

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

UNIT II OPERATIONS

02-REQ-009-TRA-2-26    Revision    1

07-190-91

TITLE: LOSS OF OFF-SITE POWER/COMPLETE LOSS OF SW/5 STUCK RODS

|  | <u>SIGNATURE</u>            | <u>DATE</u>     |
|--|-----------------------------|-----------------|
| PREPARER                                   | <i>Chris Sherman</i>        | <u>12-6-90</u>  |
| VALIDATED BY                               | _____                       | _____           |
| UNIT OPERATIONS<br>TRAINING SUPERVISOR     | <i>J. Kaminski</i>          | <u>12-12-90</u> |
| PLANT SUPERVISOR/<br>USER GROUP SUPERVISOR | <i>Debbie For D. Torrey</i> | <u>12/12/90</u> |

Summary of Pages

(Effective Date: 12-12-90 )

Number of Pages: 30

| <u>Date</u>   | <u>Pages</u> |
|---------------|--------------|
| December 1990 | 1 - 30       |

THIS LESSON PLAN IS A GENERAL REWRITE

TRAINING DEPARTMENT RECORDS ADMINISTRATION ONLY:

**CONTROLLED**

**RECORDS**

**EQUIPMENT**

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## I. TRAINING DESCRIPTION

- A. Title of Lesson: Loss of Off-site Power/Complete Loss of SW/5 Stuck Rods
- 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: 60 minutes
- D. Method of Evaluation, Grade Format, and Standard of Evaluation: 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 Manager of Training.
- F. References:
  - 1. N2-EOP's - Emergency Operating Procedures
  - 2. N2-OP-11 Service Water
  - 3. N2-EOP-6 EOP Support Procedures
- G. Annual/Biennial
  - 1. O2-REQ-MAN-A05-2-00, "Power Changes >10% With Rods or Recirc Flow"
  - 2. O2-REQ-MAN-A06-2-00, "Large LOCA Inside Primary Containment"
  - 3. O2-REQ-MAN-A11-2-00, "Loss of Elec Power/Degraded Sources"
  - 4. O2-REQ-MAN-A12-2-00, "Loss of Core Coolant Flow/Natural Circ"
  - 5. O2-REQ-MAN-A13-2-00, "Loss of All Service Water"  
(RO/SSS/CSO/ASSS/STA)

## II. REQUIREMENTS

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

O2-REQ-009-TRA-2-26 -1 December 1990

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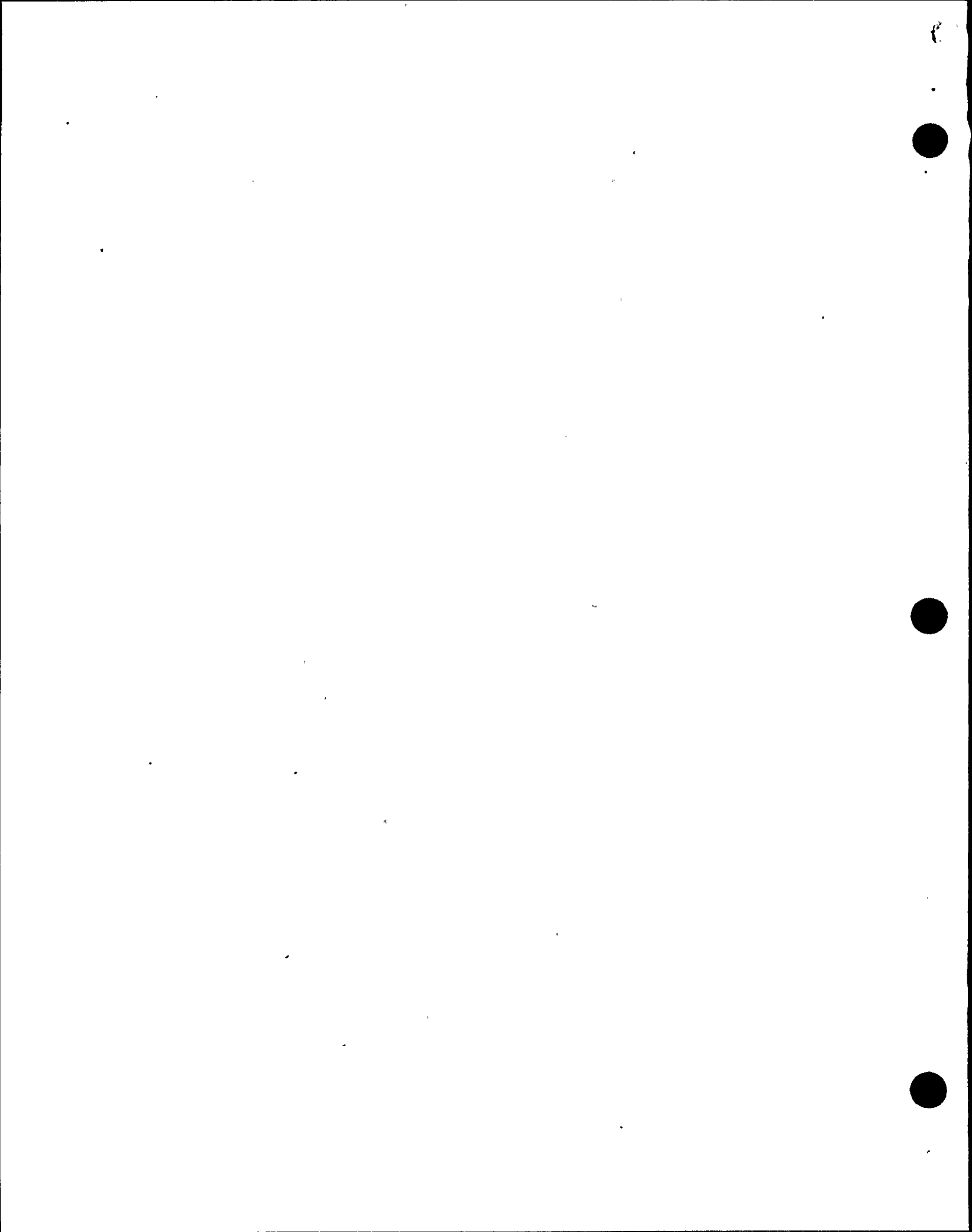
### III. LEARNING OBJECTIVES

#### A. SSS/ASSS Objectives

- TO-1.0 3440240303 Direct corrective actions to mitigate the consequences of the emergency event.
  - EO-1.1 Given the Simulator in the conditions established direct corrective actions to mitigate the consequences of the emergency event.
- TO-2.0 3440180303 Direct shift personnel actions to ensure plant safety during emergency conditions.
  - EO-2.1 Given the Simulator in the conditions established direct shift personnel actions to ensure plant safety during emergency conditions.
- TO-3.0 3449390603 Direct the actions required per EOP-RPV Section RQ.
  - EO-3.1 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to monitor and control reactor power.
  - EO-3.2 Given N2-EOP-RPV control and the Simulator in the conditions established determine if the reactor is shutdown.
  - EO-3.3 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to confirm or place the mode switch in shutdown.
  - EO-3.4 Given N2-EOP-RPV control and the Simulator in the conditions established determine if ARI has initiated.
  - EO-3.5 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to initiate RRCG.
  - EO-3.6 Given N2-EOP-RPV control and the Simulator in the conditions established determine if the turbine generator is on the line.
  - EO-3.7 Given N2-EOP-RPV control and the Simulator in the conditions established determine if the MSIVs are open.
  - EO-3.8 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to verify recirculation flow control runback to minimum.

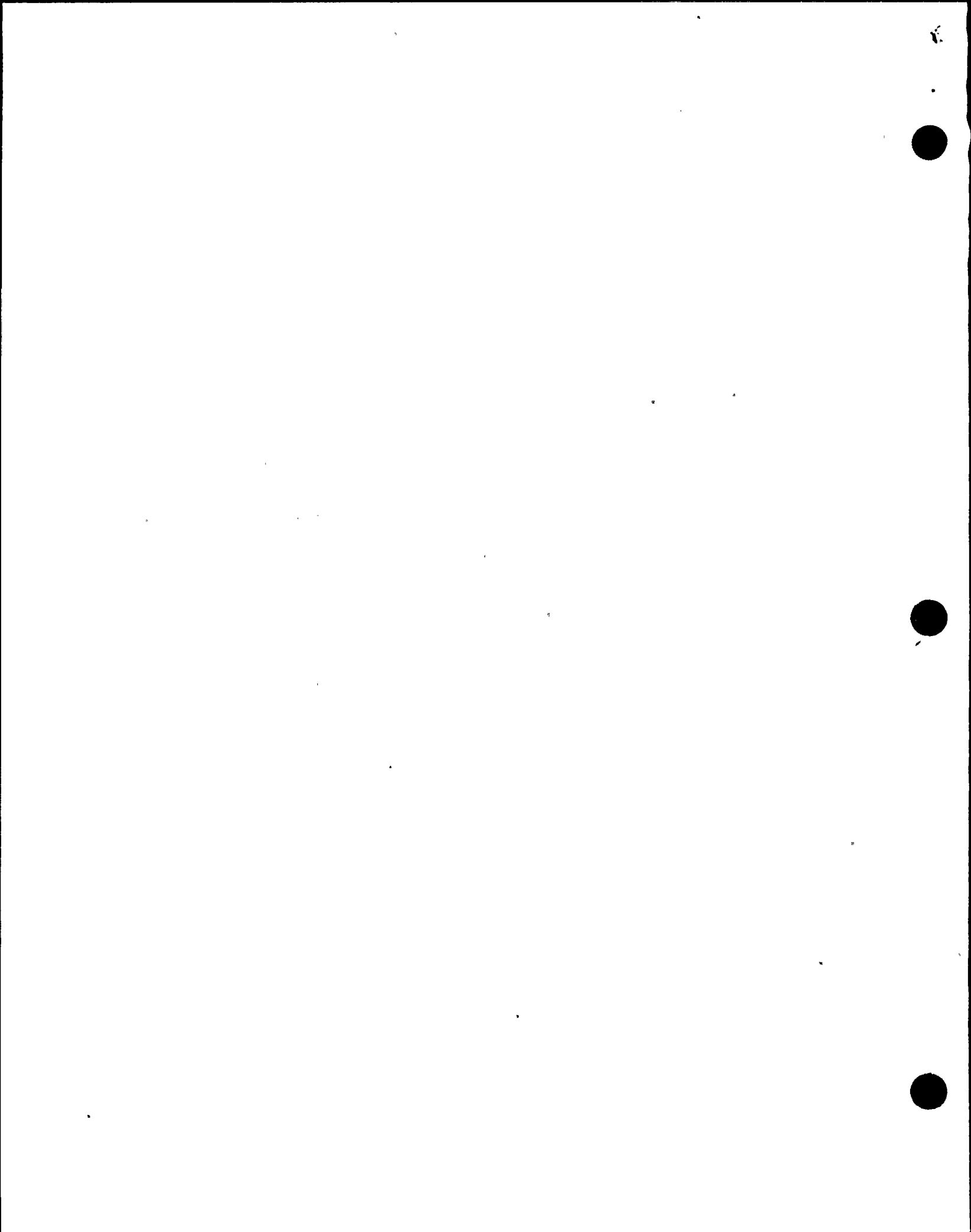


- EO-3.9 Given N2-EOP-RPV control and the Simulator in the conditions established determine if reactor power can be determined.
- EO-3.10 Given N2-EOP-RPV control and the Simulator in the conditions established determine if reactor power is above 4%.
- EO-3.11 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to reset ARI, to include defeating ARI logic trips if necessary.
- EO-3.12 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to insert control rods in accordance with N2-EOP-6.
- EO-3.13 Given N2-EOP-RPV control and the Simulator in the conditions established determine the boron injection initiation temperature.
- TO-4.0 3449400603 Direct the actions required per EOP-RPV Section RL.
- EO-4.1 Given N2-EOP-RPV control and the Simulator in the conditions established direct operators to monitor and control reactor water.
- EO-4.2 Given N2-EOP-RPV control and the Simulator in the conditions established determine if an RPV water level instrument may be used to determine RPV water level.
- EO-4.3 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-4.4 Given N2-EOP-RPV control and the Simulator in the conditions established determine if the reactor is shutdown.
- EO-4.5 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-4.6 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if RPV water level can be determined.





