

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

UNIT II OPERATIONS

07-190-91

02-REQ-008-362-2-02 Revision 2

TITLE: OVERVIEW OF TECHNICAL SPECIFICATIONS

	<u>SIGNATURE</u>	<u>DATE</u>
PREPARER	<u>[Signature]</u>	<u>6/6/91</u>
TRAINING AREA SUPERVISOR	<u>[Signature]</u>	<u>6/6/91</u>
TRAINING SUPPORT SUPERVISOR	<u>[Signature]</u>	<u>6-6-91</u>
PLANT SUPERVISOR/ USER GROUP SUPERVISOR	<u>[Signature]</u>	<u>6-6-91</u>

Summary of Pages

(Effective Date: 6/6/91)

Number of Pages: 16

Date

Pages

June 1991

16

**MASTER**

TRAINING DEPARTMENT RECORDS ADMINISTRATION ONLY

VERIFICATION: [Signature]

DATA ENTRY: [Signature]

RECORDS: [Signature]

**MASTER  
CONTROLLED  
DOCUMENT**

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ATTACHMENT 5  
LESSON PLAN TEMPORARY/PUBLICATION/ADDENDUM CHANGE FORM

The attached change was made to:

Lesson plan title: Overview of Technical Specifications

Lesson plan number: 02-REQ-008-362-2-02 Rev 2

Name of instructor initiating change: Pat Walsh

Reason for the change: Incorporate a review of control room  
staffing requirements for all modes of operation  
per section 6 of Technical Specifications.  
(TRR-60800-66)

Type of change:

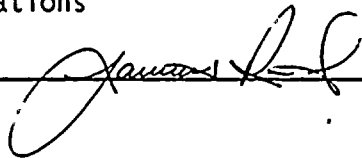
1. Temporary change
2. Publication change
3. Addendum change

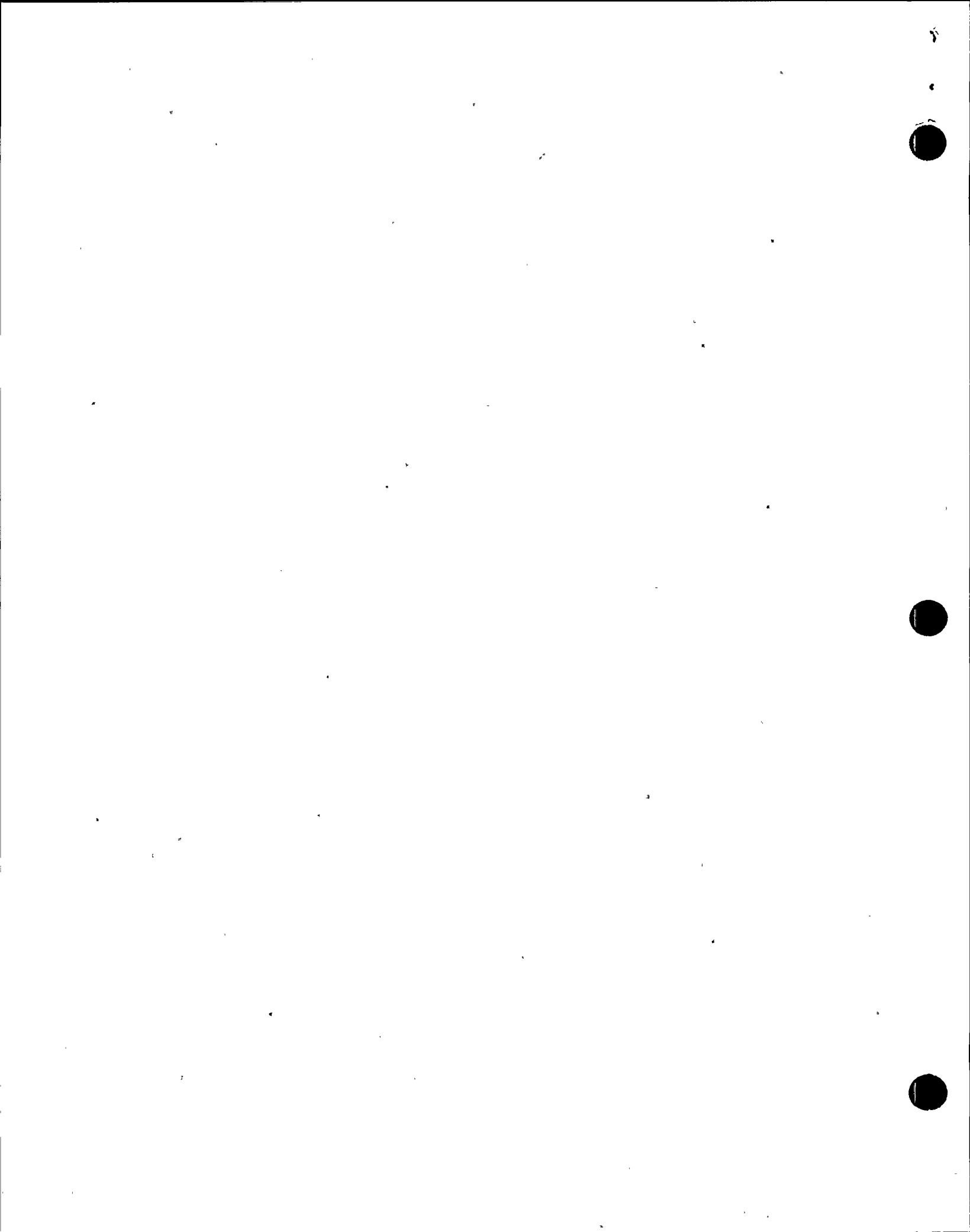
Disposition:

1. Incorporate this change during the next scheduled revision.
2. Begin revising the lesson plan immediately. Supervisor initiate the process.
3. To be used one time only.

