COOPER NUCLEAR STATION

1994 EVALUATED EXERCISE

SCENARIO MANUAL

Nebraska Public Power District

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Section 1

INTRODUCTION

1. INTRODUCTION

The Cooper Nuclear Station (CNS), owned and operated by the Nebraska Public Power District (NPPD), annually conducts an Emergency Preparedness Exercise for the purpose of demonstrating that the NPPD emergency response organization can effectively meet its responsibilities in protecting the health and safety of the residents of the Plume Exposure Pathway Emergency Planning Zone in the event of a radiological incident at the plant.

The NPPD response organization and facilities that have been developed to respond to such an emergency are described in the CNS Emergency Plan. The Plan also discusses the support that is available from Federal, State and local government agencies, as well as from private organizations. It provides for a program of continuous preparedness, one element of which is the conduct and evaluation of this annual Exercise.

The primary purpose of this Exercise is to evaluate the participating portion of the NPPD CNS emergency response organization in accordance with the CNS Emergency Plan and associated implementing procedures. In keeping with this purpose, major portions of the NPPD CNS emergency organization's will be evaluated in the 1994 Exercise.

The Exercise will be conducted and evaluated by personnel selected by NPPD, and will be observed by representatives from the Nuclear Regulatory Commission (NRC). Upon termination of the Exercise, the NPPD Evaluators will critique the response of the players, assess the effectiveness of their response, and compile a Critique Report for distribution to NPPD management to ensure appropriate actions are taken to resolve any weaknesses that are identified.

This Exercise Manual provides all information required to support successful conduct and evaluation of the Exercise. It is to be used by the NPPD Controllers and Evaluators to ensure that consistent and accurate data is provided to Players during the course of their response to the sequence of events. It is provided to other observers for their information and reference when observing the Exercise.

This manual consists of two sections; Part A, provides information of general interest, instructions to participants, a schedule of associated events, a general description and overview of the Exercise to be conducted, including administrative and logistical information helpful to all participants. Part B, which is subject to a limited, controlled

distribution (Controllers, Evaluators and authorized observers) provides the scenario-specific information and supporting data for the sequence of events. Exercise "Players" (see Section 3.2) will not have prior access to or knowledge of any of the scenario that has been developed for this Exercise.

Section 2

SCOPE AND OBJECTIVES

2. SCOPE AND OBJECTIVES

2.1 Scope

The 1994 CNS Emergency Preparedness Exercise, to be conducted on November 15, 1994, will test and provide the opportunity to evaluate the emergency plans and procedures of NPPD. It will test the ability of participants to assess and respond to emergency conditions and coordinate activities to protect the health and safety of individuals in the plant and in the vicinity of CNS from the consequences of a radiological incident at CNS. The Exercise has been developed to support demonstration of the capabilities of the NPPD Emergency Response Organization, and will include activation and participation of all NPPD emergency facilities.

The Exercise will be used to evaluate the ability of the onsite response personnel to assess and mitigate the emergency situations at the plant, and to take actions to assist state and local government organizations in mitigating the radiological consequences to persons in the vicinity of the plant. In addition, the Exercise will provide NPPD with the opportunity to assess the effectiveness of training improvements and modifications made to the CNS Emergency Plan and Procedures since the last Exercise.

Emergency response actions during the Exercise will include:

- prompt recognition and accurate classification of emergency conditions;
- assessment of onsite/offsite radiological consequences, and activities to minimize the impact of these consequences;
- notification and mobilization of the emergency response organizations;
- implementation of in-plant corrective actions;
- activation/operation of emergency response facilities and equipment;

- preparation of adequate records to document decisions made and actions taken;

- formulation and recommendation of protective actions for personnel within the area; and

- termination of and recovery from the emergency condition.

Specific objectives to be demonstrated by the NPPD CNS Emergency Response Organization and Facilities are identified in the following section.

2.2 Objectives

Exercise objectives are provided under this heading. Objectives provide a basis for scenario development and a means to evaluate responses by the emergency response organization.

The Nebraska Public Power District radiological emergency preparedness exercise objectives for the Cooper Nuclear Station are based on Nuclear Regulatory Commission (NRC) requirements provided in 10 CFR 50.47, "Emergency Plans", and 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities". Additional guidance provided in NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", was utilized in developing the objectives.

Objectives are grouped according to functional area of emergency response. Additionally, objectives have been cross referenced to major or parent Emergency Plan Implementing Procedures used in demonstrating the objective, and to any related open weakness from the previous years' exercises.

General Objectives:

Accident Assessment, Classification and Mitigation

1. Demonstrate the ability to assess plant conditions and classify emergency events per EPIP 5.7.1..

   [1]NUREG-0654 ref: D.1-2; H.5; I.1
   [2]Major EPIP ref: 5.7.1
   [3]Weakness ref: none

2. Demonstrate the ability to identify projected trends and potential consequences.

   [1]NUREG-0654 ref: D.1-2; H.5; I.1
   [2]Major EPIP ref: 5.7.7, 5.7.9, 5.7.16
   [3]Weakness ref: none

Notification and Mobilization

3. Demonstrate the ability to alert and notify NPPD emergency response personnel in a timely manner.

   [1]NUREG-0654 ref: A.1.e; B.1,5; E.2; F.1.e
   [2]Major EPIP ref: 5.7.6
   [3]Weakness ref: none

4. Demonstrate the ability to mobilize NPPD emergency response personnel and activate emergency response facilities within the time frames specified in the Emergency Plan.

   [1]NUREG-0654 ref: J.1
   [2]Major EPIP ref: 5.7.7, 5.7.8, 5.7.9
   [3]Weakness ref: none

5. Demonstrate the ability of NPPD to notify federal, state and county agencies within the time frames specified in the Emergency Plan.

[1]NUREG-0654 ref: A.1.e; B.4,7.c; E.1-4; F.1; J.7; N.2.a
[2]Major EPIP ref: 5.7.6
[3]Weakness ref: none

6. Demonstrate the ability to alert, advise and direct onsite non-essential personnel.

[1]NUREG-0654 ref: J.1
[2]Major EPIP ref: 5.7.3, 5.7.4, 5.7.10, 5.7.11
[3]Weakness ref: none

Emergency Response

7. Demonstrate the ability to direct and coordinate emergency responses.

[1]NUREG-0654 ref: A.1.d; B.2-6
[2]Major EPIP ref: 5.7.7, 5.7.8, 5.7.9
[3]Weakness ref: none

8. Demonstrate the ability to transfer emergency direction from the Control Room (CR), to the TSC, and finally to the EOF, or from the Control Room directly to the EOF.

