

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

UNIT II OPERATIONS

07-190-91

02-REQ-009-TRA-2-07    Revision    1

TITLE: CONTROL ROOM RPV WATER LEVEL INSTRUMENTATION LOST

|  | <u>SIGNATURE</u>     | <u>DATE</u>     |
|--|----------------------|-----------------|
| PREPARED BY                                | <u>Chit. Sherman</u> | <u>12-12-90</u> |
| VALIDATED BY                               | _____                | _____           |
| UNIT OPERATIONS<br>TRAINING SUPERVISOR     | <u>J. Kaminski</u>   | <u>12-12-90</u> |
| PLANT SUPERVISOR/<br>USER GROUP SUPERVISOR | <u>for D. Topley</u> | <u>12/12/90</u> |

Summary of Pages

(Effective Date: 12-12-90 )

Number of Pages: 28

| <u>Date</u>   | <u>Pages</u> |
|---------------|--------------|
| December 1990 | 1 - 28       |

THIS LESSON PLAN IS A GENERAL REWRITE

TRAINING DEPARTMENT RECORDS ADMINISTRATION ONLY:

VERIFICATION: \_\_\_\_\_

DATA ENTRY: \_\_\_\_\_

RECORDS: \_\_\_\_\_

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## I. TRAINING DESCRIPTION

- A. Title of Lesson: Control Room RPV Water Level Instrumentation Lost
- B. Lesson Description: Using the Nine Mile Point Unit 2 Simulator the Instructor will facilitate proper operator performance of all NMP-Unit 2 procedures and guidelines for conduct of operations during each scenario. The Instructor may use Freeze, Backtrack and or reset the simulator from any point in this scenario to aid in the facilitation of this lesson.
- C. Estimate of the Duration of the Lesson: 75 minutes
- D. Method of Instruction: Simulator Performance
- E. Prerequisites:
  - 1. Instructor:
    - a. Qualified as a simulator instructor per NTP-16.1
  - 2. Trainee:
    - a. Meet the eligibility requirements per 10CFR55, or
    - b. Be recommended for this training by the Operations Superintendent, his designee, or the Training Superintendent.
- F. References:
  - 1. N2-EOP's - Emergency Operating Procedures
  - 2. N2-OP-60
  - 3. EOP-6
  - 4. Technical Specifications
- G. Annual/Biennial
  - 1. 02-REQ-MAN-A06-2-00, Large loss of coolant inside primary containment.
  - 2. 02-REQ-MAN-B12-2-00, Malfunction of reactor pressure control system.
  - 3. 02-REQ-MAN-B13-2-00, Reactor Scram

## II. REQUIREMENTS

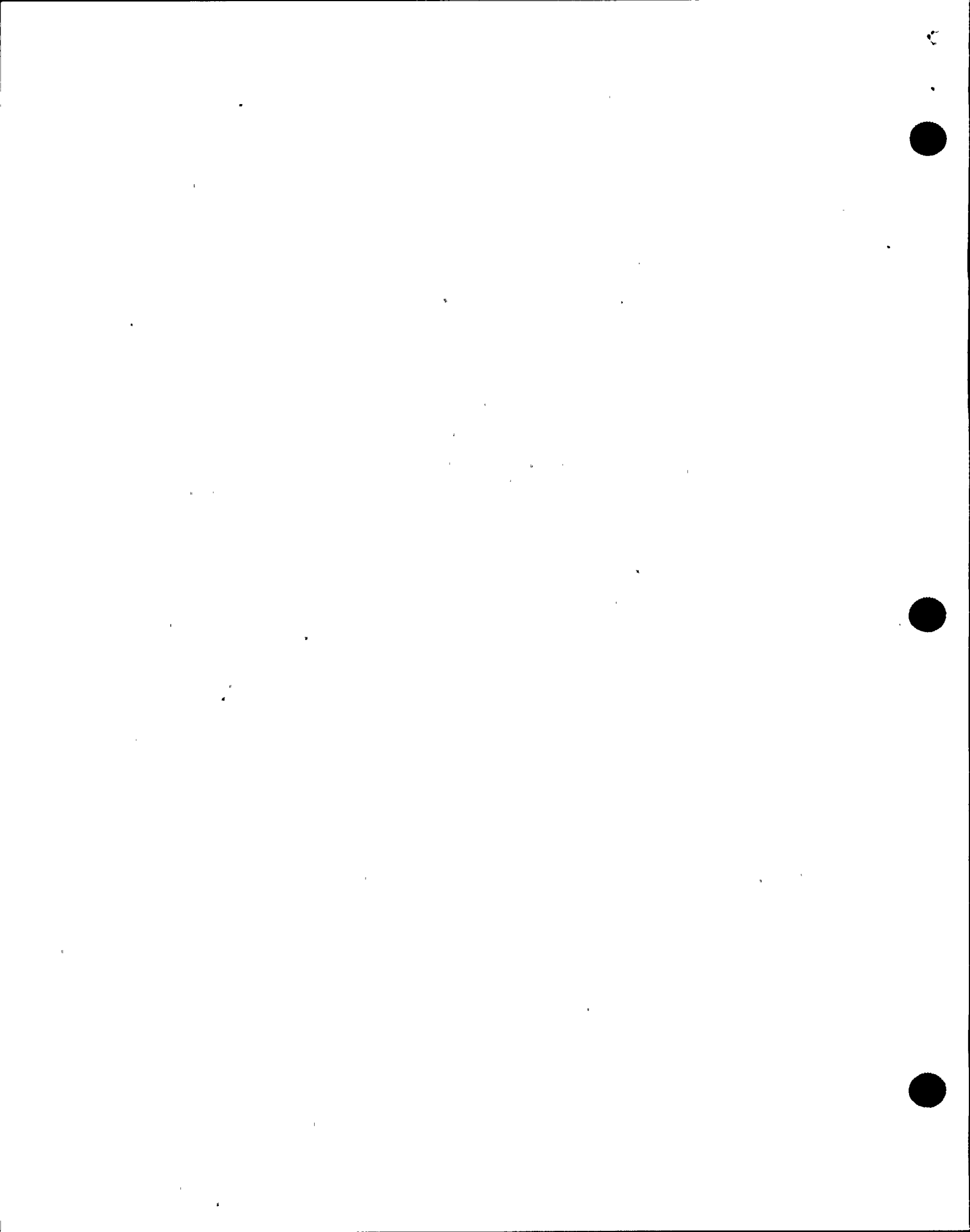
- A. AP-9, Administration of Training
- B. NTP-10, Training of Licensed Operator Candidates
- C. NTP-11, Licensed Operator Requalification Training