Approvals:

Instructor:  /Date 7/3/91

Supervisor Operations  
Training  
(or designee):  /Date 7/3/91



I. TRAINING DESCRIPTION

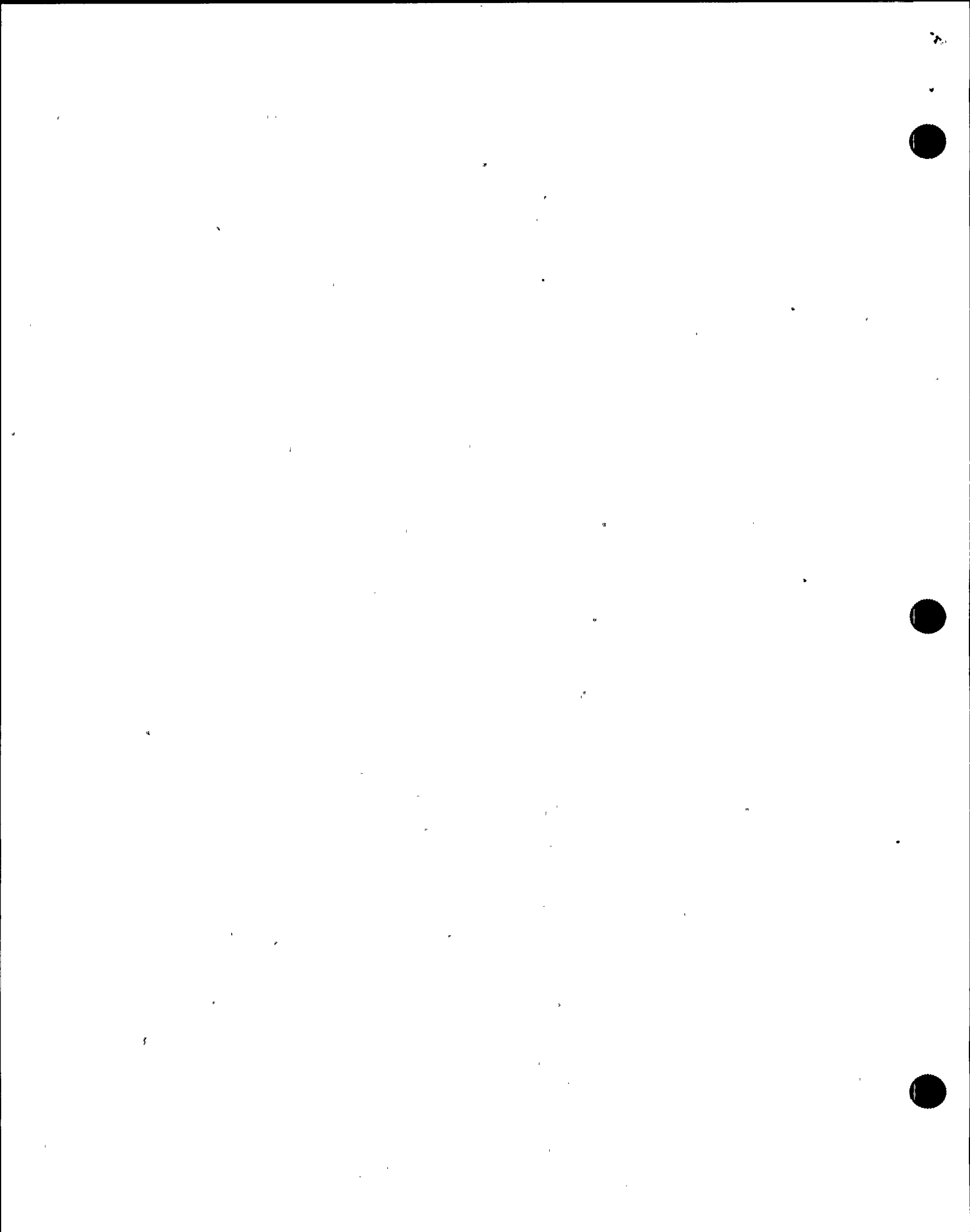
- A. Title of Lesson: Overview of Technical Specifications
- B. Lesson Description: This lesson contains information that will provide overview knowledge of the Unit Technical Specifications.
- C. Estimate of the Duration of the Lesson: 2 hours.
- D. Method of Evaluation, Grade Format, and Standard of Evaluation: A written exam will be given with a minimum grade of 80% required for satisfactory performance.
- E. Method and Setting of Instruction: Lecture conducted in the classroom.
- F. Prerequisites:
  - 1. Instructor:
    - a. Certified in accordance with NTP-16.
  - 2. Trainee:
    - a. In accordance with eligibility requirements of NTP-10.
- G. References:
  - 1. Technical Specifications
  - 2. Technical Specification Interpretations
  - 3. NMP-2 USAR
    - a. Technical Specifications, Volume 28, Chapter 16.
  - 4. Licensee Event Report 87-67 and 89-32

II. REQUIREMENTS

- A. AP-9, Administration of Training
- B. NTP-11, Continuing Training of Licensed Operators

III. TRAINING MATERIALS

- A. Instructor Materials:
  - 1. Training Record (TR)
  - 2. Instructor's working copy of Lesson Plan
  - 3. Whiteboard and Markers
  - 4. Overhead Projector
  - 5. Transparencies as needed
  - 6. Flipchart
  - 7. Copy of Trainee Handouts
  - 8. Trainee Course Evaluation Forms

