

SOUTH CAROLINA ELECTRIC & GAS COMPANY

VIRGIL C. SUMMER NUCLEAR STATION

NUCLEAR OPERATIONS

NUCLEAR OPERATIONS

COPY NO. _____

OPERATIONS ADMINISTRATIVE PROCEDURE

OAP-100.6

CONTROL ROOM CONDUCT AND CONTROL OF SHIFT ACTIVITIES

REVISION 1

SAFETY RELATED

RECORD OF CHANGES

CHANGE LETTER	TYPE CHANGE	APPROVAL DATE	CANCELLATION DATE	CHANGE LETTER	TYPE CHANGE	APPROVAL DATE	CANCELLATION DATE

INFORMATION USE

Procedure May Be Performed From Memory.
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DOCUMENT REVIEW FORM

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* Failure by the "Additional Reviewers" to provide comments within 5 working days following the comment due date may be considered as "No Comment".

DOCUMENT REVIEW FORM

Document No.: OAP-100.6 Rev. No.: 1 Chg. Ltr.:

DESCRIPTION CONTINUED:

- 1) Step 12.1, Modified to minimum staffing to include the Shift Test Specialist.
- 2) Step 14.3, Added (Hardcopy)
- 3) Step 14.4, Added steps for adding Late Entries (Electronically).
- 4) Step 16.14, has been modified to reflect tagging expectations concerned with hoses. Referenced SAP-300, SAP-142 and OAP-100.5.
- 5) Step 26.5, Clarified expectations when refilling oil cans.
- 6) Enclosure D, added light bulbs for: RB Instrument Air Compressors, DG Control cubicle annunciator windows, Relay Room Group 3 Process rack (XPN007) annunciators, RML0008 (APN5906 21) .
- 7) Attachment IA, Added statement to update the makeup pot setting when performing the weekly reactivity control worksheet.
- 8) Attachment VIIA, updated FEP Manning sheet.

REASON/BASIS FOR CHANGE CONTINUED:

- 1) Ops feedback (06167).
- 2) Based on Ops review feedback differentiated between Hardcopy and Electronic Late Entries.
- 3) Ops review feedback for making Late Entries in AutoLog.
- 4) Ops feedback, to update step 6.14 to reflect SAP-142 expectations concerning temporary equipment.
- 5) Ops feedback (06167) eliminates need for batch numbers on hold tag.
- 6) Ops feedback (06199).
- 7) Ops feedback (06236).
- 8) Ops feedback (06243), to reflect OSHA titles for Hazmat defensive responders.

DOCUMENT REVIEWERS CONTINUED:

	Position	Type/Print Name	Comments Yes/No	*Additional	Position	Type/Print Name	Comments Yes/No
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ENCLOSURES

- Enclosure A Benchmarking Plan (Notification Letter)
- Enclosure B Benchmark Report Form
- Enclosure C Benchmarking Pre-Visit Checklist
- Enclosure D Lamp Index

ATTACHMENTS

Attachment IA	Reactivity Control Parameters
Attachment IB	Reactivity Management Brief
Attachment II	Lube Oil Locker Inventory
Attachment III	Bulk Consumable Inventory
Attachment IVA	Control Room Evacuation Panel Emergency Tool Locker Inventory List
Attachment IVB	Auxiliary Building Upper Emergency Tool Kit Inventory List
Attachment IVC	Electricians Emergency Tool Kit (#1) Inventory List
Attachment IVD	Intermediate Building Emergency Tool Kit Inventory List
Attachment IVE	RO Emergency Tool Kit Inventory List
Attachment IVF	BOP Operator Emergency Tool Kit Inventory List
Attachment IVG	Shift Engineer Emergency Tool Kit Inventory List
Attachment IVH	EOP-6.0 Tool Locker Inventory (463' AB)
Attachment IVI	AOP-118.1 Toolbox Inventory (400' AB)
Attachment IVJ	Control Room Emergency Food Locker Inventory
Attachment IVK	Shift Supervisor's Office First Aid Box Inventory
Attachment IVL	I&C Technicians FEP Equipment Storage Locker Inventory List
Attachment V	Supervisors Report Of Spill
Attachment VI	Replacement Lamp Identification Checklist
Attachment VII	Shift Supervisor Relief Checklist
Attachment VIIA	FEP Manning Sheet
Attachment VIII	Control Room Supervisor Relief Checklist

Attachment IX	RO Relief Checklist
Attachment X	BOP Operator Log
Attachment XI	Control Building Operator Log
Attachment XII	ABUL Operator Log
Attachment XIII	ABLL Operator Log
Attachment XIV	TB Operator Log
Attachment XV	IB Operator Log
Attachment XVI	Shift Test Specialist Log
Attachment XVII	Operator Rough Log

1.0 PURPOSE

- 1.1 The purpose of this procedure is to provide guidance to Operating Shifts on normal day-to-day shift activities and thereby promote consistency across all shifts. It is meant to enhance, but not replace requirements found in SAPs, OAPs and OAGs.
- 1.2 The guidance of this procedure is to be used in conjunction with guidance provided in the following:
 - a. OAP-100.2, Operations Personnel Expectations And Responsibilities.
 - b. OAP-100.3, Human Performance Tools.
 - c. OAP-100.4, Communication.
 - d. OAP-100.5, Guidelines For Configuration Control And Operation Of Plant Equipment.
- 1.3 This procedure provides instructions for safely maintaining power at 100% of licensed core power. It also provides instructions for verifying and responding to a high thermal power computer alarm.
- N01→ 1.4 The purpose of Required Reading is to provide the following:
 - a. Guidelines for implementing instructions for the Required Reading Program in the Operations Department.
 - b. Uniformity in the dissemination of information to all operators.
 - c. Documentation that the information has been received.

2.0 SCOPE

- 2.1 10CFR50 Appendix B and SAP-630 govern this procedure.
- 2.2 FSAR Section 1.1.4 dictates the Reactor Power limit allowed at VC Summer Nuclear Station.
- 2.3 While FSAR Section 13.5.1.3 discusses conduct of plant operating procedures, it does not address specific expectations as delineated in this procedure. A 10CFR50.59 Review is not required for this procedure.

3.0 REFERENCES

- 3.1 V.C. Summer Nuclear Station Operating License.
- 3.2 IPCS Documentation.
- 3.3 SAP-364, Control of Temporary Cables.
- 3.4 SAP-421, Shift Engineer Conduct of Operations.
- 3.5 SAP-630, Procedure / Commitment Accountability Program.
- 3.6 SAP-999, Corrective Action Program.
- 3.7 SAP-1340, Transmittal and Maintenance of Records.
- 3.8 REP-102.001, Reactivity Management Plan Development
- 3.9 CERs 02-0947, 02-1925, 02-2036, 02-3364, 02-3551

4.0 DEFINITIONS

- 4.1 Licensed Core Power/Licensed Limit - 2900 MWt core power (excluding Reactor Coolant Pump heat) as specified in the plant Operating License. This is the limit for any eight-hour shift average power. At no time should power exceed 102% of this limit (2958 MWt).
- 4.2 Internal Benchmarking - Focuses on looking within the organization for improved or better ways of accomplishing a desired result. For example, the Operations Department may be able to learn from the Maintenance organization on how to conduct task briefs more effectively.
- 4.3 External Benchmarking - Focuses on comparing key business processes with other plants and utilities.

5.0 RESPONSIBILITIES

- 5.1 The Shift Supervisor, Control Room Supervisor and Main Control Board Operators should ensure that the licensed limit is approached cautiously and as directed in this procedure.
- 5.2 If any U9003, QCORE1 (C1M), computer alarm is received, the Duty Shift Supervisor should ensure all required actions of section for Guidelines For Operation At The Licensed Limit in this procedure are accomplished.

5.3 Responsibilities related to Required Reading:

- a. The Manager, Operations is responsible for the overall administration of the Required Reading Program.
- b. The Manager, Operations or Operations Supervisor is responsible for the determination of material to be included. In addition, they are responsible for the review of the packages of required reading material that will be distributed to the Shift Supervisors and other supervisors in the Operations Department.
- c. The Administrative Control Room Supervisor is responsible for:
 - 1) The receipt of input to required reading from the Manager, Operations and the Operations Supervisor and the editing of that information. This package will normally be disseminated on a monthly basis.
 - 2) Maintaining the records documenting the completion of the required reading material by the Shift Supervisors and Control Room Supervisors or the review of the required reading by the required individuals who do not receive the instruction.
 - 3) Perform an audit at the end of each month to identify those personnel who have yet to complete either their required reading instruction or the material review. This information will be forwarded to the responsible supervisors to ensure Required Reading can be completed in a five (5) week time frame.
- d. All Shift Supervisors and Control Room Supervisors are responsible for reviewing the required reading material and providing instruction to the members of their shift or unit for each required reading entry. They shall also be responsible for forwarding the required documentation of the review to Operations Clerical Support in a timely manner.
- e. All licensed personnel, at a minimum, are required to review required reading package within a five (5) week period following the issuance of the package.

6.0 CONTROL ROOM ACCESS

- 6.1 The Shift Supervisor or Control Room Supervisor has the authority to limit Control Room access, or have any personnel causing a distraction removed.
- 6.2 Personnel having unrestricted access to the Control Room is defined in SAP-200.
- 6.3 Operators not assigned to the Control Room should not loiter in the Control Room.
- 6.4 The Control Room area and in particular the Area of Continuous Attention, shall be kept free from congestion and distractions so that Control Room personnel may concentrate on the plant.
- 6.5 The WCC SRO shall confer with the CRS or SS to allow personnel unlimited access into the Control Room during the performance of a specific task. The CRS or SS shall limit the number of personnel with unlimited access into the Control Room. Examples of items honoring unlimited access are as follows:
 - a. Scheduled PMs in the Control Room.
 - b. Scheduled PMs that require entering and exiting the Control Room frequently.
 - c. Operational testing requiring multi-departmental involvement.
- 6.6 No one other than the duty shift supervision should enter the dark carpeted area without the RO or BOP approval.

7.0 DISTRACTING ACTIVITIES

- 7.1 Activities or evolutions should be structured such that the activity or evolution does not pose a distraction to the Control Room staff.
- 7.2 Either the RO or the BOP should monitor plant parameters at all times. At no time should the RO and BOP both be given administrative duties that would preclude effective plant parameter monitoring.
- 7.3 Lengthy and involved (detailed) discussions, with the exception of Pre-Job Briefs and Post Job Critiques should not be conducted in the Control Room. The discussions should be moved to the Shift Supervisor's office or elsewhere.
- 7.4 Use of "Muffle Box" during Simplex testing in the Control Room.
 - a. During extended periods of Simplex testing a "Muffle Box" may be placed over the alarm speaker.
 - b. Test Unit personnel must be present at the Simplex panel as long as the "Muffle Box" is in use.
 - c. When Simplex testing is complete the "Muffle Box" will be removed and stored at the tagging desk.

8.0 CONTROL ROOM COMMAND

- 8.1 Command Of The Control Room is the responsibility of the Duty Shift Supervisor.
- 8.2 The Control Room Supervisor normally is the SRO in the Control Room and during the absence of the Shift Supervisor from the Control Room, assumes Command Of The Control Room.
 - a. One of the most important aspects of Command and Control is that the Control Room Supervisor has primary responsibility for directing the activities of the Auxiliary and MCB Operators.
 - b. Because of the necessity for the CRS to be aware of all activities that affect the operation of the plant, it is imperative that this position be the focus of communications.

- c. The Shift Supervisor may supplement the CRS in the direction of the various operators during certain recovery actions provided the following criteria are adhered to:
 - 1) The assistance provided by the Shift Supervisor must not interfere with that position's primary function of maintaining the proper total plant perspective.
 - 2) The CRS must be informed as soon as practical of the activities performed as a result of the Shift Supervisor's direction.
- 8.3 The Shift Supervisor or Control Room Supervisor are the only individuals authorized to direct the actions of Operators in the plant. Operators may direct actions of other operators or station personnel only with the knowledge and authorization of the Shift Supervisor or Control Room Supervisor.
- 8.4 Operators should not manipulate the plant based on a request unless authorized by the Shift Supervisor or Control Room Supervisor. It is the responsibility of the Operator to ensure the SS or CRS is informed. The following are examples:
 - a. Load changes requested by the load dispatcher or others.
 - b. Test or evolutions requested by other groups.
- 8.5 In emergency situations SAP-200, Conduct of Operations, states Operations expectations.
- 8.6 The Control Room Supervisor and Shift Supervisor should constantly evaluate the plant to ensure that maintenance tasks do not jeopardize the plant, keeping in mind unit safety, reliability, and plant availability.
- 8.7 Function of control room personnel during emergencies
 - a. The Shift Supervisor is directly in charge of the Control Room and should be available at the onset of an emergency. The SS will fulfill the duties of the Interim Emergency Director (IED) and keep a broad overview of the plant condition.
 - b. The CRS shall implement the EOPs and is responsible for ensuring that each step is accomplished. While the SS is performing duties as the IED, the CRS has command of the Control Room and keeps SS informed of changing plant conditions that may effect emergency classifications.

