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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

December 23, 1992
G02-92-271

12/28/92
12:06

Docket No. 50-397

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NO. NPF-21
NRC INSPECTION REPORT 92-35
RESPONSE TO NOTICE OF VIOLATION**

The Washington Public Power Supply System hereby replies to the Notice of Violation contained in your letter dated November 23, 1992. Our reply, pursuant to the provisions of Section 2.201, Title 10, Code of Federal Regulations, consists of this letter and Appendix A (attached).

In Appendix A, each violation is addressed with an explanation of our position regarding validity, the Supply System's corrective action and date of full compliance. Additional information on the first two violations is provided in two previous documents submitted by the Supply System: 1) LER 92-042 dated December 11, 1992 and 2) Radiological Monitoring Program Special Report dated July 30, 1992.

The Commission's concern over timeliness in resolving the radiological violations is shared by Supply System management. The cause of these violations can be traced to a lack of an adequate policy to fully address the release or transfer of liquid through the Turbine Building sumps. A Management Oversight and Risk Tree (MORT) study was conducted to further investigate the matter. The study identified several root causes and contributing causes in the areas of internal communication, the failure of a previous root cause analysis to identify the primary cause of the problem, inadequate data collection and analysis, as well as resource coordination. These causes point to a lack of clear understanding of the design intent of the sump monitoring system as it relates to applicable regulatory requirements.

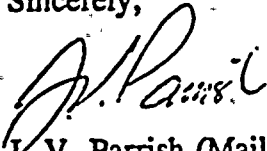
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Specifically, the non-radioactive Turbine Building Sump monitoring system was designed to ensure radioactive effluent with concentrations above 80 percent of 10 CFR 20, Appendix B, Table II limits would be automatically diverted to the radwaste system before release to the Storm Drain Pond. The setpoint had been misinterpreted as an upper limit for acceptable releases. We now realize that the setpoint was intended to mitigate individual discharge events which resulted in high activity water in the non-radioactive sumps. The FSAR states that "In the event of any radioactive liquid system failure contaminating these [Turbine Building] sumps," the flow would be diverted to the radwaste system. This misinterpretation also caused the Supply System to not treat the nonradioactive drains as a potential radioactive liquid release point as they were being used.

The Supply System policy now prohibits the release of detectable gamma emitting isotopes to the Storm Drain Pond area. We do expect to have some tritium releases to this area above detectable levels. In the near term we are taking action to identify sources of abnormally high tritium levels that remain in the storm drain effluent. When identified, these sources will be terminated or their effect will be appropriately evaluated. Over the long term, as explained in the attached response to the Notice of Violation, tritium is released in the gaseous effluent pursuant to the WNP-2 Technical Specifications and may condense onto the building roofs. This material may then find its way to the Storm Drain Pond as part of the normal roof runoff. To permit this process, the Supply System will seek the necessary Federal and State authorizations.

Sincerely,



J. V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

REF/CLF/bk

Attachments

cc: JB Martin - NRC RV
NS Reynolds - Winston & Strawn
JW Clifford - NRR
DL Williams - BPA/399
R Barr, NRC Resident Inspector - 901A

Appendix A

During an NRC inspection conducted October 19 - 30, 1992, violations of NRC requirements were identified. In accordance with the "General Statement of policy and Procedure for NRC Enforcement Actions," 10CFR 2, Appendix C (1992), the violations are listed below:

- A. 10CFR 20.301 requires that no licensee dispose of licensed radioactive material except by certain specified methods.

Contrary to the above:

1. On May 3 and May 12, 1992, after samples had shown that liquid in the T-5 Turbine Building sump contained radioactivity at an average concentration of approximately 7.0 E-6 microcuries per milliliter, a total of approximately 1000 gallons of the radioactive liquid was disposed of by discharge to the storm drain pond, a method not authorized by 10CFR 20.301.
2. On June 27, 1992, after samples had shown that liquid in the T-2 Turbine Building sump contained radioactivity at an average concentration of approximately 4.6 E-7 microcuries per milliliter, the contents of the Sump T-2 were disposed of by discharge to the storm drain pond, a method not authorized by 10CFR 20.301.

This is a Severity Level IV violation (Supplement IV).