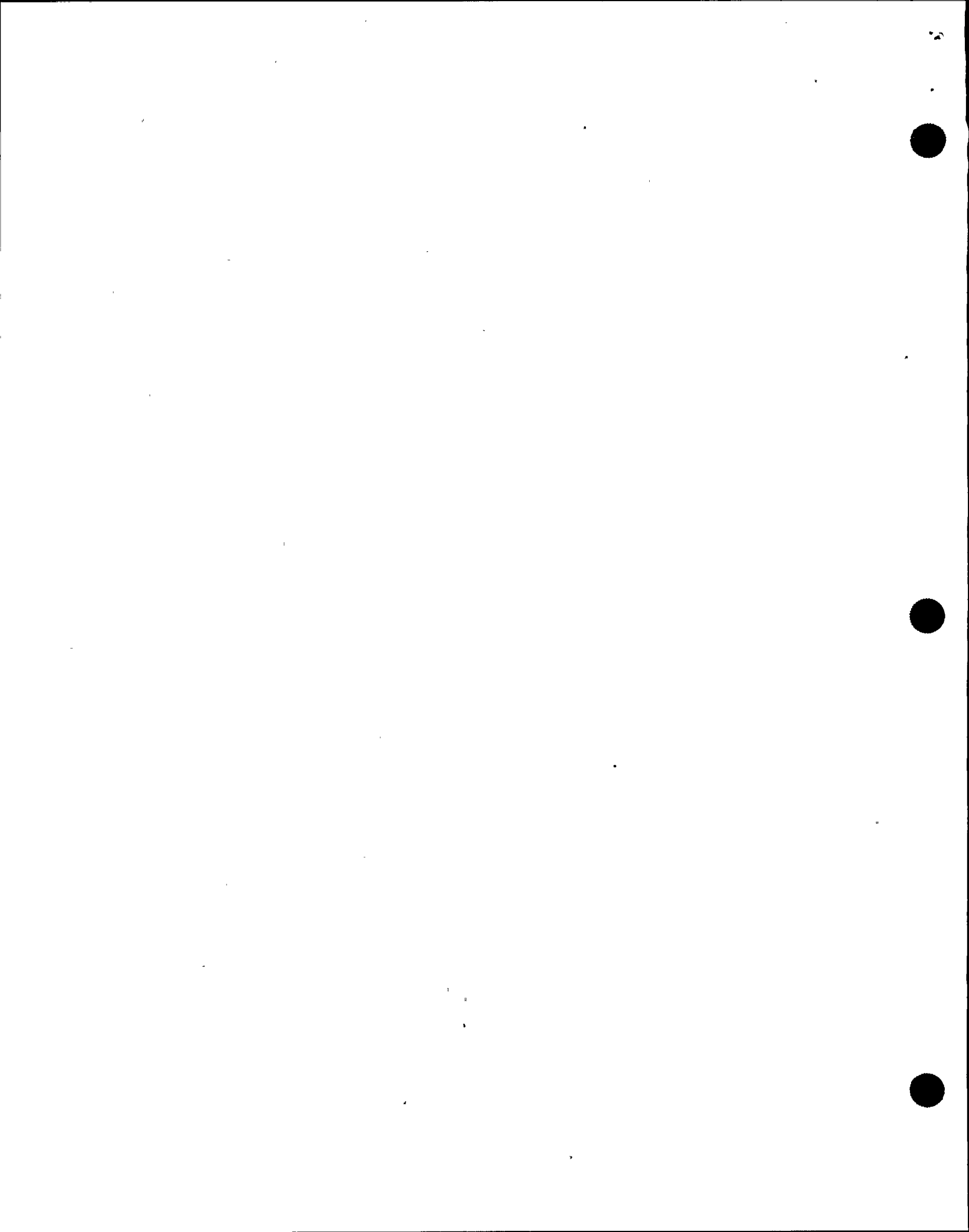
- TO-5.0 3449410603 Direct the actions required per EOP-RPV Section RP.
- EO-5.1 Given N2-EOP-RPV control and the Simulator in the conditions stated, direct operators to monitor and control reactor pressure.
- EO-5.2 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if a high drywell pressure ECCS initiation signal exists.
- EO-5.3 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-5.4 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if emergency RPV depressurization is anticipated.
- EO-5.5 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if the reactor is shutdown.
- EO-5.6 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if emergency RPV depressurization is required.
- EO-5.7 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if RPV water level can be determined.
- EO-5.8 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if any SRV is cycling.
- EO-5.9 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine the suppression pool heat capacity temperature limit. Figure RPV-8.
- EO-5.10 Given N2-EOP-RPV control and the Simulator in the conditions stated, determine if the SRV pneumatic supply is available.



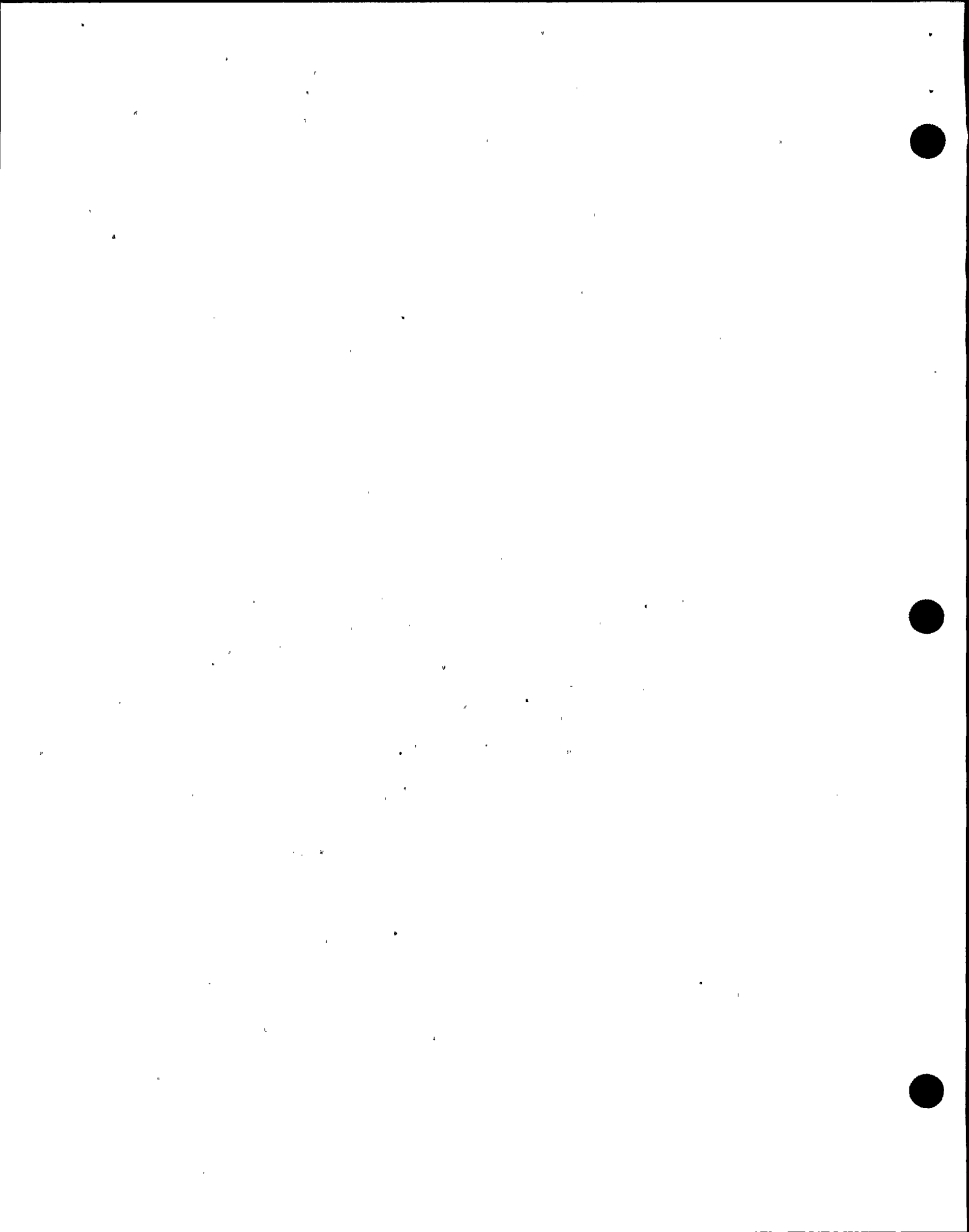
- TO-6.0 3449420603 Direct the actions required per EOP-PC Section DWT.
- EO-6.1 Given N2-EOP-Primary Containment control and the Simulator in the conditions established direct operators to monitor and control drywell temperature below 150 degrees using available drywell cooling.
- EO-6.2 Given N2-EOP-Primary 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-6.3 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine if drywell temperature can be maintained below 150 degrees.
- EO-6.4 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-6.5 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine drywell pressure.
- EO-6.6 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine drywell temperature.
- TO-7.0 3449430603 Direct the actions required per EOP-PC Section PCP.
- EO-7.1 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-7.2 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-7.3 Given N2-EOP-Primary Containment control and the Simulator in the conditions established direct operators to terminate suppression chamber sprays.



- EO-7.4 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine suppression chamber pressure.
- EO-7.5 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine suppression pool water level.
- EO-7.6 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.
- EO-7.7 Given N2-EOP-Primary Containment control and the Simulator in the conditions established direct operators to terminate drywell sprays.
- EO-7.8 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine the drywell spray initiation pressure limit.
- EO-7.9 Given N2-EOP-Primary Containment control and the Simulator in the conditions established direct operators to trip recirculation pumps.
- EO-7.10 Given N2-EOP-Primary Containment control and the Simulator in the conditions established direct operators to trip drywell cooling fans.
- EO-7.11 Given N2-EOP-Primary Containment control and the Simulator in the conditions established direct operators to initiate drywell sprays using only RHR pumps not needed to run continuously in the LPCI mode to assure adequate core cooling.
- EO-7.12 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine the pressure suppression pressure.
- EO-7.13 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine if emergency RPV depressurization is required.



- TO-8.0 3449450603 Direct the actions required per EOP-PC Section SPT.
- EO-8.1 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-8.2 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-8.3 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.
  - EO-8.4 Given N2-EOP-Primary Containment control and the Simulator in the conditions established determine the boron injection initiation temperature Figure PC-1.
- TO-9.0 3449570603 Direct the actions required per EOP-C5 Level/Power Control.
- EO-9.1 Given N2-EOP-C5 and the Simulator in the conditions established determine if RPV water level can be determined.
  - EO-9.2 Given N2-EOP-C5 and the Simulator in the conditions established determine if the reactor is shutdown.
  - EO-9.3 Given N2-EOP-C5 and the Simulator in the conditions established direct operators to place ADS logic inhibit switches in on.
  - EO-9.4 Given N2-EOP-C5 and the Simulator in the conditions established determine if reactor power can be determined.
  - EO-9.5 Given N2-EOP-C5 and the Simulator in the conditions established determine reactor power level.
  - EO-9.6 Given N2-EOP-C5 and the Simulator in the conditions established determine the boron injection initiation temperature.
  - EO-9.7 Given N2-EOP-C5 and the Simulator in the conditions established determine drywell pressure.

