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April 25, 1994  
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Docket No. 50-397

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

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21  
NRC INSPECTION REPORT 94-01  
RESPONSE TO EOP INSPECTION TEAM ISSUES**

Reference: Letter, dated March 18, 1994, SA Richards (NRC) to JV Parrish (SS), same subject

As requested in the reference, the Supply System is providing comments pertaining to concerns identified during the NRC Emergency Operating Procedures (EOP) Inspection conducted February 7, 1994 through February 18, 1994.

As requested in the reference, a separate letter further clarifying the actions taken by the Supply System in response to the 1991 NRC EOP inspection will be submitted to your office for review by December 31, 1994. This date is due to items which are dependent upon resolution in the Boiling Water Reactor Owners' Group (BWROG).

Should you have any questions or desire additional information, please call me or Herbert E. Kook at (509) 377-4278.

Sincerely,

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

cc: LJ Callan - NRC RIV  
KE Perkins, Jr. - NRC RIV, WCF Office  
NS Reynolds - Winston & Strawn

JW Clifford - NRC  
NRC Sr. Resident Inspector - 927N  
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## WEAK JUSTIFICATIONS

1. Primary Containment Control Hydrogen Concentration entry condition (3.56%)

### NRC Comment

"The entry condition for EOP 5.2.1, "Primary Containment Control," for hydrogen concentration in containment was 3.56%. The licensee's justification was that the Owners' Group guidance bracketed value was the high hydrogen alarm setpoint, which for the licensee was the annunciation setpoint of 3.56%. However, the Owners' Group guidance also stated that the setpoint should be such that the alarm was low enough to allow the operators time to react before a hazardous situation resulted. The inspector reviewed the calculation that the setpoint was based on, E/I-02-91-1067, "Setting Range Determination for Instrument Loop CMS-H2E-1301," Rev. 0, and noted that the setpoint used was the flammable concentration of hydrogen (given the presence of oxygen, minus instrument uncertainties). The inspector concluded that the containment could be at flammable levels of hydrogen at the time that annunciation occurred. The EOP entry condition appeared nonconservative when compared to the Owners' Group guidance of providing time for operator action. The inspector did note, however, that the most probable cause for hydrogen in containment would be a Loss Of Coolant Accident (LOCA), with a loss of core cooling and resultant hydrogen generation from zircalloy water reaction. The inspectors concluded that in this instance EOP 5.2.1 would have been entered due to the LOCA and the hydrogen threshold of 0.5% for starting recombiners would have given operators time to act. The safety significance appeared low, but since hydrogen was a separate EOP entry condition, there was an obvious inconsistency. The licensee agreed to evaluate the 3.56% setpoint and its justification."

### WNP-2 RESPONSE

WNP-2 uses the Alarm Setpoint as the entry condition as required by the Emergency Procedure Guidelines (EPG). To ensure that a flammable atmosphere does not exist in primary containment, WNP-2 maintains the oxygen concentration as required by Technical Specifications which require that the Primary Containment Oxygen concentration be maintained less than 3.5% during Operation Condition 1, to prevent a flammable concentration, (oxygen must be greater than 5% and hydrogen must be greater than 4%). WNP-2 will remain with the entry condition of 3.56% hydrogen.

Other plants contacted: Brunswick 6%, Susquehanna 4%, Limerick 4%.



2. Maximum Safe Operating Radiation Levels in the Secondary Containment

NRC Comment

"EPG Table 1, "Secondary Containment Control," listed Maximum Safe Operating Values (MSOV) as 1250 mR/hr (1.25 Rem/hr) for emergency activities monitored by the Reactor Building Area Radiation Instruments. Maximum Safe Operating Values were subsequently used as criteria for deciding to conduct a normal reactor shutdown. The PSTG and EOP 5.3.1, "Secondary Containment Control," Table 24, listed Maximum Safe Operating Values as  $10^4$  mR/hr (10,000 mR/hr)."

The justification in the Plant Specific Technical Guideline (PSTG) stated that the meter range (except for high range instruments) of area monitors was  $10^4$  mR/hr. No evaluation of expected radiation levels versus operator tasks and stay times was performed by the licensee to evaluate the acceptability of  $10^4$  mR/hr (10 Rem/hr) dose rates.

The inspectors were concerned that operator access in the plant may be very limited if area levels are 10 Rem/hr versus 1.25 Rem/hr, and that a safe shutdown may be complicated. The Supply System agreed to re-evaluate this radiation level and revise procedures accordingly.

WNP-2 RESPONSE

WNP-2 will continue to use  $10^4$  mR/hr as the MSOV. This has been evaluated by WNP-2 and other plants as an acceptable level due to the amount of time that personnel would be required to remain in the Reactor Building to perform EOP support activities and not exceed 25 Rem exposure (ie., 2.5 hrs in the Reactor Building).

Other plants contacted: Brunswick 7000 mR/hr, LaSalle 10000 mR/hr, NMP-2 10000 mR/hr.

3. Lowering Wetwell Level

NRC Comment

"The inspectors noted that when responding to a high wetwell level, EOP 5.2.1 directed that wetwell level be lowered to meet three different requirements in EOP steps L-9, L-14, and L-18. The Owner's Group guidance required that steps L-9 (maintain wetwell level below the safety relief valve tailpipe), L-14 (maintain wetwell level below 51 feet), and step L-18 (maintain wetwell level below the Maximum Primary Containment Water Level Limit (MPCWLL) be done concurrently. The licensee's EOP required step L-18



to be done after step L-14. The inspector noted that the licensee's justification was that the L-14 level limit had to be achieved before the L-18 level limits could be attained. The inspector observed that for wetwell pressures above 85 psig this was not necessarily true. Level could be below 51 feet and still out of the safe operating area for MPCWLL."

The Supply System agreed to evaluate this concern.

#### WNP-2 RESPONSE

WNP-2 will revise the EOP Flowchart to make these steps concurrent. The scheduled completion date for this action is August 31, 1994.

4. EPG Caution #6 states "Cooldown rates above [100 deg F/hr (RPV CDR LCO)] may be required to accomplish the associated step". The PSTG discarded the cautionary verbiage and employed the phrase, "Disregard cooldown rate."

#### NRC Comment

"The inspectors concluded the EPG caution would alert operators to potentially adverse consequences to the Reactor Pressure Vessel, such as catastrophic cracking with potential leaking, and should be included in the EOP."

The Supply System's justification was that the EPG words were an instruction, not a caution.

The Supply System agreed to evaluate this concern.

#### WNP-2 RESPONSE

According to the EPG Appendix B, cautions are to identify adverse consequences of certain plant conditions or actions specified in the EPGs. Cautions do not specify operator actions or limit the applicability of specified actions. Cautions may also describe the consequence of the hazard. Based on the preceding description, Caution #6 will remain as stated in the PSTG and EOPs. The operators are trained on the potential consequences of exceeding the Reactor Pressure Vessel (RPV) cooldown rate. The EPG statement, "This CAUTION makes it clear that, where indicated, performance of the specified action takes precedence over abiding by the RPV cooldown rate LCO." provides the necessary priority direction to exceed the cooldown rate LCO without regard for adverse consequences. The step in the WNP-2 PSTG and EOPs is more operator friendly and does not make the operator decide if the CDR LCO should be exceeded.

5. EPG Step RC/P-2 concerned employing High Pressure Coolant Injection (HPCI) with suction from the Condensate Storage Tank (CST). The PSTG deleted the HPCI system (from EOP 5.1.1, table 4).

