



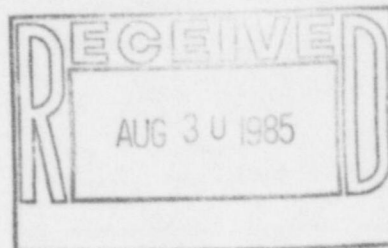
Nebraska Public Power District

GENERAL OFFICE
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NLS8500228

August 28, 1985

Mr. Robert D. Martin
Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive
Suite 1000
Arlington, Texas 76011



Dear Mr. Martin:

Subject: Cooper Nuclear Station Emergency Preparedness Exercise Information.

Reference: Letter from J. T. Collins (USNRC) to J. M. Pilant (NPPD) dated February 9, 1984, subject: Exercise Submission dates.

In accordance with the milestones outlined in the referenced letter, NPPD is hereby submitting two copies of the following items: (1) a detailed description of the exercise sequence of events and (2) complete controller packages for the 1985 Cooper Nuclear Station Emergency Preparedness Exercise. By copy of this letter, duplicate sets including items (1) and (2) are being forwarded to Mr. Jim Jamison of Battelle Northwest Labs (NRC contractor) and Mr. Joe Keller, Exxon Nuclear Idaho Co., Inc. (FEMA contractor) for review of various data in the detailed scenario. Also, two complete sets including items (1) and (2) will be forwarded to Mr. P. J. Brehney, FEMA Region VII.

In order that any necessary changes may be incorporated into the exercise scenario, it is requested that all NRC/FEMA comments concerning the detailed scenario be submitted to my office no later than Friday, September 13, 1985.

Should you have any questions or comments regarding the enclosed information, please contact me.

Sincerely,

Jeffrey D. Weaver
for
J. M. Pilant
Manager, Technical Staff
Nuclear Power Group

ACM/rg
Enclosures

8510240414 850828
PDR ADOCK 05000298
F PDR

cc: P. J. Brehney w/Item (1) and (2) - 2 copies
FEMA-Region VII

J. Keller w/Item (1) and (2) - 1 copy
Exxon Nuclear Idaho Co., Inc.

85-177 E. L. Jordan w/Item (1) only - 1 copy
U.S. Nuclear Regulatory Commission

Jim Jamison w/Item (1) and (2) - 1 copy
Battelle Northwest Labs

Mr. E35

NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
1985 ANNUAL EMERGENCY PREPAREDNESS EXERCISE

FOREWORD

This exercise package has been developed to provide the basis for the conduct of a simulated radiological accident at the Cooper Nuclear Station, located in Nemaha County, Nebraska. Through this exercise, the capabilities and effectiveness of the emergency response plans for the Nebraska Public Power District, the states of Nebraska and Missouri and their respective counties will be evaluated. This package is to be utilized by the Exercise Controllers and the Observer/Evaluators from Federal, State and local agencies, and from the utility. The information contained herein will allow for the initiation and control of the exercise as well as the evaluation of participant activities. The Nebraska Public Power District and the states of Nebraska and Missouri approve this document as the standard for conduct in performance of the October 16, 1985, Emergency Preparedness Exercise.

Nebraska Public Power District	State of Missouri	State of Nebraska
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Information to be provided later:

- Public Information questions.
- Controller/Evaluator evaluation packages.
- PASS Results
- Meteorological forecast contingency messages (in the event that forecasts are requested).
- University of Missouri Sample Analysis results in the form of message to FCP.
- Some Control Room indications as denoted by Blanks on Messages.
- Finalized Meteorological Data Chart.
- Ingestion Pathway information.

NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
1985 EMERGENCY PREPAREDNESS EXERCISE

INTRODUCTION

The Cooper Nuclear Station Emergency Plan describes the emergency response capabilities for a nuclear emergency at the Cooper Nuclear Station, including support from Federal, State, and local government agencies and private organizations. The CNS Emergency Plan provides for continuous emergency preparedness, including the conduct of an annual full-scale exercise.

The purpose of the Exercise is to activate and evaluate major portions of the emergency response organization and facilities and other aspects of the Emergency Plan and associated Emergency Plan Implementing Procedures, in accordance with Nuclear Regulatory Commission (NRC) Regulation 10CFR50.47(b) and Appendix E. The exercise is conducted jointly with appropriate State and local agencies in order to assess State and local government emergency response plans, as required by Federal Emergency Management Agency (FEMA) Regulation 44CFR350.9(b). The conduct and evaluation of the Exercise provide additional training for emergency response organization personnel and a means to further enhance Nebraska Public Power District's emergency response capability.

This Exercise Manual has been developed to provide the basis for the conduct of a simulated radiological accident at the Cooper Nuclear Station located near Brownville in Nemaha County, Nebraska through which the capabilities and effectiveness of the Emergency Response Plans for the Nebraska Public Power District, the states of Nebraska and Missouri and their respective counties, can be evaluated. This manual is to be utilized by the exercise controllers and observers of the Federal, State and local agencies, as well as the Utility, to initiate, control, and evaluate the activities of the participants in the exercise. Exercise "players" will not have prior knowledge of the nature of the simulated incident or any parts thereof.

This Exercise Manual is the control mechanism for the conduct of the Exercise and consists of two parts. Part I (white tabs) provides a general description and overview of an emergency exercise. Part II (red tabs) contains the scenario and time schedule of simulated plant conditions and is subject to a limited, controlled distribution.

COOPER NUCLEAR STATION
1985 EMERGENCY PREPAREDNESS EXERCISE

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COOPER NUCLEAR STATION

1985 EMERGENCY PREPAREDNESS EXERCISE

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COOPER NUCLEAR STATION
1985 EMERGENCY PREPAREDNESS EXERCISE

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SECTION 1.0

SCOPE AND OBJECTIVES

1.0 SCOPE AND OBJECTIVES

1.1 SCOPE

The 1985 Cooper Nuclear Station Emergency Preparedness Exercise, to be conducted on October 16, 1985, will test and provide the opportunity to evaluate the Nebraska Public Power District, the states of Nebraska and Missouri and their respective county's emergency plans and procedures. It will also test each emergency response organization's ability to assess and respond to emergency conditions, and coordinate efforts with other agencies for the protection of the health and safety of the public.

Whenever practical, the exercise will incorporate provisions for "Free Play" on the part of the participants.

The scenario will depict a simulated sequence of events, resulting in a radiological release of sufficient magnitude to warrant mobilization of State and local agencies to respond to the emergency.

1.2 OBJECTIVES

The Cooper Nuclear Station (CNS) 1985 Emergency Preparedness Exercise Program objectives are based on the Nuclear Regulatory Commission (NRC) requirements delineated in 10CFR50.47, Appendix E. Additional guidance provided in NUREG-0654, FEMA-REP-1, Revision 1, NUREG-0696 and NUREG-0737 Supplement 1 was also utilized in developing these objectives.

The exercise will have partial participation from the State of Nebraska and full-scale participation by the State of Missouri. The warning system sirens and EBS notifications for the emergency planning zone will not be activated during the exercise.

The major objective of the Exercise is to evaluate the integrated capability of a major portion of the basic elements existing within the on-site and off-site emergency plans and emergency response organizations. The specific objectives of the exercise to be demonstrated are listed below.

1.2.1 Nebraska Public Power District Objectives

1. Demonstrate the activation, and operation of emergency response facilities, including the Control Room, Technical Support Center, Operations Support Center, Emergency Operations Facility, Media Release Center and Alternate Emergency Operations Facility.
2. Demonstrate the reliability and effective use of emergency communications equipment and procedures.
3. Demonstrate proficiency in recognizing and classifying emergency conditions.

4. Demonstrate the notification of Federal, State, local, corporate, and plant emergency response personnel.
5. Demonstrate the ability to coordinate the available emergency response resources of NPPD, State and local organizations.
6. Demonstrate the ability to perform dose calculations utilizing radiological and meteorological information to determine the magnitude of, and for continuously assessing the impact of, the release of radioactive materials to the environment.
7. Demonstrate the transition of responsibilities between emergency facilities as a result of escalating accident classification.
8. Demonstrate knowledge of Protective Action Guides (PAGs), the recommendation of protective actions to off-site authorities, and determination of the subsequent implementation of protective actions by off-site agencies.
9. Demonstrate the capability to obtain and analyze samples utilizing the post-accident sampling system.
10. Demonstrate the mobilization of on-site and off-site radiological monitoring teams and the appropriate use of equipment, procedures, and communication to effectively track the plume.
11. Demonstrate the capability of off-site radiological monitoring teams to collect sample media.
12. Demonstrate the ability to perform site assembly, maintain accountability and evacuate as appropriate.
13. Demonstrate the ability to monitor and control emergency worker exposure within the plant.
14. Demonstrate adequate equipment and procedures for decontamination of emergency workers and equipment, as required.
15. Demonstrate the capability to obtain, coordinate and assemble emergency information for timely dissemination to the public via the media.
16. Demonstrate the capability of the NPPD spokesperson to reply to inquiries of both a technical and political nature.
17. Demonstrate the capability of NPPD IAC personnel to respond directly to (simulated) input from the public concerning real versus rumoured events occurring at Cooper Nuclear Station or within the 10 mile EPZ.

18. Demonstrate the ability to plan recovery operations and identify the need for additional resources.
19. Demonstrate decision-making and coordination with off-site agencies in de-escalating and terminating the emergency and in planning re-entry to evacuated areas.

1.2.2 State of Nebraska Objectives

Objectives of the Exercise.

Test the Cooper Nuclear Power Plant Emergency Plan to include:

1. Interface with off-site government agencies.
2. Initial notification to State government.
3. Coordination of dose assessment activities.
4. Public warning interface.
5. Jointly conducted public information.
6. Recovery and re-entry activities.

The following State support capabilities as listed in the Nebraska Radiological Emergency Response Plan for Nuclear Power Plant Incidents will be tested.

1. Activation of staff with subsequent deployment and operation of the State Field Command Post to include local and long-range communications. If plant scenario permits, test relocation of State Field Command Post to support local government implementation of appropriate protective actions. Participation of Nebraska State Patrol BLUEBIRD will be simulated.
2. Notification and follow-up contacts with State, Federal, and private agencies having responsibilities described in the Nebraska Plan.
3. Operational status and functioning of State EOC as well as coordination with agencies and field elements. Includes State EOC interstate coordination. With the exception of the Health Department, Agency representation at the State EOC will be simulated. State EOC will implement appropriate protective actions as approved by the Governor and/or the Governor's Authorized Representative.

4. State field radiological monitoring activities, off-site dose assessment, and coordination of protective action recommendations with Governor's Authorized Representative and State EOC. Coordination will also be effected with the utility and Missouri. This will include timely mobilization, deployment and operation of State field radiological monitoring teams as well as management of team activities, appropriate briefings and information flow. Field monitoring team equipment and communications capabilities will also be demonstrated. State aerial radiological monitoring mission to roughly track and define the parameters of the airborne plume as well as transport samples to the State lab will be simulated.
5. Decision-making provisions for the use and distribution of radioprotective drugs for emergency workers.
6. The collection and transport of samples to the State Laboratory in Lincoln may be simulated. Timely processing of samples and other techniques at the State Laboratory will be demonstrated.
7. State EOC coordination of simulated Federal technical and non-technical support under the Federal Radiological Emergency preparedness Plan (FREPP), including message flow and simulated support by such agencies as NRC, DOE, FEMA.
8. State CD support of the jointly operated Information Authentication Center (IAC) and Media Release Center (MRC). Demonstrate IAC coordinated dissemination of information simulated throughout the EBS. Operations at the MRC will include news media briefings as well as the appropriate use of zone designators/local terms in briefing media and the State of Nebraska use of visual displays for briefing and operations. The transmission of selected emergency information by means of portable data terminals will also be demonstrated. Rumor Control functions at the IAC and MRC will be tested.
9. Support for and supervision of two decontamination stations; one at Auburn for emergency workers and the other at Nebraska City for evacuees.
10. State and local communication including primary and supporting capabilities.
11. Decision-making and coordination for re-entry and recover.

12. State's capability to provide and distribute sufficient dosimetry to include self-reading and permanent record devices (TLDs) for the initial distribution to emergency workers operating in radiation areas. Most TLDs used during the exercise will be simulated. Actual TLDs will be available for inspection at the State EOC.

The following local support capabilities, as listed in appropriate local plans, will be demonstrated:

1. Initial notification receipt and alerting of key people.
2. Communications and coordination with all involved agencies.
3. Activation and staffing of local Emergency Operation Center (EOC) and appropriate use of Emergency Classification.
4. Coordinated access control and security decision-making by selected law enforcement agencies.
5. Increased readiness measures for potential operations at Nebraska City/Otoe County relocation center. This facility will be operated on a training basis but will be subject to observation.
6. Decontamination station operations at Auburn to support emergency workers will be demonstrated.
7. Demonstrate capability to activate public alerting system and provide an informational message to the public within 15 minutes. Actual activation of alerting system and EBS will be simulated. However, preparation and handling of public notification messages will be demonstrated. (The public alert and notification procedures will be accomplished during the FEMA 43 test, to be conducted on October 17, 1985.
8. Coordination with IAC/MRC where appropriate concerning local public information activities. Demonstrate capability to define hazard area by referencing local landmarks.
9. Provision of fire and rescue support as required by plant. Transport and reception of simulated radiation casualty to the Nemaha County Hospital by a local Rescue Squad.
10. Decision-making and coordination planning for recovery and re-entry.

11. The Nebraska City/Otoe County reception registration and decontamination activities in support of Nemaha County evacuees will be operated on a training basis but will be subject to observation.
12. Demonstrate effective system for distribution and record keeping of dosimetry to include permanent record devices (TLDs).
13. Demonstrate timely communication and coordination with community facilities for mobility impaired, disabled, etc. that may require special actions such as early notification or other support functions.
14. Decision-making will be demonstrated to simulated and control allocation of local resources, and determine need for State support as necessary.
15. Decision-making will be demonstrated to simulate allocation of appropriate support for the evacuation of the public with special needs, if required.

See Missouri scenario for objectives and other exercise information.

1.2.3

State of Missouri Objectives

Emergency Operations Center

1. Demonstrate ability to mobilize staff and activate facilities promptly.
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.
3. Demonstrate ability to make decisions and to coordinate emergency activities.
4. Demonstrate adequacy of facilities and displays to support emergency operations.
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
6. Demonstrate ability to identify need for, request, and obtain Federal assistance.

Forward Command Post

1. Demonstrate ability to mobilize staff and activate facilities promptly.
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.

3. Demonstrate ability to make decisions and to coordinate emergency activities.
4. Demonstrate adequacy of facilities and displays to support emergency operations.
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
6. Demonstrate ability to identify need for, request, and obtain Federal assistance.

Forward Command Post

1. Demonstrate ability to mobilized staff and activate facilities promptly.
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.
3. Demonstrate ability to make decisions and to coordinate emergency activities.
4. Demonstrate adequacy of facilities and displays to support emergency operations.
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
6. Demonstrate ability to project dosage to the public via plume exposure, based on plant and field data, and to determine appropriate protective measure, based on PAG's, available shelter, evacuation time estimates, and other appropriate factors.
7. Demonstrate ability to project dosage to the public via ingestion pathway exposure, based on filed data, and to determine appropriate protective measures based on PAG's and on other relevant factors (NUREG-0654, I.10, J.11).
8. Demonstrate ability to alert the public within the 10-mile EPZ, disseminate an initial instructional message within 15 minutes.
9. Demonstrate ability to formulate and distribute appropriate instructions to the public in a timely fashion.
10. Demonstrate the organization ability and resources necessary to control access to an evacuated area (NUREG-0654, J.10.j).

11. Demonstrate the ability to continuously monitor and control emergency worker exposure.
12. Demonstrate the ability to make the decision, based on predetermined criteria, whether to issue KI to emergency workers and/or the general population.
13. Demonstrate the ability to supply and administer KI, once the decision has been made to do so.
14. Demonstrate ability to provide advance coordination of information released.
15. Demonstrate ability to identify need for, request, and obtain Federal assistance.
16. Demonstrate ability to determine and implement appropriate measures for controlled recover and re-entry.

Information Authentication Center

1. Demonstrate ability to mobilize staff and activate facilities promptly.
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.
3. Demonstrate adequacy of facilities and displays to support emergency operations.
4. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
5. Demonstrate the ability to continuously monitor and control emergency worker exposure.
6. Demonstrate ability to provide advance coordination of information released.

Dose Assessment

1. Demonstrate ability to mobilize staff and activate facilities promptly.
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.
3. Demonstrate ability to make decisions and to coordinate emergency activities.
4. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.

5. Demonstrate ability to mobilize and deploy field monitoring teams in a timely fashion.
6. Demonstrate appropriate equipment and procedures for determining ambient radiation levels.
7. Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} $\mu\text{Ci}/\text{CC}$ presence of noble gases.
8. Demonstrate appropriate equipment and procedures for collection, transport and analysis of samples of soil, vegetation, snow, water and milk.
9. Demonstrate ability to project dosage to the public via plume exposure, based on plant and field data, and to determine appropriate protective measure, based on PAG's, available shelter, evacuation time estimates, and other appropriate factors.
10. Demonstrate ability to project dosage to the public via ingestion pathway exposure, based on field data, and to determine appropriate protective measure based on PAG's and on other relevant factors (NUREG-0654, I.10, J.11).
11. Demonstrate the ability to continuously monitor and control emergency worker exposure.
12. Demonstrate the ability to make the decision, based on predetermined criteria, whether to issue KI to emergency workers and/or the general population.
13. Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment and vehicles (NUREG-0654. K.5.a, b).

Field Monitoring

1. Demonstrate ability to mobilized staff and activate facilities promptly.
2. Demonstrate ability to fully staff and maintain staffing around the clock.
3. Demonstrate ability to make decisions and to coordinate emergency activities.
4. Demonstrate adequacy of facilities and displays to support emergency operations.
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
6. Demonstrate the ability to continuously monitor and control emergency worker exposure.

Media Release Center

1. Demonstrate ability to mobilize staff and activate facilities promptly.
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.
3. Demonstrate ability to make decisions and to coordinate emergency activities.
4. Demonstrate adequacy of facilities and displays to support emergency operations.
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
6. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
7. Demonstrate ability to provide advance coordination or information released.

Medical

1. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
2. Demonstrate adequacy of ambulance facilities and procedures for handling contaminated individuals.
3. Demonstrate adequacy of hospital facilities and procedures for handling contaminated individuals.

1.2.4 Missouri County Objectives

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1. Demonstrate ability to mobilize staff and activate facilities promptly.
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.
3. Demonstrate ability to make decisions and to coordinate emergency activities.
4. Demonstrate adequacy of facilities and displays to support emergency operations.
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.

6. Demonstrate appropriate equipment and procedures for determining ambient radiation levels.
7. Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} $\mu\text{Ci}/\text{CC}$ presence of noble gases.
8. Demonstrate ability to alert the public within the 10-mile EPZ, disseminate an initial instructional message within 15 minutes.
9. Demonstrate ability to formulate and distribute appropriate instructions to the public in a timely fashion.
10. Demonstrate the organizational ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ (NUREG-0654, J.9, J.10.g).
11. Demonstrate the organizational ability and resources necessary to control access to an evacuated area (NUREG-0654, J.10.j).
12. Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of mobility-impaired individuals within the plume EPZ (NUREG-0654, J.10.d).
13. Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of schools within the plume EPZ (NUREG-0654, J.9, J.10.g).
14. Demonstrate the ability to continuously monitor and control emergency worker exposure.
15. Demonstrate the ability to make the decision, based on predetermined criteria, whether to issue KI to emergency workers and/or the general population.
16. Demonstrate the ability to supply and administer KI, once the decision has been made to do so.
17. Demonstrate ability to provide advance coordination of information released.
18. Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment and vehicles (NUREG-0654, K.5.a, b).
19. Demonstrate ability to determine and implement appropriate measures for controlled recovery and re-entry.

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1. Demonstrate adequacy of procedures for registration and radiological monitoring of evacuees (NUREG-0654, J.12).

1.5 FEMA OBJECTIVES CROSS-REFERENCE

1. Demonstrate ability to mobilize staff and activate facilities promptly.
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.
3. Demonstrate ability to make decisions and to coordinate emergency activities.
4. Demonstrate adequacy of facilities and displays and to support emergency operations.
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.
6. Demonstrate ability to mobilize and deploy field monitoring teams in a timely fashion.
7. Demonstrate appropriate equipment and procedures for determining ambient radiation levels.
8. Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} $\mu\text{Ci}/\text{CC}$ in the presence of noble gases.
9. Demonstrate appropriate equipment and procedures for collections, transport and analysis of soil, vegetation, snow, water, and milk.
10. Demonstrate ability to project dosage to the public via plume exposure, based on plant and field data, and to determine appropriate protective measures, based on PAG's, available shelter, evacuation time estimates, and all other appropriate factors.
11. Demonstrate ability to project dosage to the public via ingestion pathway exposure, based on field data, and to determine appropriate protective measure, based on PAG's and other relevant factors.
12. Demonstrate ability to implement protective actions for ingestion pathway hazards.
13. Demonstrate ability to alert the public within the 10 mile EPZ, and disseminate an initial instructional message, within 15 minutes.
14. Demonstrate ability to formulate and distribute appropriate instructions to the public, in a timely fashion.
15. Demonstrate the organization ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ.

16. Demonstrate the organizational ability and resources necessary to deal with impediments to evacuation, such as inclement weather or traffic obstructions.
17. Demonstrate the organizational ability and resources necessary to control access to an evacuated area.
18. Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of mobility-impaired individuals within the plume EPZ.
19. Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of schools within the plume EPZ.
20. Demonstrate ability to continuously monitor and control emergency worker exposure.
21. Demonstrate ability to make the decision, based on pre-determined criteria, whether to issue KI emergency workers and/or the general population.
22. Demonstrate the ability to supply and administer KI once the decision has been made to do so.
23. Demonstrate ability to effect an orderly evacuation of on-site personnel.
24. Demonstrate ability to brief the media in a clear, accurate, timely manner.
25. Demonstrate ability to provide advance coordination of information released.
26. Demonstrate ability to establish and operate rumor control in a coordinated fashion.
27. Demonstrate adequacy of procedures for registration and radiological monitoring of evacuees.
28. Demonstrate adequacy of facilities for mass care of evacuees.
29. Demonstrate adequacy of equipment and procedures for decontamination of emergency workers, equipment, and vehicles.
30. Demonstrate adequacy of ambulance facilities and procedures for handling contaminated individuals.
31. Demonstrate adequacy of hospital facilities and procedures for handling contaminated individuals.
32. Demonstrate ability to identify need for, request, and obtain Federal assistance.
33. Demonstrate ability to relocate to and operate the alternate EOF/EOG.

34. Demonstrate ability to estimate total population exposure.
35. Demonstrate ability to determine and implement appropriate measures for controlled recovery and re-entry.

SECTION 2.0
EXERCISE INFORMATION

2.0 EXERCISE INFORMATION

2.1 EXERCISE PARTICIPANTS

The participants in the Exercise will include the following:

2.1.1 Nebraska Public Power District

1. Facilities Management and Support Personnel
 - a. Control Room (CR)
 - b. Technical Support Center (TSC)
 - c. Operations Support Center (OSC)
 - d. Emergency Operations Facility (EOF)
 - e. Alternate Emergency Operations Facility (AEOF)
 - f. General Office Emergency Center (GOEC)
 - g. Media Release Center (MRC)

2.1.2 Off-site Agencies/Organizations

1. Federal
 - a. Nuclear Regulatory Commission (NRC)
 - b. Federal Emergency Management Agency (FEMA)
2. State of Nebraska
 - a. Health Department
 - b. Other State agencies simulated at State EOC
3. State of Missouri
 - a. All State agencies will participate at State EOC

2.2 EXERCISE ORGANIZATION

The organization for this exercise will consist of the Exercise Coordinator, the Lead Exercise Controller, the Controllers, the Evaluators, the Players and the Observers, as follows:

- 2.2.1 The Exercise Coordinator (Bill Keller) is responsible for the conduct of a successful exercise, and will coordinate exercise preparations, including the development of the scenario and messages. Subsequent to the conduct of the exercise, the Exercise Coordinator will coordinate the preparation of a consolidated evaluation package, and prepare and follow up on an itemized list of corrective actions recommended as a result of the evaluation and critique.
- 2.2.2 The Lead Exercise Controller (Bill Keller) will ensure the safe conduct of the exercise. The resolution of any scenario-related inter-facility questions, as well as the assurance that the conduct of the exercise does not adversely impact the operation of the station will be the responsibility of the Lead Exercise Controller.
- 2.2.3 The Controllers (see Figure 5.1) are qualified personnel selected to perform functions as follows:
 - A. A Lead Controller is assigned to each emergency response facility. The Lead Controller is responsible for all Controller, Evaluator and Observer activities for that facility; and, as appropriate, its associated teams. Controllers for teams or sub-areas of a facility report to the Lead Controller of that facility.
 - B. The Controllers will deliver "Exercise Messages" to designated players at specified times and places during the exercise, inject or deliver contingency messages as required to prompt the appropriate player response and keep the exercise actions moving according to the scenario, observe the exercise at other assigned locations, and prepare an evaluation. Controllers will submit written recommendations to the Lead Controller, who will summarize all comments for submittal to the Exercise Coordinator. The Controllers are provided with instructions and evaluation forms in Section 5.0 of this manual.
- 2.2.4 The Evaluators are qualified personnel who are assigned to judge the effectiveness of participating organizations, personnel, and activities in response to the scenario. Selection of Evaluators is based on their expertise and qualifications to evaluate an assigned activity or area. Persons designated as Controllers for a given function will

usually be assigned as Evaluators when feasible. Evaluators will record their observations using the evaluation form provided and make recommendations to the Lead Controller in their facility. They will evaluate performance on the basis of standards or requirements contained in the appropriate Emergency Plan, Implementing Procedures, Exercise messages, and as described herein (See Section 5.0).

- 2.2.5 The Players include CNS and other Nebraska Public Power District personnel assigned to perform emergency functions as described in the Emergency Plan and Implementing Procedures. Players from off-site organizations and agencies (county, State, and private industry) are participants in the Exercise as described in their respective Emergency Plans and Standard Operating Procedures.
- 2.2.6 The Observers from Nebraska Public Power District and other organizations may be authorized, on a limited basis, to participate in the exercise for the purpose of observing exercise activity for personal educations.

2.3 EMERGENCY RESPONSE FACILITIES

During the exercise, following emergency response facilities will be activated to manage, assess and support the response to the simulated emergency as required by the scenario.

1. Control Room (CR)

Emergency assessment and control is initially directed from the CR by the Shift Supervisor prior to activation of the TSC. The CR is located in the Control Building and is equipped with an emergency bypass ventilation system following the CR to be habitable during Design Basis Accidents (as defined in the CNS USAR). The CR contains plant instrumentation, required technical drawings, CNS records, and communications equipment.

In order to effectively respond to emergency situations, the following communication equipment is available in the CR:

- o Telephone communications consisting of normal PBX, emergency bypass line, and microwave.
- o Intercom communications consisting of the Gaitronics intercom and the ITT intercom (with executive override capabilities).
- o Telephone hotlines to the following: NRC (ENS),
 , and the Nebraska EOC/Nebraska State Patrol Headquarters.
- o National Warning System (NAWAS).
- o High and low band radio communications.

2. Technical Support Center (TSC)

The TSC (Figure 2.1) is the focal point for on-site emergency coordination and for directing and assisting the Control Room (CR) during station emergency conditions. The following functions are performed in the TSC:

- o Provide management and technical support to station operations personnel during an emergency.
- o Relieve the reactor operators of duties not directly related to reactor system manipulations (e.g., communications).
- o Perform Emergency Operations Facility (EOF) functions for an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY until the EOF becomes functional and is adequately manned; assumes the role of the EOF in the event the EOF functions must be transferred to the AEOF.

The TSC is located adjacent to the Control Room. Figure 2.1 provides a layout of the TSC.

As indicated in Figure 2.1, a portion of the TSC is in the Control Room. Accordingly, the habitability of this portion of the TSC is identical to that of the Control Room. The portion of the TSC outside the Control Room is provided with radiological protection and monitoring equipment to protect personnel under most conditions. The exception being core degradation and leakage to the area above the refueling floor. In the unlikely event that this type of accident were to occur at CNS, TSC personnel would relocate to the Control Room, the OCS's, and/or the EOF as defined in EPIPs 5.7.7 and 5.7.8.

To ensure adequate radiological protection of TSC personnel, a radiation monitoring system is provided in the TSC. This system consists of monitoring equipment dedicated to the TSC, capable of continuous indication of dose rates and airborne radioactivity concentrations. Local alarms provide early warning to TSC personnel.

The TSC ventilation system is comparable to the Control Room ventilation system. Although not seismically qualified, redundant, or automatically activated, it does include high efficiency particulate air filters and charcoal filters. System capacity is based on design basis accident airborne radioactivity levels, independent of thyroid blocking provisions (potassium iodide).

An emergency locker, containing the equipment listed in Appendix E of the Emergency Plan, is provided to protect personnel who must exit the TSC. In addition, the locker contains equipment necessary to provide continued

TSC operation during the presence of low-level airborne radioactivity or radioactive surface contamination.

If the TSC becomes uninhabitable, the TSC Emergency Response functions will be transferred to the Control Room.

The personnel manning the TSC aid in determining the cause of the emergency and formulating action plans to mitigate the emergency. To facilitate this function, a set of as-built drawings of the station, schematics and diagrams, technical specifications, station operating procedures, emergency operating procedures, station operating records, records needed to perform the functions of the EOF when it is not operational, and a copy of the Updated Safety Analysis Report are available to personnel in the TSC itself or in the adjacent Control Room.

In addition to the above, the TSC is equipped with the following communications facilities:

- o NPPD Microwave Link, station intercom system, Lincoln Telephone and Telegraph PBX telephone extensions, sound power phone station intercom system, NRC (ENS) Hotline, and NRC Health Physics Network (HPN) telephone.
- o Hotline to Nebraska Emergency Operations Center and NSP Headquarters.
- o As backup communications, an alternate emergency intercom system which connects the Operations Support Centers, Control Room, and Emergency Operations Facility (EOF).

Remote control consoles for both on-site and off-site communications and portable radios are also available.

3. Operations Support Center (OSC)

The OSCs are the assembly and staging areas for CNS personnel pooled for emergency response assignments. The OSCs provide a location where plant logistic support can be coordinated during an emergency. Designated emergency response personnel will report to their assigned OSCs. Three areas within the station are designated as Operations Support Centers:

- 1) Health Physics Office Area - This Operations Support Center will be manned by members of the station Chemistry and Health Physics staff.
- 2) Electrical Shop - This Operations Support Center will be manned by members of the station Electrical and Instrument & Control staffs.
- 3) Mechanical Maintenance Shop - This Operations Support Center will be manned by Mechanical Maintenance personnel.

In an ALERT or a higher classification of emergency, personnel will report to their respective OSCs. If assistance from one or more of the OSCs is required by TSC personnel, actions will be coordinated through the Chemistry and Health Physics Coordinator and the Maintenance & OSC Coordinator located in the TSC. Since the OSCs are the normal work areas for the personnel who will man them, they are adequately sized. Furthermore, equipment needed to respond to an emergency is readily available.

Communications available to each Operations Support Center consists of:

- o Lincoln Telephone and Telegraph PBX extensions, station intercom system, and an alternate emergency intercom system to the other OSCs, TSC, CR, and EOF. Portable radios are also available if required.

In the event any or all of the OSCs become uninhabitable, personnel will be relocated to the Security Building Auditorium.

4. Emergency Operations Facility (EOF)

The EOF (Figure 2.2) is located adjacent to the Security Building, outside the station security area. The EOF is the emergency response facility where the following functions are carried out:

- o Management of the off-site emergency response functions.
- o Coordination of radiological and environmental assessment.
- o Determination of recommended protective actions for the public.
- o Coordination of emergency response activities with federal, state, and local agencies.

The EOF has sufficient space to accommodate CNS emergency response personnel and representatives from local, state, and federal response agencies.

