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Rev. 8

Safety Related
Safety-Designation

FERMI 2 POM PROCEDURE - OPERATIONS

TITLE: SHIFT OPERATIONS AND CONTROL ROOM

PROCEDURE NUMBER: 21.000.01

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(Responsible Section Head/Delegate)

RECOMMENDED BY: _____ DATE: _____
(Supervisor-Operational Assurance/Delegate

*RECOMMENDED BY: _____ DATE: _____
(OSRO Chairman/Alternate)

*APPROVED BY: _____ DATE: _____
(Superintendent-Nuclear Production/Delegate)

*Signatures required for Safety-Related or Superintendent-Designated procedures.

The following is a list of "laters" contained in this procedure. The responsible Section Head during subsequent revisions will update or remove this "later" sheet.

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Attachments

1.0 Purpose

This procedure describes the administrative controls established for activities associated with operation of the physical plant. It establishes guidelines necessary to ensure shift operations are conducted in a safe and efficient manner, according to written procedures, and in keeping with the requirements set forth in 10CFR50 Appendix B. The Operations Section shift organization and resposibilities are also defined. 8

This procedure shall be adhered to in conducting any activity such as special tests or refueling that interface with the operation of the plant. Those activities subject to the controls of this procedure include startups, changing loads, power operations, shutdowns, and responding to emergency or abnormal plant conditions. Operations Administrative Procedure, "Operation Logs and Records" ~~(21.000.02)~~ will be used by the Operations Section to ensure appropriate levels of plant management staff are aware of significant events, operating conditions and technical specification requirements. Administration of Tagging and Protective Barriers is covered in General Administrative Procedure 12.000.12, "Tagging and Protective Barrier System." 8 8

2.0 References

2.1 Appendix B to 10CFR50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants"

2.2 10CFR50.36

2.3 10CFR50.36a

2.4 10CFR55.9b

2.5 ANSI N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants"

2.6 ANSI N45.2-1971, "Quality Assurance Program Requirements for Nuclear Power Plants"

2.7 NRC Regulatory Guide 1.33, "Quality Assurance Program Requirements"

2.8 EF-2 FSAR Chapter 13, Section 17.2

2.9 EF-2 FSAR Appendix H

*2.10 EF-2 Technical Specifications

2.11 Nuclear Operations Interfacing Procedure 11.000.49, "Document Control and Records" 8

*Denotes "Use" Reference

2.12 General Administrative Procedure 12.000.06, "Plant Rules and Practices" (Later)

*2.13 General Administrative Procedure 12.000.07, "Plant Operations Manual Procedure"

*2.14 General Administrative Procedure 12.000.32, "Deviation and Corrective Action Reporting"

*2.15 General Administrative Procedure 12.000.12, "Tagging and Protective Barrier System"

*2.16 General Administrative Procedure 12.000.13, "Radiation Work Permits"

*2.17 General Administrative Procedure 12.000.15, "PN-21 (Work Order) Processing"

2.18 General Administrative Procedure 21.000.16, "Training Program" (Later) 8

*2.19 General Administrative Procedure 21.000.17, "Preventive Maintenance Program"

*2.20 General Administrative Procedure 12.000.17T, "Interim Preventive Maintenance Program"

*2.21 General Administrative Procedure 12.000.18, "Surveillance Program"

*2.22 General Administrative Procedure 12.000.45T, "PN-21 (Work Order) Processing for Systems Under Control of Systems Completion Organization"

*2.23 General Administrative Procedure 12.000.57, "Nuclear Production Organization"

*2.24 General Operating Procedure 12.000.43, "Verification of Correct Performance of Operating Activities"

*2.25 Operations Administrative Procedure 21.000.02, "Operations Logs and Records"

*2.26 Operations Administrative Procedure 21.000.03, "Post-Scram Evaluation and Restart Authorization"

*2.27 Operations Administrative Procedure 21.000.13, "Emergency Operating Procedure Guidelines"

*2.28 Technical Section Administrative Procedure 41.000.10, "Instrument Setpoint Change"

*Denotes "Use" Reference

*2.29 Power Plant Order EFA-2000, "Plant Order Format and Distribution"

2.30 INPO 'Good Practice' OP-204, "Conduct of Operations" 8

2.31 INPO 'Good Practice' OP-205, "Operations Narrative Log Books"

*2.32 EF-2 Security Plan

*2.33 EF-2 Radiological Emergency Response Plan

3.0 Abbreviations or Definitions

3.1 SRO - Senior Reactor Operator licensed pursuant to 10CFR55

3.2 RO - Reactor Operator licensed pursuant to 10CFR55

3.3 NSS - Nuclear Shift Supervisor

3.4 NASS - Nuclear Assistant Shift Supervisor

3.5 NSO - Nuclear Supervising Operator

3.6 NPPO - Nuclear Power Plant Operator

3.7 NAPPO - Nuclear Assistant Power Plant Operator

3.8 OE - Operations Engineer

3.9 AOE - Assistant Operations Engineer

3.10 STA - Shift Technical Advisor

3.11 SOA - Shift Operations Advisor 8

3.12 LCO - Limiting Condition for Operation

3.13 OSRO - On-Site Review Organization

3.14 OOS - Out of Service, component placed in designated abnormal condition

3.15 BIS - Back in Service, component returned to normal condition 8

3.16 Prefill Valve Lineup - Ready to Fill with Fluid

3.17 Standby Valve Lineup - System Ready to Start

3.18 O - Open

3.19 C - Closed

*Denotes "Use" Reference

3.20 LO - Locked Open

3.21 LC - Locked Close

3.22 T(x) - Throttled (Number of Turns Open)

3.23 SAF. REL. VER. - Safety Related Verification

3.24 Plant Operational Conditions

Refer to Technical Specifications Table 1.2. | 8

3.25 Verify - To check a component is in its required condition and if not, place it in that condition (e.g., verify open means to open or check open). | 8

3.26 NSRG - Nuclear Safety Review Group

3.27 Safety Related - As determined in accordance with General Administrative Procedure 12.000.53, "Guidelines for the Determination of Safety Related Systems, Equipment and Procedures" | 8

4.0 Organization and Responsibilities

4.1 Shift Organization

4.1.1 The shift organization is headed by the NSS who reports via the AOE to the OE. The NASS reports to the NSS. NSOs report to the NASS. NACOs, NPPOs and NAPPOs report to the NSO for the work center to which they are assigned.

4.1.2 STAs, administratively members of the Nuclear Engineering group, functionally report to the NASS. In addition, they have an open line of communication to the NSS. | 8

4.1.3 SOAs are contracted employes administratively reporting to the OE. They functionally report to the NASS and have an open line of communication to the NSS.

4.2 The specific authority and responsibilities of the OE, AOE, NSS, NASS and NSO are defined in General Administrative Procedure 12.000.57, "Nuclear Production Organization". Typical duties and responsibilities of the NSS, NASS, NSO, NACO, NPPO, NAPPO, SOA and STA are contained in Enclosures 1-8. | 8

4.3 The Plant Security Force is also "on-shift" and verification of day-to-day plant security is the responsibility of the Superintendent-Nuclear Production. Their duties and responsibilities are described in the Security Plan and its associated appendices.

6.1.5 The NSS or the NASS can, at any time, assume the authorities and responsibilities of an NSC as long as Step 6.2 is adhered to. Unlicensed operators may manipulate the reactor controls for training as prescribed in 10CFR 55.9b.

6.2 Minimum Shift Crew Composition

6.2.1 Minimum shift crew composition shall be in accordance with Technical Specifications Table 6.2.2.1. 8

6.2.2 The SOA will be on shift whenever the reactor is not in cold shutdown, commencing with initial fuel load.

6.3 Additional Staffing Requirements and Restrictions 8

6.3.1 At least one licensed Senior Reactor Operator (Nuclear Shift Supervisor or Nuclear Assistant Shift Supervisor) shall be in the Control Room when the reactor is in Condition 1, 2, or 3.

6.3.2 At least one licensed operator shall be in the "AT CONTROLS AREA" when fuel is in the reactor.

NOTE: For the purpose of this procedure, the "AT CONTROLS AREA" is defined as the shaded area shown in Enclosure 9. The Control Room is defined as the entire area as shown on Enclosure 9.

The operator should not under any circumstances leave for any non-emergency reason (e.g., to confer with others or for personal reasons) without obtaining proper relief. In the event of an emergency affecting safety of operations, he may momentarily be absent from this area in order to verify receipt of an annunciator alarm or initiate corrective action, provided he remains within the Control Room. 8

6.3.3 At least two licensed operators shall be present in the Control Room during reactor startup, scheduled reactor shutdown and during recovery from reactor trips.

6.3.4 All core alterations shall be observed and directly supervised by either a Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operations.

Other sections and organizations having members working "on-shift" or periodically assigned to back shifts and weekends include: Instrumentation and Controls, Health Physics, RadChem, Stores and Transportation, Maintenance, Operational Assurance and plant cleaners. Responsibilities and duties of these individuals are specified in applicable procedures. 8

4.4 It is the responsibility of all personnel participating in any activity related to plant operations to abide by this Operations Administrative Procedure. 8

4.5 The Control Room NSO has shared responsibility and delegated authority from the NSS to place and maintain the plant in a safe condition at all times. 8

4.6 No person shall perform any action which will affect any Control Room indication, control or alarm without first consulting the Control Room NSO. 8

4.7 The responsibility for returning the reactor to power following an unscheduled scram will be in accordance with Operations Administrative Procedure 21.000.03, "Post-Scram Evaluation and Restart Authorization". 8

5.0 Implementing Procedures

The procedures which have been established to implement the requirements for control over plant operations are the General Operating Procedures, the System Operating Procedures, the Emergency Operating Procedures, the Abnormal Operating Procedures, the Alarm Response Procedures, the Operations Surveillance Procedures, the Operations Performance Evaluation Procedures and the Administrative Procedures as required by Regulatory Guide 1.33.

6.0 Conduct of Operations

6.1 Normal Shift Crew Composition

6.1.1 During normal routine operations, each shift compliment includes the NSS, the NASS, the STA, the SOA, four (4) NSO's, one (1) NACO, three (3) NPPOs and two (2) APPOs.