### NRC Comment

"HPCS was an "ON/OFF" system with flow of approximately 1500 gpm only, and was not suitable for use as a pressure control system. The inspectors concluded the HPCS capability was inconsistent with intent of the EPGs and it was proper to delete the HPCS system from Table 4, but this inconsistency was not stated."

The justification, in the PSTG, stated, "WNP-2 does not utilize a HPCI system.", but later stated, "The function performed by the HPCI system is achieved by the High Pressure Core Spray (HPCS) system."

The Supply System agreed to clarify the justification.

### WNP-2 RESPONSE

WNP-2 will change the PSTG justification to read: "WNP-2 does not utilize a HPCI system; the ECCS function performed by the HPCI system is achieved by the High Pressure Core Spray (HPCS) system. The HPCS system by design cannot be used for a pressure control system; therefore, it has been deleted from Table 4 systems." This action is scheduled for completion by August 31, 1994.

6. The EPG requires implementation of Alternate Rod Insertion methods for an Anticipated Transient Without Scram (ATWS) condition. The PSTG employs one method of, "All Blue Scram Valve Lights On (Hydraulic/Air)" The EOP employed the same method of, using the words, "All Blue Scram Valve Lights On (Hydraulic)"

### NRC Comment

"The inspectors noted the difference between the PSTG and the EOP concerning the potential rod insertion problem, and concluded in this instance the EOP and PSTG were not consistent. During the inspection, the licensee determined the EOP was correct and agreed to revise the PSTG accordingly."

The Supply System agreed to change the PSTG.

### WNP-2 RESPONSE

WNP-2 will change the PSTG to state, "All Blue Scram Valve Lights On (Hydraulic)". The scheduled completion date for this action is August 31, 1994.

7. The EPG for Secondary Containment Control included an Entry Condition, "A floor drain sump water level above the max normal operating water level." The PSTG deleted the Entry Condition.

### NRC Comment

"The inspectors noted the EOP entry condition for EOP 5.3.1, "Secondary Containment Control", was water level 6" above floor level. The inspectors concluded that this appeared to be inconsistent with the intent of EPGs. The inspectors concluded that WNP-2 had not assured that the same level of response would be afforded a floor drain sump alarm with an ARP as with the EOP."

The Supply System justification stated that, "floor drain sumps do not have max normal operating water levels.", but then went on to state, "Each sump has an alarm which sounds before the specified area water level alarms are reached". The inspectors concluded that such alarms are usually associated with exceeding maximum normal operating water levels. WNP-2 used an Annunciator Response Procedure (ARP) as the first level of response before entering the EOPs on high reactor building water level.

The Supply System agreed to evaluate this concern.

### WNP-2 RESPONSE

WNP-2 feels confident that the actions required for a high level in the sump will be controlled by the Annunciator Response Procedures, which gives direction for local investigations and to ensure that the sump pumps are running. If the level continues to rise, the EOP for Secondary Containment Control will be entered. No further action is required.

8. Steps P-5 and P-6, EOP 5.1.1, employed pressure and temperature icons (colored scales) with red coloration above the set point, but white below. Steps L-4 and L-7 employed level icons with red coloration above the set point, but green below. The Writer's Guide required the latter coloration pattern in the icons only.

### NRC Comment

"The inspectors noted that EOPs should consistently implement the requirements of the Writer's Guide."

The Supply System agreed to correct the condition with the next EOP revision, currently scheduled for July 1994.

### WNP-2 RESPONSE

WNP-2 will correct steps P-5 and P-6, in PPM 5.1.1, to implement Writer's Guide requirements. The scheduled completion date is August 31, 1994.

## EOP SETPOINT ISSUES

### 1. Standby Liquid Control Tank Level (SLC)

#### NRC Comment

"The inspectors were concerned that neither the PSTG nor EOPs required stopping the SLC Pumps before the tank was empty ("0" gal. indication), thereby causing possible damage to the SLC Pumps."

WNP-2 agreed to consider an EOP change to stop the SLC Pumps at an indicated level in the tank.

#### WNP-2 RESPONSE

WNP-2 will change the EOP Flowchart 5.1.2 step Q-14 Override to: "IF SLC-TK-1 is less than 100 gallons, THEN stop both SLC pumps". Scheduled completion date for this action is August 31, 1994.

### 2. Primary Containment Pressure Limit Curve (PCPL)

#### NRC Comment

"The inspectors noted that the graph of the primary containment pressure limit (PCPL) curve shown in calculation No. NE-02-89-27, dated March 24, 1990, differed from the PCPL curve in EOP 5.2.1."

The calculation for the PCPL curve uses 52 feet as the upper indicated wetwell level and the curve is marked as 51 feet. Fifty one feet should be used in the calculation because 51.15 feet is the upper indicator tap.

WNP-2 agreed to correct the calculation and use 51 feet for the upper indicated wetwell level.

#### WNP-2 RESPONSE

WNP-2 will revise the PCPL Calculation to use 51 feet as the upper indicated wetwell level. This action is scheduled to be completed by August 31, 1994.

## MATERIAL AVAILABILITY

### 1. Nitrogen Bottles

#### NRC Comment

The inspectors had a concern as to the availability of Nitrogen (N<sub>2</sub>) bottles and required equipment necessary to reopen CN-V-61 and/or CN-V-65.

- a. PPM 5.5.16, "Emergency Drywell and Wetwell Purging," Rev. 4, step 6.
- b. PPM 5.6.1, "Station Blackout (SBO)," Rev. 2, section 5.0, step 5, stated, "Maintain CN-V-65 open with a gas bottle per PPM 2.8.2."

The Supply System stated at the time of the exit meeting that they were developing an additional method of providing the alternate nitrogen supply.

The Supply System agreed to revise PPM 5.6.1.

#### WNP-2 RESPONSE

WNP-2 is in the process of placing N<sub>2</sub> bottles, regulators and hoses in the RB 522 EOP equipment lockers for reopening CN-V-61 and CN-V-65. The respective procedures (PPM 2.8.2, 5.5.16 & 5.6.1) will also be revised. The scheduled completion date for this action is August 31, 1994.

- ### 2. PPM 5.5.8, "Alternate Boron Injection," Rev. 4, section 4.2 contained steps for injecting boron via the Reactor Water Cleanup System (RWCU).

#### NRC Comment

Step 3 required nine barrels of borax and nine barrels of boric acid be delivered to the 467 foot elevation of the Radwaste Building next to the RWCU precoat tank from Warehouse 3, Building 78, Bay G. "The inspector was concerned that this delivery would have required a lift from the 437' level truck bay (including opening a door) with a non-vital powered overhead crane."

The Supply System agreed to consider the storage of the materials in the Radwaste building near the intended use.

#### WNP-2 RESPONSE

WNP-2 stores the required barrels of borax and boric acid in Warehouse 3, Building 78, Bay G. The borax and boric acid (toxic materials) are in a controlled storage area the warehouse. Lift trucks are available to lift the barrels up to the 467' floor from the truck bay and the door can be manually opened.

## CONTROL ROOM INSTRUMENTATION

### 1. Graphic Display System (GDS)

#### NRC Comment

The inspectors noted that GDS had not been updated.

The Supply System agreed to evaluate and update the GDS to conform to the phase II EOPs.

#### WNP-2 RESPONSE

GDS will be updated to reflect the present EOP Graphs. New GDS software is in the development stage and is scheduled for implementation during Refueling/Maintenance Outage R-10.

### 2. Drywell Temperature Instrumentation

#### NRC Comment

"The inspectors were concerned that operators could not readily determine from instrument labeling or the EOPs that Drywell temperature should be obtained from Point A01 before a FAZ signal, and Point 110 after a FAZ signal."