During SITE AREA or GENERAL EMERGENCY conditions, the EOF will be manned. Off-site monitoring teams composed of personnel who are familiar with and trained in the use of survey instruments and equipment will be dispatched from the EOF. The emergency locker in the EOF contains material and equipment needed for off-site monitoring and re-entry activities. This equipment includes procedures, protective clothing, radiation detection instrumentation, dosimetry, air sampling equipment, respiratory protection equipment, personnel decontamination supplies, and counting instruments. A list of this equipment is included in EPIP 5.7.1, as well as in Appendix E. Results of off-site surveys and sample analyses will be reported to the EOF for evaluation and assessment, and to aid in the development of recommendations to off-site authorities.

Personnel in the EOF, in addition to those in the TSC, have the capability to access meteorological data (from personnel in the Computer Room) and in conjunction with release rate(s) information (obtained from personnel in the Control Room) determine the projected downwind doses. All of this data is prominently displayed in the EOF and is readily available to local/state/federal authorities for use in making an independent determination of protective actions, etc.

Communications available in the EOF are as follows:

- o Dedicated NRC hotline (ENS) located in the NRC area; the NRC Health Physics Network (HPN) located in the NRC area; sufficient number of additional "plug in" commercial telephones to provide access to on-site and off-site locations (including state and local emergency operation centers).
- o Remote control consoles for radio communications with inplant and CNS field monitoring teams.
- o CNS station intercom system and alternate emergency intercom to the CR, TSC, and OSCs.
- o Dedicated intercom system between the EOF and the Nebraska State Field Command Post.
- o Hotline to Nebraska Emergency Operations Center and NSP Headquarters.
- o Hotline to GOEC and MRC.

Document communication by facsimile transmission equipment between the EOF, the TSC, the NRC operations center, MRC, GOEC, and the State of Nebraska EOC, is also provided.

Information available in the EOF includes: Station Technical Specifications, Operating Procedures, Emergency Operating Procedures, Updated Safety Analysis Report, environs radiological monitoring records, and selected as-built drawings. In addition, copies of state and local emergency response plans and information pertinent to evacuation is also maintained.

The Nebraska Field Command Post and the Nebraska State Patrol Mobile Communications Unit will be stationed adjacent to the EOF. Electrical power hookups are available to these vans. Communications between the EOF and the communication vans consists of direct intercom and telephone via external plug-in at the EOF. Radio communication is also available.

5. Alternate Emergency Operations Facility (AEOF)

The AEOF (Figure 2.3) is located in the town of Auburn, Nebraska, approximately 10 1/2 miles west of CNS. It is housed in the Auburn National Guard Armory.

If emergency conditions dictate relocation to the AEOF, emergency evaluation and coordination activities will be accomplished from this location. Furthermore, it will serve as the alternate assembly point for station personnel. The AEOF also has an emergency locker containing similar amounts and types of emergency equipment as the EOF; however, it does contain a larger quantity of decontamination equipment, should decontamination of evacuated station personnel be required. A list of the general type of this emergency and decontamination equipment is included in Appendix E of the CNS Emergency Plan.

Communications available in the AEOF are as follows:

- o 21 LTT Lynch line extensions for AEOF personnel.
- o 2 LTT Lynch line extensions for data transfer.

The time required to fully activate the CNS Emergency Response Facilities (ERFs) identified above, is dependent upon the time of day the event(s) which necessitates activation occurs. Specifically, if the ERFs were required to be activated during on-shift hours (i.e., 0800-1630), then they could be adequately staffed and placed into operation within 30 minutes of the time an ALERT of higher classification was declared. If the ERFs had to be activated during off-shift hours, manning of the ERFs will require additional time.

The District estimates that the ERFs could be adequately staffed within approximately one hour after the notification process described in EPIP 5.7.6 is executed.

As previously indicated, the AEOF, located in Auburn, Nebraska, serves as the backup for the CNS EOF. In the unlikely event that the EOF had to be evacuated, key personnel would, in accordance with EPIP 5.7.11, evacuate the area and relocated to the AEOF.

Personnel in the TSC would be controlled from the TSC. It is estimated that the transfer to, and activation of, the AEOF would require approximately one hour. It should be emphasized that key personnel relocating to the AEOF would maintain contact with CNS via mobile radio. Furthermore, direct communications with the TSC and GOEC would be established.

6. General Office Emergency Center (GOEC)

The GOEC (Figure 2.4) is located on the fourth floor of the NPPD General Office Building in Columbus, Nebraska. The GOEC is the emergency response facility which will provide the Emergency Director, and his staff, the following support:

- o Engineering and technical support.
- o Licensing, logistics, and legal support.
- o Communications and facility equipment support.

- o Public relations support.

During a SITE AREA or GENERAL EMERGENCY condition, the GOEC will be manned by senior NPPD personnel and will provide support to the Emergency Director as required.

To assure timely and accurate information is available to the general public, the District has established an Information Authentication Center (IAC). The center, located in the GOEC, is the primary means for controlling rumors regarding the situation at CNS. Personnel manning the IAC have up-to-date information on plant status since a direct, continuous line of communication is maintained between the GOEC and the EOF. Furthermore, NPPD Public Affairs personnel, as well as senior technical management personnel are available to respond to any questions IAC staff members may have regarding plant status, radiological releases, protective actions, etc.

All calls to the Columbus General Office and the District offices will be referred to the IAC. Additionally, all calls to the telephone number listed in the CNS Emergency Planning Information Booklet are forwarded to the IAC. Finally, any calls made to CNS will be referred to the IAC via the General Office switchboard.

If a consistent number of similar inaccurate statements or questions concerning plant status are received by the IAC staff, they will ensure that a news release, which will clarify or correct any misconception, is developed and issued to the media.

Communications, other than normal telephone facilities available in the GOEC, consists of:

- o Dedicated line from the EOF and Media Release Center.

7. Media Release Center (MRC)

The MRC (Figure 2.5), located in Omaha, Nebraska, serves as the focal point for contact with the media. The MRC will be staffed by NPPD senior management personnel who will act as spokesmen for the District. Accurate and timely information will be transmitted to the MRC from the GOEC and/or the EOF.

The MRC is the emergency response facility where the following functions are carried out:

- o Media briefings and news releases.
- o Coordination with Public Information Officers of other agencies.

Communications, other than normal telephone facilities available at the MRC, are as follows:

- o Dedicated line from EOF and GOEC.

2.4 EXERCISE CONDUCT

2.4.1 Overview

The exercise will simulate an abnormal radiological incident at Cooper Nuclear Station which will start with the Notification of Unusual Event class and escalate to a General Emergency.

During the course of the exercise, in order to evaluate coordination with appropriate State and local agencies, incidents will arise which require response by off-site emergency response organizations/agencies. The exercise will also simulate an off-site radiological release which will require deployment of CNS and state radiological monitoring teams.

The conduct of the exercise will demonstrate the effectiveness of participating organizations and personnel, and activities in support of the appropriate emergency plans and implementation procedures. The simulated emergency will then de-escalate, the recovery phase will be initiated, and the exercise will then be terminated.

2.4.2 Actions

Emergency response actions during the simulated emergency will include: Recognition and classification of emergency conditions; assessment of on-site/off-site radiological consequences, alert/notification and mobilization of emergency response organizations, implementation of in-plant correct actions, activation/operation of emergency response facilities and equipment, preparation of reports, messages, and record keeping; and recommendation and simulated implementation of protective actions.

2.4.3 Communications

The exercise will also demonstrate the effective use of communications systems. The telephone is the primary means of communication and will be attempted first, with radio as a backup, unless radio is the only means available. Separate telephone numbers and radio channels will be used for Controller communications to prevent the Players from learning the sequence of events in advance. Close coordination between Controllers and Evaluators is essential.

2.4.4 Players

The success of the exercise is largely dependent upon player reaction, knowledge of appropriate emergency plans and implementing procedures, and an understanding of the objectives of the exercise. Initial conditions which will

affect player action or reaction will be provided to the players at the time the exercise begins. However, most of the elements of the exercise play will be introduced through the use of message forms. Players, therefore, are responsible for initiating actions during the exercise in accordance with instructions, responsibilities, and tasks for their particular function. Each Player will advise his/her Controller prior to performing emergency response actions to ensure that the Player is credited for those actions.

1. The Control Room will be the central point for distribution of exercise messages, and is the key to ensuring that the exercise progresses on schedule. Simulated plant parameters will be provided to the Control Room operators using plant data and status sheets.

Since it is required that the emergency escalate to the General Emergency level in order to exercise off-site activities, it will be necessary to postulate noncredible situations. The operators will accept the exercise messages as written. If corrective actions are postulated that would terminate the emergency, they should be identified to the Lead Controller, so that the scenario will progress as designed. The exercise Players are expected to "free play" the scenario to the extent practical. Notifications of, and contact with supervisors, plant management, and off-site agencies will be made in accordance with the Emergency Plan Implementing Procedures.

2. The TSC will be the coordination point for on-site emergency response activities. TSC and EOF personnel will be aware that if the Exercise is to proceed as planned, and if the off-site organizations are to be exercised, it will be necessary to postulate noncredible situations. This is done to ensure that all aspects of the on-site and off-site emergency response organizations are tested. TSC and EOF personnel will accept exercise messages as written. The intended response is not to explain why a situation could not occur, but to react as though it did. If corrective actions are postulated that would terminate the emergency, they should be noted to the Lead Controller.

The exercise Players in the TSC and EOF are expected to "free play" the scenario to the extent practical. Notifications of, and contact with supervisors, plant management, and off-site agencies should be made in accordance with the Emergency Plan Implementing Instructions. The scenario is designed to activate on-site and off-site emergency response capabilities.

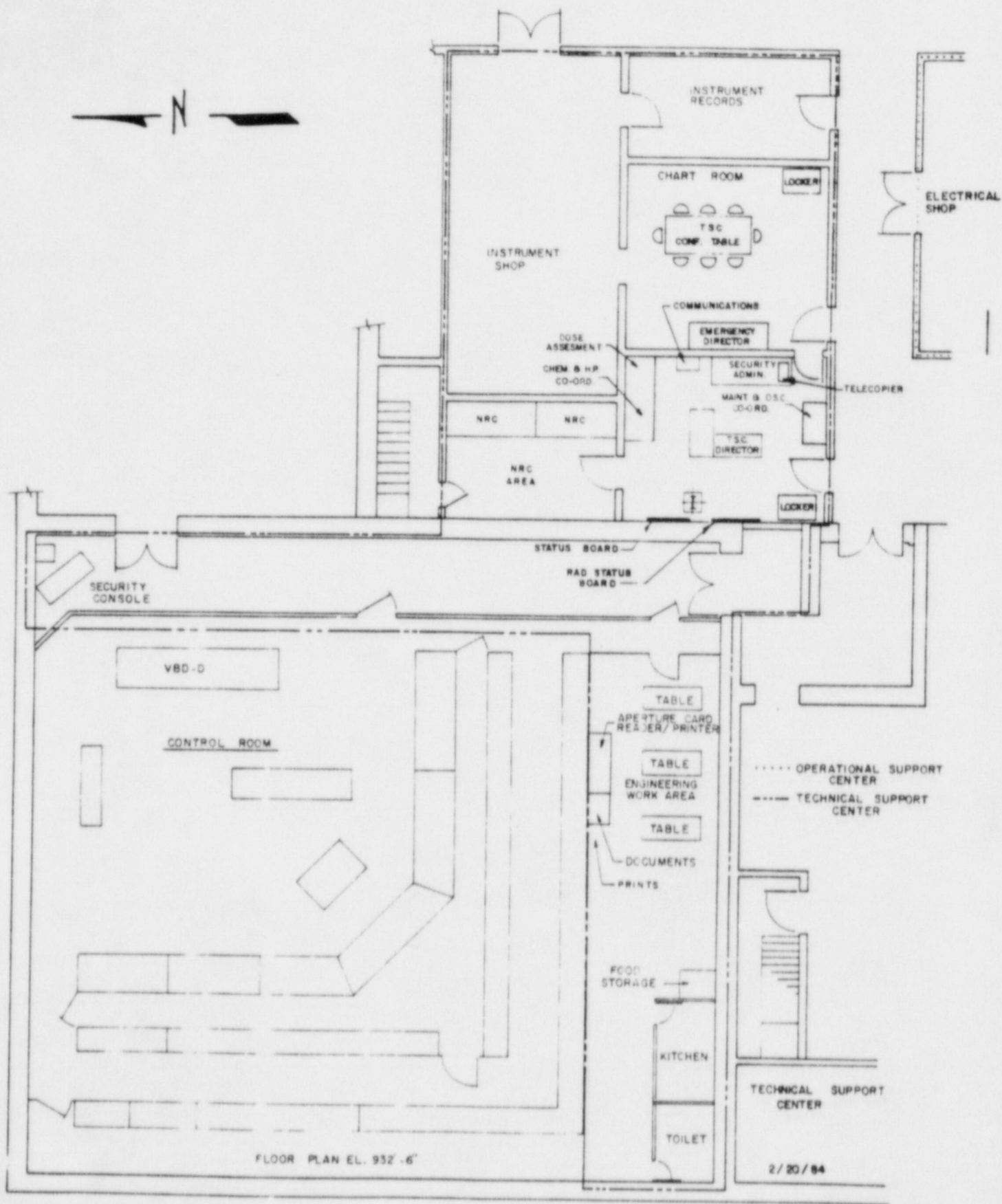
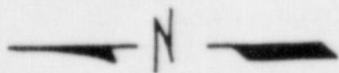
Players are reminded not to be excessively concerned with the mechanics or cause of the exercise scenario. This exercise is designed to evaluate the Emergency Plan, implementing procedures, and emergency preparedness training program; not the probability, reasonability, or detailed mechanics of the simulated accident. Additionally, the exercise is a training process for Nebraska Public Power District personnel to practice coordination with outside organizations in a simulated emergency environment. Players should note any areas needing improvement that come to their attention during the exercise and submit them to the appropriate Controller at the conclusion of the exercise.

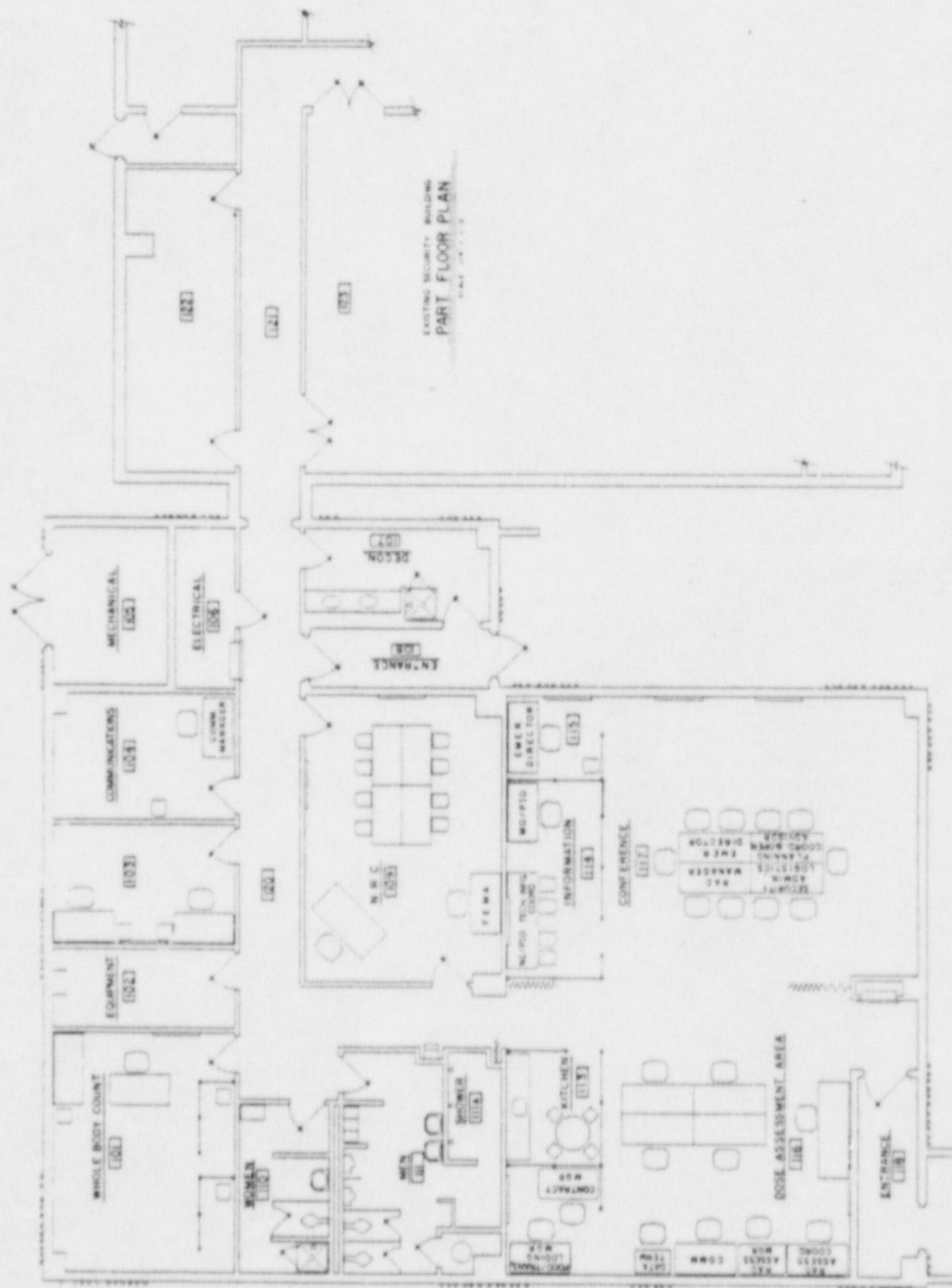
2.5 EVALUATION AND CRITIQUE

The exercise will be evaluated by individuals who have expertise in the activity in their assigned location. These Evaluators and Controllers will evaluate exercise performance on the basis of requirements contained in the Emergency Plan Implementing Procedures, and exercise messages. Evaluators and Controllers will prepare evaluation forms and provide recommendations to the Exercise Coordinator.

After the Exercise is completed, the Exercise Coordinator will conduct a Post-Exercise Critique. Deficiencies in the Emergency Plan, implementing procedures, the emergency preparedness training program, facilities, equipment and/or other areas will be identified through the critique process. The deficiencies will be documented by the Exercise Coordinator and corrected by the individuals who have responsibility in the area of the identified deficiency.

The schedule for the critique is included in Section 6.0.

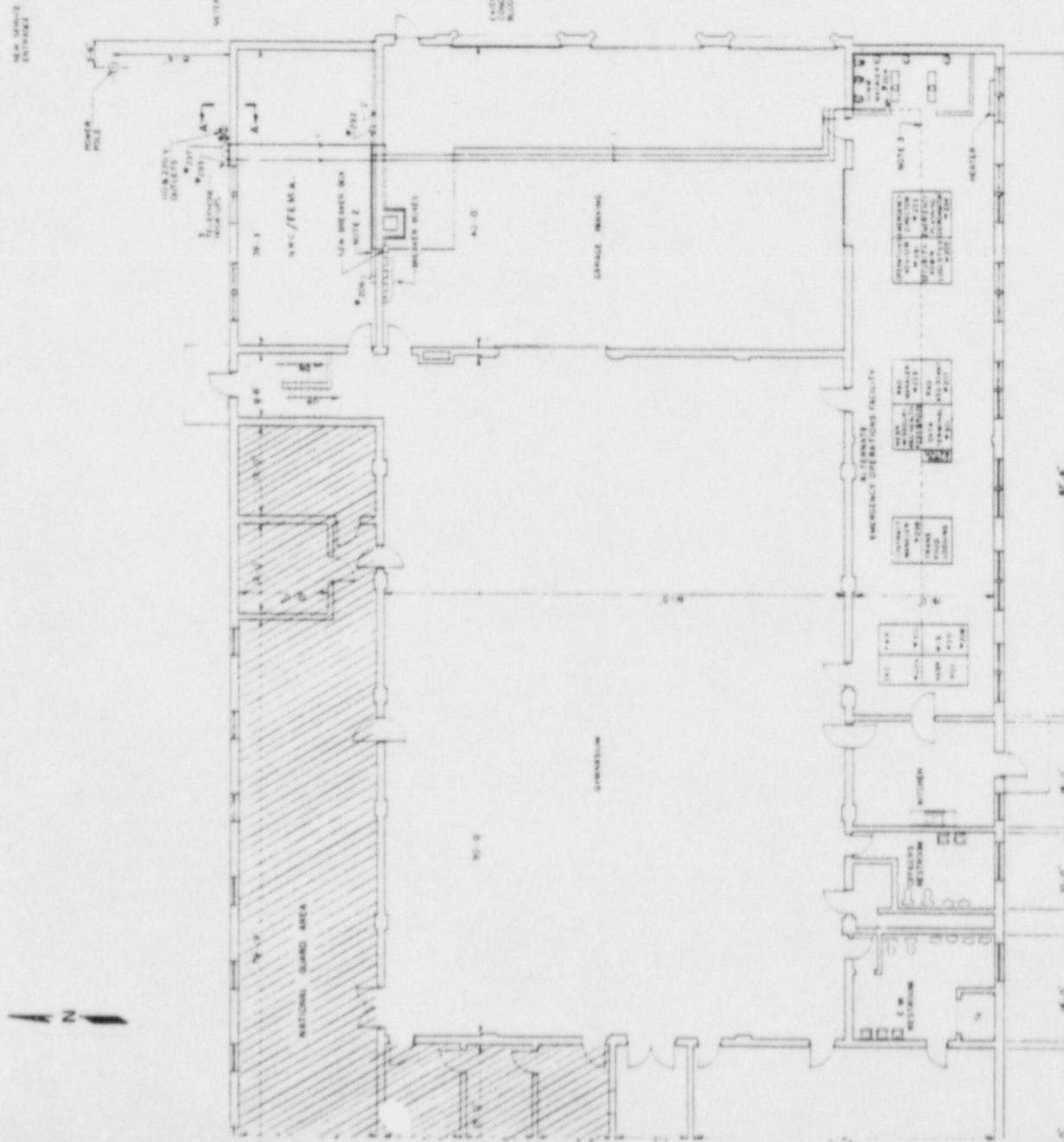




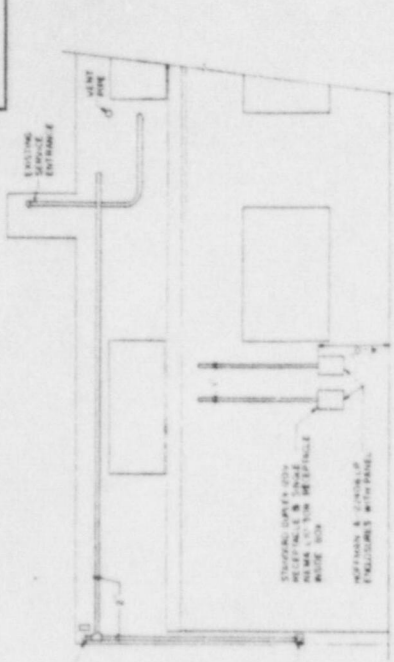
FLOOR PLAN

NO. 100	NO. 101	NO. 102	NO. 103	NO. 104	NO. 105	NO. 106	NO. 107	NO. 108	NO. 109	NO. 110	NO. 111	NO. 112	NO. 113	NO. 114	NO. 115	NO. 116	NO. 117	NO. 118	NO. 119	NO. 120	NO. 121	NO. 122	NO. 123	NO. 124	NO. 125	NO. 126	NO. 127	NO. 128	NO. 129	NO. 130	NO. 131	NO. 132	NO. 133	NO. 134	NO. 135	NO. 136	NO. 137	NO. 138	NO. 139	NO. 140	NO. 141	NO. 142	NO. 143	NO. 144	NO. 145	NO. 146	NO. 147	NO. 148	NO. 149	NO. 150	NO. 151	NO. 152	NO. 153	NO. 154	NO. 155	NO. 156	NO. 157	NO. 158	NO. 159	NO. 160	NO. 161	NO. 162	NO. 163	NO. 164	NO. 165	NO. 166	NO. 167	NO. 168	NO. 169	NO. 170	NO. 171	NO. 172	NO. 173	NO. 174	NO. 175	NO. 176	NO. 177	NO. 178	NO. 179	NO. 180	NO. 181	NO. 182	NO. 183	NO. 184	NO. 185	NO. 186	NO. 187	NO. 188	NO. 189	NO. 190	NO. 191	NO. 192	NO. 193	NO. 194	NO. 195	NO. 196	NO. 197	NO. 198	NO. 199	NO. 200	NO. 201	NO. 202	NO. 203	NO. 204	NO. 205	NO. 206	NO. 207	NO. 208	NO. 209	NO. 210	NO. 211	NO. 212	NO. 213	NO. 214	NO. 215	NO. 216	NO. 217	NO. 218	NO. 219	NO. 220	NO. 221	NO. 222	NO. 223	NO. 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599	NO. 600	NO. 601	NO. 602	NO. 603	NO. 604	NO. 605	NO. 606	NO. 607	NO. 608	NO. 609	NO. 610	NO. 611	NO. 612	NO. 613	NO. 614	NO. 615	NO. 616	NO. 617	NO. 618	NO. 619	NO. 620	NO. 621	NO. 622	NO. 623	NO. 624	NO. 625	NO. 626	NO. 627	NO. 628	NO. 629	NO. 630	NO. 631	NO. 632	NO. 633	NO. 634	NO. 635	NO. 636	NO. 637	NO. 638	NO. 639	NO. 640	NO. 641	NO. 642	NO. 643	NO. 644	NO. 645	NO. 646	NO. 647	NO. 648	NO. 649	NO. 650	NO. 651	NO. 652	NO. 653	NO. 654	NO. 655	NO. 656	NO. 657	NO. 658	NO. 659	NO. 660	NO. 661	NO. 662	NO. 663	NO. 664	NO. 665	NO. 666	NO. 667	NO. 668	NO. 669	NO. 670	NO. 671	NO. 672	NO. 673	NO. 674	NO. 675	NO. 676	NO. 677	NO. 678	NO. 679	NO. 680	NO. 681	NO. 682	NO. 683	NO. 684	NO. 685	NO. 686	NO. 687	NO. 688	NO. 689	NO. 690	NO. 691	NO. 692	NO. 693	NO. 694	NO. 695	NO. 696	NO. 697	NO. 698	NO. 699	NO. 700	NO. 701	NO. 702	NO. 703	NO. 704	NO. 705	NO. 706	NO. 707	NO. 708	NO. 709	NO. 710	NO. 711	NO. 712	NO. 713	NO. 714	NO. 715	NO. 716	NO. 717	NO. 718	NO. 719	NO. 720	NO. 721	NO. 722	NO. 723	NO. 724	NO. 725	NO. 726	NO. 727	NO. 728	NO. 729	NO. 730	NO. 731	NO. 732	NO. 733	NO. 734	NO. 735	NO. 736	NO. 737	NO. 738	NO. 739	NO. 740	NO. 741	NO. 742	NO. 743	NO. 744	NO. 745	NO. 746	NO. 747	NO. 748	NO. 749	NO. 750	NO. 751	NO. 752	NO. 753	NO. 754	NO. 755	NO. 756	NO. 757	NO. 758	NO. 759	NO. 760	NO. 761	NO. 762	NO. 763	NO. 764	NO. 765	NO. 766	NO. 767	NO. 768	NO. 769	NO. 770	NO. 771	NO. 772	NO. 773	NO. 774	NO. 775	NO. 776	NO. 777	NO. 778	NO. 779	NO. 780	NO. 781	NO. 782	NO. 783	NO. 784	NO. 785	NO. 786	NO. 787	NO. 788	NO. 789	NO. 790	NO. 791	NO. 792	NO. 793	NO. 794	NO. 795	NO. 796	NO. 797	NO. 798	NO. 799	NO. 800	NO. 801	NO. 802	NO. 803	NO. 804	NO. 805	NO. 806	NO. 807	NO. 808	NO. 809	NO. 810	NO. 811	NO. 812	NO. 813	NO. 814	NO. 815	NO. 816	NO. 817	NO. 818	NO. 819	NO. 820	NO. 821	NO. 822	NO. 823	NO. 824	NO. 825	NO. 826	NO. 827	NO. 828	NO. 829	NO. 830	NO. 831	NO. 832	NO. 833	NO. 834	NO. 835	NO. 836	NO. 837	NO. 838	NO. 839	NO. 840	NO. 841	NO. 842	NO. 843	NO. 844	NO. 845	NO. 846	NO. 847	NO. 848	NO. 849	NO. 850	NO. 851	NO. 852	NO. 853	NO. 854	NO. 855	NO. 856	NO. 857	NO. 858	NO. 859	NO. 860	NO. 861	NO. 862	NO. 863	NO. 864	NO. 865	NO. 866	NO. 867	NO. 868	NO. 869	NO. 870	NO. 871	NO. 872	NO. 873	NO. 874	NO. 875	NO. 876	NO. 877	NO. 878	NO. 879	NO. 880	NO. 881	NO. 882	NO. 883	NO. 884	NO. 885	NO. 886	NO. 887	NO. 888	NO. 889	NO. 890	NO. 891	NO. 892	NO. 893	NO. 894	NO. 895	NO. 896	NO. 897	NO. 898	NO. 899	NO. 900	NO. 901	NO. 902	NO. 903	NO. 904	NO. 905	NO. 906	NO. 907	NO. 908	NO. 909	NO. 910	NO. 911	NO. 912	NO. 913	NO. 914	NO. 915	NO. 916	NO. 917	NO. 918	NO. 919	NO. 920	NO. 921	NO. 922	NO. 923	NO. 924	NO. 925	NO. 926	NO. 927	NO. 928	NO. 929	NO. 930	NO. 931	NO. 932	NO. 933	NO. 934	NO. 935	NO. 936	NO. 937	NO. 938	NO. 939	NO. 940	NO. 941	NO. 942	NO. 943	NO. 944	NO. 945	NO. 946	NO. 947	NO. 948	NO. 949	NO. 950	NO. 951	NO. 952	NO. 953	NO. 954	NO. 955	NO. 956	NO. 957	NO. 958	NO. 959	NO. 960	NO. 961	NO. 962	NO. 963	NO. 964	NO. 965	NO. 966	NO. 967	NO. 968	NO. 969	NO. 970	NO. 971	NO. 972	NO. 973	NO. 974	NO. 975	NO. 976	NO. 977	NO. 978	NO. 979	NO. 980	NO. 981	NO. 982	NO. 983	NO. 984	NO. 985	NO. 986	NO. 987	NO. 988	NO. 989	NO. 990	NO. 991	NO. 992	NO. 993	NO. 994	NO. 995	NO. 996	NO. 997	NO. 998	NO. 999	NO. 1000	NO. 1001	NO. 1002	NO. 1003	NO. 1004	NO. 1005	NO. 1006	NO. 1007	NO. 1008	NO. 1009	NO. 1010	NO. 1011	NO. 1012	NO. 1013	NO. 1014	NO. 1015	NO. 1016	NO. 1017	NO. 1018	NO. 1019	NO. 1020	NO. 1021	NO. 1022	NO. 1023	NO. 1024	NO. 1025	NO. 1026	NO. 1027	NO. 1028	NO. 1029	NO. 1030	NO. 1031	NO. 1032	NO. 1033	NO. 1034	NO. 1035	NO. 1036	NO. 1037	NO. 1038	NO. 1039	NO. 1040	NO. 1041	NO. 1042	NO. 1043	NO. 1044	NO. 1045	NO. 1046	NO. 1047	NO. 1048	NO. 1049	NO. 1050	NO. 1051	NO. 1052	NO. 1053	NO. 1054	NO. 1055	NO. 1056	NO. 1057	NO. 1058	NO. 1059	NO. 1060	NO. 1061	NO. 1062	NO. 1063	NO. 1064	NO. 1065	NO. 1066	NO. 1067	NO. 1068	NO. 1069	NO. 1070	NO. 1071	NO. 1072	NO. 1073	NO. 1074	NO. 1075	NO. 1076	NO. 1077	NO. 1078	NO. 1079	NO. 1080	NO. 1081	NO. 1082	NO. 1083	NO. 1084	NO. 1085	NO. 1086	NO. 1087	NO. 1088	NO. 1089	NO. 1090	NO. 1091	NO. 1092	NO. 1093	NO. 1094	NO. 1095	NO. 1096	NO. 1097	NO. 1098	NO. 1099	NO. 1100	NO. 1101	NO. 1102	NO. 1103	NO. 1104	NO. 1105	NO. 1106	NO. 1107	NO. 1108	NO. 1109	NO. 1110	NO. 1111	NO. 1112	NO. 1113	NO. 1114	NO. 1115	NO. 1116	NO. 1117	NO. 1118	NO. 1119	NO. 1120	NO. 1121	NO. 1122	NO. 1123	NO. 1124	NO. 1125	NO. 1126	NO. 1127	NO. 1128	NO. 1129	NO. 1130	NO. 1131	NO. 1132	NO. 1133	NO. 1134	NO. 1135	NO. 1136	NO. 1137	NO. 1138	NO. 1139	NO. 1140	NO. 1141	NO. 1142	NO. 1143	NO. 1144	NO. 1145	NO. 1146	NO. 1147	NO. 1148	NO. 1149	NO. 1150	NO. 1151	NO. 1152	NO. 1153	NO. 1154	NO. 1155	NO. 1156	NO. 1157	NO. 1158	NO. 1159	NO. 1160	NO. 1161	NO. 1162	NO. 116
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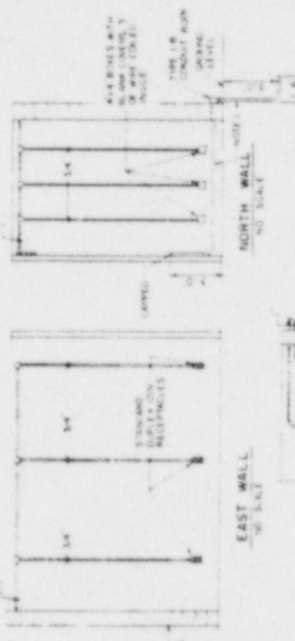
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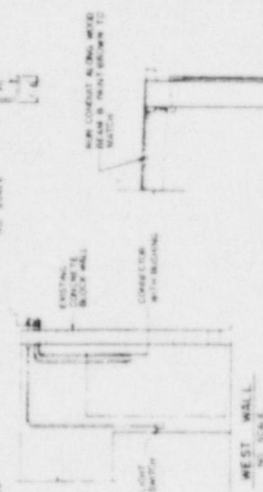
FIRST FLOOR PLAN
SCALE 1/8" = 1'-0"