6.1.2 The NSS and NASS hold SRO licenses. The Control Room NSO holds an RO license. Generally, all NSOs hold RO licenses. 8

6.1.3 NSOs are assigned as Control Room NSO, Patrol NSO, Tagging Center NSO and Radwaste NSO.

6.1.4 The NSS may deviate from Sections 6.1.1 and 6.1.3 provided the requirements of 6.2 and 6.3 are adhered to.

6.3.5 The Operations Engineer is responsible for the establishment and administration of the Fire Brigade. Minimum staffing of the Fire Brigade is specified in Table 6.2.2.A of Technical Specifications. The functional duties of the Fire Brigade are delegated to the on-duty Nuclear Shift Supervisor. Normally the Fire Brigade consists of a Nuclear Supervising Operator as the Fire Brigade Leader and four additional members. 8

6.3.6 Except as provided in 10CFR55.9b, no one shall be permitted to manipulate the reactor controls of Fermi 2 unless that person has been licensed pursuant to 10CFR55.

NOTE: "Controls" as used above with respect to the Fermi 2 reactor means apparatus and mechanisms, the manipulation of which directly affects the reactivity or power level of the reactor.

6.3.7 A person knowledgeable in the operation, Radwaste and Technical Specifications shall be in charge of controlling and documenting radioactive releases made to the environment from radwaste systems. 6

NOTE: The Superintendent-Nuclear Production will ensure that operating and administrative procedures used for the control of effluents are followed to ensure that radioactive materials in effluents released to unrestricted areas are less than the maximum allowable limits for effluents and that all radioactive releases are kept as low as reasonably achievable. 8

6.4 Overtime Guidelines

6.4.1 In addition to the restrictions in Technical Specifications Section 6.2.2, the following shall be adhered to:

1. Operations section personnel performing safety related work shall not normally be assigned to those duties in excess of eight (8) hours in any twenty-four (24) hour period. 8

2. In no case shall persons be assigned safety related functions in excess of twelve (12) hours in any twenty-four (24) hour period without express permission of the Operations Engineer.

6.4.2 Effort should be made to provide a break after each four (4) hour period spend on performing safety related work.

6.4.3 For the purposes of this procedure, safety related work includes, but is not limited to, such activities as:

1. Performance of valve and electrical line-ups and tagouts on safety related systems.

2. Surveillances, testing and operating of safety related systems.

3. Assignment as NSS, NASS or Control Room NSO.

6.5 Control Room Work Environment and Access

6.5.1 The Control Room NSO shall pay strict attention to controls, instrumentation and alarms at all times. This shall apply to NACOs and NSOs assigned to specific functions in the Control Room as well.

6.5.2 When analyzing plant conditions, instrument indications MUST BE BELIEVED until the indications are determined to be incorrect.

6.5.3 All personnel working in the Control Room shall continuously strive to maintain the highest degree of professionalism at all times. Any activity which might impair compliance with 6.4.1 above should be avoided. People shall not congregate in the Control Room or enter on other than officail business. Eating is allowed only if it does not interfere with attention to controls, instruments and alarms, and is limited to those personnel who must be in the Control Room due to license requirements or operational considerations. Horseplay and non-emergency shouting is strictly prohibited.

6.5.4 The NASS and Control Room NSO have shared responsibility and authority from the NSS to maintain proper Control Room atmosphere.

6.5.5 The NSS will maintain control of persons entering the Control Room. If he feels too many people are there, or he feels their presence is interfering with operations, he may direct them to leave. The Control Room NSO may request the NSS to direct people to leave if he feels their presence is distracting.

6.5.6 No one shall enter the marked areas (later) in front of the Combination Operating Panels without the permission of the Control Room NSO.

6.5.7 The following persons are exempt from Sections 6.4.5 and 6.4.6:

Superintendent-Nuclear Production
Assistant Superintendent-Nuclear Production
Operations Engineer
Assistant Operations Engineer
Personnel designated in writing from one of the above | 8

6.6 Use of Procedures and Drawings

6.6.1 With the exception of the routine repetitive operations associated with normal operations of the plant, activities in the plant that are covered by procedures contained in the Plant Operating Manual will be accomplished with the procedure present and followed step by step.

6.6.2 Completion of an activity requiring a procedure present will be documented by the person who completed the activity by initialing the applicable step or section, if required by the procedure being used to perform the activity.

6.6.3 Whenever a procedure specifies an instrument or control be placed in "auto", the operator may, at the discretion of the NSS, place it in manual to accommodate operating conditions not necessarily forseen by the procedure. This does not apply to those systems requiring alignment for automatic initiation per Technical Specifications. | 8

6.6.4 The Entry Conditions stated in Emergency Operating Procedures are to be committed to memory by the licensed operators. The operator will make entries in his log concerning the type of emergency which occurred and the actions that were taken to correct the situation.

6.6.5 The alarm windows in the Control Room have background colors depending on the response urgency level. Licensed operators will be required to memorize the immediate actions for the RPS alarms. | 8

6.6.6. Only approved drawings and procedures of the latest revision will be utilized by the shift organization to perform operations in the plant.

6.6.7 When performing an operation per procedure, the prerequisites for this operation will be accomplished by requiring only the applciable portion of the support system to be in operation. | 4

6.6.8 Valve, electrical and instrument line-ups (Attachments 4, 5, 6 and 7) will be performed prior to a system

startup if a major plant outage has occurred or as required by the Operations Engineer.

6.6.9 An Abnormal Status Sheet (Attachment 3) will be used to document a system or component status that is not covered by an existing approved document(s) (i.e., PN-21 work order, procedure, etc.), or when required by room procedure 12.000.43 "Verification of Correct Performance of Operating Activities"

6.6.10 Each lineup sheet (Attachments 4, 5, 6 and 7) has a "Required Position" column. The required position is used to place the system valves in the position which is normal for the specified plant condition; i.e., "Prefill" or "Standby" operation. If a valve cannot be placed in the "Required" position for some reason, such as a component out of service for maintenance, the Nuclear Shift Supervisor may approve the use of an alternate valve position. When an alternate valve lineup is approved by the Nuclear Shift Supervisor, an Abnormal Status Sheet must be completed and filed with the current valve lineup.

6.6.11 Current lineups will be kept in the Control Room until the next lineup is performed. Active abnormal status sheet(s) must be filed with the associated current lineup until completed.

6.6.12 Current system status is determined by reviewing the active abnormal status sheet, current valve lineup, PN-21 work order log and the association System Operations Procedure.

6.6.13 Lineup verification sheets for valve, electrical and instrumentation lineup (Attachments 4, 5, 6 and 7) will be signed by personnel performing the lineups and/or lineup verification. Personnel signing off steps in the lineup sheet will sign their full name, initials and date on the signature verification sheet (last page of the lineup sheet). Personnel may use their initials at other points within the lineup sheets.

Lineups requiring more than one shift to be completed will be signed in the signature verification portion by all the operators involved in completing the lineup at the end of his/her shift. Thus, the same operator working on a system lineup on successive days will have his/her signature signed twice.

6.6.14 Completed lineup sheets and procedures for each system including any "Abnormal Status Sheets" will be assembled with a "Procedure Data Package" (Attachment 2) used as a cover sheet. The person (normally, NASS or NSO) assembling the package will sign and date "Completed by" and forward to the NSS for review.

Completed lineups including Abnormal Status Sheets will be retained in the Control Room until subsequent lineups are performed, at which time they will be forwarded to the Operations Engineer. Completed procedures will be forwared to the Operations Engineer following review by the NSS.

6.6.15 No setpoint changes to procedures are to be made without Engineering approval in accordance with Administrative I & C Procedure #41.000.10, "Instrument Setpoint Change."

6.6.16 The use of "temporary procedures" and implementation of temporary changes to procedures shall be done in accordance with General Administrative Procedure 12.000.07, "Plant Operations Manual Procedures".

6.7 Guidelines for Complying with General Operating Procedures (GOPs)

6.7.1 Sequential steps of GOPs may be performed starting from any point, provided the plant conditions are those which would have resulted from performing the preceding steps. When plant operations that are covered by a GOP are performed, the initial plant conditions may not be compatible with the GOP. When this occurs, the sequence of events may be altered to achieve a plant status which will give a starting pont that would have resulted by performing all of the preceding steps.

6.7.2 Some of the plant equipment may remain operating, if required, when the reactor is shutdown. Equipment or systems may be placed in service out of the procedural sequence during startup. However, this will not be done if the intent of the GOP is defeated. Therfore, the startup steps of this equipment may be omitted or modified by the Nuclear Shift Supervisor, as required, to meet the plant operational requirements.

6.8 Shift Relief

NOTE: Shift supervisory personnel are to normally commence turnover/relief functions approximately 30 minutes prior to the normal shift starting times in the following locations:

Nuclear Shift Supervisors and Nuclear Assistant Shift Supervisors will turnover in the Control Room.

Nuclear Supervising Operators will normally turnover at their established work centers which are:

- Control Room for Nuclear Supervising Operators assigned to the Control Room and Patrol functions.

- Tagging Center for Nuclear Supervising Operators assigned to Tagging or Training functions.

- Rad-Waste Control Room for Nuclear Supervising Operators assigned to Radwaste.

Nuclear Auxiliary Controls Operators will participate in Control Room NSO turnover.

Oncoming shift supervision will generally meet in the control Conference Room approximately 10 minutes prior to the normal shift starting times to schedule and discuss anticipated shift activities. Following this meeting Nuclear Supervising Operators will report to their assigned work locations and relieve the offgoing Nuclear Supervising Operators. At this time they will brief the operators who report to them and verify proper turnover has taken place between the oncoming and offgoing personnel. Upon completion of this process, the Nuclear Supervising Operators shall notify the Nuclear Shift Supervisor that turnover in their work center is complete and specify their complement plus individual work assignments.

Deviations from this relief sequence requires Nuclear Shift Supervisor approval.

The Operations Engineer will periodically evaluate and assure adequacy of turnover conducted by personnel in the Control Room.

6.8.1 Nuclear Shift Supervisor (NSS)

The oncoming Nuclear Shift Supervisor shall normally relieve the offgoing Nuclear Shift Supervisor in the Control Room area and should verify the relief of the offgoing shift.