Validity of Violation

The Supply System acknowledges the validity of this violation. The root cause was identified as lack of an adequate policy. Existing policy did not appropriately address the free release or transfer of liquid through the Turbine Building sumps. Management recognizes there were opportunities in the past to correct the deficiencies in controlling effluent releases to the Storm Drain Pond. Because of this long standing and fundamental misunderstanding, a Management Oversight and Risk Tree (MORT) study identified several root causes and contributing causes for an inadequate free release policy. These included areas of less than adequate internal communication, the failure of a root cause analysis to discover the primary cause of the problem identified by the quality assurance organization, and lack of resource coordination.

The storm drain pond is located within the restricted area (a one square mile area surrounding the plant) as defined in FSAR Section 2.1.1.3 and within the site boundary (a 1.2 mile radius surrounding the plant) defined in the Offsite Dose Calculation Manual (ODCM). Storm drain water is released at a point approximately 1500 feet northeast of the plant. The water is released through an eighteen inch diameter pipe at a concrete outfall into an earthen channel approximately 300 feet in length. The channel empties into a circular pond area that is approximately 100 feet in diameter.

Drains in the Turbine Building flow to five sumps. Sumps T-1, T-2, and T-3 were designed to be nonradioactive. Sumps T-4 and T-5 are radioactive sumps by design. Discharge from the radioactive sumps is routed to radwaste. Discharge from the nonradioactive sumps was routed to the Storm Drain Pond but was diverted to radwaste systems automatically by design if the discharge radiation monitor (FD-RIS-1,2,3) setpoint was exceeded. This setpoint was established by design at 80 percent of the 10CFR 20, Appendix B, Table II value for Cs-137.

The root cause analysis determined that failure to establish a definitive free release policy for the Turbine Building sumps was the primary root cause. Standards, directives, and policy were found to be less than adequate in that there was no written, up-to-date direction with a broad enough scope to control effluent to the Storm Drain Pond. Specifically, the Nuclear Operations Standard, NOS-38, Radiation Protection, failed to address the broad issue of a free release policy. Also, a prior revision of Plant Procedure PPM 1.11.12, Removal of Liquids from the RCA, suggested that free release criteria did not apply to Turbine Building Sumps T-1, T-2, and T-3.

Internal communication was less than adequate in that information known at various levels of the plant and corporate organizations did not get adequately communicated to management so that definitive action could be taken to minimize the release of radioactivity to the Storm Drain Pond. Radiological sampling information of the Storm Drain Pond from the Radiological Environmental Monitoring Program (REMP) personnel did not receive the appropriate level of management review.

The MORT study also found that methods, criteria and analyses were also less than adequate in that there was no comprehensive set of criteria used for assessing the short and long term impact of releases to the Storm Drain Pond.

Contributing causes of the inadequate policy were also identified. First, numerous oversight reports identified the transfer of radioactive liquid to the Storm Drain Pond but a subsequent root cause analysis failed to identify the primary cause of the events. Lack of an independent overview of the root cause analysis lead to resolutions based on the inadequate free release policy. Second, there was a lack of coordination of resources between the plant staff and the REMP to assure both groups were working effectively to resolve the issues.

Corrective Steps Taken/Results Achieved

Action was taken on November 4, 1992, to direct the discharge from Turbine Building Sumps T-1, T-2, and T-3 to the Radwaste System until appropriate programmatic controls are established.



PPM 1.11.12 was deviated on November 5, 1992, to incorporate Turbine Building Sumps T-1, T-2 and T-3 into the free release criteria when aligned to the Storm Drain Pond.

A continuous sampler has been installed at the outfall that is the entrance to the Storm Drain Pond. This sampler collects water every hour providing more specific data on water being released to the pond. This is a gauge of the effectiveness of corrective actions taken inside the plant.

A memo was issued on November 4, 1992, by the Plant Manager on the free release of liquids from the Radiologically Controlled Area (RCA). This memo was addressed to key plant personnel and clarified plant policy regarding the use of Turbine Building Sumps T-1, T-2, and T-3. The memo stated it was unacceptable to intentionally introduce contaminated or potentially contaminated fluids into any floor drain that communicates with Turbine Building Sumps T-1, T-2, or T-3.

Investigation into other sources of Storm Drain Pond contamination revealed the building roof drains to be a significant contributor of tritium. Some condensate of vapor released to the atmosphere from monitored ventilation system effluents and auxiliary heating steam vents is drained by the roof drains. This becomes the source of the tritium for the roof drains. A 10CFR 50.59 evaluation for the roof drains and the Storm Drain Pond concluded that continued release at existing levels does not constitute an unreviewed safety question.