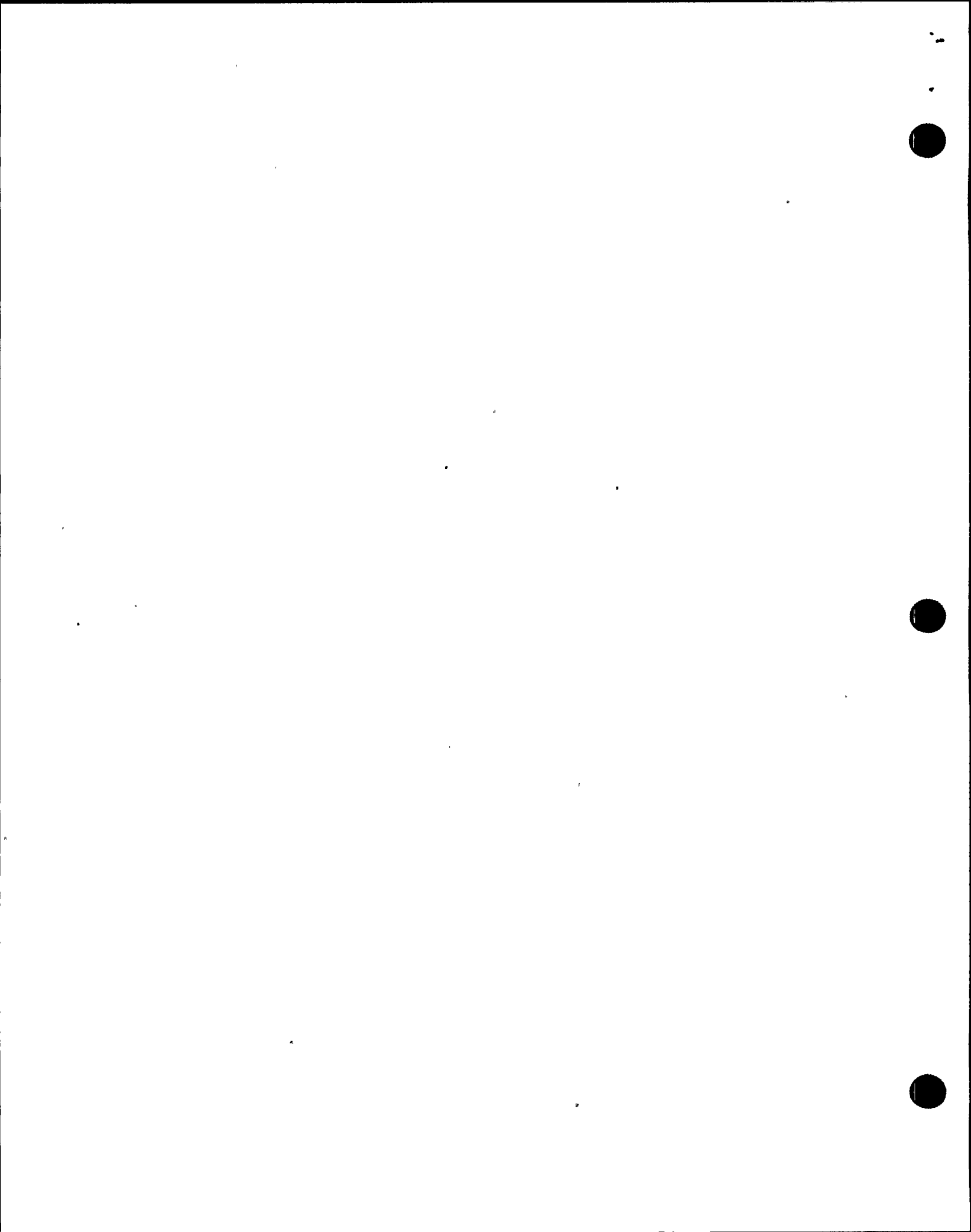


B. Trainee Materials:

1. Handouts
2. Paper or notebook
3. Pen or pencil

IV. EXAMS AND MASTER ANSWER KEYS

Exams and master answer keys are maintained on permanent file with the designated clerk.





V. LEARNING OBJECTIVES

Upon completion of this lesson the trainee will have gained the knowledge related to the Unit Technical Specifications to:

A. Terminal Objectives:

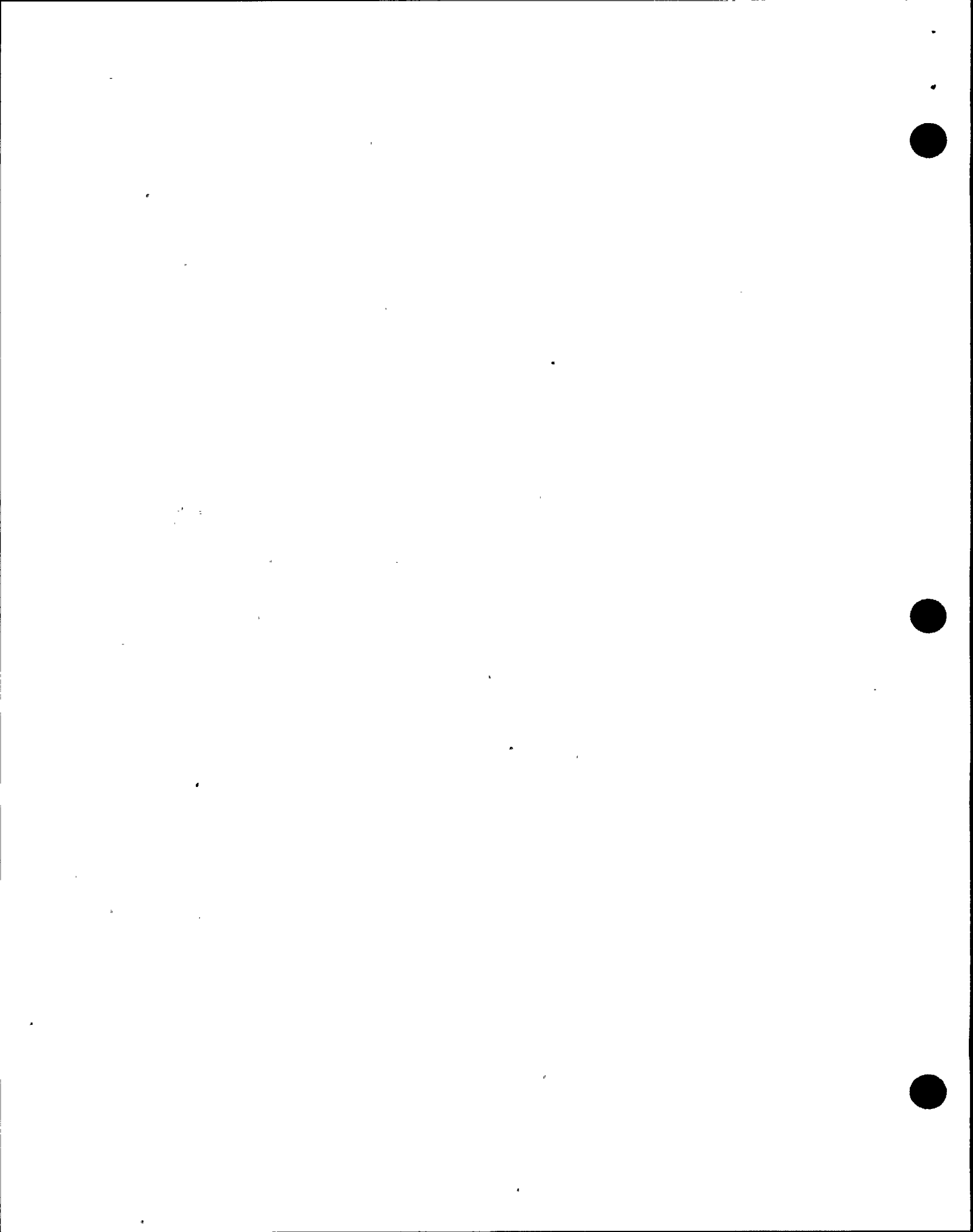
- TO-1.0 Review Surveillance Test Results to Ensure Compliance with Specifications (3410120103)
- TO-2.0 Apply Tech. Spec. Directions for Safety Limits, LCOs and Limiting Safety System Settings. (3410180303)
- TO-3.0 Evaluate Plant System's Performance and Coordinate Appropriate Actions per Tech. Specs., if LCO Entered. (3410320303)
- TO-4.0 Evaluate Plant Conditions and Coordinate Actions per Tech. Specs. if LSSS is Reached. (3410330303)
- TO-5.0 Authorize Performance of Surveillance Test on Shift. (3420240303)
- TO-6.0 Compare the Unit Log for Surveillance Test Completion Dates Against the Schedule. (3420290303)
- TO-7.0 Monitor Compliance With Environmental Technical Specifications. (3430430303)
- TO-8.0 Utilize Tech. Spec. Interpretations and Clarify Actions and Applications of Action Statements. (3440310303)
- TO-9.0 Direct Performance of Surveillances when Plant Computers are Out of Service. (3450550103)
- TO-10.0 Recommend Corrective Actions For Surveillance Tests Results That Are Out of Specification. (3510130103)

B. Enabling Objectives:

- EO-1.0 Explain the function and the purpose of the Technical Specifications.
- EO-2.0 State the legal obligation of the plant operator in adhering to the Technical Specifications.
- EO-3.0 List the six major sections of the Technical Specifications and describe what is contained in each section.