The oncoming Nuclear Shift Supervisor will complete the following steps before the offgoing Nuclear Shift Supervisor leaves the Control Room area:

1. Discuss with the offgoing Nuclear Shift Supervisor any unusual system lineups, the auxiliary systems in service, any maintenance scheduled to be performed on the oncoming shift or any maintenance to be carried over that will affect the operation of the plant, the Plant and Equipment Status System, and any testing to be carried over to the oncoming shift. In addition, each control panel should be reviewed for any off-normal conditions. 18

2. Review the status of the "Engineered Safety Feature Status Display" (later).

3. Complete, review, and sign the Shift Turnover Checklist (Attachment 1) and the NSS Turnover Checklist (Attachment 9) with the offgoing Nuclear Shift Supervisor. 18

4. Review OE's Night Order Book. 18

5. Read all emergency procedures that have been implemented or modified since last shift worked.

6. Review the Urgent Required Reading book. 18

7. Review the "Nuclear Shift Supervisor Log" for the last ten (10) days or back to the last duty shift, whichever is shorter, and initial each page reviewed. 18

The oncoming Nuclear Shift Supervisor should complete the following steps within one (1) hour after relieving the offgoing Nuclear Shift Supervisor:

1. Review major plant maintenance activities to determine which equipment has been recently tagged out for maintenance or other reasons.

2. Review the Temporary Modification Log.

3. Review the RWP logbook. 18

4. Review the "Nuclear Supervising Operator Log" back to the last duty shift or the previous two days, whichever is shorter, and initial each page reviewed. 18

The above steps should be considered as the minimum requirements for a normal shift turnover.

If there is any pertinent information that is not covered in the above steps, it is the offgoing Nuclear Shift Supervisor's responsibility to supply that information to the oncoming Nuclear Shift Supervisor.

6.8.2 Nuclear Assistant Shift Supervisor (NASS)

The oncoming Nuclear Assistant Shift Supervisor shall normally relieve the offgoing Nuclear Assistant Shift Supervisor in the Control Room area or the Operations Support Center (OSC). 18

The oncoming Nuclear Assistant Shift Supervisor will complete the following steps before the offgoing Nuclear Assistant Shift Supervisor leaves the relief area:

1. Discuss with the offgoing Nuclear Assistant Shift Supervisor any unusual system lineups, the auxiliary systems in service, any maintenance scheduled to be performed on the oncoming shift or any maintenance to be carried over that will affect the operation of the plant, the Plant and Equipment Status System, and any testing to be carried over to the oncoming shift. In addition, each control panel should be reviewed for any off-normal conditions. 18

2. Review the status of the "Engineered Safety Feature Status Display" (later).

3. Review Urgent Required Reading book. 18

4. Read all emergency procedures that have been implemented or modified since last shift worked.

5. Review OE's Night Order Book for new entries since last duty shift. 18

6. Review the "Nuclear Supervising Operator Log" for the last five (5) days or back to the last duty shift, whichever is shorter, and initial each page reviewed. 18

The oncoming Nuclear Assistant Shift Supervisor should complete the following steps within one (1) hour after relieving the offgoing Nuclear Assistant Shift Supervisor:

1. Discuss the scheduled shift operating activities with the Nuclear Shift Supervisor.

2. Review major plant maintenance activities to determine which equipment has been recently tagged out for maintenance or other reasons.

3. Review the Temporary Modification Log and note those Temporary Modifications which are active for verification later in the shift.

4. Review the alarm sequence recorder printout for the two hours prior to the start of the present shift (later).

5. Review the RWP logbook.

The above steps should be considered as the minimum requirements for a normal shift turnover.

If there is any pertinent information that is not covered in the above steps, it is the offgoing Nuclear Assistant Shift Supervisor's responsibility to supply that information to the oncoming Nuclear Assistant Shift Supervisor.

6.8.3 Control Room Nuclear Supervising Operator

The oncoming Control Room Nuclear Supervising Operator shall relieve the offgoing Nuclear Supervising Operator in the Control Room and must complete the following steps before the offgoing Nuclear Supervising Operator leaves the Control Room:

1. Review the "Nuclear Supervising Operator Log" for the last ten (10) days or back to the last duty shift, whichever is shorter, and initial each page reviewed.

2. Review the status of the "Engineered Safety Feature Status Display" (later).

3. Review the Urgent Required Reading book.

4. Review the Control Room panel status and discuss with the offgoing Nuclear Supervising Operator the equipment which is in operation, alarms which are annunciated, instruments out of commission, controller modes (manual vs. automatic), auxiliary equipment status, any Control Room information system "dots" added since last duty shift, the Plant and Equipment Status System, and any testing or maintenance in progress to be continued during the oncoming shift.

5. Read all emergency procedures that have been implemented or modified since last shift worked.

6. Review and sign the Shift Turnover Checklist (Attachment 1) with offgoing Control Room NSO.

The oncoming Nuclear Supervising Operator should complete the following steps within one (1) hour after relieving the offgoing Nuclear Supervising Operator:

1. Review the alarm sequence recorder printout for the two hours prior to start of the present shift (later).

2. Review the Process Computer Variable Log Display (later).

3. Review the status of the "Breathing Air User's List". Enclosure 2 of Operations Administrative Procedure 21.000.02 (later).

4. Discuss with the on duty Nuclear Shift Supervisor or Nuclear Assistant Shift Supervisor the operating schedule for the present shift.

The above steps should be considered as the minimum requirements for a normal shift turnover.

If there is any pertinent information that is not covered in the above steps, it is the offgoing Nuclear Supervising Operator's responsibility to specify that information to the oncoming Nuclear Supervising Operator.

6.8.4 Patrol NSO

The oncoming Patrol NSO will normally relieve the offgoing Patrol NSO in the Control Room. If circumstances dictate, this turnover may take place in another work location approved by the NSS. The following topics shall be discussed.

1. Plant status (load, equipment in operation).

2. Abnormal lineups or conditions.

3. Any testing, surveillances, performance evaluations or major maintenance in progress, or scheduled to be performed during oncoming shift.

4. Any othe major plant evolutions such as bus shutdowns, electrical switching orders, Reactor Feed Pump startups, etc., in progress or scheduled to be performed during oncoming shift.

5. Significant changes in radiation or contamination levels, or posting of areas in the plant.

Following turnover the Patrol NSO should, as soon as practicable, review the Plant and Equipment Status System and Urgent Required Reading book. In addition, he should consult with the Control Room NSO to discuss

scheduled shift activities, problem areas and areas where the Patrol NSO should pay particular attention during his rounds.

6.8.5 Tagging Center NSOs shall normally conduct relief in the Tagging Center. Topics to be discussed may vary but shall include, as a minimum: Tagouts and valve and electrical lineups in progress, major ongoing maintenance, major equipment taken or scheduled to be taken out of service or returned to service, any changes to procedures or issuance of letters, directives, etc., that pertain to protective tagging.

6.8.6 Radwaste NSOs, when assigned, will normally conduct turnover in the Radwaste Control Room. The following items should be performed prior to the offgoing Radwaste NSO leaving the Radwaste Control Room.

1. Review the Radwaste Control Room panels and discuss with the offgoing Radwaste NSO the equipment in operation, alarms annunciated, controller modes, instruments out of service, tank levels and any testing or maintenance in progress.

2. Review the "Radwaste Control Room Log" for the last five days or since the last duty shift, whichever is shorter.

The following should be performed within one (1) hour after relieving the offgoing Radwaste NSO:

Contact the Control Room NSO and discuss status of radwaste systems, any problems or scheduled evolutions which may impact operations and any operations scheduled which will impact radwaste systems input.

In addition, the Radwaste NSO will ascertain if there are any new entries in the Urgent Required Reading book and make arrangements to review it in a timely manner.

6.7.7 Nuclear Power Plant Operator (NPPO)/Nuclear Assistant Power Plant Operators - Assigned to Rounds

(NAPPO)

The oncoming NPPO/NAPPO shall relieve the corresponding offgoing NPPO/NAPPO in the established work center or plant location specified by the work center NSO and authorized by the NSS. The following topics shall be discussed:

1. Plant status (load, equipment in operation).

2. Auxiliary equipment status.

3. Abnormal lineups.

4. Tagged-out equipment.

5. Maintenance being performed in the area.

6. Local alarms.

7. Storage tank levels important to the NPPO activities.

8. Plant changes scheduled to occur during the next shift.

9. Any possible trends in the log sheets and records kept that should be carefully watched.

10. Any testing in progress.

11. Significant changes in radiation or contamination levels within ~~plant~~ areas.

If there is any additional information that affects the operating status of the plant, it is the offgoing NPPO's responsibility to specify that information to the oncoming NPPO.

6.9 Night Order Book

The Operations Engineer will establish a notebook to contain special day-to-day instructions to the operators. The format for these instructions will be left to the discretion of the Operations Engineer. The Night Order Book will contain any instructions for the operations shift personnel that the Operations Engineer feels may be required.

This information may include load requirements, scheduling of maintenance or testing, operating auxiliary systems, or any other various technical or non-technical subjects that may effect the operations personnel on shift.

Entries in or changes to the Night Order Book will be authorized by the OE or his designee.

The OE shall periodically review the Night Order Book and cancel entries no longer applicable by drawing a line through them, initialing and dating.

6.10 Fermi 2 Plant Orders

6.10.1 A mechanism is provided at Fermi 2 for distributing to the plant staff information of general and continuing

applicability to the conduct of business and the issuing of management instructions which have long term applicability.

The instructions are referred to as Fermi 2 Plant Orders and are controlled per Plant Order EFA-2000 "Plant Order Format and Distribution."

Typical examples of Fermi 2 Plant Orders include:

1. Emergency call lists

2. Rules concerning the number of hours on duty

3. Ordering Nitrogen, Carbon Dioxide, and Hydrogen

4. Maintenance of Control Room Information System

5. Filing of charts

6.10.2 The Assistant Operations Engineer is responsible to assure that the Plant Order books in the Main Control Room and the Nuclear Shift Supervisor's office contain the latest revisions of all Plant Orders.

6.10.3 The Nuclear Production Administrator (NPA) is responsible for the distribution of Plant Orders by maintaining a distribution list to ensure that all distributed copies of the Plant Orders are of the latest revision.