A dose assessment of the Storm Drain Pond determined the dose impact to Plant personnel and the public to be insignificant from the currently measured concentrations of tritium and other radioisotopes.

Preliminary discussions were held with State authorities in a December 15, 1992, meeting regarding possible permitting actions (e.g., 10CFR 20.302(a) application, NPDES permit modification, WAC 173-216 discharge-to-soil permit) in regard to discharges to the Storm Drain Pond.

Corrective Action to be Taken

1. An independent consultant will be retained to perform an assessment of the WNP-2 free release policy and procedures, 10CFR 20.302(a) submittal and associated problems concerning environmental radioactivity issues. This assessment will be complete by April 1, 1993.
 - 1.1 A revision will be made of the current policy (Nuclear Operating Standard, NOS-38, Radiation Protection) with regard to the release of potentially contaminated material. Changes in this policy will be communicated to the Plant Staff. This will be completed by April 1, 1993.



- 1.2 An application will be filed with appropriate Federal and State authorities, and others as appropriate, for permission to discharge small amounts of tritium to the Storm Drain Pond. This application will be submitted by April 15, 1993. *IF APPROPRIATE,*
- 1.3 A review will be made of Plant Operating Procedures that govern the release of water from Sumps T-1, T-2, and T-3 and other sources to the Storm Drain Pond. This review will include both sump alignment to Radwaste and to the Storm Drain Ponds. The review will assure that appropriate written processes are in place to maintain the sumps in a clean condition as defined by the free release policy. This review and any necessary procedure changes will be completed by February 1, 1993.
- 1.4 A corporate level oversight capability will be established for Radiation Protection/Radioactivity Release issues. This will be accomplished by July 1, 1993.
- 1.5 A program will be established to control the movement and use of hoses in the plant. This will include the use of hoses for temporary routing of fluids. This will be completed by February 1, 1993.
2. A technical evaluation will determine if a design change to allow increased batch processing capacity from the Turbine Building sumps is feasible. This review will be complete by February 1, 1993.
3. A walkdown will be completed of the inputs to all clean plant floor drains associated with the storm drain system to confirm that there are no inputs from any contaminated systems. This will be completed by January 15, 1993, for accessible systems. Any inaccessible areas will be inspected during the 1993 refueling outage.
4. A detailed radiological survey will be performed of all clean drains and sumps associated with the Storm Drain System. This will be completed by February 1, 1993.
5. A review will be performed of the in-plant sampling program and process controls to assure it limits and controls further radioactive releases to the storm drain pond to within acceptable limits. This review will be complete by April 1, 1993.
6. Plant procedure PPM 1.3.48 for Root Cause Analysis will be changed by February 1, 1993, to ensure an appropriate level of knowledge and experience is applied to each root cause determination.

Date of Full Compliance

Discharge from the Turbine Building sumps to the Storm Drain Pond has been secured. WNP-2 will be in full compliance when the corrective actions stated above are completed by July 1, 1993.

- B. 10CFR 50.59 requires, in part, that the licensee shall maintain records of changes to the facility or procedures described in the Updated Final Safety Analysis Report (UFSAR), including a written safety evaluation that provides the basis for determining that the change does not involve an unreviewed safety question.

UFSAR Section 9.3.3, "Equipment and Floor Drainage Systems," states in part:

Equipment and floor drainage systems are provided to handle radioactive and non-radioactive wastes in separate systems. Radioactive wastes are collected in the building sumps and transferred to the radwaste system for treatment, sampling and disposal or reuse within the plant. Roof drains and non-radioactive floor drains are drained by gravity or pumped to the storm drain system.

UFSAR Section 9.3.3.2.3.1 describes the non-radioactive Turbine Building sumps that are routed to the storm drain system.

Contrary to the above, as of October 23, 1992, the licensee had not maintained records of a change to the facility as described in UFSAR Section 9.3.3.2.3.1, in that the Turbine Building sumps designated as non-radioactive had been demonstrated to be radioactive by sample and analysis, and no written safety evaluation of this change had been performed.

This is a Severity Level IV violation (Supplement I).

Validity of Violation

The Supply System acknowledges the validity of this violation. The releases cited are indicative of system contamination sufficient to require 10CFR 50.59 assessment. The root cause of this violation is that management methods did not ensure that sufficient information was available to support the decision.

In an August 1992, response to a quality assurance oversight report, management made a conscious decision that a 10CFR 50.59 assessment was not required. The report specifically questioned the need to perform a 10CFR 50.59, as required by IEB 80-10, when elevated activity levels in the storm drain pond were discovered.