- EO-4.0 Utilize the Technical Specifications to describe the following terms:
  - a. Safety Limit
  - b. Limiting Safety System Setting
  - c. Limiting Condition for Operation
  - d. Surveillance Requirement
- EO-5.0 Describe the ACTION section of an LCO in terms of its purpose.
- EO-6.0 Describe the actions to take if an LCO is not met and the ACTION does not apply or cannot be completed.
- EO-7.0 Describe Surveillance Testing including:
  - a. Time interval allowed between surveillance tests.
  - b. Determining what surveillance tests are due and what test are scheduled.
  - c. Actions to be taken if surveillance test results are out of specification.
- EO-8.0 Describe the following about Tech. Spec. Interpretations:
  - a. Who is responsible for making the interpretations.
  - b. How an operator is aware that a Tech. Spec. has been interpreted.
- EO-9.0 Utilize the Technical Specification to describe the actions to be taken if the following are violated:
  - a. Safety Limits
  - b. Limiting Safety System Settings
- EO-10.0 Determine proper action to be taken in accordance with the Technical Specification for events presented to you.



## I. INTRODUCTION

- A. Introduce yourself to the class.
- B. Distribute TR for completion.
- C. Distribute Course Evaluation forms and describe how it should be utilized.
- D. Explain that the evaluation will be conducted as part of a written exam at the end of the week.
- E. Review the learning objectives with the class.

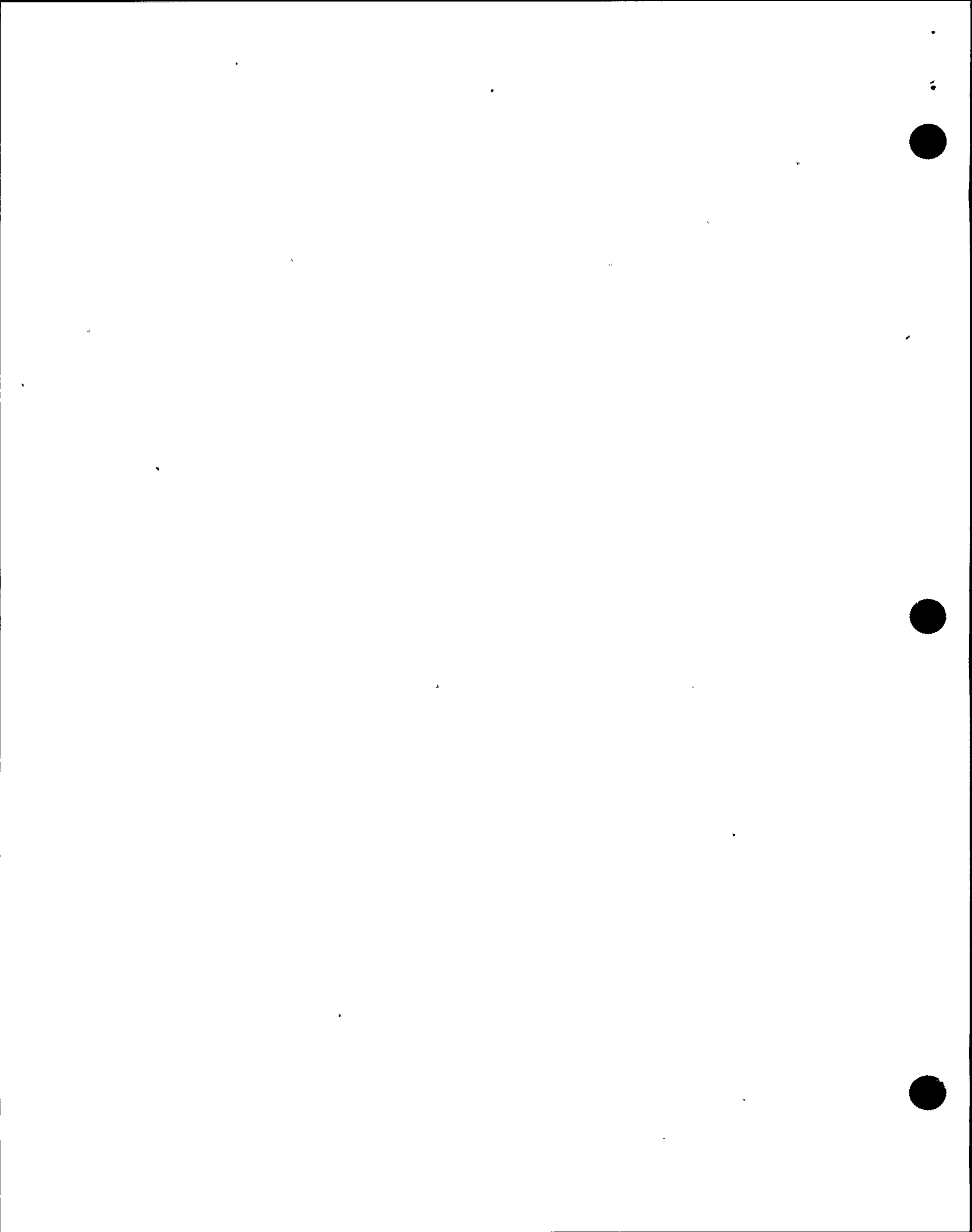
Passing the weekly exam with  $\geq 80\%$  is satisfactory for this lesson.

## II. PURPOSE

- A. The Technical Specifications provide instructions and requirements to ensure the reactor plant is operated in a safe manner.
- B. Legal Implications of the Technical Specifications
  - 1. Legal requirements ensure safe operation of the facility but their effectiveness depends entirely upon the adherence to these requirements by the plant operators.
  - 2. Violations may lead to:
    - a. Revocation of the facility's construction permit or operating license.
    - b. The licensee can also be fined for violations of Tech. Specs.
  - 3. Individuals are held responsible for willful violations of Tech. Specs. in accordance with 10-CFR-55.71.