6.10.4 The NPA will ensure that the Superintendent-Nuclear Production approval is obtained for all EFP category Plant Orders.

6.10.5 EFO Plant Orders will be reviewed at least once per year by the Operations Engineer or his delegate.

6.11 Plant and Equipment Status System, Control Room Information System

The Plant and Equipment Status System is maintained by the NASS and is located in the Control Room area. The system lists all major equipment that is not operable and includes the equipment identification number, the equipment name, the reason for inoperability and if applicable, any additional remarks to indicate such items as "Entry into a Technical Specification Action

Statement" or potential Environmental Technical Specification violations.

The Control Room NSO is responsible for maintaining the Control Room Information System as specified in applicable Fermi 2 Operating Plant Orders. This system of magnetic "dots" and associated information cards is a means of relaying important information to the operator on instruments and controls next to which they are affixed without obstructing view of any components on the panels.

6.12 Equipment Maintenance

6.12.1 Any person discovering a system or component that is in need of repair is to document that need on a Maintenance Order in accordance with General Administrative Procedure #12.000.15, "PN-21 (Work Order) Processing," except for minor maintenance for which the operator is responsible. The following types of minor maintenance are typical of the operator's responsibility and are accomplished by operators without Maintenance Orders:

1. Cleaning of assigned equipment including cleaning up oil leaking from pumps and motors.

2. Maintaining oil levels.

3. Blowing out or cleaning drain and supply lines.

4. Tightening loose bolts and connections on non-safety related non-contaminated equipment.

5. Replacing light bulbs.

6. Changing charts and replenishing ink in recording meters.

NOTE: Notify Health Physics to conduct surveys where necessary prior to performing above items.

6.12.2. Equipment oil level indicators are checked by the operators during their normal rounds.

6.12.3 Minor maintenance will be performed by operators on a periodic basis as specified in the Preventive Maintenance (PM) program and to correct deficiencies noted during plant tours of the NSS and NSO. The Preventive Maintenance program assigns responsibilities for routine lubrication or other operational checks which are not covered by Surveillance Tests.

NOTE: Notify Health Physics to conduct surveys where necessary prior to performing above items.

6.13 Bus, Transformer or Generator Lockout

In the event an unplanned electrical lockout occurs, the NSS is to have the concurrence of at least two other people who are knowledgeable in the plant electrical system, that conditions are proper to reset the lockout and re-energize the affected equipment. The other two persons should, as a minimum be, (1) the Operations Engineer and, (2) a member of the Technical Section. For the 120 kV and 345 kV switchyards and main generator, the Central System Supervisor must also be consulted.

NOTE: If a lockout occurs as part of a normal operating function, the Nuclear Shift Supervisor may order the reset of the lockout without the above authorizations.

6.14 Shift Operations During Emergencies, Abnormal Conditions and Response to Alarms

6.14.1 In the event of a plant emergency, specific actions are required of the Shift Organization and in particular the Nuclear Shift Supervisor. These actions are defined in the Plant Operations Manual and the Radiological Emergency Response Plan implementing procedures. Operations Administrative Porcedure 21.000.13, "Emergency Operating Procedure Guidelines" gives guidance for use of the Emergency Operating Procedures. It is the NSS's responsibility to be familiar with these documents and the actions required to respond to plant emergencies.

Upon initiating the Radiological Emergency Response Plan, the NSS assumes the responsibility of the short term Emergency Director. Normal operating practices shall be adhered to as much as possible during emergencies. Suspension of any normal operating practice, as specified by Emergency Operating Procedures, must be under the cognizance of the Nuclear Shift Supervisor.

6.14.2 In the event of Abnormal Operating Conditions, the Control Room NSO shall assess the indications and carry out the imediate operator actions of the appropriate Abnormal Operating Procedure. The NSS, or in his absence, the aperson delegated the Control Room command function, should be informed of the event and actions taken as soon as practicable so that he may determine if event classification and implementation of the Radiological Emergency Response Plan is required.

6.14.3 Whenever a parameter exceeds the Technical Specifications Allowable Value for associated instrumentation, those actions which should have automatically initiated but failed to. If no Technical Specifications Allowable Value applies then action should be based on nominal instrument setpoints or initiating conditions.

6.14.4 Whenever an annunciator alarm is received in the Control Room, the operator will respond in accordance with the associated "Alarm Response Procedure" (ARP).

6.15 Shift Operations During a Security Alert

In accordance with the provisions of the Plant Security Plan, the NSS will have direct contact with the Fermi 2 Security Force. The NSS, in the absence of the Superintendent-Nuclear Production or his designee, shall initiate the attendent security plan procedures as conditions warrant.

6.16 Conduct of Surveillance Tests

The NSS will record in the NSS Logbook the time, Surveillance Procedure number and the results of all surveillances performed during his shift in accordance with General Administrative Procedure, 12.000.18 "Surveillance Program."

Non-shift members (i.e. I & C, maintenace, technical support personnel, etc.) will inform the NSS when they begin and complete surveillances performed under their jurisdication for inclusion in the NSS logbook.

The NSS reviews all completed surveillance packages and determines if applicable Technical Specification requirements are met. If these requirements are not met, he will contact the OE and take other appropriate action with respect to Technical Specifications and General Administrative Procedure 12.000.10, "Plant Reporting Requirements".

6.17 Conduct of Performance Evaluations

Performance evaluations are scheduled in accordance with General Administrative Procedure 12.000.17, "Preventive Maintenance Program".

The NSS shall record in the NSS logbook the time, Performance Evaluation Prcedure number and results of all Operations Performance Evaluations performed on his shift.

6.18 Periodic Inspection Tours

Periodic, detailed tours of the plant, as indicated on Attachment 8, shall be conducted by one or more of the NSS's at a minimum

frequency of three times per week. Independent of the NSS, the Operations Engineer or Assistant Operations Engineer shall make periodic, detailed tours of the unit conducted at a minimum of once per week. The NSS shall take appropriate action to correct unsatisfactory conditions by either directing operators to perform minor maintenance or initiating PN-21s for necessary maintenance. Each of these tours shall be documented by an entry in the NSS's Log specifying who made the tour, the time, and the date.

6.19 Removal From or Return to Service of a System or Component

This section provides general guidelines to be followed for removal from or return to service of systems or components. If a Work Package is available for these evolutions, it is to be used in concurrence with the below guidelines.

Any qualified operator may prepare the items suggested in these guidelines such as valve or electrical lineup lists, but they shall be checked and initialed by the NASS or an NSO and discussed with the NSS, and in some cases, the Operations Engineer.

6.19.1 Removal of a System or Component from Service

1. Evaluate the consequences of removing the system or component from service considering such items as technical specifications which might require an action statement to be carried out, amount unit load may have to be reduced, plant or personnel safety which may be jeopardized, and other systems which may be affected. Evaluate the possible change in radiological conditions, inform Health Physics as necessary.

2. Consult the Plant Operations Manual for the system or component to see if the removal from service is included in a procedure. The procedure shall be used in conjunction with these guidelines.

3. Determine which valves must be closed to isolate such items as inlet to the component, outlet from the component, seal fluid for the component, any makeup to the system. An Abnormal Status Sheet may be prepared for use by the operator for the accomplishment of the isolation. If the system or component is safety related, General Administrative Procedure 12.000.43, "Verification of Correct Performance of Operating Activities" must be used in addition to any other procedure~~s~~ ~~systems~~ or guidelines. Tag appropriate isolation valves if necessary. If a Tagging Guide is used, it must be approved by the Nuclear Assistant Shift Supervisor or the Nuclear Shift Supervisor. Ensure the

requirements of Operations Administrative Procedure 21.000.14, "Locked Valve Guidelines" are adhered to where applicable.

4. If the system is to be drained, determine what vents and drains should be opened and disposal path to be used, taking into consideration the chemical and radiological content of the fluid being drained, as well as the impact on radwaste loading.

5. Determine what electrical isolation must be provided such as supply and/or source breakers to be opened or racked out, control power breakers to be opened or control power fuses to be pulled, or instrument power breakers to be opened. Prior to performing any electrical isolation, determine if any other system or systems may be affected. Equipment safety as well as personnel safety shall be considered in this determination. An Operating ~~Sequence List~~ may be prepared for the operator's use for the electrical isolation. Tag the appropriate electrical isolation devices, if necessary. If a Tagging Guide is used, it must be approved by the Nuclear Assistant Shift Supervisor or the Nuclear Shift Supervisor.

6. Update the Control Room Information System and Plant Equipment Status System as applicable.

6.19.2 Return of Systems or Components to Service

1. Determine if any surveillances ~~are required by~~ reviewing the Shift Turnover Checklist (Attachment 1) for specified post maintenance testing prior to returning the system/components to service or before declaring them OPERABLE and at what point in the return scheme each of these tests or inspections should be performed. Consideration should be given as to what maintenance or repair occurred during the equipment outage for the determination of what surveillances are to be performed.

2. Evaluate any possible changes in radiological conditions. Inform Health Physics as necessary. Ensure the requirements of Operations Administative Procedure 21.000.14, "Locked Valve Guidelines", are met where applicable.

3. Consult the Plant Operations Manual for the system or component to see if the return to service is

included in a procedure. The procedure shall be used in conjunction with these guidelines.

4. Protective tags shall be removed in accordance with Administrative Procedure, 12.000.12, "Tagging and Protective Barrier System". If it is required to return a partial system to service with some tags remaining on the system, a determination must be made as to the unit or system limitations imposed.

5. Determine the proper valve lineup which is required for return to service. If the system is safety related, then the guidelines of General Operating Procedure 12.000.45, "Verification of Correct Performance of Operating Activities", must also be followed. Valve lineup lists and any other documents provided by an operating procedure or Work Package will be used by the operators.

6. Obtain the electrical lineup and/or protection clearance required for return to service.

7. If it is necessary to fill a system or component, the I&C foreman should be notified as to what instruments need to be vented.

8. Following major maintenance on a system, the maintenance foreman should be consulted to determine the need for, and to schedule, if necessary, maintenance personnel to be present for the initial post maintenance operation of the equipment.