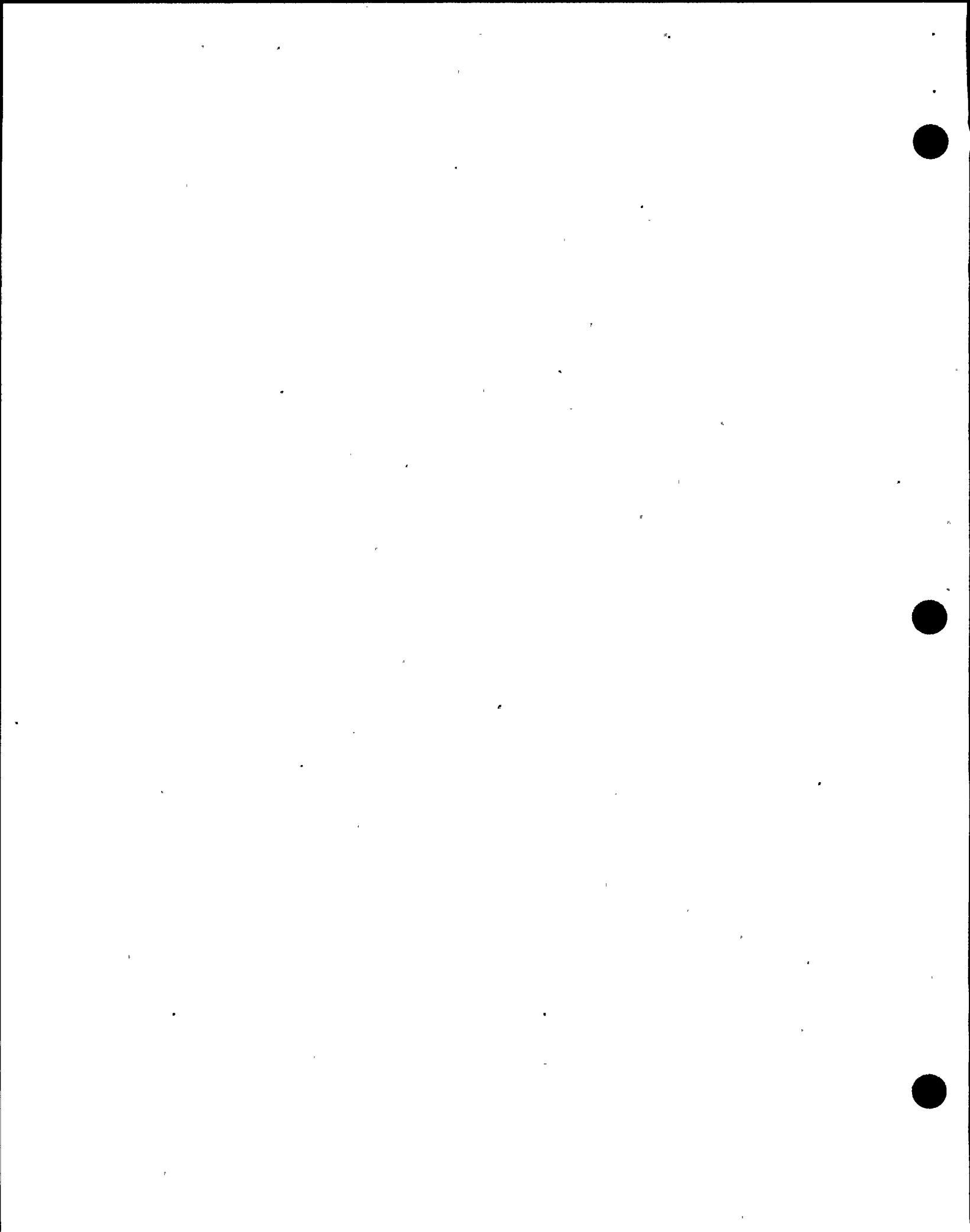




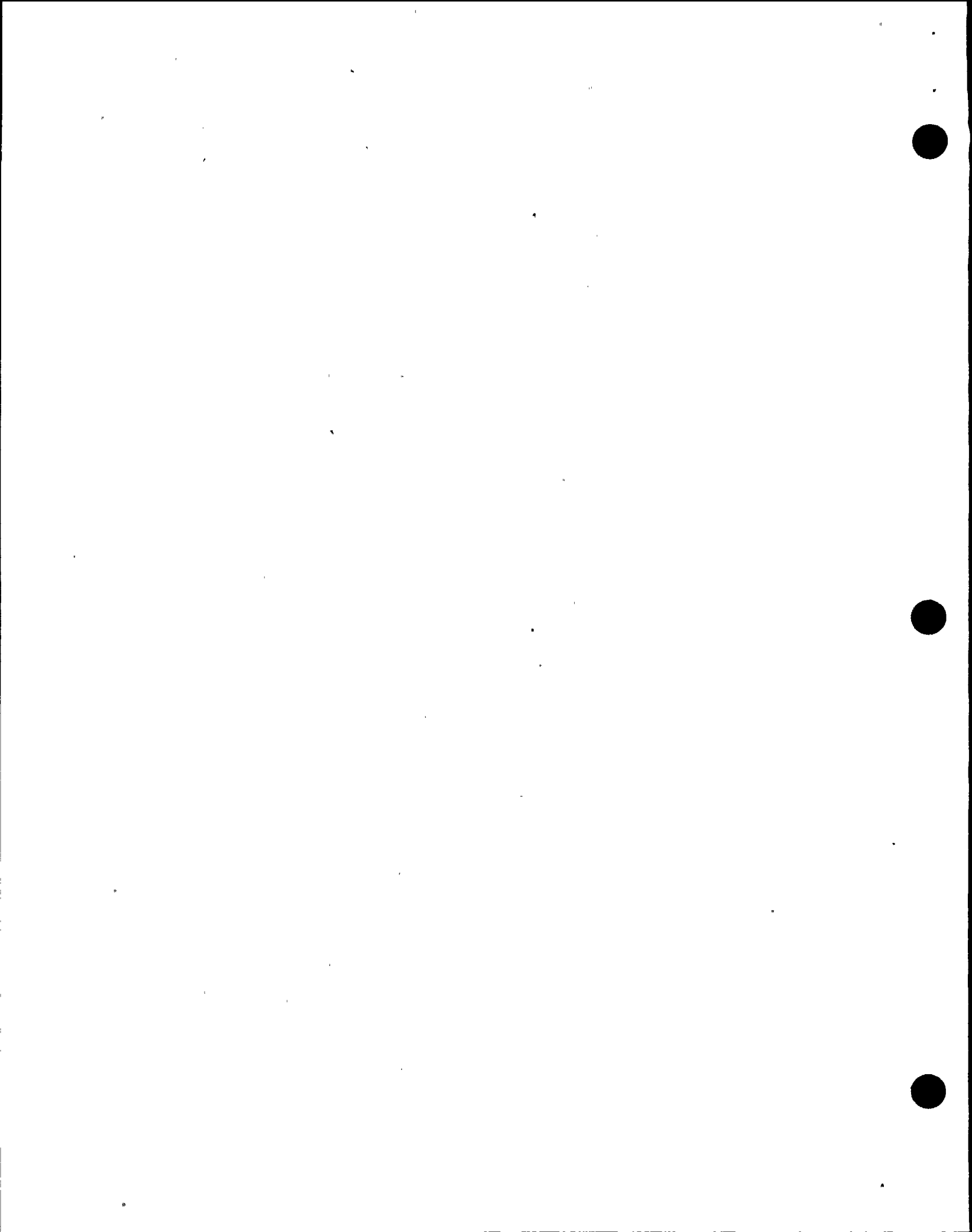
- EO-9.8 Given N2-EOP-C5 and the Simulator in the conditions established determine if an SRV is open or opens.
- EO-9.9 Given N2-EOP-C5 and the Simulator in the conditions established determine if any MSL is open.
- EO-9.10 Given N2-EOP-C5 and the Simulator in the conditions established determine RPV water level.
- EO-9.11 Given N2-EOP-C5 and the Simulator in the conditions established determine if all SRVs remain closed and drywell pressure remains below 1.68 psig.
- EO-9.12 Given N2-EOP-C5 and the Simulator in the conditions established determine if emergency RPV depressurization is required.
- EO-9.13 Given N2-EOP-C5 and the Simulator in the conditions established determine if RPV water level was deliberately lowered.
- EO-9.14 Given N2-EOP-C5 and the Simulator in the conditions established direct operators to maintain RPV water level between -14 in. and 202.3 in. using those systems listed in N2-EOP-C5 to include defeating isolation interlocks if necessary.
- EO-9.15 Given N2-EOP-C5 and the simulator in the conditions established determine if RPV water level can be maintained above -14 inches.

B. RO/CSO Objectives

- TO-10.0 2000350501 Perform the actions required for a loss of off-site power.
  - EO-10.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform the actions required for a loss of off-site power as directed by the SSS.
- TO-11.0 2019250101 Perform post scram recovery actions in accordance with N2-OP-101C.
  - EO-11.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform post scram recovery actions in accordance with N2-OP-101C as directed by the SSS.



- TO-12.0 2000070501 Perform actions for a high drywell pressure.
- EO-12.1 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-13.0 2000210501 Perform the actions required for a high drywell temperature.
- EO-13.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform the actions required for a high drywell temperature as directed by the SSS.
- TO-14.0 2000200501 Perform the actions required for an anticipated transient without scram (ATWS).
- EO-14.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform the actions required for an anticipated transient without scram (ATWS) as directed by the SSS.
- TO-15.0 2000030501 Perform actions for a main steam isolation valve closure.
- EO-15.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform actions for a main steam isolation valve closure as directed by the SSS.
- TO-16.0 2170030101 Manually initiate RCIC from the Control Room and monitor for proper operation.
- EO-16.1 Given NMP-2 operating procedures and the Simulator in the conditions established manually initiate the RCIC System from the Control Room and monitor for proper operation as directed by the SSS.
- TO-17.0 2179070401 Control reactor pressure using the RCIC System.
- EO-17.1 Given NMP-2 operating procedures and the Simulator in the conditions established control reactor pressure using the RCIC System as directed by the SSS.
- TO-18.0 2229020401 Operate the Drywell Cooling System with a LOCA signal present.
- EO-18.1 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-19.0 2009150501 Perform the actions required for a large break LOCA, inside the Primary Containment.

EO-19.1 Given NMP-2 operating procedures and the Simulator in the conditions established perform the actions required for a large break LOCA, inside the Primary Containment as directed by the SSS.

TO-20.0 2050150101 Operate the Containment Spray System.

EO-20.1 Given NMP-2 operating procedures and the Simulator in the conditions established operate the Containment Spray System as directed by the SSS.