Management recognized the discrete instances of sump contamination by introduction of actually or potentially contaminated fluids to be inappropriate. However, it was believed that reemphasis of procedural controls would prevent recurrence. The chronic issue of sump contamination was not thoroughly addressed due to the mindset described in the cover letter. The setpoint of the sump effluent monitor was misinterpreted to define 'contaminated' for the purposes of sump operation. It was believed that as long as the sumps were operated within the bounds of sump design, releases to the storm drain pond were allowed. After the discrete instances had been resolved, the sumps were considered to be not contaminated. Hence no 10CFR 50.59 was thought necessary.

Corrective Steps Taken/Results Achieved

Flow from the sumps has been routed to the liquid Radwaste processing system until proper methods of effluent characterization and control can be established.

Corrective Action to be Taken

1. A 10CFR 50.59 assessment will be completed by December 30, 1992, to permit operation of the Turbine Building sumps as a contaminated system.
2. Guidance for routine sampling of the sump will be revised to ensure discharged effluents activity levels are within the bounds used by the 10CFR 50.59 analysis. Guidance will be provided regarding appropriate actions in the event that bounds are exceeded. IEB 80-10 will be used to help develop this guidance. This action will be complete by February 1, 1993.
3. A further review of the Supply System's response to IEB 80-10 will be completed by March 1, 1993.
4. The FSAR will be updated to reflect the results of the 10CFR 50.59 analysis results. This will be accomplished by November 1993.
5. The ODCM will be updated to reflect the results of the 10CFR 50.59 analysis results. This will be accomplished by June 1993.

Date of Full Compliance

WNP-2 will be in full compliance on December 30, 1992, when the 10CFR 50.59 analysis is completed.



- C. Technical Specification 6.8.1 requires that written procedures shall be established, implemented, and maintained covering the activities referenced in Regulatory Guide 1.33, Appendix A.

Regulatory Guide 1.33, Appendix A, Section 5, references procedures for abnormal, off-normal, or alarm conditions.

Licensee Procedure 4.826.P1, Revision 1, describes the following required action for responding to a Control Room emergency ventilation system remote intake radiation monitor alarm:

2. Determine the source of radioactivity in the remote intake.

Contrary to the above, on October 12, 1992, Control Room operators observed repeated alarms on WOA-RIS-31A (a Control Room emergency ventilation system remote intake radiation monitor), and failed to determine the source of radioactivity in the remote intake.

This is a Severity Level IV violation (Supplement I).

Validity of Violation

The Supply System acknowledges the validity of this violation. The root cause of the violation was less than adequate work practices in that Control Room (CR) personnel did not perform the necessary verifications to identify the source of the measured activity. A contributing cause is management methods were less than adequate to ensure sufficient information to support the decisions made by CR supervision. Available confirmatory information and sampling processes were not used.

The Control Room HVAC has a normal air intake and two remote air intakes (one northwest and one southeast of the plant). The normal intake is designed to isolate in the event of high drywell pressure, low reactor vessel water level, or Reactor Building ventilation high-high radiation. There are no automatic actions associated with the remote intakes. However, each remote intake has divisionally redundant radiation monitors which have high alarm setpoints at 400 cpm and high-high alarm setpoint is 4000 cpm.

On October 12, 1992, the Division 1 radiation monitor for the northwest intake, WOA-RIS-31A, alarmed intermittently through most of the day shift. The sporadic alarming also occurred early on swing shift. Day shift CR personnel responded to the intermittent alarms by referring to the appropriate annunciator response procedure and other referenced procedures. They verified that no isolations did or should occur and that no further immediate operator actions were required.

The annunciator response procedure further directs that the source of the activity in the remote intake be verified. Implicit in these instructions is that the readings are assumed valid unless conclusively proven otherwise. The day shift personnel compared the readings with the northwest intake redundant instrument, WOA-RIS-31B, and noted that it was not alarming. The Division 1 sensor for the southeast intake, WOA-RIS-32A, was not alarming though it indicated higher than normal radiation levels. The Division 2 sensor for the southeast intake, WOA-RIS-32B, did not show increased radiation levels. In addition, the crew reviewed the chart recorder corresponding to WOA-RIS-31A. The signal had trended steadily upward, stabilized at approximately 300 cpm with periodic spiking above 400 cpm, and then gradually decayed over a five hour period.