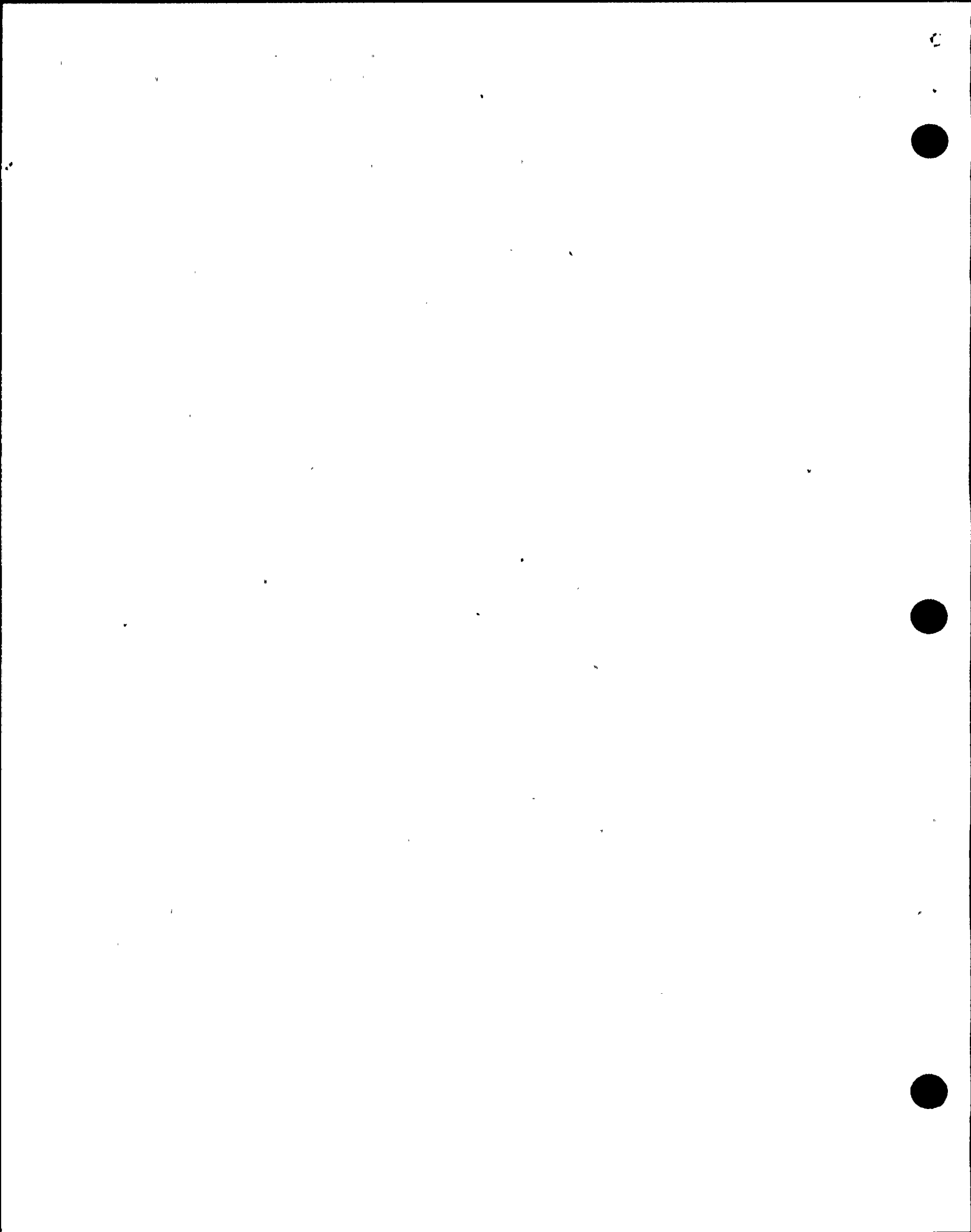
### III. LEARNING OBJECTIVES

#### A. SSS/ASSS Objectives

- TO-1.0 3449390603 Direct the actions required per EOP-RPV Section RQ.
- EO-1.1 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to monitor and control reactor power.
- EO-1.2 Given N2-EOP-RPV control and the Simulator in the conditions established determine if the reactor is shutdown.
- TO-2.0 3449400603 Direct the actions required per EOP-RPV Section RL.
- EO-2.1 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to monitor and control reactor water level.
- EO-2.2 Given N2-EOP-RPV control and the Simulator in the conditions established determine is an RPV water level instrument may be used to determine RPV water level.
- EO-2.3 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to initiate any isolations or ECCS actuations that should have initiated but did not. (EOP-6)
- EO-2.4 Given N2-EOP-RPV control and the Simulator in the conditions established determine if the reactor is shutdown.
- EO-2.5 Given N2-EOP-RPV control and the Simulator in the conditions stated, exit Section RL of RPV control and enter C5 (level/power control).
- EO-2.6 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if RPV water level can be determined.
- EO-2.7 Given N2-EOP-RPV control and the Simulator in the conditions stated, exit Section RL of RPV control and enter C4 (RPV flooding).



- TO-3.0 3449410603 Direct the actions required per EOP-RPV Section RP.
- EO-3.1 Given N2-EOP-RPV control and the Simulator in the conditions stated, direct operators to monitor and control reactor pressure.
- EO-3.2 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if a high drywell pressure ECCS initiation signal exists.
- EO-3.3 Given N2-EOP-RPV control and the Simulator in the conditions stated, direct operators to prevent injection from LPCS and LPCI pumps not needed for adequate core cooling.
- EO-3.4 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if the reactor is shutdown.
- EO-3.5 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if emergency RPV depressurization is required.
- EO-3.6 Given N2-EOP-RPV control and the Simulator in the conditions stated, exit section RP of RPV control and enter C2 (Emergency RPV Depressurization).
- EO-3.7 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if RPV water level can be determined.
- TO-4.0 3440180303 Direct shift personnel actions to ensure plant safety during emergency conditions.
- EO-4.1 Given the Simulator in the conditions established direct shift personnel actions to ensure plant safety during emergency conditions.
- TO-5.0 3449420603 Direct the actions required per EOP-PC Section DWT.
- EO-5.1 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established direct operators to monitor and control drywell temperature below 150 degrees using available drywell cooling.





- EO-5.2 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine if an RPV water level instrument may be used to determine RPV water level.
- EO-5.3 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine if drywell temperature can be maintained below 150 degrees.
- EO-5.4 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established direct operators to operate all available drywell cooling to include defeating isolation interlocks if necessary.
- EO-5.5 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine drywell pressure.
- EO-5.6 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine drywell temperature.
- TO-6.0 3449430603 Direct the actions required per EOP-PC Section PCP.
- EO-6.1 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established direct operators to monitor and control primary containment pressure below 1.68 psig using SBT. (N2-OP-61A)
- EO-6.2 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine if primary containment pressure can be maintained below 1.68 psig.
- EO-6.3 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine operators to terminate suppression chamber sprays.
- EO-6.4 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine suppression chamber pressure.
- EO-6.5 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine suppression pool water level.

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- EO-6.6 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established direct operators to initiate suppression chamber sprays using only RHR pumps not needed to run continuously in the LPCI mode to assure adequate core cooling.
- TO-7.0 3449450603 Direct the actions require per EOP-PC Section SPT.
- EO-7.1 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established direct operators to monitor and control suppression pool temperature below 90 degrees using available suppression pool cooling.
- EO-7.2 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established determine if suppression pool temperature can be maintained below 90 degrees.
- EO-7.3 Given N2-EOP-Primary Containment Control and the Simulator in the conditions established direct operators to operate all available supp. pool cooling using only RHR pumps not required to run continuously in the LPCI mode to assure adequate core cooling.
- TO-8.0 3440210303 Analyze indications to determine the cause of the emergency event.
- EO-8.1 Given the Simulator in the conditions established analyze indications to determine the cause of the emergency event.
- TO-9.0 3440220303 Evaluate the adequacy of abnormal/emergency procedures for mitigation capabilities during events.
- EO-9.1 Given the Simulator in the conditions established evaluate the adequacy of abnormal/emergency procedures for mitigation capabilities during events.
- TO-10.0 3440240303 Direct the corrective actions to mitigate the consequences of the emergency event.
- EO-10.1 Given the Simulator in the conditions established direct corrective actions to mitigate the consequences of the emergency event.