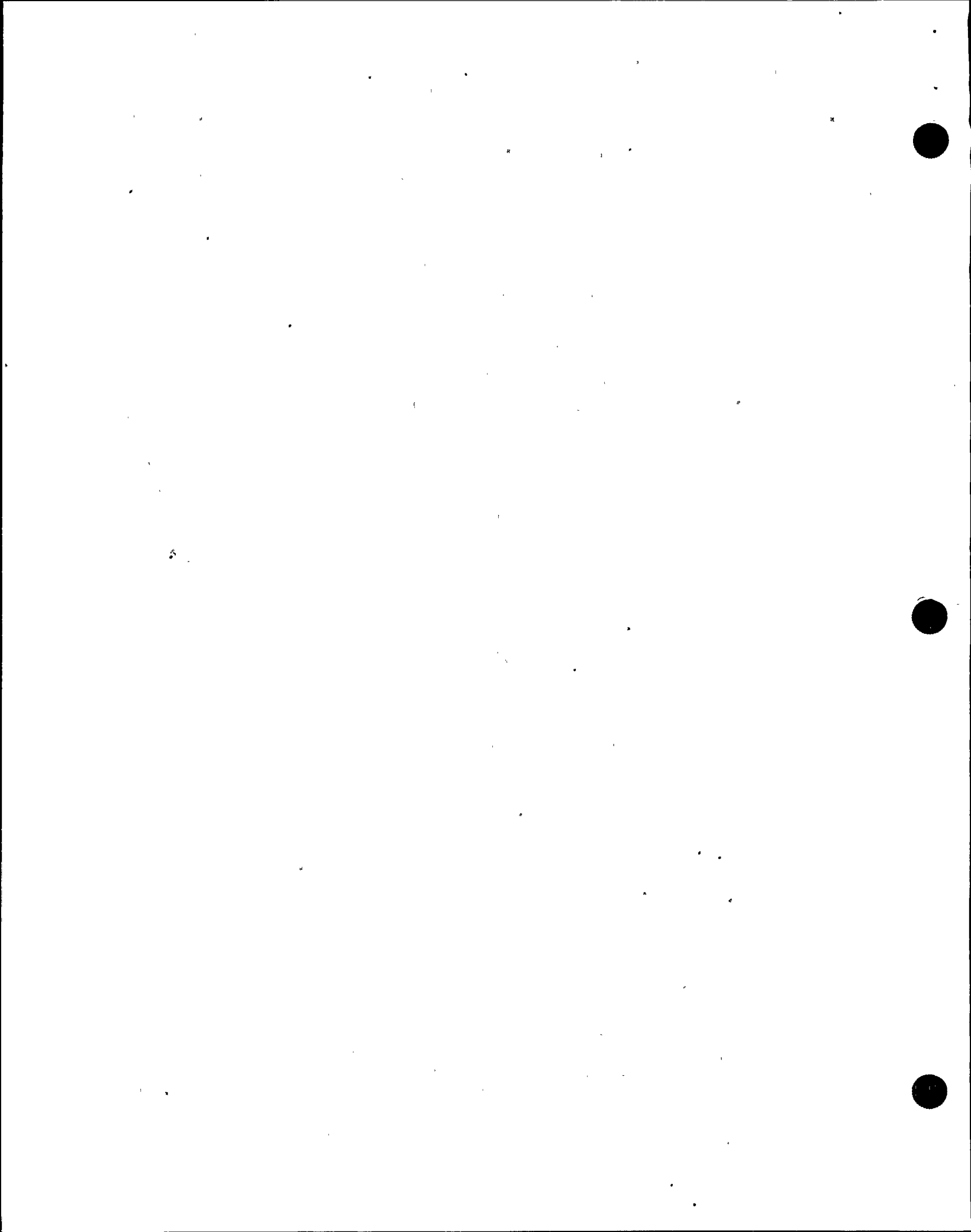
C. Team Objectives

TO-21.0 Demonstrate effective communication in accordance with the Operating Department instruction on verbal communications (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 Operating 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. (LER50-410/88-50) (NRC IR50-410/88-01).



ATTACHMENT 1  
PRE-EXERCISE BRIEFING

IV. LESSON CONTENT  
LESSON CONTENT

DELIVERY NOTES

OBJECTIVES/  
NOTES

A. Exercise Overview

Present the following:

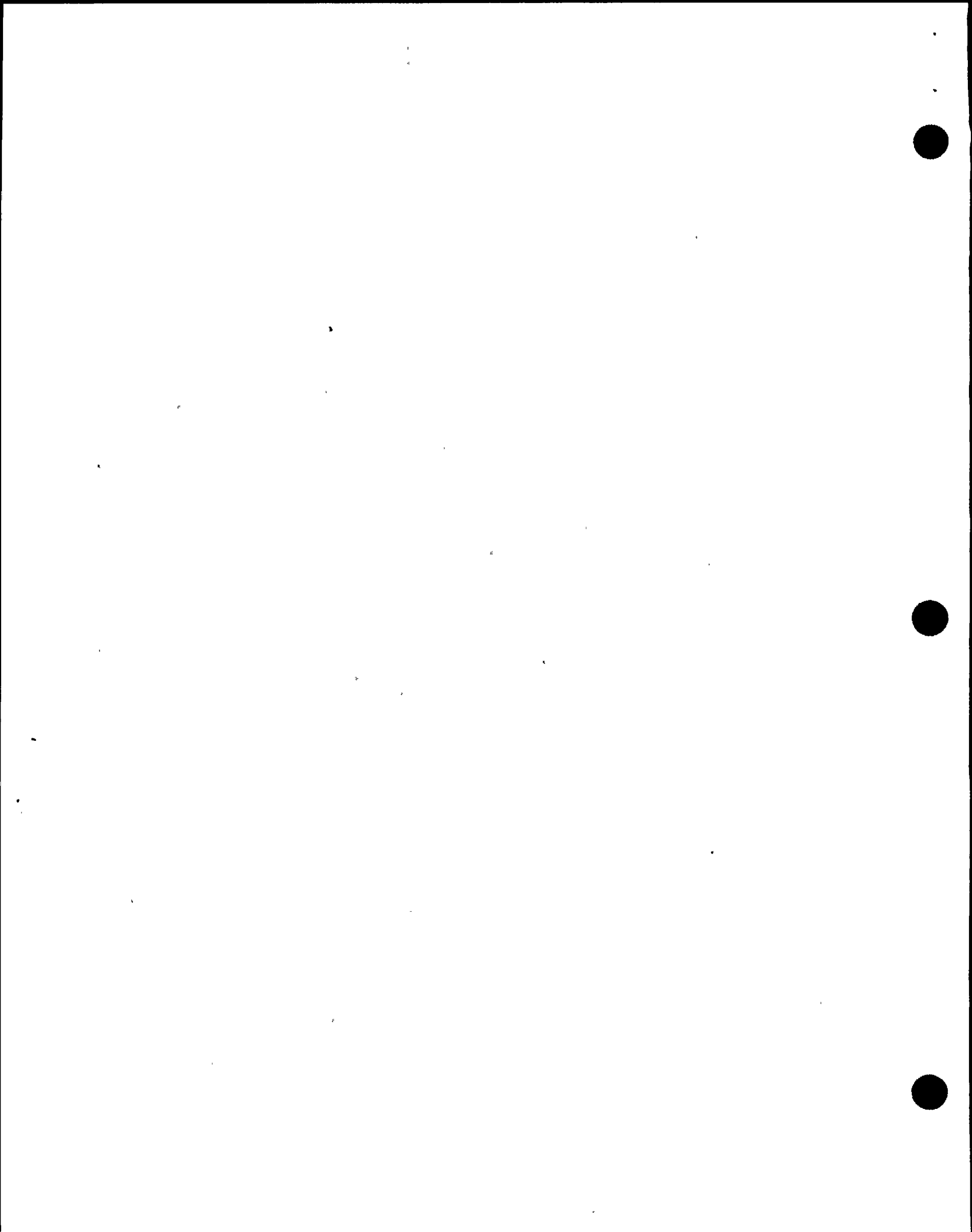
During this scenario, plant conditions begin at 100% power operation. Severe thunderstorms are reported in the area when an outside tour operator reports that a violent storm is in progress at the site. Grid UV occurs (due to lost power sources) and operators respond to degraded voltage conditions. Next, the off-site power supplies to Unit Two are lost. During the recovery in the Control Room it is discovered that none of the service water pumps will restart. Actions for loss of service water (per N2-OP-11) are performed and the reactor is scrammed.

The transient produces a small steam leak inside Primary Containment which slowly worsens. Operators enter EOPs for RPV control, Primary Containment Control and C5, Level/Power Control (when it is determined that 5 rods did not insert.) Supp chamber sprays and DW sprays will be performed. Operator attempts to restore SW will eventually result in restoration of one SW pump. The scenario ends when operators have control of DW temp and press and have determined proper course of action to correct the situation.

Discuss proper course of action to permit cooldown and depressurization.

02-REQ-009-TRA-2-26 -11 December 1990

UNIT 2 OPS/2233





ATTACHMENT 1  
PRE-EXERCISE BRIEFING

| LESSON CONTENT   | DELIVERY NOTES   | OBJECTIVES/<br>NOTES |
|--|--|----------------------|
| <p>B. Prerequisite Knowledge Review</p> <p>The Rev. 4 RPV Control, Primary Containment Control and Level/Power Control EOPs have been presented in classroom training and should be reviewed prior to the Simulator exercise.</p>  | <p>Discuss prior classroom coverage.</p>   |                      |
| <p>Review the performance and knowledge objectives with participants as the scenarios are discussed.</p>   | <p>Discuss performance and knowledge objectives while describing scenario.</p>   |                      |
| <p>C. Scenario Preview</p> <p>1. The following is an overview of the conditions and actions that will occur during the scenario:</p> <ul style="list-style-type: none"><li>a. Identify degraded grid voltage condition and respond.</li><li>b. Recognize/respond to loss of off-site power.</li><li>c. Recognize/respond to failure of SW pumps to restart automatically or manually.</li><li>d. Take actions per N2-OP-11 to respond to complete loss of all service water.</li><li>e. Scram the reactor and perform actions per N2-OP-101C.</li><li>f. Recognize/respond to failure of 5 rods to insert.</li><li>g. Perform EOP-RPV control.</li><li>h. Perform EOP-Primary Containment control.</li></ul> | <p>EOPs exercised:</p> <ul style="list-style-type: none"><li>RQ</li><li>RP</li><li>RL</li><li>DWT</li><li>PCP</li><li>SPT</li><li>C5</li></ul> |                      |

