based on in-plant conditions and onsite and offsite radiological conditions in accordance with those described in the Emergency Plan.

During the review of the EIPs and the interviews, it was noted that the EIPs did not provide guidance for classifying an event that was recognized after the original problem had been mitigated. The interviews also produced mixed results in this area; some teams stated they would

classify the event and terminate the event in the same phone call and others stated they would not classify the event. The inspector informed the licensee of NRC Headquarters guidance in this area, which is, that the NRC expects to be informed if a licensee later determines that the plant had actually satisfied the criteria for one of their emergency classes.

The PEDs were able to effectively utilize post accident monitoring instrumentation data and their EIPs to make timely and appropriate emergency declarations and PARs. They were also familiar with, and able to use flowcharts and decisional aids, which were consistent in range and units to CR instrumentation. The decisional aids were also observed to be available in the TSC and EOF.

Since the classification of the fire on March 24, 1990 appeared to be based on judgement, a similar fire scenario was used during the interviews to determine any inconsistencies in the classification of a event. The shift managers examined their procedures and stated; (1) the fire, as described in the scenario, did not pose a threat to the safety of the plant, and (2) the fire was not located "within the plant," consequently, based on judgement and EIP 13.1.1 the fire did not require the declaration of an unusual event. When asked for a definition of "the plant" they stated "the plant" referred to the power block and associated support structures and equipment. However, the individuals were unable to produce any written description of the term "the plant". During the exit interview, the licensee committed to revising their procedures to further define what areas would be included in the definition of "the plant" for the purposes of emergency classification.

The licensee's emergency action levels (EALs) for emergency classification had been reviewed by State and local officials during December 1989. During this inspection, EALs were being reviewed by State of Washington and licensee representatives. According to one of the State representatives, there was a very constructive interface between the State of Washington and WNP-2, and they were pleased with the outcome of the discussions.

Licensee performance in this program area appears fully satisfactory. No violations were identified.

#### 7. Dose Calculation and Assessment (82207)

To determine that there is an adequate method for assessing the consequences of a radiological release, the EP and implementing procedures were reviewed, interviews were held with individuals responsible for dose assessment, and dose projections were performed by individuals who would perform dose assessment in the CR, the TSC, and the EOF using different simulated release pathways. The following observations were noted:

The individuals responsible for dose assessment were capable of calculating radiological doses under numerous release pathways. The scenarios utilized releases from the Auxiliary Building vents,

Containment leakage, the plant stack, and a main steam line break into the Reactor Building.

The shift managers and other individuals designated to become the PED were able to utilize their EIPs and make appropriate and timely PARs using the results of offsite dose projections. The responsible individuals were also able to account for plume travel time and shielding factors and were able to factor these considerations into their PARs.

The individuals were able to perform dose calculations using the primary method for dose projection and the back-up method (TRS-80) and determine source term and projections from the results of field monitoring. The individuals were also aware of the uncertainties associated with dose assessment.

Two CR crews encountered difficulty in determining the release rate from the plant based on the results of field monitoring using the TRS-80. The problem was attributed to unfamiliarity and frequency of use of the TRS-80. During the exit interview, the licensee committed to providing more training requiring the use of the TRS-80.

Discussions with individuals responsible for dose assessment indicated the State of Washington utilizes the same procedures as the licensee in the EOF and there is good coordination between WNP-2 and the State of Washington.

Licensee performance in this area appears fully satisfactory. No violations or deviations were identified.

8. Exit

An exit interview to discuss the preliminary NRC findings was held on March 30, 1990. Licensee personnel present at this meeting are identified in Section 1 of this report. During this meeting, the licensee was informed that no violations of NRC requirements were identified as a result of this inspection. Other items discussed during this meeting are described in Sections 2 through 7 of this report.