[1]NUREG-0654 ref: A.1.d; B.3-5
[2]Major EPIP ref: 5.7.7, 5.7.9
[3]Weakness ref: none

9. Demonstrate the ability to provide initial and continuous accountability of onsite individuals.

[1]NUREG-0654 ref: J.5
[2]Major EPIP ref: 5.7.10
[3]Weakness ref: none

10. Demonstrate site recovery/re-entry planning.

[1]NUREG-0654 ref: M.1-3, B.7.a-b
[2]Major EPIP ref: 5.7.25

[3]Weakness ref: none

Radiological Assessment and Control

11. Demonstrate the ability to provide radiological monitoring and decontamination capabilities for onsite personnel.

[1]NUREG-0654 ref: K.7
[2]Major EPIP ref: 5.7.13
[3]Weakness ref: none

12. Demonstrate the ability to provide onsite contamination controls, and area access controls.

[1]NUREG-0654 ref: K.5,6
[2]Major EPIP ref: 5.7.12, 5.7.13
[3]Weakness ref: none

13. Demonstrate the ability to continuously monitor and control emergency worker exposures.

[1]NUREG-0654 ref: K.1.a-g,2,3.a-b
[2]Major EPIP ref: 5.7.12, 5.7.13
[3]Weakness ref: 298/9324-01

14. Demonstrate the ability to monitor, assess, and correlate onsite radiological conditions with plant conditions.

[1]NUREG-0654 ref: H.5.b,c,9; I.1-3; N.2.d,e.1
[2]Major EPIP ref: 5.7.19
[3]Weakness ref: none

15. Demonstrate the ability to collect and analyze simulated radiological samples and surveys and evaluate results.

[1]NUREG-0654 ref: H.5.b,7; N.2.d,e.1
[2]Major EPIP ref: 5.7.18, 5.7.19
[3]Weakness ref: none

16. Demonstrate the ability to determine source terms and dose projections, evaluate dose projections against protective action guides and determine appropriate onsite and offsite protective actions.

[1]NUREG-0654 ref: H.6a,8; I.3-7,9-10; J.10.m
[2]Major EPIP ref: 5.7.16, 5.7.17, 5.7.20
[3]Weakness ref: none

17. Demonstrate the ability to make timely protective action recommendations to offsite agencies.

[1]NUREG-0654 ref: I.5-10, J.7
[2]Major EPIP ref: 5.7.20
[3]Weakness ref: none

Emergency Response Facility-Specific Objectives:

18. Emergency Operations Facility (EOF):

a. Demonstrate the capability of the EOF emergency resonse organization to implement the Emergency Plan and Procedures.

b. Demonstrate the adequacy of communications between the EOF and CR, TSC, government emergency facilities, and field teams.

c. Demonstrate availability of appropriate emergency equipment and supplies.

d. Demonstrate the adequacy of security access control.

e. Demonstrate activation and staffing of the EOF in a timely manner.

f. Demonstrate the functional adequacy of the EOF facilities.

[1]NUREG-0654 ref: B.5; H.2-3,6-8; J.6.a-c,10.a-b, E.2; F.1,2,3
[2]Major EPIP ref: 5.7.9, 5.7.21, 5.7.22
[3]Weakness ref: none

19. Technical Support Center (TSC):

a. Demonstrate the capability of the TSC emergency resonse organization to implement the Emergency Plan and Procedures.

b. Demonstrate the ability to provide technical support for operations in accident assessment and mitigation.

c. Demonstrate the adequacy of communications between the TSC and the OSC, EOF, inplant response teams, and the Control Room.

d. Demonstrate the availability of appropriate emergency equipment and supplies.

e. Demonstrate activation and staffing of the TSC in a timely manner.

f. Demonstrate the functional adequacy of the TSC facilities.

g. Demonstrate the ability to perform core damage assessment.

[1]NUREG-0654 ref: B.5; B.7.a-b,; H.1,6-8,; I.3; J.6.a-c, E.2; F.1,2,3
[2]Major EPIP ref: 5.7.7, 5.7.17, 5.7.21, 5.7.22
[3]Weakness ref: none

20. Control Room (CR)

a. Demonstrate the capability of the Control Room emergency resonse organization to implement the Emergency Plan and Procedures.

b. Demonstrate the adequacy of information flow between the Control Room, TSC, EOF and inplant operators.

c. Demonstrate the availability of appropriate emergency equipment and supplies.

d. Demonstrate the functional adequacy of the Control Room facilities.

[1]NUREG-0654 ref: B.5; E.2; F.1,2,3; H.6-9,12; J.6.a-c
[2]Major EPIP ref: 5.7.2, 5.7.3, 5.7.21, 5.7.22
[3]Weakness ref: none

21. Operations Support Center (OSC):

a. Demonstrate the capability of the OSC emergency response organization to implement the Emergency Plan and Procedures.

b. Demonstrate the adequacy of communications between the OSC and inplant teams TSC.

c. Demonstrate the availability of appropriate emergency equipment and supplies.

d. Demonstrate activation and staffing of the OSC in a timely manner.

e. Demonstrate the functional adequacy of the OSC facilities.

f. Demonstrate the ability to dispatch OSC repair and/or rescue team personnel.

[1]NUREG-0654 ref: B.5; E.2; F.1,2,3; H.1; J.6.a-c
[2]Major EPIP ref: 5.7.8, 5.7.13, 5.7.21, 5.7.22
[3]Weakness ref: 298/9324-01

Scenario

22. Develop an exercise scenario and controller organization which supports demonstration and evaluation of a major portion of the emergency plan.

[1]NUREG-0654 ref: N.1.a-b
[2]Major EPIP ref: EPDP 11
[3]Weakness ref: none

Evaluation

23. Demonstrate the ability to conduct a post-exercise critique to identify weak or deficient areas needing correction.

[1]NUREG-0654 ref: N.4,5
[2]Major EPIP ref: EPDP 11
[3]Weakness ref: none

FOOTNOTES

1 References related emergency planning objectives provided as guidance in 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" as based on NRC requirements provided in 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities".

2 References major NPPD-CNS Emergency Plan Implementing Procedure(s) used in demonstrating the objective. Other procedures may be applicable but will generally be referenced by, or branched from, the major procedure.

3 References applicable open weakness from the 1993 Exercise as listed in NRC Docket 50-298/93-24 (see the following for a summary of the weakness).

1993 NRC Exercise Weakness Summary

Operations Support Center

298/9324-01 Training Program Description 0415, "Respiratory Protection" describes the licensee's requirements for the qualification of personnel who could be required to wear respiratory protection. This TPD requires that OSC maintenance and operator personnel be respirator qualified. The failure to ensure that a response team member was qualified as specified was identified as an exercise weakness.

In addition, an operator was dispatched into the plant even though records available in the OSC showed the individual's respiratory qualifications had expired because the individuals physical had lapsed. The individual was deemed qualified because he stated that he had completed the physical but the records had not been updated.

Section 3

EXERCISE INFORMATION

3. EXERCISE INFORMATION

3.1 Exercise Participants

3.1.1 The Nebraska Public Power District

a. Control Room Simulator
b. Technical Support Center (TSC)
c. Operations Support Center (OSC), and associated in-plant response teams
d. Emergency Operations Facility (EOF), and appropriate offsite radiation monitoring teams
e. General Office Emergency Center (GOEC) [for training only]
f. Media Release Center (MRC) [for training only]

3.1.2 Offsite Agencies

Emergency response personnel from Nebraska, Missouri and associated counties.