- TO-11.0 3449560603 Direct the actions required per EOP-C4, RPV flooding.
- EO-11.1 Given N2-EOP-C4 and the Simulator in the conditions established determine if RPV water level can be determined.
- EO-11.2 Given N2-EOP-C4 and the Simulator in the conditions established determine if the reactor is shutdown.
- EO-11.3 Given N2-EOP-C4 and the Simulator in the conditions established determine if at least four SRVs, can be opened.
- EO-11.4 Given N2-EOP-C4 and the Simulator in the conditions established direct operators to close those valves listed in N2-EOP-C4 RPV flooding. (If at least four SRV's can be opened).
- EO-11.5 Given N2-EOP-C4 and the Simulator in the conditions established determine if a HPCS or feedwater pump is available for injection.
- EO-11.6 Given N2-EOP-C4 and the Simulator in the conditions established direct operators to commence and raise injection into the RPV irrespective of NPSH and vortex limits using the systems listed in N2-EOP-C4 RPV flooding.
- EO-11.7 Given N2-EOP-C4 and the Simulator in the conditions established determine if RPV pressure is not dropping and is 61 psig or more above suppression chamber pressure.
- EO-11.8 Given N2-EOP-C4 and the Simulator in the conditions established direct operators to control injection to maintain at least four SRVs open and RPV pressure at least 61 psig above suppression chamber pressure but as low as practicable.
- EO-11.9 Given N2-EOP-C4 and the Simulator in the conditions established determine if RPV water level instrumentation is available.
- EO-11.10 Given N2-EOP-C4 and the Simulator in the conditions established determine hottest drywell temperature.



EO-11.12 Given N2-EOP-C4 and the Simulator in the conditions established determine if RPV pressure has been at least 61 psig above suppression chamber pressure for at least the minimum core flooding interval.

EO-11.13 Given N2-EOP-C4 and the Simulator in the conditions established direct operators to terminate all injection into the RPV and reduce RPV water level until RPV water level indication is restored.

EO-11.14 Given N2-EOP-C4 and the Simulator in the conditions established determine if RPV water level indication is restored within the MCUTL after commencing termination of injection into the RPV.

EO-11.15 Given N2-EOP-C4 and the Simulator in the conditions established determine the minimum core flooding interval.

EO-11.16 Given N2-EOP-C4 and the Simulator in the conditions established determine the maximum core uncover time limit.

TO-12.0 3440260303 Evaluate the emergency event to determine that conditions are following the expected sequence.

EO-12.1 Given the Simulator in the conditions established evaluate the emergency event to determine that conditions are following the expected sequence.

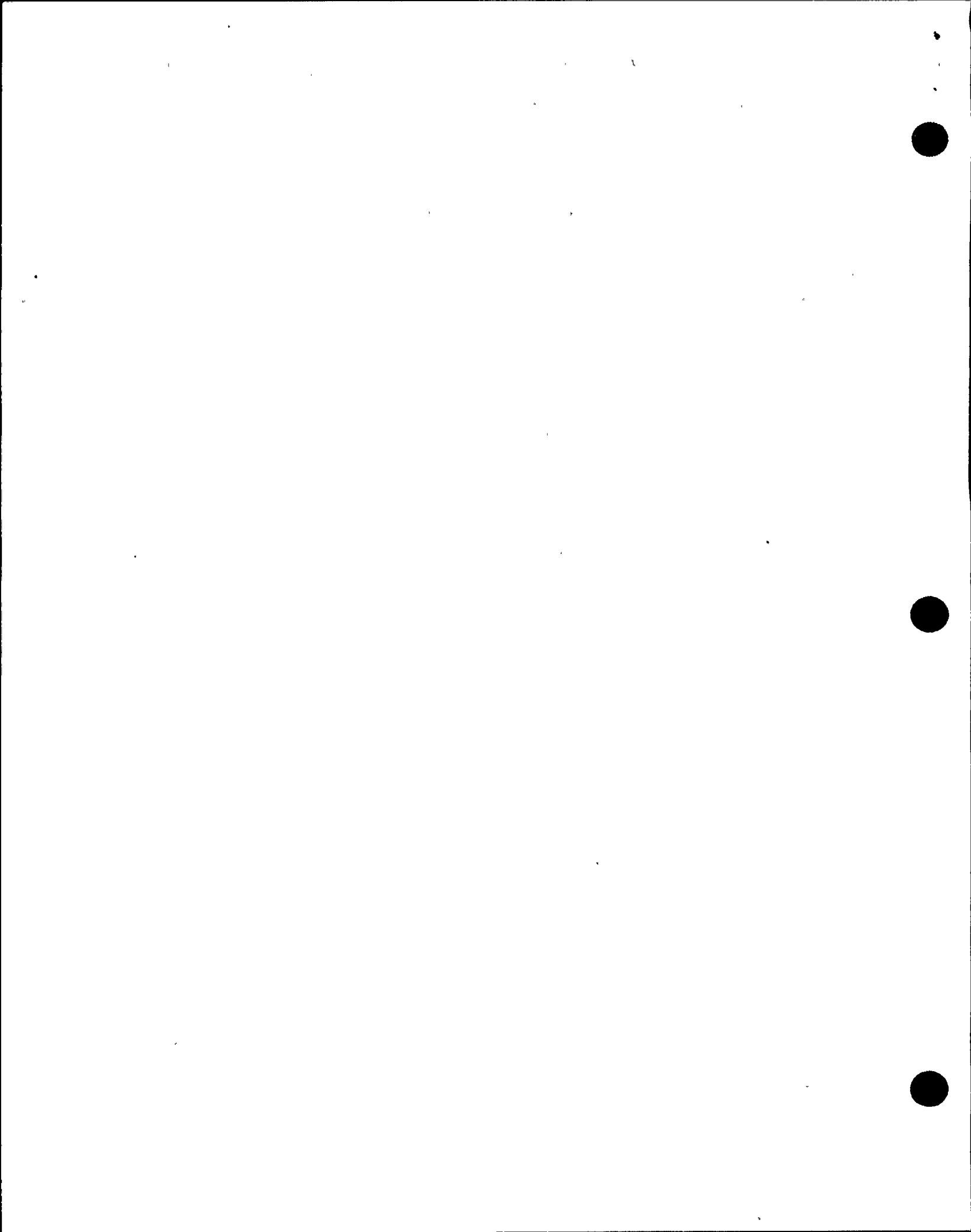
B. RO/CSO Objectives

TO-13.0 2229020401 Operate the Drywell Cooling System with a LOCA signal present.