#### WNP-2 RESPONSE

WNP-2 has placed a permanent Operator Aid label on CMS-TR-5/6 to inform the operator which point is used before and after the FAZ signal.

### 3. Control Room Indications

#### NRC Comment

"The inspectors were concerned that operators would have difficulty locating and using indications and alarms due to labeling and location inconsistencies."

- a. RCIC turbine exhaust pressure instrument is labeled "psi" instead of "psig".

#### WNP-2 RESPONSE

WNP-2 will label the indication to read "psig". This action is scheduled to be completed August 31, 1994.

- b. Shutdown Cooling Interlocks Lights are not labeled.



### WNP-2 RESPONSE

WNP-2 will label these lights. Completion is scheduled for August 31, 1994.

- c. Annunciator for RHR Pump Rm "A" Differential Temperature is located on RHR "B" and "C" alarm panel. Annunciator for RHR Pump Rm "B" Differential Temperature is located on "LPCS" and RHR "A" alarm panel.

### WNP-2 RESPONSE

Observations of scenarios where these annunciator alarms were received posed no problems for the operators. WNP-2 believes the Annunciator Response Procedures (ARPs) direct the correct action and no other action is necessary.

4. "Several instrumentation differences existed between the simulator in use at the time of this inspection and the Control Room (CR). Recent modifications to the CR instrumentation had not been implemented in the simulator. The licensee had not modified the simulator in expectation of installation of a new simulator. Delivery of the "new" simulator had been delayed. The inspectors noted that the same parameters were displayed in the simulator and the CR, but that the instruments used for indication were, in many cases, digital in the CR and analogue in the simulator. The inspector interviewed operators who stated that they were not confused by the differences in displays between the control room and the simulator. The inspectors noted that the licensee was in progress of installing the new simulator and considered this approach adequate."

### WNP-2 RESPONSE

WNP-2 has considered this issue and determined that no further response is necessary.

5. "The inspectors noted that no control room instrumentation existed that could measure drywell temperature above 400 F. EOP 5.1.1 "RPV Control," Caution 1, which was placed in the EOPs to prevent taking action on erroneous RPV level indication, contained a saturation curve that ranged from 200 F to 550 F. Caution 1 of EOP 5.1.1 disallowed the use of any RPV level instrumentation if drywell temperature was above RPV saturation temperature. The inspectors were concerned that Caution 1 of EOP 5.1.1, with drywell temperatures above 400 F, would be difficult to implement as written because of this lack of ability to measure drywell temperatures above 400 F. This was because the operators could not utilize the portion of the saturation curve above 400 F. The inspectors considered this of low safety significance since conversations with operators revealed that they would assume, as temperature went off-scale high (above 400 F), all level instruments were affected by caution 1 of EOP 5.1.1. The inspectors concluded that this was a proper response."



## WNP-2 RESPONSE

WNP-2 has considered this issue and determined that no further response is necessary.

## PROCEDURE STEP DEFICIENCIES

### 1. Station Blackout Procedure

#### NRC Comment

No direction is given in the Station Blackout procedure or Loss Of Offsite Power procedure for restoration of SM-4 (ie., prevent auto start of HPCS if initiation signal is present when re-energizing SM-4).

#### WNP-2 RESPONSE

WNP-2 will evaluate and determine if changes should be made to the procedures by August 31, 1994. Necessary procedure changes will be made as appropriate to the Station Blackout and Restoration of Off-site Power procedures by October 31, 1994.

### 2. PPM 5.5.11 Cautions

#### NRC Comment

No cautions are given in 5.5.11 regarding the following:

Removing the instrument drain/test plug for CRD-PI-13, the void could be pressurized to approximately 70 psig.

Removing bottom and end plugs from "CRD Withdraw Line Dragon Vent Valve", potential for pressurized contaminated water.

#### WNP-2 RESPONSE

WNP-2 will add cautions to PPM 5.5.11 to address these two issues. Scheduled completion date is August 31, 1994.

### 3. RHR Suppression Pool Spray

#### NRC Comment

The inspectors were concerned that although the EOPs did not permit initiating wetwell spray when only wetwell cooling was called for, the supporting procedure allowed simultaneous wetwell spray and cooling. In this instance, "the inspectors were concerned that an operator could follow plant procedure PPM 2.4.2 and violate EOP 5.2.1".

## WNP-2 RESPONSE

WNP-2 has added a caution to PPM 2.4.2, Rev. 20 (PDF-94-226). It states: "If initiating Suppression Pool Cooling during EOP conditions, do not initiate Suppression Pool Sprays until directed by the EOPs".

4. A generic condition was noted in several emergency support procedures (ESPs) that required actions of both CR operators and equipment operators (EOs). In some cases, the procedure listed which operator had to take the action; other procedures did not. In some procedures, a portion of the procedure would identify which operator would take the action, but later in the same procedure, the identification of which operator was to take action was not listed. An example of this situation was observed in PPM 5.5.3, "Fire Water to Condensate Crosstie," Rev. 3.

### NRC Comment

"The inspectors noted that this inconsistency could cause delay in operator response during events because of operator confusion about who would perform the action and from where the action was directed."

The Supply System agreed to evaluate the ESPs for a consistent action direction methodology.

## WNP-2 RESPONSE

WNP-2 will revise the ESPs for consistent action directions. This action is scheduled for completion August 31, 1994.

5. "Steps P-7 and P-8, EOP 5.1.1, stated, "WHEN RHR shutdown cooling interlocks can be reset, start shutdown cooling, PPM 2.4.2, with RHR pumps ... ". The inspectors noted that the shutdown cooling interlocks could be reset at any RPV pressure less than 135 psig. The inspectors also noted that the "Precautions and Limitations" section of PPM 2.4.2, "Residual Heat Removal System," Rev. 20, paragraph 4.14, required that shutdown cooling not be initiated until RPV pressure decreased to approximately 20 psig. The inspectors further noted that cautions in the main body of PPM 2.4.2, such as section 5.13, stated "Shutdown cooling initiation above 48 psig may cause damage to the RHR heat exchanger and pipe supports due to pressure/thermal stresses"."

### NRC Comment

"The inspectors were concerned that the EOP guidance to initiate shutdown cooling when shutdown cooling interlocks could be reset (below 135 psig) was not consistent with the guidance in PPM 2.4.2 that shutdown cooling should not be initiated above an RPV pressure of 20 psig. The inspectors were also concerned that the caution concerning

damage to the RHR heat exchangers if shutdown cooling was initiated above 48 psig RPV pressure was not listed in the Precautions and Limitations section of PPM 2.4.2. Thus an operator could review the Precautions and Limitations section, prior to placing shutdown cooling in service, and still be unaware of this particular caution."

The Supply System agreed to revise PPM 2.4.2, and agreed to evaluate the apparent EOP discontinuity with the procedure.

#### WNP-2 RESPONSE

PPM 2.4.2 was revised as noted above in item 3.

EOP 5.1.1 directs the operator to the Shutdown Cooling procedure as required by the EPG and does not result in confusion. WNP-2 is satisfied that PPM 2.4.2 contains precautions which are consistent and are performed in the Shutdown Cooling section of the procedure. No further action is necessary.

6. "PPM 5.5.3, "Fire Water to Condensate Crosstie," Section 4.0, Step 5 required removal of fire hoses from the EOP hose house and required routing " ... the hoses through the TG [turbine building] 441 roll-up door and connect to the two outside hydrants..."."

#### NRC Comment

"The inspectors were concerned that precautionary statements were not included in the procedure for the Emergency Director to consider the radiological implications of the activity and potential releases to the environment. The inspectors concluded that in certain accident situations the turbine building could have airborne or surface radioactive contamination that could be released to the environment if the turbine building rollup door were opened."