- c. The Control Room personnel are responsible for the Immediate Operator Actions of EOPs and AOPs. They are to operate the controls based on direction from EOPs and AOPs and the CRS to maintain control of the plant.
- d. The Shift Engineer will assist the Shift Supervisor and Control Room Supervisor in accordance with SAP-421, Shift Engineer Conduct Of Operations.

9.0 CONSERVATIVE PLANT OPERATION

- 9.1 The Shift Supervisor has primary responsibility to ensure that VC Summer is operated with a conservative operating philosophy.
- 9.2 During normal plant operation, the Operations Department will:
 - a. Identify and assign a high priority to Operator Workarounds and Challenges.
 - b. Utilize pre-job/post-job briefings per SAP-123, Procedure Use and Adherence, and OAP-100.3, Human Performance Tools.
 - c. Maintain a low threshold for problem reporting per SAP-999, Corrective Action Program.
 - d. Maintain a questioning attitude.
- 9.3 Despite pressures to reduce costs, operational decisions involving plant shutdowns, maneuvers or inserting manual trips must not be influenced by economic considerations.
- 9.4 In general, when it becomes apparent that actions taken to mitigate an event will not be successful, a manual Reactor Trip should be inserted with Control Room Supervisor or Shift Supervisor concurrence. The following are examples of when to insert a manual reactor trip. SAP-200, Conduct of Operations, states Operations expectations for manual Reactor Trips.
 - a. A Feedwater Isolation Valve fails closed and is verified by other indications.
 - b. One Feedwater Pump has tripped and a second Feedwater Pump trips while at 100% power.
 - c. Plant is operating at or near 100% with only two Circulating Water Pumps available, one trips, and a turbine trip on reduced vacuum is imminent.

- 9.5 Reactor Engineering involvement in shift activities improves conservative Reactivity Management as outlined in SAP-155, Reactivity Management. Reactor Engineering uses the Beacon Program to determine plant responses based on power history, time in core life and planned evolution.
- 9.6 The following are examples of times when Reactor Engineering should be involved with reactor plant maneuvers:
- a. Low Power Physics Testing.
 - b. Planned power changes of $\geq 10\%$.
 - c. Startup after Refueling, Shutdown or Trip.
 - d. Other situations that may arise where Reactor Engineering input and involvement would be beneficial to the conservative operation of the plant. If actual plant conditions significantly differ from the Beacon prepared Reactivity Management plan, the difference should be discussed with Reactor Engineering. For example:
 - 1) Plan designates that Reactor Power is to be held constant for a given period of time and the time is exceeded.
 - 2) Rod height is different by greater than 10 steps when the power increase continues.
 - 3) Reactor Power increase has been suspended that may require an update to the plan.

10.0 GUIDELINES FOR OPERATION AT THE LICENSED LIMIT

- 10.1 Display U9002, EIGHT-HOUR SHIFT AVG REACTOR PWR, on one of the Analog Trend Recorders.
- 10.2 Ensure both of the following are displayed in the Control Room:
- a. U9002, SHIFT AVG POWER.
 - b. U9003, QCORE1 (C1M).
- 10.3 Adjust core power to obtain an integrated shift average value between 2895 and 2900 MWt.

- 10.4 If the Integrated Plant Computer System is not available, QCORE 1 or U9002, SHIFT AVERAGE POWER is invalid, perform the following:
- a. Monitor the following on the NIS power range drawers:
 - 1) N41A, PERCENT FULL POWER.
 - 2) N42A, PERCENT FULL POWER.
 - 3) N43A, PERCENT FULL POWER.
 - 4) N44A, PERCENT FULL POWER.
 - b. Adjust Reactor power as necessary to maintain the highest reading NI at less than or equal to 100%.
- 10.5 If actual power exceeds either of the following limits, initiate a 24-hour report to the NRC per NL-122, Regulatory Notification And Reporting:
- a. 2900 MWt (100%) as integrated over each eight-hour shift per computer point U9002.
 - b. 2958 MWt (102%) at any time, as determined by analysis of power indications (i.e. U9003-5M, average NI power indication, delta-T, etc).
- 10.6 If the computer alarm (U9003) is received for reference core power exceeding 2929 MWt (101%), perform the following:
- a. Verify the alarm is valid by monitoring the five-minute rolling average (U9003-5M).
 - b. If the alarm is determined to be valid as indicated by U9003-5M greater than 2929 MWt (101%), initiate a CER to evaluate the transient.
 - c. If the alarm is determined to be the result of a feedwater flow transient or other calculated inputs to U9003, which are not related to actual core power, make a station log entry denoting the reason for the alarm.

NOTE 10.7

L0303S is the previous 20 one-minute consecutive calculations for U9003 (alarm only), indicating that reference core power has exceeded 2914.5 MWt (100.5%) for greater than twenty minutes

- 10.7 If the computer alarm is received for L0303S, write a CER to evaluate the transient.

NOTE 11.0

These expectations are in addition to those illustrated in SAP-102, Statement Of Responsibilities, Operations, SAP-155, Reactivity Management, SAP-200, Conduct Of Operations, and Management Directive-57, Reactivity Management.

11.0 REACTIVITY MANAGEMENT EXPECTATIONS

- 11.1 Control of reactivity and reactor power for the safe operation of the facility and to protect the health and safety of the public is the single most important job and responsibility of the SS, CRS and the RO, therefore:
- a. Do not let other evolutions or discussions distract you from your primary responsibility.
 - b. Stop or delay other evolutions causing a distraction that prevents properly monitoring the reactor.
 - c. Use, if necessary, a third Licensed Operator to assist MCB operations.
- 11.2 For planned and unplanned power maneuvers, the SS will provide the input to Reactor Engineering to initiate a Reactivity Management plan per REP-102.001, Reactivity Management Plan Development (as time permits).
- 11.3 Reactor Engineering or other personnel in the Control Room have only an advisory role. All directions to the RO for reactivity manipulations shall be from the SS or CRS unless approved beforehand by the SS or CRS.
- 11.4 Attachment IA, Reactivity Control Parameters, should be maintained by the RO. Attachment IA information should be recalculated every Sunday Dayshift to be available for Reactor Engineering review Monday or the following regular work day.

- 11.5 Attachment IB, Reactivity Management Brief, should be maintained by the RO. Attachment IB is part of the shift turnover discussion between the on-coming and offgoing watch standers. Attachment IB is in two parts, PART 1 is discussed during the turnover meeting and PART 2 should be discussed between the RO, BOP, and the Control Room Supervisor.
- 11.6 The Shift Engineer will brief the oncoming shift, during shift turnover, of scheduled work activities that would impact Reactivity Management.
- 11.7 The intent of Reactivity Management is to establish a “zero tolerance” mindset for reactivity related errors and ensure all reactivity changes are well controlled. Reactivity changes should be thoroughly communicated before the change is made and the core closely monitored for the expected response.
- 11.8 For frequent reactivity manipulations that are performed on a recurring basis and are limited in scope, the RO shall request and receive authorization from the Shift Supervisor or Control Room Supervisor prior to performance. These manipulations include:
 - a. RCS boron concentration changes per SOP-106, Reactor Makeup Water System.
 - b. Turbine load adjustments.
 - c. Control Rod adjustments to maintain RCS Tavg and/or Axial Flux Difference.
 - d. Manual blended VCT makeups.
 - e. Cation and Mixed Bed Demineralizer removal from or return to service.
- 11.9 Peer-Checks for the component manipulations listed above should be utilized during normal operations.
- 11.10 The RO must monitor the core for appropriate response, and, if other than expected, notify the SS and CRS.
- 11.11 Conservative action shall be directed such that any inappropriate core response is mitigated.
- 11.12 Control Rods should be moved slowly and in small increments while maneuvering the plant. The RO should communicate with the CRS or SS the number of steps and the intended direction of Control Rod movement prior to performing manual rod motion. During times when frequent manual rod motion will be required, the CRS or SS may authorize a range of rod motion such as +/- 5 steps which does not need to be communicated each time.

11.13 Evolutions effecting reactivity that are not performed on a daily basis, but are not considered transients should be briefed per OAP-100.3, Human Performance Tools in addition to utilizing Peer-Checking. Examples of these evolutions include:

- a. Rod Exercise Testing.
- b. Turbine Valve Testing.

11.14 The following Key Reactivity Parameters shall be frequently monitored during reactivity additions as appropriate:

- a. Reactor Power (NIS).
- b. Thermal Power (from IPCS).
- c. RCS Delta-T.
- d. RCS Tavg.
- e. Turbine reference temperature (Tref).
- f. Turbine-Generator MWe.
- g. Control Rod Position.
- h. Axial Flux Difference (Delta-I).
- i. Calculated Xenon Concentration (from IPCS).
- j. Reactor Makeup Water System Parameters (flows, integrator settings, valve positions).

12.0 AVAILABILITY OF SHIFT PERSONNEL

12.1 All Essential Shift Personnel (11 man minimum shift, including the STS) must stay inside the protected area except as authorized by the Shift Supervisor or Control Room Supervisor.

12.2 Anytime a member of the essential shift must leave the protected area, they shall have a radio in their possession. The Control Room shall be notified when you leave the protected area and again upon return.

- 12.3 The Duty SS, SE, or CRS should not enter the Reactor Building during Modes 1-4. Extra supervision should be called in if it is necessary for the SS, SE, or CRS to enter the RB.
- 12.4 The Control Room operators including the Control Room Supervisor should be provided with break time each shift as plant conditions allow. The break time should utilize the following guidance:
- a. One fifteen minute break during the first part of the shift.
 - b. One thirty minute break for a meal during the middle part of the shift.
 - c. One fifteen minute break during the latter part of the shift.
- 12.5 Routine Shift Coverage:
- a. The individuals requesting time off, on short notice, can arrange their own coverage with Shift Supervisor or Control Room Supervisor approval.
 - b. Requests for time off should be submitted no later than the 1st of the month preceding the request.
 - c. When the time off request volume is high, it may be necessary to allow more time to secure coverage.
 - d. Requests for time off can be placed on a signup list for coverage.
 - e. For time off on holidays and after the 15th of December, efforts will be made to provide coverage on a voluntary basis.

13.0 SHIFT ROUTINE

- 13.1 Thirty Minute Turnover Period:
- a. Turnover on station - perform tour of watchstation when warranted and receives turnover from offgoing person.
 - b. The offgoing person is to ensure to the best of their knowledge that the relieving person is physically and mentally capable of accepting the duties of the position. If unsure, notify the Shift Supervisor for direction prior to being relieved.
 - c. The oncoming Shift Supervisor conducts a pre-shift briefing in the Shift Supervisor's office.

13.2 First Half Hour of Shift:

- a. The Control Building Operator collects turnover sheets for the Shift Supervisor.
- b. The Control Room Supervisor will ensure that the manning status board is updated using available personnel.
- c. Control Board Operators mark all chart recorders that do not print the date and time on charts.
- d. The Control Room Supervisor reviews work tasks.
- e. The Shift Engineer conducts briefing with maintenance personnel.

13.3 First Hour of Shift:

- a. The Shift Supervisor reviews turnover sheets.
- b. The Shift Supervisor or Shift Engineer and Control Room Supervisor discuss planned activities, priorities, and problem areas.
- c. Operators make an initial tour and start taking Technical Specification Logs.
- d. The Shift Supervisor and Shift Engineer review work activities and their priorities.

13.4 Second Hour of Shift:

- a. Operators complete Technical Specification Logs.
- b. The Shift Supervision initiates work activities.
- c. On night shift, Shift Supervisor reviews tagout package.

13.5 Third through Eleventh Hour of Shift:

- a. Normal shift activities.
- b. Trend Logs are recorded as required.
- c. On Mondays, oil lockers are inspected and restocked as necessary per Attachment II.
- d. A followup tour is conducted during the second half of shift.

13.6 Twelfth Hour of Shift:

- a. Any open items are completed or stopped at a logical turnover point.
- b. Preparation is made for shift turnover.

14.0 LOGKEEPING EXPECTATIONS

14.1 Each log entry shall include the time at which the event occurred.

14.2 Entries should be detailed enough so that a qualified individual, who was not present when the event occurred, can fully understand the event.

14.3 Late Entries (Hardcopy) - In the event an entry is omitted:

- a. Make the entry using the original date and time of occurrence.
- b. Insert LATE ENTRY to the left of the log entry.
- c. Enter the appropriate information.

14.4 Late Entries (Electronic) - When making an entry:

- a. Ensure LATE ENTRY is selected.
- b. Ensure the correct date and time is entered.
- c. Enter the appropriate information and select OK.

14.5 The Station Log (either electronic or hardcopy) is the single point of reference for Operations activities. As the single point of reference, the Station Log is the communication tool which plant staff will reference for plant status and emerging or ongoing issues. All significant activities and emerging issues shall be documented in the Station Log. A rough log may be used by the Control Room Supervisor during periods of significant activity or network outages, provided the responsible Shift Supervisor ensures all necessary entries are transposed to the Station Log prior to departing the Station. The level of detail expected goes well beyond the Station Log entries required per step 14.6. Examples include, but are not limited to:

- a. RB entries at power, including the reason for the entries, problems experienced during the entry, etc.