NORTH ELEVATION
NO SCALE



EAST WALL
NO SCALE



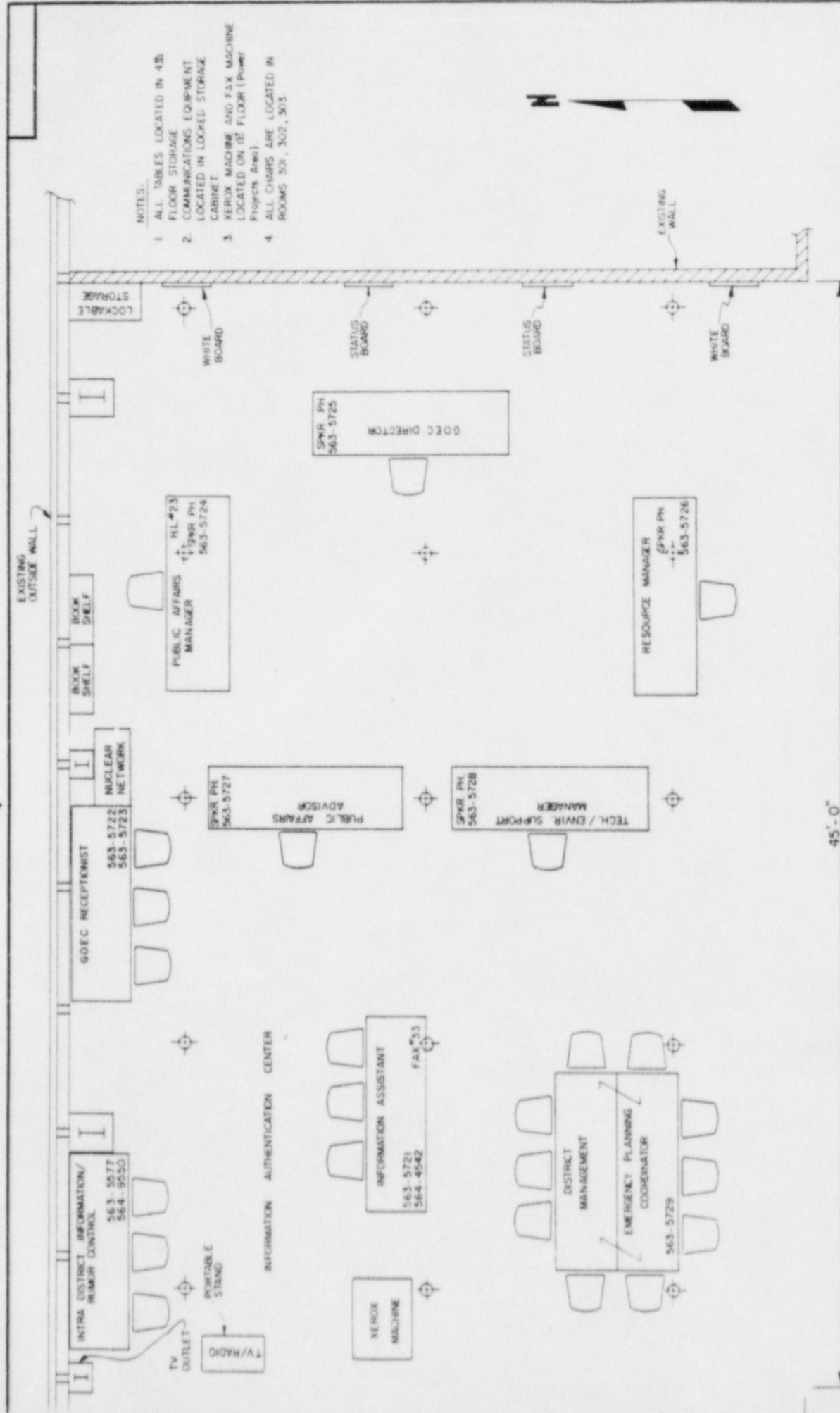
WEST WALL
NO SCALE

- NOTE
1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
 2. 1" WASHABLE CONDUIT TO BE INSTALLED BY COMMUNICATION DEPARTMENT.
 3. COMMUNICATION CABLE SHALL CONSIST OF SIXTY 25 PAIR CABLE CUT INTO 4 LENGTHS: 100' FOR MAIN BUILDING, 100' FOR SUPER BUREAU CONNECTIONS AND TERMINALS IN SUPER BUREAU TELEPHONE ADAPTORS.

SECTION A-A
NO SCALE

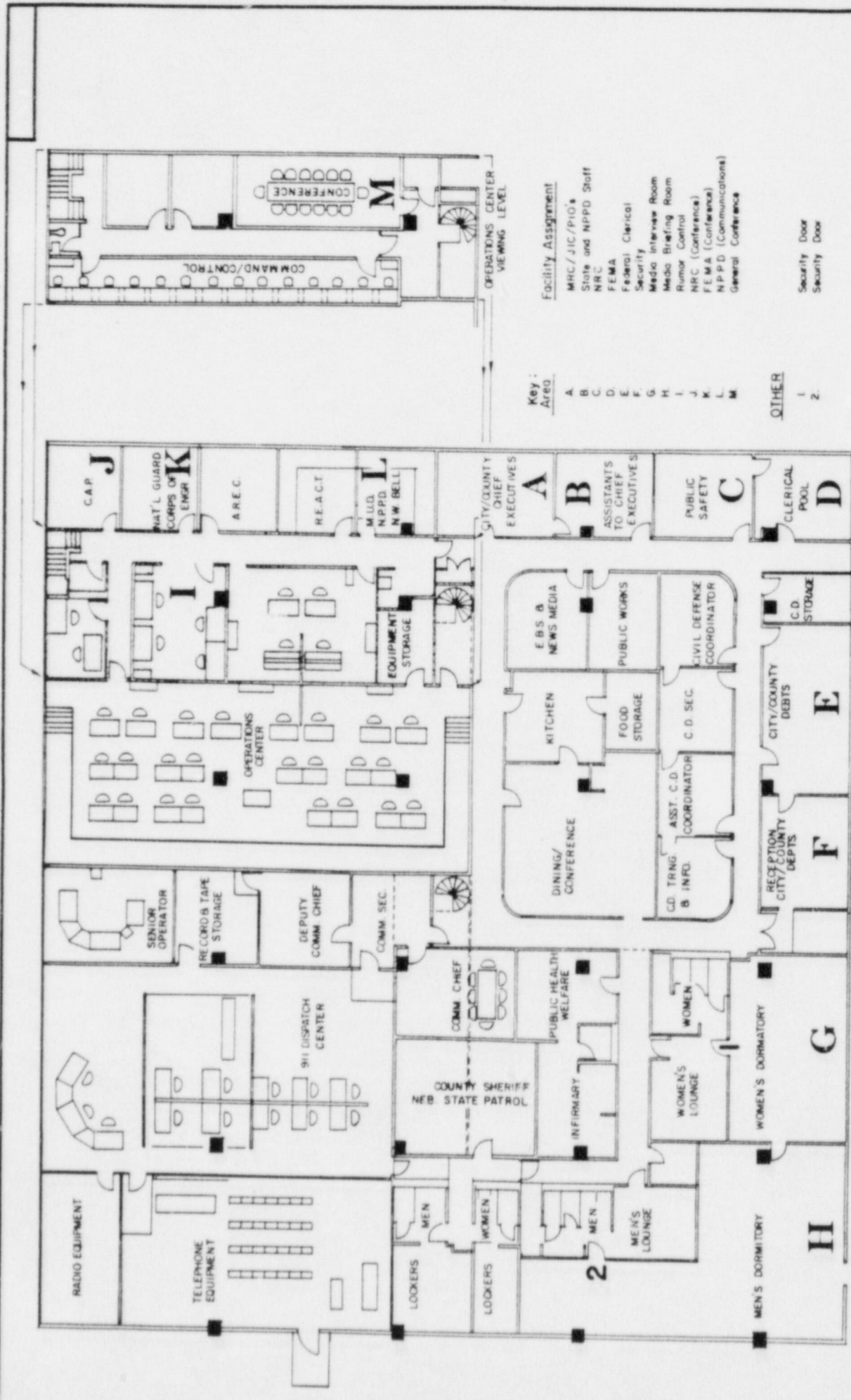
1980 M.D. 60882-105

PROJECT NO.	60882-105	DATE	10/1/78	BY	J. L. B.	DESIGNED BY	J. L. B.	CHECKED BY	J. L. B.	APPROVED BY	J. L. B.	SCALE	1/8" = 1'-0"	PROJECT	ND 44223	SHEET	7
<p>ALTERNATE EMERGENCY OPERATIONS FACILITY FLOOR PLAN & ELECTRICAL</p>																	



- NOTES:
1. ALL TABLES LOCATED IN 4th FLOOR STORAGE
 2. COMMUNICATIONS EQUIPMENT LOCATED IN LOCKED STORAGE CABINET
 3. XEROX MACHINE AND FAX MACHINE LOCATED ON 1st FLOOR (Power Projects Area)
 4. ALL CHAIRS ARE LOCATED IN ROOMS 501, 502, 503

		DATE 16 FEB 84		DIVISION	
DRAWN R.H.G.	CHECKED	DATE	APPROVED	DATE	FILED
GENERAL OFFICE EMERGENCY CENTER 4th FLOOR					



Key:

- Area**
- A MRC / JIC / PIO's
 - B State and NPPD Staff
 - C NRC
 - D FEMA
 - E Federal Clerical
 - F Security
 - G Media Interview Room
 - H Media Briefing Room
 - I Rumor Control
 - J NRC (Conference)
 - K FEMA (Conference)
 - L NPPD (Communications)
 - M General Conference
- OTHER**
- 1 Security Door
 - 2 Security Door



MEDIA RELEASE CENTER (MRC)

DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

SECTION 3.0
TRAVEL INFORMATION

3.0 TRAVEL INFORMATION

This section of the Exercise Manual provides information to those individuals from Nebraska Public Power District, other utilities, local, state, federal government, and/or other organizations who will attend the exercise.

Permission to observe the exercise must be obtained from:

P. R. Windham
Emergency Planning Coordinator
Nebraska Public Power District
Cooper Nuclear Station
Brownville, Nebraska

3.1 TRAVEL

o Air

- Eppley Field (80 miles from Cooper Nuclear Station)
Omaha, Nebraska

o Automobile

- Directions from Eppley Field Airport: Take Abbott Drive south to U.S. Highway 6/Interstate 480. Proceed east on U.S. Highway 136. Proceed west on U.S. Highway 136 to Brownville. In Brownville, follow signs to Cooper Nuclear Station entrance.
- Directions from Kansas City, Missouri: Take Interstate 29 north to U.S. Highway 136. Proceed west on U.S. Highway 136 to Brownville. In Brownville, follow signs to Cooper Nuclear Station entrance (approximate travel time = 2.5 hours).

3.2 ACCOMMODATIONS

o Auburn, Nebraska

- Auburn Inn
U.S. 73-75
North Auburn
(402) 274-3143
- Friendship Inn Palmer House Motel
U.S. 73-75
South Auburn
(402) 274-3193
- Grand Central Hotel
1114 J
Auburn
(402) 274-3148

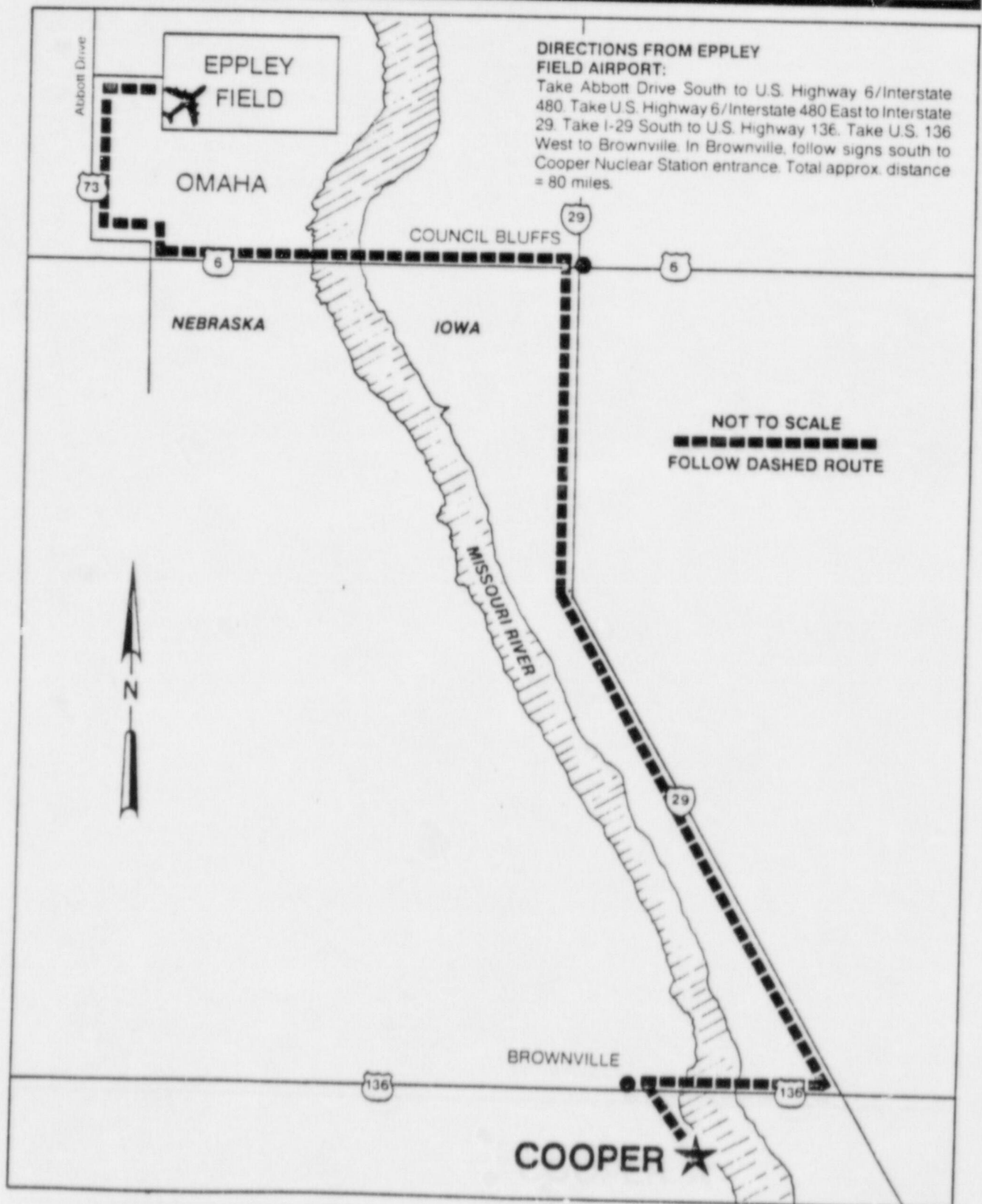
o Rock Port, Missouri

- Rock Port Inn (Best Western)
I-29 & U.S. 136
Rock Port
(816) 744-6282

PLANT: **COOPER**

LOCATION: **Brownville, NE**

LICENSEE: **Nebraska Public Power District**



SECTION 4.0

REFERENCES/ABBREVIATIONS/DEFINITIONS

4.1 REFERENCES

- 4.1.1 10CFR 50.47, 50.54, Appendix E
- 4.1.2 44CFR 350.9
- 4.1.3 NUREG-0654/FEMA-REP-1, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 4.1.4 CNS Updated Safety Analysis Report
- 4.1.5 CNS Emergency Plan, Rev. 2 (3/84).
- 4.1.6 CNS Emergency Plan Implementing Procedures
- 4.1.7 General Office Guidelines to the Cooper Nuclear Station Emergency Plan, Rev. 3 (2/85)
- 4.1.8 CNS License and Technical Specifications
- 4.1.9 CNS Piping and Instrumentation Drawings
- 4.1.10 Nebraska Radiological Emergency Response Plan for Nuclear Power Plant Incidents (4/83)
- 4.1.11 Missouri Nuclear Accident Plan (9/84)
- 4.1.12 Iowa Emergency Plan Change 1 (3/82)
- 4.1.13 State of Kansas Nuclear Facilities Incident Emergency Response Plan (1981)
- 4.1.14 Radiological Emergency Response Plan for Nuclear Power Plant Incidents - Nemaha County Change 1 (3/82)
- 4.1.15 Radiological Emergency Response Plan for Nuclear Power Plant Incidents - Richardson County Change 1 (3/82)
- 4.1.16 Radiological Emergency Response Plan for Nuclear Power Plant Incidents - Otoe County Change 1 (3/82)
- 4.1.17 Atchison County Radiological Emergency Response Plan (9/84)

4.2 ABBREVIATIONS

4.2.1	A/E	Architect Engineer
4.2.2	AEOF	Alternate Emergency Operations Facility
4.2.3	AGM-N	Assistant General Manager - Nuclear
4.2.4	ALARA	As Low As Reasonably Achievable
4.2.5	AOG	Augmented Off Gas
4.2.6	ARMS	Area Radiation Monitor(s)
4.2.7	ATWS	Anticipated Transient Without Scram
4.2.8	BLUEBIRD	NSP Mobile Communication Center
4.2.9	BOP	Balance of Plant
4.2.10	BRH	Bureau of Radiological Health
4.2.11	BWR	Boiling Water Reactor
4.2.12	CAM(s)	Constant Air Monitor(s)
4.2.13	CD	Civil Defense
4.2.14	CFR	Code of Federal Regulations
4.2.15	CMT	Containment
4.2.16	CNS	Cooper Nuclear Station
4.2.17	CR	Control Room
4.2.18	CRUSH	State Civil Defense Mobil Communication Vehicle (NB)
4.2.19	DAAS	Designated Assembly Area Supervisor
4.2.20	DAS	Data Acquisition System
4.2.21	DOE	Department of Energy
4.2.22	DOE-IRAP	DOE Interagency Radiological Assistance Plan
4.2.23	EAL(s)	Emergency Action Level(s)
4.2.24	EBS	Emergency Broadcast System
4.2.25	ECCS	Emergency Core Cooling System
4.2.26	ED	Emergency Director
4.2.27	EOC	Emergency Operating Center
4.2.28	EOF	Emergency Operations Facility
4.2.29	EPA	Environmental Protection Agency
4.2.30	EPC	Emergency Planning Coordinator
4.2.31	EPI	Emergency Plan Information
4.2.32	EPIP(s)	Emergency Plan Implementing Procedures(s)
4.2.33	EPZ	Emergency Planning Zone
4.2.34	ERF(s)	Emergency Response Facility(s)
4.2.35	ERP	Elevated Release Point
4.2.36	FEMA	Federal Emergency Management Agency
4.2.37	FRRP	Federal Radiological Response Plan
4.2.28	GE	General Electric
4.2.39	GO	General Office
4.2.40	GOEC	General Office Emergency Center
4.2.41	GOG(s)	General Office Guidelines(s)
4.2.42	HP	Health Physicist
4.2.43	HPCI	High Pressure Core Injection
4.2.44	HPN	Health Physics Network
4.2.45	HVAC	Heating Ventilation Air Conditioning
4.2.46	IAC	Information Authentication Center
4.2.47	INPO	Institute of Nuclear Power Operations
4.2.48	KI	Potassium Iodide
4.2.49	LCO	Limiting Condition of Operation
4.2.50	LOCA	Loss of Coolant Accident
4.2.51	LPCI	Low Pressure Core Injection
4.2.52	LT&T	Lincoln Telephone and Telegraph
4.2.53	LWR	Light Water Reactor

4.2.54	MPC	Maximum Permissible Concentration
4.2.55	MRC	Media Release Center
4.2.56	NAWAS	National Warning System
4.2.57	NPPD	Nebraska Public Power District
4.2.58	NRC	Nuclear Regulatory Commission
4.2.59	NSP	Nebraska State Police
4.2.60	OSC	Operations Support Center
4.2.61	PAG(s)	Protective Action Guide(s)
4.2.62	PAP	Principal Assembly Point
4.2.63	PASS	Post Accident Sampling System
4.2.64	PIO	Public Information Officer
4.2.65	PRMS	Process Radiation Monitor System
4.2.66	R _A CA	Radiation Access Control Area
4.2.67	RCP	Reactor Coolant Pump
4.2.68	RCS	Reactor Coolant System
4.2.69	RHR	Residual Heat Removal
4.2.70	RM	Radiation Manager
4.2.71	RMT	Radiation Monitoring Team
4.2.72	SC	Climatronics Sigma Computer
4.2.73	SEMA	State Emergency Management Agency (Mo)
4.2.74	SJAE	Steam Jet Air Ejector
4.2.75	SRV	Safety Relief Valve
4.2.76	SWP	Special Work Permit
4.2.77	TIC	Technical Information Center
4.2.78	TLD	Thermoluminescent Dosimeter
4.2.79	TSC	Technical Support Center
4.2.80	USAR	Updated Safety Analysis Report
4.2.81	VFD	Volunteer Fire Department
4.2.82	WSFO	Weather Service Forecast Office

4.3 DEFINITIONS

- 4.3.1 ALERT: The level of emergency classification which indicates that events are in progress or have occurred which involve an actual or potential degradation of the level of safety of the plant.
- 4.3.2 ALTERNATE EMERGENCY OPERATIONS FACILITY (AEOF): The AEOF, which is housed in the Auburn National Guard Armory, is located approximately 10½ miles west of CNS in Auburn, Nebraska. If conditions dictate relocating emergency response personnel from the EOF to the AEOF, emergency evaluation and coordination will be accomplished from this location.
- 4.3.3 ANTICIPATED TRANSIENT WITHOUT SCRAM (ATWS): Failure of the reactor control rods to insert into the core upon demand.
- 4.3.4 ASSESSMENT ACTIONS: Actions taken during or after an emergency to obtain and process information necessary to determine the character and magnitude of the emergency and to implement specific corrective emergency measures.
- 4.3.5 CONTAMINATION: Ingestion, inhalation, or direct contact with water, air, soil, or tangible objects which are emitting ionizing radiation. A contaminated object has a level of radioactive material adhering to its surface higher than an established limit.
- 4.3.6 CONTROL ROOM (CR): The CR, operating under the direction of the Control Room Supervisor, is the primary point at which station conditions are monitored and controlled. It is the point where corrective actions are taken to mitigate an emergency situation and where the initial assessment and classification of an emergency are made.
- 4.3.7 CONTROLLER: A member of the exercise control group. Each Controller may be assigned to one or more activities or functions for the purpose of keeping the action going according to a scenario, resolving scenario discrepancies, and supervising the actions of the players.
- 4.3.8 CORRECTIVE ACTIONS: Measures taken to reduce the severity of, or terminate an emergency situation at, or near, the source of the problem; to prevent an uncontrolled release of radioactive material; or to reduce the magnitude of the radioactive release.
- 4.3.9 DECONTAMINATION: The process by which the body or an object is relieved of radioactive substances.
- 4.3.10 DOSE ASSESSMENT: The process of estimating the amount of radiation a person will potentially receive as a result of a radiological release.

- 4.3.11 DRILL: A supervised event aimed at evaluating, developing, and maintaining skills in a particular operation.
- 4.3.12 EMERGENCY ACTION LEVELS (EALs): Parameters used to designate a particular class of emergency. These parameters are indicators of the emergency's severity or potential severity and are guides to aid in determining appropriate emergency response measures.
- 4.3.13 EMERGENCY OPERATIONS CENTER (EOC): An emergency response facility from which government officials exercise direction and control.
- 4.3.14 EMERGENCY OPERATIONS FACILITY (EOF): The EOF is the focal point for overall NPPD management of an emergency at CNS, and is used for the coordination of on-site and off-site radiological emergency operations. When activated, the EOF is under the direction of the Emergency Operations Facility Director, who is responsible for maintaining continued coordination with governmental authorities regarding radiological consequences of an incident.
- 4.3.15 EMERGENCY PLANNING ZONE (EPZ): Defined area established around CNS for which emergency planning is set forth in detail. These are the areas in which the potential need for protective action(s) is recognized and addressed. EPZs are defined for both the plume and ingestion exposure pathways.
- 4.3.16 EMERGENCY RESPONSE FACILITY: Any of several on-site and off-site centers which are activated to coordinate emergency actions. Included in this category are the Control Room, Technical Support Center, Operations Support Center, Emergency Operations Facility, Alternate Emergency Operations Facility, Media Release Center and State and local Emergency Operations Centers.
- 4.3.17 EVALUATOR: A member of the exercise evaluation group. An evaluator may serve in a dual capacity as both a Controller and Evaluator. Each Evaluator may be assigned to one or more activities or functions for the purpose of evaluating, recording, critiquing, and making recommendations for improvements.
- 4.3.18 EXCLUSION AREA: The area surrounding CNS in which the Nebraska Public Power District has the authority to determine all activities, including exclusion or removal of persons and property from the area during accident conditions.
- 4.3.19 EXERCISE: An event which tests the overall functions and capabilities of organizations involved in responding to an emergency situation. An exercise shall simulate an emergency that results in off-site authorities participating?

- 4.3.20 GENERAL EMERGENCY: The most severe level of emergency classification which indicates that events are in progress, or have occurred, which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Release of radioactive material can be reasonably expected to exceed PAG exposure levels off-site.
- 4.3.21 GENERAL OFFICE EMERGENCY CENTER (GOEC): Located at NPPD Headquarters, Columbus, Nebraska. The GOEC will be manned by senior management personnel with authority to commit corporate resources (i.e., manpower, facilities, equipment, information, funds, etc.) to assist the CNS Emergency Response and Recovery organizations.
- 4.3.22 INFORMATION AUTHENTICATION CENTER (IAC): That portion of the GOEC, EOF, and MRC where information concerning the emergency is gathered and coordinated.
- 4.3.23 INGESTION EXPOSURE PATHWAY: The pathway through which principal exposure would be from the ingestion of contaminated water or foods, such as milk or fresh vegetables. The time of potential exposure could range in length from hours to months. The ingestion exposure pathway Emergency Planning Zone includes the area within a 50-mile radius of CNS.
- 4.3.24 LOCAL EMERGENCY RESPONSE PLANS: Plans for local governmental response to radiological emergencies at CNS (i.e., Nemaha, Otoe, and Richardson counties in Nebraska and Atchison county in Missouri). The plans set forth specific responsibilities and procedures for emergency agencies responsible for off-site emergency operations and the protection of the affected population.
- 4.3.25 MEDIA RELEASE CENTER (MRC): Located in the Omaha-Douglas County building, 1819 Farnam Street, Omaha, Nebraska is the central area for coordinating media releases. The MRC is a fully equipped media staging area, and has sufficient resources to handle TV, radio, etc., personnel. This facility also serves as the Omaha-Douglas County Emergency Operations Center.
- 4.3.26 NOTIFICATION OF UNUSUAL EVENTS: The lowest level of emergency classification, which indicates that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant.
- 4.3.27 OBSERVER: Any individual who is authorized to observe the Exercise, but is not authorized to interact with the players.
- 4.3.28 OFF-SITE: All land and water areas outside the Owner-Controlled Area fence surrounding the CNS.
- 4.3.29 ON-SITE: All land and water areas within the Owner-Controlled Area fence surrounding the CNS.

- 4.3.30 OPERATIONS SUPPORT CENTER (OSC): There are three OSC's at CNS. In the event of an emergency, these centers will serve as staging areas and support bases for emergency personnel. The OSC's are the manpower marshalling points for station personnel awaiting assignment to emergency repair teams, monitoring teams, damage control teams, inplant assignments, or other emergency response activities.
- 4.3.31 PARTICIPANT: An individual who has some part in the Exercise, whether as an Evaluator, Controller, Player or Observer.
- 4.3.32 PLAYERS: All individuals (CNS, Nebraska Public Power District personnel, and individuals from off-site organizations and agencies) who are assigned to perform functions of the emergency response organization, as described in the appropriate Emergency Plan and Emergency Plan Implementing Procedures.
- 4.3.33 PLUME EXPOSURE PATHWAY: The pathway through which principal exposure is by whole body exposure to gamma radiation (from the plume and deposited materials) and inhalation exposure (from the passing radioactive plume). The time of potential exposure could range in length from minutes to days. The Plume Exposure Pathway Emergency Planning Zone includes the area within a 10-mile radius of CNS.
- 4.3.34 POPULATION AT RISK: Those persons for whom protective actions would be taken.
- 4.3.35 PROCESS RADIATION MONITORING SYSTEM: Instrumentation designed to detect abnormal radiation levels in process and effluent pathways and to activate appropriate alarms and controls.
- 4.3.36 PROTECTED AREA: The area within the Site Boundary encompassed by physical barriers and to which access is controlled for security purposes.
- 4.3.37 PROTECTIVE ACTIONS: Emergency measures taken to prevent or minimize radiological exposure. These commonly include in-house shelter, evacuation, respiratory protection, and thyroid blocking.
- 4.3.38 PROTECTIVE ACTION GUIDES (PAGs): The projected radiological dose (or dose commitment values) to individuals in the general public that would warrant protective action against a release of radioactive material. Protective actions are warranted if the dose reduction achieved is not offset by risks associated with taking the protective actions. PAGs are guides used as a decision aid in an actual emergency response situation. The PAG does not include the dose that has unavoidably occurred prior to the assessment. (Reference: Manual of

Protective Action Guides and Protective Actions for
Nuclear Incidents; as revised June 1980; EPA-520/2-75-001.)