EO-13.1 Given NMP-2 operating procedures and the Simulator in the conditions established operate the Drywell Cooling System with a LOCA signal present as directed by the SSS.

TO-14.0 2000070501 Perform actions for a high drywell pressure.

EO-14.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform actions for a high drywell pressure as directed by the SSS.





- TO-15.0 2000210501 Perform the actions required for a high drywell temperature.
- EO-15.1 Given NMP-2 operating procedure procedures and the simulator in the conditions established perform the actions required for a high drywell temperature as directed by the SSS.
- TO-16.0 2000090504 Perform actions required for a loss of coolant accident (small leak) inside the Primary Containment.
- EO-16.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform actions required for a loss of coolant accident (small leak) inside the Primary Containment as directed by the SSS.
- TO-17.0 2000260501 Perform the actions required for a safety/relief valve opening.
- EO-17.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform the actions required for a safety/relief valve opening as directed by the SSS.
- TO-18.0 2189030401 Close a stuck open safety/relief valve.
- EO-18.1 Given NMP-2 operating procedures and the Simulator in the conditions established close a stuck open safety/relief valve as directed by the SSS.
- TO-19.0 2180020101 Manually initiate the ADS System and monitor while activated.
- EO-19.1 Given NMP-2 operating procedures and the Simulator in the conditions established manually initiate the ADS System and monitor while activated as directed by the SSS.
- TO-20.0 2089130401 Restore RBCLC to DRS unit coolers following automatic isolation, from the Control Room.
- EO-20.1 Given NMP-2 operating procedures and the Simulator in the conditions established restore, RBCLC to DRS unit coolers following automatic isolation, from the Control Room as directed by the SSS.



C. TEAM OBJECTIVES

- TO-21.0 Demonstrate effective communication in accordance with the Operating Department instruction on verbal communication. (NMP2 Requal Action Plan, Rev. 2, 4.B.1).
- TO-22.0 Demonstrate the use of the Emergency Plan, an understanding of the roles and responsibilities of an SSS, ASSS/STA, CSO/NAOE in accordance with the Operation Department instruction on Roles and Responsibilities. (NMP2 Requal Action Plan, Rev. 2, 5.B.1, 6.B.6).
- TO-23.0 Demonstrate an understanding of command and control, EOP place keeping techniques and effective use of Control Room Operators during emergency conditions. (NMP2 Requal Action Plan Rev. 2, 6.B.6, SRO only).
- TO-24.0 Demonstrate "self-verification" work practices techniques in accordance with the Operating Department instruction for all control actions. (LER 50-410/88-50) (NRC IR 50-410/88-01).



IV. LESSON CONTENT  
LESSON CONTENT

DELIVERY NOTES

OBJECTIVES/  
NOTES

A. EXERCISE OVERVIEW

Present the following:

During this session, plant conditions begin at 100% power operation. A seven day LCO was entered 3 days ago as a result of 2RHS\*MOV25B valve found to be inoperable due to a bent valve stem. The valve is shut and will not open.

Soon after taking the watch, the drywell unit coolers are lost due to a circuit fault resulting in a RBCLCW isolation (to DRS).

Drywell temperature and pressure rise slowly. When operators attempt to establish Sup. Pool Cooling and Sup. Chmbr. Spray, they find that "A" RHR pump trips on high current. This leaves no means of DW spray.

Next, an EHC malfunction results in all bypass valves opening and MSIV closure on low steam line pressure. The reactor scrams. The pressure transient causes two SRVs to open and stick open and a steam leak into the drywell develops.



LESSON CONTENT

DELIVERY NOTES

As DW temperature/pressure increase and reactor pressure lowers, the RPV saturation temperature curve (RPV-1) is approached. When all RPV level instrumentation fails upscale, RL and RP are exited, C2 and C4 are entered. DRS is restored and the MCFI is satisfied, operators lower level and find that water level indication is restored.

B. PREREQUISITE KNOWLEDGE REVIEW

The Rev. 4 RPV Control, Primary Containment Control, Emergency RPV Depressurization, and RPV Flooding EOPS have been presented in classroom training and should be reviewed prior to the simulator exercise.

Review the performance and knowledge objectives with participants as the scenario is discussed.

Discuss prior classroom coverage.

C. SCENARIO PREVIEW

1. The following is an overview of the conditions and actions that will occur during the scenario:
  - a. a. Recognize/respond to loss of DRS.
  - b. Recognize failure of "A" RHR pump and loss of drywell sprays.





ATTACHMENT 1  
PRE-EXERCISE BRIEFING

OBJECTIVES/  
NOTES

LESSON CONTENT

DELIVERY NOTES

- |   |                       |
|---|-----------------------|
| c. Recognize/respond to EHC failure.                                | EOP sections affected |
| d. Recognize/respond to MSIV closure and<br>Reactor Scram.          | RL<br>RP              |
| e. Recognize/respond to small leak in drywell.                      | RQ                    |
| f. Recognize/respond to Loss of RPV water level<br>instrumentation. | PCP<br>DWT            |
| g. Perform Emergency RPV Depressurization.                          | C2                    |
| h. Perform RPV flooding.  | C4                    |

2. Initial Conditions

Plant status is given in shift turnover information, listed below.

3. Expected Actions

The participants, acting as a team, will:

- respond to appropriate annunciators
- use the appropriate annunciator response procedure
- make appropriate reports to the SSS
- use the Instructor as all plant personnel to perform Local Operator Actions (LOAs)
- observe system indications
- use appropriate emergency operating procedures
- place the plant in a stable shutdown depressurized condition

The instructors perform all LOAs when requested by the participants.



LESSON CONTENT

DELIVERY NOTES

D. OPERATING CONCERNS

Reviews with the participants any NRC/INPO operating concerns that relate to the training session as directed by the Training Program Coordinator.

E. PERFORMANCE REVIEW

1. Obtain and discuss with the participants those areas documented on the Post Training Summary from previous simulator training. Reinforce good performance and areas for improvement.

F. GROUND RULES

1. Discuss performance expectations relative to:
  - a. Professionalism
  - b. Realism
  - c. Log Keeping
  - d. Teamwork
  - e. Communication
  - f. Procedure use
  - g. Notifications
  - h. Self verification techniques

G. SHIFT TURNOVER INFORMATION

1. Plant Status

The plant is operating at Reactor Power.



ATTACHMENT 1  
PRE-EXERCISE BRIEFING

LESSON CONTENT

DELIVERY NOTES

OBJECTIVES/  
NOTES

H. SEQUENCE OF EVENTS

Conduct simulator activities as prescribed by the attached floor instructor and console operators guide, Attachment 2.

Ensure video taping is conducted for all sessions to allow for its use in the post exercise assessment, if necessary.



ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME | SCENARIO | INSTRUCTOR ACTIVITY                            | PLANT RESPONSE  | OPERATOR ACTIONS | INSTRUCTOR COMMENTS |
|------|----------|--|---|------------------|---------------------|
|      |          | Special Instructions:<br>None                  |   |                  |                     |
|      |          | Simulator Operation:<br>IC-20 100% BOL         |   |                  |                     |
|      |          | Preset Malfunctions:<br>1, RH10B<br>2, RH01A   | RHS*MOV25B jammed<br>(B side DW spray)<br>RHR Pump A trip |                  |                     |
|      |          | Preset I/O overrides:<br>13, E12A-S68B-B,,,OFF | Green light for MOV 25B off.                              |                  |                     |





ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME | SCENARIO | INSTRUCTOR ACTIVITY  | PLANT RESPONSE | OPERATOR ACTIONS          | INSTRUCTOR COMMENTS                           |
|------|----------|--|----------------|---------------------------|---|
|      |          | <p>Preset Remote Functions:<br/>None</p>   |                |                           |   |
|      |          | <p>Distribute and discuss.<br/>Watch turnover sheets.</p>  |                |                           |   |
|      |          | <p>Initial conditions:<br/>Rx pwr 100% RWM gp - 147<br/>&gt;100% rod line</p>  |                |                           |   |
|      |          | <p>Out of Service Equip:<br/>2RHS*MOV25B has a bent stem and will not open. Its breaker has been opened and the valve operator is being repaired. 2RHS*MOV15B is marked up in the closed position.</p> |                | <p>Review TS 3.6.2.2.</p> | <p>Report we are on day 3 of a 7 day LCO.</p> |



## ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME     | SCENARIO | INSTRUCTOR ACTIVITY                                | PLANT RESPONSE  | OPERATOR ACTIONS   | INSTRUCTOR COMMENTS   |
|----------|----------|--|---|--|---|
|          |          | Surveillances Scheduled:<br>None                   |   |  |   |
|          |          | Allow not more than 5 minutes to walk-down panels. |   | <u>Crew</u><br>Walkdown panels.  |   |
| T0=0     |          | Begin the scenario.                                |   |  |   |
| T=2 min. |          | Insert malfunction<br>3, PC01                      | Both outboard isolation valves in RBCLCW supply to DRS fail closed (2CCP*MOV265 and 2CCP*MOV124). | <u>SSS</u><br>Recognize Loss DRS. Monitor DW temp. (per EOP and Tech Specs). Order LOCA override switches used and fans restarted when D/W temp. >150°F. | Spurious isol'n signal due to shorted manual isolation P.B. |
|          |          |  |   | <u>BOP</u><br>LOCA override switches (for fans) to override restarts fans.   | T0-13   |



ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME                            | SCENARIO | INSTRUCTOR ACTIVITY | PLANT RESPONSE  | OPERATOR ACTIONS  | INSTRUCTOR COMMENTS  |
|---------------------------------|----------|---------------------|---|---|--|
|                                 |          |                     |   | <u>SSS</u>  |  |
|                                 |          |                     | Drywell temperature rises slowly.<br>Drywell pressure rises slowly.   | Order NLO to open breakers for the closed valves and manually open 2CCP*MOV124 and 265.     | Do not clear malfunction PC01. As NLO, delay somewhat and report that the valves are stuck shut. You'll have to appropriate a persuader. |
|                                 |          |                     |   | <u>SSS</u>  |  |
|                                 |          |                     |   | (May) order SBTG placed on the DW. (May) also order RHR placed in Sup. Pool Cooling.        | T0-14<br>T0-15   |
| T=When A<br>RHR pump<br>started |          |                     | RHR Pump A trip<br>Supp chamber sprays and cooling will be available on B Loop RHR only. No DW sprays will be operable. | <u>ROP</u><br>Start SBTG on DW when ordered.<br>Place RHR in SP spray/cooling when ordered. | NOTE: If operators attempt to use SW to spray the DW, prevent it.  |



## ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME   | SCENARIO | INSTRUCTOR ACTIVITY                            | PLANT RESPONSE  | OPERATOR ACTIONS  | INSTRUCTOR COMMENTS   |
|--|----------|--|---|---|---|
|  |          |  | (EHC fail high setpoint)  | <u>SSS</u>  |   |
| T= When<br>drywell<br>pressure<br>reaches<br>1.6 psig. |          | Insert the following malfunctions:<br>4, TC01A | Turbine bypass valves fail open.<br>Plant depressurizes, MSIV isol'n,<br>Scram. | Recognize MSIV isolation. Order<br>Scram actions. Order RCIC<br>start. Enter EOP-RPV Control. | Don't initiate TC01<br>before 1.6 psig in<br>DW. Want DW temp.<br>as high as possible<br>prior to LOCA. |
|  |          | 5, MS03, 30                                    | (Stm 1k inside DW, 30% severity)<br>Drywell press, temp. rise.                  | <u>RO</u><br>Restore level. Carry out scram<br>actions.                                       | T0-1<br>T0-2<br>T0-3  |
|  |          | 6, AD05A                                       |   | <u>SSS</u>  | T0-4  |
|  |          | 7, AD05M                                       | (two SRVs open and stick open)<br>Reactor depressurizes via 2 SRVs.             | At 1.68 psig DW, enter EOP-PC.  | T0-5<br>T0-6  |
|  |          |  |   | <u>SSS/BOP</u><br>Attempt to close stuck open<br>SRVs.  | T0-7<br>T0-16<br>T0-17<br>T0-18   |