- b. Problems experienced (equipment, procedure, etc) including any documentation generated (CERs, MWRs, etc.) by Operations personnel for emergent issues.
- c. Conduct of prejob briefs for major activities such as testing or plant configuration changes.

14.6 Required Station Log entries:

- a. The Midnight Entry shall consist of the following information:
 - 1) The number of hours the Reactor was critical during the previous 24 hours.
 - 2) The number of hours the Main Generator was paralleled to the grid during the previous 24 hours.
 - 3) Transformer KWH readings.
 - 4) The Main Generator gross output in the previous 24 hours.
 - 5) The Main Generator net output in the previous 24 hours.
 - 6) The Reactor Coolant System boron concentration.
 - 7) 115KV and 230KV readings.
- b. Each Shift Entry shall consist of the following:
 - 1) Reactor power level.
 - 2) Reactor Coolant System pressure and temperature.
 - 3) The Operators on duty.
 - 4) The Duty Shift Engineer.
 - 5) The Duty Shift Test Specialist.

- c. Other required entries:
- 1) The beginning of Surveillance Test Procedures conducted by the Operations Department including identifying any equipment that will be inoperable during the surveillance and the most limiting Tech Spec for that equipment. If the STP will go beyond shift turnover, place equipment being tested in the Removal and Restoration Log (Applies to Modes 1-4 only).
 - 2) The completion of Surveillance Test Procedures conducted by the Operations Department including the results of that test.
 - 3) The reason for any unsatisfactory STP or test.
 - 4) The beginning and completion of Surveillance Test Procedures by groups other than Operations that result in equipment being inoperable. This entry should include the most limiting Tech Spec for that equipment. If the STP will go beyond shift turnover, place equipment being tested in the Removal and Restoration Log (Applies to Modes 1-4 only).
 - 5) Starting and stopping of major plant equipment. The equipment that is operated during the performance of a Surveillance Test need not be logged.
 - 6) Electrical switching operations that alter electrical distribution to or from the Station.
 - 7) Starting and stopping of Liquid or Gaseous Radioactive Waste releases.
 - 8) Plant Mode changes as defined in Technical Specifications.
 - 9) Reactor criticality.
 - 10) Reactor power changes in the Power Range.
 - 11) Main Generator paralleling and load changes.
 - 12) Inoperability of equipment which limits or has the capacity to limit power operation.
 - 13) Implementation of Emergency Operating Procedures, Abnormal Operating Procedures, and the Emergency Plan.

- 14) Actions performed to assure safety, which do not conform to established procedures, including the basis for the action.
- 15) Additional items resulting from Special Orders.
- 16) Entering and clearing of R&Rs per SAP-205, Status Control and Removal and Restoration, and affected equipment.
- 17) Any NRC or other outside agency notification.
- 18) Entering or exiting Emergency Action Levels.
- 19) Any LCO Action Entry not covered by an R&R. This entry should identify the equipment affected, reason for the LCO entry, and the most limiting Tech Spec being entered.
- 20) Entering and exiting Chemistry or Failed Fuel Action Level.
- 21) Shift Relief or unexpected relief of an individual.
- 22) Automatic actuation of ESF Systems or Components.
- 23) Entries in the Equipment Misalignment Status Log and the reason for the entry.
- 24) Installation or removal of a Bypass Authorization per SAP-148, Temporary Bypass, Jumper, And Lifted Lead Control.
- 25) Any plant condition, alarm, or occurrence that is intermittent or unexplained (i.e. DRPI alarms or Feed Regulating Valve glitches).
- 26) Shift Supervisor or Control Room Supervisor discretionary entries.

14.7 The Operator Rough Log (Attachment XVII) shall be utilized on a shift basis or network outages to support the Station Log.

- a. The following entries shall be made on the RO Rough Log:
 - 1) Power Changes.
 - 2) Borations and Dilutions.
 - 3) Major Equipment Status Changes.
 - 4) Automatic makeups, including the amount of Boric acid and total makeup amount.

- b. The procedure number, component, and the technician's name should be logged on Page 2 of Attachment XIV for all Maintenance Surveillance Test Procedures:
 - 1) That affect MCB controls or indications.
 - 2) That are not covered by a danger tagout.
 - c. The completed Operator Rough Log (Attachment XVII) should be attached to the following shift's RO Checklist for Relief Turnover.
- 14.8 The Building Operator Rough Log (Attachment XVII) may be used by the building operator during periods of significant activity or network outages. The Rough Log shall be utilized on a shift basis to support the Station Log. Entries shall include but are not limited to:
- a. Shift evolutions (including procedures started/completed, or step in effect).
 - b. Compensatory actions in effect.
 - c. Misaligned components.
 - d. Completed Attachment XVII's should be attached to the following shift's Building Operator Log (Attachments XII through XVI).
- 14.9 Responsibilities for log keeping are as follows:
- a. Shift Supervisor
 - 1) To ensure shift entries are correct, complete, and sent to records the Shift Supervisor (at the end of shift) will review and archive:
 - a) The Station Log.
 - b) All operator rough logs.
 - c) WCC logs.
 - 2) Reviews the RO Rough Log on a periodic basis to ensure this standard is being adhered to.

- b. Control Room Supervisor
 - 1) Completes all Station Log entries for activities on his shift.
 - 2) Reviews the RO Rough Log on a periodic basis to ensure this standard is being adhered to.
- c. Ops Shift personnel responsible for completing shift activities should complete logs as necessary.

15.0 RELIEF EXPECTATIONS

15.1 Use of SS/CRS/RO/BOP/CB Relief Checklists (Attachments VII through XI):

- a. All sections of the Relief Checklist will be filled in utilizing AutoLog.
- b. The offgoing operator will print out a copy of the Relief Checklist for turnover.
- c. After shift relief is completed, the oncoming watch should forward the signed Relief Checklist to the Shift Supervisor.
- d. All Relief Checklists should be included in the Shift Supervisor's turnover package.

15.2 Use of the Operator Log sheets:

- a. Operator Log sheets are provided for the ABU, ABL, TB, IB and Shift Test Specialist watch stations (Attachments XII through XVI).
- b. The Log section (utilizing AutoLog) should be used during the shift to record evolutions performed during the shift.
- c. The Relief section (utilizing AutoLog) should be used to record pertinent information to ensure the oncoming watch is well informed of existing plant conditions (i.e., evolutions in progress, procedure step in effect, abnormal plant conditions, etc.).
- d. The offgoing operator will print out a copy of the Operator Log sheet for turnover.
- e. The offgoing operator shall ensure the watch station status board is up to date prior to shift relief.
- f. After shift relief is completed, the oncoming watch should forward a copy of the Operator Log sheet to the Shift Supervisor within the first hour after relieving the watch.

16.0 GENERAL GUIDELINES FOR OPERATOR ROUNDS

- 16.1 Question anything that appears out of normal such as:
- a. Valves that appear incorrectly positioned.
 - b. Equipment or materials that is not normally located in that area.
 - c. Unusual activities of personnel.
 - d. Running equipment that isn't normally running.
 - e. Unusual noises or smells.
- 16.2 Throughout the shift as well as during rounds, operators should look for and report any safety hazards to the Shift Supervisor.
- 16.3 Inspect equipment thoroughly for the following: (not just those on log sheets)
- a. Oil level greater than minimum.
 - b. Vibration levels.
 - c. Bearing temperatures (Feel with back of hand).
 - d. Suction and discharge pressure.
 - e. Normal Flow.
 - f. All deficiencies have had MWRs written.
 - g. Equipment is kept clean (oil wiped up).
 - h. Any unusual noises are investigated.
- 16.4 Check general condition of the area:
- a. Area is clean.
 - b. Area has proper lighting.
 - c. Ventilation seems normal.
 - d. Other housekeeping requirements.

- 16.5 Any out of specification condition should be reported to the Shift Supervisor or Control Room Supervisor.
- 16.6 All control panel recorders have paper and are inking.
- 16.7 All panel lights are verified to be good and lens covers installed.
- 16.8 All electrical panels doors are securely fastened.
- 16.9 Notify Control Room of any tripped relays prior to resetting.
- 16.10 Verify that all sumps and drains are not clogged with debris, and all air handling sumps have adequate water level.
- 16.11 Immediately report any discrepancies associated with fire or pressure boundary doors and fire barriers to the Shift Supervisor or Shift Test Specialist.
- 16.12 Plant Material Condition should be monitored as follows:
 - a. MWRs are to be written and orange tags placed for equipment with a degraded material condition. This includes, but not limited to: grease leaks on motor operators, oil leaks on equipment, seal leakage, bent or damaged supports, frayed air lines, boric acid buildup, packing leaks, broken light switches, or burned out light bulbs.
 - b. Green Component Leakage Assessment tags per GMP-100.020 may be used in place of the orange MWR tag.
 - c. For components with missing labels or obvious errors, a request should be initiated for a replacement label per SAP-303, Plant Labeling Program.
 - e. The SS should be consulted when MWRs are written and should determine if the condition warrants a CER.
 - f. In general, any unexpected failure warrants a CER.

16.13 Watchstanders should spend the majority of the shift in the areas associated with the assigned watchstation.

16.14 Temporary equipment (drain hoses, electrical cords etc.) should be monitored and controlled as follows:

- a. All temporary equipment should be reported to Shift Supervisor or Shift Engineer for evaluation.
- b. Temporary equipment should be removed or (as applicable):
 - 1) Have a white Equipment Hold Tag attached per SAP-300, Conduct of Maintenance.
 - 2) Have a blue Staging Area tag attached per SAP-142, Station Housekeeping Program.
 - 3) Have a white Fluid Containment Device attached per OAP-100.5, Guidelines for Configuration Control and Operation of Plant Equipment.

Removal should be coordinated through the Shift Supervisor or Shift Engineer.

- c. The Shift Supervisor or Shift Engineer should approve of any temporary equipment that will remain in the area.
- d. Presence of hoses, HP catch basins, or equipment wrapped in poly:
 - 1) Any component with an HP catch basin or wrapped in poly should have an MWR written and an orange MWR or a green Component Leakage Assessment tag (GMP-100.020) attached (Orange tags must be placed for each MWR written). It is acceptable to hang the orange tag on the wire door of a Locked High Radiation Area, on grating over defective components, or on I-beams near defective components, as long as it is readily visible.
 - 2) Any hose attached due to maintenance reasons for longer than one shift, must have a white Equipment Hold tag attached per SAP-142, Station Housekeeping Program.

- 3) Any hose attached to a drain or vent should be removed and the pipe capped. If the hose is used as part of a draining or fluid diverting process (not associated with an active tagout or System Operating Procedure), those hoses must have a white Fluid Containment Device tag per OAP-100.5, Guidelines for Configuration Control and Operation of Plant Equipment.
- e. Temporary electrical connections should be controlled in accordance with SAP-364, Control of Temporary Cables.

NOTE: 17.0

Areas of the plant as defined in SAP-142, Station Housekeeping Program, shall be kept clean and free of uncontrolled hazardous material at all times.

17.0 OPERATIONAL HOUSEKEEPING

17.1 Housekeeping in the Control Room:

- a. The Control Room area shall be kept in a high state of cleanliness at all times, reflecting the professional attitude of Operations Department personnel.
- b. Books, procedures, forms, paperwork, etc., not in immediate use, shall be kept in their designated storage areas.
- c. Magazines and other non-job related reading material are not authorized.
- d. Personal items and clothing, not in use, shall be kept in assigned lockers and not left lying around.
- e. The Control Building Operator is responsible for overall housekeeping in the Control Room kitchen to include sweeping and mopping floor when necessary.

17.2 Housekeeping on Assigned Watch Stations:

- a. Operators will keep their watchstations clean. Relief operators, with the Shift Supervisor's approval, are authorized to refuse to accept turnover until the assigned area is clean.
- b. Each shift shall be required to wipe up oil leaks and wipe down observed oily equipment in their area of responsibility. Oily rags shall be disposed of in designated oily rag cans only.

- c. During low maintenance periods such as weekends, Mechanical Maintenance should be asked to assist in wiping down equipment with oil leaks. This practice is to ensure leaks are identified while the leaking equipment is operating for the planning of maintenance at a later date.
- d. Lubricants and flammable liquids shall be stored in designated Flammable Storage lockers when not in use.
- e. Tools not in use shall be stored in the designated Tool Storage lockers.
- f. Maintenance personnel are responsible for housekeeping in the immediate vicinity of maintenance activities. Poor or hazardous housekeeping practices in these areas should be reported to the responsible manager per SAP-142, Station Housekeeping Program, using the Shift Supervisor.
- g. Trash should not be allowed to accumulate. Access to emergency equipment and personnel exits from buildings should not be blocked. Hazardous conditions should be reported to the Shift Supervisor and action taken to eliminate the hazardous conditions.
- h. Magazines and other non-job related materials are not authorized on building watchstations including turnover areas unless specifically authorized on a case-by-case basis by Operations Management.