- 4.3.39 RADIATION ACCESS CONTROL AREA (RACA): Any area in which the general area radiation level is equal to or exceeds 0.25 mrem/hr or radioactive loose surface contamination is equal to or exceeds 220 dpm/100 cm² beta-gamma, or 22 dpm/100 cm² alpha activity. A general REP is required for entry to this type area.
- 4.3.40 RADIOLOGICAL MONITORING TEAMS (RMT's): Two-person teams responsible for monitoring radiation levels in the environment and collecting soil, air, and water samples for laboratory analysis.
- 4.3.41 RECOVERY ACTIONS: Post-emergency actions to restore the station as nearly as possible to its pre-emergency condition.
- 4.3.42 SITE AREA EMERGENCY: The level of emergency classification which indicates that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases of radioactive material are not expected to exceed Protection Action Guide (PAG) exposure levels, except within the Site Boundary.
- 4.3.43 STATE EMERGENCY RESPONSE PLANS: Plans for governmental response to radiological emergencies at CNS (i.e., Nebraska, Missouri, Iowa, and Kansas). The plan(s) sets forth specific responsibilities and procedures for emergency agencies responsible for off-site emergency operations and the protection of the affected population.
- 4.3.44 TECHNICAL SUPPORT CENTER (TSC): The TSC, located adjacent to the Control Room, provides space and equipment for emergency response personnel to monitor station conditions, analyze problems, and provide short and long-term technical guidance to the CR and EOF. The TSC contains pertinent technical documents and drawings: The habitability of the TSC is similar to that of the CR.

SECTION 5.0

CONTROLLER/EVALUATOR INFORMATION

5.0 CONTROLLER/EVALUATOR GENERAL INFORMATION

Each Controller and Evaluator should be familiar with the following:

- a. The basic objectives of the exercise.
- b. The assumptions and precautions being taken.
- c. The exercise scenario, including the initiating events and the expected course of action to be taken.
- d. The various locations that will be involved and the specific items to be observed at those locations.
- e. The evaluation check lists provided herein.

5.1 PRECAUTIONS AND LIMITATIONS

This section provides guidance for all exercise Controllers and Observers for the conduct of this exercise. Prior to initiation of the exercise, a briefing will be held to review the entire exercise process with all the exercise Controllers and Observers identified in this manual.

1. Should, at any time during the course of the conduct of this exercise, an actual emergency situation arise, all activities and communications related to the exercise will be suspended. It will be the responsibility of any exercise Controller or Observer that becomes aware of an actual emergency to suspend exercise response in his/her immediate area and to inform the Lead Exercise Controller of the situation. Upon notification of an actual emergency, the Lead Exercise Controller may notify all other Controllers/Observers to suspend all exercise activities. The Lead Exercise Controller will make a determination at that point whether to continue, place a temporary hold on, or terminate the exercise.
2. Should, at any time during the course of the conduct of this exercise, an exercise Controller or Observer witness an exercise participant undertake any action which would, in the opinion of the Controller/Observer, place either an individual or component in an unsafe condition, the Controller/Observer is responsible for intervening in the individual's actions and terminating the unsafe activity immediately. Upon termination of the activity, the Controller/Observer is responsible for contacting the Lead Exercise Controller and informing him of the situation. The Lead Exercise Controller will make a determination at that point whether to continue, place a temporary hold on, or terminate the exercise.
3. Manipulation of any plant operating systems, valves, breakers, or controls in response to this exercise are only to be simulated. There is to be no alteration of any plant operating equipment, systems, or circuits during the response to this exercise.

4. All repair activities associated with the scenario will be simulated, with extreme caution emphasized around operating equipment.
5. All telephone communications, radio transmissions, and public address announcements related to the exercise must begin and end with the statement, "This is a drill." Should a Controller or Observer witness an exercise participant not observing this practice, it is the Controller's/Observer's responsibility to remind the individual of the need to follow this procedure.
6. Any motor vehicle response to this exercise, whether it be ambulance, fire fighting equipment, police/security vehicles or field monitoring teams, should observe all normal motor vehicle operating laws including posted speed limits, stop lights/signs, one way streets, etc.
7. Should any on-site security actions be required in response to this exercise, exercise participants are to cooperate as directed by the Security Force, and security representatives are to be prudent and tolerant in their actions.
8. Exercise participants are to inject as much realism into the exercise as is consistent with its safe performance; however, caution must be used to prevent over-reaction.
9. Care must be taken to prevent any non-participating individuals who may observe exercise activities from believing that an actual emergency exists. Any exercise Controller or Observer who is aware of an individual or group of individuals in the immediate vicinity who may have become alarmed or confused about the situation, should approach that individual or group and explain the nature of the exercise and its intent.

5.2 CONTROLLER INSTRUCTIONS

- 5.2.1 Controllers will position themselves at their assigned locations 30 minutes prior to the activation of the facility for which they have responsibility. (See Table 5.1)
- 5.2.2 Communications will be tested prior to exercise commencement. All watches and clocks will be synchronized with the Lead Exercise Controller as part of the communications testing.
- 5.2.3 All Controllers will comply with instructions from the Lead Exercise Controller.
- 5.2.4 Each Controller will have copies of the messages controlling the progress of the exercise scenario. No message shall be delivered out of sequence or other than as written unless specifically authorized by the Lead Exercise Controller.

- 5.2.5 Messages controlling the progress of the scenario are noted with a number. Contingency messages are noted with a number followed by the letter "X" (e.g., 10X). Contingency messages are only delivered if certain conditions indicated on the message are met.
- 5.2.6 Each on-site Controller will have copies of plant data sheets. Data sheets will be distributed only in the Control Room.
- 5.2.7 Controllers will not provide information to the Players regarding scenario progression or resolution of problems encountered in the course of the simulated emergency. The exercise participants are expected to obtain information through their own organizations and exercise their own judgement in determining response actions and resolving problems.
- 5.2.8 Some Players may insist that certain parts of the scenario are unrealistic. The Lead Controllers have the sole authority to clarify any questions regarding scenario content.

5.3 EVALUATOR INSTRUCTIONS

Each Evaluator will take detailed notes regarding the progress of the exercise and response of the exercise participants at their assigned locations. Each Evaluator should carefully note the arrival and departure times of participants, the times when major activities or milestones occur, and problem areas encountered.

(Evaluator Packages and further instructions to be included later.)

COOPER NUCLEAR STATION ANNUAL EMERGENCY EXERCISE

FIGURE 5.1 CONTROLLER/EVALUATOR ASSIGNMENTS

<u>FACILITY/ASSIGNMENT</u>	<u>CONTROLLER/EVALUATOR</u>
Control Room	Bob Jansky Bill Keller
Technical Support Center	Garrett Smith (Overall) Verne Wolstenholm (Engineer.) Rick Palazzo (Rad. & D.A.)
Emergency Operations Facility	Clem Morgan (Overall) Bob Wilbur (Management) Rick Palazzo (Rad & D.A.)
Chemistry and Health Physics	John Ditto
Electrical/Instrumentation and Control	Rich Gibson
Operations Support Center - Maintenance	Chuck Putnam
Radiation Monitoring Teams	G.O. Environmental Dept.
Repair Teams - Maintenance PASS	Chuck Putnam Ken Fike
General Office Emergency Center	J. E. Flash (Overall) R. L. Gumm (QAP-1900) G. R. Smith (Management)
Media Release Center	K. C. Walden (Overall) T. E. Hottovy (QA) R. D. Landis (Media Interface)

SECTION 6.0
SCHEDULE OF EVENTS

COOPER NUCLEAR STATION ANNUAL EMERGENCY EXERCISE

FIGURE 6.1 SCHEDULE OF EVENTS

EVENT	DATE	TIME	LOCATION	COMMENT
Controller/Evaluator Briefing for Evaluated Exercise	.			Attendance mandatory for all Controllers.
NRC Briefing for Evaluated Exercise	10/15/85			Attendance mandatory for all Controllers.
1985 Emergency Preparedness Exercise	10/16/85			Attendance mandatory for all Controllers.
Controller/Evaluator De-Brief				Attendance mandatory for all Controllers.
CNS/NRC Critique				Attendance mandatory for all Controllers.
FEMA Public Critique				NRC provides on-site portion of public critique.

SECTION 7.0

EXERCISE SCENARIO

COOPER NUCLEAR STATION

1985 EMERGENCY PREPAREDNESS EXERCISE PROGRAM

EXERCISE SCENARIO SEQUENCE OF EVENTS

Approximate Time	Scenario Time	Key Events
0730	00/00	The Shift Supervisor is notified that the mechanic performing Maintenance Procedure 7.2.41 in the RWCU Filter Room has been seriously injured in a highly contaminated area. First Aid team believes that injury warrants transportation to the hospital. Because the site ambulance is unavailable, the Auburn Rescue Squad is called to respond to the plant. (This injury is simulated for plant response, but the Rescue Squad response must occur in real time.)
0735	00/05	Health Physics personnel at the scene of the incident confirm that the injured individual is contaminated.
UNUSUAL EVENT		An UNUSUAL EVENT should be declared in accordance with EPIP 5.7.1, EAL 6.5.1; Transportation to off-site facilities of contaminated, injured personnel.
0745	00/15	Health Physics/Security verify that the injured individual has been moved to the plant gates. Health Physics awaits arrival of the Auburn Rescue Squad. The Shift Supervisor ensures that assignments are made to complete Maintenance Procedures 7.2.41.
0800	00/30	During the RWCU filter cartridge change out, the filter cartridge is dropped, spreading contamination over a large area. ARMs and CAM near the Filter Room alarm. ARM readings increase to 1000 times normal readings in the area near the incident.
ALERT		An ALERT should be declared per EPIP 5.7.1, EAL 1.2.1; The control of radioactive material. The Shift Supervisor insures that the area is evacuated and initiates plans for clean up of area contamination.
0815	00/45	Safety valve RV-70A may be weeping as indicated by elevated tailpipe temperature.

Approximate Time	Scenario Time	Key Events
0845	01/15	The TSC and OSC have been fully activated. Additional augmentation of the Health Physics staff may be considered.
0915	01/45	Safety valve RV-70A continues to indicate some intermittent weeping, however drywell conditions remain stable indicating that the leak is not serious.
0930	02/00	Control Room operators performing Surveillance Procedure 6.2.4.1 notes some irregularity in core flow instrumentation readings. RRP SPD is adjusted in an attempt to balance the loop flows. Jet pump 6 has begun to deteriorate.
1000	02/30	Flow irregularities continue as jet pump 6 begins to degrade more seriously. Core DP shows marked increase while loop flow decreases.
1015	02/45	Off gas pre-treatment radiation monitors show some increase in off gas radiation. Flow irregularities continue, but do not warrant rapid shutdown of the reactor .
1030	03/00	The condition of the jet pump deteriorates rapidly. Pieces of the jet pump ramshead have broken off and impinged on the core and lodged in the flow channels, causing degradation of cladding and local loss of core flow and high core differential pressure. Main Steam radiation monitors increase rapidly to 3 times normal values, causing group I/VII isolations, subsequent reactor scram and turbine trip and feed pump trip. The reactor level transient causes Group II, III, VI isolation. SRVs lift to control reactor pressure. HPCI/RCIC control level. Reactor instrumentation indicates that 30 control rods are not full in. Operators respond by attempting manual insertion of control rods. Power drops to 3%.
SITE AREA EMERGENCY		A SITE AREA EMERGENCY should be declared in accordance with EPIP 5.7.1, EAL 2.5.1; Degraded core with possible loss of coolable geometry.
1035	03/05	Control Room operators continue attempts to manually insert control rods. SRVs continue to cycle, controlling pressure, HPCI maintains level within acceptable limits. Suppression pool temperature and radiation monitors begin to increase rapidly. ARMs in HPCI turbine area increase, indicating high steam radiation. Power oscillations cause intermittent APRM downscale alarms. Operators attempt to insert IRMs; however, only 3 will go in fully.

Approximate Time	Scenario Time	Key Events
1040	03/10	Operators continue attempts to manually drive rods in. Chemistry is requested to draw and analyze an RCS sample per General Operating Procedure 2.1.22 due to a Group I, VII isolation on Main Steam Hi Rad. In-core detectors (TIP) cannot be inserted completely due to blockage in channels. LPRM upscale.
1045	03/15	SRVs continue to control pressure, HPCI/RCIC control level. However, at every peak of reactor pressure there is indication that safety valve RV-70A weeps until the SRVs decrease the pressure. Power has been reduced to approximately 3% by manual insertion of control rods.
1100	03/20	Reactor is in subcritical condition with 13 rods not fully in. Operators continue to attempt manual insertion of control rods. SRVs continue to control reactor in cycle. The HPCI turbine trips and steam line isolates. There are indications of an rupture in the turbine steam supply line.
1115	03/45	All control rods have been successfully inserted.
1130	04/00	Safety valve RV-70A fails open at peak of reactor pressure cycle. Drywell pressure increases rapidly. Containment atmospheric monitors indicate radiation levels rapidly increasing. Drywell humidity and temperature increase. Reactor level drops but is restored by RCIC.
1145	04/13	Drywell pressure increases very rapidly. Accident range monitors increase rapidly. Containment spray valve F031B fails to open. When operators attempt to realign system, Diesels start on 2 psig in drywell. Diesel B trips. High oil DP on filter.
GENERAL EMERGENCY		A GENERAL EMERGENCY should be declared in with EPIP 5.7.1, EAL 2.6.1 c)5: Loss of two of three fission product barriers with potential for loss of the third.
1200	04/30	Lighting strikes (the) transformers providing power to EOF. A team is sent to investigate problems. Plant essential buses are not affected.
		The EOF has lost all AC power. A decision is made to move EOF operations to the Alternate EOF in Auburn. Control of the emergency is transferred back to the TSC temporarily.

<u>Approximate Time</u>	<u>Scenario Time</u>	<u>Key Events</u>
1230	05/00	Diesel Generator B is successfully started by OSC teams in the plant.
1300	05/30	The Alternate EOF has been activated and is declared functional. ARMs alarm in area of CRD hatch, indicating that the containment has been breached. SBT and ERP monitors indicate a significant release has commenced.
1330	06/00	OSC teams are still unable to open containment spray valve FO31B. The release continues.
1445	07/15	Containment spray is successfully initiated. Drywell pressure drops rapidly and release rate decreases to near background.
1515	07/45	Meteorological conditions change and the remaining radioactive gases are dispersed in the atmosphere.
1530	08/00	A recovery organization is established and re-entry planning is initiated. De-escalation of the emergency is discussed.
1630	09/00	The exercise is terminated.

SECTION 8.0

MESSAGE FORMS AND PLANT DATA SHEETS

1985 Evaluated Exercise

Time = 0715

Message Number I C

t = -00/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitoring Sheets

Message: * * * THIS IS A DRILL * * *

- o CNS is operating at 100% power. The core is near end of life and has 300 equivalent full power days. The unit has been operating for one month at steady state.
- o Containment Spray valve 10" 511 MV is tagged out due to repairs being performed on operator MO31A. The valve is locked closed. A seven day LCO has been in effect since noon yesterday.
- o Site ambulance is in Nebraska City for periodic maintenance and will be back on site tomorrow.
- o Maintenance procedure 7.2.41 is underway. SW-XXX, Attached, has been appropriately signed and posted.
- o The mechanic in the RWCU filter room has just been reported injured (simulated). The First Aid Team has responded to the incident (simulated).

For Controller Use Only:

CONTROLLER INFORMATION:

- o Discuss this information with the drill operating shift crew. Note carefully that inplant response to the medical emergency is simulated, but that all other actions must be demonstrated.

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS</u> (psig)	<u>FLOW</u> (gpm)
RHR A	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR B	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR C	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR D	<u>STBY</u>	<u>0</u>	<u>0</u>
CS A	<u>STBY</u>	<u>0</u>	<u>0</u>
CS B	<u>STBY</u>	<u>0</u>	<u>0</u>
HPCI	<u>STBY</u>	<u>0</u>	<u>0</u>

Drywell Pressure 16 (PSIA)Torus Level 0 (inches)OPENCLOSEDMSIV 8 0PANEL 9-4

	<u>STATUS</u>	<u>PRESS</u> (psig)	<u>FLOW</u> (gpm)
RCIC	<u>STBY</u>	<u>0</u>	<u>0</u>
RWCU A	<u>OPER</u>	<u> </u>	<u> </u>
RWCU B	<u>Unavail</u>	<u> </u>	<u> </u>
RRPA	<u>92 % SPD</u>	<u> </u>	<u> </u>
RRPB	<u>88 % SPD</u>	<u> </u>	<u> </u>

PANEL 9-5

	<u>REACTOR POWER</u>	<u>100%</u>	<u>APRM</u>
REACTOR LEVEL	<u>35" +</u>	<u>NR</u>	
REACTOR PRESSURE	<u>1000 psig</u>		
CORE D/P (psig)	<u>17.25</u>		
CORE FLOW	<u>71.0</u>		
(10 ⁶ lbm/hr)			
		<u>FLOW (10⁶ lbs/hr)</u>	
FEEDWATER A		<u>4.8</u>	
FEEDWATER B		<u>4.8</u>	
MAIN STEAM A		<u>2.4</u>	
MAIN STEAM B		<u>2.4</u>	
MAIN STEAM C		<u>2.4</u>	
MAIN STEAM D		<u>2.4</u>	

FLOWCRD A 50 (gpm)CRD B Avail(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	<u>75 %</u>	<u>0 (psig)</u>	<u>ON</u>	<u>Avail</u>

MISCELLANEOUS PANELS

DIESEL GEN A	<u>STBY</u>
DIESEL GEN B	<u>STBY</u>
SBGT A	<u>STBY</u>
SBGT B	<u>STBY</u>
DRYWELL COOLING	<u>NORMAL</u>
TORUS WATER TEMP	<u>80 °F</u>

RADIATION MONITOR DATA

Time = 0715
t = 00/00AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor).	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings
 * Alarm
 OS Offscale

1985 Evaluated Exercise

Time = _____

Message Number _____

t = -00/05

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

Make the following PA announcement:

"Attention all personnel - We are now commencing the CNS 1985 Emergency Preparedness evaluated drill. All announcements prefaced by 'This is a drill' are intended for designated exercise participants only. If an actual incident occurs, an announcement will be made directing response to the emergency situation."

For Controller Use Only:

CONTROLLER INFORMATION:

Direct the operations crew and make the following announcement.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 0730

Message Number _____

t = 00/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

The First Aid Team at the scene of the incident has reported that
(Victim's Name) has sustained serious injuries in the RWCU filter demin-
eralizer room, and that an ambulance will be required to transport the
victim to the hospital. An HP at the scene reports that the victim is
contaminated.

For Controller Use Only:

CONTROLLER INFORMATION:

- o Inplant response to this emergency situation is simulated. Ability of Auburn Rescue Squad to respond to a contaminated injured individual at CNS must be demonstrated. Two HPs and a victim will be stationed at the plant door for transport to the hospital via the Auburn Rescue Squad.

EXPECTED ACTIONS:

- o SS should call Auburn Rescue Squad and identify that the injured individual is contaminated. Phone message must commence with "This is a drill...".
- o An Unusual Event should be declared in accordance with EPIP 5.7.1, EAL 6.5.1; Transportation to off-site facilities of contaminated, injured individual.
- o SS should notify hospital of arrival of contaminated victim and inform CAS that the Rescue Squad will be arriving.

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPENCLOSED

MSIV 8 0

PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		
RWCU B	Unavail		
RRPA	92 % SPD		
RRPB	88 % SPD		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>100%</u>	<u>APRM</u>
REACTOR LEVEL	35" +		NR
REACTOR PRESSURE	1000 psig		
CORE D/P (psig)	17.25		
CORE FLOW	71.0		
(10 ⁶ lbm/hr)			
		<u>FLOW (10⁶ lbs/hr)</u>	
FEEDWATER A		4.8	
FEEDWATER B		4.8	
MAIN STEAM A		2.4	
MAIN STEAM B		2.4	
MAIN STEAM C		2.4	
MAIN STEAM D		2.4	

FLOW

CRD A 50 (gpm)

CRD B Avail(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 0730

t = 00/00

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 0735

Message Number

t = 00/05

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

Insure that work continues on SWP-

For Controller Use Only:

CONTROLLER INFORMATION:

- o Ensure that work on Maintenance Procedure 7.2.41 continues.
- o Deliver this message only if Shift Supervisor has not arranged for work continuation.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 07/40

Message Number _____

t = 00/10

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Shift Supervisor

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

 o Call the Auburn Rescue Squad.

For Controller Use Only:

CONTROLLER INFORMATION:

 o Deliver this message only if the Shift Supervisor has not performed this action at this time.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 0745

Message Number

t = 00/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Health Physics personnel with victim at Plant Door

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

Personnel contamination and injury information are detailed on attached map.

For Controller Use Only:

CONTROLLER INFORMATION:

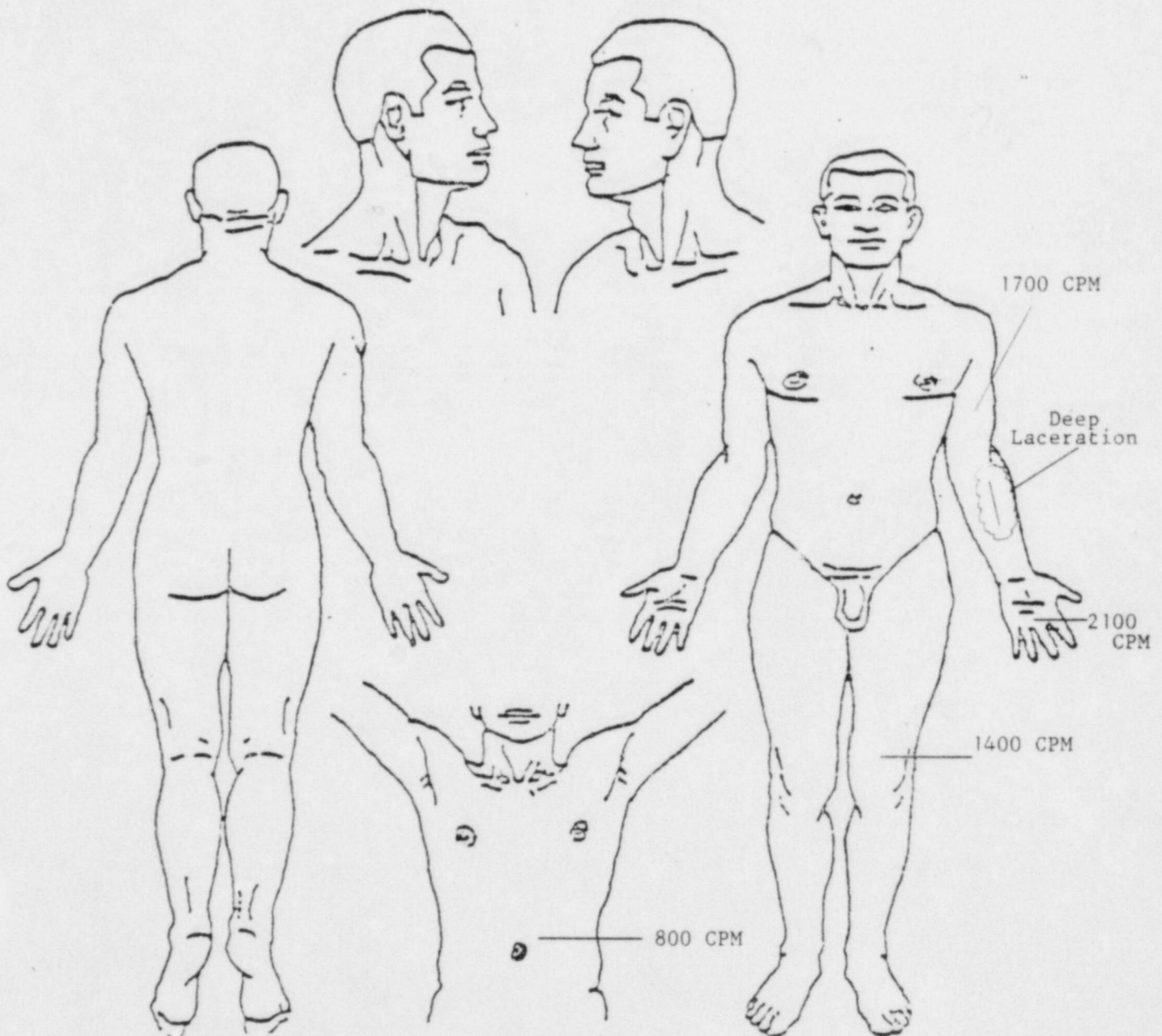
Deliver this to the pre-staged HPs at plant door with victim. This information is for their use in participating in the Auburn Recue Squad response.

EXPECTED ACTIONS:

BODY MAP

NAME: _____ TIME: _____ DATE: _____

INDICATE WOUNDS AND/OR CONTAMINATED AREAS:



1985 Evaluated Exercise

Time = 0745

Message Number

t = 00/15

COOPER NUCLEAR STATION
EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

o Plant conditions remain stable.

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPENCLOSED

MSIV 8 0

PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		
RWCU B	Unavail		
RRPA	92 % SPD		
RRPB	88 % SPD		

PANEL 9-5

REACTOR POWER	100%	APRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	1000 psig	
CORE D/P (psig)	17.25	
CORE FLOW	71.0	
(10 ⁶ lbm/hr)		
	<u>FLOW (10⁶ lbs/hr)</u>	
FEEDWATER A	4.8	
FEEDWATER B	4.8	
MAIN STEAM A	2.4	
MAIN STEAM B	2.4	
MAIN STEAM C	2.4	
MAIN STEAM D	2.4	

FLOW

CRD A 50 (gpm)

CRD B Avail (gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 0745
t = 00/15

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORS

PANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 0745

Message Number

t = 00/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room Shift Supervisor

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

Declare an UNUSUAL EVENT per EPIP 5.7.1, EAL 6.5.1.; any serious radiological exposure of plant personnel or the transportation to off-site facilities of contaminated injured personnel.

For Controller Use Only:

CONTROLLER INFORMATION:

Deliver this message only if an Unusual Event has not been declared at this time.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 0800

Message Number _____

t = 00/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See Attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

Reactor Building High Radiation

For Controller Use Only:

CONTROLLER INFORMATION:

- o The RWCU filter demineralizer cartridge has been dropped spreading gross contamination over a large area.
- o ARMs in the area alarm.
- o ARM _____ on attached Radiation Monitor Sheets in reading 1000 times normal reading.

EXPECTED ACTIONS:

- o Implement HPP - _____

Declare an ALERT per EPIP 5.7.1, EAL 1.2.1; Control or Radioactive Material: sudden increase by a factor of 1000 over normal radiation readings.

1985 Evaluated Exercise

Time = 0800

Message Number _____

t = 00/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPENCLOSED

MGIV 8 0

PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		
RWCU B	Unavail		
RRPA	92 % SPD		
RRPB	88 % SPD		

PANEL 9-5

REACTOR POWER	100%	APRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	1000 psig	
CORE D/P (psig)	17.25	
CORE FLOW	71.0	
(10 ⁶ lbm/hr)		
	FLOW (10 ⁶ lbs/hr)	
FEEDWATER A	4.8	
FEEDWATER B	4.8	
MAIN STEAM A	2.4	
MAIN STEAM B	2.4	
MAIN STEAM C	2.4	
MAIN STEAM D	2.4	

FLOW

CRD A 50 (gpm)

CRD B Avail(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 0800
t = 00/30AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1250 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 0805

Message Number _____

t = 00/35

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

"This is a drill, this is a drill."

"This is _____, I'm on elevation _____, near _____. The RWCU filter cartridge that's being changed, has dropped. We have gross contamination spread over a large area."

"This is a drill, this is a drill."

For Controller Use Only:

CONTROLLER INFORMATION:

- o This information is to be called in to the Control Room using the plant page by a Controller located near the scene of the simulated incident.
- o Survey information is attached for use by Controller when plant personnel respond to incident.

EXPECTED ACTIONS:

- o Declare an ALERT in accordance with EPIP 5.7.1, EAL 1-2.

1985 Evaluated Exercise

Time = 0815

Message Number

t = 00/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

o Annunciators in the Control Room include:

Safety or Blowdown Valve Leaking.

o Indications in the Control Room include:

MS-TR-166, Channel 305°F RV.70A Tailpipe Temperature

(Instrument No.) 130°F Drywell Zone Temperature

All other Drywell Zone Temperature indications are normal.

For Controller Use Only:

CONTROLLER INFORMATION:

- o Safety valve RV-70A is weeping. There is no reduction in reactor pressure, power or Main Steam flow rate, indicating a minor leak. Local Drywell temperature monitors show slight increases. RV-70A tailpipe temperature remains high for a normal period of time, then begins to decrease slowly.

EXPECTED ACTIONS:

- o Shift Supervisor/Control Operator should establish periodic watch of RV-70A indications to insure that conditions do not worsen.

1985 Evaluated Exercise

Time = 0815

Message Number _____

t = -00/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPENCLOSED

MSIV 8 0

PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		
RWCU B	Unavail		
RRPA	92 % SPD		
RRPB	88 % SPD		

PANEL 9-5

	<u>100%</u>	<u>APRM</u>
REACTOR POWER		
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	1000 psig	
CORE D/P (psig)	17.25	
CORE FLOW	71.0	
(10 ⁶ lbm/hr)		
	<u>FLOW (10⁶ lbs/hr)</u>	
FEEDWATER A	4.8	
FEEDWATER B	4.8	
MAIN STEAM A	2.4	
MAIN STEAM B	2.4	
MAIN STEAM C	2.4	
MAIN STEAM D	2.4	

FLOW

CRD A 50 (gpm)

CRD B Avail(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 0815
t = 00/45

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1260 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORS

PANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 0815

Message Number

t = 00/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/Emergency Director

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

Declare an ALERT, per EPIP 5.7.1, EAL 1.2.1; Control of Radioactive Material; sudden increase by a factor over 1000 over normal radiation readings.

For Controller Use Only:

CONTROLLER INFORMATION:

Deliver this message only if an ALERT has not been declared at this time.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 0830

Message Number

t = 01/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Indications in the Control Room include:

MS-TR-166 Channel 275°F RV-70A Tailpipe Temperature

For Controller Use Only:

CONTROLLER INFORMATION:

- o Health Physics personnel continue clean up of contamination.
- o Cooling of tailpipe indicates that the valve weeping has temporarily stopped.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 0830

Message Number _____

t = 01/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR B	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR C	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR D	<u>STBY</u>	<u>0</u>	<u>0</u>
CS A	<u>STBY</u>	<u>0</u>	<u>0</u>
CS B	<u>STBY</u>	<u>0</u>	<u>0</u>
HPCI	<u>STBY</u>	<u>0</u>	<u>0</u>

Drywell Pressure 16 (PSIA)Torus Level 0 (inches)OPENCLOSEDMSIV 8 0PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	<u>STBY</u>	<u>0</u>	<u>0</u>
RWCU A	<u>OPER</u>		
RWCU B	<u>Unavail</u>		
RRPA	<u>92 % SPD</u>		
RRPB	<u>88 % SPD</u>		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>100%</u>	<u>APRM</u>
	<u>REACTOR LEVEL</u>	<u>35" +</u>	<u>NR</u>
	<u>REACTOR PRESSURE</u>	<u>1000 psig</u>	
	<u>CORE D/P (psig)</u>	<u>17.25</u>	
	<u>CORE FLOW</u>	<u>71.0</u>	
	<u>(10⁶ lbm/hr)</u>		
		<u>FLOW (10⁶ lbs/hr)</u>	
	<u>FEEDWATER A</u>	<u>4.8</u>	
	<u>FEEDWATER B</u>	<u>4.8</u>	
	<u>MAIN STEAM A</u>	<u>2.4</u>	
	<u>MAIN STEAM B</u>	<u>2.4</u>	
	<u>MAIN STEAM C</u>	<u>2.4</u>	
	<u>MAIN STEAM D</u>	<u>2.4</u>	

FLOWCRD A 50 (gpm)CRD B Avail(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	<u>75 %</u>	<u>0 (psig)</u>	<u>ON</u>	<u>Avail</u>

MISCELLANEOUS PANELS

DIESEL GEN A	<u>STBY</u>
DIESEL GEN B	<u>STBY</u>
SBGT A	<u>STBY</u>
SBGT B	<u>STBY</u>
DRYWELL COOLING	<u>NORMAL</u>
TORUS WATER TEMP	<u>80 °F</u>

RADIATION MONITOR DATA

Time = 0815
t = 01/00AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1260 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 0845

Message Number

t = 01/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

Safety or Blowdown Valve Open

Indications in the Control Room include:

MS-TR-166 Channel 315°F RV-70A Tailpipe Temperature

Drywell temperature indications are all normal.