The Supply System agreed to evaluate the need for including the precaution in the procedure.

#### WNP-2 RESPONSE

WNP-2 will add a caution statement to PPM 5.5.3 regarding the possible release with the TG 441 Roll-up Door open. The scheduled completion date for this action is August 31, 1994.



7. PPM 5.5.27, "Reactor Building Maximum Safe Operating Level Measurement," Rev. 1, required the removal of Reactor Building 471' level floor plugs and suspending float ball assemblies from the 471' level to the room below to determine levels of water in the rooms housing ECCS pumps in the event of flooding (when time was available to perform the evolution). The plugs were heavy and required an overhead hoist (power), or in the absence of power, manual rigging to a trolley rail 25' above the floor, in order to be removed.

#### NRC Comment

"The inspectors concluded that the removal of a watertight floor plug to perform a water level measurement in a situation that involved flooding of the compartment might result in flooding from compartment to compartment contrary to the design of the plant. The inspectors were also concerned that with power or without, the procedure would be difficult to accomplish and could hazard operators or the plant unnecessarily."

"The licensee stated that they had demonstrated the capability to perform the required actions to measure ECCS room water level in the past as well as to use portable de-watering equipment lowered down through the opening. This was demonstrated because, in the past, it was determined that the seals around piping that led through the walls of the ECCS pump rooms were not water tight. Since the design of the plant assumed these seals were water tight, the licensee had demonstrated a method to ascertain level and remove water in the event of flooding. The licensee concurred that equipment staged for that demonstration had since been secured to less accessible locations. The licensee also stated that these seals had been subsequently made watertight. Licensee operators also stated to the inspectors, during walk-downs, that they would probably not perform the procedure if there was indication of flooding or steam leaks into the rooms. The inspectors expressed their concern that the advisability of this strategy deserved further assessment on the part of the licensee, particularly since the seals around the piping were now apparently water tight."

#### WNP-2 RESPONSE

WNP-2 will continue to evaluate methods to determine Reactor Building Maximum Safe Operating Level Measurements. The date for completion of the evaluation and any necessary changes is August 31, 1994.

## FOLLOWUP OF CORRECTIVE ACTIONS

### 1. CAUTION 1 TO EOPs

#### NRC Comment

"During the simulator scenario observations the operators differed in their use of instruments when Caution 1 was applicable. Based on questioning, some operators said that if Caution 1 applied to an instrument it was out of service, some operators said the instrument was only suspect and could still be used as long as it cross checked properly with other instrumentation, and some operators said it could be used for trending, but not for specific level values. The inspector was concerned that a uniform implementation of the caution was not present. The licensee committed to provide additional training in this area. The inspector also noted that different crews used different marking on the control boards for this instrumentation. Some used red tape, some used yellow tape, and some yellow "stickies." The inspector was concerned that non-uniformity of marking could cause confusion and the licensee agreed to evaluate and develop a standard methodology. The inspector observed that to implement Caution 1, the fire brigade or an entry team of operators had to confirm the fire or break location. The inspector concluded that, if there was no installed local temperature monitoring, area entry was an appropriate response."

"The inspector concluded that, with the exceptions stated, the licensee had adequately justified the plant specific deviation and had adequately developed procedures to implement the caution."

#### WNP-2 RESPONSE

WNP-2 will provide training to operators on the use of the Fire and HELB procedures regarding their effect on RPV level instrumentation and methods of indicating "SUSPECTED" and "INOPERABLE" indications. Completion date of August 31, 1994.

### 2. Drywell Spray Initiation Limit (DSIL) Curve

#### NRC Comment

"The licensee had deviated from the Owners' Group guidance in assuming some humidity in the drywell while developing this curve, whereas the Owners' Group assumed no humidity. This provided a slightly larger safe operating area (less conservative) than the Owners' Group curve. The inspector noted that the NRC had informed the licensee that the plant specific curve should be submitted to the Owners' Group for approval. The inspector reviewed the licensee submittal for this curve which was dated August, 1990 and found that the curve had not been approved as of this inspection period. The

licensee informed the inspector that the Owners' Group had placed a low priority on the request and that they would continue to attempt to have the curve approved. Given that the licensee seemed to be making a good faith effort to have the curve approved, the inspector considered this adequate."

#### WNP-2 RESPONSE

WNP-2 will again present the WNP-2 DSIL Curve to the BWROG EPC-II during the June 1994 meeting, and will follow through with resolution.

### 3. Response to Inspection Report 50-397/91-27

#### NRC Comment

"The inspector reviewed Inspection Report 50-397/91-27, NRR's evaluation of the licensee's response, and the phase II EOPs. The inspector concluded that, with four identified exceptions, the licensee had taken appropriate actions to either change the EOPs or strengthen justifications."

"The licensee originally planned to retain two deviations to the Owners' Group guidance but later changed the EOPs to be consistent with the Owners' Group guidance. These involved the use of steam cooling override and criteria to be used to initiate wetwell spray. The inspector considered that these changes were satisfactory."

#### WNP-2 RESPONSE

WNP-2 will update the docket to note the changes to the plans provided earlier in our response to Inspection Report 91-27 as discussed above by December 31, 1994.

#### NRC Comment

"The licensee originally indicated that they intended to add a step to EOP 5.3.1 to operate secondary containment HVAC if the HVAC isolation signal clears. The licensee had not done this."

#### WNP-2 RESPONSE

WNP-2 modified the procedure to include a method for restoration of secondary containment HVAC. During the recent NRC inspection (IR 94-01), the inspectors indicated that the change appeared not to satisfy their concern. WNP-2 will re-evaluate further modifications to PPM 5.3.1. This evaluation is scheduled to be completed by August 31, 1994.

### NRC Comment

"The licensee stated in their original response that the Owners' Group intended to continue primary containment venting, if it was in progress, even if the radiation levels off-site were high while in EOP 5.4.1, "Radioactivity Release Control." The licensee presented the inspectors, after the exit meeting, with EPG issue number 8902 which proposed a change to the Owners' Group guidance in this area. EPG issues were submitted by various facilities to steering committees of the Owners' Group, for resolution by the steering committee. The inspector noted that the resolution of this EPG issue was to recommend a change to the Owners' Group guidance to maintain primary containment venting, even if off-site radioactive release rates were high, as long as a distinction was made between normal venting and purge, and venting regardless of off-site release rates. The inspectors concluded that if the vent was necessary to preserve primary containment integrity then it should be continued, otherwise it should be stopped. The inspectors noted that step R-2 of EOP 5.4.1 appeared to make no distinction as to the reason the vent may be in progress. The inspectors were concerned that a vent that allowed off-site release rates to be high (in excess of License limits), and was not necessary to preserve primary containment integrity, appeared to be allowed by the existing EOPs. The inspector also concluded, however, that operator training would prevent this; but that the clarity of this particular procedural step deserved further assessment by the licensee."

### WNP-2 RESPONSE

WNP-2 determined that the venting of the Primary Containment allowed at this step is only applicable when this venting is being performed irrespective of the offsite radioactivity release rates. This is specified in steps P-15 and H-24 of PPM 5.2.1. No further action is required.

# ACCELERATED DOCUMENT DISTRIBUTION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 AUTH. NAME AUTHOR AFFILIATION  
 PARRISH, J.V. Washington Public Power Supply System  
 RECIP. NAME RECIPIENT AFFILIATION

Document Control Branch (Document Control Desk)

SUBJECT: Provides comments re concerns noted in NRC 940318 ltr re  
 EOP Insp Rept 50-397/94-01 on 940207-18. Separate ltr further  
 clarifying actions taken by util in response to 1991 NRC EOP  
 insp will be submitted by 941231.