18.0 GENERAL ONSHIFT WORK CONTROL GUIDELINES

- 18.1 Work on the protected train (also called cross train work) is only allowed with Operations Management approval per OAP-102.1, Conduct of Operations Scheduling Unit.
- 18.2 Maintenance is to be performed on a two week per train schedule. Any work authorized during a given train work week should be completed prior to the end of that train week. The Work Week Manager must be notified of any exceptions.
- 18.3 On a two week rotation, the Saturday night shift shall shift all operating Safety Related equipment to the train that is not being worked for the upcoming two week period.
- 18.4 Tagouts and equipment alignments should be completed prior to 0600 each day to support scheduled activities.
- 18.5 Tagouts in the Water Treatment Building should involve the Duty Chemist to ensure components are correctly removed from and restored to service.

- 18.6 Work not requiring tagouts should be verified in the work week schedule prior to release.
- 18.7 All work, either tagged or not, should be checked to ensure entry into the Removal and Restoration program as required.
- 18.8 Operating crews should review the T-4 Work Week schedule (in the VCS public folders) . The review should include Tagout packages, daily work load, and scheduling of tasks involving operator support and/or Control Room distractions. Feedback to the applicable Work Week Manager any concerns before the T-2 Work Week.
- 18.9 Operating crews should review the T-1 Work Week schedule (in the VCS public folders) on the Tuesday-Wednesday-Thursday night shift. This review constitutes SS/SE approval of the following weeks schedule.
- 18.10 Prior to hanging tagouts the Tagout Authorizer should review preplanned work to verify the adequacy of:
 - a. R&Rs
 - b. Plant impactAny deficiencies should be reported to the Operations Scheduling Unit.
- 18.11 Prior to releasing work The Work Authorizer should review:
 - a. The impact of the work on the plant.
 - b. The tagout (if needed) is hung as required.
 - c. The SS APPR block has been initialed on the tagout.
 - d. R&Rs, if needed.
 - e. WPOs, if needed
- 18.12 The Work Authorizer and the Tagout Authorizer should review the EOOS prior to tagout or work release to ensure conditions have not changed such that an activity could now result in a moderate or elevated risk level. Refer to OAP-102.1, Conduct of Operations Scheduling Unit.

- 18.13 The Work Control Center SRO and Shift Engineer should determine if the job should be worked around the clock or with normal shift coverage. The Shift Supervisor will ensure that activities that result in a high risk configuration will receive proper approval. Refer to OAP-102.1, Conduct of Operations Scheduling Unit.
- 18.14 Operations personnel should provide Operations Scheduling Unit personnel with constructive feedback of preplanned activities to ensure adequacy for future planning purposes.
- 18.15 Denials to perform scheduled work activities shall be properly documented with clear reasons for the denial.
- 18.16 When planned maintenance is complete, the Duty Shift Supervisor or Shift Engineer should ensure that all necessary retesting is completed in a timely manner to allow the component to be restored to service as soon as possible.
- 18.17 Evolutions which will continue past 0630/1830 should not normally be commenced until the following shift. Exceptions include:
- a. Retest of equipment which exceeded 50% of its Technical Specification Action Statement time.
 - b. Equipment which cannot be considered functional until testing is complete and which causes elevated CDF/LERF level (i.e., Yellow or above).

Retests delayed under the above guidelines should be commenced promptly after Tech Spec rounds are completed on the following shift.

19.0 GUIDELINES FOR MAINTENANCE WORK REQUESTS

- 19.1 Operators should inform the Duty Shift Supervisor of all MWRs written during the shift.
- 19.2 The following guidance is for orange MWR tags placed at equipment:
- a. Fill out tag completely with as much detail as possible.
 - b. Tag should be laminated if installed on equipment exposed to the elements. This will ensure tag is legible if there is a delay in completing work request.
- 19.3 Limit the use of high priority MWRs. Unnecessary use of high priority MWRs reduces their effectiveness.

- 19.4 High priority MWRs (1 and 2) should be reviewed by the Control Room to ensure the required work was completed.
- 19.5 Minimum requirements for Priority 1 Maintenance Work Requests are as follows:
- a. The Shift Supervisor or Shift Engineer should notify QC that a priority 1 MWRs has been written to ensure QC is available for subsequent actions.
 - b. Maintenance should be told to notify the Duty Shift Supervisor or Shift Engineer and QC when job starts and at designated hold and inspection points.
- 19.6 The Discipline Planner or System Engineer may downgrade a work order provided permission is received from the Duty Shift Supervisor or Shift Engineer.
- 19.7 In addition to Shift Supervisor or Shift Engineer permission, documentation will occur in the planner comment section of the Work Order based on one of the following:
- a. That a basis for the downgrade is determined in accordance with an approved drawing.
 - b. A Quality-Related Plan (QRP) or Technical Requirement Packages (TRP).
 - c. An approved design document.
- 19.8 MWRs are handled in accordance with SAP-601, Application, Scheduling And Handling Of Maintenance Activities.

CAUTION 20.0

Certain light bulbs installed in alarm or equipment panels throughout the plant have protective circuitry current that flows through the bulbs contained in or on those panels. The loss of current due to bulb removal could cause equipment or plant trip.

The following are examples of panels where replacing bulbs with the wrong type could have an adverse effect:

- a. Generator Auxiliary Panel.
- b. Nuclear Instrumentation Drawers.

20.0 GUIDELINES FOR REPLACING LIGHTBULBS

- 20.1 Notify Shift Supervisor or Control Room Supervisor prior to replacing light bulbs.
- 20.2 Prior to replacing bulbs, consult Enclosure D for proper bulb types.
- 20.3 If bulb type is not listed in Enclosure D, perform the following:
 - a. Investigate for proper lamp or bulb by considering the following:
 - 1) Lamp currently installed in socket.
 - 2) 208, 209 or 210 drawings.

NOTE 20.3.a.3)

The Document Reference Center in the Service Building maintains a book of vendor cross-referenced 1MS drawings (Vendor Manual in a yellow binder).

- 3) Component Technical Manual.
- 4) 1MS drawings.
- 5) CHAMPS RDB database.
- b. Once sufficient data is obtained to recommend bulb or lamp replacement, complete Section 1 on Attachment VI and forward to Shift Supervisor or Control Room Supervisor.

- c. Once concurrence is given by Shift Supervisor or Control Room Supervisor with a signature in Section 1, a copy should be sent to the following locations:
 - 1) System folder.
 - 2) Operations Procedure Unit and placed in feedback folder for this procedure.
- d. The original sent to PSE for review, comment, and complete Section 2.
- e. Following PSE review and comment, the original will be forwarded to the Operations Procedure Unit for inclusion into Enclosure D.

21.0 PERFORMANCE OF INVENTORIES

- 21.1 Emergency Tool Locker and Kit Inventory will be performed quarterly by using Attachments IVA through IVI.
- 21.2 Emergency Food Locker Inventory will be performed quarterly by using Attachment IVJ.
- 21.3 Shift Supervisor's Office First Aid Box Inventory will be performed quarterly by using Attachment IVK.
- 21.4 I&C Technicians FEP Equipment Storage Locker Inventory will be performed by the I&C Department using Attachment IVL.

22.0 KEY CONTROL

- 22.1 Only the Shift Supervisor or Control Room Supervisor shall issue keys from the Shift Supervisor key cabinet.
- 22.2 All keys in Shift Supervisor key cabinet shall be tracked. There are certain keys within this box that if misplaced will place the plant in a one-hour notification due to security procedures.
- 22.3 The WCC SRO must maintain control of switchyard and transformer yard keys per SAP-703, Control of Switchyard/Transformer Yard Activities, by being cognizant of any group to whom they are issued.

22.4 Notify Security any time a security key cannot be accounted for.

23.0 RADIOACTIVE SPILL ACTION PLAN

23.1 If a radioactive spill occurs, the Shift Supervisor will perform the following:

- a. Report to the location of the spill with Health Physics to assess the effects of the spill. This action may be delegated to a Senior Licensed Operator only if the location of the spill would prevent or restrict the Shift Supervisor from a timely response to the Control Room. An example of such a restriction would be a spill in a contaminated area requiring dressout for entry.
- b. Evaluate the situation to determine the cause and possible corrective actions.
- c. Assign responsibility for cleanup. If the spill is a result of poor maintenance or operating practices, the individual(s) involved should be assigned in cleanup if manpower is available and does not impact on plant scheduled activities. In all cases a qualified Health Physics Technician must be present to ensure proper procedures are followed.
- d. Complete Attachment V indicating his findings and groups assigned responsibility for cleanup. Write a CER detailing the events surrounding the event.

23.2 When a Radioactive spill occurs, Health Physics will perform the following:

- a. Inform the Shift Supervisor immediately of any spills.
- b. Assist the Shift Supervisor in assessing the situation.
- c. Assign Health Physics personnel to coordinate cleanup.
- d. Perform actions of applicable Health Physics procedures.

24.0 CONTROL OF PAINTING AND CHEMICAL RELEASES

NOTE 24.1

CMP-500.003, Application of Paint to Surfaces Outside the Reactor Building, should be referred to for applicable painting limits.

- 24.1 The WCC SRO is responsible for controlling painting in ventilation zones that could affect the following systems or areas:
- a. Reactor Building Cooling Units.
 - b. Control Room Normal and Emergency Air Handling Systems.
 - c. Auxiliary Building.
 - d. Spent Fuel Pool Ventilation.
- 24.2 Alterations to the ventilation lineup (within Tech Spec limits) should be made to prevent possible contamination of the HEPA and/or chemical filter banks.
- 24.3 If painting or a chemical release occurs in any of the above areas, refer to Technical Specifications 4.6.3.b, 4.7.6.c, and 4.7.11.b to ensure the operability of the applicable HEPA filter bank.

25.0 USE OF OPERATIONS DEPARTMENT FALL PROTECTION GEAR

- 25.1 Operations Department Personnel should use proper fall protection and follow all safety guidance per ISP-003, Personnel Protection.
- 25.2 Additional guidance for Operations Personnel is as follows:
- a. Fall protection devices should be stored in the equipment cabinet located in the IB/TB turnover station for use outside of the RCA only.
 - b. Fall protection devices should be stored in the AB Operator equipment cabinet by the AB turnover station for use in non-contaminated areas.
 - c. Operations Department personnel should always remember that their personal safety is always more important than any time constraints associated with any job and should never feel compelled to climb if they do not feel safe.

- d. Operations should investigate other means of reaching their objective if they feel climbing will be too risky. Supervision and management should be consulted as necessary.
- e. If fall protection is required in the RB or contaminated areas, it is be checked out from the Hot Tool Room.
- f. The gear should be inspected prior to use by the wearer to ensure it is complete and in good repair. Damaged fall protection equipment should be returned to Tool Room for disposal.
- g. AB fall protection gear must be checked for contamination prior to returning it to storage.

NOTE 26.0

Lube oil lockers may contain more oil than specifically required by the inventory sheet, but must not exceed the maximum amount specified on the locker.

26.0 CONTROL OF LUBRICANTS

- 26.1 The following Safety Related Operations Lube Oil Lockers must remain locked and contain only properly tracked and identified Safety Related oils:
 - a. Intermediate Building 436'.
 - b. Auxiliary Building 412'.
 - c. Service Water Pump House 436'.
- 26.2 An inventory will be performed weekly by the Day Shift using Attachment II.
- 26.3 Each oil can should be marked permanently with the type of oil.
- 26.4 Safety Related is designated by an asterisk.
- 26.5 Do not:
 - a. Mix types of oil.
 - b. Add oil to a can which is partially full.Only add oil to an empty can.

- 26.6 When filling an oil can, complete a new white Equipment Hold Tag listing the following information and attach it to the can:
- a. Type of lubricant (example: GH68).
 - b. IIR Tag Number (example: \$6472).
 - c. Stores Requisition Number.
 - d. Shelf Life Expiration Date.
- 26.7 When adding oil to equipment, complete SAP-143, Preventative Maintenance Program, Attachment IV, listing the above information and forward it to Plant Support Engineering.

27.0 ORDERING BULK SUPPLIES

- 27.1 A routine method of inventorying and ordering bulk consumables, gases, and diesel fuel has been established.
- 27.2 An inventory will be performed weekly by the Day Shift using Attachment III.

NOTE: 28.0

Benchmarking is an integral part of self-improvement and is a continuous and systematic approach to evaluating similar processes, products, or services at other facilities, with the intent of incorporating best practices into existing processes.

The key to effective benchmarking is to first fully understand your own "in house" process so that you can better compare details to benchmarking partners' processes.

The purpose of this document is to provide guidelines to describe the methodology and expectations for the preparation, conduct, and documentation of benchmarking efforts.

28.0 BENCHMARKING GUIDELINES

- 28.1 Management Expectations:
- a. Personnel completing external benchmarking trips shall write a trip report.

- b. Results shall be entered into the Corrective Action Program CER database for tracking and resolution.
- c. A copy of the trip report shall be attached to the CER database.