For Controller Use Only:

CONTROLLER INFORMATION:

- o The TSC and OSC should be operational at this time.
- o RV-70A is weeping slightly again. Drywell atmosphere conditions are normal indicating that the leak is minor.

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPENCLOSED

MSIV 8 0

PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		
RWCU B	Unavail		
RRPA	92 % SPD		
RRPB	88 % SPD		

PANEL 9-5

REACTOR POWER	100%	APRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	1000 psig	
CORE D/P (psig)	17.25	
CORE FLOW	71.0	
(10 ⁶ lbm/hr)		
	FLOW (10 ⁶ lbs/hr)	
FEEDWATER A	4.8	
FEEDWATER B	4.8	
MAIN STEAM A	2.4	
MAIN STEAM B	2.4	
MAIN STEAM C	2.4	
MAIN STEAM D	2.4	

FLOW

CRD A 50 (gpm)

CRD B Avail(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 0845

t = 01/15

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1250 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 0900

Message Number _____

t = 01/30

COOPER NUCLEAR STATION
EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

Safety or Blowdown Valve Leaking - Annunciator cleared

Indications in the Control Room include:

MS-TR-166 Channel _____ 295°F RV-70A Tailpipe Temperature

For Controller Use Only:

CONTROLLER INFORMATION:

- o Temperature in tailpipe decreases as steam leak again temporarily decreases. Alarm is cleared.

EXPECTED ACTIONS:

- o Continue surveillance to note any worsening of conditions.

1985 Evaluated Exercise

Time = 0900

Message Number _____

t = 01/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

	OPEN	CLOSED
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MSIV 8 0

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	STBY	0	0
RWCU A	OPER		
RWCU B	Unavail		
RRPA	92 % SPD		
RRPB	88 % SPD		

PANEL 9-5

REACTOR POWER	100%	APRM
REACTOR LEVEL	35" →	NR
REACTOR PRESSURE	1000 psig	
CORE D/P (psig)	17.25	
CORE FLOW	71.0	
(10 ⁶ lbm/hr)		
	FLOW (10 ⁶ lbs/hr)	
FEEDWATER A	4.8	
FEEDWATER B	4.8	
MAIN STEAM A	2.4	
MAIN STEAM B	2.4	
MAIN STEAM C	2.4	
MAIN STEAM D	2.4	

FLOW

CRD A 50 (gpm)

CRD B Avail(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 0900

t = 01/30

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1265 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 0915

Message Number _____

t = 01/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

Safety or Blowdown Valve Leaking

Indications in the Control Room include:

MS-TR-166 Channel _____ 325°F RV-70A Tailpipe Temperature

_____ 130°F Zone _____ Drywell Temperature

For Controller Use Only:

CONTROLLER INFORMATION:

- o Safety Valve RV-70A continues to weep as indicated by periodic increases in tailpipe temperature above 300°F. Drywell level temperature indication remains a few degrees above normal.

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

	<u>OPEN</u>	<u>CLOSED</u>
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MSIV	8	0
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PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		
RWCU B	Unava		
RRPA	92 % SPD		
RRPB	88 % SPD		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>100%</u>	<u>APRM</u>
	REACTOR LEVEL	35" +	NR
	REACTOR PRESSURE	1000 psig	
	CORE D/P (psig)	17.25	
	CORE FLOW	71.0	
	(10 ⁶ lbm/hr)		
		<u>FLOW (10⁶ lbs/hr)</u>	
	FEEDWATER A	4.8	
	FEEDWATER B	4.8	
	MAIN STEAM A	2.4	
	MAIN STEAM B	2.4	
	MAIN STEAM C	2.4	
	MAIN STEAM D	2.4	

FLOW

CRD A 50 (gpm)

CRD B Avail(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 0915

t = 01/45

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1265 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 0930

Message Number

t = 02/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Control Room Operator has just completed Procedure 6.2.4.1, Attachment A, page 6 of 15; Daily Jet Pump Operability Check. He has noted some irregularities in loop B; JP6 flows. Completed sheet is attached.

For Controller Use Only:

CONTROLLER INFORMATION:

- o Jet Pump 6 is beginning to deteriorate as indicated by flow irregularities.
- o Jet Pump 6 fails portions of surveillance but is still operable.
- o Handout Daily Jet Pump Operability Check Surveillance Sheet.

EXPECTED ACTIONS:

- o Consider Power Reduction.
- o Adjust Recirc Pump flows in an attempt to balance loop flows.
- o Notify TSC/Engineering for evaluation of Jet Pump 6.

1985 Evaluated Exercise

Time = 0930

Message Number _____

t = 02/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR B	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR C	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR D	<u>STBY</u>	<u>0</u>	<u>0</u>
CS A	<u>STBY</u>	<u>0</u>	<u>0</u>
CS B	<u>STBY</u>	<u>0</u>	<u>0</u>
HPCI	<u>STBY</u>	<u>0</u>	<u>0</u>

Drywell Pressure 16 (PSIA)Torus Level 0 (inches)OPENCLOSEDMSIV 8 0PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	<u>STBY</u>	<u>0</u>	<u>0</u>
RWCU A	<u>OPER</u>		<u>100</u>
RWCU B	<u>Unavail</u>		
RRPA	<u>92 % SPD</u>		
RRPB	<u>88 % SPD</u>		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>100%</u>	<u>APRM</u>
REACTOR LEVEL	<u>35"</u>	<u>→</u>	<u>NR</u>
REACTOR PRESSURE	<u>1000</u>	<u>psig</u>	
CORE D/P (psig)	<u>17.25</u>		
CORE FLOW	<u>71.0</u>		
(10 ⁶ lbm/hr)			
	<u>FLOW</u>	<u>(10⁶ lbs/hr)</u>	
FEEDWATER A	<u>4.8</u>		
FEEDWATER B	<u>4.8</u>		
MAIN STEAM A	<u>2.4</u>		
MAIN STEAM B	<u>2.4</u>		
MAIN STEAM C	<u>2.4</u>		
MAIN STEAM D	<u>2.4</u>		

	<u>FLOW</u>	<u>CLG WTR DP</u>	<u>DR WTR DP</u>
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CRD A 50 (gpm) 20 (psig) 265 (psig)CRD B Avail(gpm) 0 (psig) 0 (psig)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
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SLC 75 % 0 (psig) ON AvailMISCELLANEOUS PANELS

DIESEL GEN A	<u>STBY</u>
DIESEL GEN B	<u>STBY</u>
SBGT A	<u>STBY</u>
SBGT B	<u>STBY</u>
DRYWELL COOLING	<u>NORMAL</u>
TORUS WATER TEMP	<u>80</u> °F

RADIATION MONITOR DATA

Time = 0930

t = 02/00

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1260 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

c All other monitors display normal readings

* Alarm

OS Offscale

Attachment "A"

Date _____

OPERATIONS - DAILY SURVEILLANCE LOGDAILY JET PUMP OPERABILITY CHECK

Do the following tests daily whenever there is recirculation flow with the reactor in the startup or run modes of operation. Checks #1 through #3 are required by Technical Specifications (refer to Page 137). All three of Checks #1 through #3 must prove unsatisfactory to declare a jet pump inoperable. Checks #4 through #6 are performed because of jet pump beam cracking at several operating BWRs. It is the purpose of Checks #4 through #6 to detect significant recirculation system performance degradation prior to beam failure to the point of jet pump disassembly.

PARAMETER CHECKED (UNITS)	LOOP A	LOOP B	JET PUMP ΔP INDICATION (%)			
1. Computer WTSUB (10^6 lb/hr)			JET PUMP	LOOP B	JET PUMP	LOOP A
2. Indicated Core Flow (10^6 lb/hr)			#1		#11	
3. RR Pump ΔP (PSID)			#2		#12	
4. RR Pump Flow (10^3 GPM)			#3		#13	
5. RR MG Set Speed (%)			#4		#14	
6. Jet Pump Flow (10^6 lb/hr)			#5		#15	
7. Core Plate ΔP (PSID) NBI-DPR-95 x 30			#6		#16	
8. Computer WT (10^6 lb/hr)			#7		#17	
*9. RR Pump Flow (10^6 lb/hr) (Computer)			#8		#18	
			#9		#19	
			#10		#20	
			Loop B		Loop A	
			Average		Average	

*Average computer points B026 and B027 for Loop A and points B028 and B029 for Loop B.

CHECK #1: Are all jet pump ΔP s within 10% of the average % ΔP for their respective loops?
YES: _____ NO: _____

CHECK #2: The values of total core flow in 1. and 2. above are within 10%? YES: _____ NO: X
If they do differ by 10% is the derived value (1. above) higher? YES: _____ NO: X

CHECK #3: Reactor recirculation pump flow from curve using the value of pump ΔP in 3. above is 38.1 for Loop A and 30.1 for Loop B. The flow established from the curve is within 10% of the value in 4. above? Loop A - YES: X NO: _____; Loop B - YES: X NO: _____

CHECK #4: Are the values of RR Pump Flow (4. above) and RR MG Set Speed (5. above) within the 5% limits on the curve? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #5: The value of jet pump loop flow (6. above) divided by the RR MG Set Speed (5. above) for the same loop is _____ for Loop A and _____ for Loop B. Are these points determined to be within the 5% limits on the curves for Loop A and Loop B? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #6: The square root of Core ΔP (7. above) is _____. Are the values of square root of Core ΔP and Core Flow (8. above) within the 5% limits on the curve? YES: X NO: _____

IF THE ANSWER TO ANY OF THE ABOVE QUESTIONS IS NO, NOTIFY THE SHIFT SUPERVISOR.

Operator: _____ Time: _____

Control Room Supervisor/Shift Supervisor: _____ / _____
Control Room Supervisor Shift Supervisor

Engineering Review: _____ Date: _____

NOTE: All the curves mentioned above are maintained in the Control Room.

1985 Evaluated Exercise

Time = 0945

Message Number _____

t = 02/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

- o Flow irregularities worsen as a result of debris from Jet Pump 6 obstructing flow.
- o Give out jet pump surveillance sheet information only if requested by an operator. Only distribute instrument indications. Surveillance checks must be completed by operator in order to determine status. All additional information shown on attached sheet is for Controller information.
- o Flow balancing has been successful.

EXPECTED ACTIONS:

- o Consider power reduction.

1985 Evaluated Exercise

Time = 0945

Message Number _____

t = 02/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS (psig)</u>	<u>FLOW (gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPENCLOSED

MSIV 8 0

PANEL 9-4

	<u>STATUS</u>	<u>PRESS (psig)</u>	<u>FLOW (gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		100
RWCU B	Unavail		0
RRPA	94 % SPD		
RRPB	86 % SPD		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>100%</u>	<u>APRM</u>
REACTOR LEVEL	35" +		NR
REACTOR PRESSURE	1000 psig		
CORE D/P (psig)	17.5		
CORE FLOW	70.5		
(10 ⁶ lbm/hr)			
		<u>FLOW (10⁶ lbs/hr)</u>	
FEEDWATER A		4.8	
FEEDWATER B		4.8	
MAIN STEAM A		2.4	
MAIN STEAM B		2.4	
MAIN STEAM C		2.4	
MAIN STEAM D		2.4	

FLOWCLG WTR DPDR WTR DP

CRD A	50 (gpm)	20 (psig)	265 (psig)
CRD B	Avail (gpm)	0 (psig)	0 (psig)
	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u> <u>PUMPS</u>
SLC	75 %	0 (psig)	ON Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 0945

t = 02/15

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1260 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/AKW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/APW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

Attachment "A"

Date _____

OPERATIONS - DAILY SURVEILLANCE LOGDAILY JET PUMP OPERABILITY CHECK

Do the following tests daily whenever there is recirculation flow with the reactor in the startup or run modes of operation. Checks #1 through #3 are required by Technical Specifications (refer to Page 137). All three of Checks #1 through #3 must prove unsatisfactory to declare a jet pump inoperable. Checks #4 through #6 are performed because of jet pump beam cracking at several operating BWRs. It is the purpose of Checks #4 through #6 to detect significant recirculation system performance degradation prior to beam failure to the point of jet pump disassembly.

PARAMETER CHECKED (UNITS)	LOOP A	LOOP B
1. Computer WTSUB (10 ⁶ lb/hr)		<u>2</u>
2. Indicated Core Flow (10 ⁶ lb/hr)		
3. RR Pump ΔP (PSID)		
4. RR Pump Flow (10 ⁶ GPM)		
5. RR MG Set Speed (%)		
6. Jet Pump Flow (10 ⁶ lb/hr)		
7. Core Plate ΔP (PSID) NBI-DPR-95 x 30		
8. Computer WT (10 ⁶ lb/hr)		
*9. RR Pump Flow (10 ⁶ lb/hr) (Computer)		

*Average computer points B026 and B027 for Loop A and points B028 and B029 for Loop B.

JET PUMP ΔP INDICATION (%)			
JET PUMP	LOOP B	JET PUMP	LOOP A
#1		#11	
#2		#12	
#3		#13	
#4		#14	
#5		#15	
#6		#16	
#7		#17	
#8		#18	
#9		#19	
#10		#20	
Loop B Average		Loop A Average	

#1: Are all jet pump ΔPs within 10% of the average % ΔP for their respective loops?
YES: _____ NO: X

CHECK #2: The values of total core flow in 1. and 2. above are within 10%? YES: _____ NO: X
If they do differ by 10% is the derived value (1. above) higher? YES: _____ NO: X

CHECK #3: Reactor recirculation pump flow from curve using the value of pump ΔP in 3. above is 4.5 for Loop A and 5.1 for Loop B. The flow established from the curve is within 10% of the value in 4. above? Loop A - YES: X NO: _____; Loop B - YES: X NO: _____

CHECK #4: Are the values of RR Pump Flow (4. above) and RR MG Set Speed (5. above) within the 5% limits on the curve? Loop A - YES: X NO: _____; Loop B - YES: _____ NO: _____

CHECK #5: The value of jet pump loop flow (6. above) divided by the RR MG Set Speed (5. above) for the same loop is _____ for Loop A and _____ for Loop B. Are these points determined to be within the 5% limits on the curves for Loop A and Loop B? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #6: The square root of Core ΔP (7. above) is 1.5. Are the values of square root of Core ΔP and Core Flow (8. above) within the 5% limits on the curve? YES: X NO: _____

IF THE ANSWER TO ANY OF THE ABOVE QUESTIONS IS NO, NOTIFY THE SHIFT SUPERVISOR.

Operator: _____ Time: _____

Control Room Supervisor/Shift Supervisor: _____ / _____
Control Room Supervisor Shift Supervisor

Engineering Review: _____ Date: _____

NOTE: All the curves mentioned above are maintained in the Control Room.

1985 Evaluated Exercise

Time = 1000

Message Number

t = 02/30

COOPER NUCLEAR STATION
EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

- o Data sheet reflects power reduction in response flow irregularities.
- o Handout appropriate jet pump surveillance only if requested.
- o Jet pump fails surveillance and is inoperable.
- o RRPA & B will be 94% and 86% if power is not reduced by Recirc and power will be 100%. Pull off core d/p and flow off appropriate surveillance sheet (100% power or 75% power)

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1000

Message Number _____

t = 02/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPENCLOSED

MSIV 8 0

PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		100
RWCU B	Unavail		0
RRPA	78 % SPD		
RRPB	66 % SPD		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>100%</u>	<u>APRM</u>
	REACTOR LEVEL	35" →	NR
	REACTOR PRESSURE	1000 psig	
	CORE D/P (psig)		
	CORE FLOW		
	(10 ⁶ lbm/hr)		
		<u>FLOW (10⁶ lbs/hr)</u>	
	FEEDWATER A	3.6	
	FEEDWATER B	3.6	
	MAIN STEAM A	1.8	
	MAIN STEAM B	1.8	
	MAIN STEAM C	1.8	
	MAIN STEAM D	1.8	

	<u>FLOW</u>	<u>CLG WTR DP</u>	<u>DR WTR DP</u>
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CRD A	50 (gpm)	20 (psig)	265 (psig)
CRD B	Avail(gpm)	0 (psig)	0 (psig)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 1000
t = 02/30AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1255 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.7 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.6 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	0.3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	0.29 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.0E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	300 mR/hr
Ch. A2, B2	302 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

Attachment "A"

Date _____

OPERATIONS - DAILY SURVEILLANCE LOGDAILY JET PUMP OPERABILITY CHECK

Do the following tests daily whenever there is recirculation flow with the reactor in the startup or run modes of operation. Checks #1 through #3 are required by Technical Specifications (refer to Page 137). All three of Checks #1 through #3 must prove unsatisfactory to declare a jet pump inoperable. Checks #4 through #6 are performed because of jet pump beam cracking at several operating BWRs. It is the purpose of Checks #4 through #6 to detect significant recirculation system performance degradation prior to beam failure to the point of jet pump disassembly.

PARAMETER CHECKED (UNITS)	LOOP A	LOOP B
1. Computer WTSUB (10 ⁶ lb/hr)		
2. Indicated Core Flow (10 ⁶ lb/hr)		
3. RR Pump ΔP (PSID)		
4. RR Pump Flow (10 ⁶ GPM)	<u>7</u>	
5. RR MG Set Speed (%)		
6. Jet Pump Flow (10 ⁶ lb/hr)		
7. Core Plate ΔP (PSID) NBI-DPR-95 x 30		
8. Computer WT (10 ⁶ lb/hr)		
*9. RR Pump Flow (10 ⁶ lb/hr) (Computer)		

JET PUMP ΔP INDICATION (%)			
JET PUMP	LOOP B	JET PUMP	LOOP A
#1		#11	
#2		#12	
#3		#13	
#4		#14	
#5		#15	
#6		#16	
#7		#17	
#8		#18	
#9		#19	
#10		#20	
Loop B		Loop A	
Average		Average	

*Average computer points B026 and B027 for Loop A and points B028 and B029 for Loop B.

CHECK #1: Are all jet pump ΔPs within 10% of the average % ΔP for their respective loops?
YES: _____ NO: _____

CHECK #2: The values of total core flow in 1. and 2. above are within 10%? YES: _____ NO: _____
If they do differ by 10% is the derived value (1. above) higher: YES: _____ NO: _____

CHECK #3: Reactor recirculation pump flow from curve using the value of pump ΔP in 3. above is _____ for Loop A and _____ for Loop B. The flow established from the curve is within 10% of the value in 4. above? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #4: Are the values of RR Pump Flow (4. above) and RR MG Set Speed (5. above) within the 5% limits on the curve? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #5: The value of jet pump loop flow (6. above) divided by the RR MG Set Speed (5. above) for the same loop is _____ for Loop A and _____ for Loop B. Are these points determined to be within the 5% limits on the curves for Loop A and Loop B? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #6: The square root of Core ΔP (7. above) is _____. Are the values of square root of Core ΔP and Core Flow (8. above) within the 5% limits on the curve? YES: _____ NO: _____

IF THE ANSWER TO ANY OF THE ABOVE QUESTIONS IS NO, NOTIFY THE SHIFT SUPERVISOR.

Operator: _____ Time: _____

Control Room Supervisor/Shift Supervisor: _____ / _____
Control Room Supervisor Shift Supervisor

Engineering Review: _____ Date: _____

NOTE: All the curves mentioned above are maintained in the Control Room.

Attachment "A"

Date _____

OPERATIONS - DAILY SURVEILLANCE LOGDAILY JET PUMP OPERABILITY CHECK

Do the following tests daily whenever there is recirculation flow with the reactor in the startup or run modes of operation. Checks #1 through #3 are required by Technical Specifications (refer to Page 137). All three of Checks #1 through #3 must prove unsatisfactory to declare a jet pump inoperable. Checks #4 through #6 are performed because of jet pump beam cracking at several operating BWRs. It is the purpose of Checks #4 through #6 to detect significant recirculation system performance degradation prior to beam failure to the point of jet pump disassembly.

PARAMETER CHECKED (UNITS)	LOOP A	LOOP B
1. Computer WTSUB (10^6 lb/hr)		
2. Indicated Core Flow (10^6 lb/hr)		
3. RR Pump ΔP (PSID)		
4. RR Pump Flow (10^6 GPM)		34.5
5. RR MG Set Speed (%)		
6. Jet Pump Flow (10^6 lb/hr)		
7. Core Plate ΔP (PSID) NBI-DPR-95 x 30		
8. Computer WT (10^6 lb/hr)		
*9. RR Pump Flow (10^6 lb/hr) (Computer)		

JET PUMP ΔP INDICATION (%)			
JET PUMP	LOOP B	JET PUMP	LOOP A
#1		#11	
#2		#12	
#3		#13	
#4		#14	
#5		#15	
#6		#16	
#7		#17	
#8		#18	
#9		#19	
#10		#20	
Loop B Average	15.5	Loop A Average	25.2

*Average computer points B026 and B027 for Loop A and points B028 and B029 for Loop B.

CHECK #1: Are all jet pump ΔP s within 10% of the average % ΔP for their respective loops?
YES: _____ NO: x

CHECK #2: The values of total core flow in 1. and 2. above are within 10%? YES: _____ NO: x
If they do differ by 10% is the derived value (1. above) higher? YES: _____ NO: x

CHECK #3: Reactor recirculation pump flow from curve using the value of pump ΔP in 3. above is 31 for Loop A and 34.5 for Loop B. The flow established from the curve is within 10% of the value in 4. above? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: x

CHECK #4: Are the values of RR Pump Flow (4. above) and RR MG Set Speed (5. above) within the 5% limits on the curve? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: x

CHECK #5: The value of jet pump loop flow (6. above) divided by the RR MG Set Speed (5. above) for the same loop is 1.2 for Loop A and 1.2 for Loop B. Are these points determined to be within the 5% limits on the curves for Loop A and Loop B? Loop A - YES: _____ NO: x; Loop B - YES: _____ NO: _____

CHECK #6: The square root of Core ΔP (7. above) is 3.7. Are the values of square root of Core ΔP and Core Flow (8. above) within the 5% limits on the curve? YES: / NO: _____

IF THE ANSWER TO ANY OF THE ABOVE QUESTIONS IS NO, NOTIFY THE SHIFT SUPERVISOR.

Operator: _____ Time: _____

Control Room Supervisor/Shift Supervisor: _____ / _____
Control Room Supervisor Shift Supervisor

Engineering Review: _____ Date: _____

NOTE: All the curves mentioned above are maintained in the Control Room.

1985 Evaluated Exercise

Time = 1015

Message Number

t = 02/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

Off Gas Vent Pipe High Radiation

Indications in the Control include:

RMP-RM-150A/B 175 mR/hr Offgas Radiation Monitor PNL-9-4

For Controller Use Only:

CONTROLLER INFORMATION:

- o Off Gas pre-treatment radiation monitors indicate some minor increase due to damage to fuel cladding by debris from jet pump
- o Limit power reduction to 75%.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1015

Message Number _____

t = 02/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	STBY	0	0

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPENCLOSED

MSIV 8 0

PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	STBY	0	0
RWCU A	OPER		100
RWCU B	Unavail		
RRPA	78 % SPD		
RRPB	66 % SPD		

PANEL 9-5

	<u>75%</u>	<u>APRM</u>
REACTOR POWER		
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	1000 psig	
CORE D/P (psig)	12.5	
CORE FLOW	60.7	
(10 ⁶ lbm/hr)		
	<u>FLOW (10⁶ lbs/hr)</u>	
FEEDWATER A	3.6	
FEEDWATER B	3.6	
MAIN STEAM A	1.8	
MAIN STEAM B	1.8	
MAIN STEAM C	1.8	
MAIN STEAM D	1.8	

	<u>FLOW</u>	<u>CLG WTR DP</u>	<u>DR WTR DP</u>
--	-------------	-------------------	------------------

CRD A	50 (gpm)	20 (psig)	265 (psig)
CRD B	Avail(gpm)	0 (psig)	0 (psig)
	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u> <u>PUMPS</u>
SLC	75 %	0 (psig)	ON Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	STBY
SBGT B	STBY
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	80 °F

RADIATION MONITOR DATA

Time = 1015

t = 02/45

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	7 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	7 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1200 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.9 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	8 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.6 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	7 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.7 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	2 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	300 R/hr
Panel 9-02	Ladder 903 to 2nd Level	290 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.2E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.6E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	4.1E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.7 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	300 mR/hr	310 mR/hr
Ch. A2, B2	300 mR/hr	300 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	60 mR/hr	61 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

Attachment "A"

Date _____

OPERATIONS - DAILY SURVEILLANCE LOGDAILY JET PUMP OPERABILITY CHECK

Do the following tests daily whenever there is recirculation flow with the reactor in the startup or run modes of operation. Checks #1 through #3 are required by Technical Specifications (refer to Page 137). All three of Checks #1 through #3 must prove unsatisfactory to declare a jet pump inoperable. Checks #4 through #6 are performed because of jet pump beam cracking at several operating BWRs. It is the purpose of Checks #4 through #6 to detect significant recirculation system performance degradation prior to beam failure to the point of jet pump disassembly.

PARAMETER CHECKED (UNITS)	LOOP A	LOOP B
1. Computer WTSUB (10^6 lb/hr)		
2. Indicated Core Flow (10^6 lb/hr)		
3. RR Pump ΔP (PSID)		
4. RR Pump Flow (10^3 GPM)		
5. RR MG Set Speed (%)		
6. Jet Pump Flow (10^6 lb/hr)		
7. Core Plate ΔP (PSID) NBI-DPR-95 x 30		
8. Computer WT (10^6 lb/hr)		
*9. RR Pump Flow (10^6 lb/hr) (Computer)		

JET PUMP ΔP INDICATION (%)			
JET PUMP	LOOP B	JET PUMP	LOOP A
#1		#11	
#2		#12	
#3		#13	
#4		#14	
#5		#15	
#6		#16	
#7		#17	
#8		#18	
#9		#19	
#10		#20	
Loop B Average		Loop A Average	

*Average computer points B026 and B027 for Loop A and points B028 and B029 for Loop B.

CHECK #1: Are all jet pump ΔP s within 10% of the average % ΔP for their respective loops?
YES: _____ NO: _____

CHECK #2: The values of total core flow in 1. and 2. above are within 10%? YES: _____ NO: _____
If they do differ by 10% is the derived value (1. above) higher? YES: _____ NO: _____

CHECK #3: Reactor recirculation pump flow from curve using the value of pump ΔP in 3. above is _____ for Loop A and _____ for Loop B. The flow established from the curve is within 10% of the value in 4. above? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #4: Are the values of RR Pump Flow (4. above) and RR MG Set Speed (5. above) within the 5% limits on the curve? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #5: The value of jet pump loop flow (6. above) divided by the RR MG Set Speed (5. above) for the same loop is _____ for Loop A and _____ for Loop B. Are these points determined to be within the 5% limits on the curves for Loop A and Loop B? Loop A - YES: _____ NO: _____; Loop B - YES: _____ NO: _____

CHECK #6: The square root of Core ΔP (7. above) is _____. Are the values of square root of Core ΔP and Core Flow (8. above) within the 5% limits on the curve? YES: _____ NO: _____

IF THE ANSWER TO ANY OF THE ABOVE QUESTIONS IS NO, NOTIFY THE SHIFT SUPERVISOR.

Operator: _____ Time: _____

Control Room Supervisor/Shift Supervisor: _____ / _____
Control Room Supervisor Shift Supervisor

Engineering Review: _____ Date: _____

NOTE: All the curves mentioned above are maintained in the Control Room.

1985 Evaluated Exercise

Time = 1030

Message Number _____

t = 03/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

- Main Steam Line high radiation trip
- Main Steam Isolation Valves not full of open trip
- Group I Isolation Channel A (B)
- Auto Scram Trip System A (B)
- RFP Turbine 1A (1B) trip
- Recirc Pump A (B) flow limit
- Reactor Water Level Channel A (B) Low Low Level
- Low Low Set Logic A or B Armed

Indications in the Control Room include:

Valve position lights for Group I, II, III, VI, VII isolation valves indicate successful isolations.

Rod position indications on Panel 9-5 are shown on attached map.

For Controller Use Only:

CONTROLLER INFORMATION:

- o Damage to cladding resulting from jet pump debris has caused steam line radiation levels to increase to greater than three times normal full power levels, causing a Group I isolation. The Group I isolation causes a Reactor scram and a subsequent reactor feed pump turbine trip.
- o Reactor level transient causes Group II, III, VI and VII isolations. Relief valves control reactor pressure; HPCI/RCIC control reactor level after transient.
- o Operator Check isolations, control rod position indications.