9. An important phase of returning a system or component to service after maintenance is to ensure that equipment and area cleanliness has been maintained. The Nuclear Assistant Shift Supervisor shall have the responsibility of notifying appropriate personnel if additional cleanup (including any decontamination) is required.

10. Update the Control Room Information System and the Plant Equipment Status System as applicable.

6.20 Technical Specifications

6.20.1 Safety Limits

The following actions shall be taken in the event a safety limit is violated:

1. The ACTION STATEMENTS of Section 2.1 of Technical Specifications shall be followed.

2. The NSS shall notify the Operations Engineer immediately.

3 The NSS will take additional actions as specified in Technical Specifications, Section 6.7.1, and make additional reports in accordance with General Administrative Procedure 12.000.32, "Deviation and Corrective Action Reporting".

6.20.2 Limiting Safety System Settings (LSSS)

1. In the event any parameter exceeds its LSSS without a Reactor Protection System Trip, it must be assumed that the number of inoperable RPS channels exceeds the limits imposed by Technical Specification 3.3.1 and the applicable ACTION requirement of Technical Specification 3.3.1 must be followed.

   The NSS will immediately notify the Operations Engineer or his designee. This event requires a prompt notification to the NRC; notification shall be made in accordance with General Administrative Procedure 12.000.32, "Deviation and Corrective Action Reporting".

2. In the event that a Reactor Protection System trip setting is found to be less conservative than its trip setpoint, but more conservative than its allowable value, initiate a PN-21 for I&C to recalibrate the RPS setting.

3. In the event that a Reactor Protection System trip setting is found to be less conservative than its allowable value:

   a. Declare the channel inoperable as per Technical Specification 2.2.1 and follow the applicable ACTION requirement of Technical Specification 3.3.1.

   b. Contact I&C to recalibrate the RPS setting.

   c. Notify the Operations Engineer.

6.20.3 Limiting Conditions for Operation (LCO)

1. Satisfying the requirements of the ACTION statement of an LCO constitutes compliance with an LCO

and is not a violation of the LCO. If, however, conditions exceed those allowed by the LCO and the associated ACTION requirements, take the action specified in Section 3.0.3 of Technical Specifications. and

Contact the Operations Engineer. This event requires prompt notification be made to the NRC; notification will be made in accordance with 12.000.32, "Deviation and Corrective Action Reporting".

2. For entry into an operational condition or other specified condition of Technical Specifications, refer to Section 3.0.4 of Technical Specifications.

3. Any suspected violations of Technical Specifications shall be reported to the NSS, the NSS will report all violations to the Operations Engineer.

6.21 Verification of System/Component Availability Following Transients and Adverse Operating Conditions

6.21.1 Following a plant or system transient or other event which may have subjected a system or component to adverse environmental or operating conditions (e.g., fire, flooding, steam leak, inadvertent or improper auto actuation activation, etc.), an inspection shall be conducted on affected systems/components to verify availability. This inspection shall include as a minimum:

1. Verification of affected system control logic operability.

2. Verification of affected system instrumentation operability.

For purposes of this section, verification of operability may be performed using applicable Surveillance or Performance Evaluation procedures or in the case of instrumentation, a channel check may be performed.

6.21.2 If required, return system to ~~standby~~ service. ~~condition~~ in accordance with Section 6.19.2

6.22 Turnover Checklists

The "Shift Turnover Checklist" (Attachment 1) shall be maintained in the Control Room and is normally filled out by the offgoing NSS or Control Room NSO and verified by the oncoming and offgoing NSSs and Control Room NSOs.

The "Nuclear Shift Supervisor Turnover Checklist" (Attachment 9) is maintained by the NSS. It is intended to provide a means of

relaying important information pertaining to shift operations that may not be contained in other documents reviewed at turnover, or to highlight those items that are. Only applicable sections need be filled in.

7.0 Inspection, Surveillance and Review

7.1 Inspection

Inspection of operations activities to assure that the administrative controls established herein are complied with is the responsibility of the Supervisor-Operational Assurance. Inspection of operations activities shall include:

7.1.1 Operating logs

7.1.2 EF-2 Plant Orders

7.1.3 Operating Orders (PN-21)

7.1.4 Deviation/Event Reports

7.1.5 Temporary Modification Logs

7.1.6 Active Maintenance Orders (PN-21) and Red Tag Records

7.2 Audits by the Operations Engineer

The Operations Engineer shall perform periodic audits of the Operations Section activities. The Operations Engineer is responsible for assuring that the Operations Staff adheres to all applicable procedures, instructions and orders in the conduct of operations. The primary means for accomplishing this is through the audit function, e.g., periodic examination of shift operating records, observation of procedure adherence and revising procedures as necessary to improve the administration of the program. Deviations noted as a result of the periodic audits shall be reported to the Superintendent-Nuclear Production.

8.0 Personnel Qualification and Training

It is the responsibility of the Training Division of Nuclear Operations to maintain current records concerning the training and qualifications of all Operations personnel at Fermi 2. The training required is obtained in "Training Program" Procedure (12.000.16). It shall be the responsibility of the Assistant Operations Engineer to assure that operators are properly qualified and trained to use equipment or implement procedures necessary to conduct those shift operations activities assigned them. Nuclear Training shall provide the Assistant Operations Engineer with a quarterly report listing the training and qualification status of all members of the operating staff.

Typical Duties and Responsibilities

Nuclear Shift Supervisor (NSS)

1. Assumes the control room command function during plant emergencies and maintains an overall perspective of the plant status at all times.

2. Acts as the short term Emergency Director as specified in the Emergency Plan and initiates Emergency Plan Implementing Procedures as required.

3. Provides direct supervision of the Nuclear Assistant Shift Supervisor and is responsible for all conduct of operations while on shift.

4. Observes and/or directs major plant evolutions.

5. Is responsible with the STA to complete the Post Scram Data and Evaluation Form after an unscheduled reactor scram.

6. Is responsible for shutting the reactor down when he determines that the safety of the reactor is in jeopardy or when operating parameters exceed any reactor protection system allowable value and automatic shutdown does not occur.

7. Is responsible for the safe and efficient operation of equipment in accordance with FSAR, Operating License, Procedures and Policies of DECo.

8. Is responsible for reporting to Operations Engineer information important to the safe and efficient operation of the plant.

9. Is responsible for proper maintenance and control of the Nuclear Shift Supervisor Log.

10. Performs and/or directs work in connection with reactor fuel handling operations such as preparation, transfer, loading and unloading of new or spent fuel.

11. Is responsible for conducting periodic, detailed tours of the plant per Step 6.16 and taking appropriate action to correct unsatisfactory conditions.

Typical Duties and Responsibilities

Nuclear Assistant Shift Supervisor (NASS)

1. Is responsible for shift administrative functions such as pay cards, vacation schedules, overtime arrangements, operating log sheets, radiation work permits, procedure organization, and active maintenance orders.

2. Maintains the Plant and Equipment Status System and reviews potential changes to the plant equipment status.

3. Reviews Maintenance Orders (PN-21) and acts as the Nuclear Shift Supervisor's delegate in processing such orders.

4. May assume the duties of the Nuclear Shift Supervisor during normal plant operations, and maintain these duties during an emergency in the absence of the NSS until properly relieved by a qualified member of plant staff.

5. Assumes the functions of the Emergency Operating Procedure coordinator during plant emergencies.

6. Acts as the Nuclear Shift Supervisor's delegate in performing administrative functions as specified in the Emergency Plan Implementing Procedures.

7. Coordinates plant surveillance and preventive maintenance activities to assure personnel safety, plant operational integrity, and Technical Specification compliance.

8. May act as the Nuclear Shift Supervisor's delegate in authorizing surveillance activities.

9. Verifies that on-shift personnel have reviewed current issues or modifications of plant operations procedures, plant orders, operating orders, Power Plant Orders, and Technical Specifications.

10. Coordinates the issue and completion of "required reading" documents for shift personnel.

11. Provides direct supervision of shift personnel.

12. Acts as liason between the respective shift and the plant Administrative Section, Nuclear Training Division, and the Electrical System Shutdown Coordinator.

13. Performs and/or directs work in connection with reactor fuel handling operations such as preparation, transfer, loading and unloading of new or spent fuel.

Typical Duties and Responsibilities

Nuclear Supervising Operator (NSO)

1. Is responsible for shutting the reactor down when he determines that the safety of the reactor is in jeopardy or when operating parameters exceed any reactor protection system allowable value and automatic shutdown does not occur.

2. Is responsible for reporting to the NASS information important to the safe and efficient operation of the plant.

3. Provides operating and/or administrative assistance to the Nuclear Assistant Shift Supervisor as required.

4. Maintains and/or reviews shift operating documents such as the Control Room Nuclear Supervising Operator Log, operator inspection sheets, Temporary Modification logs, Operating Orders, and special instructions.

5. Is responsible for the plant main control room operation, including response to alarm and instrument indications through multiple instrument indication evaluation.

6. Is responsible for the operation of the main turbine generator and station equipment concurrent with the operating recommendations of the System Supervisor.

7. Reviews and evaluates operating documents such as valve lineup checklists, instrument lineup checklists, electrical lineup checklists, and surveillance test acceptance criteria.

8. Is responsible for maintaining the reactor in safe condition throughout all operating conditions.

9. When assigned to Radwaste is responsible for proper operation of the Radwaste Control Room and all Radwaste process systems.

Typical Duties and Responsibilities

Nuclear Assistant Control Operator

1. Operates all plant equipment for which an NRC license is not required. May operate controls and equipment for which an NRC license is required under direct supervision of a licensed operator.

2. Keeps Control Room Nuclear Supervising Operator informed of changes to plant status or conditions affecting plant safety.

3. Assists Control Room NSO in maintenance and review of shift operating documents such as NSO logbook, operator round sheets, Temporary Modifications log, Operating Orders and Maintenance Orders, valve and electrical lineups.

4. Assists in operation of the Main Control Room including response to alarms and instrument indications.

5. Assists in operation of the Main Turbine-Generator and station equipment concurrent with recommendations and requests from the Central System Supervisor.

6. Participates in all training required to prepare for an NRC license examination.

Typical Duties and Responsibilities

Nuclear Power Plant Operator (NPPO)

1. Is responsible for reporting to the NSO information important to the safe and efficient operation of the plant.

2. Makes complete and periodic inspections of the nuclear steam supply system, turbogenerators, plant auxiliaries; observing, checking and reporting on the operation of equipment.