28.3 The following is given for consideration during the planning stages of benchmarking:

- a. The Manager, Operations will determine the frequency, number of trips, and areas for benchmarking. The number of benchmarking trips is typically based on a need to improve a process or area.
- b. Determine the focus area and objectives of the benchmarking trip with a clear statement of necessary improvements.
- c. Operations Department personnel should look for areas for improvement and determine the proper method to benchmark this particular subject.
- d. Determining the correct team composition size is critical to the success of any Benchmarking Trip. Personnel and team size selected to perform the benchmarking trip should:
 - 1) Have current knowledge of the process or area being benchmarked.
 - 2) Team size and composition can vary in accordance with the complexity of the process or area being benchmarked as well as the amount of time provided by Plant Management to conduct the benchmarking trip.
 - 3) Each team should consist of a team leader and members with knowledge in the process or area being benchmarked, and a host member from the plant being benchmarked. Consideration should be given to bring members from training, engineering, or other groups if their expertise will increase the effectiveness of the trip.
 - 4) It is essential to establish a team of personnel that can develop an effective benchmarking plan that enables them to identify good practices and opportunities for improvement.

- 5) Determine the location to benchmark by contacting INPO (or other available sources) for recommendations of top performing plants in the chosen focus area. Alternatively, consider plants recovering from poor NRC or INPO performance ratings. Such plants have been required to critically examine their processes and may offer unique insights into how their performance declined and why they failed to identify the decline. INPO can also be a source for obtaining the names of plant contacts.

28.4 While engaged in a Benchmarking Event, the following are required:

- a. Always represent the company in a professional manner.
- b. Be prompt and courteous.
- c. Maintain a professional appearance at all times.
- d. Have positive and courteous interactions with plant staff.
- e. Be prepared by possessing the tools necessary to take notes and have a valid picture ID available for plant entry.

28.5 Items to consider while participating in a Benchmarking Trip:

- a. Develop a set of notes indicating the objectives of the trip.
- b. Upon the initial meeting, clearly state the objectives of the trip including what prompted the visit.
- c. Obtain information by the following methods:
 - 1) Interview individuals from as many levels as possible.
 - 2) Take notes while performing observations detailing actions, comments, communications, and ease of operation.
 - 3) Follow up questions to observations and interviews.
- d. Obtain copies of procedures, plans, forms, and documents. The preferred method is to obtain electronic copies. Electronic versions are more efficient for later implementation.

- e. Conduct debriefs as follows:
 - 1) Give comparisons when asked.
 - 2) Be open about how and why we do business the way we do.
 - 3) Debrief as soon as possible after the data collection.
 - 4) Debrief with the team at least daily and develop follow-up questions as necessary for the next day's activities.
 - 5) Include the host peer in the debrief process to obtain useful insights for the observations made.
 - 6) Debrief with site management if possible, and as a minimum, meet with the department managers for the areas benchmarked to provide significant feedback.
- f. When differences are noted, probe to understand why. Understanding differences can help recommend changes to processes.
- g. After returning, send a letter of appreciation for the visit to the site contact thanking them for their hospitality and willingness to participate in the benchmarking effort.

28.6 Evaluating the Benchmarking Trip results:

- a. Review the trip results against pre-established critical success factors, current performance measures, and the Benchmarking Trip mission and goals.
- b. Identify possible conflicts or potential points of resistance with other people, programs, processes, and procedures.
- c. Verify the change will not compromise compliance with regulations, commitments, and program requirements.

- d. Document the Benchmarking Trip on a report as follows:
 - 1) Notes should be transcribed into a report format. It is the responsibility of the team leader to pull the Benchmarking Trip report together.
 - 2) The report should identify good practices and all worthwhile opportunities for improvement.
 - 3) All team members should sign the report and forward the report to the sponsoring manager.
- e. To recognize the benchmarking activity, a CER will be generated documenting trip and the report will be attached as a supporting document.
- f. Any actions associated with the trip will be decided by the sponsoring manager and assigned as CER actions to the associated groups.

28.7 Implementing actions and improvements:

- a. If a departmental improvement change management plan exists, add recommended improvements to this plan for communication to the department.
- b. If a change management plan does not exist, develop a Change Management Plan for implementation of the change.
- c. Develop a communication plan for the change.
- d. Develop performance measures of success to determine if the results you expected are being realized.
- e. Monitor measurable attributes of the changes made.
- f. Establish a feedback loop with those affected and make adjustments as needed based on feedback.
- g. Conduct an effectiveness review after an appropriate implementation period.

29.0 DEPARTMENT / SHIFT HUMAN PERFORMANCE CLOCK PROGRAM

29.1 Purpose

- a. To provide a visual reminder of the need for all of us to stay focused on the task at hand.
- b. To raise awareness of Nuclear Operations Section human performance-related events by using a visible indicator and communications tool to help personnel continue to improve performance toward event-free operations through the application of human error reduction practices/techniques.
- c. To track the current number of event-free days and the average number of event-free days between clock reset events.
- d. To provide a means to align department groups with established Nuclear SBU goals and performance indicators.

29.2 Primary Responsibilities

- a. The Operations Manager and Operations Supervisor will be responsible for the following:
 - 1) The overall authority for declaring department/shift clock-reset events.
 - 2) Performing a review of the reset criteria for both department and shift HU clocks on an annual bases (typically during the first quarter) and make adjustments as needed to maintain alignment with station and department goals.
- b. The Program Lead will be responsible for the following:
 - 1) Monitoring CER database for items that pertain to department/shift reset criteria.
 - 2) Resetting department/shift clock when reset criteria is met following Operations Management approval.

29.3 Guidelines

- a. The reset criteria listed below must be evaluated to ensure that if a reset is to occur it is Operations culpable and caused by a human performance issue.

- b. In the event the individual(s) involved in the event is/are standing watch on their other than normal shift, an evaluation must be done by Operations Management as to the culpable shift.
- c. Once the decision has been made that a Clock Reset Event has occurred, the Operations department/shift human performance clock will be reset to zero and the event will be trended.

29.4 Department Clock Reset Event Criteria (To be analyzed as a three month rolling trend)

Nuclear Safety

- Reactivity event (L1 or > one L2/month) – as defined in SAP-155(avoidable)
- Licensee Event Report (LER) per 10CFR50.72/73
- > Four(4) unplanned entries into a Tech Spec LCO due to operator/shift error

Personnel Safety Practices

- Lost time injury
- > Five (5) violations of PPE usage as prescribed in ISP-003

Radiological Practices

- > four Personnel Contamination Events
- > four violations of SRWP/RWP requirements
- > one unplanned exposure > administrative limits

Operational

- > Three (3) Danger Tagging Errors
- > One (1) Mispositioning Events
- More than one Unplanned reduction (>2%) in power due to crew performance error
- > Four (4) Operations culpable CER's

Training

- <90% weekly average(LOR/AOR) on more than one shift during training cycle
- > Three (3) Operations culpable missed Drill/Exercise Performance (DEP) opportunities per EPP-106.

General

- Any Operations culpable event, which is not previously addressed, that causes the Site HU clock to be reset.
- Any AFI's identified by on-site or outside agency assessments in which Operations is culpable.
- > Four (4) Supervisors not meeting minimum number of observations for the month (two (2)/supervisor).
- Operations Management discretion

29.5 Shift Clock Reset Event Criteria (To be analyzed as a three month rolling trend)

Nuclear Safety

- Unplanned entry into a Tech Spec action due to operator/shift error
- Failure to comply with a Tech Spec action
- Reactivity Management event (any L2 per SAP 155 – avoidable)
- Missed Tech Spec Surveillance
- Missed regulatory notification(NL-122)

Personnel Safety Practices

- OSHA reportable event due to avoidable injury
- Any violation of PPE usage as prescribed in ISP-003
- Injury requiring treatment by a doctor

Radiological Practices

- Violation of SRWP/RWP requirement
- Any Personnel Contamination Event (PCE) due to improper use of radiological control practices.
- Unplanned exposure > administrative limits (1000 mrem)

Operational

- Any Mispositioning event
- Any Danger Tagging Error
- Unplanned reduction (>2%) in power due to crew performance error
- Power Operation greater than License Limit(OAP-100.06)
- Operations culpable CER

Training

- Shift average LOR/AOR weekly grade <90%
- Crew evaluated simulator set failure (weekly)
- Requal written, simulator, or JPM examination failure (annual)
- Loss of watch standing proficiency (avoidable)
- > One(1) Operations shift culpable missed Drill/Exercise Performance (DEP) opportunities per EPP-106

General

- Loggable Security violations
- Shift tasks (five(5) week cycle)
- <Observations (two(2) / month per supervisor)
- Shift Supervisor discretion

29.6 90 Day Award Program

- a. When the Department HU clock reaches a successive 90 day period without a reset each shift will be awarded with \$100 maximum to be used for a meal reimbursement. This meal can be prepared at work or at a local restaurant if desired.
- b. When an individual Shift HU clock reaches a successive 90 day period without a reset that shift will be awarded \$100 maximum to be used for a meal reimbursement. This meal can be prepared at work or at a local restaurant if desired.
- c. To receive the award, the shift should submit an expense report including a valid receipt for their expense.
- d. The program lead will be responsible for tracking the usage of these awards and updating the individual shift's balance.

29.7 Operations Management can also use this program to reward excellent performance by either the Ops Procedure Group or Ops Scheduling Group on an as needed basis. Since these groups are smaller than an operating shift, the amount may be reduced based on the size of the group being rewarded.

30.0 REQUIRED READING

30.1 The Manager, Operations or Operations Supervisor shall determine what material will be included in the Required Reading Package. This material should include but is not limited to the following:

- a. Training notices for plant modifications that impact plant operations, but are not significant to the extent of requiring formal training classes.
- b. NRC Notices of Violations or Licensee Event Reports that have an impact on, or were caused by, Plant Operations.
- c. Significant revisions to plant operating procedures.
- d. INPO SERs, O&MRs and SOERs that have a potential impact on plant operations.
- e. Technical Specification amendments.
- f. Other industry experience reports or bulletins which have a potential impact on plant operations.

- 30.2 The required reading material will be forwarded to the Administrative Control Room Supervisor.
- 30.3 The Administrative Control Room Supervisor will process the received material and compile the Required Reading Package. The processing will consist of editing, summarizing, and identifying salient points contained within the material.
- 30.4 The Required Reading Package will be reviewed prior to issuance by the Operations Supervisor for concurrence of final content.
- 30.5 The Required Reading Package will be issued by the Administrative Control Room Supervisor to the following distribution:
- a. Manager, Operations.
 - b. Operations Supervisor.
 - c. All Shift Supervisors and Control Room Supervisors.
 - d. Supervisor, Operator Training.
- 30.6 Each Shift Supervisor and Control Room Supervisor will review the required reading information with all personnel of their respective shifts or groups. This review is required to be performed within the five (5) weeks following receipt of the Required Reading Package.
- 30.7 Documentation of this review will be completed on an NTM Training Attendance Record and forwarded to the Administrative Control Room Supervisor for records retention and audit purposes.
- 30.8 Operations personnel who do not have the opportunity to participate in a formal review session will review the Required Reading Package on their own and provide documentation of the review to the Administrative Control Room Supervisor.
- 30.9 The Administrative Control Room Supervisor will perform an audit at the end of each month of the records received documenting the required reading reviews. This will allow one week to clear any discrepancies in the records and to bring each person's requirements up-to-date. This audit need not be performed if no package was issued.

31.0 RECORDS

- 31.1 All Condition Evaluation Reports generated in accordance with this procedure shall be submitted to the Supervisor, Nuclear Licensing for retention in accordance with SAP-999, Corrective Action Program.

- 31.2 Documentation of participation by all licensed personnel in a formal review of the required reading material will be required within five (5) weeks after a package was issued. Exceptions to this requirement will be granted provided the individual performs a review of the required reading material and provides documentation of that review. This should be done within the five (5) weeks following issuance of the package.
- 31.3 The records documenting the reviews of required reading material will be maintained by Operations Clerical Support and transmitted to the Supervisor, Operator Training on an annual basis for inclusion in training records in accordance with NTM requirements.
- 31.4 Archived electronic Station Logs will be transmitted and maintained in accordance with SAP-1340, Transmittal and Maintenance of Records.
- 31.5 Attachments VI through XIII are QA records as specified by the Records Accumulation and Retention Chart.

BENCHMARKING PLAN
Notification Letter

From: (Team Leader)

To: (Manager, Operations)

PLANT TO BE BENCHMARKED / DATES

Purpose (Discuss the purpose of the assessment and outline the major Topics, Performance Objectives and Criteria to be used during the assessment.)

Scope (Targeted Processes)

Performance Objective (What type of information is expected to gathered.)

Methodology (Method by which information will be gathered.)

Team members (Name and Job title)

_____	_____
_____	_____
_____	_____
_____	_____

Approved: _____
Team Leader Date

Approved: _____
Manager, Operations Date

BENCHMARKING REPORT

From: (Team Leader)

To: (Manager, Operations)

PLANT BENCHMARKED / DATES

Scope of Benchmark

[General summary statements should be made here with respect to the scope, objectives of the visit, why this particular plant was selected and how the assessment was performed (i.e., personnel interviews, observations, etc., or any other information that would be of assistance to the customer or other reader to put the report in context).]

Objectives (List the specific areas or issues evaluated)

Summary (Summary of items covered on trip. List like processes here at VC Summer, if applicable)

Conclusion and Recommended Actions (Indicate where processes observed can benefit VC Summer and recommended actions to incorporate new or refine processes. This section should include supporting documentation such as CERs, OEs, Industry Reports or SOERs, including titles and numbers, when possible.)