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR B	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR C	<u>STBY</u>	<u>0</u>	<u>0</u>
RHR D	<u>STBY</u>	<u>0</u>	<u>0</u>
CS A	<u>STBY</u>	<u>0</u>	<u>0</u>
CS B	<u>STBY</u>	<u>0</u>	<u>0</u>
HPCI	<u>OPER</u>	<u>1160</u>	<u>4250</u>

Drywell Pressure 16 (PSIA)Torus Level 0 (inches)

<u>OPEN</u>	<u>CLOSED</u>
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MSIV 0 8PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	<u>OPER</u>	<u>1160</u>	<u>400</u>
RWCU A	<u>Tripped</u>		<u>0</u>
RWCU B	<u>Tripped</u>		<u>0</u>
RRPA	<u>Tripped % SPD</u>		
RRPB	<u>Tripped % SPD</u>		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>3%</u>	<u>APRM</u>
	<u>REACTOR LEVEL</u>	<u>-55" +</u>	<u>WR</u>
	<u>REACTOR PRESSURE</u>	<u>1060 psig</u>	
	<u>CORE D/P (psig)</u>		
	<u>CORE FLOW</u>		
	<u>(10⁶ lbm/hr)</u>		
		<u>FLOW (10⁶ lbs/hr)</u>	
	<u>FEEDWATER A</u>	<u>0</u>	
	<u>FEEDWATER B</u>	<u>0</u>	
	<u>MAIN STEAM A</u>	<u>0</u>	
	<u>MAIN STEAM B</u>	<u>0</u>	
	<u>MAIN STEAM C</u>	<u>0</u>	
	<u>MAIN STEAM D</u>	<u>0</u>	

FLOWCRD A 160 (gpm)CRD B Avail(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	<u>75 %</u>	<u>0 (psig)</u>	<u>ON</u>	<u>Avail</u>

MISCELLANEOUS PANELS

DIESEL GEN A	<u>STBY</u>
DIESEL GEN B	<u>STBY</u>
SBGT A	<u>OPER</u>
SBGT B	<u>OPER</u>
DRYWELL COOLING	
TORUS WATER TEMP	<u>80 °F</u>

RADIATION MONITOR DATA

Time = 1030

t = 03/00

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	149 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1000 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1.2 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	3.5 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	26 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	0.6 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	8 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	10 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	2.5 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	3 mR/hr
15	Turbine Bldg Turbine Front Standard	0.5 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	1 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	350 R/hr
Panel 9-02	Ladder 903 to 2nd Level	350 R/hr

PROCESS AND VENT MONITORSPANEL VBDC

Rx Bldg Vent Eff (RMV-RM-40)	2.2E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.9E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.5 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	1200 mR/hr	1220 mR/hr
Ch. A2, B2	1250 mR/hr	1200 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr


o All other monitors display normal readings

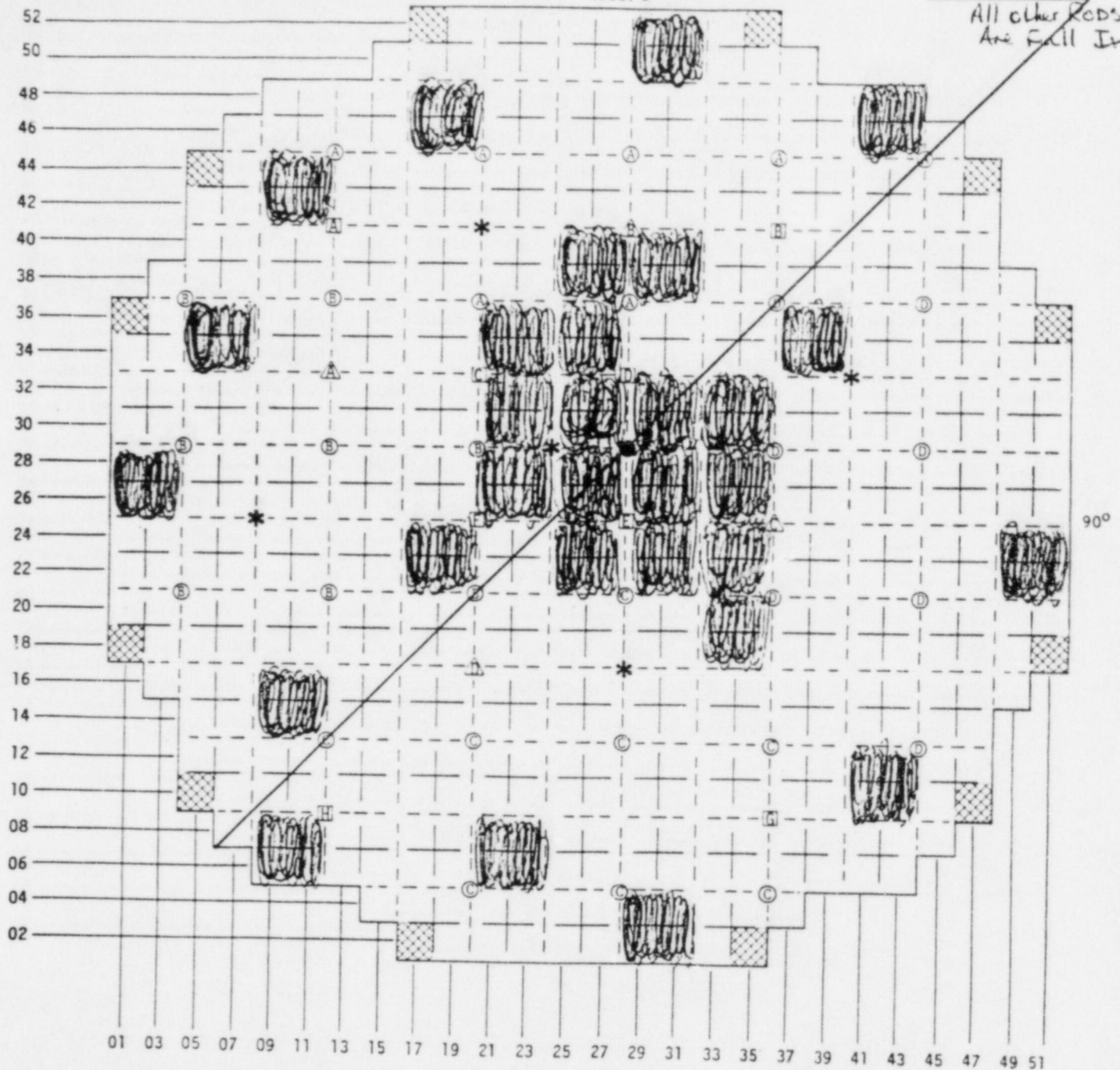
* Alarm

OS Offscale

NEBRASKA PUBLIC POWER DISTRICT COOPER STATION CORE MAP

West 0°

1030
 Rem Not Full In
 (Green Light Not On)
 Axis of Symmetry
 All other Rods
 Are Full In




Ⓐ LPRM Location (Letter indicates TIP machine)

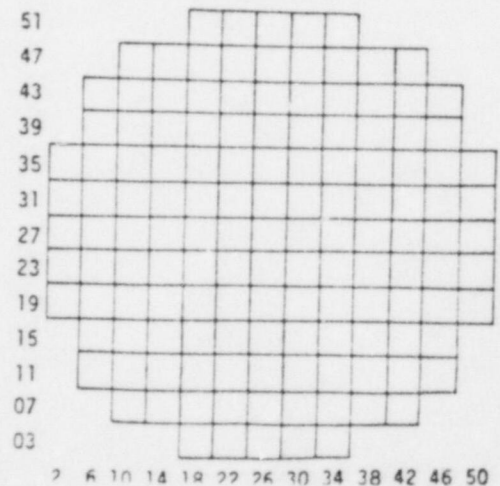
● LPRM Location (Common location for all TIP machines)

Ⓐ IRM Locations (Letter indicates IRM channel)

Ⓐ SRM Locations (Letter indicates SRM channel)

* Source Locations

 Dummy Fuel Assembly Locations



1985 Evaluated Exercise

Time = 1035

Message Number

t = 03/05

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

APRM Downscale (Intermittent)
Low-Low set logic A or B armed
Relief Valve open
Reactor Building high radiation
Safety or blowdown valve leaking

Indications in the Control Room include:

RV-71D, F Blue Lights Off
MS-TR-166 Channel 375°F RV-70A Tailpipe Temperature
Drywell temperature indications normal

For Controller Use Only:

CONTROLLER INFORMATION:

- o Reactor Power Remains at ~ 3% because 30 rods are not full in.
- o Reactor water level restored by HPCI and RCIC.
- o SRVs cycle normally and maintain pressure.
- o Reactor Building ~~M~~ rad alarm due to HPCI/RCIC steam lines.

EXPECTED ACTIONS:

- o Attempt to insert control rods by resetting scram and/or manually driving them in.
- o Operators may elect to insert IRMs. If so, only three will fully insert.

1985 Evaluated Exercise

Time = 1035

Message Number _____

t = 03/05

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RnR A	STBY	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	OPER	1100	4250

Drywell Pressure 16 (PSIA)

Torus Level 0 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	1100	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	Tripped % SPD		
RRPB	Tripped % SPD		

PANEL 9-5

	REACTOR POWER	3%	APRM
REACTOR LEVEL	40"		NR
REACTOR PRESSURE	1000 psig		
CORE D/P (psig)			
CORE FLOW			
(10 ⁶ lbm/hr)			
	FLOW (10 ⁶ lbs/hr)		
FEEDWATER A	0		
FEEDWATER B	0		
MAIN STEAM A	0		
MAIN STEAM B	0		
MAIN STEAM C	0		
MAIN STEAM D	0		

FLOW

CRD A 50 (gpm)

CRD B Avail(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	OPER
SBGT B	OPER
DRYWELL COOLING	
TORUS WATER TEMP	82 °F

RADIATION MONITOR DATA

Time = 1035
t = 03/05AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	10 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	3.5 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	27 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	1.8 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	8 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	11 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	8 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	4 mR/hr
15	Turbine Bldg Turbine Front Standard	0.5 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	1 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.02 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	370 R/hr
Panel 9-02	Ladder 903 to 2nd Level	380 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.8E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.5 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

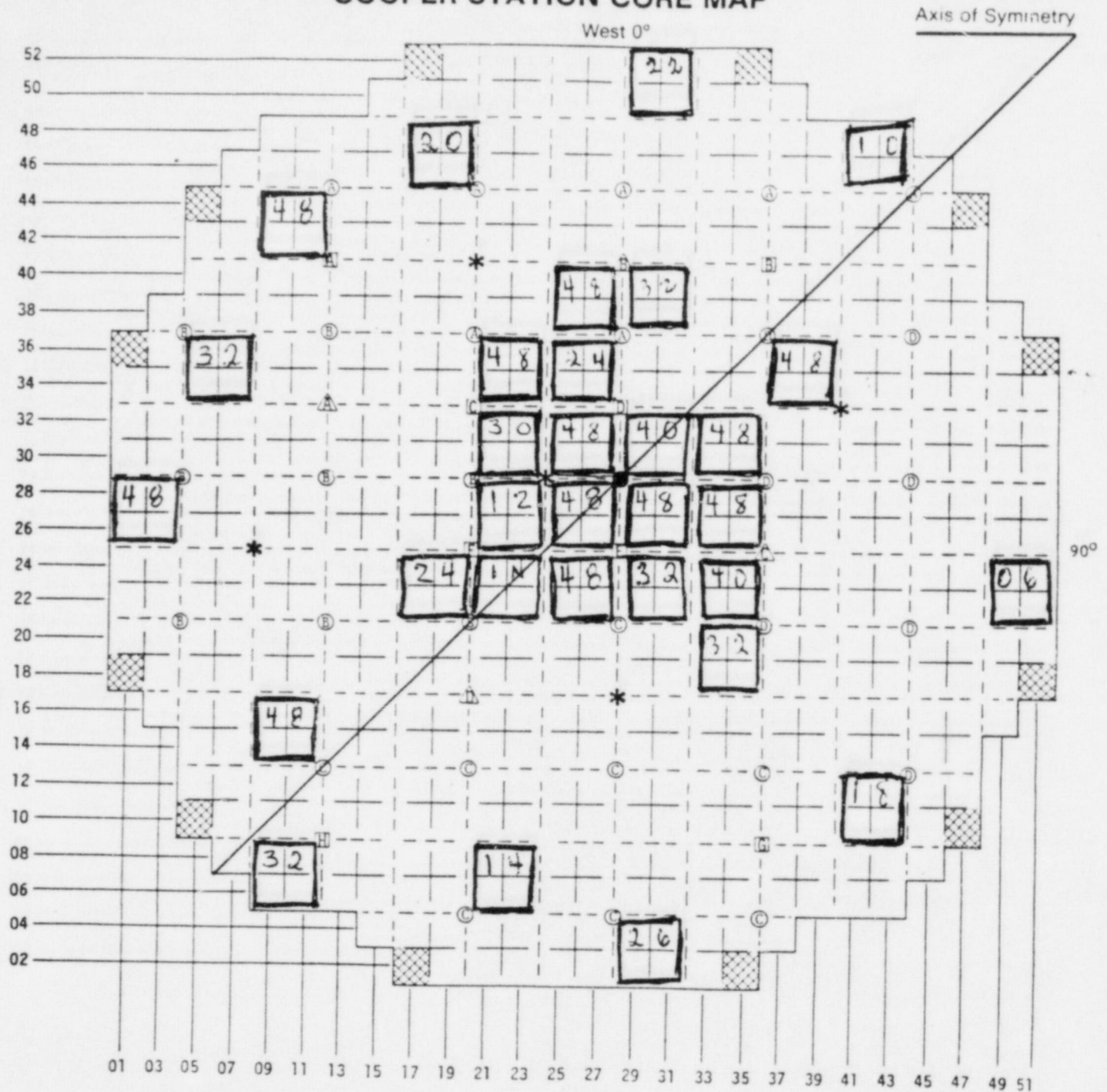
Mn. Stm. Rad Monitor Ch. A2, B1	650 mR/hr	630 mR/hr
Ch. A2, B2	630 mR/hr	640 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	21 mR/hr	21 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

NEBRASKA PUBLIC POWER DISTRICT COOPER STATION CORE MAP



Ⓐ I.PRM Location (Letter indicates TIP machine)

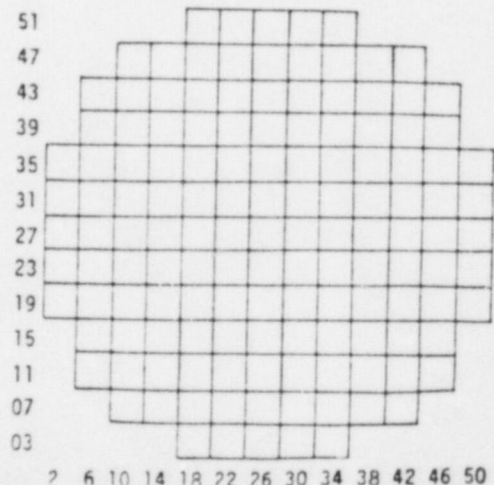
● LPRM Location (Common location for all TIP machines)

Ⓐ IRM Locations (Letter indicates IRM channel)

Ⓐ SRM Locations (Letter indicates SRM channel)

* Source Locations

☐ Dummy Fuel Assembly Locations



1985 Evaluated Exercise

Time = 1045

Message Number _____

t = 03/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

LPRM upscale
Safety or Blowdown Valve leaking
Low-Low Set A or B armed
Relief Valve open (Valves cycling normally)
APRM Downscale (Intermittent)

Indications in the Control Room include:

RV-71D, F Blue Lights Off (Intermittent)
MS-TR-166, Channel _____ 305°F RV-76A Tailpipe temperature
_____ 130°F Drywell zone _____ Temperature
All other Drywell zone temperature indications Normal

For Controller Use Only:

CONTROLLER INFORMATION:

- o Data sheets reflect initiation of RHR in Suppression Pool cooling mode due to increasing torus temperature.
- o RV-70A is leaking by the seal at peaks in reactor pressure cycles.
- o Only two control rods have been inserted since the scram.

EXPECTED ACTIONS:

- o Operations may elect to insert TIP to verify "LPRM Upscale" annunciator. If so, the TIP will NOT fully insert due to blockage. This provides additional indication of degraded core geometry.

1985 Evaluated Exercise

Time = 1045

Message Number _____

t = 03/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	0	0
RHR B	STBY	0	0
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	OPER	1070	4250

Drywell Pressure 16.3 (PSIA)

Torus Level +0.25 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	1070	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	Tripped % SPD		
RRPB	Tripped % SPD		

PANEL 9-5

REACTOR POWER	3%	APRM
REACTOR LEVEL	40" +	NR
REACTOR PRESSURE	970 psig	
CORE D/P (psig)		
CORE FLOW		
(10 ⁶ lbm/hr)		
	FLOW (10 ⁶ lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B 50 (gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	OPER
SBGT B	OPER
DRYWELL COOLING	
TORUS WATER TEMP	88 °F

RADIATION MONITOR DATA

Time = 1045

t = 03/15

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	10 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	4 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	30 mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	2.2 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	9 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	36 mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	10 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	5 mR/hr
15	Turbine Bldg Turbine Front Standard	0.5 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	1 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.02 mR/hr
21	Grade Level Control Corridor	0.2 mR/hr
Panel 9-02	Personnel Airlock Area 903	380 R/hr
Panel 9-02	Ladder 903 to 2nd Level	380 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.0E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.7E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.5E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

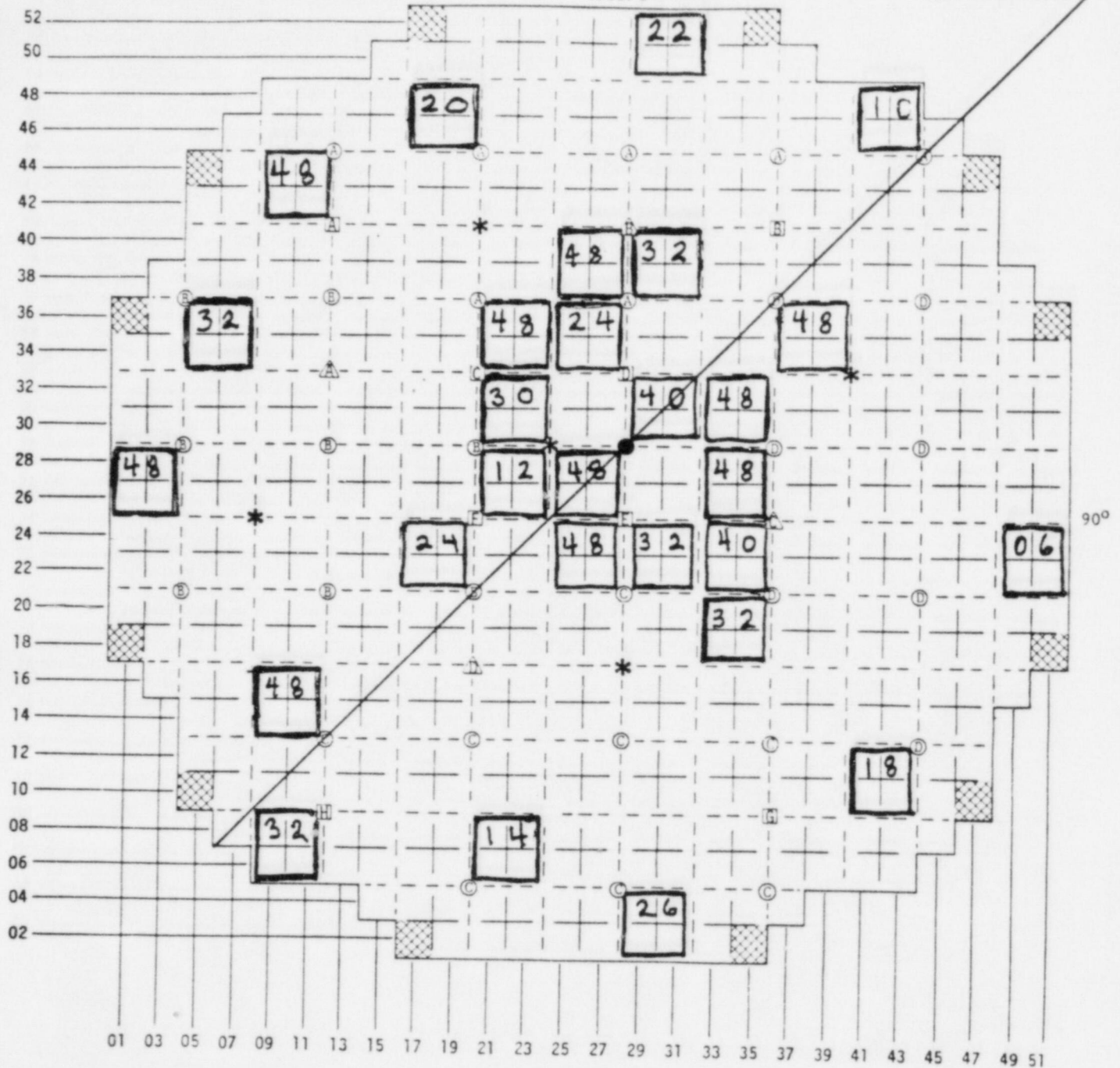
Mn. Stm. Rad Monitor Ch. A2, B1	630 mR/hr	630 mR/hr
Ch. A2, B2	630 mR/hr	630 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
 * Alarm
 OS Offscale

NEBRASKA PUBLIC POWER DISTRICT COOPER STATION CORE MAP

West 0°

Axis of Symmetry



Ⓐ LPRM Location (Letter indicates TIP machine)

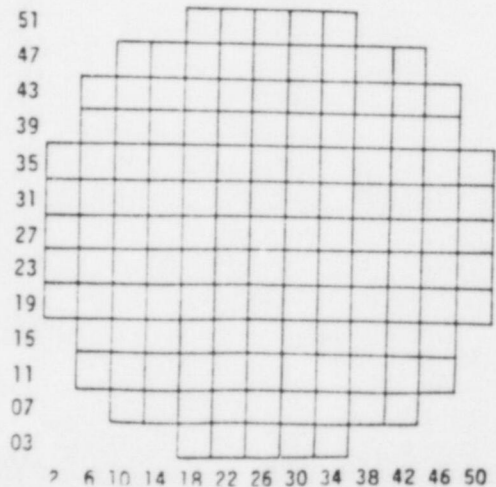
● LPRM Location (Common location for all TIP machines)

Ⓐ IRM Locations (Letter indicates IRM channel)

Ⓐ SRM Locations (Letter indicates SRM channel)

* Source Locations

▨ Dummy Fuel Assembly Locations



1985 Evaluated Exercise

Time = 1045

Message Number

t = 03/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

IRM indication is as follows:

40 ~~on~~ Range 8

For Controller Use Only:

CONTROLLER INFORMATION:

Deliver this message only if IRMs have been inserted and if operators subsequently check IRM indication (Only 3 of 8 IRMs were inserted due to blockage by jet pump debris).

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1050

Message Number

t = 03/20

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Emergency Director

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

A Site Area Emergency should be declared in accordance with EPIP 5.7.1,
EAL 2.5.1; Degraded core with possible loss of coolable geometry.

For Controller Use Only:

CONTROLLER INFORMATION:

Deliver this message only if the decision has not already been made to
upgrade to a General Emergency.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1100

Message Number 25

t = 03/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data sheets and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

APRM Downscale
HPCI Turbine Trip
HPCI Isolation Signal Logic A/B Initiate
HPCI Steam Line Differential Pressure Hi
Main Steam Line Steam Leak, Augmented Radwaste Building

Indications in the Control Room include:

MS-TR-166 Ch. 00 275°
Valves _____ and _____ ~~GREEN~~ Lights

For Controller Use Only:

CONTROLLER INFORMATION:

- 1) The reactor is subcritical even though 13 rods are still not full-in.
- 2) HPCI turbine steam supply line has isolated due to rupture line of isolation valve in HPCI Pump Room.

EXPECTED ACTIONS:

- 1) Verify HPCI turbine isolation.

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7,000
RHR B	AVAIL	0	0
RHR C	SUP PL CLG	100	7,000
RHR D	AVAIL	0	0
CS A	AVAIL	0	0
CS B	AVAIL	0	0
HPCI	ISOLATED	1070	4250

Drywell Pressure 16.3 (PSIA)

Torus Level +0.25 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	1040	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	Tripped % SPD		
RRPB	Tripped % SPD		

PANEL 9-5

	REACTOR POWER	0%	APRM
REACTOR LEVEL	35" +		NR
REACTOR PRESSURE	940 psig		
CORE D/P (psig)	2.8		
CORE FLOW	7.1		
(10 ⁶ lbm/hr)			
	FLOW (10 ⁶ lbs/hr)		
FEEDWATER A	0		
FEEDWATER B	0		
MAIN STEAM A	0		
MAIN STEAM B	0		
MAIN STEAM C	0		
MAIN STEAM D	0		

FLOW

CRD A	50 (gpm)
CRD B	50 (gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	OPER
SBGT B	OPER
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	88 °F

RADIATION MONITOR DATA

Time = 1100
t = 03/30AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	7 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	30 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	5 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	33 mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	2.8 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	10 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	40 mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	13 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	6 mR/hr
15	Turbine Bldg Turbine Front Standard	0.4 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.5 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	390 R/hr
Panel 9-02	Ladder 903 to 2nd Level	385 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.1E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.7E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.6E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Ssm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
 * Alarm
 OS Offscale

1985 Evaluated Exercise

Time = 1115

Message Number 26

t = 03/45

COOPER NUCLEAR STATION
EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

- o Relief Valve Open (Valves cycling normally)
- o Safety or Blowdown Valve Leaking

Indications in the Control Room include:

- o MS-TR-166 Ch. 00 305° RY-70A tailpipe temperature
- o 135° Drywell Zone temperature.
- o All other drywell zone temperatures normal.
- All Full In Green Lights Are On - PNL 9-5

For Controller Use Only:

CONTROLLER INFORMATION:

All control rods are fully inserted.

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7,000
RHR B	AVAIL	0	0
RHR C	SUP PL CLG	100	7,000
RHR D	AVAIL	0	0
CS A	AVAIL	0	0
CS B	AVAIL	0	0
HPCI	ISOLATED	0	0

Drywell Pressure 16.3 (PSIA)

Torus Level +0.25 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	1080	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER	40R3	IRM
REACTOR LEVEL	34" +		NR
REACTOR PRESSURE	980 psig		
CORE D/P (psig)	2.8		
CORE FLOW	7.1		
(10 ⁶ lbm/hr)			
	FLOW (10 ⁶ lbs/hr)		
FEEDWATER A	0		
FEEDWATER B	0		
MAIN STEAM A	0		
MAIN STEAM B	0		
MAIN STEAM C	0		
MAIN STEAM D	0		

FLOW

CRD A	50 (gpm)
CRD B	50 (gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	STBY
DIESEL GEN B	STBY
SBGT A	OPER
SBGT B	OPER
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	87 °F

RADIATION MONITOR DATA

Time = 1115
t = 03/45AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.2 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	8 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	6 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	31 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	1 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	6 mR/hr*
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	35 mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	3.4 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	2 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	42 mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	16 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	7 mR/hr
15	Turbine Bldg Turbine Front Standard	0.3 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.5 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	390 R/hr
Panel 9-02	Ladder 903 to 2nd Level	385 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	2.0E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.8E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.6E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1130

Message Number 27

t = 04/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitoring Sheets

Message: * * * THIS IS A DRILL * * *

Annunciators in the Control Room include:

- o Safety or Blowdown Valve Leaking
- o High Drywell Pressure
- o Diesel Generator Trouble (Board "C")

Indications in the Control Room include:

MS-TR-166 Ch. 00 450° RV-70A tailpipe temperature

For Controller Use Only:

CONTROLLER INFORMATION:

- 1) Safety valve RV-70A has failed open. After an initial drop, reactor level will be maintained by RCIC.
- 2) Drywell temperature pressure and radiation levels are all increasing rapidly.
- 3) "B " Emergency Diesel Generator failed to start on high drywell pressure. A team should be sent to investigate.

EXPECTED ACTIONS:

- 1) A General Emergency should be declared.

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	<u>LPCI</u>	<u>235</u>	<u>MIN FLOW</u>
RHR B	<u>LPCI</u>	<u>235</u>	<u>MIN FLOW</u>
RHR C	<u>LPCI</u>	<u>235</u>	<u>MIN FLOW</u>
RHR D	<u>LPCI</u>	<u>235</u>	<u>MIN FLOW</u>
CS A	<u>OP</u>	<u>250</u>	<u>MIN FLOW</u>
CS B	<u>OP</u>	<u>250</u>	<u>MIN FLOW</u>
HPCI	<u>ISOLATED</u>	<u>0</u>	<u>0</u>

Drywell Pressure 35 (PSIA)Torus Level +0.3 (inches)OPENCLOSEDMSIV 0 8PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	<u>OPER</u>	<u>1000</u>	<u>400</u>
RWCU A	<u>Tripped</u>		<u>0</u>
RWCU B	<u>Tripped</u>		<u>0</u>
RRPA	<u>0</u> % SPD		
RRPB	<u>0</u> % SPD		

PANEL 9-5

	<u>30R2</u>	<u>IRM</u>
REACTOR POWER	<u>30R2</u>	<u>IRM</u>
REACTOR LEVEL	<u>25" +</u>	<u>NR</u>
REACTOR PRESSURE	<u>980 psig</u>	
CORE D/P (psig)	<u>2.8</u>	
CORE FLOW	<u>7.1</u>	
(10 ⁶ lbm/hr)		
	<u>FLOW (10⁶ lbs/hr)</u>	
FEEDWATER A	<u>0</u>	
FEEDWATER B	<u>0</u>	
MAIN STEAM A	<u>0</u>	
MAIN STEAM B	<u>0</u>	
MAIN STEAM C	<u>0</u>	
MAIN STEAM D	<u>0</u>	

FLOW

CRD A	<u>50</u> (gpm)
CRD B	<u>AVAIL</u> (gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	<u>75 %</u>	<u>0</u> (psig)	<u>ON</u>	<u>Avail</u>

MISCELLANEOUS PANELS

DIESEL GEN A	<u>OP</u>
DIESEL GEN B	<u>OFF</u>
SBGT A	<u>OPER</u>
SBGT B	<u>OPER</u>
DRYWELL COOLING	<u>NORMAL</u>
TORUS WATER TEMP	<u>89</u> °F

RADIATION MONITOR DATA

Time = 1130

t = 04/00

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	82 mR/hr*
3	Rx Bldg New Fuel Area (SE 5th Floor)	43 mR/hr*
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	48 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	13 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	75 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	70 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	65 mR/hr*
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	64 mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	95 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	78 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	84 mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	72 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	81 mR/hr
15	Turbine Bldg Turbine Front Standard	0.3 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.5 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	2.6E3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	2.7E3 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.9E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.8E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.7E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.8 mR/hr	0.8 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

RADIATION MONITOR DATA

Time = 1143
t = 04/13

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr*
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr*
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr*
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	300 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	116 mR/hr*
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr*
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr*
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr*
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr*
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr*
15	Turbine Bldg Turbine Front Standard	OS mR/hr*
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.3 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.4 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	1.4E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	1.3E4 R/hr

PROCESS AND VENT MONITORS

PANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.9E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.8E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.6E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1145

Message Number 29

t = 04/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Shift Supervisor

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

Direct that a post-accident reactor coolant sample be drawn and analyzed.

For Controller Use Only:

CONTROLLER INFORMATION:

Deliver this message only if a post-accident reactor coolant sample has not already been requested.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1145

Message Number 30

t = 04/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: OSC Teams Investigating Diesel Generator "B"

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

(This message will contain information indicating that an improper valve line-up on Diesel Generator "B" fuel oil system is the cause of the Auto Start Failure)

For Controller Use Only:

CONTROLLER INFORMATION:

Deliver this message when team arrives to investigate Diesel Generator "B" Auto Start Failure.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1145

Message Number 31

t = 04/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

If the Control Room attempts to initiate Containment Spray, valve F0318 will fail to open. All attempts to initiate spray will be unsuccessful until 1445 (07/45).

EXPECTED ACTIONS:

Declare a General Emergency (Loss of two out of three fission product barriers, with potential for loss of the third.)

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 50 (PSIA)

Torus Level +0.4 (inches)

	OPEN	CLOSED
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MSIV	0	8
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PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	950	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	20R2	IRM
REACTOR POWER		
REACTOR LEVEL	34" +	NR
REACTOR PRESSURE	850 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
(10 ⁶ lbm/hr)		
	FLOW (10 ⁶ lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OFF
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	100 °F

RADIATION MONITOR DATA

Time = 1145

t = 04/15

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	151 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr*
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr*
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr*
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	305 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	mR/hr*
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr*
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr*
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr*
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr*
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr*
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr*
15	Turbine Bldg Turbine Front Standard	0.2 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.04 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.2E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.1E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.9E1 uCi/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.8E1 uCi/sec
ERP Stack High Range (RMP-RM-3B)	0.0 uCi/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.7E0 uCi/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 uCi/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 uCi/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 uCi/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1145

Message Number 32

t = 04/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

Containment Spray Valve ~~F0318~~ indicates Closed

For Controller Use Only:

CONTROLLER INFORMATION:

Deliver only if operators attempt to initiate drywell spray.

EXPECTED ACTIONS:

Operators to investigate cause for valve not opening.

1985 Evaluated Exercise

Time = 1200

Message Number 33

t = 04/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

(This message will contain information that the auto transformer,
supplying power to the EOF, is out of service.)

For Controller Use Only:

CONTROLLER INFORMATION:

The EOF has sustained a total loss of electrical power.

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 52 (PSIA)

Torus Level +0.5 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	900	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER	50R1	IRM
REACTOR LEVEL	35" →		NR
REACTOR PRESSURE	800 psig		
CORE D/P (psig)	2.8		
CORE FLOW	7.1		
(10 ⁶ lbm/hr)			
	FLOW (10 ⁶ lbs/hr)		
FEEDWATER A	0		
FEEDWATER B	0		
MAIN STEAM A	0		
MAIN STEAM B	0		
MAIN STEAM C	0		
MAIN STEAM D	0		

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OFF
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	93 °F

RADIATION MONITOR DATA

Time = 1200
t = 04/30

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	151 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	307 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr
14	Rx Eldg CS Pump Room (SE Quad)	OS mR/hr
15	Turbine Bldg Turbine Front Standard	0.2 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.02 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.03 mR/hr
20	Control Room Main Control Room	0.02 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.2E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.2E4 R/hr

PROCESS AND VENT MONITORS

PANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.9E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.8E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.6 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4EO μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	619 mR/hr
Ch. A2, B2	619 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, E	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1200

Message Number 34

t = 04/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Emergency Operations Facility

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

The EOF has lost all electrical power.

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

1. Transfer EOF functions to the TSC until the alternate facility can be activated.
2. Activate the alternate EOF, and move operations to that facility.