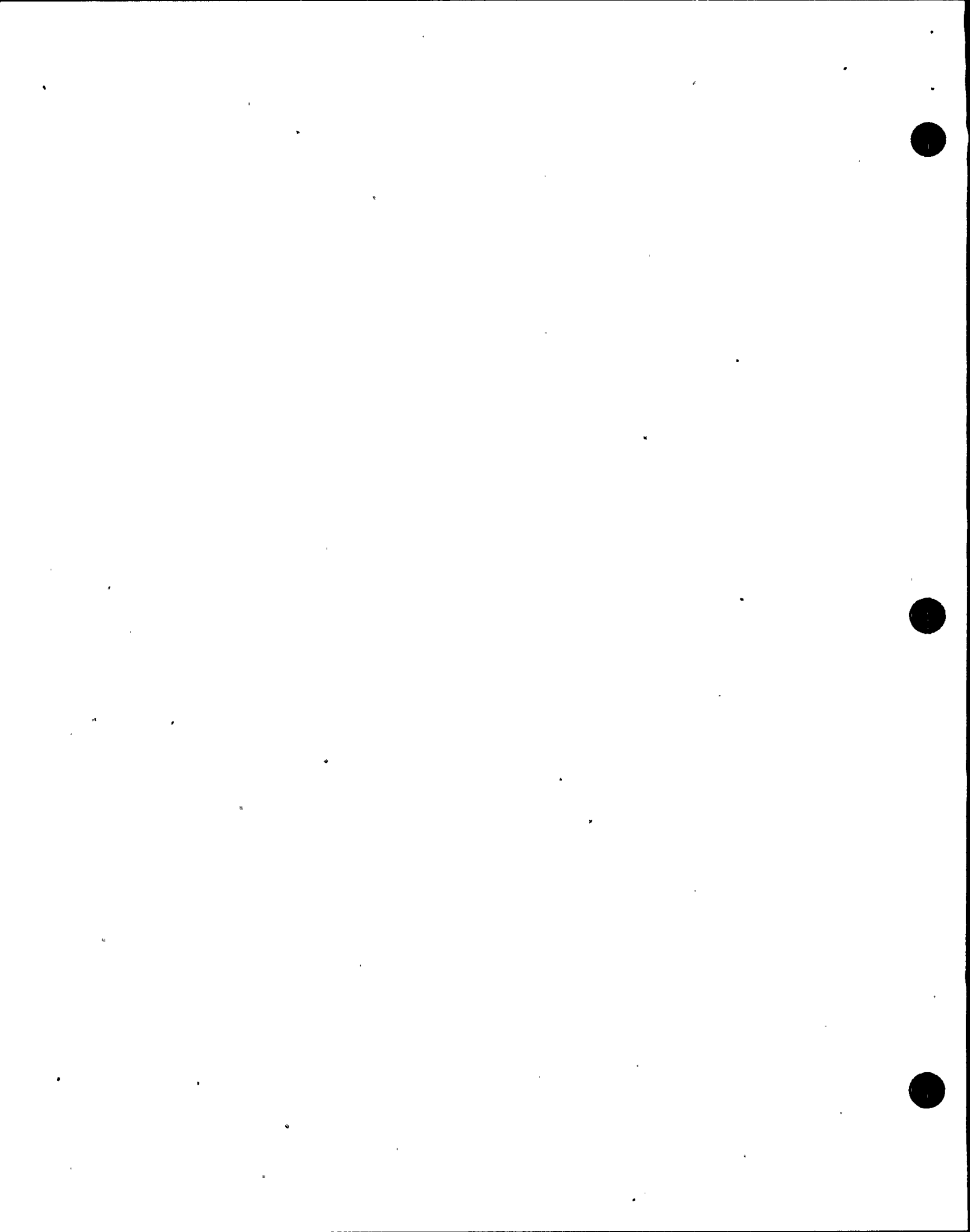
02-REQ-009-TRA-2-26 -12 December 1990



ATTACHMENT 1  
PRE-EXERCISE BRIEFING

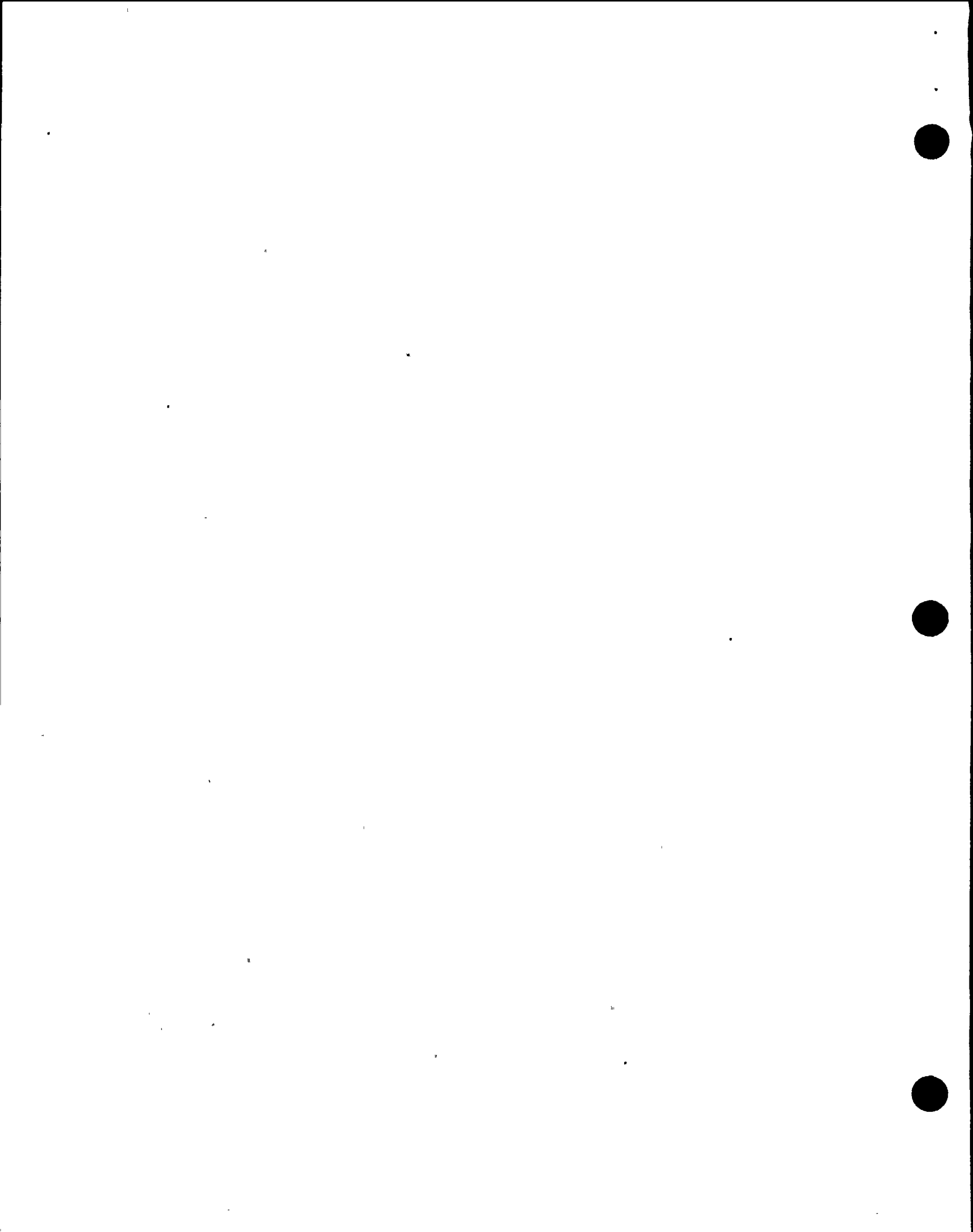
| LESSON CONTENT   | DELIVERY NOTES | OBJECTIVES/<br>NOTES |
|--|----------------|----------------------|
| <ul style="list-style-type: none"><li>i. Perform EOP-C5, Level/Power Control.</li><li>j. Recognize/respond to high drywell temperature.</li><li>k. Recognize/respond to high drywell pressure.</li><li>l. Recognize/respond to high suppression pool water temperature.</li></ul> <p>2. Initial Conditions<br/>Plant status is given in shift turnover information, listed below:</p> <p>3. Expected actions<br/>The participants, acting as a team, will:</p> <ul style="list-style-type: none"><li>- respond to appropriate annunciators</li><li>- use the appropriate annunciator response procedure</li><li>- make appropriate reports to the SSS</li><li>- perform indicated operations</li><li>- use the Instructor as all plant personnel to perform Local Operator Actions (LOAs)</li><li>- observe system indications</li><li>- use appropriate emergency operating procedures</li><li>- place the plant in a stable shutdown depressurized condition</li></ul> |                |                      |
| <p>The instructors perform all LOAs when requested by the participants.</p>  |                |                      |

02-REQ-009-TRA-2-26 -13 December 1990



ATTACHMENT 1  
PRE-EXERCISE BRIEFING

| LESSON CONTENT  | DELIVERY NOTES | OBJECTIVES/<br>NOTES |
|---|----------------|----------------------|
| D. Operating Concerns<br>Reviews with the participants any NRC/INPO operating concerns that release to the training session as directed by the Training Program Coordinator.  |                |                      |
| E. Performance Review<br>1. Obtain and discuss with the participants those areas documented on the Post Training Summary from previous Simulator training. Reinforce good performances and areas for improvement.                     |                |                      |
| F. Ground Rules<br>Discuss performance expectations relative to:<br>a. professionalism<br>b. Realism<br>c. Log keeping<br>d. Team work<br>e. Communication<br>f. Procedure use<br>g. Notifications<br>h. Self verification techniques |                |                      |
| G. Shift Turnover Information<br>1. Plant status<br>The plant is operating at 100% 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.