References (optional)

Team Members (All team members should be listed including job title. The team leader should be designated.)

Contact Personnel (List contact personnel from facility visited. This information can be used for followup information after returning to VC Summer.)

Approved By

Date

Distribution

cc: Manager, Operations

Operations Supervisor

Operations Support Supervisor

BENCHMARKING PRE-VISIT CHECKLIST

Benchmarking information source: (Check the blocks that apply to proposed trip)

- Peer Group input
- NRC inspection results
- INPO evaluations
- Business plan initiatives
- Operating Experience review results
- Site and/or department improvement initiatives
- Corrective Action Program review results
- Self-assessment review results
- Management Observations
- Station Performance Indicators / annunciator windows
- Business plan initiatives
- Improvement recommendations, lessons learned, suggestions, etc.
- WANO performance indicators
- Industry initiatives (not limited to nuclear industry)
- Drill/Exercise results
- Adverse trends identified by the Trend Report

Determine the scope of the benchmarking trip by considering the following:

- Process/areas & activities to be reviewed/observed
- Amount of resources needed for effective benchmarking
- Proposed time schedule for benchmarking effort
- Responsibilities (assignments) of team members

BENCHMARKING PRE-VISIT CHECKLIST

Pre-Visit Activities

- What requirements needed to be badged?
- Contacts:
 - Names:
 - Area of expertise:
 - Phone Numbers:
 - E-mail addresses:
- How to get to the site - maps, lodging, etc.
- Cost associated with trip:
 - Lodging
 - Meals
 - Car Rental
 - Additional Costs

LAMP INDEX

CAUTION

Damage will result if Neon Lamps are replaced with Incandescent Lamps.

PANEL	COMPONENT	LAMP NUMBER STOCK NUMBER	BULB TYPE
MAIN CONTROL BOARD	Annunciator Windows	1819	28 Volt Incandescent
	CMC Switches and indicators	1829 VCS-54-5223-0036-00	28 Volt Incandescent
	CMC Indicators for XVG09684 (A,B,C)-CC PVG-2898A, B	1847	6.3 Volt Incandescent
	Single Bulb Sockets	1835	55 Volt Incandescent
	ESF Status Lights	1847	6.3 Volt Incandescent
	Modu-flash	73	14 Volt Incandescent
	Turbine Control Panel	327	28 Volt Incandescent
	M/A Station Pushbuttons	4257A59H01 <u>or</u> 327	28 Volt LED <u>or</u> 28 Volt Incandescent
RADIATION MONITOR PANEL	Annunciator Windows	1829 VCS-54-5223-0036-00	28 Volt Incandescent
	CMC Switches	1847	6.3 Volt Incandescent
	Single Bulb Sockets	1835	55 Volt Incandescent
	Victoreen Pushbuttons	382	14 Volt Incandescent
	NMC Setpoint Buttons	327	28 Volt Incandescent
	Alarm Silence Pushbuttons	MSC-115-2	120 Volt Neon
DORIC PANEL	All Buttons	MSC-115-2 VCS-54-5223-0236-00	120 Volt Neon with 18k OHM internal resistor
NUCLEAR INSTRUMENT DRAWERS	Source Range Drawers	OLN-115-18K VCS-54-5223-0236-00	120 Volt Neon with 18k OHM internal resistor
	Intermediate Range Drawers	OLN-115-18K VCS-54-5223-0236-00	120 Volt Neon with 18k OHM internal resistor
	Power Range Drawers	C9-A	120 Volt Neon
	N-34, N-37, N-46, N-50	C9-A	120 Volt Neon
MISCELLANEOUS	Generator Relay Sockets	1835	55 Volt Incandescent
SEISMIC PANEL	DC Power	370	18 Volt Incandescent
	Charge Indicator	328	6 Volt Incandescent
	AC Power and Setpoints	330	14 Volt Incandescent
HVAC PANEL	CMC Switches	1829	28 Volt Incandescent
	Single Bulb Sockets	1835	55 Volt Incandescent
	Annunciator Windows	1847	6.3 Volt Incandescent

C₀₁



C₀₁



LAMP INDEX (Cont'd)

PANEL	COMPONENT	LAMP NUMBER STOCK NUMBER	BULB TYPE
FEEDWATER PUMP LOCAL	Single Bulb Sockets	1835 VCS-54-5223-0102-00	55 Volt Incandescent
DELUGE SYSTEM PANELS (XPN0071 thru 76 and 104)	Single Bulb Sockets	6S6 VCS-54-5223-0101-00	130 Volt 6 watt Incandescent
DIESEL GENERATOR	DG Control Cubicle Annunciator Windows	755 VCS-54-5223-0092-00	6.3 Volt Incandescent
RELAY	XPN0007 Annunciator Windows	1829 VCS-54-5223-0036-00	28 Volt Incandescent
ROOM	XPN-6041-EI Seismic Monitoring System (AC ON)	OLN115 VCS-54-5223-0236-00	115 Volt to 125 volt Neon
	120 Volt Vital AC 10 KVA UPS (XIT5901`-5904) Single Bulb Sockets	1835 VCS-54-5223-0102-00	55 Volt Incandescent
INSTRUMENT & SERVICE AIR COMPRESSOR CONTROL PANELS (XPN7200/7203)	Single Bulb Sockets	6S6 VCS-54-5223-0101-00	130 Volt 6 watt Incandescent
RB INSTRUMENT AIR COMPRESSORS (XAC0004A(B))	Power Indication	6PSB5 VCS-54-5223-0145-00	6 Volt 8 watt Incandescent
RML0008 (APN5906 21)	Single Bulb Sockets	6S6 VCS-54-5223-0101-00	130 Volt 6 watt Incandescent
TC CLG TWR PP HOUSE FAN CONTROL PANEL (XPN0219)	Single Bulb Sockets	755 VCS-54-5223-0092-00	6.3 Volt Incandescent

LAMP INDEX (Cont'd)

PANEL	COMPONENT	LAMP NUMBER STOCK NUMBER	BULB TYPE
<p><u>CAUTION</u></p> <p>The Group Select Light is powered from two fuses. If either of these fuses were to blow during replacement of the Group Select Light bulb, the ability to lift Group Rods would be lost until the blown fuse was replaced.</p>			
XCA0001A-CR XCA0001B-CR XCA0002A-CR XCA0002B-CR	Group Select Light AC Power On Group Held	NE51H VCS-54-5223-0049-00 (Same as NE51H/B2A, marked "B2A" on silver (not brass) bulb base)	105 volt to 125 volt Neon
	Urgent Failure Non-Urgent Failure Group Cycling	757 VCS-54-5223-0095-00	28 volt Incandescent
XCL0003	Urgent Alarm Non-Urgent Alarm	1815 VCS-54-5223-0097-00	14 volt Incandescent
XCA0004	AC Power On	NE51H VCS-54-5223-0049-00	105 volt to 125 volt Neon
	125 Volt On	NE-51 VCS-54-5223-0086-00	7.5 volt Incandescent
	70 Volt On	1828 VCS-54-5223-0045-00	37.5 volt Incandescent

REACTIVITY CONTROL PARAMETERS

NOTE

This information should be recalculated every Sunday Dayshift to be available for Reactor Engineering review Monday morning or following work day.

RCS Boron Concentration _____ ppm Burnup _____ MWD/MTU

(Check BAT in Service)

- C_B "A" BAT _____ ppm
- C_B "B" BAT _____ ppm

Moderator Temperature Coefficient (MTC) (Fig. II-3.7, HFP) _____ pcm/°F

Differential Boron Worth (DBW) (Fig. II-7.2, HFP) _____ pcm/ppm

Gallons of Boric Acid or Reactor Makeup Water required to change RCS average temperature by one (1) degree:

MTC/DBW = _____ / _____ = _____ ppm Boron Change/°F

(Fig. III-2) _____ gal. Acid/°F

(Fig. III-3) _____ gal. Reactor Makeup Water/°F

Power Defect (PD) for 10% power change (100% to 90%) (Fig. II-2):

_____ PD @ 100% RTP - _____ PD @ 90% RTP = _____ Δ Power Defect, pcm

Gallons of Boric Acid only to reduce reactor power from 100% to 90%:

Δ Power Defect/DBW = _____ / _____ = _____ ppm Boron

(Fig. III-2) _____ gal. Boric Acid/10% RTP

Final rod height using rods only to reduce reactor power from 100% to 90%:
(Assume ARO)

Δ Power Defect = Integrated Rod Worth (IRW) = _____ pcm

(Fig. II-10) _____ final rod height Bank D

REACTIVITY CONTROL PARAMETERS

NOTE

For a 10% reduction in load, 1/2 of the calculated boric acid should be used and 1/2 the calculated Control Rod motion.

For a 100% to 90% load reduction:

Use _____ **gallons boric acid** (1/2 the gallons calculated above), and expect the rods to be at approximately _____ **steps on bank D** (Fig. II-10 series, 1/2 the IRW, NOT 1/2 the steps).

(Round values to nearest gallon to change T_{AVG} by 1° F)

_____ **gallons Boric Acid/°F**

_____ **gallons Reactor Makeup Water/°F**

For a 100% to 90% load reduction:

Use _____ **gallons boric acid**

and expect _____ **steps on bank D**

NOTE:

This calculation is to provide a second check to the batch integrator setting to establish continuity between the setting and actual make-up results.

Expected Boric Acid total gallons on an Auto Makeup based on current BAT in service:

Current RCS C_B _____ X 275 gallons* = _____
C_B for BAT in service

* 275 gallons based on Auto Makeup total addition.

Calculation and Auto Makeup pot settings by _____
Signature / Date

Calculation and Auto Makeup pot settings verified by _____
Signature / Date

Reactor Engineering Review _____ Date _____

REACTIVITY MANAGEMENT BRIEF

NOTE:

PART 1 REACTIVITY MANAGEMENT TURNOVER should be read at Shift Turnover Meeting.

PART 2 REACTOR STATUS should be discussed between the NROATC, BOP, and CRS.

PART 1 REACTIVITY MANAGEMENT TURNOVER:

- Date of last Automatic or Manual Make-Up _____
- Is Auto Makeup expected this shift?
YES NO (circle) Gallons of Boron Required _____
- Total gallons Diluted _____ Borated _____ (Last Shift)
- Last evolution Borate / Dilute / Blended (circle one)
- List Reactivity Concerns in progress or planned and action(s) necessary (i.e. Steam or Feed Flow transmitter in test, Steam Generator Blowdown out of service, Calorimetric inputs in service, etc.).

PART 2 REACTOR STATUS:

- Delta I on Target ($\pm 2\%$)? YES NO (circle)
If No is circled, identify plan to re-establish target band.

- Xenon Trend: Stable Building In Burning Out (circle)
- Demineralizers: Mixed Bed in service: A B (circle)
Standby Demineralizer: Filled Borated Empty (circle)
- ATTACHMENT IA reviewed and current: YES NO (circle)

LUBE OIL LOCKER INVENTORY

CLEANLINESS:	CLG TWR	CW	SW	IB	AB	TB (E)	TB (W)
OIL WIPED UP INSIDE & OUTSIDE OF LOCKER							
NO OILY RAGS IN OR AROUND LOCKER							
CLEAN RAG CONTAINER AT LEAST 1/2 FULL (SEE NOTE 1)							
LOCKER:							
HANDLE FUNCTIONS PROPERLY							
STRUCTURAL INTEGRITY SATISFACTORY							
CONTAINERS:							
APPROVED TYPE							
EVERY CAN LISTED ON INVENTORY IS PRESENT IN LOCKER (More oil than specified is acceptable, not to exceed the maximum specified on locker)							
PROPERLY IDENTIFIED WITH AN EQUIPMENT HOLD TAG AND CUP STICKER TO INCLUDE THE FOLLOWING:							
TYPE OF OIL							
SHELF LIFE EXPIRATION DATE (SEE NOTE 2)							
INITIALS							
DATE							
<u>OIL ADDED</u>							
LOCATION	TYPE OF OIL	AMOUNT	ADDED BY: (SIGNATURE/DATE)				
REMARKS (INCLUDE BUILDING): _____							

NOTE 1 - THE TB OPERATOR WILL ENSURE THAT THERE IS AT LEAST ONE BOX EACH OF CLEAN RAGS AND OIL ABSORBING PADS AVAILABLE IN THE TURN OVER STATION.

NOTE 2 - ANY OIL WHICH WILL EXPIRE WITHIN THE NEXT TWO WEEKS SHOULD BE REPLACED OR HAVE ITS EXPIRATION DATE EXTENDED.