The day crew determined the mean value between alarms was below the high alarm setpoint and concluded that the indicated radiation levels were acceptable. The signal spiking was assumed to be caused by welding activities. Some welding permits had been authorized earlier but none for the area of the sensor and corresponding cable. Based on incorrect assumptions and limited assessment the crew inappropriately concluded no further investigation was warranted.

Swing shift CR personnel responded to the intermittent alarms on WOA-RIS-31A in a manner similar to the day shift personnel. However, swing shift only observed signal spikes on the chart recorder; the average signal remained relatively constant. Swing shift supervisory personnel also determined that the indicated radiation levels did not pose a potential radiation hazard. Further, although the Shift Manager had concluded the WOA-RIS-31A was operable, he initiated actions to have the instrument rechecked to confirm his conclusion. Recalibration was not considered urgent because the instrument was considered operable and the sporadic alarming had ceased entirely by the end of swing shift.

Recalibration was performed on October 22, 1992, and confirmed that the instrument was functioning correctly. Also on October 22, a Radiation Protection analyst reviewed computer records for October 12, 1992, of radiation monitor data of the Turbine-Generator Building (TG) and Radwaste (RW) Building exhaust stacks. The data indicate that a higher than normal effluent release occurred on October 12, 1992. The meteorological data for this time period indicated possible inversion conditions at the plant site. This could have allowed the effluent release to drop down into the vicinity of both CR remote air intakes. This release coincided with the high WOA-RIS-31A alarms and corresponding increase on WOA-RIS-32A that occurred during day shift. This information was available to the shift crews but was not requested.

Crew work practices were deficient in that unsubstantiated assumptions were used to account for instrument spiking and inconsistent instrument readings were not properly reconciled. A contributing cause related to management methods was identified. Shift supervision did not ensure sufficient information was available to support their decisions. Confirmatory exhaust stack radiation monitor data was not sought out. Neither shift requested chemistry samples of the remote intake influent stream to confirm their conclusions. The significance of the inconsistent readings between Division 1 and Division 2 was not evaluated.



Corrective Steps Taken/Results Achieved

1. A calibration check of WOA-RIS-31A was performed on October 22, 1992, and found to be operating within acceptable limits. Similarly, the other radiation monitors on the remote intakes, WOA-RIS-31B, WOA-RIS-32A, and WOA-RIS-32B, have been verified to have been operable on October 12, 1992.
2. This event has been designated as required reading for the Operating Crews.

Corrective Action to be Taken

1. Operations Management will train all operating crews on the lessons learned from this violation. This training will include the details of the event and a review of management expectations regarding development and documentation of operability determinations. This training will be complete by March 1, 1993.
2. An evaluation will be completed by January 31, 1993, to address the discrepancies between Division 1 and Division 2 instrument responses.

Date of Full Compliance

WNP-2 was in full compliance when the source of the activity was determined on October 22, 1992.

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 policy (Nuclear Operating Std, NOS-38, Radiation Protection)
 w/regard to release of potentially contaminated matl.

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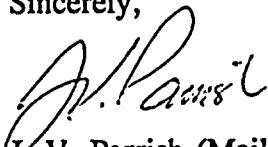
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J. V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

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Attachments

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Drains in the Turbine Building flow to five sumps. Sumps T-1, T-2, and T-3 were designed to be nonradioactive. Sumps T-4 and T-5 are radioactive sumps by design. Discharge from the radioactive sumps is routed to radwaste. Discharge from the nonradioactive sumps was routed to the Storm Drain Pond but was diverted to radwaste systems automatically by design if the discharge radiation monitor (FD-RIS-1,2,3) setpoint was exceeded. This setpoint was established by design at 80 percent of the 10CFR 20, Appendix B, Table II value for Cs-137.

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Internal communication was less than adequate in that information known at various levels of the plant and corporate organizations did not get adequately communicated to management so that definitive action could be taken to minimize the release of radioactivity to the Storm Drain Pond. Radiological sampling information of the Storm Drain Pond from the Radiological Environmental Monitoring Program (REMP) personnel did not receive the appropriate level of management review.

The MORT study also found that methods, criteria and analyses were also less than adequate in that there was no comprehensive set of criteria used for assessing the short and long term impact of releases to the Storm Drain Pond.

Contributing causes of the inadequate policy were also identified. First, numerous oversight reports identified the transfer of radioactive liquid to the Storm Drain Pond but a subsequent root cause analysis failed to identify the primary cause of the events. Lack of an independent overview of the root cause analysis lead to resolutions based on the inadequate free release policy. Second, there was a lack of coordination of resources between the plant staff and the REMP to assure both groups were working effectively to resolve the issues.