EO-1.0

EO-2.0



## III. DETAILED DESCRIPTION

## A. General Contents of the Technical Specifications

## 1. Technical specifications are divided into six sections:

## a. Section 1- Definitions

EO-3.0

1) Ensures uniform interpretation of the terms used in the Specification.

2) Terms defined are capitalized in the Specification.

## b. Section 2- Safety Limits and Limiting Safety System Settings

EO-3.0

1) Safety Limit-limits upon important process variables that are found to be necessary to reasonably protect the integrity of certain of the physical barriers that guard against the uncontrolled release of radioactivity.

EO-4.0a

## a) Unit 2 has four Safety Limits

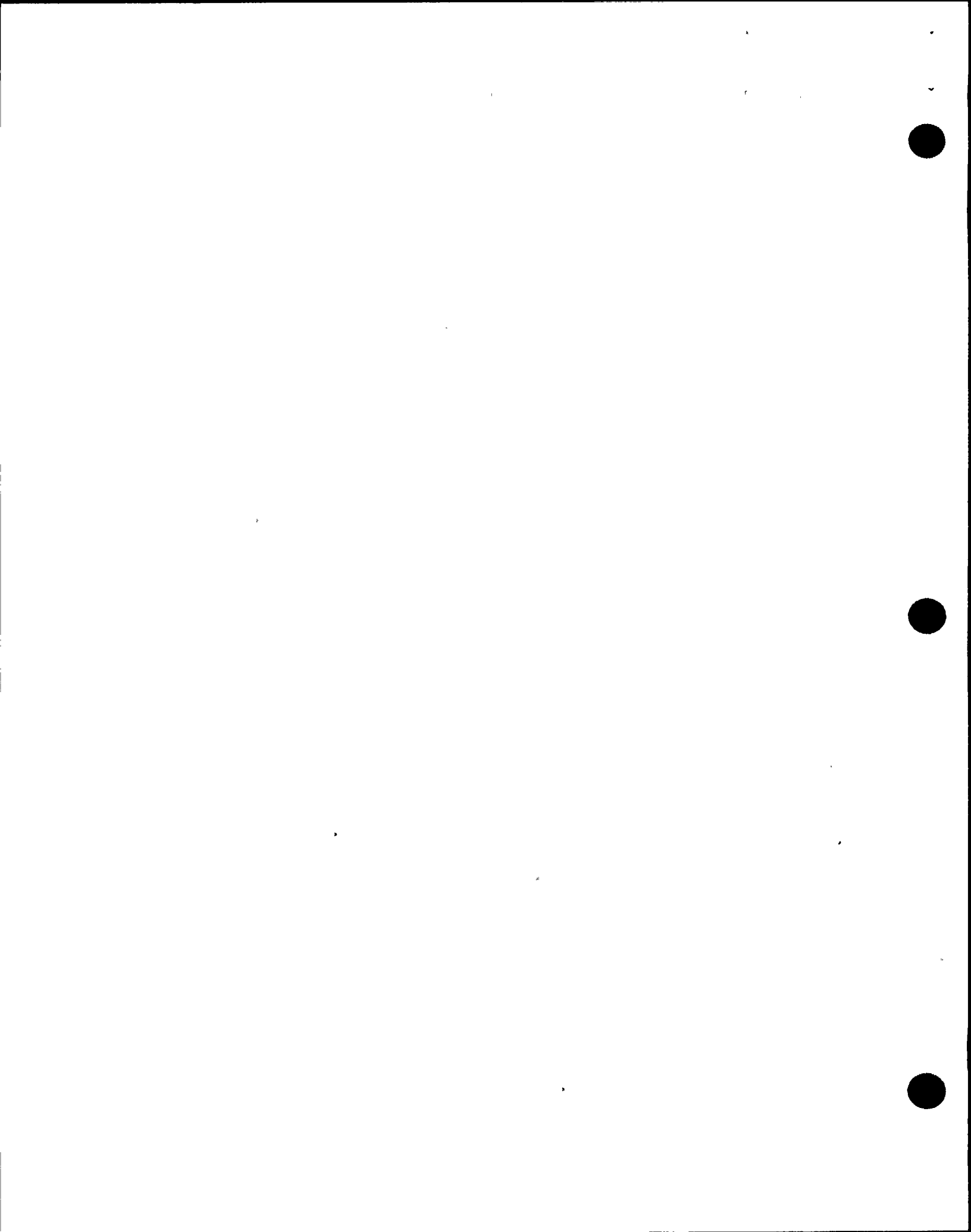
Safety limit for MCPR has gone up to 1.07 for 2 loop and 1.08 single loop due to more calculational uncertainties from new fuel, more exposure, more corrosion film, etc.





- b) Safety Limit Format
    - i) Operational statement and specific limit
    - ii) Applicability - operational condition to which it applies
    - iii) Action Statement - specific action to take if limit is violated
  - c) Bases-provides reasons and explanations of the safety limit; they are not part of the safety limit.
- 2) Limiting Safety System Settings - settings for automatic protective devices related to those variables having significant safety functions.
- a) Where a limiting safety system setting is specified for a variable on which a safety limit has been placed, the setting shall be chosen that automatic protective action will correct the situation before a safety limit is exceeded.

EO-4.0b



- b) Presented in tabular form
    - i) Parameter
    - ii) Trip Setpoint
    - iii) Trip Setpoint Allowable Value
  - c) RPS setpoints are LSSSs
  - d) Bases for trip setpoints are provided for justification.
- c. Section 3- Limiting Condition for Operation EO-3.0
- 1) Limiting Condition for Operation-the lowest functional capability or performance levels of equipment required for safe operation of the facility. EO-4.0c
  - 2) LCOs are divided into twelve categories
  - 3) Format
    - (a) Condition Statement
    - (b) Applicability- operational conditions under which the LCO applies EO-5.0
    - (c) Action- tells what must be done and how much time is allowed when exceeding the condition statement.



## d. Section 4- Surveillance Requirements

1) Surveillance Requirements - requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained.

EO-4.0d

a) States the actions required and the specified frequency to verify or demonstrate operability of a system or component.

b) Surveillance Tests are required to be completed in the time interval specified in the Technical Specification with no more than a 25% extension of the surveillance interval.

Unit 2 has applied an internal administrative 15% limit on extension to prevent exceeding the limit.