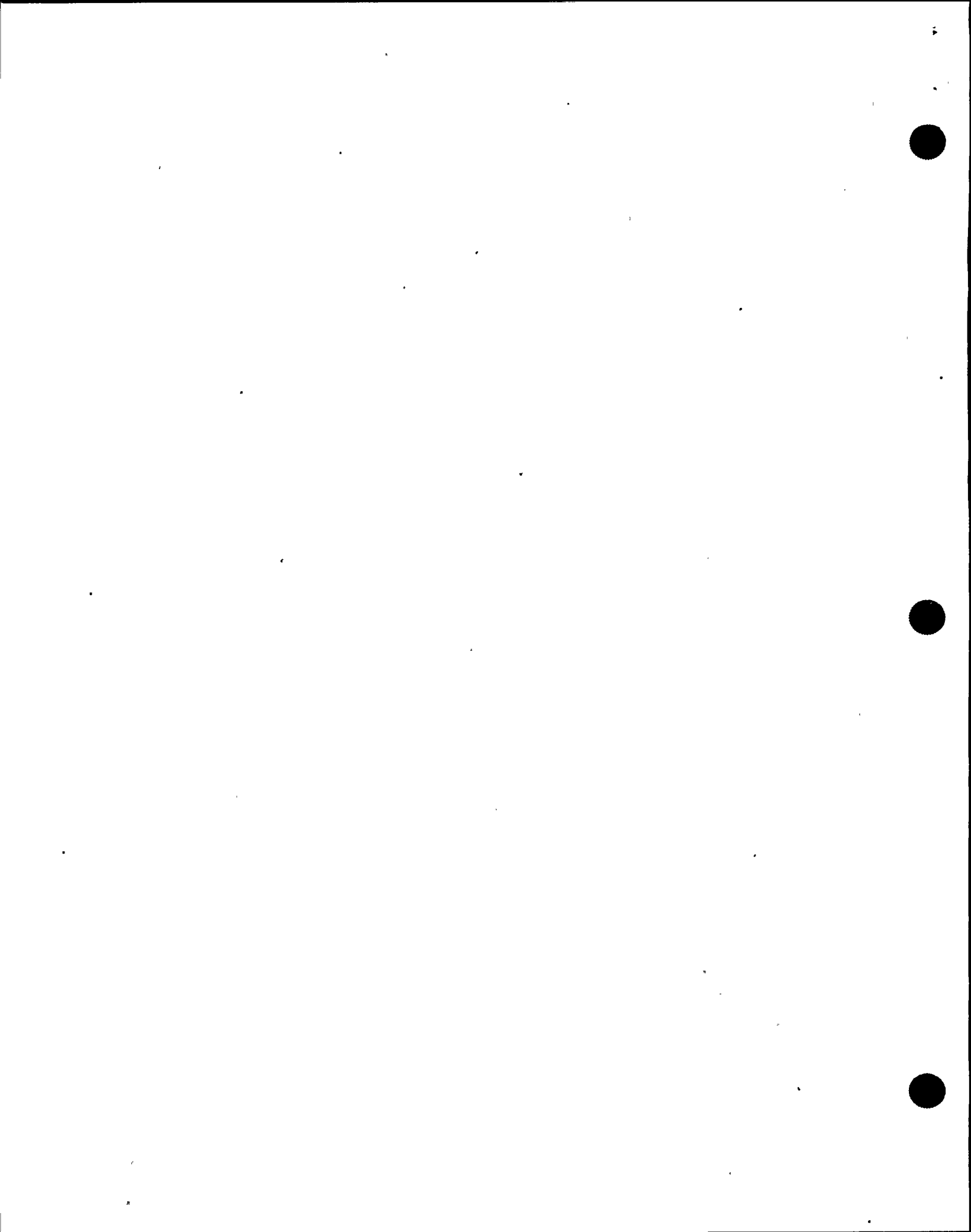




ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME   | SCENARIO | INSTRUCTOR ACTIVITY  | PLANT RESPONSE   | OPERATOR ACTIONS  | INSTRUCTOR COMMENTS   |
|--|----------|--|--|---|---|
|  |          |  | (increases MS03 to 100%)   |   |   |
| T=when<br>reactor<br>pressure<br>drops to<br>100#. |          | Insert: 4, 100<br><br>(NOTE: It is an option to include<br>MF, RR20 at 50-80% to aid in<br>pressurizing DW.  | DW press/temp somewhat higher Rx<br>depressurizes slightly faster.<br><br>RR20 is a recirc break. Looks<br>like MS03 in some ways (except for<br>DW floor drains). |   | Intention here<br>is to drop Rx press/<br>and increase DW temp<br>prior to level<br>instr. failure.   |
| T=Rx<br>press<br><50#.                             |          | Insert the following I/O's.<br>1, B22-R615,,,100<br>2, B22-R610,,,100<br>3, B22-R623A-A,,,100<br>4, B22-R623B-A,,,100<br>5, C33-R608-A,,,100<br>6, C33-R608-B,,,100<br>7, B22-R604,,,100<br>8, B22-R605,,,100<br>9, 2CMS*TI153,,,80<br>10, 2CMS*TI154,,,65<br>11, 2CMS*TI151,,,80<br>12, 2CMS*TI152,,,65 | All Control Room RPV water<br>level instrumentation fails<br>upscale.<br><br><br><br><br><br><br><br><br><br>DW temperatures rising                                | <u>Crew</u><br>Recognize loss of CR RPV water<br>level instruments. | T0-8<br><br><br><br><br><br><br><br><br><br><u>NOTE:</u><br>If operators check<br>the DW temp<br>recorders on P873<br>and P875, tell them<br>they read the same<br>as the meters. (or<br>use note on the<br>recorders that they<br>read same as meters) |



ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME       | SCENARIO | INSTRUCTOR ACTIVITY               | PLANT RESPONSE                | OPERATOR ACTIONS                              | INSTRUCTOR COMMENTS                                |
|------------|----------|-----------------------------------|-------------------------------|---|--|
|            |          |                                   |                               |   | (They must enter C4 anyway because of the caution) |
|            |          | Insert the following malfunction. | FW level indications upscale. | <u>SSS</u>                                    |  |
| T=SSS      |          | 8, FW28                           |                               | Exit RL, enter C4.                            | T0-9   |
| recognizes |          |                                   |                               | Exit RP, enter C2. Order 7 ADS valves opened. | T0-10  |
| C4 must    |          |                                   |                               |   | T0-11  |
| be         |          |                                   |                               |   | T0-19  |
| entered.   |          |                                   |                               |   |  |
|            |          |                                   | 7 ADS valves open.            | <u>BOP</u>                                    |  |
|            |          |                                   |                               | Open 7 ADS valves.                            |  |
|            |          |                                   |                               | <u>SSS</u>                                    |  |
|            |          |                                   |                               | Exit C2, enter C4.                            |  |



ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME | SCENARIO | INSTRUCTOR ACTIVITY | PLANT RESPONSE | OPERATOR ACTIONS   | INSTRUCTOR COMMENTS   |
|------|----------|---------------------|----------------|--|---|
|      |          |                     |                | <p><u>SSS</u></p> <p>Order injection with:</p> <p>Cond/FW</p> <p>LPCS</p> <p>LPCI B</p> <p>LPCI C</p> <p>CRD</p> <p>Maintain &gt;61 psid RPV above supp T0=12<br/>chmbr with at least 4 SRVs open.</p> | <p>Should stress use of<br/>"cleanest" systems<br/>first.</p>       |
|      |          |                     |                | <p><u>BQP</u></p> <p>Inject with available systems,<br/>maintain &gt;61 psid RPV above<br/>supp chmbr.</p>   | <p>If pressure drops<br/>&lt;61 psid, the MCFI<br/>starts over.</p> |
|      |          |                     |                | <p><u>SSS/BQP</u></p> <p>Maintain &gt;61 psid for 23 minutes.</p>  |   |



## ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME  | SCENARIO | INSTRUCTOR ACTIVITY  | PLANT RESPONSE   | OPERATOR ACTIONS   | INSTRUCTOR COMMENTS |
|---|----------|--|--|--|---------------------|
| T=1 min.<br>after<br>61 psid<br>estab-<br>lished. |          | <p>Role Play: As I&amp;C, report to SSS that problem with DRS has been fixed and 2CCP*M0124/265 can be opened.</p> <p>Remove malfunction:<br/>2 &lt;CR&gt;</p> <p>Remove I/O's:<br/>9 &lt;CR&gt;<br/>10 &lt;CR&gt;<br/>11 &lt;CR&gt;<br/>12 &lt;CR&gt;</p> | <p>DW temp lowers</p> <p>DW press lowers</p> <p>PC01 clears. DRS RBCLCW is available.</p> <p>Panels 873 and 875 DW temps go back to "as read."</p> | <p><u>SSS</u></p> <p>Order DRS restored to normal.</p> <p>Order ref. legs refilled.</p> <p><u>BOP</u></p> <p>Open MOV 125/265 and re-establish DW cooling.</p>                     | TO-20               |
| T=5 min.<br>after<br>61 psid<br>estab-<br>lished. |          | <p>Role Play:</p> <p>Inform crew that is has been 23 minutes since 61 psid has been established and that ref. logs have been refilled.</p> <p>Remove I/O's:<br/>All</p> <p>Remove malfunction:<br/>8 &lt;CR&gt;</p>  | <p>Level indications restored in CR.</p>   | <p><u>SSS</u></p> <p>Check that level inst. available and DW temp &lt;212:</p> <p>Order injection terminated.</p> <p><u>RO/BOP</u></p> <p>Monitor water level inst. for trend.</p> |                     |