Corrective Steps Taken/Results Achieved

Action was taken on November 4, 1992, to direct the discharge from Turbine Building Sumps T-1, T-2, and T-3 to the Radwaste System until appropriate programmatic controls are established.



PPM 1.11.12 was deviated on November 5, 1992, to incorporate Turbine Building Sumps T-1, T-2 and T-3 into the free release criteria when aligned to the Storm Drain Pond.

A continuous sampler has been installed at the outfall that is the entrance to the Storm Drain Pond. This sampler collects water every hour providing more specific data on water being released to the pond. This is a gauge of the effectiveness of corrective actions taken inside the plant.

A memo was issued on November 4, 1992, by the Plant Manager on the free release of liquids from the Radiologically Controlled Area (RCA). This memo was addressed to key plant personnel and clarified plant policy regarding the use of Turbine Building Sumps T-1, T-2, and T-3. The memo stated it was unacceptable to intentionally introduce contaminated or potentially contaminated fluids into any floor drain that communicates with Turbine Building Sumps T-1, T-2, or T-3.

Investigation into other sources of Storm Drain Pond contamination revealed the building roof drains to be a significant contributor of tritium. Some condensate of vapor released to the atmosphere from monitored ventilation system effluents and auxiliary heating steam vents is drained by the roof drains. This becomes the source of the tritium for the roof drains. A 10CFR 50.59 evaluation for the roof drains and the Storm Drain Pond concluded that continued release at existing levels does not constitute an unreviewed safety question.

A dose assessment of the Storm Drain Pond determined the dose impact to Plant personnel and the public to be insignificant from the currently measured concentrations of tritium and other radioisotopes.

Preliminary discussions were held with State authorities in a December 15, 1992, meeting regarding possible permitting actions (e.g., 10CFR 20.302(a) application, NPDES permit modification, WAC 173-216 discharge-to-soil permit) in regard to discharges to the Storm Drain Pond.

Corrective Action to be Taken

1. An independent consultant will be retained to perform an assessment of the WNP-2 free release policy and procedures, 10CFR 20.302(a) submittal and associated problems concerning environmental radioactivity issues. This assessment will be complete by April 1, 1993.
 - 1.1 A revision will be made of the current policy (Nuclear Operating Standard, NOS-38, Radiation Protection) with regard to the release of potentially contaminated material. Changes in this policy will be communicated to the Plant Staff. This will be completed by April 1, 1993.

- 1.2 An application will be filed with appropriate Federal and State authorities, and others as appropriate, for permission to discharge small amounts of tritium to the Storm Drain Pond. This application will be submitted by April 15, 1993. *(IF APPROPRIATE)*
- 1.3 A review will be made of Plant Operating Procedures that govern the release of water from Sumps T-1, T-2, and T-3 and other sources to the Storm Drain Pond. This review will include both sump alignment to Radwaste and to the Storm Drain Ponds. The review will assure that appropriate written processes are in place to maintain the sumps in a clean condition as defined by the free release policy. This review and any necessary procedure changes will be completed by February 1, 1993.
- 1.4 A corporate level oversight capability will be established for Radiation Protection/Radioactivity Release issues. This will be accomplished by July 1, 1993.
- 1.5 A program will be established to control the movement and use of hoses in the plant. This will include the use of hoses for temporary routing of fluids. This will be completed by February 1, 1993.
2. A technical evaluation will determine if a design change to allow increased batch processing capacity from the Turbine Building sumps is feasible. This review will be complete by February 1, 1993.
3. A walkdown will be completed of the inputs to all clean plant floor drains associated with the storm drain system to confirm that there are no inputs from any contaminated systems. This will be completed by January 15, 1993, for accessible systems. Any inaccessible areas will be inspected during the 1993 refueling outage.
4. A detailed radiological survey will be performed of all clean drains and sumps associated with the Storm Drain System. This will be completed by February 1, 1993.
5. A review will be performed of the in-plant sampling program and process controls to assure it limits and controls further radioactive releases to the storm drain pond to within acceptable limits. This review will be complete by April 1, 1993.
6. Plant procedure PPM 1.3.48 for Root Cause Analysis will be changed by February 1, 1993, to ensure an appropriate level of knowledge and experience is applied to each root cause determination.

Date of Full Compliance

Discharge from the Turbine Building sumps to the Storm Drain Pond has been secured. WNP-2 will be in full compliance when the corrective actions stated above are completed by July 1, 1993.