EO-7.0a

3.25 times the interval for three no longer exists-T.S. Amendment 28.

EO-7.0b

c) Surveillance tests are scheduled daily and posted in the SSS office.



- i) Operator can compare CSO log for surveillance completion against schedule to ensure proper completion time.
  - 2) Bases
    - a) Explains the reason for an LCO
    - b) They are not part of the legally binding specification but they are required by 10-CFR-50.36.
- e. Section 5- Design Features EO-3.0
  - 1) Design Features - those features such as materials of construction and geometric arrangements, which, if altered or modified, would have a significant effect on safety.
    - a) Examples of Design Features
      - i) Core Descriptions
      - ii) Containment configuration
      - iii) Component cyclic limits
- f. Section 6- Administrative Controls EO-3.0





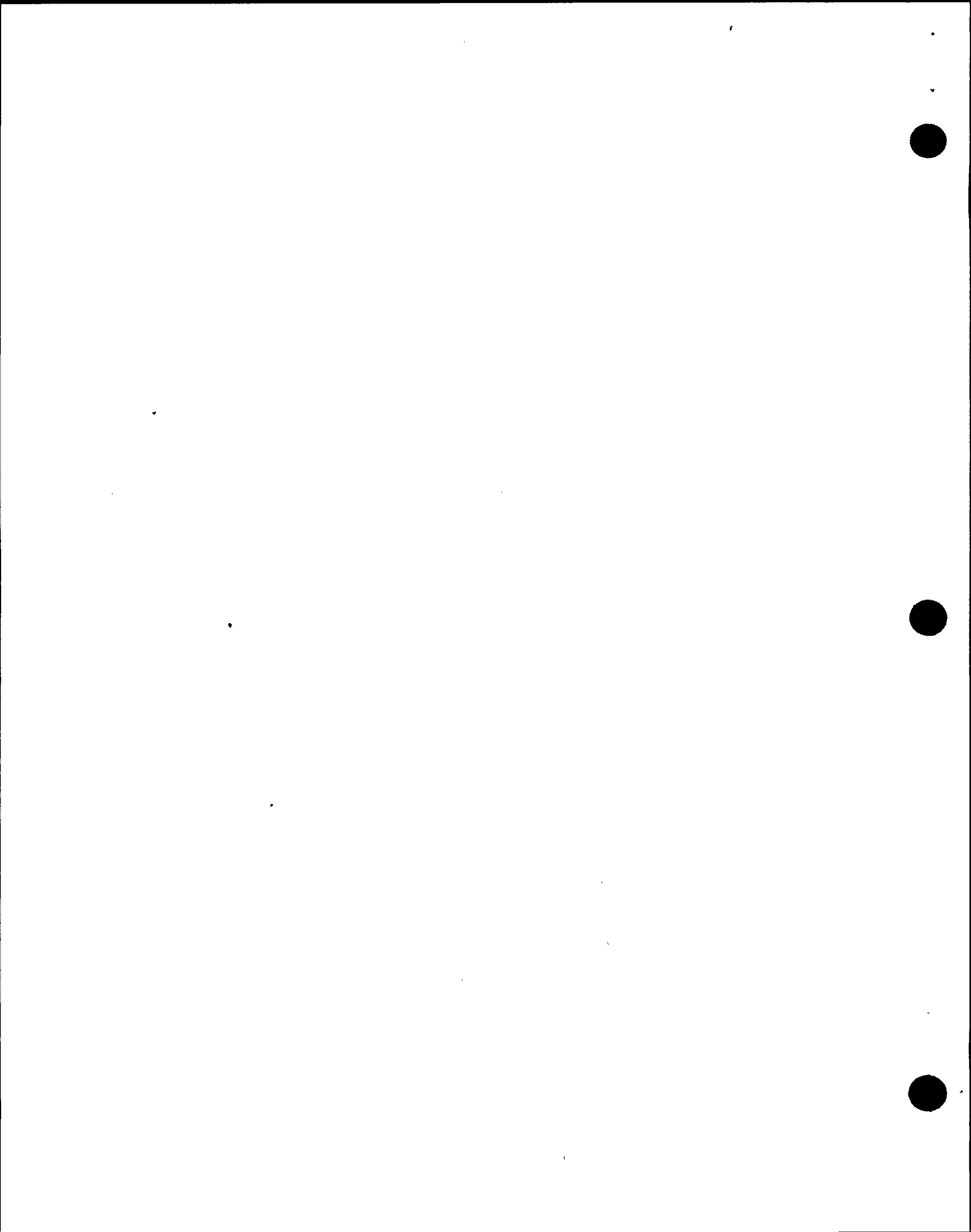
- 1) Administrative Controls- provisions relating to organization and management, procedures, record keeping, review and audit, and reporting necessary to assure safe operation of the facility.
- 2) Policies and requirements required by the Code of Federal Regulations.

*Subd  
7/3/91* | Review control room staffing requirements for all modes of operation per Section 6 (TRR 600800-68)

B. Technical Specification Usage

1. Compliance with the Technical Specification is the responsibility of the operators.
2. Procedures and instructions should reference applicable Tech. Specs.
3. General Actions required for violation of Technical Specifications
  - a. Safety Limit Violation
    - 1) Requires plant shutdown
    - 2) NRC notification
    - 3) Complete review and documentation of the situation and corrective action.
    - 4) Operation may not be resumed without NRC authorization.

EO-9.0a



## b. Limiting Safety System Setting Violation

EO-9.0b

- 1) Take the action per Tech. Specs.  
to correct the violation.
- 2) NRC notification
  - a) Review the violation.
  - b) State the cause and the  
condition of the violation.
  - c) Describe the corrective  
action taken to prevent  
reoccurrence.

c. Limiting Condition for Operation  
Violation

- 1) Take the action per Tech. Specs.  
to correct the violation.
- 2) NRC notification starting:
  - a) Cause
  - b) Corrective Action taken to  
preclude reoccurrence.
- 3) Meeting the requirements of the  
action statement in the LCO  
constitutes compliance with the  
LCO.

EO-6.0



- 4) If the Action Statement for an LCO does not apply or cannot be completed for the situation, the operator will follow the guidance of LCO 3.0.3 unless otherwise stated. EO-6.0
- d. Surveillance Requirement Violation EO-7.0c
- 1) Declare the component inoperable and take action in accordance with the appropriate LCO.
- 2) Failure to perform a Surveillance Requirement within the specified time interval shall constitute a failure to meet the operability requirements for an LCO unless otherwise stated in the individual specification.
- a) Time limits of the action statement are applicable at the time the missed surveillance is discovered.