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 52 (PSIA)

Torus Level +0.6 (inches)

	OPEN	CLOSED
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MSIV	0	8
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PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	850	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

REACTOR POWER	40R1	IRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	750 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
(10 ⁶ lbm/hr)		
	FLOW (10 ⁶ lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	93 °F

RADIATION MONITOR DATA

Time = 1215
t = 04/45AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	307 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr
15	Turbine Bldg Turbine Front Standard	0.2 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.03 mR/hr
20	Control Room Main Control Room	0.02 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.2E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.2E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.8E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.9E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.6E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	619 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1230

Message Number 37

t = 05/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 55 (PSIA)

Torus Level +0.6 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	825	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER	10 ³	SRM
REACTOR LEVEL	35" →		NR
REACTOR PRESSURE	725 psig		
CORE D/P (psig)	2.8		
CORE FLOW	7.1		
(10 ⁶ lbm/hr)			
	FLOW (10 ⁶ lbs/hr)		
FEEDWATER A	0		
FEEDWATER B	0		
MAIN STEAM A	0		
MAIN STEAM B	0		
MAIN STEAM C	0		
MAIN STEAM D	0		

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	93 °F

RADIATION MONITOR DATA

Time = 1230

t = 05/00

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	151 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	307 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	OS mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr
15	Turbine Bldg Turbine Front Standard	0.2 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.03 mR/hr
20	Control Room Main Control Room	0.02 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.2E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.2E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.9E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.9E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.6E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	619 mR/hr
Ch. A2, B2	619 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Ev. ed Exercise

Time = 1245

Message Number 38

t = 05/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 56 (PSIA)

Torus Level +0.7 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	825	400
RWCU A	Tripped		0
RWCU B	Tripped		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

REACTOR POWER	10 ³	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	700 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
(10 ⁶ lbm/hr)		FLOW (10 ⁶ lbs/hr)
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	94 °F

RADIATION MONITOR DATA

Time = 1245

t = 05/15

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	152 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	308 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	OS mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr
15	Turbine Bldg Turbine Front Standard	0.2 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.03 mR/hr
20	Control Room Main Control Room	0.02 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.2E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.2E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.8E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	1.9E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.5E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	619 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1300

Message Number 39

t = 05/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

Alternate EOF should be activated and declared functional.
ARM's alarm in area of CRD latch indicating that the the containment
has been breached.
SBGT and ERP monitors indicate a significant release has commenced.

EXPECTED ACTIONS:

Re-evaluate protective action recommendations, based or increased
release rates.

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	<u>SUP PL CLG</u>	<u>100</u>	<u>7000</u>
RHR B	<u>SUP PL CLG</u>	<u>100</u>	<u>7000</u>
RHR C	<u>LPCI</u>	<u>235</u>	<u>MIN FLOW</u>
RHR D	<u>LPCI</u>	<u>235</u>	<u>MIN FLOW</u>
CS A	<u>OP</u>	<u>250</u>	<u>MIN FLOW</u>
CS B	<u>OP</u>	<u>250</u>	<u>MIN FLOW</u>
HPCI	<u>ISOLATED</u>	<u>0</u>	<u>0</u>

Drywell Pressure 50 (PSIA)Torus Level +0.7 (inches)OPENCLOSEDMSIV 0 8PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	<u>OPER</u>	<u>750</u>	<u>400</u>
RWCU A	<u>Tripped</u>		<u>0</u>
RWCU B	<u>Tripped</u>		<u>0</u>
RRPA	<u>0</u> % SPD		
RRPB	<u>0</u> % SPD		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>9x10²</u>	<u>SRM</u>
REACTOR LEVEL	<u>35" +</u>		<u>NR</u>
REACTOR PRESSURE	<u>650 psig</u>		
CORE D/P (psig)	<u>2.8</u>		
CORE FLOW	<u>7.1</u>		
(10 ⁶ lbm/hr)			
		<u>FLOW (10⁶ lbs/hr)</u>	
FEEDWATER A		<u>0</u>	
FEEDWATER B		<u>0</u>	
MAIN STEAM A		<u>0</u>	
MAIN STEAM B		<u>0</u>	
MAIN STEAM C		<u>0</u>	
MAIN STEAM D		<u>0</u>	

FLOWCRD A 50 (gpm)CRD B AVAIL(gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	<u>75 %</u>	<u>0</u> (psig)	<u>ON</u>	<u>Avail</u>

MISCELLANEOUS PANELS

DIESEL GEN A	<u>OP</u>
DIESEL GEN B	<u>OP</u>
SBGT A	<u>OP</u>
SBGT B	<u>OP</u>
DRYWELL COOLING	<u>NORMAL</u>
TORUS WATER TEMP	<u>95</u> °F

RADIATION MONITOR DATA

Time = 1300
t = 05/30AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr*
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr*
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr*
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	305 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	OS mR/hr*
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr*
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr*
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr*
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr*
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr*
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr*
15	Turbine Bldg Turbine Front Standard	0.1 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.03 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.2E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.2E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.9E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	0.0 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	8.0E7 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.6E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.5E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1315

Message Number 41

t = 05/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached plant data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1315

Message Number 41

t = 05/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 48 (PSIA)

Torus Level +0.7 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	680	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER 9×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	580 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
(10^6 lbm/hr)		
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	95 °F

RADIATION MONITOR DATA

Time = 1315
t = 05/45AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr*
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr*
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr*
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	306 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	OS mR/hr*
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr*
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr*
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr*
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr*
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr*
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr*
15	Turbine Bldg Turbine Front Standard	0.1 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.2E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.1E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.8E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	0.0 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	1.0E8 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.5E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.6E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	21 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
 * Alarm
 OS Offscale

1985 Evaluated Exercise

Time = 1330

Message Number 42

t = 06/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1330

Message Number 42

t = 06/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 46 (PSIA)

Torus Level +0.7 (inches)

	OPEN	CLOSED
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MSIV	0	8
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PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	620	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER 8×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	520 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
(10^6 lbm/hr)		
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	95 °F

RADIATION MONITOR DATA

Time = 1330

t = 06/00

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	290 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	OS mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr
15	Turbine Bldg Turbine Front Standard	0.1 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.0E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.0E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.7E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	0.0 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	1.0E8 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.5E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.6E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1345

Message Number 43

t = 06/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1345

Message Number 43

t = 06/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 44 (PSIA)

Torus Level +0.7 (inches)

	OPEN	CLOSED
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MSIV	0	8
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PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	560	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER	8×10^2	SRM
REACTOR LEVEL	35" +		NR
REACTOR PRESSURE	460 psig		
CORE D/P (psig)	2.8		
CORE FLOW	7.1		
(10^6 lbm/hr)			
	FLOW (10^6 lbs/hr)		
FEEDWATER A	0		
FEEDWATER B	0		
MAIN STEAM A	0		
MAIN STEAM B	0		
MAIN STEAM C	0		
MAIN STEAM D	0		

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	95 °F

RADIATION MONITOR DATA

Time = 1345

t = 06/15

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	380 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	OS mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area. (N 1st Floor)	OS mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr
15	Turbine Bldg Turbine Front Standard	0.1 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.0E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.0E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.8E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	0.0 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	1.0E8 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.4E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.5E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1400

Message Number 44

t = 06/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 42 (PSIA)

Torus Level +0.7 (inches)

	OPEN	CLOSED
MSIV	0	8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	500	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

REACTOR POWER	7.5×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	400 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
(10^6 lbm/hr)		
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	94 °F

RADIATION MONITOR DATA

Time = 1400

t = 06/30

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	370 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIF Room 1st Floor)	OS mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr
15	Turbine Bldg Turbine Front Standard	0.1 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	3.0E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	3.1E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.8E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	0.0 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	9.8E7 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.4E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.5E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1415

Message Number 45

t = 06/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RHR A	<u>SUP PL CLG</u>	<u>100</u>	<u>7000</u>
RHR B	<u>SUP PL CLG</u>	<u>100</u>	<u>7000</u>
RHR C	<u>LPCI</u>	<u>235</u>	<u>MIN FLOW</u>
RHR D	<u>LPCI</u>	<u>235</u>	<u>MIN FLOW</u>
CS A	<u>OP</u>	<u>250</u>	<u>MIN FLOW</u>
CS B	<u>OP</u>	<u>250</u>	<u>MIN FLOW</u>
HPCI	<u>ISOLATED</u>	<u>0</u>	<u>0</u>

Drywell Pressure 40 (PSIA)Torus Level +0.7 (inches)OPENCLOSEDMSIV 0 8PANEL 9-4

	<u>STATUS</u>	<u>PRESS(psig)</u>	<u>FLOW(gpm)</u>
RCIC	<u>OPER</u>	<u>450</u>	<u>400</u>
RWCU A	<u>TRIPPED</u>		<u>0</u>
RWCU B	<u>TRIPPED</u>		<u>0</u>
RRPA	<u>0</u> % SPD		
RRPB	<u>0</u> % SPD		

PANEL 9-5

	<u>REACTOR POWER</u>	<u>7x10²</u>	<u>SRM</u>
REACTOR LEVEL	<u>35" +</u>		<u>NR</u>
REACTOR PRESSURE	<u>350 psig</u>		
CORE D/P (psig)	<u>2.8</u>		
CORE FLOW	<u>7.1</u>		
(10 ⁶ lbm/hr)			
	<u>FLOW (10⁶ lbs/hr)</u>		
FEEDWATER A	<u>0</u>		
FEEDWATER B	<u>0</u>		
MAIN STEAM A	<u>0</u>		
MAIN STEAM B	<u>0</u>		
MAIN STEAM C	<u>0</u>		
MAIN STEAM D	<u>0</u>		

FLOWCRD A 50 (gpm)CRD B AVAIL (gpm)

	<u>LEVEL</u>	<u>PRESS</u>	<u>SQUIB</u>	<u>PUMPS</u>
SLC	<u>75 %</u>	<u>0</u> (psig)	<u>ON</u>	<u>Avail</u>

MISCELLANEOUS PANELS

DIESEL GEN A	<u>OP</u>
DIESEL GEN B	<u>OP</u>
SBGT A	<u>OP</u>
SBGT B	<u>OP</u>
DRYWELL COOLING	<u>NORMAL</u>
TORUS WATER TEMP	<u>94</u> °F

RADIATION MONITOR DATA

Time = 1415
t = 06/45

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	346 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	OS mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr
15	Turbine Bldg Turbine Front Standard	0.1 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	2.8E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	2.7E4 R/hr

PROCESS AND VENT MONITORS

PANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.7E1 uCi/sec
ERP Stack Normal Eff (RMP-RM-3A)	0.0 uCi/sec
ERP Stack High Range (RMP-RM-3B)	9.6E7 uCi/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.3E0 uCi/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 uCi/sec
RW/ARW bldg Combined Eff (RMV-RM-30A)	3.5E0 uCi/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 uCi/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	22 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1430

Message Number 46

t = 07/00

COOPER NUCLEAR STATION
EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	235	MIN FLOW
RHR D	LPCI	235	MIN FLOW
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 38 (PSIA)

Torus Level +0.8 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	400	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER 7×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	300 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
(10^6 lbm/hr)		
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	93 °F

RADIATION MONITOR DATA

Time = 1430

t = 07/00

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	OS mR/hr*
3	Rx Bldg New Fuel Area (SE 5th Floor)	OS mR/hr*
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	OS mR/hr*
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	306 mR/hr*
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	OS mR/hr*
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	OS mR/hr*
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	OS mR/hr*
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	OS mR/hr*
10	Rx Bldg HPCI Pump Room (SW Quad)	OS mR/hr*
11	Rx Bldg RHR Pump Room (SW Quad)	OS mR/hr*
12	Rx Bldg RHR Pump Room (NW Quad)	OS mR/hr*
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	OS mR/hr*
14	Rx Bldg CS Pump Room (SE Quad)	OS mR/hr*
15	Turbine Bldg Turbine Front Standard	0.1 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	2.5E4 R/hr
Panel 9-02	Ladder 903 to 2nd Level	2.4E4 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.8E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	0.0 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	9.4E7 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	3.5E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.6E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	620 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	620 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	21 mR/hr	22 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1445

Message Number 47

t = 07/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

Containment Spray is successfully initiated. Drywell pressure drops rapidly and release rate decreases to near background.

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FL(W)(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	250	4400
RHR D	LPCI	250	4400
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0
Drywell Pressure		15	(PSIA)
Torus Level		+0.9	(inches)
	OPEN	CLOSED	
MSIV	0	8	

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	350	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER 7×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	250 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
	(10^6 lbm/hr)	
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

	CRD A	50 (gpm)	CRD B	AVAIL(gpm)	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail				

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	93 °F

RADIATION MONITOR DATA

Time = 1445

t = 07/15

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	58 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	47 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	48 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	99 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	145 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	80 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	78 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	65 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	95 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	80 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	92 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	76 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	90 mR/hr
15	Turbine Bldg Turbine Front Standard	0.1 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.2 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.02 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.01 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	8.4E3 R/hr
Panel 9-02	Ladder 903 to 2nd Level	8.2E3 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.5E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	0.0 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	3.0E7 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	2.8E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.3E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	618 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	4 mR/hr	4 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1500

Message Number 48

t = 07/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	250	4400
RHR D	LPCI	250	4400
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0
Drywell Pressure		15	(PSIA)
Torus Level		+1.0	(inches)
	OPEN	CLOSED	
MSIV	0	8	

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	280	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER	7×10^2	SRM
REACTOR LEVEL	35" +		NR
REACTOR PRESSURE	180 psig		
CORE D/P (psig)	2.8		
CORE FLOW	7.1		
(10^6 lbm/hr)			
	FLOW (10^6 lbs/hr)		
FEEDWATER A	0		
FEEDWATER B	0		
MAIN STEAM A	0		
MAIN STEAM B	0		
MAIN STEAM C	0		
MAIN STEAM D	0		

FLOW

	CRD A	50 (gpm)			
CRD B	AVAIL(gpm)				
	LEVEL	PRESS	SQUIB	PUMPS	
SLC	75 %	0 (psig)	ON	Avail	

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	92 °F

RADIATION MONITOR DATA

Time = 1500

t = 07/30

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	9 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	31 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	2 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.9 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	9 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	4.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	65 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	92 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	19 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	25 mR/hr
15	Turbine Bldg Turbine Front Standard	0.4 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	6.5 R/hr
Panel 9-02	Ladder 903 to 2nd Level	6.3 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.6E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	2.0E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	2.9E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	618 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	4 mR/hr	4 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1515

Message Number 49

t = 07/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

Meteorological conditions change, dispersing the remaining radioactive gases in the atmosphere.

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1515

Message Number 49

t = 07/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	100	7000
RHR D	LPCI	100	7000
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 15.0 (PSIA)

Torus Level +1.0 (inches)

	OPEN	CLOSED
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MSIV	0	8
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PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	OPER	200	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER 7×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	100 psig	
CORE D/P (psig)	2.8	
CORE FLOW	7.1	
(10^6 lbm/hr)		
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	91 °F

RADIATION MONITOR DATA

Time = 1515

t = 07/45

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	9 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	31 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	2 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.9 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	9 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	4.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	65 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	92 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	19 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	25 mR/hr
15	Turbine Bldg Turbine Front Standard	0.4 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	6.5 R/hr
Panel 9-02	Ladder 903 to 2nd Level	6.3 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.6E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	2.0E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	2.9E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	618 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	4 mR/hr	4 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1530

Message Number 50

t = 08/00

COOPER NUCLEAR STATION
EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

Recovery organization is established and re-entry
planning is initiated.

1985 Evaluated Exercise

Time = 1530

Message Number 50

t = 08/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	100	7000
RHR D	LPCI	100	7000
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 15.0 (PSIA)

Torus Level +1.1 (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	ISOL	200	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER 7×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	50 psig	
CORE D/P (psig)	2.8	
CORE FLOW (10^6 lbm/hr)	7.1	
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	90 °F

RADIATION MONITOR DATA

Time =
t = 08/00AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	9 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	31 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	2 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.9 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	9 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	4.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	65 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	92 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	19 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	25 mR/hr
15	Turbine Bldg Turbine Front Standard	0.4 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	6.5 R/hr
Panel 9-02	Ladder 903 to 2nd Level	6.3 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.6E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	2.0E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	2.9E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	618 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	4 mR/hr	4 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1545

Message Number 51

t = 08/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1545

Message Number 51

t = 08/15

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	LPCI	100	7000
RHR D	LPCI	100	7000
CS A	OP	250	MIN FLOW
CS B	OP	250	MIN FLOW
HPCI	ISOLATED	0	0

Drywell Pressure 15.0 (PSIA)

Torus Level +1.1' (inches)

OPEN

CLOSED

MSIV 0 8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	ISOL	200	400
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER 6×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	50 psig	
CORE D/P (psig)	1.0	
CORE FLOW	3.5	
(10^6 lbm/hr)		
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL(gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	90 °F

RADIATION MONITOR DATA

Time = 1545
t = 08/15AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	9 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	31 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	2 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.9 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	9 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	4.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	65 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	92 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	19 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	25 mR/hr
15	Turbine Bldg Turbine Front Standard	0.4 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	6.5 R/hr
Panel 9-02	Ladder 903 to 2nd Level	6.3 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.6E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	2.0E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	2.9E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	618 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	4 mR/hr	4 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1600

Message Number 52

t = 08/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1600

Message Number 52

t = 08/30

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	TORUS CLG	100	7000
RHR B	TORUS CLG	100	7000
RHR C	STBY	100	0
RHR D	STBY	100	0
CS A	STBY	250	0
CS B	STBY	250	0
HPCI	ISOLATED	0	0

Drywell Pressure 15.0 (PSIA)

Torus Level +1.1 (inches)

	OPEN	CLOSED
MSIV	0	8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	ISOL	0	0
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPE	0 % SPD		

PANEL 9-5

	REACTOR POWER 6×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	50 psig	
CORE D/P (psig)	1.0	
CORE FLOW	3.5	
(10^6 lbm/hr)		
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

	CRD A	50 (gpm)	CRD B	AVAIL(gpm)	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail				

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	90 °F

RADIATION MONITOR DATA

Time = 1600
t = 08/30

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	9 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	31 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	2 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.9 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	9 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	4.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	65 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	92 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	19 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	25 mR/hr
15	Turbine Bldg Turbine Front Standard	0.4 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	6.5 R/hr
Panel 9-02	Ladder 903 to 2nd Level	6.3 R/hr

PROCESS AND VENT MONITORS

PANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.6E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	2.0E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	2.9E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	618 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	4 mR/hr	4 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

o All other monitors display normal readings

* Alarm

OS Offscale

1985 Evaluated Exercise

Time = 1615

Message Number 53

t = 08/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions: See attached Plant Data and Rad Monitor Sheets

Message: * * * THIS IS A DRILL * * *

For Controller Use Only:

CONTROLLER INFORMATION:

EXPECTED ACTIONS:

1985 Evaluated Exercise

Time = 1615

Message Number 53

t = 08/45

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE PLANT DATA

PANEL 9-3

	STATUS	PRESS(psig)	FLOW(gpm)
RHR A	SUP PL CLG	100	7000
RHR B	SUP PL CLG	100	7000
RHR C	STBY	0	0
RHR D	STBY	0	0
CS A	STBY	0	0
CS B	STBY	0	0
HPCI	ISOLATED	0	0

Drywell Pressure 15.0 (PSIA)

Torus Level +1.2 (inches)

	OPEN	CLOSED
MSIV	0	8

PANEL 9-4

	STATUS	PRESS(psig)	FLOW(gpm)
RCIC	ISOL	0	0
RWCU A	TRIPPED		0
RWCU B	TRIPPED		0
RRPA	0 % SPD		
RRPB	0 % SPD		

PANEL 9-5

	REACTOR POWER 6×10^2	SRM
REACTOR LEVEL	35" +	NR
REACTOR PRESSURE	0 psig	
CORE D/P (psig)	1.0	
CORE FLOW (10^6 lbm/hr)	3.5	
	FLOW (10^6 lbs/hr)	
FEEDWATER A	0	
FEEDWATER B	0	
MAIN STEAM A	0	
MAIN STEAM B	0	
MAIN STEAM C	0	
MAIN STEAM D	0	

FLOW

CRD A 50 (gpm)

CRD B AVAIL (gpm)

	LEVEL	PRESS	SQUIB	PUMPS
SLC	75 %	0 (psig)	ON	Avail

MISCELLANEOUS PANELS

DIESEL GEN A	OP
DIESEL GEN B	OP
SBGT A	OP
SBGT B	OP
DRYWELL COOLING	NORMAL
TORUS WATER TEMP	89 °F

RADIATION MONITOR DATA

Time = 1615

t = 08/45

AREA RADIATION MONITORS

STATION	DESCRIPTION	READING
1	Rx Bldg Fuel Pool Area (SE 5th Floor)	150 mR/hr
2	Rx Bldg Fuel Pool Area (SE 5th Floor)	6 mR/hr
3	Rx Bldg New Fuel Area (SE 5th Floor)	0.1 mR/hr
4	Rx Bldg Rx Water Cleanup Demineralizer Area (SW 3rd Floor)	9 mR/hr
5	Rx Bldg Sludge and Decant Pump Area (S 2nd Floor)	1 mR/hr
6	Rx Bldg Neutron Monitor System Index Area (TIP Room 1st Floor)	31 mR/hr
7	Rx Bldg Neutron Monitor System Drive Mech Area (SE 1st Floor)	2 mR/hr
8	Rx Bldg Control Rod Hydraulic Equipment Area (S 1st Floor)	0.9 mR/hr
9	Rx Bldg Control Rod Hydraulic Equipment Area (N 1st Floor)	9 mR/hr
10	Rx Bldg HPCI Pump Room (SW Quad)	4.5 mR/hr
11	Rx Bldg RHR Pump Room (SW Quad)	65 mR/hr
12	Rx Bldg RHR Pump Room (NW Quad)	92 mR/hr
13	Rx Bldg RCIC/CS Pump Room (NE Quad)	19 mR/hr
14	Rx Bldg CS Pump Room (SE Quad)	25 mR/hr
15	Turbine Bldg Turbine Front Standard	0.4 mR/hr
16	Turbine Bldg Turbine Bldg Mezz Control Corridor	0.02 mR/hr
17	Turbine Bldg Turbine Bldg Basement Control Corridor	0.01 mR/hr
18	Turbine Bldg Turbine Bldg Rx Feed Pump Area	0.3 mR/hr
19	Turbine Bldg Turbine Bldg Condensate Pump Area	0.02 mR/hr
20	Control Room Main Control Room	0.01 mR/hr
21	Grade Level Control Corridor	0.1 mR/hr
Panel 9-02	Personnel Airlock Area 903	6.5 R/hr
Panel 9-02	Ladder 903 to 2nd Level	6.3 R/hr

PROCESS AND VENT MONITORSPANEL VBDG

Rx Bldg Vent Eff (RMV-RM-40)	1.6E1 μ Ci/sec
ERP Stack Normal Eff (RMP-RM-3A)	2.0E1 μ Ci/sec
ERP Stack High Range (RMP-RM-3B)	0.0 μ Ci/sec
Turbine Bldg Vent Eff (RMV-RM-20A)	2.9E0 μ Ci/sec
Turbine Bldg High Range (RMV-RM-20B)	0.0 μ Ci/sec
RW/ARW Bldg Combined Eff (RMV-RM-30A)	3.4E0 μ Ci/sec
RW/ARW Bldg High Range (RMV-RM-30B)	0.0 μ Ci/sec

PANEL 9-10

Mn. Stm. Rad Monitor Ch. A2, B1	618 mR/hr	620 mR/hr
Ch. A2, B2	620 mR/hr	619 mR/hr
SJAE Off Gas Log Rad Monitor Ch. A, B	4 mR/hr	4 mR/hr
Rx Bldg Vent Ind/Trip Unit Ch. A, B	0.7 mR/hr	0.7 mR/hr

- o All other monitors display normal readings
- * Alarm
- OS Offscale

1985 Evaluated Exercise

Time = 1630

Message Number 54

t = 09/00

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXERCISE MESSAGE

Message For: Control Room/OSS

Simulated Plant Conditions:

Message: * * * THIS IS A DRILL * * *

The drill is terminated.

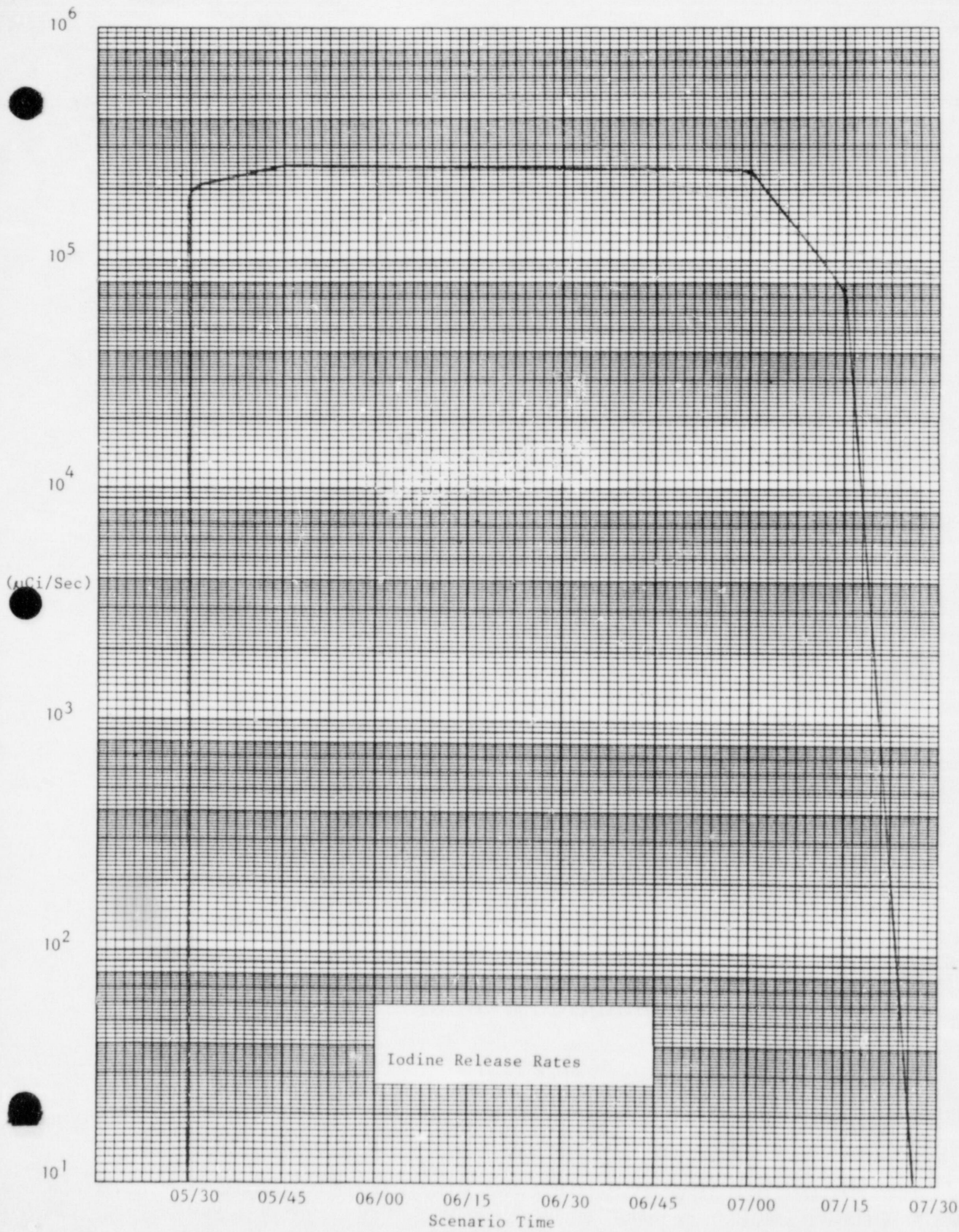
For Controller Use Only:

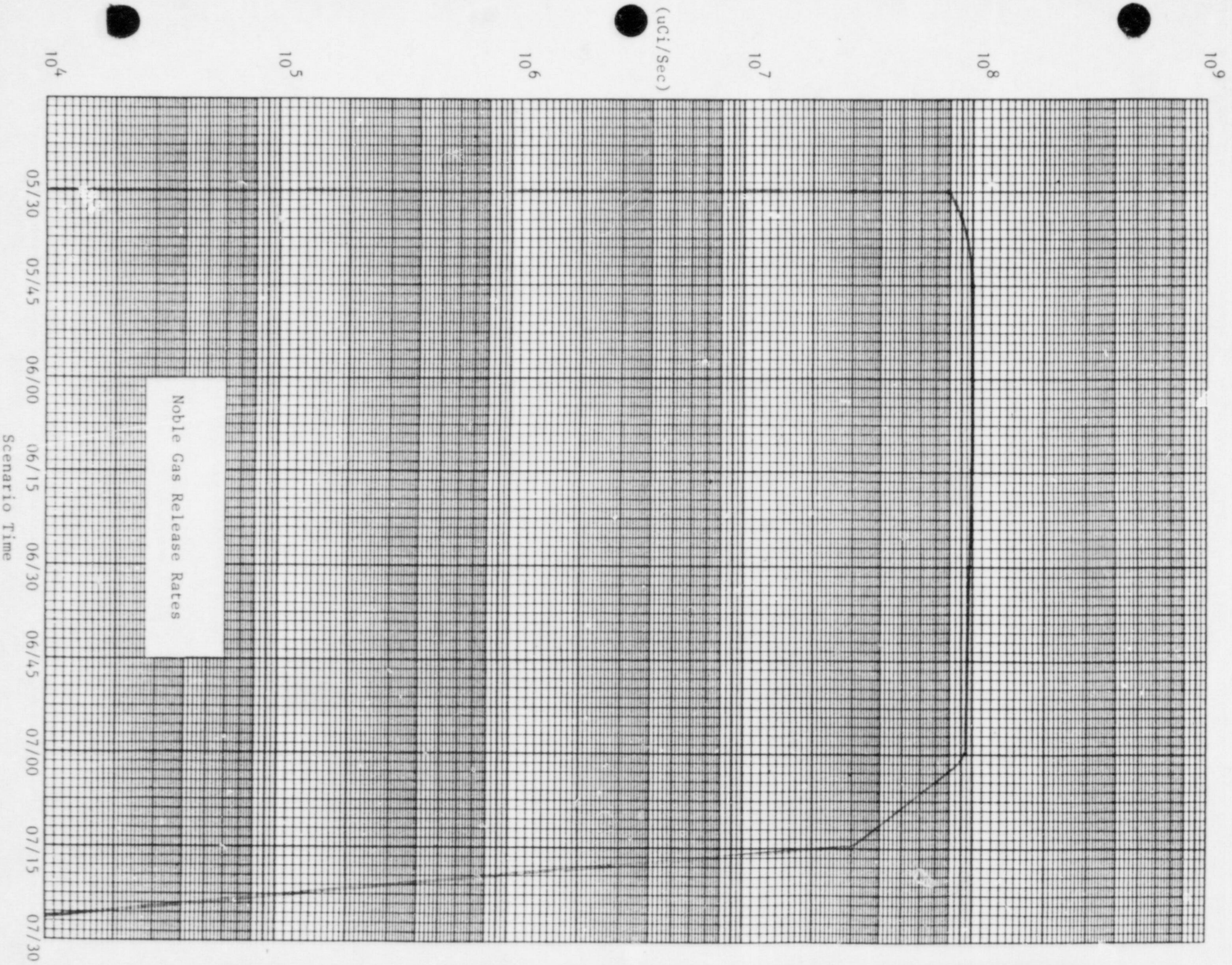
CONTROLLER INFORMATION:

EXPECTED ACTIONS:

SECTION 9.0

ONSITE RADIOLOGICAL
AND
RADIOCHEMISTRY DATA





Onsite Radiological Data

All readings are background prior to 1300. From 1300 to 1445, contact readings of the ERP will be approximately 600 R/hr, dropping to 200 R/hr at 1500 and to background at 1515. Readings upwind (south) of the ERP are the result of gamma shine from the ERP. Concentric rings labeled B, C, D, E, and F represent distances of 100, 200, 300, 400, and 500 feet, respectively, from the ERP. The following are readings at distances B - F:

1300 - 1445	{	B = 60 mR/hr	1515	{	20 mr/hr
		C = 15 mR/hr			5 mr/hr
		D = 6 mR/hr			2 mR/hr
		E = 3 mR/hr			1 mr/hr
		F = 2 mR/hr			0.6 mR/hr

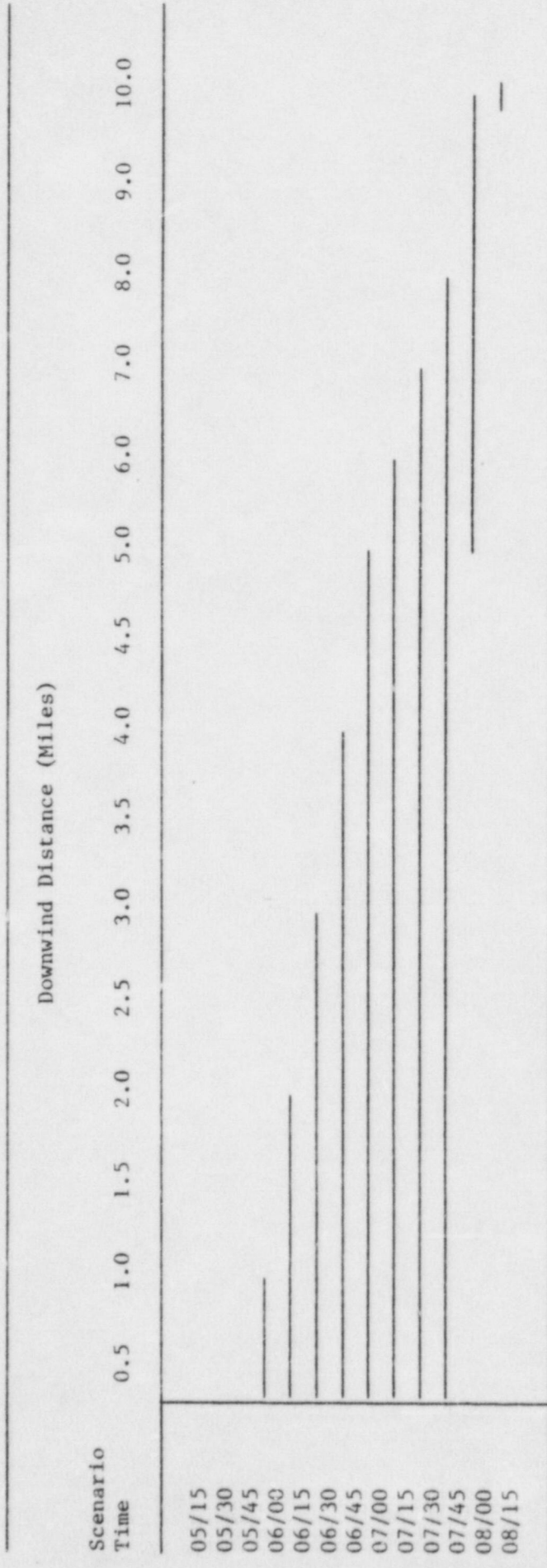
Readings downwind of the ERP, beyond the Missouri River, are the result to gamma shine from the plume. Centerline (A) dose rates of approximately 24 mR/hr will be present from 1300 to 1500. Subsequent readings will be reported as background. Dose rates should be reported as approximately 1/10 of the centerline for each isopleth crossed, i.e., 24 mR/hr directly under centerline, 2.4 mR/hr along isopleth C, 0.24 mR/hr along isopleth D, etc.