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April 25, 1994  
G02-94-095

Docket No. 50-397

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

Gentlemen:

Subject:       WNP-2, OPERATING LICENSE NPF-21  
                  NRC INSPECTION REPORT 94-01  
                  RESPONSE TO EOP INSPECTION TEAM ISSUES

Reference:     Letter, dated March 18, 1994, SA Richards (NRC) to JV Parrish (SS), same  
                  subject

As requested in the reference, the Supply System is providing comments pertaining to concerns identified during the NRC Emergency Operating Procedures (EOP) Inspection conducted February 7, 1994 through February 18, 1994.

As requested in the reference, a separate letter further clarifying the actions taken by the Supply System in response to the 1991 NRC EOP inspection will be submitted to your office for review by December 31, 1994. This date is due to items which are dependent upon resolution in the Boiling Water Reactor Owners' Group (BWROG).

Should you have any questions or desire additional information, please call me or Herbert E. Kook at (509) 377-4278.

Sincerely,

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

cc:     LJ Callan - NRC RIV  
          KE Perkins, Jr. - NRC RIV, WCF Office  
          NS Reynolds - Winston & Strawn

JW Clifford - NRC  
NRC Sr. Resident Inspector - 927N  
DL Williams - BPA/399

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## WEAK JUSTIFICATIONS

1. Primary Containment Control Hydrogen Concentration entry condition (3.56%)

### NRC Comment

"The entry condition for EOP 5.2.1, "Primary Containment Control," for hydrogen concentration in containment was 3.56%. The licensee's justification was that the Owners' Group guidance bracketed value was the high hydrogen alarm setpoint, which for the licensee was the annunciation setpoint of 3.56%. However, the Owners' Group guidance also stated that the setpoint should be such that the alarm was low enough to allow the operators time to react before a hazardous situation resulted. The inspector reviewed the calculation that the setpoint was based on, E/I-02-91-1067, "Setting Range Determination for Instrument Loop CMS-H2E-1301," Rev. 0, and noted that the setpoint used was the flammable concentration of hydrogen (given the presence of oxygen, minus instrument uncertainties). The inspector concluded that the containment could be at flammable levels of hydrogen at the time that annunciation occurred. The EOP entry condition appeared nonconservative when compared to the Owners' Group guidance of providing time for operator action. The inspector did note, however, that the most probable cause for hydrogen in containment would be a Loss Of Coolant Accident (LOCA), with a loss of core cooling and resultant hydrogen generation from zircalloy water reaction. The inspectors concluded that in this instance EOP 5.2.1 would have been entered due to the LOCA and the hydrogen threshold of 0.5% for starting recombiners would have given operators time to act. The safety significance appeared low, but since hydrogen was a separate EOP entry condition, there was an obvious inconsistency. The licensee agreed to evaluate the 3.56% setpoint and its justification."

### WNP-2 RESPONSE

WNP-2 uses the Alarm Setpoint as the entry condition as required by the Emergency Procedure Guidelines (EPG). To ensure that a flammable atmosphere does not exist in primary containment, WNP-2 maintains the oxygen concentration as required by Technical Specifications which require that the Primary Containment Oxygen concentration be maintained less than 3.5% during Operation Condition 1, to prevent a flammable concentration, (oxygen must be greater than 5% and hydrogen must be greater than 4%). WNP-2 will remain with the entry condition of 3.56% hydrogen.

Other plants contacted: Brunswick 6%, Susquehanna 4%, Limerick 4%.



## 2. Maximum Safe Operating Radiation Levels in the Secondary Containment

### NRC Comment

"EPG Table 1, "Secondary Containment Control," listed Maximum Safe Operating Values (MSOV) as 1250 mR/hr (1.25 Rem/hr) for emergency activities monitored by the Reactor Building Area Radiation Instruments. Maximum Safe Operating Values were subsequently used as criteria for deciding to conduct a normal reactor shutdown. The PSTG and EOP 5.3.1, "Secondary Containment Control," Table 24, listed Maximum Safe Operating Values as  $10^4$  mR/hr (10,000 mR/hr)."

The justification in the Plant Specific Technical Guideline (PSTG) stated that the meter range (except for high range instruments) of area monitors was  $10^4$  mR/hr. No evaluation of expected radiation levels versus operator tasks and stay times was performed by the licensee to evaluate the acceptability of  $10^4$  mR/hr (10 Rem/hr) dose rates.

The inspectors were concerned that operator access in the plant may be very limited if area levels are 10 Rem/hr versus 1.25 Rem/hr, and that a safe shutdown may be complicated. The Supply System agreed to re-evaluate this radiation level and revise procedures accordingly.

### WNP-2 RESPONSE

WNP-2 will continue to use  $10^4$  mR/hr as the MSOV. This has been evaluated by WNP-2 and other plants as an acceptable level due to the amount of time that personnel would be required to remain in the Reactor Building to perform EOP support activities and not exceed 25 Rem exposure (ie., 2.5 hrs in the Reactor Building).

Other plants contacted: Brunswick 7000 mR/hr, LaSalle 10000 mR/hr, NMP-2 10000 mR/hr.

## 3. Lowering Wetwell Level

### NRC Comment

"The inspectors noted that when responding to a high wetwell level, EOP 5.2.1 directed that wetwell level be lowered to meet three different requirements in EOP steps L-9, L-14, and L-18. The Owner's Group guidance required that steps L-9 (maintain wetwell level below the safety relief valve tailpipe), L-14 (maintain wetwell level below 51 feet), and step L-18 (maintain wetwell level below the Maximum Primary Containment Water Level Limit (MPCWLL) be done concurrently. The licensee's EOP required step L-18

to be done after step L-14. The inspector noted that the licensee's justification was that the L-14 level limit had to be achieved before the L-18 level limits could be attained. The inspector observed that for wetwell pressures above 85 psig this was not necessarily true. Level could be below 51 feet and still out of the safe operating area for MPCWLL."

The Supply System agreed to evaluate this concern.

#### WNP-2 RESPONSE

WNP-2 will revise the EOP Flowchart to make these steps concurrent. The scheduled completion date for this action is August 31, 1994.

4. EPG Caution #6 states "Cooldown rates above [100 deg F/hr (RPV CDR LCO)] may be required to accomplish the associated step". The PSTG discarded the cautionary verbiage and employed the phrase, "Disregard cooldown rate."

#### NRC Comment

"The inspectors concluded the EPG caution would alert operators to potentially adverse consequences to the Reactor Pressure Vessel, such as catastrophic cracking with potential leaking, and should be included in the EOP."

The Supply System's justification was that the EPG words were an instruction, not a caution.

The Supply System agreed to evaluate this concern.

#### WNP-2 RESPONSE

According to the EPG Appendix B, cautions are to identify adverse consequences of certain plant conditions or actions specified in the EPGs. Cautions do not specify operator actions or limit the applicability of specified actions. Cautions may also describe the consequence of the hazard. Based on the preceding description, Caution #6 will remain as stated in the PSTG and EOPs. The operators are trained on the potential consequences of exceeding the Reactor Pressure Vessel (RPV) cooldown rate. The EPG statement, "This CAUTION makes it clear that, where indicated, performance of the specified action takes precedence over abiding by the RPV cooldown rate LCO." provides the necessary priority direction to exceed the cooldown rate LCO without regard for adverse consequences. The step in the WNP-2 PSTG and EOPs is more operator friendly and does not make the operator decide if the CDR LCO should be exceeded.