Amendment 27 to the Tech. Spec. in response to GL 87-09. Letter stated "extremely conservative to declare inop due to missed surveillance" so it was agreed to allow surveillance performance within 24 hours on missed surveillance if the action statement required outage or shutdown within 24 hours.



- b) Action requirements may be delayed up to 24 hours to permit completion of the surveillance when the allowable outage time limit of the ACTION item are less than 24 hours.
4. Station Shift Supervisor is responsible to inform the appropriate management personnel and any regulatory agency of Tech. Spec. violations in accordance with Administrative procedures.
5. Tech. Spec. Interpretations
- a. Immediate specification interpretation should be done by the SSS or Operations Management personnel.
  - b. Final interpretation is resolved by Licensing if requested by Operations personnel.
    - 1) This resolution is kept as a permanent record in a Tech. spec. interpretation binder in the Control Room.
    - 2) The Control Room Tech. Spec. copy is marked with the interpretation number on a dot placed on the particular specification page.

NRC does not want 24 hour extension used routinely. It should only be utilized in Emergency situations.

EO-8.0a

EO-8.0b





6. Amendments to Technical Specifications
  - a. May be required due to plant modification or regulatory changes.
  - b. Formal request submitted to the NRC for approval.
  - c. USAR and Tech. Spec. are amended if approved.

#### IV. TECHNICAL SPECIFICATION EVENT EXERCISE

- A. Break up class into 4-6 person groups.
- B. Distribute Attachment A problem to each group
  1. Group should work the problem as a team
  2. Access to Technical Specifications, Prints and Procedures is allowed.
  3. Allow the group 10-15 minutes to determine a solution.
  4. Have a Group leader from one group discuss the group findings.
- C. Distribute Attachment B problem to each group
  1. Group should work the problem as a team
  2. Access to Technical Specifications, Prints and Procedures is allowed.
  3. Allow the group 10-15 minutes to determine a solution.

EO-10.0

Facilitate a discussion of all groups as to their solution and ensure the solution of Attachment A is eventually concluded by all groups.

Attachment B meets the requirements of TCO-02-REQ-90-122.

EO-10.0



4. Have a Group leader from one group discuss the group findings.

Facilitate a discussion of all groups as to their solution and ensure the solution of Attachment B is eventually concluded by all groups.

V. WRAP-UP

- A. Review Student Learning Objectives
  1. Spot check learning objectives by asking questions of the students directly.
- B. Request student's fill out TR.
- C. Request student's fill out Trainee Evaluation Form.



ATTACHMENT A  
TECHNICAL SPECIFICATION SCENARIO #1

On October 23 and 0945, the main steam line "A" high flow trip unit E31-N686D failed downscale and was declared inoperable. The plant was at 36% power with the mode switch in run. A review of Technical Specifications was conducted and it was determined that no action was required. A work request was written to repair the MSL flow transmitter.

Each MSL has four high flow channels. Two channels supply the Division I logic and two channel supply the Division II logic.

Assess the event described and determine if the conclusion in reference to Technical Specifications is correct. Describe the specifications reviewed to reach your conclusion.



ATTACHMENT A  
TECHNICAL SPECIFICATION SCENARIO #1

SOLUTION

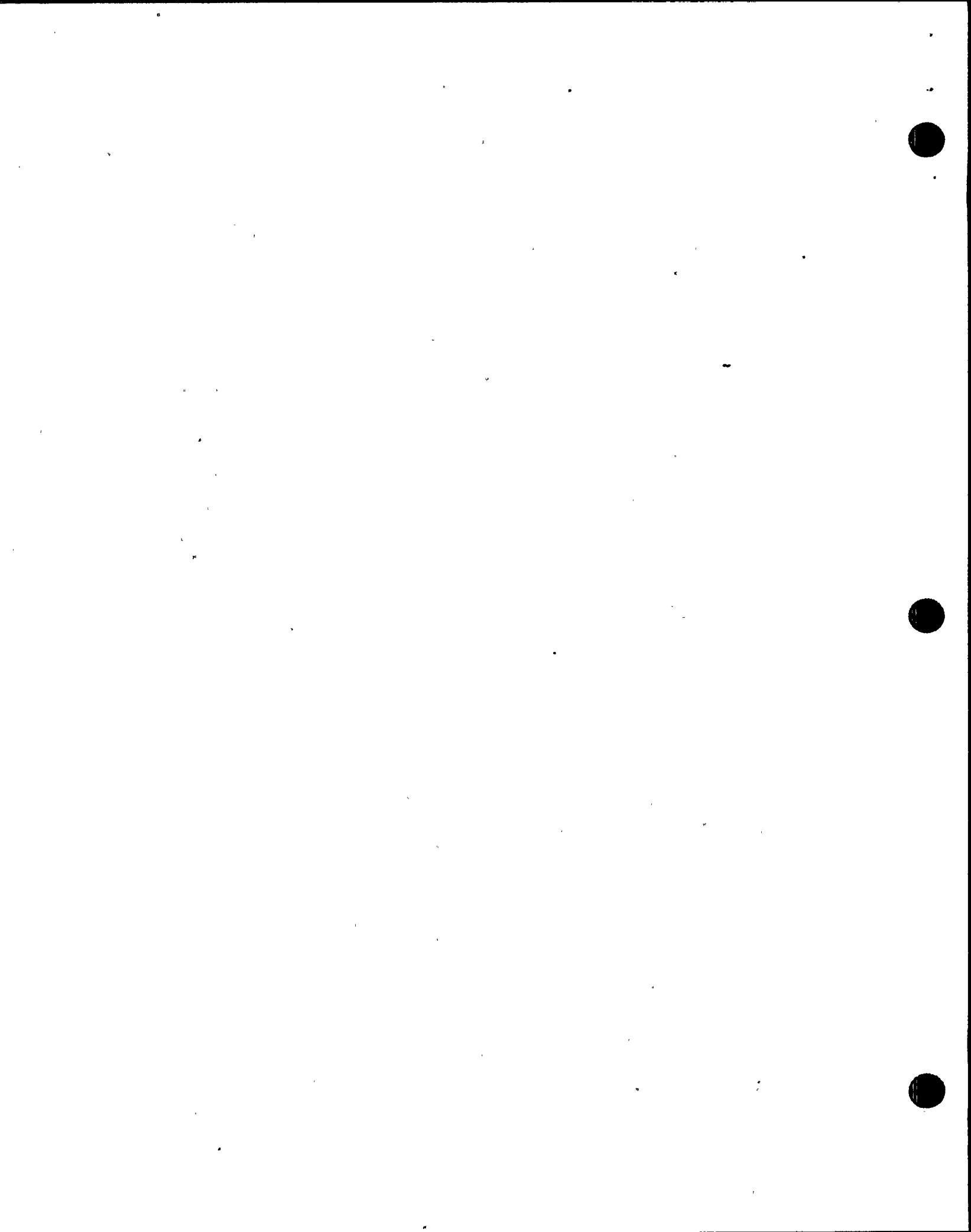
Plant Action: Initially the plant stated no action was required. At 1130 of the same day it was determined that all main steam line flow channels must be operable to comply with TS Table 3.3.2-1.c.3. This meant that the initial interpretation was incorrect and it was necessary to insert a half isolation signal for MSIVs as required by Action 3.3.2.b.