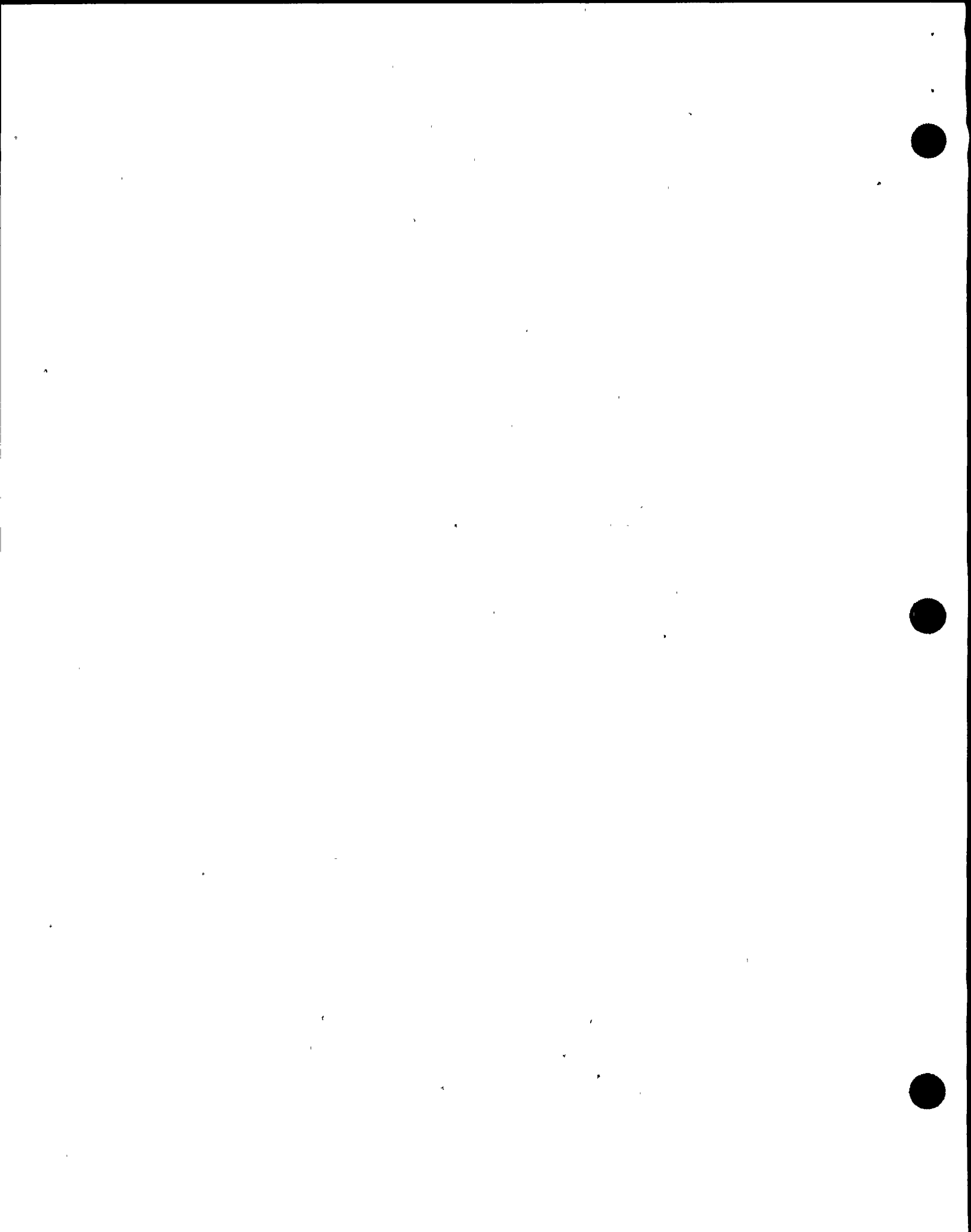




ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

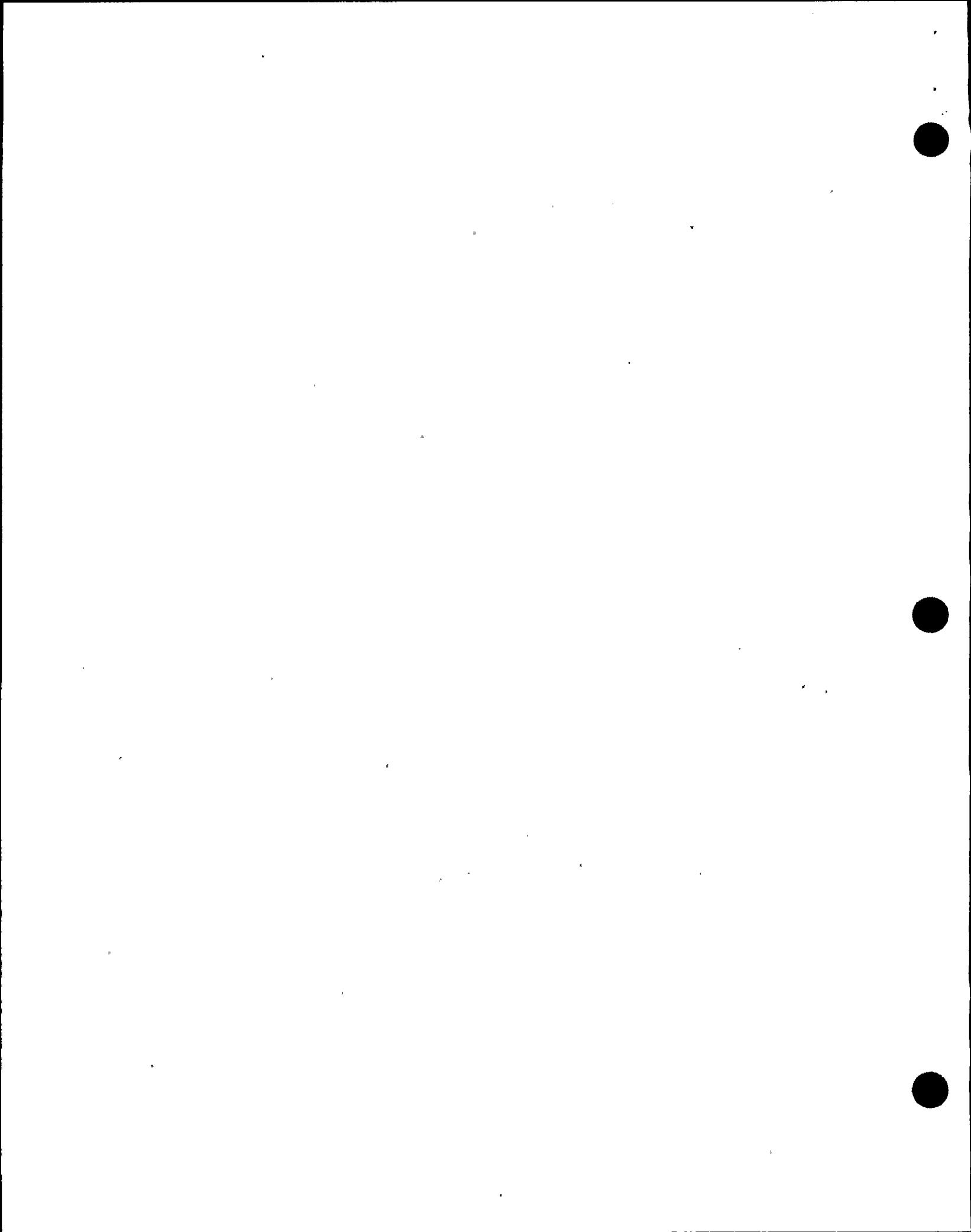
| TIME | SCENARIO | INSTRUCTOR ACTIVITY  | PLANT RESPONSE                 | OPERATOR ACTIONS | INSTRUCTOR COMMENTS           |
|------|----------|--|--------------------------------|------------------|-------------------------------|
|      |          | Special Instructions:<br>Inform operators that a severe<br>thunderstorm/tornado warning is<br>in effect. |                                |                  |                               |
|      |          | Simulator Operation:<br>Initialize Simulator to IC-20  | 100% BOL                       |                  |                               |
|      |          | Preset Malfunctions:<br>1, RD073031<br>2, RD072619<br>3, RD074247<br>4, RD073047<br>5, RD072207          | These rods will stick in place |                  |                               |
|      |          | Preset I/O overrides:<br>Distribute and discuss watch<br>turnover sheets.                                |                                |                  | Review watch turnover sheets. |



ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

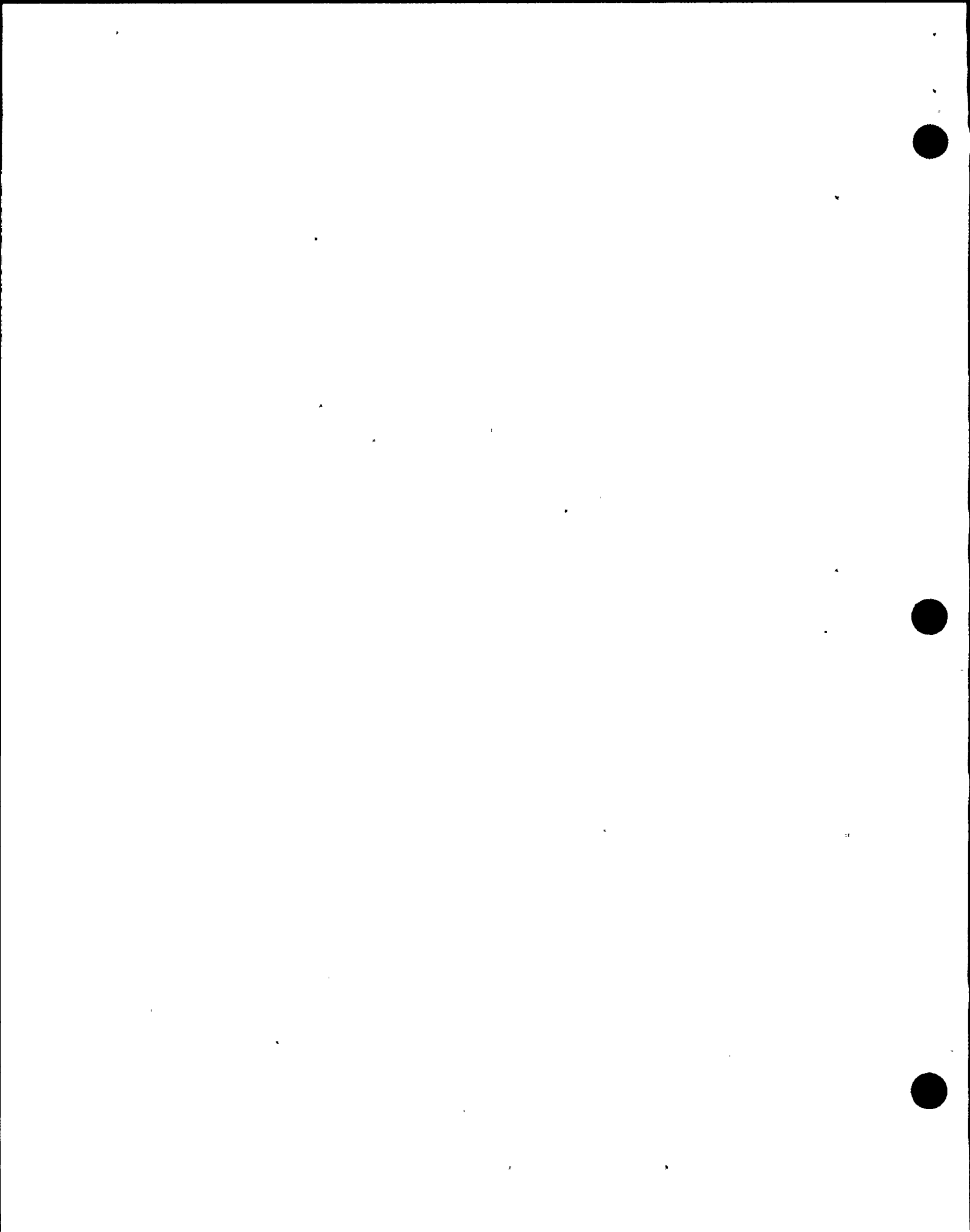
| TIME | SCENARIO | INSTRUCTOR ACTIVITY   | PLANT RESPONSE | OPERATOR ACTIONS                            | INSTRUCTOR COMMENTS |
|------|----------|---|----------------|---|---------------------|
|      |          | <p>Initial Conditions:</p> <p>100% BOL</p> <p>RHM group 147</p> <p>Out of Service Equipment:</p> <p>None</p> <p>Surveillances Scheduled:</p> <p>None</p> <p>Allow not more than 5 minutes to walkdown panels.</p> |                |   |                     |
| T=0  |          | Begin the scenario  |                | <p><u>Crew</u></p> <p>Assume the shift.</p> |                     |



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|----------|----------|--|---|--|---------------------|
| T=3 min. |          | <p><u>Role Play:</u></p> <p>As outside tour NLO, report to Control Room that a violent thunderstorm and hail storm is occurring and that you saw lightning hit the JAF offgas stack.</p> |   | <p><u>SSS</u></p> <p>Inform crew that a severe storm is occurring. Increased awareness is needed. Review scram procedure.</p> <p><u>Crew</u></p> <p>Review actions for scram. Increased monitoring of CR panels.</p> |                     |
| T=5 min. |          | <p>Insert Malfunction:</p> <p>6, EG10</p>  | <p>Grid load increase. Generator MW and MVAR load increases. Grid undervoltage condition.</p> | <p><u>RO/BOP</u></p> <p>Recognize increased generator load. Report condition to SSS.</p>   |                     |



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|------|----------|---------------------|----------------|------------------|---------------------|
|------|----------|---------------------|----------------|------------------|---------------------|

SSS

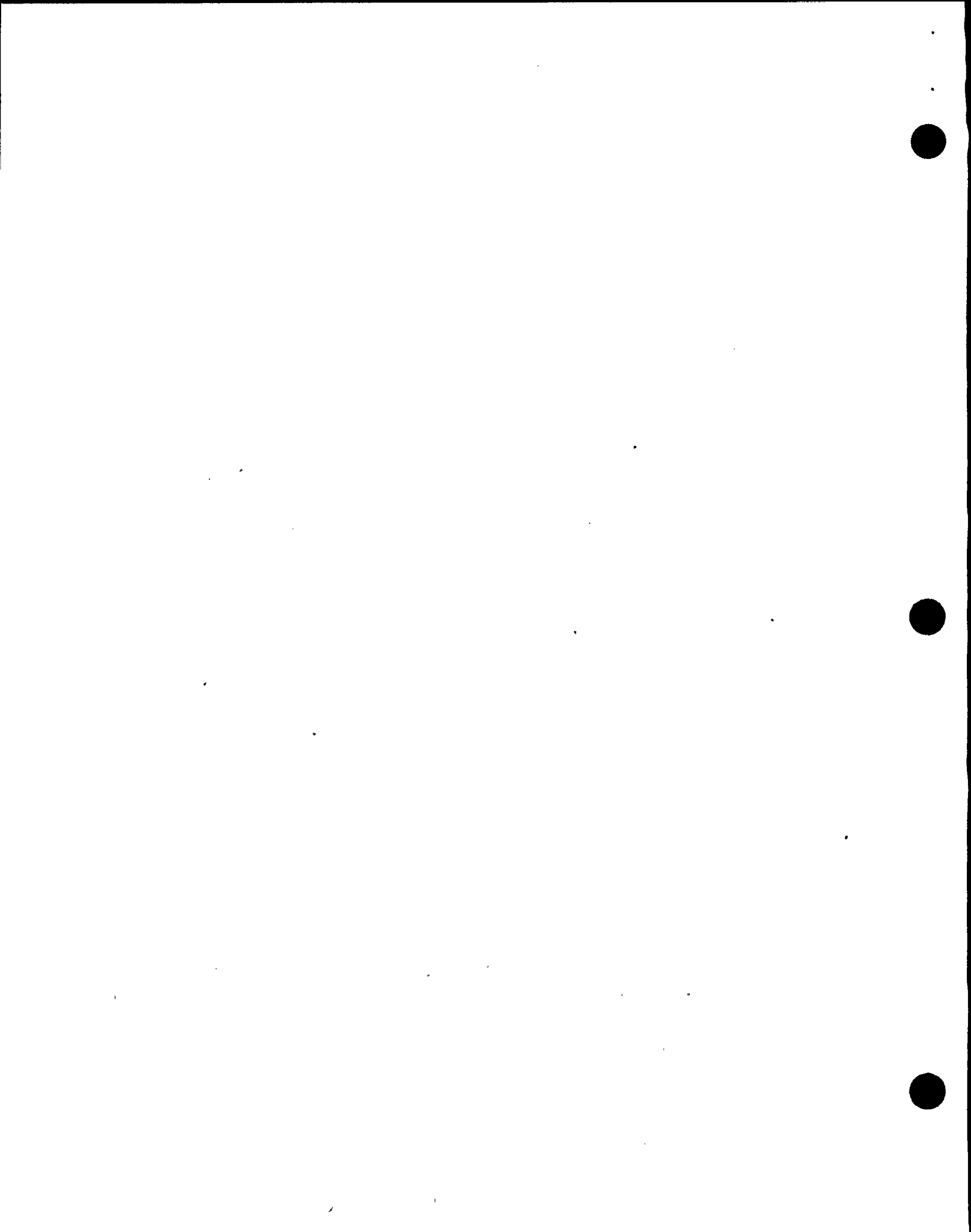
Call power control. Ask for status of grid and how long UV condition will exist.  
Have operators check load condition and MVARs. Reduce load if necessary.