5. EPG Step RC/P-2 concerned employing High Pressure Coolant Injection (HPCI) with suction from the Condensate Storage Tank (CST). The PSTG deleted the HPCI system (from EOP 5.1.1, table 4).

### NRC Comment

"HPCS was an "ON/OFF" system with flow of approximately 1500 gpm only, and was not suitable for use as a pressure control system. The inspectors concluded the HPCS capability was inconsistent with intent of the EPGs and it was proper to delete the HPCS system from Table 4, but this inconsistency was not stated."

The justification, in the PSTG, stated, "WNP-2 does not utilize a HPCI system.", but later stated, "The function performed by the HPCI system is achieved by the High Pressure Core Spray (HPCS) system."

The Supply System agreed to clarify the justification.

### WNP-2 RESPONSE

WNP-2 will change the PSTG justification to read: "WNP-2 does not utilize a HPCI system; the ECCS function performed by the HPCI system is achieved by the High Pressure Core Spray (HPCS) system. The HPCS system by design cannot be used for a pressure control system; therefore, it has been deleted from Table 4 systems." This action is scheduled for completion by August 31, 1994.

6. The EPG requires implementation of Alternate Rod Insertion methods for an Anticipated Transient Without Scram (ATWS) condition. The PSTG employs one method of, "All Blue Scram Valve Lights On (Hydraulic/Air)" The EOP employed the same method of, using the words, "All Blue Scram Valve Lights On (Hydraulic)"

### NRC Comment

"The inspectors noted the difference between the PSTG and the EOP concerning the potential rod insertion problem, and concluded in this instance the EOP and PSTG were not consistent. During the inspection, the licensee determined the EOP was correct and agreed to revise the PSTG accordingly."

The Supply System agreed to change the PSTG.

### WNP-2 RESPONSE

WNP-2 will change the PSTG to state, "All Blue Scram Valve Lights On (Hydraulic)". The scheduled completion date for this action is August 31, 1994.

7. The EPG for Secondary Containment Control included an Entry Condition, "A floor drain sump water level above the max normal operating water level." The PSTG deleted the Entry Condition.

### NRC Comment

"The inspectors noted the EOP entry condition for EOP 5.3.1, "Secondary Containment Control", was water level 6" above floor level. The inspectors concluded that this appeared to be inconsistent with the intent of EPGs. The inspectors concluded that WNP-2 had not assured that the same level of response would be afforded a floor drain sump alarm with an ARP as with the EOP."

The Supply System justification stated that, "floor drain sumps do not have max normal operating water levels.", but then went on to state, "Each sump has an alarm which sounds before the specified area water level alarms are reached". The inspectors concluded that such alarms are usually associated with exceeding maximum normal operating water levels. WNP-2 used an Annunciator Response Procedure (ARP) as the first level of response before entering the EOPs on high reactor building water level.

The Supply System agreed to evaluate this concern.

### WNP-2 RESPONSE

WNP-2 feels confident that the actions required for a high level in the sump will be controlled by the Annunciator Response Procedures, which gives direction for local investigations and to ensure that the sump pumps are running. If the level continues to rise, the EOP for Secondary Containment Control will be entered. No further action is required.

8. Steps P-5 and P-6, EOP 5.1.1, employed pressure and temperature icons (colored scales) with red coloration above the set point, but white below. Steps L-4 and L-7 employed level icons with red coloration above the set point, but green below. The Writer's Guide required the latter coloration pattern in the icons only.

### NRC Comment

"The inspectors noted that EOPs should consistently implement the requirements of the Writer's Guide."

The Supply System agreed to correct the condition with the next EOP revision, currently scheduled for July 1994.

### WNP-2 RESPONSE

WNP-2 will correct steps P-5 and P-6, in PPM 5.1.1, to implement Writer's Guide requirements. The scheduled completion date is August 31, 1994.

## EOP SETPOINT ISSUES

### 1. Standby Liquid Control Tank Level (SLC)

#### NRC Comment

"The inspectors were concerned that neither the PSTG nor EOPs required stopping the SLC Pumps before the tank was empty ("0" gal. indication), thereby causing possible damage to the SLC Pumps."

WNP-2 agreed to consider an EOP change to stop the SLC Pumps at an indicated level in the tank.

#### WNP-2 RESPONSE

WNP-2 will change the EOP Flowchart 5.1.2 step Q-14 Override to: "IF SLC-TK-1 is less than 100 gallons, THEN stop both SLC pumps". Scheduled completion date for this action is August 31, 1994.

### 2. Primary Containment Pressure Limit Curve (PCPL)

#### NRC Comment

"The inspectors noted that the graph of the primary containment pressure limit (PCPL) curve shown in calculation No. NE-02-89-27, dated March 24, 1990, differed from the PCPL curve in EOP 5.2.1."

51.15 The calculation for the PCPL curve uses 52 feet as the upper indicated wetwell level and the curve is marked as 51 feet. Fifty one feet should be used in the calculation because feet is the upper indicator tap.

WNP-2 agreed to correct the calculation and use 51 feet for the upper indicated wetwell level.

#### WNP-2 RESPONSE

WNP-2 will revise the PCPL Calculation to use 51 feet as the upper indicated wetwell level. This action is scheduled to be completed by August 31, 1994.

## MATERIAL AVAILABILITY

### 1. Nitrogen Bottles

#### NRC Comment

The inspectors had a concern as to the availability of Nitrogen (N<sub>2</sub>) bottles and required equipment necessary to reopen CN-V-61 and/or CN-V-65.

- a. PPM 5.5.16, "Emergency Drywell and Wetwell Purging," Rev. 4, step 6.
- b. PPM 5.6.1, "Station Blackout (SBO)," Rev. 2, section 5.0, step 5, stated, "Maintain CN-V-65 open with a gas bottle per PPM 2.8.2."

The Supply System stated at the time of the exit meeting that they were developing an additional method of providing the alternate nitrogen supply.

The Supply System agreed to revise PPM 5.6.1.

#### WNP-2 RESPONSE

WNP-2 is in the process of placing N<sub>2</sub> bottles, regulators and hoses in the RB 522 EOP equipment lockers for reopening CN-V-61 and CN-V-65. The respective procedures (PPM 2.8.2, 5.5.16 & 5.6.1) will also be revised. The scheduled completion date for this action is August 31, 1994.

2. PPM 5.5.8, "Alternate Boron Injection," Rev. 4, section 4.2 contained steps for injecting boron via the Reactor Water Cleanup System (RWCU).

#### NRC Comment

Step 3 required nine barrels of borax and nine barrels of boric acid be delivered to the 467 foot elevation of the Radwaste Building next to the RWCU precoat tank from Warehouse 3, Building 78, Bay G. "The inspector was concerned that this delivery would have required a lift from the 437' level truck bay (including opening a door) with a non-vital powered overhead crane."

The Supply System agreed to consider the storage of the materials in the Radwaste building near the intended use.

#### WNP-2 RESPONSE

WNP-2 stores the required barrels of borax and boric acid in Warehouse 3, Building 78, Bay G. The borax and boric acid (toxic materials) are in a controlled storage area the warehouse. Lift trucks are available to lift the barrels up to the 467' floor from the truck bay and the door can be manually opened.

## CONTROL ROOM INSTRUMENTATION

### 1. Graphic Display System (GDS)

#### NRC Comment

The inspectors noted that GDS had not been updated.

The Supply System agreed to evaluate and update the GDS to conform to the phase II EOPs.

#### WNP-2 RESPONSE

GDS will be updated to reflect the present EOP Graphs. New GDS software is in the development stage and is scheduled for implementation during Refueling/Maintenance Outage R-10.