3.2 Exercise Organization

The organization for this Exercise consists of the Exercise Coordinator, the Lead Exercise Controller, Controllers, Evaluators, Observers, Observer/Evaluators and the Players as follows:

3.2.1 The Exercise Coordinator

The Exercise Coordinator is responsible for the post-exercise Controller debriefing, the CNS exercise critique and the NRC critique and exit meeting. Subsequent to the Exercise, he will direct the preparation of a consolidated evaluation package and preparation of a list of identified findings requiring corrective action.

3.2.2 The Lead Exercise Controller

The Lead Exercise Controller is responsible for the conduct of a successful exercise and will coordinate exercise preparations including the development of the scenario and messages. The Lead Exercise Controller will ensure the safe conduct of the Exercise and is responsible

for resolution of any scenario-related inter-facility questions, and will ensure that the conduct of the Exercise does not adversely impact the operation of the station. The Lead Exercise Controller will also assist with the preparation of a consolidated evaluation package.

3.2.3 The Controllers

Controllers are qualified personnel selected to perform functions as follows:

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.

Controllers will deliver "Exercise Messages/Data" 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. Contingency messages and any other form of prompt will only be delivered by controllers after full discussion with and with the express permission of the Lead Exercise Controller or Exercise Coordinator. Controllers will submit written observations to the Lead Controller, who will summarize all comments for submittal to the Exercise Coordinator. The Controllers are provided with instruction materials. This information is contained in Section 4.0 of this manual.

3.2.4 Evaluators

Evaluators are personnel who are assigned to judge the effectiveness of participating organizations, personnel, and activities in response to the scenario. 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. Most Controllers will also function to evaluate the facility or function to which they are assigned. They will document their findings on objective based evaluation forms.

3.2.5 Observers

Observers may be authorized, on a limited basis, to participate in the Exercise for training purposes.

3.2.6 Inspectors

Inspectors are members of the NRC evaluation team and will have prior knowledge of the Exercise scenario. At their assigned locations they will observe the Exercise and prepare an evaluation.

3.2.7 Players

Players include station and other utility personnel assigned to perform emergency functions as described in the Emergency Plan and Implementing Procedures. Players from offsite organizations and agencies (county, State, and private industry) are also participants in the Exercise.

3.3 Conduct of the Exercise

The Exercise will simulate a radiological incident at the Cooper Nuclear Station in order to demonstrate the effectiveness of NPPD CNS emergency response personnel, facilities, and the appropriate emergency plans and procedures. It will be initiated by abnormal events requiring the Shift Supervisor to implement the Emergency Plan.

All notifications to NPPD, State and local responders will be made in accordance with applicable procedures and policies, with the exception that notifications to agencies not participating will be simulated.

The 1994 Emergency Preparedness Exercise will include the use of a "live" simulator. The CNS Control Room simulator will be used to duplicate the plant response to actions taken by the on-shift crew of operators. All indications and annunciators which are modelled by the software will be available to indicate to the crew the status of systems and equipment, as the operators respond to the scenario.

The capability exists to provide "real time" data to other emergency

response facilities (TSC and EOF) using terminals connected to the simulator. The terminals will provide the Players in these facilities similar information normally available through the Plant Management Information System (PMIS).

The Simulator will be the central point for dissemination of plant data and is the key to ensuring that the Exercise progresses on schedule. In the event of a failure of the Simulator computer, the Lead Exercise Controller shall determine whether to continue the exercise, or delay the sequuence of events to recover the simulator or direct that plant indications, parameters and annunciators will be provided to the Control Room operators using message forms and plant data sheets. Sufficient plant information is provided on these data sheets, so that at no time will the messages "prompt" the Players or provide undue assistance in recognition of events. In the event that the Simulator tails to provide operational or radiological data that is consistent with the scenario, and with data previously collected from the simulator and printed in the manual, the exercise controller reserves the right to adjust Simulator output to correspond to the previously generated simulator data in order to maintain the internal consistency of the scenario.

Contingency messages (denoted by an 'x' after the message number) are delivered only when conditions described in the Controller notes have been met. Receipt of a contingency message by a Player is NOT necessarily indicative of an error, and should not be construed as such. Some data on these messages, for example, is provided only when specific actions have been taken to access the information or when a particular extent of play activity is required to demonstrate an Exercise objective. Other such messages are provided to Players when specific actions are required to maintain the scenario within acceptable limits of direction and time frames.

Radiological and meteorological data, presented in Section 9.0 will be disseminated by Controllers when Players demonstrate the capability to obtain the information from appropriate sources. At no time, unless noted specifically as an exception, will information be provided at a point where it would not be available in a real emergency. Controllers shall deliver all information and messages exactly in the time and manner described on the message form. Controllers may interject other information or change a message to ensure that the Exercise progresses as planned,

only with the specific concurrence of the Lead Exercise Controller.

Players are expected to "free play" the scenario to the extent permitted by their Controller. Response to each situation should be as realistic as possible, consistent with maintenance of personnel and plant safety.

Notifications of, and contact with supervisors, plant management, and offsite agencies will be made in accordance with applicable procedures and instructions (unless a Controller issues instructions to the contrary). Only those simulations identified by a Controller or specifically identified in briefings are permissible.

3.4 Precautions and Limitations

This section provides information for all Exercise participants regarding guidelines to be followed throughout the conduct of this Exercise. Prior to initiation of the Exercise, pre-exercise briefings will be held to review the entire exercise process with all the Exercise participants.

3.4.1 Actual Emergencies

It will be the responsibility of any Exercise Controller or Observer who 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 will make a determination whether to continue, temporarily suspend or terminate the Exercise.

3.4.2 Unsafe Conditions

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, place either an individual or component in an unsafe condition, the Controller is responsible for intervening in the individual's actions and terminating the unsafe activity immediately.

No response to an exercise situation will be simulated without Controller approval. No action will be taken that reduces the margin of safety in the plant.

3.4.3 Operating Equipment

All repair activities associated with the scenario will be simulated with extreme caution emphasized around operating equipment. Manipulations of any plant operating systems, valves, breakers, or controls in response to this Exercise are to be simulated. There is to be no alteration of any plant operating equipment, systems, or circuits during the response of this Exercise. No pressurization of fire hoses, discharging of fire extinguishers, or initiation of any fire suppression systems will be allowed inside the plant.

3.4.4 Public Announcements

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 witness a drill participant not observing this practice, it is the Controller's responsibility to remind the individual of the need to follow this procedure.

Care must be taken to assure that any non-participating individuals who may observe Exercise activities or overhear Exercise communications are not misled into believing that an actual emergency exists. Any Exercise Controller 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.

3.4.6 Motor Vehicle Response

Any motor vehicle response to this Exercise, whether it be ambulance, fire fighting equipment, police/security vehicles or field monitoring teams, shall observe all normal motor vehicle operating laws, including posted speed limits, stop lights/signs, one way streets, etc. Red lights and sirens will not be operated on emergency vehicles for the purposes of the Exercise.