3. Operates balance of plant and auxiliary systems in accordance with prescribed procedures and specificiations.

4. Performs minor maintenance such as lubricating, pulling up on packing, tightening loose nuts, bolts, and connections, changing charts, and replenishing ink in recording meters and cleaning up oil leaking from pumps and/or motors.

5. Performs radiation protection monitoring and decontamination duties as assigned; notifying designated personnel if established radiation limits are exceeded.

6. Performs switching under the direction of the NSO.

7. Maintains a security awareness during his rounds throughout the plant. He shall be observant of any indications of infiltration into the plant or any equipment in an operating mode not approved by the NSS.

Typical Duties and Responsibilities

Nuclear Assistant Power Plant Operator (NAPPO)

1. Is responsible for reporting to the NSO information important to the safe and efficient operation of the plant.

2. Makes complete and periodic inspections of the nuclear steam supply system, turbogenerators, plant auxiliaries; observing, checking and reporting on the operation of the equipment.

3. Operates balance of plant and auxiliary systems in accordance with prescribed procedures and specifications.

4. Performs minor maintenance on non-safety related systems such as lubricating, pulling up on packing, tightening loose nuts, bolts and connections, changing charts, replenishing ink in recording meters and cleaning up oil leaking from pumps and/or motors.

5. Performs radiation protection monitoring and decontamination duties as assigned; notifying designated personnel if established radiation limits are exceeded.

6. Maintains a security awareness during his rounds throughout the plant. He shall be observant of any indications of infiltration into the plant or any equipment in an operating mode not approved by the NSS.

Typical Duties and Responsibilities

Shift Operations Advisor

1. Assists the NSS, NASS and NSO in carrying out their responsibilities by assisting and advising, as necessary, utilizing his commercial BWR operating experience.

2. Observe actuation of annunciators to assure that they are being promptly and properly addressed with necessary actions taken.

3. Observe plant parameters to assure they are reasonable, normal or proper and that any abnormal parameter is properly addressed.

4. Review planned plant evolutions to assure that proper procedures and equipment are available and personnel are prepared to carry out that evolution.

5. Evaluate unplanned plant evolutions and assist in determining cause and recommending appropriate actions.

6. Attends shift turnover meetings to ascertain status of plant, current problems, and planned activities. Advises on matters as requested and offer suggestions as appropriate to improve the shifts' objective of maintaining safety and properly and efficiently operating the plant.

7. Reviews procedures to assure they are being followed and recommends changes to procedures and systems to preserve operating safety.

Typical Duties and Responsibilities

Shift Technical Advisor

1. Maintains comprehensive overview of current plant conditions and status.

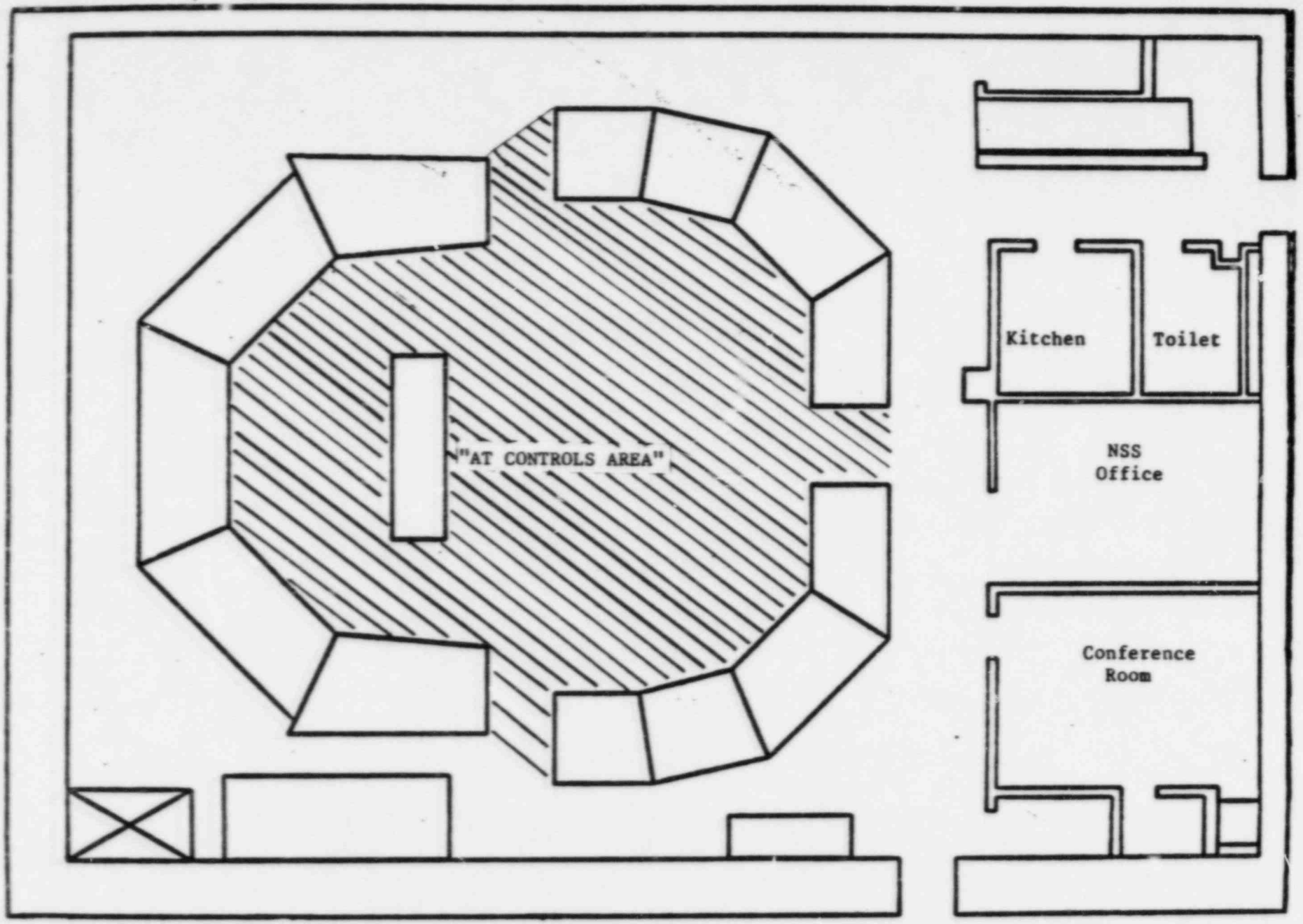
2. Provides technical advice to the Nuclear Shift Supervisor on conditions affecting safe plant operation.

3. Assists the NSS, should unusual operating conditions occur, in determining what should be done to prevent more serious problems from developing.

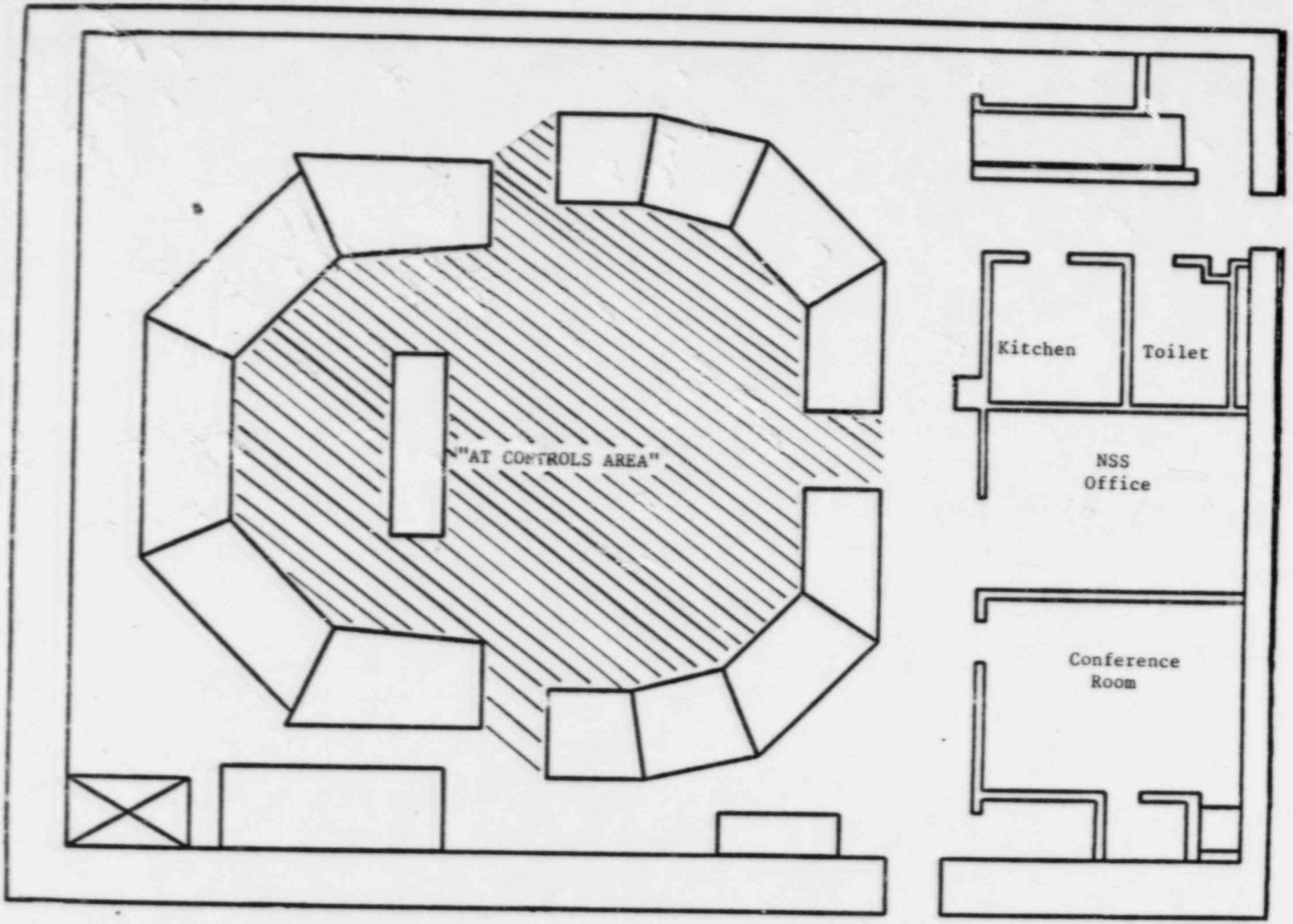
4. Analyzes up-to-the-minute information on the status of plant equipment.