FORWARD TO OPERATIONS SUPERVISOR

BULK CONSUMABLE INVENTORY

			REORDER REQUIREMENTS
AUX. BOILER:	STORAGE TANK LEVEL	LS-5015 _____	13' - ADD 15' - LOWER
	STORAGE TANK TEMP	_____	
OXYGEN:	ACTIVE BANK PRESS	PI-8151 _____	*1 BANK ≤200 # WITH ≤1300 # IN OTHER BANK
	RESERVE BANK PRESS	PI-8161 _____	
HYDROGEN:	RCDT BOTTLE PRESS	_____	*1 BANK ≤200 # WITH ≤1300 # IN OTHER BANK
	ACTIVE BANK PRESS	PI-8101 _____	
	RESERVE BANK PRESS	PI-8111 _____	
LIQUID NITROGEN:	TANK LEVEL	LI-8081 _____	≤70"
	TANK PRESS	PI-8071 _____	
HIGH PRESSURE NITROGEN:	BANK A PRESS	PI-8051 _____	≤700#
	BANK B PRESS	PI-8061 _____	≤700#
	BANK ON SERVICE		
TURBINE LUBE OIL STORAGE TANK:	COMPARTMENT A	LI-5201 _____	≤48"
	COMPARTMENT B	LI-5211 _____	
MAIN GENERATOR HYDROGEN:	BANK A & B PRESS/AVG TEMP	PI-5101 ____ / ____	*2 BANKS ≤200 # WITH OTHER BANK FULL PRESSURE
	BANK C & D PRESS/AVG TEMP	PI-5111 ____ / ____	
	BANK E & F PRESS/AVG TEMP	PI-5121 ____ / ____	
	BANK ON SERVICE	_____	
MAIN GENERATOR CO ₂ :	TANK LEVEL	_____	≤50%

PERFORMED BY: _____

DATE _____

*BANK SHOULD BE TAKEN OUT-OF-SERVICE AT PRESSURES <200#.
BANKS SHOULD NOT BE ALLOWED TO GO BELOW 100#.

FORWARD TO OPERATIONS CLERICAL SUPPORT

CONTROL ROOM EVACUATION PANEL

EMERGENCY TOOL LOCKER INVENTORY LIST

	<u>Quantity Required</u>
<input type="checkbox"/> AOP-600.1, Control Room Evacuation	3
<input type="checkbox"/> OAP-106.1, Emergency Boration.....	1
<input type="checkbox"/> EOP-1.3, Natural Circulation Cooldown.....	1
<input type="checkbox"/> Plant Layout Diagrams.....	1
<input type="checkbox"/> Westinghouse Functional Diagrams	1
<input type="checkbox"/> Westinghouse Process Control Block Diagrams	1
<input type="checkbox"/> Gilbert Flow Diagrams.....	1
<input type="checkbox"/> Load List.....	1
<input type="checkbox"/> Steam Tables with attached Mollier diagram	1
<input type="checkbox"/> Technical Specifications.....	1
<input type="checkbox"/> Station Curve Book	1
<input type="checkbox"/> CREP Operating Log Book	1
<input type="checkbox"/> GOP-8, Plant Shutdown From Hot Standby To Cold Shutdown With Control Room Inaccessible (Mode 3 To Mode 5)	3
<input type="checkbox"/> Emergency Plan Procedures	1
<input type="checkbox"/> Grease Pencils	2
<input type="checkbox"/> Box Of Pencils/Pens	2
<input type="checkbox"/> Stop Watch.....	1
<input type="checkbox"/> Headsets	5
<input type="checkbox"/> Fire Emergency Procedures	1
<input type="checkbox"/> Manual Charging Lever For Large 480 Volt Breakers	1
<input type="checkbox"/> Manual Charging Lever For Small 480 Volt Breakers	1
<input type="checkbox"/> Flat Blade Screwdriver (approximately 12").....	1
<input type="checkbox"/> Flat Blade Screwdriver (approximately 3").....	1

CONTROL ROOM EVACUATION PANEL
EMERGENCY TOOL LOCKER INVENTORY LIST

	Quantity Required
<input type="checkbox"/> Ratchet With 5/8" Socket	1
<input type="checkbox"/> Small Crescent Wrench	2
<input type="checkbox"/> Fuse Puller	1
<input type="checkbox"/> Clamp-On AC Ammeter	1
<input type="checkbox"/> Plastic Air Lines (with fittings to jumper air around valve solenoids)	10
<input type="checkbox"/> Box of #1835 Light Bulb	2
<input type="checkbox"/> Flashlight	3
<input type="checkbox"/> Wire Cutter	1
<input type="checkbox"/> Electrical Jumper	2
<input type="checkbox"/> Slipjoint Pliers	1
<input type="checkbox"/> Core Operating Limits Report	1
<input type="checkbox"/> Severe Accident Management Guidance	1
<input type="checkbox"/> Telephone	2

AUXILIARY BUILDING UPPER
EMERGENCY TOOL KIT INVENTORY LIST

	<u>Quantity Required</u>
<input type="checkbox"/> Fire Emergency Procedures	1
<input type="checkbox"/> Flashlight.....	3
<input type="checkbox"/> Manual Charging Lever for Large 480 Volt Breakers	1
<input type="checkbox"/> Manual Charging Lever for Small 480 Volt Breakers	1
<input type="checkbox"/> Ratchet With 5/8" Socket	1
<input type="checkbox"/> Crescent Wrench	1
<input type="checkbox"/> Slipjoint Pliers.....	1
<input type="checkbox"/> Wire Cutters	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 3")	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 12")	1
<input type="checkbox"/> Fuse Pullers	1
<input type="checkbox"/> Electrical Jumper.....	2
<input type="checkbox"/> Clamp-On AC Ammeter	1

NOTE: The Auxiliary Building Upper Emergency Tool Kit is located in the AB Turnover Station.

ELECTRICIANS

EMERGENCY TOOL KIT (#1) INVENTORY LIST

	<u>Quantity Required</u>
<input type="checkbox"/> Fire Emergency Procedures	1
<input type="checkbox"/> Flashlight.....	3
<input type="checkbox"/> Manual Charging Lever for Large 480 Volt Breakers	1
<input type="checkbox"/> Manual Charging Lever for Small 480 Volt Breakers	1
<input type="checkbox"/> Ratchet With 5/8" Socket	1
<input type="checkbox"/> Crescent Wrench	1
<input type="checkbox"/> Slipjoint Pliers.....	1
<input type="checkbox"/> Wire Cutters	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 3")	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 12")	1
<input type="checkbox"/> Fuse Pullers	1
<input type="checkbox"/> Clamp-On AC Ammeter	1
<input type="checkbox"/> Electrical Jumper.....	10
<input type="checkbox"/> Phillips Screwdriver (Approximately 3").....	1
<input type="checkbox"/> Phillips Screwdriver (Approximately 15").....	1
<input type="checkbox"/> Set of Allen Wrenches	1
<input type="checkbox"/> Needlenose Pliers.....	1

NOTE: This Electricians Emergency Tool Kit #1 is located in the CREP Tool Locker.

ELECTRICIANS

EMERGENCY TOOL KIT (#2) INVENTORY LIST

	<u>Quantity Required</u>
<input type="checkbox"/> Fire Emergency Procedures	1
<input type="checkbox"/> Flashlight.....	3
<input type="checkbox"/> Manual Charging Lever for Large 480 Volt Breakers	1
<input type="checkbox"/> Manual Charging Lever for Small 480 Volt Breakers	1
<input type="checkbox"/> Ratchet With 5/8" Socket	1
<input type="checkbox"/> 8" Crescent Wrench	1
<input type="checkbox"/> Slipjoint Pliers.....	1
<input type="checkbox"/> Needlenose Pliers.....	1
<input type="checkbox"/> Wire Cutters	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 12").....	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 10")	1
<input type="checkbox"/> Phillips Screwdriver (Approximately 12").....	1
<input type="checkbox"/> Phillips Screwdriver (Approximately 10").....	1
<input type="checkbox"/> Clamp-On Ammeter	1
<input type="checkbox"/> Set of Allen Wrenches	1
<input type="checkbox"/> Fuse Pullers	1
<input type="checkbox"/> Electrical Jumper.....	10

NOTE: This Electricians Emergency Tool Kit #2 is located in the Control Room.

INTERMEDIATE BUILDING

EMERGENCY TOOL KIT INVENTORY LIST

	<u>Quantity Required</u>
<input type="checkbox"/> Fire Emergency Procedures	1
<input type="checkbox"/> Flashlight.....	3
<input type="checkbox"/> Manual Charging Lever for Large 480 Volt Breakers	1
<input type="checkbox"/> Manual Charging Lever for Small 480 Volt Breakers	1
<input type="checkbox"/> Ratchet With 5/8" Socket	1
<input type="checkbox"/> Crescent Wrench	1
<input type="checkbox"/> Slipjoint Pliers.....	1
<input type="checkbox"/> Wire Cutters	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 3")	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 12")	1
<input type="checkbox"/> Fuse Pullers	1
<input type="checkbox"/> Electrical Jumper.....	2

NOTE: The Intermediate Building Emergency Tool Kit is located in the CREP Tool Locker.

RO EMERGENCY TOOL KIT INVENTORY LIST

	<u>Quantity Required</u>
<input type="checkbox"/> Fire Emergency Procedures	1
<input type="checkbox"/> Flashlight.....	3
<input type="checkbox"/> Manual Charging Lever for Large 480 Volt Breakers	1
<input type="checkbox"/> Manual Charging Lever for Small 480 Volt Breakers	1
<input type="checkbox"/> Ratchet With 5/8" Socket	1
<input type="checkbox"/> Crescent Wrench	1
<input type="checkbox"/> Slipjoint Pliers.....	1
<input type="checkbox"/> Wire Cutters	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 3")	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 12")	1
<input type="checkbox"/> Fuse Pullers	1
<input type="checkbox"/> Electrical Jumper.....	2

NOTE: The RO Emergency Tool Kit is located in the CREP Tool Locker.

BOP OPERATOR EMERGENCY TOOL KIT INVENTORY LIST

	<u>Quantity Required</u>
<input type="checkbox"/> Fire Emergency Procedures	1
<input type="checkbox"/> Flashlight.....	3
<input type="checkbox"/> Manual Charging Lever for Large 480 Volt Breakers	1
<input type="checkbox"/> Manual Charging Lever for Small 480 Volt Breakers	1
<input type="checkbox"/> Ratchet With 5/8" Socket	1
<input type="checkbox"/> Crescent Wrench	1
<input type="checkbox"/> Slipjoint Pliers.....	1
<input type="checkbox"/> Wire Cutters	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 3")	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 12")	1
<input type="checkbox"/> Fuse Pullers	1
<input type="checkbox"/> Electrical Jumper.....	2

NOTE: The BOP Operator Emergency Tool Kit is located in the AB Turnover Station.

SHIFT ENGINEER EMERGENCY TOOL KIT INVENTORY LIST

	<u>Quantity Required</u>
<input type="checkbox"/> Fire Emergency Procedures	1
<input type="checkbox"/> Flashlight.....	3
<input type="checkbox"/> Manual Charging Lever for Large 480 Volt Breakers	1
<input type="checkbox"/> Manual Charging Lever for Small 480 Volt Breakers	1
<input type="checkbox"/> Ratchet With 5/8" Socket	1
<input type="checkbox"/> Crescent Wrench	1
<input type="checkbox"/> Slipjoint Pliers.....	1
<input type="checkbox"/> Wire Cutters	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 3")	1
<input type="checkbox"/> Flat Blade Screwdriver (Approximately 12")	1
<input type="checkbox"/> Fuse Pullers	1
<input type="checkbox"/> Electrical Jumper.....	2

NOTE: The Shift Engineer Emergency Tool Kit is located in the Control Room.