Section 4

CONTROLLER / EVALUATOR INFORMATION

4. CONTROLLER / EVALUATOR INFORMATION

4.1 General Information

Each Controller/Evaluator should be familiar with the following:

4.1.1 The objectives of the Exercise (Section 2.0).

4.1.2 Applicable precautions and limitations (Section 3.0).

4.1.3 The Exercise scenario, including the initial conditions and the expected course of action to be taken (Section 7.0).

4.1.4 The various locations that will be involved and the specific items to be observed at those locations.

4.1.5 The evaluation checklists provided.

4.2 Controller Instructions

4.2.1 Controllers will position themselves at their assigned locations 30 minutes prior to the activation of the facility or team for which they have responsibility.

4.2.2 Facility clocks will have been syncronized with the simulator clock. **Do not change facility clocks**. Reset your watch to facility clock time.

4.2.3 All Controllers will comply with instructions from the Lead Exercise Controller.

4.2.4 Each Controller will have copies of the messages controlling the progress of the Exercise scenario. No messages shall be delivered out of sequence or other than as written unless specifically authorized by the Lead Exercise Controller.

4.2.5 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.

4.2.6 In the event that a Player insists that certain parts of the scenario are unrealistic, the Controllers have the sole authority to clarify any questions regarding scenario content.

4.3 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. Evaluators' comments will be used for the purpose of reconstructing the Exercise chronology and preparing a written evaluation of the Exercise.

Sheets containing specific emergency facility evaluation criteria are provided in Emergency Preparedness Department Procedure (EPDP) 11, Exercise and Drill Evaluation Procedure. These sheets must be completed by each Evaluator and provided to the Exercise Coordinator at the conclusion of the Exercise. For specific evaluation of the exercise objectives, each evaluator shall be provided with objective-based exercise evaluation forms, which must be filled out for each facility following the facility critique and provided to the Lead Exercise Controller.

Evaluator forms for each facility/team will be distributed at the pre-exercise Controller briefing.

4.4 Personnel Assignments

The personnel assignments for the Controller organization are listed in Table 4.4-1. Assignments for the Evaluator organization are listed in Table 4.4-2.

4.5 Simulator Instructions

The simulator will be relied on primarily for data generation and plant response interactions with the Control Room crew. Should it malfunction

or go off-line (e.g., a loss of power to the Training Center), the Lead Exercise Controller has several options to choose from. They include:

- stopping the Exercise and attempting to recover the simulator then resuming play;
- stopping the Exercise and conducting it the following day (provided Simulator repairs can be performed);
- completing the Exercise using the data sheets provided in the Exercise Manual; and
- ending the Exercise if most of the objectives have been demonstrated. (Unmet objectives would be re-scheduled for a later date.)

CONTROLLER ASSIGNMENTS

TABLE 4.4-1

CONTROL ROOM SIMULATOR

*	TBD	Lead Exercise Controller
	Robert Hayden	Control Room Management (Drill Controller)
	Wayne McKinzey	Control Room Operators
	Dave VanDerKamp	Control Room Operators
	Duane Shallenberger	Instructor Station Operator
	TBD	Instructor Station Operator

OPERATIONS SUPPORT CENTER

*	TBD	Team Control and Coordination
	Josh Whisler	Mechanical Teams
	TBD	General Teams
	TBD	General Teams
	Cindy Weers	Chemistry/HP Activities
	Rodney Fosbinder	Electrical Teams
	Kenton Weeldon	Electrical Teams
	Brad Johnson	I&C Teams
	Warren Schwindt	I&C Teams
	Jeff Bratrsovsky	Mechanical Teams
	Larry Corey	HP/In-Plant Rad.
	Pam Delizza	HP/In-Plant Rad.
	Dave Lewis	HP/In-Plant Rad.
	Brad Ackerman	Operations Team(s)
	Jim Florence	Operations Team(s)

TECHNICAL SUPPORT CENTER

*	Mike Estes	TSC Management
	Mick Spencer	TSC Engineering

EMERGENCY OPERATIONS FACILITY

*	TBD	EOF Management
	Brian Hall	Dose Assessment

	TBD	Field Team Coordination
	TBD	D/W Team #1
	TBD	D/W Team #2

GENERAL OFFICE EMERGENCY CENTER

*	Bob Wilbur	GOEC Management

MEDIA RELEASE CENTER

*	Alan Dostal	MRC Management

* Indicates Lead Facility Controller

EVALUATOR ASSIGNMENTS

TABLE 4.4-2

CONTROL ROOM SIMULATOR

Dave VanDerKamp	Control Room Operator Activities
Duane Shallenberger	Control Room Operator Activities

TECHNICAL SUPPORT CENTER

Mike Estes	TSC Staff Activities

EMERGENCY OPERATIONS FACILITY

Don Reeves	EOF Staff Activities
Bob McDonald	Dose Assessment & D/W Teams Control

GENERAL OFFICE EMERGENCY CENTER

Kenneth Almquist	GOEC Staff Activities
David Whitman	Technical

MEDIA RELEASE CENTER

David Danielson	MRC Staff Activities

Section 5

PLAYER INFORMATION

5. PLAYER INFORMATION

5.1 General Information

This section provides guidelines for all exercise Players, which should be followed throughout the conduct of the Exercise. A pre-exercise briefing will be held for key Players to review the entire exercise process, including "Precaution and Limitations" in Section 3.4, and the following information.

The success of the Exercise is largely dependent upon Player reaction, Player knowledge of their appropriate Emergency Plan and Implementing Procedures, and an understanding of the purpose of the Exercise. Initial conditions which will affect Player action or reaction will be provided to the Players at the appropriate time (depending upon when it is reasonable for that information to have been known) either at the player briefing or when the Exercise begins. However, most of the elements of the Exercise play will be introduced through the use of controlled casualties on the "live" simulator. Players, therefore, are responsible for initiating actions during the Exercise in accordance with instructions for their particular function. Each Player will advise his/her Controller prior to performing required emergency actions during the simulated activities to ensure that the Player is credited for his/her actions.

Players are reminded not to be excessively critical with the mechanics or cause of the Exercise scenario. This Exercise is designed to evaluate the Emergency Plan, Implementing Procedures, and the emergency preparedness training program. Additionally, the Exercise is a training vehicle for NPPD personnel to practice coordination with outside organizations in a simulated emergency environment. Players should note any needed improvements that come to their attention during the Exercise and submit them to the appropriate Controller at the conclusion of the Exercise.

It is necessary to postulate series of equipment failures and other combinations of events, in order to develop an accident sequence that culminates in a significant release of radioactivity to the environment. Please accept exercise information and messages as written, and respond as though the depicted event occurred. If corrective actions are

discovered that would terminate the emergency, they should be identified to a Controller so that the Exercise can continue on schedule.

5.2 Player Guidelines

5.2.1 Maintain a serious, professional attitude throughout the Exercise.

5.2.2 Teamwork is essential! Do your job and then help other people do theirs. For example, if you know certain information should be available, ask for it. This makes you look good and may reduce a deficiency for someone else.

5.2.3 Brainstorm and look for all possible solutions or consequences of events. Maintain the "big picture" of what is happening.

5.2.4 Identify yourself by name and function to the Controller in your area. Always wear your identification badge.

5.2.5 If you are entering normal nuclear station radiation areas, observe all rules and procedures. No one (including Controllers) is exempt from normal station radiological practices and procedures.