### 2. Drywell Temperature Instrumentation

#### NRC Comment

"The inspectors were concerned that operators could not readily determine from instrument labeling or the EOPs that Drywell temperature should be obtained from Point A01 before a FAZ signal, and Point 110 after a FAZ signal."

#### WNP-2 RESPONSE

WNP-2 has placed a permanent Operator Aid label on CMS-TR-5/6 to inform the operator which point is used before and after the FAZ signal.

### 3. Control Room Indications

#### NRC Comment

"The inspectors were concerned that operators would have difficulty locating and using indications and alarms due to labeling and location inconsistencies."

- a. RCIC turbine exhaust pressure instrument is labeled "psi" instead of "psig".

#### WNP-2 RESPONSE

WNP-2 will label the indication to read "psig". This action is scheduled to be completed August 31, 1994.

- b. Shutdown Cooling Interlocks Lights are not labeled.

### WNP-2 RESPONSE

WNP-2 will label these lights. Completion is scheduled for August 31, 1994.

- c. Annunciator for RHR Pump Rm "A" Differential Temperature is located on RHR "B" and "C" alarm panel. Annunciator for RHR Pump Rm "B" Differential Temperature is located on "LPCS" and RHR "A" alarm panel.

### WNP-2 RESPONSE

Observations of scenarios where these annunciator alarms were received posed no problems for the operators. WNP-2 believes the Annunciator Response Procedures (ARPs) direct the correct action and no other action is necessary.

4. "Several instrumentation differences existed between the simulator in use at the time of this inspection and the Control Room (CR). Recent modifications to the CR instrumentation had not been implemented in the simulator. The licensee had not modified the simulator in expectation of installation of a new simulator. Delivery of the "new" simulator had been delayed. The inspectors noted that the same parameters were displayed in the simulator and the CR, but that the instruments used for indication were, in many cases, digital in the CR and analogue in the simulator. The inspector interviewed operators who stated that they were not confused by the differences in displays between the control room and the simulator. The inspectors noted that the licensee was in progress of installing the new simulator and considered this approach adequate."

### WNP-2 RESPONSE

WNP-2 has considered this issue and determined that no further response is necessary.

5. "The inspectors noted that no control room instrumentation existed that could measure drywell temperature above 400 F. EOP 5.1.1 "RPV Control," Caution 1, which was placed in the EOPs to prevent taking action on erroneous RPV level indication, contained a saturation curve that ranged from 200 F to 550 F. Caution 1 of EOP 5.1.1 disallowed the use of any RPV level instrumentation if drywell temperature was above RPV saturation temperature. The inspectors were concerned that Caution 1 of EOP 5.1.1, with drywell temperatures above 400 F, would be difficult to implement as written because of this lack of ability to measure drywell temperatures above 400 F. This was because the operators could not utilize the portion of the saturation curve above 400 F. The inspectors considered this of low safety significance since conversations with operators revealed that they would assume, as temperature went off-scale high (above 400 F), all level instruments were affected by caution 1 of EOP 5.1.1. The inspectors concluded that this was a proper response."



## WNP-2 RESPONSE

WNP-2 has considered this issue and determined that no further response is necessary.

## PROCEDURE STEP DEFICIENCIES

### 1. Station Blackout Procedure

#### NRC Comment

No direction is given in the Station Blackout procedure or Loss Of Offsite Power procedure for restoration of SM-4 (ie., prevent auto start of HPCS if initiation signal is present when re-energizing SM-4).

#### WNP-2 RESPONSE

WNP-2 will evaluate and determine if changes should be made to the procedures by August 31, 1994. Necessary procedure changes will be made as appropriate to the Station Blackout and Restoration of Off-site Power procedures by October 31, 1994.

### 2. PPM 5.5.11 Cautions

#### NRC Comment

No cautions are given in 5.5.11 regarding the following:

Removing the instrument drain/test plug for CRD-PI-13, the void could be pressurized to approximately 70 psig.

Removing bottom and end plugs from "CRD Withdraw Line Dragon Vent Valve", potential for pressurized contaminated water.

#### WNP-2 RESPONSE

WNP-2 will add cautions to PPM 5.5.11 to address these two issues. Scheduled completion date is August 31, 1994.

### 3. RHR Suppression Pool Spray

#### NRC Comment

The inspectors were concerned that although the EOPs did not permit initiating wetwell spray when only wetwell cooling was called for, the supporting procedure allowed simultaneous wetwell spray and cooling. In this instance, "the inspectors were concerned that an operator could follow plant procedure PPM 2.4.2 and violate EOP 5.2.1".

#### WNP-2 RESPONSE

WNP-2 has added a caution to PPM 2.4.2, Rev. 20 (PDF-94-226). It states: "If initiating Suppression Pool Cooling during EOP conditions, do not initiate Suppression Pool Sprays until directed by the EOPs".

4. A generic condition was noted in several emergency support procedures (ESPs) that required actions of both CR operators and equipment operators (EOs). In some cases, the procedure listed which operator had to take the action; other procedures did not. In some procedures, a portion of the procedure would identify which operator would take the action, but later in the same procedure, the identification of which operator was to take action was not listed. An example of this situation was observed in PPM 5.5.3, "Fire Water to Condensate Crosstie," Rev. 3.

#### NRC Comment

"The inspectors noted that this inconsistency could cause delay in operator response during events because of operator confusion about who would perform the action and from where the action was directed."

The Supply System agreed to evaluate the ESPs for a consistent action direction methodology.

#### WNP-2 RESPONSE

WNP-2 will revise the ESPs for consistent action directions. This action is scheduled for completion August 31, 1994.

5. "Steps P-7 and P-8, EOP 5.1.1, stated, "WHEN RHR shutdown cooling interlocks can be reset, start shutdown cooling, PPM 2.4.2, with RHR pumps ... ". The inspectors noted that the shutdown cooling interlocks could be reset at any RPV pressure less than 135 psig. The inspectors also noted that the "Precautions and Limitations" section of PPM 2.4.2, "Residual Heat Removal System," Rev. 20, paragraph 4.14, required that shutdown cooling not be initiated until RPV pressure decreased to approximately 20 psig. The inspectors further noted that cautions in the main body of PPM 2.4.2, such as section 5.13, stated "Shutdown cooling initiation above 48 psig may cause damage to the RHR heat exchanger and pipe supports due to pressure/thermal stresses"."

#### NRC Comment

"The inspectors were concerned that the EOP guidance to initiate shutdown cooling when shutdown cooling interlocks could be reset (below 135 psig) was not consistent with the guidance in PPM 2.4.2 that shutdown cooling should not be initiated above an RPV pressure of 20 psig. The inspectors were also concerned that the caution concerning

damage to the RHR heat exchangers if shutdown cooling was initiated above 48 psig RPV pressure was not listed in the Precautions and Limitations section of PPM 2.4.2. Thus an operator could review the Precautions and Limitations section, prior to placing shutdown cooling in service, and still be unaware of this particular caution."

The Supply System agreed to revise PPM 2.4.2, and agreed to evaluate the apparent EOP discontinuity with the procedure.

#### WNP-2 RESPONSE

PPM 2.4.2 was revised as noted above in item 3.

EOP 5.1.1 directs the operator to the Shutdown Cooling procedure as required by the EPG and does not result in confusion. WNP-2 is satisfied that PPM 2.4.2 contains precautions which are consistent and are performed in the Shutdown Cooling section of the procedure. No further action is necessary.