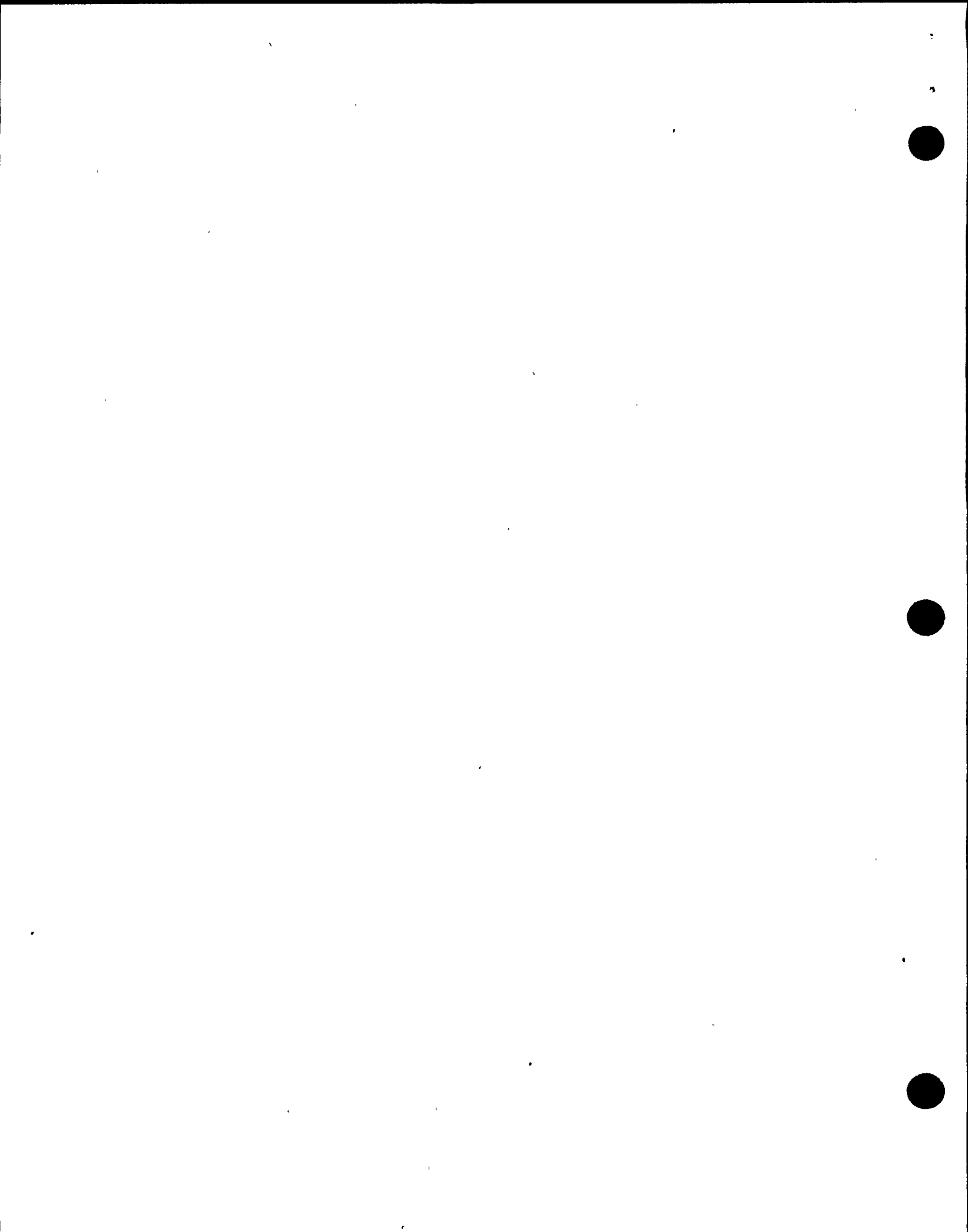




ATTACHMENT 2

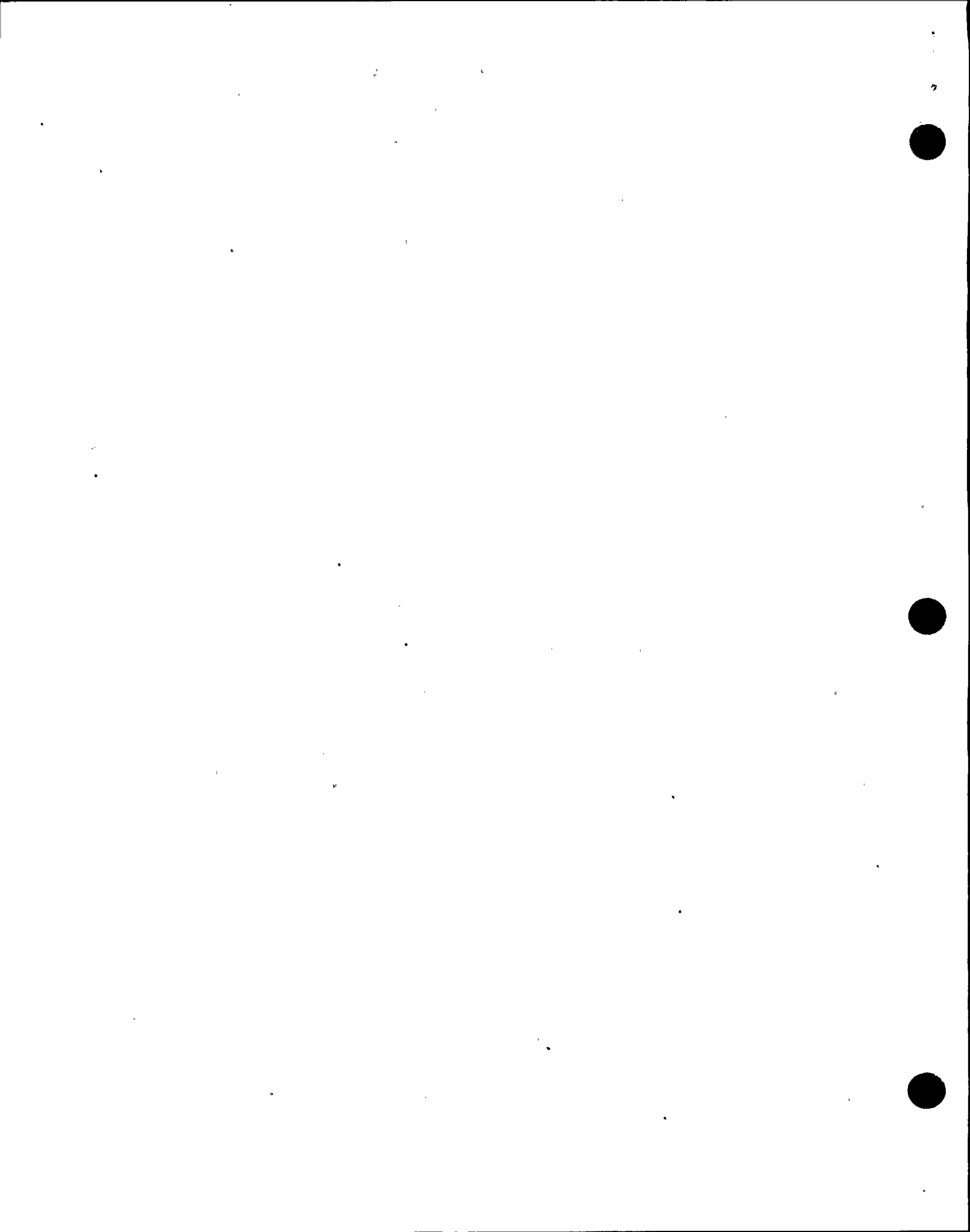
FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME | SCENARIO | INSTRUCTOR ACTIVITY   | PLANT RESPONSE | OPERATOR ACTIONS | INSTRUCTOR COMMENTS |
|------|----------|---|----------------|------------------|---------------------|
|      |          | <p>T=when<br/>operates<br/>have<br/>determined<br/>that a<br/>water<br/>level<br/>trend<br/>exists.</p> |                |                  |                     |