NOTE: DO NOT ENTER ACTUAL HIGH RADIATION AREAS IN THE PLANT; FOLLOW ALARA PRINCIPLES.

5.2.6 Observe all normal security procedures. All normal security procedures are in effect without exception. If a security condition arises, obey immediately the directions of Security Guards.

5.2.7 Initiate actions in accordance with instructions and responsibilities.

5.2.8 Communications should be concise and formal with use of abbreviations minimized. Always include "This is a drill".

5.2.9 Use and demonstrate knowledge of the Emergency Plan and Implementing Procedures.

5.2.10 No response to an Exercise situation will be simulated without

Controller approval. No action will be taken that reduces that margin of safety in the plant.

5.2.11 Keep a list of items which you believe will improve the plan and/or procedures. Provide this to your Controller/Evaluator at the end of the Exercise.

5.2.12 Remember, one of the main purposes of an exercise is for you to assure yourself that you are adequately prepared. Areas for improvement or lessons learned, when identified, will improve your overall emergency preparedness.

Section 6

SCHEDULE OF EVENTS

6. SCHEDULE OF EVENTS

6.1 Times and Places

As of 9/14/94

Event	Place	Time	Date
Initial Exercise Controller/Evaluator Briefing	EOF	0900	October 21
Final Exercise Controller/Evaluator Briefing	EOF	0900	November 10
Exercise Player Briefing	Auditorium	1500	November 10
Conduct of Exercise/ Player Critiques	Various	05:00-12:00	November 16
Controller Critique Session	EOF	13:00-14:00	November 16
Exercise Critique Presentation to Management	Classroom J	1500	November 17 (tenative)
Exercise Critique Presentation to the NRC	Classroom J	0900	November 18 (tenative)
NRC Exit Briefing	Classroom J	1000	November 18 (tenative)
Player De-brief	Auditorium	1500	November 21

6.2 Travel Information

For prior arrangements, questions, or permission to observe, contact:

Nebraska Public Power District
Cooper Nuclear Station
Emergency Preparedness Dept.
Mr. Robert Hayden
P.O. Box 98
Brownville, NE 68321
(402) 825-5270

Airports

1. Omaha, NE - Approximately 80 miles (Take Rte 73 South, Rte 6 East, I-29 South, Rte 136 West to Brownville, turn south immediately after crossing Misouri river bridge and follow signs to Cooper Nuclear Station)

2. Kansas City, MO - Approximately 90 miles (Take I-29 North, Rte 136 West to Brownville, turn south immediately after crossing Misouri river bridge follow signs to Cooper Nuclear Station)

Motels

1.	Arbor Manor Auburn, NE	(402) 274-3663
2.	Rock Port Inn Rock Port, MO	(816) 744-6282
3.	Palmer House Auburn, NE	(402) 274-3193
4.	Auburn Inn Auburn, NE	(402) 274-3143

Section 7

EXERCISE SCENARIO MATERIAL

7. EXERCISE SCENARIO MATERIAL

7.1 Scenario Summary

The date is November 16, 1994.

The plant is operating @ 95% power near end of core life having been at power for the previous 280 days. HPCI was placed out of service during the previous shift for auxiliary oil pump coupling replacement. HPCI is tagged out with its auxiliary oil pump coupling removed and is expected to be returned to service tomorrow. All other plant equipment is in a normal configuration. The operability requirements for RCIC, Core Spray and LPCI were satisfied during the previous shift. The ADS logic operability test is scheduled to be completed on this shift. The plant is 12 hours into a 7 day LCO.

The weather is cloudy and cold with a chance of flurries with winds out of the northeast at six mph.

At elapsed time 0000(0530) the start of the exercise will be announced with initial conditions established.

At elapsed time 0005(0535), the #1/2 jet pump inlet riser fails. Indication of the failed jet pump includes power oscillations, increased recirculation loop flow on the failed side and lower jet pump differential pressure on the failed jet pumps. Operators will verify indications and may perform a jet pump operability surveillance. Pieces of the riser fall into the jet pump diffuser and become lodged at the inlet of several fuel bundles. The resulting flow obstructions shall cause localized fuel failures.

At elapsed time 0010(0540) the main steam line and offgas radiation levels begin to increase.

At elapsed time 0013(0543) sufficient fuel failures have occurred causing main steam line and offgas high-high radiation alarms to come in. The offgas isolation timer is initiated. Various area radiation monitors in areas where process steam flows indicate elevated area radiation levels.

The operating crew will reduce reactor power in an attempt to reduce offgas activity.

The Shift Supervisor will request Chemistry to take a coolant sample.

At elapsed time 0023(0553) the offgas timer will time out. The offgas system will isolate and condenser vacuum will slowly decay. Per procedure 2.4.7.1, the operating crew will scram the reactor and close the MSIVs.

Air ejector offgas radiation monitors will have exceeded 15,000 mR/hr. Coolant sample results will show a coolant activity in excess of 300 µCi/gm dose equivalent I-131. Both these conditions are indicative of a loss of the fuel clad

boundary. The Shift Supervisor shall declare an Alert based on EAL #2.2.1 (fuel clad loss #1 or #2).

Notifications shall be conducted in accordance with EPIP 5.7.6. The TSC and OSC will be activated. Site assembly and accountability will be performed.

By elapsed time 0045(0615) reactor pressure will be controlled by a combination of SRV actuation and operation of RCIC in the test mode. Once reactor pressure is stabilized, a controlled cooldown will be established.

Over the next one hour and 15 minutes, the operating crews will continue to cool down using RCIC. Consideration should be given by both the TSC and operating crew to minimizing potential for spread of fission products throughout process streams and the plant.

At elapsed time 0150(0720) a small recirculation system pipe leak inside the drywell will cause increased drywell temperatures, humidity and pressure.

As the leak rate increases, operators will attempt to maximize containment cooling. Due to the fission products in containment, containment venting will be precluded.

At elapsed time 0200(0730) the reactor coolant leakage will cause drywell pressure to exceed 2.0 psig. Exceeding 2.0 psig in the containment is the threshold for primary coolant boundary loss. The Emergency Director shall declare a Site Area Emergency based on EAL #2.3.3 - loss of any two fission product barriers (primary coolant boundary loss #2 in conjunction with fuel clad loss #1/#2).

The EOF and GOEC/MRC will be activated.

The operating crew will attempt to locate and isolate the source of the leak. RPV cooldown will proceed in accordance with EOPs.

At elapsed time 0330(0900) the RCIC steam line downstream of RCIC-MO-16 ruptures (Northeast torus area). The resulting steam release results in actuation of the RCIC isolation logic due to high steam flow and high temperatures on the steam leak detection system. Both steam isolation valves, RCIC-MO-15 and 16 fail to isolate. Following performance of the RCIC operability surveillance conducted on the previous shift, both valves were inadvertently stuck on their backseats.

The unisolable steam leak results in exceeding a loss of primary containment barrier threshold. The Emergency Director shall declare a General Emergency based on EAL #2.4.1- loss of three fission product barriers (primary containment boundary loss #1 in conjunction with primary coolant boundary loss #2 and fuel clad loss #1/2).