6. "PPM 5.5.3, "Fire Water to Condensate Crosstie," Section 4.0, Step 5 required removal of fire hoses from the EOP hose house and required routing " ... the hoses through the TG [turbine building] 441 roll-up door and connect to the two outside hydrants..."."

#### NRC Comment

"The inspectors were concerned that precautionary statements were not included in the procedure for the Emergency Director to consider the radiological implications of the activity and potential releases to the environment. The inspectors concluded that in certain accident situations the turbine building could have airborne or surface radioactive contamination that could be released to the environment if the turbine building rollup door were opened."

The Supply System agreed to evaluate the need for including the precaution in the procedure.

#### WNP-2 RESPONSE

WNP-2 will add a caution statement to PPM 5.5.3 regarding the possible release with the TG 441 Roll-up Door open. The scheduled completion date for this action is August 31, 1994.



7. PPM 5.5.27, "Reactor Building Maximum Safe Operating Level Measurement," Rev. 1, required the removal of Reactor Building 471' level floor plugs and suspending float ball assemblies from the 471' level to the room below to determine levels of water in the rooms housing ECCS pumps in the event of flooding (when time was available to perform the evolution). The plugs were heavy and required an overhead hoist (power), or in the absence of power, manual rigging to a trolley rail 25' above the floor, in order to be removed.

NRC Comment

"The inspectors concluded that the removal of a watertight floor plug to perform a water level measurement in a situation that involved flooding of the compartment might result in flooding from compartment to compartment contrary to the design of the plant. The inspectors were also concerned that with power or without, the procedure would be difficult to accomplish and could hazard operators or the plant unnecessarily."

"The licensee stated that they had demonstrated the capability to perform the required actions to measure ECCS room water level in the past as well as to use portable de-watering equipment lowered down through the opening. This was demonstrated because, in the past, it was determined that the seals around piping that led through the walls of the ECCS pump rooms were not water tight. Since the design of the plant assumed these seals were water tight, the licensee had demonstrated a method to ascertain level and remove water in the event of flooding. The licensee concurred that equipment staged for that demonstration had since been secured to less accessible locations. The licensee also stated that these seals had been subsequently made watertight. Licensee operators also stated to the inspectors, during walk-downs, that they would probably not perform the procedure if there was indication of flooding or steam leaks into the rooms. The inspectors expressed their concern that the advisability of this strategy deserved further assessment on the part of the licensee, particularly since the seals around the piping were now apparently water tight."

WNP-2 RESPONSE

WNP-2 will continue to evaluate methods to determine Reactor Building Maximum Safe Operating Level Measurements. The date for completion of the evaluation and any necessary changes is August 31, 1994.



## FOLLOWUP OF CORRECTIVE ACTIONS

### 1. CAUTION 1 TO EOPs

#### NRC Comment

"During the simulator scenario observations the operators differed in their use of instruments when Caution 1 was applicable. Based on questioning, some operators said that if Caution 1 applied to an instrument it was out of service, some operators said the instrument was only suspect and could still be used as long as it cross checked properly with other instrumentation, and some operators said it could be used for trending, but not for specific level values. The inspector was concerned that a uniform implementation of the caution was not present. The licensee committed to provide additional training in this area. The inspector also noted that different crews used different marking on the control boards for this instrumentation. Some used red tape, some used yellow tape, and some yellow "stickies." The inspector was concerned that non-uniformity of marking could cause confusion and the licensee agreed to evaluate and develop a standard methodology. The inspector observed that to implement Caution 1, the fire brigade or an entry team of operators had to confirm the fire or break location. The inspector concluded that, if there was no installed local temperature monitoring, area entry was an appropriate response."

"The inspector concluded that, with the exceptions stated, the licensee had adequately justified the plant specific deviation and had adequately developed procedures to implement the caution."

#### WNP-2 RESPONSE

WNP-2 will provide training to operators on the use of the Fire and HELB procedures regarding their effect on RPV level instrumentation and methods of indicating "SUSPECTED" and "INOPERABLE" indications. Completion date of August 31, 1994.

### 2. Drywell Spray Initiation Limit (DSIL) Curve

#### NRC Comment

"The licensee had deviated from the Owners' Group guidance in assuming some humidity in the drywell while developing this curve, whereas the Owners' Group assumed no humidity. This provided a slightly larger safe operating area (less conservative) than the Owners' Group curve. The inspector noted that the NRC had informed the licensee that the plant specific curve should be submitted to the Owners' Group for approval. The inspector reviewed the licensee submittal for this curve which was dated August, 1990 and found that the curve had not been approved as of this inspection period. The



licensee informed the inspector that the Owners' Group had placed a low priority on the request and that they would continue to attempt to have the curve approved. Given that the licensee seemed to be making a good faith effort to have the curve approved, the inspector considered this adequate."

#### WNP-2 RESPONSE

WNP-2 will again present the WNP-2 DSIL Curve to the BWROG EPC-II during the June 1994 meeting, and will follow through with resolution.

### 3. Response to Inspection Report 50-397/91-27

#### NRC Comment

"The inspector reviewed Inspection Report 50-397/91-27, NRR's evaluation of the licensee's response, and the phase II EOPs. The inspector concluded that, with four identified exceptions, the licensee had taken appropriate actions to either change the EOPs or strengthen justifications."

"The licensee originally planned to retain two deviations to the Owners' Group guidance but later changed the EOPs to be consistent with the Owners' Group guidance. These involved the use of steam cooling override and criteria to be used to initiate wetwell spray. The inspector considered that these changes were satisfactory."

#### WNP-2 RESPONSE

WNP-2 will update the docket to note the changes to the plans provided earlier in our response to Inspection Report 91-27 as discussed above by December 31, 1994.

#### NRC Comment

"The licensee originally indicated that they intended to add a step to EOP 5.3.1 to operate secondary containment HVAC if the HVAC isolation signal clears. The licensee had not done this."

#### WNP-2 RESPONSE

WNP-2 modified the procedure to include a method for restoration of secondary containment HVAC. During the recent NRC inspection (IR 94-01), the inspectors indicated that the change appeared not to satisfy their concern. WNP-2 will re-evaluate further modifications to PPM 5.3.1. This evaluation is scheduled to be completed by August 31, 1994.



### NRC Comment

"The licensee stated in their original response that the Owners' Group intended to continue primary containment venting, if it was in progress, even if the radiation levels off-site were high while in EOP 5.4.1, "Radioactivity Release Control." The licensee presented the inspectors, after the exit meeting, with EPG issue number 8902 which proposed a change to the Owners' Group guidance in this area. EPG issues were submitted by various facilities to steering committees of the Owners' Group, for resolution by the steering committee. The inspector noted that the resolution of this EPG issue was to recommend a change to the Owners' Group guidance to maintain primary containment venting, even if off-site radioactive release rates were high, as long as a distinction was made between normal venting and purge, and venting regardless of off-site release rates. The inspectors concluded that if the vent was necessary to preserve primary containment integrity then it should be continued, otherwise it should be stopped. The inspectors noted that step R-2 of EOP 5.4.1 appeared to make no distinction as to the reason the vent may be in progress. The inspectors were concerned that a vent that allowed off-site release rates to be high (in excess of License limits), and was not necessary to preserve primary containment integrity, appeared to be allowed by the existing EOPs. The inspector also concluded, however, that operator training would prevent this; but that the clarity of this particular procedural step deserved further assessment by the licensee."

### WNP-2 RESPONSE

WNP-2 determined that the venting of the Primary Containment allowed at this step is only applicable when this venting is being performed irrespective of the offsite radioactivity release rates. This is specified in steps P-15 and H-24 of PPM 5.2.1. No further action is required.