ATTACHMENT 3  
POST EXERCISE ASSESSMENT

| LESSON CONTENT   | DELIVERY NOTES   | OBJECTIVES/<br>NOTES |
|--|--|----------------------|
| <p>I. Post Exercise Assessment (Classroom)</p> <ol style="list-style-type: none"><li>1. Review the Learning Objectives<ol style="list-style-type: none"><li>a. The crew/individuals should state how each was met during the session.</li></ol></li><li>2. Participant's Self-Evaluation<ol style="list-style-type: none"><li>a. Discussion should focus on measurable behaviors and how these contributed to or detract from meeting the objectives</li></ol></li><li>3. Instructors assessment and performance (NCTS) recommendations.</li></ol> | <p>Allow participants to evaluate themselves against learning objectives and tasks for the session.</p> <p>Discussion should center on performance and not personal feelings or interpretation of actions.</p> <ol style="list-style-type: none"><li>1. Assess participants performance for those objectives and tasks not included in the crew self-assessment. Use the video tape in the assess to more effectively assess communications, teamwork, and prioritization, if necessary.</li><li>2. Provide feedback on ways to improve performance.</li></ol> <ol style="list-style-type: none"><li>1. Distribute Simulator Training Evaluation Feedback Form.</li><li>2. Provide students with time to complete form.</li></ol> <ol style="list-style-type: none"><li>1. Complete Post Training Summary, Attachment 4.</li></ol> |                      |



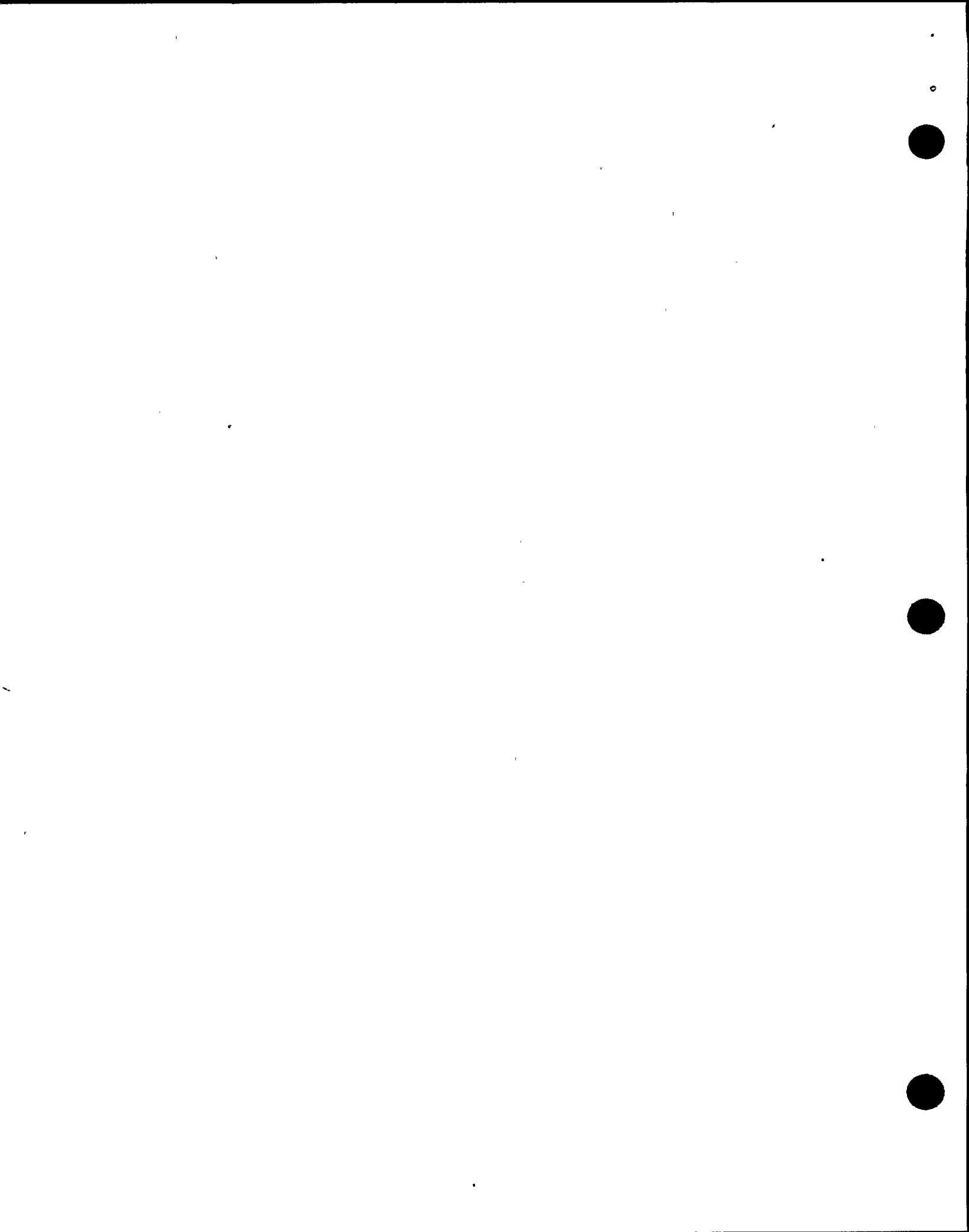
ATTACHMENT 3  
POST EXERCISE ASSESSMENT

LESSON CONTENT

DELIVERY NOTES

OBJECTIVES/  
NOTES

2. Place in file for next training session.
3. Document any NRC/INPO operating concerns as an items list attached to the training record. (TR)



ATTACHMENT 4

POST TRAINING SUMMARY

The area below is reserved for instructor's notes regarding the implementation of this session.

1. Training Program: \_\_\_\_\_
2. Lesson Plan Number: \_\_\_\_\_
3. Date: \_\_\_\_\_
4. Instructor(s): (floor)  
(Console)
5. Participants: (SSS)  
(ASSS)  
(CSO)  
(NAOE)  
(NAOE)  
(SPEC)  
(OTHER)  
(OTHER)