The leak also results in a radiological release to the environment. The release path is from the RCIC steam line to the torus area atmosphere to reactor building ventilation and through standby gas treatment to the ERP. Reactor Building area radiation levels increase accordingly. Offsite releases will not be in excess of that which would result in a PAR more severe than the minimum PAR required at a General Emergency.

At elapsed time 0335(0905) the area temperatures in the vicinity of the RCIC steam line break shall exceed the Maximum Safe Operating values specified in the EOPs. Emergency RPV depressurization shall be required. Once RPV pressure has reached the SRV reseat pressure (50 psig), the release rate shall stabilize until action to manually close RCIC-MO-16 have been taken. Once isolated the release shall be terminated (approximate elapsed time of 0355/0925).

By elapsed time 0410(0940) actions to place the plant in shutdown cooling will be discussed. Once the prerequisites for entry into the recovery phase have been met in accordance with EPIP 5.7.25 the emergency will be terminated. Entry into the recovery phase, elapsed time 0430(1000), will lead to the development of a recovery plan and discussions in accordance with the recovery procedure.

Once all objectives are met, elapsed time 0500(1030) the exercise will be terminated.

7.2 Initial Conditions

7.2.1 Initial Plant Conditions

The date is November 16, 1994.

The plant is operating @ 95% power near end of core life having been at power for the previous 280 days. HPCI was placed out of service during the previous shift for auxiliary oil pump coupling replacement. HPCI is tagged out with its auxiliary oil pump coupling removed and is expected to be returned to service tomorrow. All other plant equipment is in a normal configuration. The operability requirements for RCIC, Core Spray and LPCI were satisfied during the previous shift. The ADS logic operability test is scheduled to be completed on this shift. The plant is 12 hours into a 7 day LCO.

The weather is cloudy and cold with a chance of flurries with winds out of the northeast at six mph.

At elapsed time 0000(0530) the start of the exercise will be announced with initial conditions established.

7.2.2 Weather Forcasts

General:

A changing weather pattern will exist throughout the area. A weak high pressure zone will move through the region towards the east causing winds to shift to a more westerly direction. Clouds will develop during the afternoon yielding a slight chance of scattered flurries as the unorganized front moves through. Skies will be cleared by tomorrow morning with an area of high pressure dominating the region for the next several days.

Detailed:

This evening cloudy with temperatures 35º to 45º. Winds from the NE 5 to 10 MPH with gusts of up to 15 MPH. 40% chance of precipitation.

Tonight cloudy and breezy temperatures 25º to 35º. Winds from the NE 5 to 10 MPH with gusts of up to 15 MPH. 30% chance of precipitation.

Tomorrow morning sunny with temperatures ranging 25º to 35ºF. Winds from the east 10 to 15 MPH with gusts of up to 20 MPH. 20% chance of precipitation.

Tomorrow afternoon increasing clouds with temperatures 35º to 45º. Winds from the east 15 to 20 MPH with gusts of up to 25 MPH. 30% chance of precipitation.

Tomorrow Evening decreasing cloudiness with high temperatures 45º to 55º. Winds steady from the ESE 8 to 13 MPH. 20% chance of precipitation.

Long range forecast clear skies with high temperatures 45º to 55º and low temperatures 25º to 35º. Winds will be steady from the SE 5 to 10 MPH.

7.3 Sequence of Events

The date is November 16, 1994. The plant is operating @ 95% power having been at power for the previous 280 days. HPCI has been placed out of service for auxiliary oil pump coupling replacement. The plant is 12 hours into a 7 day LCO.

The weather is cloudy and cold with a chance of flurries with winds out of the northeast at six mph.

TIME Elapsed/Clock	ACTIVITY
-0030/0500	Conduct pre-shift briefing of operating crew. Perform panel walk-down and shift turnover.
0000/0530	Announce start of the 1994 CNS Evaluated Exercise
0005/0535	Indications of jet pump failure and slight power reduction
0010/0540	Increasing main steam line radiation as a result of fuel damage caused by localized flow blockages from failed jet pump parts
0013/0543	Main steam line high radiation alarms and increasing offgas radiation. Operators attempt to reduce radiation levels with power reduction. Request Chemistry personnel take coolant sample.
0015/0545	Air ejector radiation in excess of 15,000 mR/hr. Coolant sample results indicate Iodine activity of >300 µCi/gm dose equivalent. ALERT based on loss of 1 fission product barrier - EAL #2.2.1.(fuel clad loss #1 and #2 per Att. 3). TSC/OSC activated.
0023/0553	Offgas High-High timer times out requiring reactor scram and MSIV closure per Procedure 2.4.7.1.
0045/0615	RCIC controlling pressure and level. Initiate a controlled cooldown per EOPs once RPV pressure is stabilized.
0150/0720	Indications provided of increased drywell floor drain leakage along with increased drywell temperatures, humidity and pressure.
0155/0725	Reactor coolant leakage continues to increase as confirmed by indication of increasing drywell temperature, pressure, humidity and radiation. Drywell cooling maximized. Fission product inventory inside containment will preclude containment venting per ESP 5.8.17.

0200/0730	Increasing drywell pressure results in exceeding scram setpoint (> 2.0 psig).
	SITE AREA EMERGENCY based on loss of 2 fission product barriers - EAL #2.3.3.(primary coolant boundary loss #2 in conjunction with fuel clad loss #1/#2 per Att. 3).
	Depressurize RPV to within limit of cooldown rate allowed by EOPs.
0225/0755	Establish cooldown rate. EOF and GOEC/MRC activated.
0330/0900	Piping downstream of RCIC-MO-16 ruptures (Northeast torus area). RCIC high steam flow and leak detection isolations fail to isolate RCIC steam line. Attempts at manual isolation of RCIC steam line fail.
	ERP radiation levels increase. Release of fission products to atmosphere via Reactor Building, Standby Gas Treatment System, and out the Elevated Release Point (ERP).
	GENERAL EMERGENCY based on loss of three fission product barriers - EAL #2.4.1.(primary containment boundary loss #1 in conjunction with primary coolant boundary loss #2 and fuel clad loss #2 per Att. 3).
0335/0905	RCIC steam leak results in exceeding Maximum Safe Operating Values (temperature) in two or more areas. Operators emergency depressurize RPV.
	Dose assessment results will not require PAR in excess of those required by plant conditions.
0355/0925	Isolation of RCIC steam line (RCIC-MO-16) .
	Release terminated.
0410/0940	Recovery discussions begin
0430/1000	Enter recovery phase
0500/1030	Termination announcement for 1994 Exercise

7.4 Simulator Data

TIME Elapsed/Clock	ACTIVITY	SIMULATOR
-0030/0500	Conduct pre-shift briefing of operating crew. Perform panel walk-down and shift turnover.	Initialize simulator to IC-99 Batch file: 1hayex Hang RT on HPCI AOP Safety status panel LCO Tracking Book [Set remote functions under HV for met. data]
0000/0530	Announce start of the 1994 CNS Evaluated Exercise	Simulator in RUN
0005/0535	Indications of jet pump failure and slight power reduction	**TRG E1** RR18A CR01 100 10:00
0010/0540	Increasing main steam line radiation as a result of fuel damage caused by localized flow blockages from failed jet pump parts	
0013/0543	Main steam line high radiation alarms and increasing offgas radiation. Operators attempt to reduce radiation levels with power reduction. Request Chemistry personnel take coolant sample.	
0015/0545	Air ejector radiation in excess of 15,000 mR/hr. Coolant sample results indicate Iodine activity > 300 µCi/gm dose equivalent. ALERT based on loss of 1 fission product barrier - EAL #2.2.1.(fuel clad loss #1 and #2 per Att. 3). TSC/OSC activated.	