5. Recommends appropriate changes to plant procedures or systems to preserve operating safety.

6. Investigates the cause of unplanned operating events and assesses any adverse affects.



"CONTROL ROOM"



"CONTROL ROOM"

SHIFT TURNOVER CHECKLIST

Date: _____

Time: _____

NOTE: Plant parameter status must be verified by at least two (2) independent instrument readings where applicable. For any non-checked items, refer to Item 31, of this Attachment.

Note: Technical Specifications definition of "Operable" shall be adhered to

		(CHECK)
1.	Reactor Water Level between Level 4 and Level 7	_____
2.	Reactor Vessel Pressure less than 1070 PSIG	(later)
3.	Reactor Mode Switch in the _____ position	(later)
4.	Torus Water Level between - 2" and + 2"	_____
5.	Torus Water Temperature less than 95°F	_____
6.	Drywell average air temperature less than 135°F	_____
7.	Drywell and Suppression Chamber pressure between - 0.50 and + 1.50 psig	(later)
8.	Condensate Storage Tank level greater than (9'0")	_____
9.	Condensate Storage Tank temperature greater than 40°F	_____
10.	EDG #11 and busses 11EA and 72EA operable	_____
11.	EDG #12 and busses 12EB and 72EB operable	_____
12.	EDG #13 and busses 13EC and 72EC operable	_____
13.	EDG #14 and busses 14ED and 72ED operable	_____
14.	System Service Transformer #64 operable	_____
15.	System Service Transformer #65 operable	_____
16.	ESF busses #64B and #64C operable	_____
17.	ESF busses #65E and #65F operable	_____
18.	Core Spray System Division I aligned and operable	(later)
19.	Core Spray System Division II aligned and operable	(later)

(CHECK)

20. RHR System Division I aligned in ____ mode and operable (later)

21. RHR System Division II aligned in ____ mode and operable (later)

22. HPCI System aligned and operable (later)

23. RCIC System aligned and operable (later)

24. Standby Liquid Control System aligned and operable (later)

25. ADS/SRV's operable with drywell control air supply pressure between 90 PSIG and 110 PSIG (later)

26. Control Air System Division I operable ____

27. Control Air System Division II operable ____

28. SBGT System Division I operable (later)

29. SBGT System Division II operable (later)

30. Description: Special tests or surveillances in progress or scheduled during the oncoming shift.

31. Remarks: Explain any non-checked items and verify Technical Specification LCO.

Signatures:

Off-going NSS

On-coming NSS

Off-going Control Room NSO

On-coming Control Room NSO

(check)

32. Length of time of any systems/components operating in a degraded mode & verified against applicable Technical Specifications "Action" statement(s) to assure compliance.

PROCEDURE DATA PACKAGE

Procedure Title and Number:_____

PIS Number:_____

Total Sheets:_____

Abnormal Status Sheet attached Yes___ No___

Number of abnormal sheets_____

Completed by:_____

Date Completed:_____

I have reviewed this Data Package for completeness and against acceptance criteria in accordance with Administrative Operations Procedure 21.000.01, Shift Operations and Control Room.

Reviewed by:_____

Date Reviewed_____

Remarks:_____

_____

_____

_____

_____

SYSTEM OPERATION VALVE LINEUP VERIFICATION

Where required in valve component position verifications, independent verification requires there will be a second person present to accomplish a physical verification and also to initial the action on the valve line-up Attachment.

NOTE: Forward to the Operations Engineer.

STANDBY
VALVE LINEUP

All valve numbers are prefixed by PIS_____ unless otherwise noted.

Valve Number	Description	Location	Required Position	Initial	Initial/ Verification

Oper_____ Init._____/Date_____

Oper_____ Init._____/Date_____

Oper_____ Init._____/Date_____

Oper_____ Init._____/Date_____

Approved by NSS/NASS: Init._____/Date_____

*The listed status of air operated valves is meant to include the energization of all associated solenoid valves and proper lineup of the associated actuation air header for that valve.

STANDBY
VALVE LINEUP

All valve numbers are prefixed by PIS_____ unless otherwise noted.

Valve Number	Description	Location	Required Position	Initial	Initial/ Verification

*The listed status of air operated valves is meant to include the energization of all associated solenoid valves and proper lineup of the associated actuation air header for that valve.

SHIFT OPERATIONS ADVISOR (SOA) TRAINING PROGRAM DESCRIPTION

The training for the SOA's recognizes their extensive collective experience level. As such, the training program for the SOA's concentrates on areas specific to the Fermi site.

The schedule for training shows weeks dedicated to classroom seminar/training on systems, procedures and theoretical areas. The weeks shown as "Plant walkthroughs" are to be used by the prospective SOA to upgrade his knowledge level in the plant by walking down systems, walking through procedures in the control room and in general becoming comfortable in the control room.

A schedule is attached which shows general time frames allotted to training in specific areas.

The first six (6) weeks center on plant familiarization and systems training. During this time the SOA's review plant systems in the classroom and tour the plant and control room to achieve the desired familiarity.

The remainder of the time in training is divided between plant/procedure walkdowns and classroom training on such topics as radiation protection, procedures, technical specifications, selected plant transients, RERP, thermodynamics and reactor theory. During the classroom portion of the procedural segment of training, major emphasis is placed on integrating prior knowledge with Fermi 2 procedural requirements. The theoretical areas are covered, as with all license candidates, as a refresher.

Toward the latter stages of preparation, the candidates are given oral examinations with a twofold intent. One purpose is to ascertain the technical knowledge level of the individual. The other purpose is to provide additional feedback to the candidate on specific plant operation.

The SOA's are also involved in the Shift Supervisor's meetings to begin to integrate them into the operations staff. During weeks dedicated to plant tours, the SOA's are interfacing heavily with the on shift personnel which will enhance their ability to interact with these personnel in their role as Shift Advisors.

Other training may be provided as the need becomes evident.

At the conclusion of the training provided, the SOA's will be given a comprehensive written exam. This exam will be similar in format and content to an actual NRC written exam and will be used to evaluate the readiness of the candidate(s) for the actual NRC exam. An in-depth oral exam will also be administered to evaluate overall plant knowledge and procedural awareness.

4/26/84

cc: E. Preston, Jr.

Attachment 4

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 3-12 .o 3-16

Week 1 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Electrical Dist.	CRDM and CRD Hydraulics	RBM	SLC	TEST
0800	Electrical Dist.	CRDM and CRD Hydraulics	RSCS	Recirc System and Recirc Flow Control	TEST
0900	Rx Pressure Vessel and Internals	CRDM and CRD Hydraulics	RMCS	Recirc System and Recirc Flow Control	TEST
1000	Rx Pressure Vessel Instrumentation	RWCU	RWM	SBGTS	TEST
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Primary Containment and Isolation Control	Neutron Monitoring SRM, IRM, PRM, TIP	RPS	Containment Gas Control	Study
1230	Primary Containment and Isolation Control	Neutron Monitoring SRM, IRM, PRM, TIP	RPS	(Thermal Recombiner N_2 Vent, Purge and Inerting)	Study
1330	Study	Study	Study	Study	Study
1430	Study	Study	Study	Study	Study
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 3-19 to 3-23

Week 2 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
0800	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
0900	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1000	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1230	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1330	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1430	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 3-26 to 3-30

Week 3 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Core Spray	ADS	Diesel Generators	Main Generator	TEST
0800	Core spray	ADS	Diesel Generators	Main Generator	TEST
0900	RHR	RCIC	Main Steam	Flange Heating Gland Seal	TEST
1000	RHR	RCIC	Main Steam	Stator Cooling	TEST
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	HPCI	RBCCW/EECW	Main Turbine Control	Turbine Lube Oil	STUDY
1230	HPCI	RBCCW/EECW	Main Turbine Control	Hydrogen Seal Oil	STUDY
1330	Study	Study	Study	Study	STUDY
1430	Study	Study	Study	Study	Study
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 4-2 to 4-6

Week 4 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0800	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0900	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1000	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1230	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1330	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1430	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1530					

SHIFT OPERATION ADVISOR

TRAINING CLASS SCHEDULE

Week of 4-9 to 4-13

Week 5 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	MSIVLCS	Off Gas System	Condensate	Systems Review	Test
0800	Circ Water	HVAC	Condensate		Test
0900	General Service Water	HVAC	Reactor Feed		Test
1000	Fuel Pool Cooling	Remote Shutdown	Reactor Feed		Test
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Heater Drains	Process and Area Radiation Monitoring	Reactor Feed	Systems Review	Study
1230	Extraction Steam	Fire Protection	Auxiliary Feedwater		Study
1330	Study	Study	Study		Study
1430	Study	Study	Study		Study
1530					

SHIFT OPERATIO[illegible] ADVISOR

TRAINING CLASS SCHEDULE

Week of 4-16 to 4-20

Week 6 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0800	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0900	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1000	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1230	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1330	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1430	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 4-23 to 4-27

Week 7 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Radiation Theory	Job Related Topics	Administrative Procedures 12.xxx.xx	Technical Specifications	H.P. Lab Tour
0800	Radiation Theory	10 CFR 20 Topics	Administrative Procedures	Technical Specifications	H.P. Lab Tour
0900	Radiation Protection	HP Admin. Procedures	Administrative Procedures	Technical Specifications	H.P. Lab Tour
1000	Radiation Protection	HP Admin. Procedures	Administrative Procedures	Technical Specifications	H.P. Lab Tours
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Radiation Detector Theory	Fuel Element Failure Recognition	Administrative Procedures 12.xxx.xx	Technical Specifications	Study
1230	Radiation Detector Theory	Primary Chemistry (Tech Specs)	Admisitrative Procedures	Technical Specifications	Study
1330	Study	Study	Study	Study	Study
1430	Study	Study	Study	Study	Study
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 4-30 to 5-4