T0-1.0

1=When called by SSS.

Role Play:

As Power Control, report that the storm has knocked out Oswego Steam and they expect to have two peak units started within the hour.





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|---|----------|--------------------------------|---|--|---------------------|
| T=One<br>minute<br>after re-<br>porting<br>the loss<br>of Oswego<br>Steam (as<br>Power<br>Control). |          | Insert Malfunction:<br>7, ED02 | Complete loss of offsite power.   | <u>RO/BOP</u><br>Recognize/respond to loss of<br>offsite power.  | T0-10.0             |
| T=When<br>ED02 has<br>occurred.   |          | Insert Malfunction:<br>8, CW01 | Loss of all service water<br>pumps. (In this scenario,<br>they will not start again after<br>the loss of offsite power) | <u>SSS</u><br>Order SW restored per<br>N2-OP-11, Section 4.0.<br><br><u>BOP</u><br>Monitor SW line-up valves per<br>N2-OP-11. Recognize/report that<br>SW pumps will not start auto-<br>matically or manually. | T0-2.0              |



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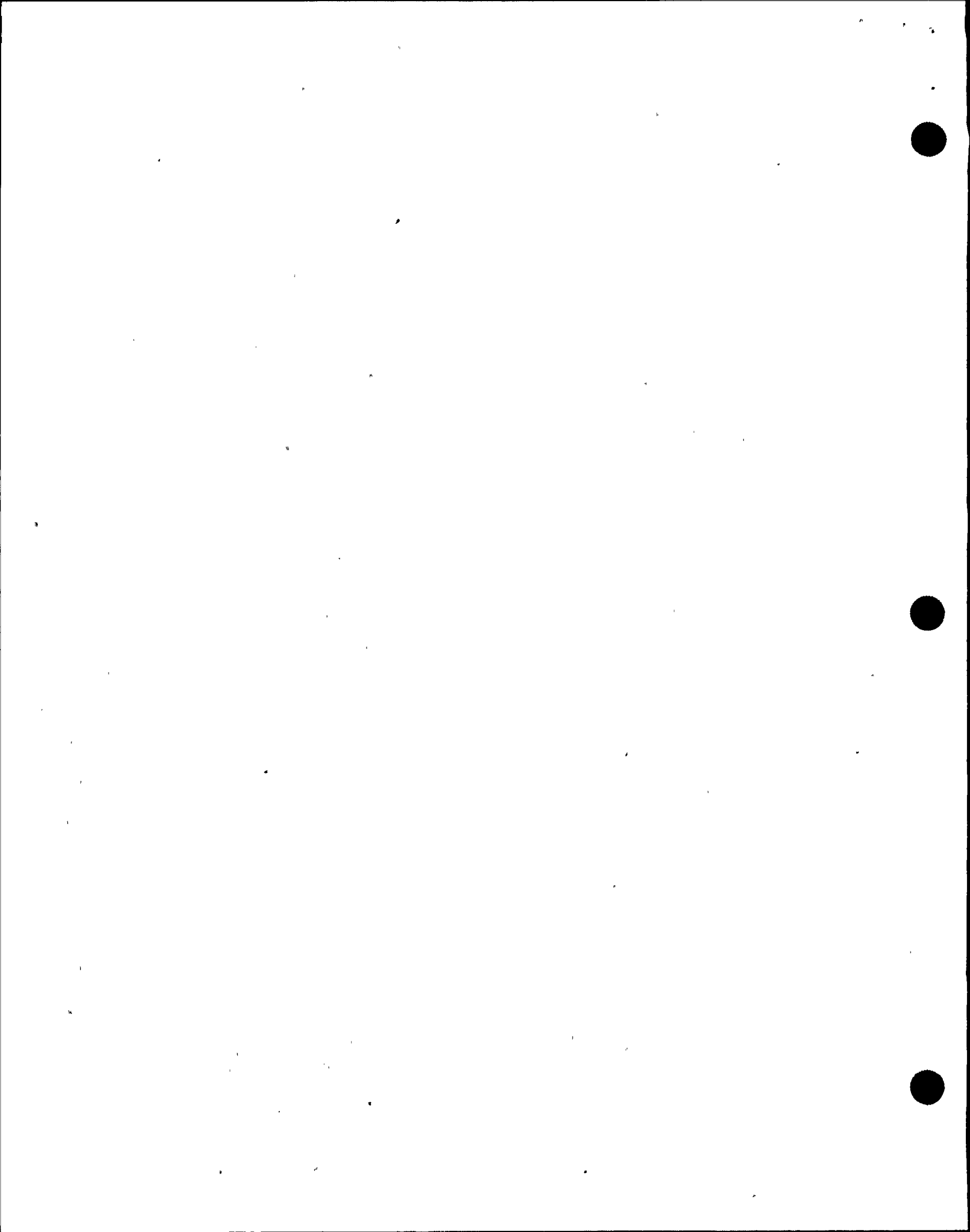
| TIME | SCENARIO | INSTRUCTOR ACTIVITY | PLANT RESPONSE | OPERATOR ACTIONS  | INSTRUCTOR COMMENTS |
|------|----------|---------------------|----------------|---|---------------------|
|      |          |                     |                | <p><u>SSS</u></p> <p>Announce loss of all service water. Order actions per N2-OP-11, Section H.3.0. Order elec maint investigate/restore SW.</p>  |                     |
|      |          |                     |                | <p><u>RO/BOP</u></p> <ul style="list-style-type: none"> <li>- Reduce recirc flow to minimum.</li> <li>- Scram reactor, follow N2-OP-101C.</li> <li>- Trip main turbine</li> <li>- Trip recirc pumps and RWCU</li> <li>- Notify SSS</li> </ul> | T0-11.0             |



ATTACHMENT 2

FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME  | SCENARIO | INSTRUCTOR ACTIVITY                | PLANT RESPONSE              | OPERATOR ACTIONS   | INSTRUCTOR COMMENTS  |
|---|----------|------------------------------------|-----------------------------|--|--|
| T=When<br>actions<br>for loss<br>of SW<br>(right)<br>are<br>complete. |          | Insert Malfunction:<br>9, MS03, 30 | DW pressure rises steadily. | <u>BOP</u><br>Recognize/report high DW<br>pressure and trend.  | Simulating break<br>in RPV caused by the<br>power transient.<br>T0-12.0<br>T0-13.0 |
|   |          |                                    |                             | <u>RO</u><br>Report 5 stuck rods. MSIV<br>closure.   | T0-14.0<br>T0-15.0   |
|   |          |                                    |                             | <u>SSS</u><br>Enter RPV control, PC<br>control. Exit RL, enter C5.<br>Order SC spray on either loop<br>of RHR. | T0-3.0<br>T0-4.0<br>T0-5.0<br>T0-6.0<br>T0-7.0<br>T0-8.0                           |
|   |          |                                    |                             | <u>BOP</u><br>Establishes SC spray.  | T0-9.0   |



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| TIME   | SCENARIO | INSTRUCTOR ACTIVITY   | PLANT RESPONSE | OPERATOR ACTIONS   | INSTRUCTOR COMMENTS                          |
|--|----------|---|----------------|--|--|
|  |          |   |                | <p><u>SSS</u></p> <p>Order RCIC started for level/pressure control. Order DRS fans restarted.</p>  |  |
|  |          |   |                | <p><u>BOP</u></p> <p>Start RCIC controlling RPV pressure and level. Restart DRS fans.</p>  | <p>T0-16.0</p> <p>T0-17.0</p> <p>T0-18.0</p> |
| T=When                                       |          | <u>Role Play:</u> (As R.E.)   |                | <p><u>SSS</u></p> <p>Ask RE if the reactor will remain shutdown under all conditions without boron. Order RO insert rods per EOP-6 Att. 14</p> |  |
| SSS asks RE if reactor will remain shutdown. |          | Inform SSS that you have some calculations to perform and you will be right back. |                | <p><u>RO</u></p> <p>Insert rods (attempt to) per RQ.</p>   |  |