- B. 10CFR 50.59 requires, in part, that the licensee shall maintain records of changes to the facility or procedures described in the Updated Final Safety Analysis Report (UFSAR), including a written safety evaluation that provides the basis for determining that the change does not involve an unreviewed safety question.

UFSAR Section 9.3.3, "Equipment and Floor Drainage Systems," states in part:

Equipment and floor drainage systems are provided to handle radioactive and non-radioactive wastes in separate systems. Radioactive wastes are collected in the building sumps and transferred to the radwaste system for treatment, sampling and disposal or reuse within the plant. Roof drains and non-radioactive floor drains are drained by gravity or pumped to the storm drain system.

UFSAR Section 9.3.3.2.3.1 describes the non-radioactive Turbine Building sumps that are routed to the storm drain system.

Contrary to the above, as of October 23, 1992, the licensee had not maintained records of a change to the facility as described in UFSAR Section 9.3.3.2.3.1, in that the Turbine Building sumps designated as non-radioactive had been demonstrated to be radioactive by sample and analysis, and no written safety evaluation of this change had been performed.

This is a Severity Level IV violation (Supplement I).

Validity of Violation

The Supply System acknowledges the validity of this violation. The releases cited are indicative of system contamination sufficient to require 10CFR 50.59 assessment. The root cause of this violation is that management methods did not ensure that sufficient information was available to support the decision.

In an August 1992, response to a quality assurance oversight report, management made a conscious decision that a 10CFR 50.59 assessment was not required. The report specifically questioned the need to perform a 10CFR 50.59, as required by IEB 80-10, when elevated activity levels in the storm drain pond were discovered.



Management recognized the discrete instances of sump contamination by introduction of actually or potentially contaminated fluids to be inappropriate. However, it was believed that reemphasis of procedural controls would prevent recurrence. The chronic issue of sump contamination was not thoroughly addressed due to the mindset described in the cover letter. The setpoint of the sump effluent monitor was misinterpreted to define 'contaminated' for the purposes of sump operation. It was believed that as long as the sumps were operated within the bounds of sump design, releases to the storm drain pond were allowed. After the discrete instances had been resolved, the sumps were considered to be not contaminated. Hence no 10CFR 50.59 was thought necessary.

Corrective Steps Taken/Results Achieved

Flow from the sumps has been routed to the liquid Radwaste processing system until proper methods of effluent characterization and control can be established.

Corrective Action to be Taken

1. A 10CFR 50.59 assessment will be completed by December 30, 1992, to permit operation of the Turbine Building sumps as a contaminated system.
2. Guidance for routine sampling of the sump will be revised to ensure discharged effluents activity levels are within the bounds used by the 10CFR 50.59 analysis. Guidance will be provided regarding appropriate actions in the event that bounds are exceeded. IEB 80-10 will be used to help develop this guidance. This action will be complete by February 1, 1993.
3. A further review of the Supply System's response to IEB 80-10 will be completed by March 1, 1993.
4. The FSAR will be updated to reflect the results of the 10CFR 50.59 analysis results. This will be accomplished by November 1993.
5. The ODCM will be updated to reflect the results of the 10CFR 50.59 analysis results. This will be accomplished by June 1993.

Date of Full Compliance

WNP-2 will be in full compliance on December 30, 1992, when the 10CFR 50.59 analysis is completed.

- C. Technical Specification 6.8.1 requires that written procedures shall be established, implemented, and maintained covering the activities referenced in Regulatory Guide 1.33, Appendix A.

Regulatory Guide 1.33, Appendix A, Section 5, references procedures for abnormal, off-normal, or alarm conditions.

Licensee Procedure 4.826.P1, Revision 1, describes the following required action for responding to a Control Room emergency ventilation system remote intake radiation monitor alarm:

2. Determine the source of radioactivity in the remote intake.

Contrary to the above, on October 12, 1992, Control Room operators observed repeated alarms on WOA-RIS-31A (a Control Room emergency ventilation system remote intake radiation monitor), and failed to determine the source of radioactivity in the remote intake.

This is a Severity Level IV violation (Supplement I).

Validity of Violation

The Supply System acknowledges the validity of this violation. The root cause of the violation was less than adequate work practices in that Control Room (CR) personnel did not perform the necessary verifications to identify the source of the measured activity. A contributing cause is management methods were less than adequate to ensure sufficient information to support the decisions made by CR supervision. Available confirmatory information and sampling processes were not used.