Week 8 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0800	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0900	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1000	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1230	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1330	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1430	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 5-7 to 5-11

Week 9 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Operator Oriented Process Computer	Safety Parameter Display System	Radwaste Systems	General Operating Procedures	Test
0800	Operator Oriented Process Computer	SPDS	RWS	General Operating Procedures	Test
0900	Operator Oriented Process Computer	SPDS	RWS	General Operating Procedures	TEST
1000	Operator Oriented Process Computer	SPDS	RWS	Genral Operating Procedures	Test
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Pressurized Thermal Shock	Study	RWS	Radwaste Facility Tours	Study
1230	Study	Study	RWS	Radwaste Facility Tours	Study
1330	Study	Study	Study	Study	Study
1430	Study	Study	Study	Study	Study
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 5-14 to 5-18

Week 10 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Selected Plant Transients	Abnormal Operating Procedures	Emergency Operating Procedures	RERP	RERP
0800	Selected Plant Transients	Abnormal Operating Procedures	Emergency Operating Procedures	RERP	RERP
0900	Selected Plant Transients	Abnormal Operating Procedures	Emergency Operating Procedures	RERP	RERP
1000	Selected Plant Transients	Abnormal Operating Procedures	Emergency Operating Procedures	RERP	RERP
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Selected Plant Transients	Abnormal Operating Procedures	Emergency Operating Procedures	RERP	RERP
1230	Selected Plant Transients	Abnormal Operating Procedures	Emergency Operating Procedures	RERP	RERP
1330	Study	Study	Study	Study	Study
1430	Study	Study	Study	Study	Study
1530					

Approved By:

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 5-21 to 5-25

Week 11 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
0800	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
0900	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1000	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1230	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1330	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1430	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough	Plant Walkthrough
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 5-28 to 6-1

Week 12 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Release Limits and use of 10CFR20 APP-B, Table I and II	Fuel Handling Systems and Equip-ment	Refeling Procedures and Operations	Refueling Tech Specs	Quiz
0800	Environmental Tech Specs	FHS	Refueling Procedures and Operations	Refueling Tech Specs	Quiz
0900	ETS	FHS	Refueling Procedures and Operations	Refueling Equipment Inspectiom	Quiz
1000	ETS	FHS	Refueling Procedures and Operations	Refueling Equipment Inspection	Quiz
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Study	FHS	Refueling Procedures and Operations	Refueling Equipment Inspection	Study
1230	Study	FHS	Refueling Procedures and Operations	Refueling Equipment Inspection	Study
1330	Study	Study	Study	Study	Study
1430	Study	Study	Study	Study	Study
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 6-4 to 6-8

Week 13 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0800	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0900	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1000	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1230	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1330	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1430	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 6-11 to 6-15

Week 14 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Water and Steam Properties	Boiling Heat Transfer	Reactor Calorimetric	Pumps and Pump Laws	Study
0800	Water and Steam Properties	Study	Reactor Calorimetric	Pumps and Pump Laws	Study
0900	Thermodynamics of A Nuclear Steam Power Plant Cycle	Study	Actual Fluid Flow	Turbines	Study
1000	Thermodynamics of A Nuclear Steam Power Plant Cycle	Feedwater Heating Cycle	Natural Circulation	Turbines	Study
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Thermodynamics of A Nuclear Steam Power Plant Cycle	Bernoulli's Equation and Energies of a System	Flow Measurement	Study	Study
1230	Heat Transfer Fundamentals	Bernoulli's Equation and Energies of a System	Flow Measurement	Study	Study
1330	Study	Study	Study	Study	Study
1430	Study	Study	Study	Study	Study
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 6-8 to 6-22

Week 15 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0800	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0900	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1000	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1230	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1330	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1430	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1530					

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 6-25 to 6-29

Week 16 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Neutron Sources and Subcritical Multiplication	Neutron Multiplication Factor	Reactivity Coefficients	Reactivity and Power Consideration	Study
0800	Neutron Sources and Subcritical Multiplication	Neutron Multiplication Factor	Reactivity Coefficients	Reactivity and Power Consideration	Study
0900	Neutron Sources and Subcritical Multiplication	Fission Product Poisons	Reactivity Coefficients	Reactivity and Power Consideration	Study
1000	Neutron Sources and Subcritical	Fission Product Poisons	Reactivity Coefficients	Reactivity and Power Considerations	Study
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Neutron Multiplication Factor	Fission Product Poisons	Reactivity and Power Considerations	Study	Study
1230	Neutron Multiplication Factor	Fission Product Poisons	Reactivity and Power Considerations	Study	Study
1330	Study	Study	Study	Study	Study
1430	Study	Study	Study	Study	Study
1530					

Approved By:

SHIFT OPERATIONAL ADVISOR

TRAINING CLASS SCHEDULE

Week of 7-2 to 7-6

Week 17 of 17

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0800	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
0900	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1000	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1100	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1130	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1230	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1330	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1430	Walkthrough	Walkthrough	Walkthrough	Walkthrough	Walkthrough
1530					

Work Plan and Performance Appraisal for M-Grade Employes

Detroit Edison

Name		Position Title	Shift Operations Advisor	I.D. No.	
Period Being Planned and Appraised		Date			

DE 9639863 11 82SS

Attachment # 5

I. Major Duties and Responsibilities
List the major job duties and responsibilities the employe is expected to perform during the year. Develop specific, measurable results for each. If more space is needed, use an additional form or sheet of paper.

Duties/Responsibilities	Results Expected
1. Assist NSS NASS and NSO in carrying out their responsibilities	Good working rapport with shift personnel
2. Attend shift turnover meetings to ascertain plant status, current problems and planned activities.	Minimum delays in establishing plant conditions to support testing and operation.
3. Review procedures to ensure compliance and recommend changes to preserve operating safety	Procedures modified as necessary. Improved plant safety and reliability
4. Evaluate unplanned plant evolutions and assist in determining cause and recommending appropriate action	Well prepared and researched DERs and/or Incident Reports. A minimum number of DERs
5. Evaluate planned plant evolutions to ensure compliance with approved procedures and adequate preparation to perform these activities.	Planned evolutions are accomplished safely and efficiently. High plant availability and high plant capacity factor

II. Projects & Assignments
List the specific projects and/or assignments which contribute to improvements, changes or additions to the job, the organizational unit or the Company. Develop specific, measurable results for each, including dates known.

Projects/Assignments	Results Expected
1. Provide training in Control Rod Sequence Exchanges	Sequence Exchanges performed satisfactorily
2. Review General Operating Procedures for Startup, Shutdown and Power Changes	Smooth efficient startups shutdowns and power changes
3. Obtain SRO License for Fermi 2	SRO License obtained

III. Other Factors
List other factors which may affect the plans above, such as resource availability, extended vacations, training, conferences, health, etc.

arterly Progress Reviews

ntly review the progress made in meeting the expected results. Note project status, problems encountered, changes made, new assignments and accomplishments

Three Month Review	Six Month Review	

ate.

Nine Month Review	Full Year Review and Evaluation	EXCELLENT VERY GOOD SATISFACTORY MARGINAL UNSATISFACTORY
	Measure the results the employe attained during the year against those expected. Rate the level of performance in the right column based on the key below. If more space is needed for any item, use an additional form or sheet of paper.	

Key

Excellent - Consistently exceeded objectives and expectations.
Very Good - Met all and exceeded some objectives and expectations.
Satisfactory - Met all or most objectives and expectations.
Marginal - Met some objectives and expectations.
Unsatisfactory - Seldom met objectives and expectations.

Methods Used to Achieve Results

Rate the methods and skills the employe used or should have used to accomplish the work. Identify the major skills upon which you based your rating from the listing in the instruction booklet and mark the appropriate rating column. Objectively describe your rating in the space provided.

EXCELLENT
VERY GOOD
SATISFACTORY
MARGINAL
UNSATISFACTORY

A. Planning Developing a course of action to achieve an objective.

Explain

B. Organizing Structuring or arranging resources to accomplish the objectives of a plan.

Explain

C. Controlling Maintaining adherence to a plan, modifying it as necessary to achieve the desired results.

Explain

D. Decision Making Consciously weighing and selecting one of two or more alternatives.

Explain

E. Leadership Getting people to work toward reaching the objectives.

Explain

F. Oral Communication Transferring a thought from one person to another (others) by speech, adjusting to their reactions.

Explain

G. Written Communication Transferring a thought from one person to another (others) by writing, without the possibility of response to their reactions.

Explain

H. Administrative Implementing the Company's or organizational unit's policies and procedures which directly relate to the group.

Explain

I. Technical Obtaining and using the technical knowledge required to perform the work.

Explain

J. Other List any other methods which are not identified that the position requires.

Explain

Key

Excellent - Always exceeded expectations in the application of methods to accomplish results.
Very Good - Frequently exceeded expectations in the application of methods to accomplish results.
Satisfactory - Application of methods to accomplish results was acceptable.
Marginal - Application of methods to accomplish results was sometimes unsatisfactory.
Unsatisfactory - Application of methods to accomplish results was usually unacceptable.

Overall Performance Rating Summary The overall rating is a summary of the employe's performance in achieving results and using methods. Mark the appropriate box.

☐ **Excellent** ☐ **Very Good** ☐ **Satisfactory** ☐ **Marginal** ☐ **Unsatisfactory**

Comments:

Development Needs: Based on job performance, identify the employe's three priority development needs. Use the skills listing in the instruction booklet. Place the number of the skill in the box and describe it.

1. ☐☐☐
2. ☐☐☐
3. ☐☐☐

Assets: Based on job performance, identify the employe's skills and abilities which are assets. Use the skills listing in the instruction booklet. Place the number of the skill in the box and describe it.

1. ☐☐☐
2. ☐☐☐
3. ☐☐☐

Employe's Career Interests: The supervisor and employe should discuss future positions of interest based on the employe's current assets and development needs.

Short-Term Career and Position Interests

Interests

Positions

Long-Term Career and Position Interests

Interests

Positions

Supervisor's Signature	Date
Next Management Level Signature	Date

Employe's Comments:

Employe's Signature (Your signature does not signify that you agree with the appraisal, but means that the appraisal has been discussed with you.)	Date