EOP-6.0 TOOL LOCKER INVENTORY (463' AB)

<u>ITEM</u>	<u>QUANTITY</u>
<input type="checkbox"/> Fire hose with fittings each end	1
<input type="checkbox"/> 24"pipe wrench	1
<input type="checkbox"/> Spanner wrench	2
<input type="checkbox"/> Flashlight (replace 2 D-cell batteries)	1
<input type="checkbox"/> Tank drain quick-disconnect	1
<input type="checkbox"/> Floor drain quick-disconnect	1
<input type="checkbox"/> Drain rig	1

AOP-118.1 TOOLBOX INVENTORY (400' AB)

<u>ITEM</u>	<u>QUANTITY</u>
<input type="checkbox"/> 6' step ladder (locked in ladder rack #28)	1
<input type="checkbox"/> 8' step ladder (locked in ladder rack #29)	1
Long red toolboxes (contains items listed below):	2
<input type="checkbox"/> 14" pipe wrenches	2
<input type="checkbox"/> 12" crescent wrenches	2
<input type="checkbox"/> VU Vent/CHG Cooling Supply Adapter	1
<input type="checkbox"/> Fire Service Adapter Bushings	2
<input type="checkbox"/> Female Chicago fittings	12
<input type="checkbox"/> Chicago fitting lock pin	numerous
<input type="checkbox"/> Duplex Strainers	2
<input type="checkbox"/> Drain Hoses	3
<input type="checkbox"/> Chilled Water to Chg/SI Pump Alt Cooling Hoses	6
<input type="checkbox"/> Fire Service/Demin Alternate Cooling Hoses	2
<input type="checkbox"/> Short Hoses	2

CONTROL ROOM EMERGENCY FOOD LOCKER INVENTORY

Basis: FSAR Section 6.4.1.1

Requirement: Food and water for 7 people for 7 days
(assume 4 meals per day = 196 meals/servings minimum,
25 gallons of water allows 1/2 gallon of water/day/person,
Chemical toilet facilities)

<u>ITEM</u>	<u>QUANTITY</u>
<input type="checkbox"/> Scrambled Eggs or other entrée	10 boxes (six servings each = 60 servings)
<input type="checkbox"/> Spaghetti or other entrée	14 boxes (six servings each = 84 servings)
<input type="checkbox"/> Stew w/Beef or other entrée	14 boxes (six servings each = 84 servings)
<input type="checkbox"/> Water	25 gallons (5 - 5 Gallon jugs = .5 gal/day/person)
<input type="checkbox"/> Portable Toilets	2
<input type="checkbox"/> Toilet Solution	12 bottles

Optional items

- | | |
|--|--------------------------------------|
| <input type="checkbox"/> Gatorade Powder (or Equivalent) | numerous packs |
| <input type="checkbox"/> Instant coffee | numerous individual
serving packs |

Inventory SAT? Yes ___ No ___ (requires comment)

Signature_____

Date completed: ___/___/___

Comments:_____

SHIFT SUPERVISOR'S OFFICE FIRST AID BOX INVENTORY

ITEM	REQUIRED QUANTITY	CHECK
Throat Lozenges	1 Box	<input type="checkbox"/>
Ibuprofen	1 Box	<input type="checkbox"/>
Aspirin	1 Box	<input type="checkbox"/>
Antacid Tablets	1 Box	<input type="checkbox"/>
Alka Seltzer	1 Box	<input type="checkbox"/>
1 x 3 Band-Aids	1 Box	<input type="checkbox"/>
4 x 4 Gauge Sponges	5 Sponges	<input type="checkbox"/>
5 x 9 ADB Pads	5 Pads	<input type="checkbox"/>
Extra Large Band-Aid Pads	2 Boxes	<input type="checkbox"/>
Eye Wash	1 Bottle	<input type="checkbox"/>
Scissors	1 Pair	<input type="checkbox"/>
Tweezers	1 Pair	<input type="checkbox"/>
Rescue Blanket	1 Blanket	<input type="checkbox"/>
Triangular Bandages	2 Boxes	<input type="checkbox"/>
Gauze Rolls	10 Rolls	<input type="checkbox"/>
1" First Aid Tape	2 Rolls	<input type="checkbox"/>

I&C TECHNICIANS

FEP EQUIPMENT STORAGE LOCKER INVENTORY LIST

EQUIPMENT	QUANTITY REQUIRED
<input type="checkbox"/> Air Tank	1
<input type="checkbox"/> Air Hose with Chuck	1
<input type="checkbox"/> Digital Multi Meter	1
<input type="checkbox"/> 20 Foot Test Leads with Gator Clips	2
<input type="checkbox"/> Doric Trendicator (Type E) with Power Pack	1
<input type="checkbox"/> Thermocouple Wire (Type E)	1
<input type="checkbox"/> Flashlight (Large)	1
<input type="checkbox"/> Batteries (Size D)	5

SUPERVISOR'S REPORT OF SPILL

Brief description of incident: _____

Corrective Action: _____

Personnel involved: _____

Cleanup Assignments: _____

Shift Supervisor Signature

FORWARD TO OPERATIONS SUPERVISOR

REPLACEMENT LAMP IDENTIFICATION CHECKLIST

NOTE

PSE review is desired, but not required prior to lamp replacement.

SECTION 1 is completed by Operations. SECTION 2 is completed by PSE.

SECTION 1:

Panel _____ Component _____

Drawings: _____

Tech Manual: _____

Bulb type currently in component: _____

Other items checked: _____

Potential problems associated with incorrect bulb replacement: _____

Based on the above listed information, the following bulb type is recommended:

VOLTS	AMPS	RESISTANCE	WATTS	STOCK NUMBER

Comments: _____

Recommended: _____

Signature

Date

Concurrence: _____

Shift Supervisor or Control Room Supervisor

Date

- Place a copy in the System Information file.
- Send a copy to the Procedure Unit to be placed in procedure feedback folder.
- Send the Original to PSE for review.

REPLACEMENT LAMP IDENTIFICATION CHECKLIST (Cont'd)

SECTION 2:

The information provided in Section 1 was used to replace a light bulb that had no previous reference listed on Enclosure D.

The System Engineer should review the information and determine whether they Agree or Disagree with the decision.

Once complete, this Original is returned to the Operations Procedure Unit and this information will be added to Enclosure D as soon as practical or next revision.

Agree Disagree (circle one)
_____/_____
Signature Date System Engineer

Comments

PSE forward this Original to Operations Procedure Unit for Lamp Index Update.

SHIFT SUPERVISOR RELIEF CHECKLIST

DATE/TIME: _____

LOG SECTION

Date	Entry

RELIEF SECTION

Turnover Notes

Oncoming shift: _____	Mode: _____	Power level: _____
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Offgoing Shift Supervisor

Operations in progress (GOPs, SOPs, load changes, etc.):

Operations scheduled for oncoming shifts:

Operators overtime or needing replacement:

Additional comments:

Review of logs completed:	Initials
In the Shift Supervisor's office, all books are replaced, table top and desk top is clear, and all trash is disposed of in a proper container.	

Oncoming Shift Supervisor

Plant Status (to be completed prior to turnover):	Initials
Review of Main Control Board panels and alarms.	
Review of Station Log (back to time of previous shift).	
Review of R&R Log.	
Review of Special Orders.	
Review of Danger Tag Log.	
Plant Status review complete.	

Shift Turnover (to be completed during turnover):	Initials
Briefing on plant conditions with offgoing Shift Supervisor (Resolve discrepancies noted above).	
Identification of systems in a degraded mode of operation permitted by Technical Specifications (Attach list if not in R&R Log).	
C01→ Review of License Operator Status Report to ensure all oncoming licensed operators have current active licenses.	
Turnover of Shift Supervisor plant keys.	
Review of status of Security Keys.	
Complete FEP manning sheet.	
EOOS status agrees with actual plant status.	
Shift Turnover review completed.	

C01→	To the best of my knowledge, I am fully qualified to assume this watch taking into consideration fitness for duty, requalification status, and minimum watchstanding qualification.	Time
Shift relief completed:	Oncoming Shift Supervisor	
	Offgoing Shift Supervisor	

Shift Scheduling (To be completed after turnover):	Initials	Time
Review of Shift Turnover Checklists.		
Review of planned shift activities and assignment of tasks.		
Review of CERs written during the previous shift for reportability/operability issues.		
Post relief review completed:		

FEP MANNING SHEET

Date:		Shift:	
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REQUIRED SHIFT PERSONNEL	NAME	POSITION REQUIRED PER FEP
SHIFT SUPERVISOR		No other duties
CONTROL ROOM SUPERVISOR		No other duties
RO		No other duties
BOP		No other duties
CONTROL BUILDING		FBL / FBM * (circle one)
TURBINE BUILDING		FBL / FBM * (circle one)
INTERMEDIATE BUILDING		No other duties
AUXILIARY BUILDING UPPER		No other duties
AUXILIARY BUILDING LOWER		FBL / FBM * (circle one)
MECHANIC		FBM **
MECHANIC		FBM **
ELECTRICIAN		
ELECTRICIAN		
I&C TECHNICIAN		30 min. NRC Communicator
SHIFT TEST SPECIALIST		Shift Communicator
SHIFT ENGINEER		No other duties
FIRST RESPONDER OPERATIONS LEVEL (HAZ-MAT)		
FIRST RESPONDER OPERATIONS LEVEL (HAZ-MAT)		
MERT/FIRST RESPONDER		
RESCUE/FIRST AID SUPPORT		***

- * One of these Operators or a Rover must be a qualified Fire Brigade Leader and designated as such.
- ** Position may be filled by any personnel who are not assigned other FEP duties and who are Fire Brigade qualified.
- *** Confined Space Rescue Qualified as a minimum. May not be assigned FIRST RESPONDER. Attends Pre-Job Brief for Confined Space Entries

I have reviewed the qualification status and determined the above personnel are qualified to perform the stated FEP functions.

Plateau training qualifications codes:

C-Q-MERT (FIRST RESPONDER)/C-Q-FPFB-PA-L (FBL)/C-Q-FPFB-PA-M (FBM)
 C-Q-HAZMAT-BO1 (HAZ-MAT)/C-Q-FP-16 (CONFINED SPACE ENTRY RESCUE)
 C-Q-EPT-16 (COMMUNICATOR)

Shift Test Specialist	
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CONTROL ROOM SUPERVISOR RELIEF CHECKLIST

DATE/TIME: _____

LOG SECTION

Date	Entry

RELIEF SECTION

Turnover Notes

Offgoing Control Room Supervisor	
Operations in progress (GOPs, SOPs, load changes, etc.):	
Operations scheduled for oncoming shifts:	
Plant safeguard systems in degraded status:	
In the Control Room, all books are replaced, the desk and console tops are clear, and all trash is properly disposed of. Station Log completed.	Initials

Oncoming Control Room Supervisor		Initials
Plant Status (to be completed prior to turnover):		
Plant ESF System Status:		
Component Cooling System		
Service water System		
Reactor Building Cooling System		
Reactor Building Spray System		
Accumulator Tanks		
RHR System		
Charging/Safety Injection System		
Emergency Feedwater System		
Diesel Generator		
Chilled Water System		
Control Room Ventilation System		
Position indications, power availability, and annunciator alarms are normal for present plant conditions.		
Plant Parameters		Limit
Reactor Power		0-100%
RCS Tavg		≤589.2°F per loop
RCS Pressure		<2385 psig
RCS Flow		>100% per loop
RCS Subcooling		Normal
All parameters within allowable limits for plant conditions. If not, what actions are being taken to correct conditions:		
Review of Logs:		
Station Log		
Removal and Restoration Log		
Tagout Log		
Special Orders		
Shift Turnover (to be completed during turnover)		
Briefing on plant conditions by offgoing Control Room Supervisor.		
Review of SPDS and BISI displays.		
Identification of in-progress procedures including their present status and locations.		

C01→	To the best of my knowledge, I am fully qualified to assume this watch taking into consideration fitness for duty, requalification status, and minimum watchstanding qualification.	
Shift relief completed:	Oncoming CRS	
	Offgoing CRS	
	Shift Supervisor review	

System Alignment	A	B	C	Train aligned to	Reasons for any inoperable equipment
Service Water Pumps					
Component Cooling Pumps					
Charging Pumps					
HVAC Chillers					
Reactor Building Spray Pumps					
RHR Pumps					
			TDEFP		
Emergency Feedwater Pumps					
Inoperable Radiation Monitors					

C01→	To the best of my knowledge, I am fully qualified to assume this watch taking into consideration fitness for duty, requalification status, and minimum watchstanding qualification.	
Shift relief completed:	Oncoming RO	
	Offgoing RO	
	Shift Supervisor review	

BALANCE OF PLANT OPERATOR LOG

DATE/TIME: _____

LOG SECTION

Date	Entry

RELIEF SECTION

Turnover Notes

Offgoing BOP Checklist	Initials
Main Control Board (BOP portion) properly aligned for the applicable mode.	
Housekeeping is satisfactory in the BOP area of responsibility.	

Oncoming BOP Checklist	Initials
Review of Main Control Room Panels.	
Review of Station Log.	
Review of Removal & Restoration Log.	
Test annunciator lights (with Offgoing operator concurrence).	

C01→	To the best of my knowledge, I am fully qualified to assume this watch taking into consideration fitness for duty, requalification status, and minimum watchstanding qualification.	
Shift relief completed:	Oncoming BOP	
	Offgoing BOP	
	Shift Supervisor review	

CONTROL BUILDING OPERATOR LOG

DATE/TIME: _____

LOG SECTION

Date	Entry

RELIEF SECTION

Turnover Notes

Oncoming shift:_____	GGMK:_____	Update Status Board:_____
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Offgoing Control Building Checklist	Initials
All paperwork has been completed with required signatures prior to turnover.	
Work Control Center Tagging desk is clean with trash properly disposed of.	

Oncoming Control Building Checklist	Initials
Review active work package organizers.	
Review of HVAC Panel (test annunciator lights).	

C01→	To the best of my knowledge, I am fully qualified to assume this watch taking into consideration fitness for duty, requalification status, and minimum watchstanding qualification.	
Shift relief completed:	Oncoming CBAO	
	Offgoing CBAO	
	Shift Supervisor review	

SHIFT TEST SPECIALIST LOG

DATE/TIME: _____

LOG SECTION

Date	Entry

RELIEF SECTION

Turnover Notes

Offgoing Shift Test Specialist Checklist

	Initials
Shift inspections complete.	
Oncoming Fire Brigade member qualification checked.	
Shift Test Specialist Keys.	

STPs and PMs in progress or due:

Comments:

Oncoming Shift Test Specialist Checklist:

	Initials
Review of the R&R Log.	
Review of the Shift Test Specialist Log.	
Review of the Roving Fire Watch Log (Night Shift only).	
Review of FP Program Log.	

Shift relief completed:	Oncoming Shift Test Specialist	
	Offgoing Shift Test Specialist	
	Shift Supervisor review	