Due to an unrelated plant transient, the action to insert a half isolation was delayed until 1230.

The LCO action to insert a half isolation within one hour was violated due to misinterpretation of the specification and an LER was issued.

Correct Action: The half isolation should have been inserted by 1045 to comply with specification 3.3.2 Table 3.3.2-1.1.c.3.

Reference LER 87-67





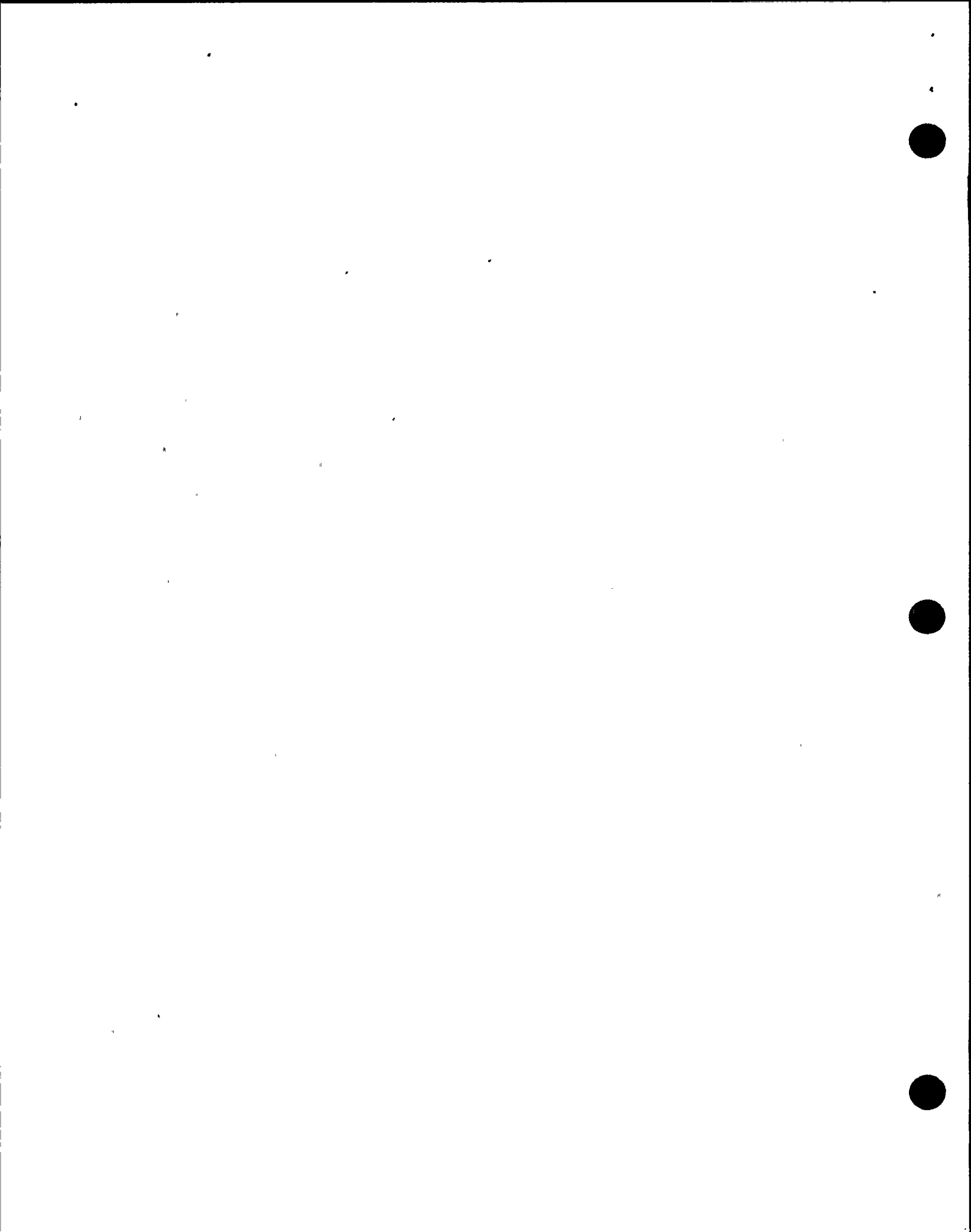
ATTACHMENT B  
TECHNICAL SPECIFICATION SCENARIO #2

On October 11 at 1921 hours with the reactor at 99% power the Division I and II Reactor Water Cleanup isolation system bypass switches were placed in bypass to perform venting of the flow transmitters (2WCS\*FT69X and FT69Y).

The bypass switches were returned to normal at 2017 following the blowdown evolution. At this point it was noted that the Division I differential flow meter on panel 632 read downscale. Due to the downscale reading the Division I Flow Isolation System was declared inoperable by the SSS at 2020.

At 2102 the Division I isolation bypass switch was returned to the bypass position to avoid spurious trips while venting the transmitter (2WCS\*FT69X). At 2319 the Division I isolation bypass switch was placed back to normal and the Division I Differential Flow Isolation System was declared operable.

1. Review any Tech Spec requirements based on the event and describe any required action which should be taken.
2. Did the SSS perform satisfactorily.



ATTACHMENT B  
TECHNICAL SPECIFICATION SCENARIO #2

SOLUTION

1. Tech Spec. 3.3.2 Action b, footnote \* and action 22 of Table 3.3.2-1 requires inoperable channel to be restored to operable status in 2 hours or isolate system valves within one hour (2 + 1 hours).

This would require the system valves to be isolated no later than 2221 since the system was inoperable at 1921 (isolation switches to bypass). The Division I isolation flow system was not restored to operability until 2319 (3 hours and 58 minutes).

2. SSS misinterpreted the specification and judged the time on inoperability to start at 2020.

The system valves were never isolated as a result and the LCO was violated. This violation was blamed on personnel error due to improper application of Tech. Specs.

Reference LER 89-32