The plume does not touch down onsite, therefore all air samples taken onsite should be reported as background. All dose rates will be the same, regardless of whether the shield is open or closed.

SECTION 10

METEOROLOGICAL AND
OFFSITE RADIOLOGICAL DATA

FIGURE 10.1 - PLUME LOCATION



Plume locations from 05/15 through 07/30 are based on wind speeds of about 4 mph.
 Plume locations after 07/30 are based on wind speeds of about 20 mph.

TABLE 10.2 - RELEASE RATES USED TO CALCULATE FIELD DATA

Scenario Time	Downwind Distance (Miles)														
	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0
05/00															
05/15															
05/30															
05/45	A	A													
06/00	B	B	A	A											
06/15	C	C	B	B	A	A									
06/30	D	D	C	C	B	B	A	A							
06/45	E	E	D	D	C	C	B	B	A	A					
07/00	F	F	E	E	D	D	C	C	B	B	A				
07/15	G	G	F	F	E	E	D	D	C	C	B	A			
07/30	H	H	G	G	F	F	E	E	D	D	D	B	A		
07/45										I	H	G	F	E	D
08/00															I
08/15															

NOBLE GAS RELEASE RATE ($\mu\text{Ci/sec}$)

A: 8.00E7
 B: 1.00E8
 C: 1.00E8
 D: 1.00E8
 E: 9.80E7
 F: 9.60E7
 G: 9.40E7
 H: 3.00E7
 I: 2.0E1

IODINE RELEASE RATE ($\mu\text{Ci/sec}$)

A: 2.00E5
 B: 2.50E5
 C: 2.50E5
 D: 2.50E5
 E: 2.45E5
 F: 2.40E5
 G: 2.35E5
 H: 7.50E4
 I: 5.0E2

TABLE 10.3A - WHOLE BODY DOSE RATES AT PLUME CENTERLINE (mRem/hr) - OPEN WINDOW

Scenario Time	Downwind Distance (Miles)										
	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
05/15											
05/30											
05/45	371	1484									
06/00	463	1612	975	700							
06/15	462	1608	1213	880	602	472					
06/30	462	1612	1240	885	729	602	409	340			
06/45	454	1580	1239	880	718	606	508	424	300	260	
07/00	445	1548	1225	864	726	588	509	424	375	328	234
07/15	436	1516	1190	844	720	576	506	423	376	329	300
07/30	139	484	1172	828	700	564	501	416	370	328	288
07/45											
08/00											
08/15											

o These are open window readings.

* Background readings are 0.02 mRem/hr.

TABLE 10.3B - WHOLE BODY DOSE RATES AT PLUME CENTERLINE (mRem/hr) - CLOSED WINDOW

Scenario Time	Downwind Distance (Miles)										
	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
05/15	*										
05/30	*										
05/45	371	323									
06/00	463	403	250	176							
06/15	462	402	311	220	147	118					
06/30	462	403	310	221	184	147	102	85			
06/45	454	395	310	220	182	148	127	106	75	65	
07/00	445	387	306	216	183	147	127	106	94	82	58
07/15	436	379	298	211	180	144	126	106	94	82	74
07/30	139	121	293	207	176	141	125	104	92	82	72
07/45											
08/00											
08/15											

o These are closed window readings.

* Background readings are 0.02 mRem/hr.

TABLE 10.4A - CHILD THYROID DOSE RATES AT PLUME CENTERLINE (Rem/hr)

Scenario Time	Downwind Distance (Miles)										
	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
05/15											
05/30											
05/45	†	10.5									
06/00	†	13.2	8.1	5.7							
06/15	†	13.2	10.2	7.2	4.8	3.8					
06/30	†	13.2	10.2	7.2	6.0	4.8	3.3	2.8			
06/45	†	12.9	10.2	7.2	6.0	4.8	4.2	3.5	2.5	2.1	
07/00	†	12.6	9.9	7.0	6.0	4.8	4.2	3.5	3.1	2.7	1.9
07/15	†	12.4	9.8	6.9	5.9	4.7	4.2	3.5	3.1	2.7	2.4
07/30	†	3.9	9.6	6.8	5.8	4.6	4.1	3.4	3.1	2.7	2.4
07/45									*	0.1	0.4
08/00									0.3	0.4	0.3
08/15									0.3	0.3	0.3
									0.3	0.3	0.1
											0.2
											*

† Plume from elevated release point does not touch down until after site boundary.

* Less than 0.1 Rem/hr

TABLE 10.4B - IODINE CONCENTRATION AT PLUME CENTERLINE ($\mu\text{Ci/cc}$)

Scenario Time	Downwind Distance (Miles)										
	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
05/15											
05/30											
05/45	†	2.8E-6									
06/00	†	3.5E-6	2.2E-6								
06/15	†	3.5E-6	2.7E-6	1.9E-6	1.3E-6	1.0E-6					
06/30	†	3.5E-6	2.6E-6	1.9E-6	1.6E-6	1.3E-6	8.8E-7	7.5E-7			
06/45	†	3.5E-6	2.7E-6	1.6E-6	1.6E-6	1.3E-6	1.1E-6	9.3E-7	6.6E-7	5.7E-7	
07/00	†	3.4E-6	2.6E-6	1.9E-6	1.6E-6	1.3E-6	1.1E-6	9.3E-7	8.3E-7	7.2E-7	5.2E-7
07/15	†	3.3E-6	2.7E-6	1.9E-6	1.6E-6	1.2E-6	1.1E-6	9.3E-7	8.3E-7	7.2E-7	6.5E-7
07/30	†	1.1E-6	2.6E-6	1.8E-6	1.6E-6	1.2E-6	1.0E-6	9.1E-7	8.3E-7	7.2E-7	6.5E-7
07/45									*	4.2E-8	3.4E-8
08/00										8.0E-8	8.9E-8
08/15										8.3E-8	7.6E-8
										7.1E-8	6.7E-8
										6.2E-8	5.9E-8
											*

† Plume from elevated release point does not touch down until after site boundary.

* Minimum detectable activity

TABLE 10.4C - GROSS IODINE CONCENTRATION FOR E-140 WITH 177c PROBE
OR RO-2 WITH OPEN WINDOW (FIELD TECHNIQUE).
(mR/hr)

Scenario Time	Downwind Distance (Miles)																		
	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0								
05/15	†																		
05/30	†																		
05/45	†	0.45																	
06/00	†	0.60	0.38	0.25															
06/15	†	0.60	0.46	0.34	0.22	0.18													
06/30	†	0.60	0.46	0.34	0.22	0.18													
06/45	†	0.60	0.45	0.35	0.28	0.22	0.15	0.12											
07/00	†	0.60	0.46	0.34	0.28	0.22	0.20	0.16	0.11	0.10									
07/15	†	0.57	0.45	0.34	0.28	0.22	0.20	0.16	0.14	0.12	0.09	0.08							
07/30	†	0.55	0.46	0.34	0.28	0.20	0.20	0.16	0.14	0.12	0.11	0.10	0.07	0.06					
07/45	†	0.20	0.45	0.30	0.28	0.20	0.18	0.15	0.14	0.12	0.11	0.10	0.09	0.08	0.06	0.05			
08/00										*	*	*	0.01	0.01	0.01	0.01	0.01	0.01	0.01
08/15																			*

o All concentrations are for samples taken at plume centerline.

* < 0.01 mR/hr

TABLE 10.4D - SAM-2 READINGS FOR IODINE SAMPLES TAKEN AT PLUME CENTERLINE
(NET COUNTS PER MINUTE)

[illegible]

$0 \pm 10\%$ margin of error assumed.

o Readings are for samples placed on the fourth shelf.

o Assume 2 cfm flow rate on air sampler.

o Sample time is 5 minutes.

o Conversion from concentration is based upon Count Rate = 7.99E9 [I-131], where count rate is in cpm and

I-131 concentration is in $\mu\text{Ci/cc.}$

o I-131 concentration is assumed to be 0.18 [Total Iodine].

+ Plume is overhead and does not touch down until after the site boundary.

TABLE 10.5 - STATE OF MISSOURI SAMPLING POINTS:
WHOLE BODY DOSE RATES (mR/hr)

LOCATION	Actual Time/Scenario Time										
	1300 05/30	1315 05/45	1330 06/00	1345 06/15	1400 06/30	1415 06/45	1430 07/00	1445 07/15	1500 07/30	1515 07/45	1530 08/00
C-2	*	*	176	220	221	220	216	211	207	*	*
C-11				7	9	9	9	9	9	*	*
C-12					5	6	6	6	6	*	*
C-13					80	100	100	100	98	*	*
C-14							58	74	72	6	*
C-15							3	3	3	0.2	*
C-3							52	65	65	0.2	*
C-16							2	3	0.5	*	*
C-17							40	50	8	*	*
C-18							2	3	0.5	*	*
C8-4									36	9	*
C8-5									18	5	*
C8-7									2	0.5	*
C-19										8	*
C-20										0.8	*
C-21										0.8	*
C10-3										0.4	*
C10-6										3.5	*

- * Background readings are less than 0.02 mR/hr
- o Plume boundaries are assumed to be 5% of centerline; linear interpolation is assumed for points between centerline and the plume boundary.

TABLE 10.6 - STATE OF MISSOURI SAMPLING POINTS:
LUDLUM MODEL 2218 READINGS FOR AIR SAMPLES (COUNTS PER MINUTE)

LOCATION	Actual Time/Scenario Time										
	1300 05/30	1315 05/45	1330 06/00	1345 06/15	1400 06/30	1415 06/45	1430 07/00	1445 07/15	1500 07/30	1515 07/45	1530 08/00
C-2	*	*	*	7200	7200	7200	7200	7200	7000	*	*
C-11				300	400	300	400	400	300	*	*
C-12					150	200	200	200	200	*	*
C-13					3000	3500	3500	3500	3400	*	*
C-14							2000	2500	2500	150	*
C-15							*	100	100	*	*
C-3							1700	2200	2200	100	*
C-16							*	*	*	*	*
C-17								1300	1600	300	*
C-18								*	*	*	*
C8-4									1200	300	*
C8-5									600	150	*
C8-7									*	*	*
C-19										300	*
C-20										150	*
C-21										120	*
C10-3										*	*
C10-6										100	*

- o $\pm 10\%$ margin of error is assumed.
- o Assume 2.0 cfm flow rate on sampler.
- o Sample time is 5 minutes.
- o Conversion from concentration is based upon Count Rate = 2.1×10^{10} [Iodine] where count rate is in cpm and Iodine.
- o I-131 concentration is assumed to be 0.18 [Total Iodine].
- o Plume boundaries are assumed to be 0.05 [plume centerline]; values between centerline and plume boundaries are derived by means of linear interpolation.
- o Background (< 100 cpm).

TABLE 10.7 - IODINE DEPOSITION - REENTRY/RECOVERY PHASE

Distance from ERP (Miles)	Plume Centerline Deposition ($\mu\text{Ci}/\text{cm}^2$)	Plume Boundary Deposition ($\mu\text{Ci}/\text{cm}^2$)	Plume Centerline Survey Reading at 3" from ground	Plume Boundary Survey Reading at 3" from ground (mR/hr)
1.0	8.9E-6	0	0.18	Background
1.5	6.4E-6	0	0.14	Background
2.0	3.9E-6	0	0.09	Background
2.5	3.3E-6	0	0.05	Background
3.0	2.6E-6	0	0.05	Background
3.5	1.9E-6	0	0.04	Background
4.0	1.6E-6	0	0.03	Background
4.5	1.1E-6	0	0.02	Background
5.0	9.7E-7	0	0.02	Background
5.5	6.8E-7	0	0.01	Background
6.0	5.7E-7	0	0.01	Background
6.5	3.6E-7	0	Background	Background
7.0	3.4E-7	0	Background	Background
7.5	1.5E-7	0	Background	Background
8.0	1.4E-7	0	Background	Background
8.5	2.5E-8	0	Background	Background
9.0	2.4E-8	0	Background	Background
9.5	2.2E-8	0	Background	Background
10.0	2.1E-8	0	Background	Background

For Soil Samples: $\text{Deposition} \times 0.47 = \frac{\mu\text{Ci of Iodine}}{\text{cc of soil}}$

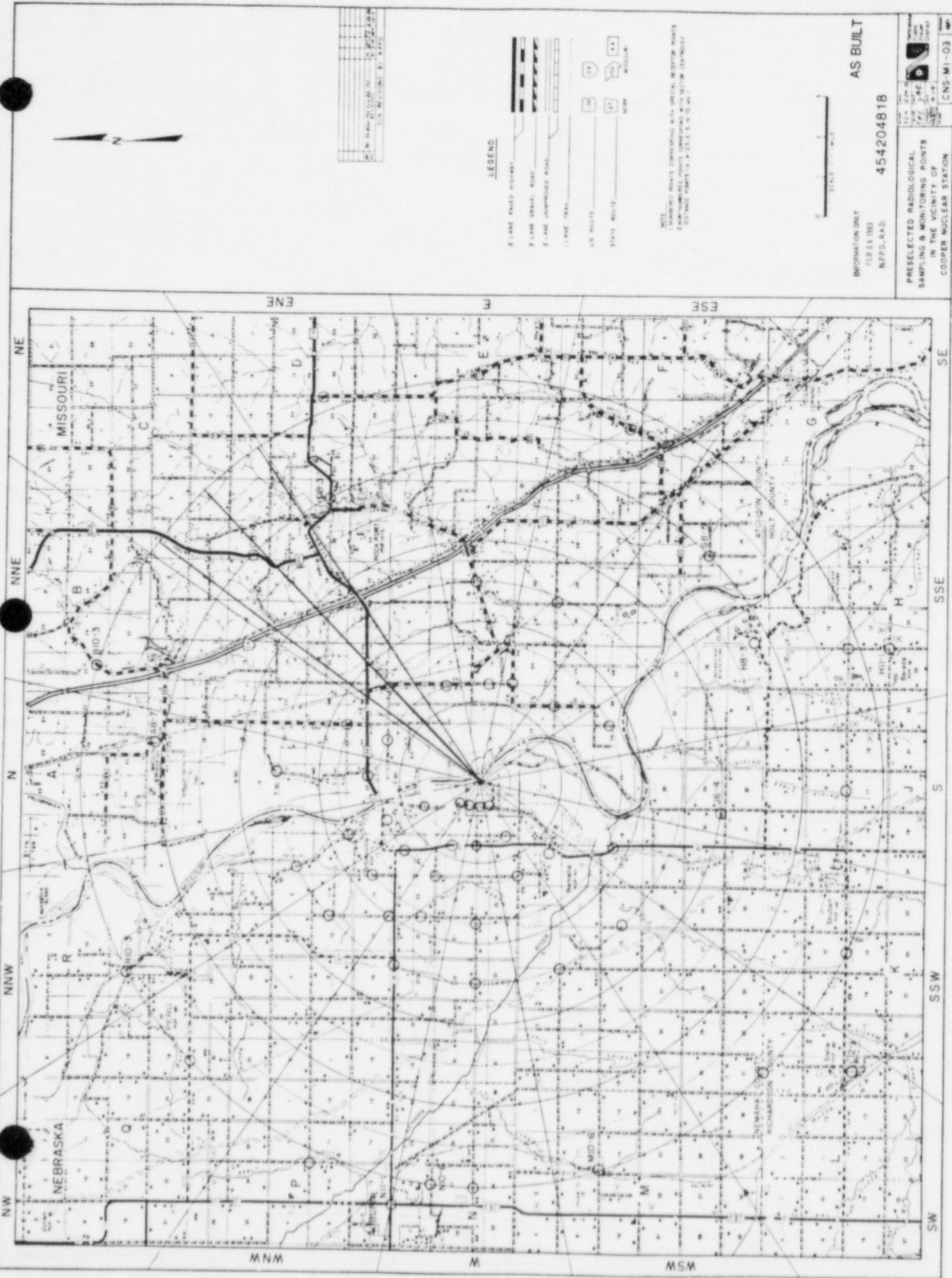
$\text{Deposition} \times 0.58 = \frac{\mu\text{Ci of Iodine}}{\text{gm of soil}}$

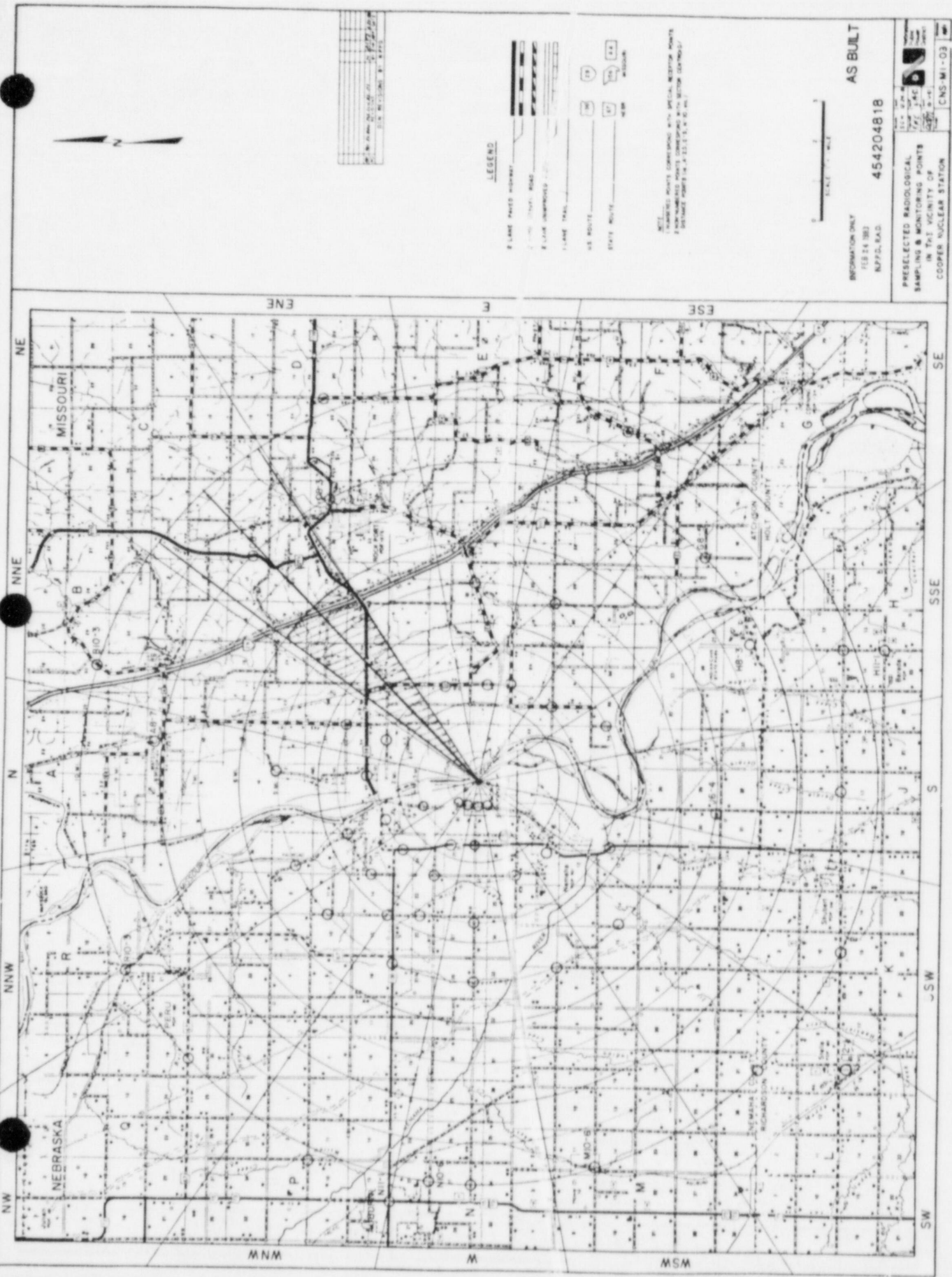
For Vegetation: $\text{Deposition} \times 0.35 = \frac{\mu\text{Ci of Iodine}}{\text{gm of vegetation}}$

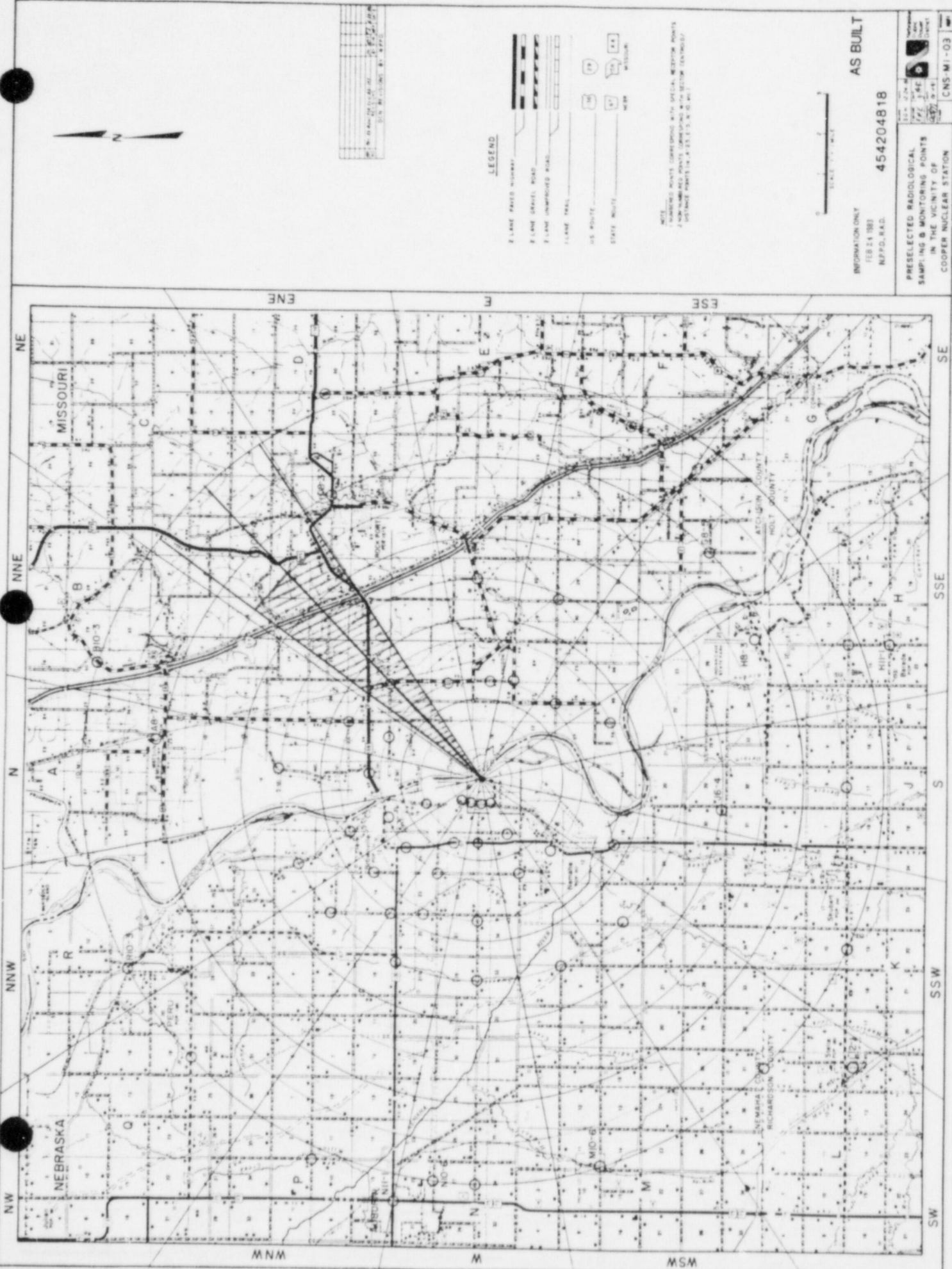
For Water Samples: $\text{Deposition} \times 0.40 = \frac{\mu\text{Ci of Iodine}}{\text{ml of water}}$

To compute values for specific isotopes:

Total Iodine	0.02		I-134
Concentration	0.05		I-132
	0.21	concentration	I-135
	0.27	= of	I-133
	0.45		I-131





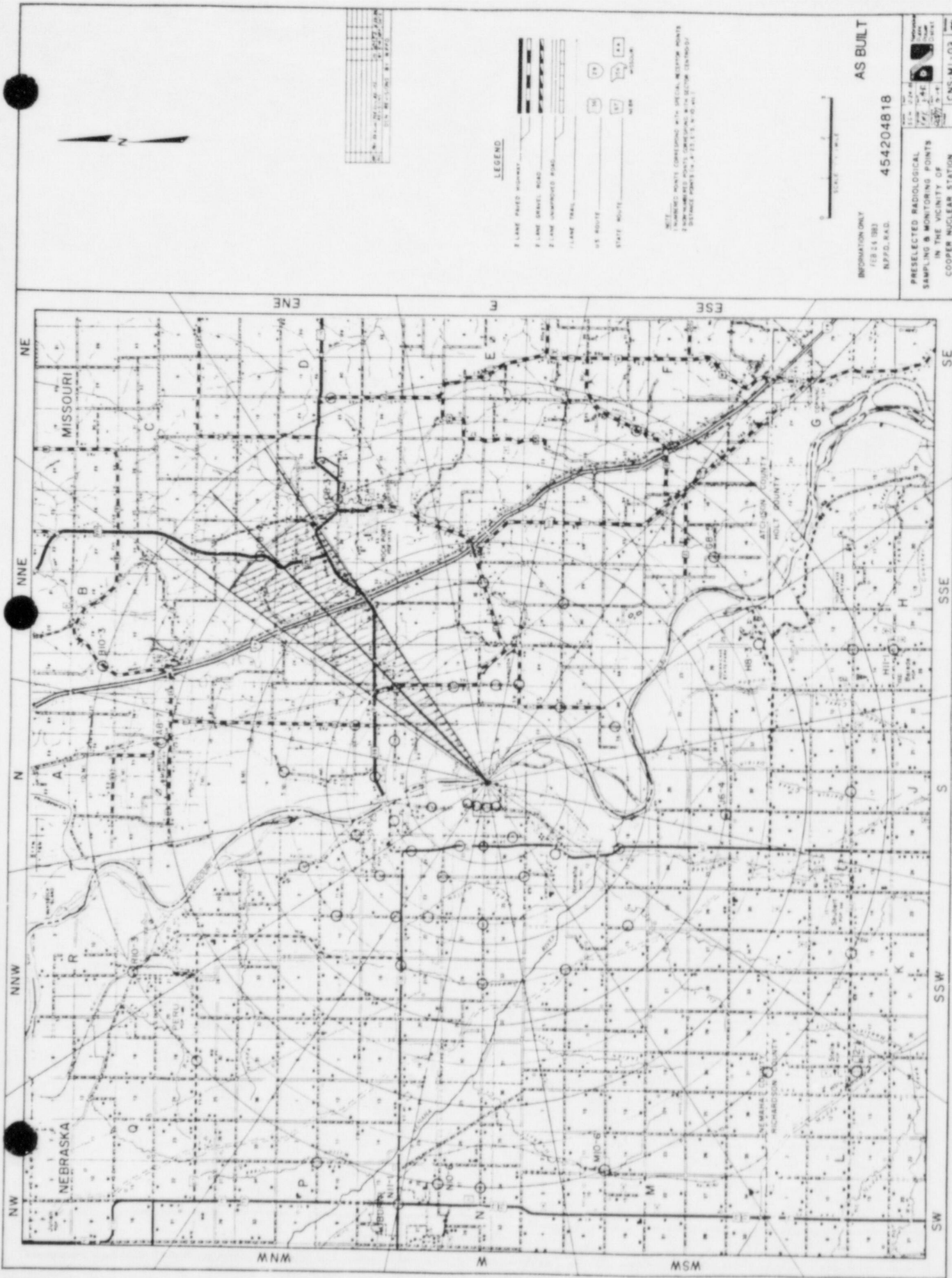


INFORMATION ONLY
FEB 24 1983
NPPD, RAD.

AS BUILT
454204818

PRESELECTED RADIOLOGICAL
SAMPLING & MONITORING POINTS
IN THE VICINITY OF
COOPER NUCLEAR STATION

CNS-MI-03



AS BUILT

454204818

INFORMATION ONLY
FEB 22 1983
NPPD, RAD.

PRESELECTED RADIOLOGICAL
SAMPLING & MONITORING POINTS
IN THE VICINITY OF
COOPER NUCLEAR STATION

CNS-MI-03