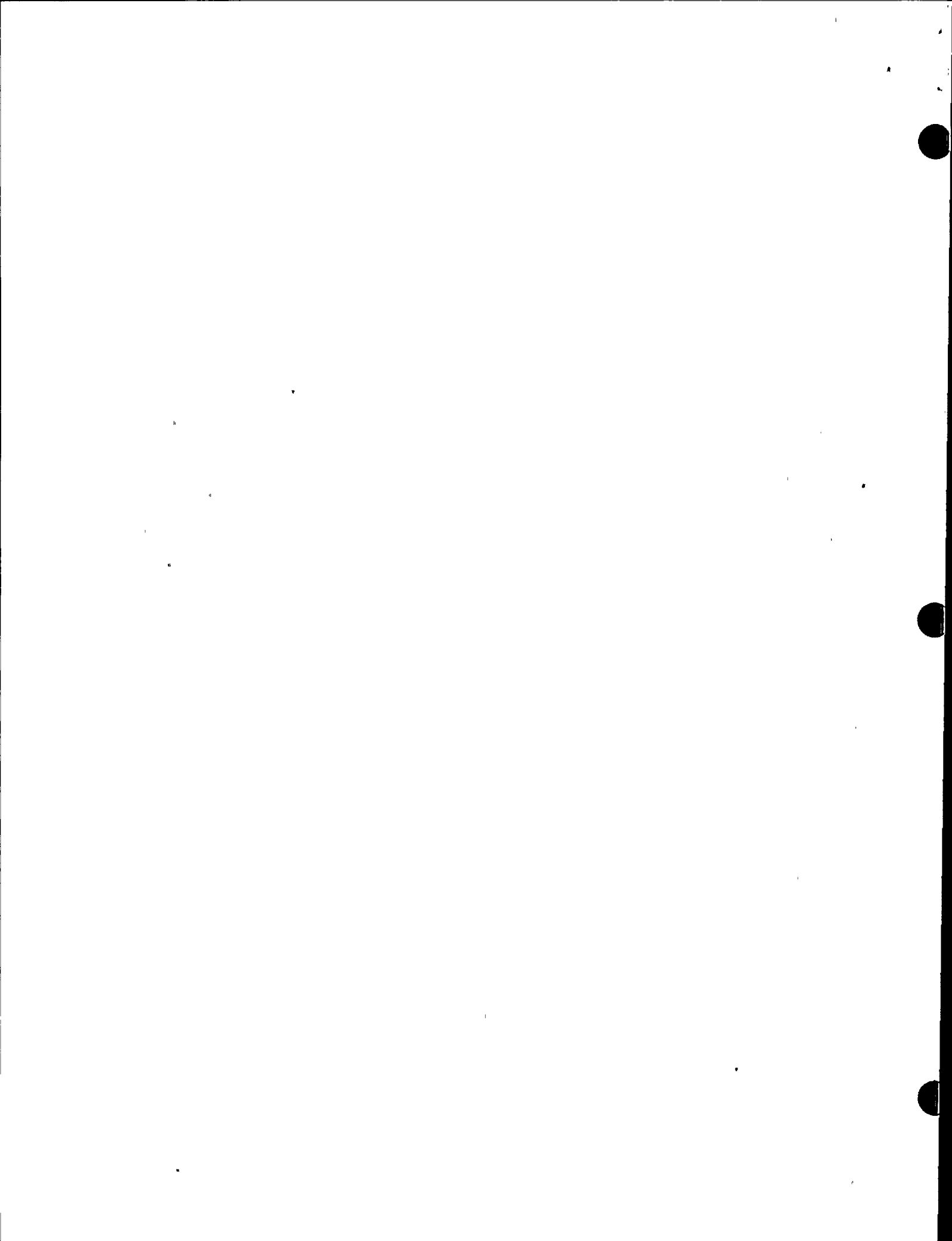




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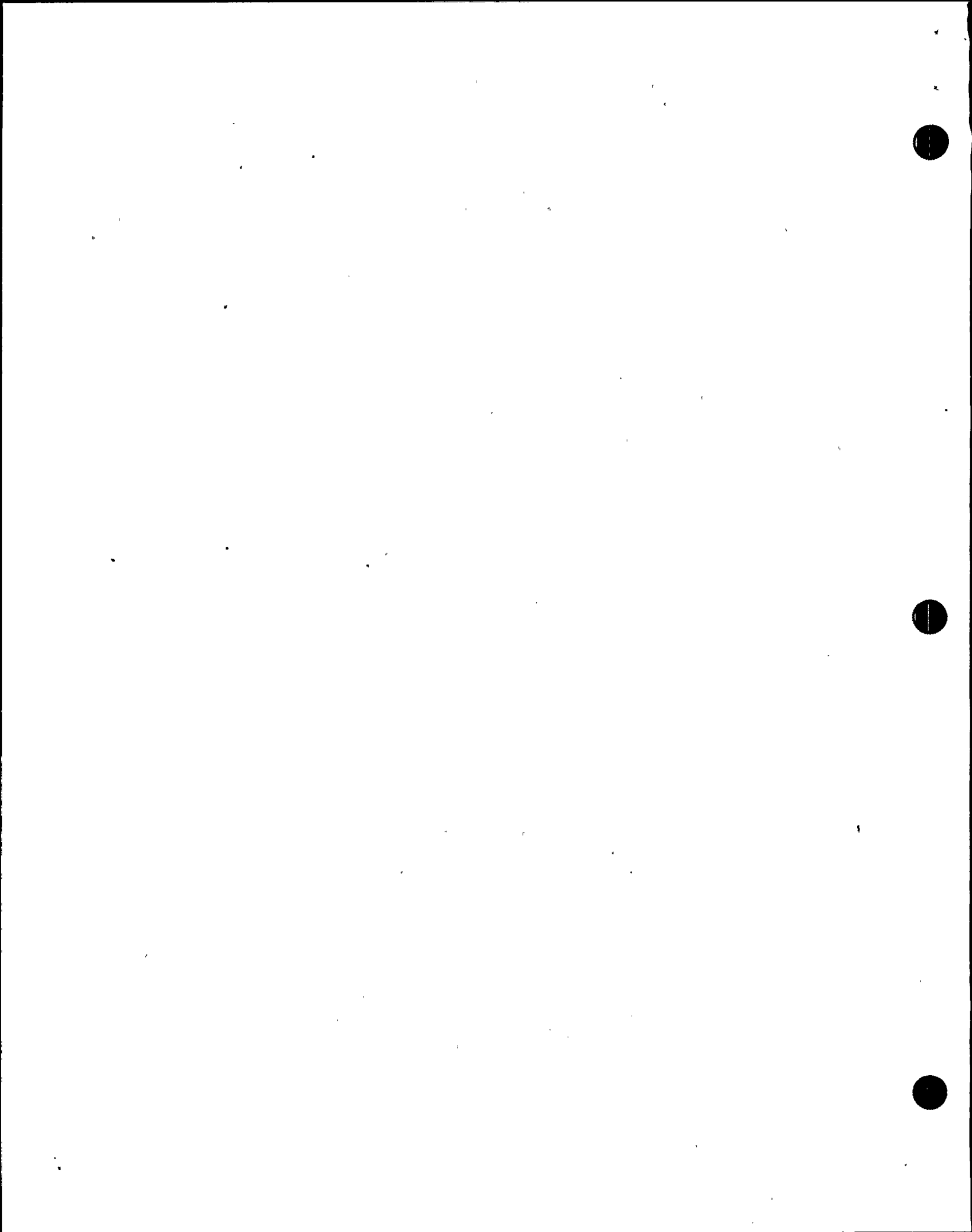
| TIME   | SCENARIO | INSTRUCTOR ACTIVITY   | PLANT RESPONSE  | OPERATOR ACTIONS   | INSTRUCTOR COMMENTS |
|--|----------|---|---|--|---------------------|
| T=5 min.<br>after<br>initiating<br>MS03.               |          | Increase severity of MS03 to 100%<br>9, 100   | Steam leak worsens. DW pressure<br>rise more sharply. |  |                     |
| T=When<br>(if) SC<br>press<br>reaches<br>10#.          |          |   |   | <u>SSS</u><br>Order DW sprays.   | T0-19.0             |
|  |          |   |   | <u>BOP</u><br>Spray the DW.  | T0-20.0             |
| T=5 min.<br>after SSS<br>requests<br>RE<br>evaluation. |          | <u>Role Play:</u> (AS RE)<br>Inform SSS that you have determined<br>that the reactor will remain shut-<br>down under all conditions without<br>boron. |   | <u>SSS</u><br>Exit C5, enter RL. Order cool-<br>down <100°/hr commenced. |                     |



ATTACHMENT 2

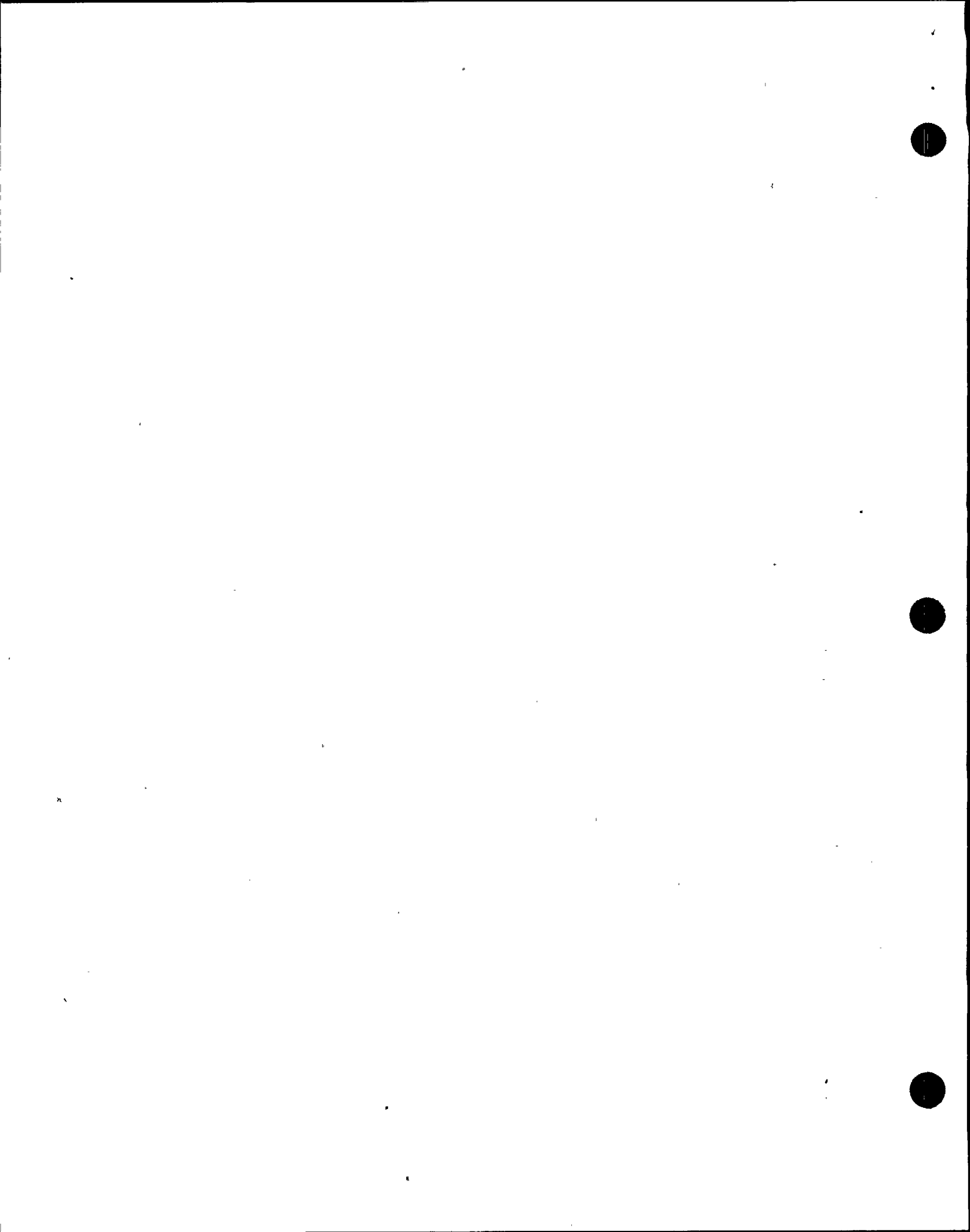
FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME                                       | SCENARIO | INSTRUCTOR ACTIVITY   | PLANT RESPONSE                      | OPERATOR ACTIONS   | INSTRUCTOR COMMENTS |
|--|----------|---|-------------------------------------|--|---------------------|
| T=After<br>SSS orders<br>Rx cool-<br>down. |          | <p>Insert Malfunctions:</p> <p>10,CW01B</p> <p>11,CW01C</p> <p>12,CW01D</p> <p>13,CW01E</p> <p>14,CW01F</p> <p>Then clear malfunction:<br/>8&lt;CR&gt;</p> <p><u>Role Play:</u> (As elect. maint.)<br/>Inform CR that "A" SW pump is<br/>available.</p> | <p>A SW pump will be available.</p> | <p><u>BOP</u></p> <p>Commence normal cooldown with<br/>SRVs.</p> <p><u>SSS</u></p> <p>Order "A" SW pump started (or<br/>verified). Re-establish<br/>essential SW loads. Establish<br/>SP cooling.</p> <p><u>BOP</u></p> <p>Re-establish SW essential loads,<br/>not to exceed 10,000 gpm.<br/>Restore supp pool cooling.</p> |                     |



FLOOR INSTRUCTOR AND CONSOLE OPERATORS GUIDE

| TIME  | SCENARIO | INSTRUCTOR ACTIVITY | PLANT RESPONSE | OPERATOR ACTIONS | INSTRUCTOR COMMENTS |
|---|----------|---------------------|----------------|------------------|---------------------|
| T=When  |          | Stop scenario.      |                |                  |                     |
| -SW loads<br>are be-<br>ing re-<br>stored<br><u>and</u><br>-a normal<br>cooldown<br>is in<br>progress |          | Freeze Simulator.   |                |                  |                     |



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-2) 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)