0023/0553	Offgas High-High timer times out requiring reactor scram and MSIV closure per Procedure 2.4.7.1.	**TRG E2** CR03 (2) .5 RM02E (3) 53 3:45:00 74.1 RM02F (3) 52.5 3:45:00 74 [Ramps SJAE RMs to 1200 mr/hr by 0415] RM03DD (0:10) 46.8 5 RM03EE (0:05) 47 5 [Ramps drywell hi rad mon. to 2000 r/hr]
0045/0615	RCIC controlling pressure and level. Initiate a controlled cooldown per EOPs once RPV pressure is stabilized.	**TRG E3 (Auto)** RM02A 42.1 RM02B 42.15 RM02C 42.0 RM02D 41.9 (This locks MSL rad mon. @ ~300 mR/hr - prevents from decaying to 0)
0150/0720	Indications provided of increased drywell floor drain leakage along with increased drywell temperatures, humidity and pressure.	**TRG E4** - RR20A 5 3:00
0155/0725	Reactor coolant leakage continues to increase as confirmed by indication of increasing drywell temperature, pressure, humidity and radiation. Drywell cooling maximized. Fission product inventory inside containment will preclude containment venting per ESP 5.8.17.	

0200/0730	Increasing drywell pressure results in exceeding scram setpoint (> 2.0 psig). SITE AREA EMERGENCY based on loss of 2 fission product barriers - EAL #2.3.3.(primary coolant boundary loss #2 in conjunction with fuel clad loss #1/#2 per Att. 3). Depressurize RPV to within limit of cooldown rate allowed by EOPs.	
0225/0755	Establish cooldown rate. EOF and GOEC/MRC activated.	
0330/0900	Piping downstream of RCIC-MO-16 ruptures (Northeast torus area). RCIC high steam flow and leak detection isolations fail to isolate RCIC steam line. Attempts at manual isolation of RCIC steam line fail. ERP radiation levels increase. Release of fission products to atmosphere via Reactor Building, Standby Gas Treatment System, and out the Elevated Release Point (ERP). GENERAL EMERGENCY based on loss of three fission product barriers - EAL #2.4.1.(primary containment boundary loss #1 in conjunction with primary coolant boundary loss #2 and fuel clad loss #2 per Att. 3).	**TRG E5** RC06 50 RC07 ZDIRCICSWS2 Open ZDIRCICSWS1 Open RA:MUX16C069 On RA:MUX17C061 On [sets RCIC valve overload ann. 9-4-1-F-3 for MO-15 & 16] RM02L 100 (0:30) 8:00 RM02M 73.6 (3:00) 13:00 [ramps ERP Kaman to release value]
0335/0905	RCIC steam leak results in exceeding Maximum Safe Operating Values (temperature) in two or more areas. Operators emergency depressurize RPV. Dose assessment results will not require PAR in excess of those required by plant conditions.	

0355/0925	Isolation of RCIC steam line (RCIC-MO-16) . Release terminated.	**TRG E6** ZDIRCICSWS2 Close [gives closed indication on RCIC-MO-16] DMF RM02L DMF RM02M [deletes ERP kaman malf] IMF RM02L 2 10:00 IMF RM02M 0 2:00 [ramps ERP Kaman to post release value]
0410/0940	Recovery discussions begin	
0430/1000	Enter recovery phase	
0500/1030	Termination announcement	

Section 8

PLANT OPERATIONS MATERIAL

SECTION 8.1

Station Messages

MISSOURI SUPPLEMENTAL, OUT-OF-SEQUENCE START MESSAGE.

MESSAGE:

OUT-OF-SEQUENCE TO ALL OTHER MESSAGES. MESSAGE WILL CONSIST OF READING THE 'NORMAL' NOTIFICATION MESSAGE (EPIP 5.7.6, ATTACHMENT 1) TO THE STATE OF MISSOURI DUTY OFFICER FROM A CONTROL CELL. THE NOUE WILL BE ON EMERGENCY ACTION LEVEL 1.1.1:

> Uncontrolled, unmonitored radiological release of liquid to the environment which has the potential to exceed Radiological Environmental Technical Specification (RETS).

PURPOSE:

THE SOLE PURPOSE OF THIS MESSAGE IS TO ALLOW OFF-SITE AGENCIES (STATE) TO DEMONSTRATE REAL-TIME RESPONSE.

-FEMA REGION VII WILL ALLOW STATE(S) TO EXERCISE THE OPTION TO MOBILIZE AT A NOUE CLASSIFICATION.

LIMITATIONS:

IN ORDER TO MAINTAIN THE CONFIDENTIALITY OF THE START TIME AND DAY OF THE EXERCISE (0500 on 11-16-94) THIS MESSAGE WILL BE "ONE-WAY", THAT IS, NO CALL BACK VERIFICATIONS WILL BE MADE TO THE UTILITY.

THERE IS NO INTENDED RELATIONSHIP BETWEEN THE NOUE EVENTS OR ANY OTHER CLASSIFICATIONS INTENDED BY THE SCENARIO. UTILITY PERSONNEL WILL NOT EVEN BE AWARE OF A NOUE CLASSIFICATION. ANY REFERENCE TO A NOUE MADE OR HEARD AFTER UTILITY PLAY BEGINS WILL BE "PURGED" BY CONTROLLER INTERVENTION.

COOPER NUCLEAR STATION INCIDENT REPORT	ATTACHMENT 1

Notification Report # 1

[X] [A] Initial Report (Complete Sections 1 - 5) / [ ] [B] Follow-Up Report (Complete Sections 1 - 8)

1. Current Time: 0300 Current Date: 11 / 16 / 94
   Name: John Jones Call Back Number: NONE - DO NOT RETURN A CALL

2. [X] [A] NOUE [ ] [B] ALERT [ ] [C] SITE AREA [ ] [D] GENERAL EMERGENCY
   Declared At: (Time) 0259 (Date) 11/16/94 EAL No. 1.1.1

3. Wind Speed: 6 mph Wind Direction From: _____ Degrees
   Stability Class: A B C (D) E F G Precipitation: Yes / (No)

4. There [X] [A] Is [X] [B] Was [ ] [C] Will Be [ ] [D] No [X] [E] Airborne [X] [A] Liquid Release Of Radioactive Material

5. Recommended Protective Actions

	None	Evacuate Sectors	Shelter Sectors
0 - 2 Miles	✓		
2 - 5 Miles	✓		
5 - 10 Miles	✓		

General Emergency Automatic PAR - Evacuate 2 mi radius/5 mi downwind, Shelter remainder 10 mi EPZ.