The Control Room HVAC has a normal air intake and two remote air intakes (one northwest and one southeast of the plant). The normal intake is designed to isolate in the event of high drywell pressure, low reactor vessel water level, or Reactor Building ventilation high-high radiation. There are no automatic actions associated with the remote intakes. However, each remote intake has divisionally redundant radiation monitors which have high alarm setpoints at 400 cpm and high-high alarm setpoint is 4000 cpm.

On October 12, 1992, the Division 1 radiation monitor for the northwest intake, WOA-RIS-31A, alarmed intermittently through most of the day shift. The sporadic alarming also occurred early on swing shift. Day shift CR personnel responded to the intermittent alarms by referring to the appropriate annunciator response procedure and other referenced procedures. They verified that no isolations did or should occur and that no further immediate operator actions were required.



The annunciator response procedure further directs that the source of the activity in the remote intake be verified. Implicit in these instructions is that the readings are assumed valid unless conclusively proven otherwise. The day shift personnel compared the readings with the northwest intake redundant instrument, WOA-RIS-31B, and noted that it was not alarming. The Division 1 sensor for the southeast intake, WOA-RIS-32A, was not alarming though it indicated higher than normal radiation levels. The Division 2 sensor for the southeast intake, WOA-RIS-32B, did not show increased radiation levels. In addition, the crew reviewed the chart recorder corresponding to WOA-RIS-31A. The signal had trended steadily upward, stabilized at approximately 300 cpm with periodic spiking above 400 cpm, and then gradually decayed over a five hour period.

The day crew determined the mean value between alarms was below the high alarm setpoint and concluded that the indicated radiation levels were acceptable. The signal spiking was assumed to be caused by welding activities. Some welding permits had been authorized earlier but none for the area of the sensor and corresponding cable. Based on incorrect assumptions and limited assessment the crew inappropriately concluded no further investigation was warranted.

Swing shift CR personnel responded to the intermittent alarms on WOA-RIS-31A in a manner similar to the day shift personnel. However, swing shift only observed signal spikes on the chart recorder; the average signal remained relatively constant. Swing shift supervisory personnel also determined that the indicated radiation levels did not pose a potential radiation hazard. Further, although the Shift Manager had concluded the WOA-RIS-31A was operable, he initiated actions to have the instrument rechecked to confirm his conclusion. Recalibration was not considered urgent because the instrument was considered operable and the sporadic alarming had ceased entirely by the end of swing shift.

Recalibration was performed on October 22, 1992, and confirmed that the instrument was functioning correctly. Also on October 22, a Radiation Protection analyst reviewed computer records for October 12, 1992, of radiation monitor data of the Turbine-Generator Building (TG) and Radwaste (RW) Building exhaust stacks. The data indicate that a higher than normal effluent release occurred on October 12, 1992. The meteorological data for this time period indicated possible inversion conditions at the plant site. This could have allowed the effluent release to drop down into the vicinity of both CR remote air intakes. This release coincided with the high WOA-RIS-31A alarms and corresponding increase on WOA-RIS-32A that occurred during day shift. This information was available to the shift crews but was not requested.

Crew work practices were deficient in that unsubstantiated assumptions were used to account for instrument spiking and inconsistent instrument readings were not properly reconciled. A contributing cause related to management methods was identified. Shift supervision did not ensure sufficient information was available to support their decisions. Confirmatory exhaust stack radiation monitor data was not sought out. Neither shift requested chemistry samples of the remote intake influent stream to confirm their conclusions. The significance of the inconsistent readings between Division 1 and Division 2 was not evaluated.

Corrective Steps Taken/Results Achieved

1. A calibration check of WOA-RIS-31A was performed on October 22, 1992, and found to be operating within acceptable limits. Similarly, the other radiation monitors on the remote intakes, WOA-RIS-31B, WOA-RIS-32A, and WOA-RIS-32B, have been verified to have been operable on October 12, 1992.
2. This event has been designated as required reading for the Operating Crews.

Corrective Action to be Taken

1. Operations Management will train all operating crews on the lessons learned from this violation. This training will include the details of the event and a review of management expectations regarding development and documentation of operability determinations. This training will be complete by March 1, 1993.
2. An evaluation will be completed by January 31, 1993, to address the discrepancies between Division 1 and Division 2 instrument responses.

Date of Full Compliance

WNP-2 was in full compliance when the source of the activity was determined on October 22, 1992.