6. Estimated Release Duration: _____ hrs Release: Start Time _____ Stop Time _____
   Release From: _____ Release Height: _____ ft (ERP - 300 ft; all others - 30 ft)

   Release Rates: Noble Gas: _____ Ci/sec
   Iodines: _____ Ci/sec
   Particulates: _____ Ci/sec

	Projected Dose Rate (rem/hr) TEDE	CDE	Projected Integrated Dose (rem) TEDE	CDE
Site Boundary				
2 Miles				
5 Miles				
10 Miles				

7. Prognosis Of Emergency Based On Plant Information Is:
   [ ] [A] Stable [ ] [B] Unstable [ ] [C] At Power [ ] [D] Shutdown

8. Remarks: UNMONITORED RELEASE OF RADIOACTIVE LIQUID TO THE MISSOURI RIVER.

Emergency Director: [signature]

COOPER NUCLEAR STATION
EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO:	SIM-1	ELAPSED TIME:	-0030
TO:	Control Room Simulator Staff	CLOCK TIME:	_____
FROM:	Lead Exercise Controller		
LOCATION:	Control Room Simulator		

THIS IS A DRILL

PLAYER MESSAGE:

Initial Plant Conditions

The date is November 16, 1994.

The plant is operating @ 95% power near end of core life having been at power for the previous 280 days. HPCI was placed out of service during the previous shift for auxiliary oil pump coupling replacement. HPCI is tagged out with its auxiliary oil pump coupling removed and is expected to be returned to service tomorrow. All other plant equipment is in a normal configuration. The operability requirements on RCIC, Core Spray and LPCI were satisfied during the previous shift. The ADS logic operability test is scheduled to be completed on this shift. The plant is 12 hours into a 7 day LCO.

The weather is cloudy and cold with a chance of flurries with winds out of the norteast at six mph.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO:	SIM-1	ELAPSED TIME:	-0030
TO:	Control Room Simulator Staff	CLOCK TIME:	_____
FROM:	Lead Exercise Controller		
LOCATION:	Control Room Simulator		

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Provide the initial conditions to the participating Plant Operator's assigned to the exercise. Ensure Players have name tags and a copy of the Exercise Phone List. Get all operations participants to sign the attendance sheet. Ensure that procedure 6.3.11.1 is signed by the real Shift Supervisor, and a Gai-tronics announcement is made when the Simulator is cross-tied to the Plant Gai-tronics system. Contact the Shift Supervisor at the real Control Room and tell him that the Exercise is starting and to initiate Message No. SIM-2 at time 1800.

All communications outside the Simulator must include the phrase "This is a drill"

ANTICIPATED PLAYER RESPONSE:

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO: SIM-2
TO: Control Room Staff
FROM: Lead Exercise Controller
LOCATION: Control Room Simulator

ELAPSED TIME: 0000
CLOCK TIME: _____

THIS IS A DRILL

PLAYER MESSAGE:

Make the following Gai-tronics announcement when directed by the Lead Exercise Controller:

"ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE 1994 EVALUATED EXERCISE IS COMMENCING. ALL ANNOUNCEMENTS PROCEEDED BY '*THIS IS A DRILL*' ARE FOR PLAYERS ONLY. IF AN ACTUAL EMERGENCY OCCURS, AN ANNOUNCEMENT WILL BE MADE THAT THE EXERCISE HAS BEEN SUSPENDED UNTIL FURTHER NOTICE. ALL PERSONNEL ARE REQUESTED TO MINIMIZE THE USE OF THE GAI-TRONICS UNTIL THE EXERCISE HAS BEEN COMPLETED."

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO: SIM-2 ELAPSED TIME: 0000
TO: Control Room Staff CLOCK TIME: _____
FROM: Lead Exercise Controller
LOCATION: Control Room Simulator

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Contact the Shift Supervisor in the real control room and inform him of the start of the 1994 Evaluated Exercise, then have the Control Room Simulator Shift Supervisor make the following Gai-tronics announcement.

ANTICIPATED PLAYER RESPONSE:

Start the exercise.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO: CHEM-3 ELAPSED TIME: 0040
TO: Chemistry Technician CLOCK TIME: _____
FROM: Controller
LOCATION: Chem lab

THIS IS A DRILL

PLAYER MESSAGE:

Refer to attached data sheet for coolant chemistry analysis results.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO: CHEM-3 ELAPSED TIME: 0040
TO: Chemistry Technician CLOCK TIME: _____
FROM: Controller
LOCATION: Chem lab

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Provide the area radiation and chemistry analysis results appropriate for sample time.

Prior to reactor scram: Data sheet 1

Post reactor scram: Data sheet 2

ANTICIPATED PLAYER RESPONSE:

Report results to Shift Supervisor.

Shift Supervisor declare Alert (EAL 2.2.1.A) if not already declared based on offgas radiation levels.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO:	SIM-4X	ELAPSED TIME:	0045
TO:	Simulator Shift Supervisor	CLOCK TIME:	_____
FROM:	Lead Exercise Controller		
LOCATION:	Control Room Simulator		

THIS IS A DRILL

PLAYER MESSAGE:

Declare an Alert per EAL 2.2.1.A (coolant activity > 300 µCi/gm eq. I-131)

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO:	SIM-4X	ELAPSED TIME:	0045
TO:	Simulator Shift Supervisor	CLOCK TIME:	_____
FROM:	Lead Exercise Controller		
LOCATION:	Control Room Simulator		

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Provide this message to the Shift Supervisor only if he has not declared an Alert by this time.

ANTICIPATED PLAYER RESPONSE:

Declare Alert (EAL 2.2.1.A) if not already declared based on either offgas radiation levels or coolant chemistry.

Implement Procedure 5.7.3 "Alert" and Procedure 5.7.6 "Notification". Activate TSC and OSC.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO:	TSC-5X	ELAPSED TIME:	0230
TO:	Emergency Director	CLOCK TIME:	_____
FROM:	TSC Lead Controller		
LOCATION:	TSC		

THIS IS A DRILL

PLAYER MESSAGE:

Declare a Site Area Emergency per EAL 2.3.3.A & B (coolant activity > 300 µCi/gm eq. I-131 & Drywell pressure > 2.0 psig)

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO: TSC-5X
TO: Emergency Director
FROM: TSC Lead Controller
LOCATION: TSC

ELAPSED TIME: 0230
CLOCK TIME: _____

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Provide this message to the Shift Supervisor only if he has not declared a Site Area Emergency by this time.

ANTICIPATED PLAYER RESPONSE:

Declare Site Area Emergency (EAL 2.3.3.A & B) if not already declared.

Implement Procedure 5.7.4 "Site Area Emergency" and Procedure 5.7.6 "Notification".

Activate EOF if not already activated.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO:	OSC-6	ELAPSED TIME:	0340
TO:	RCIC Inspection Team	CLOCK TIME:	_____
FROM:	OSC Team Controller		
LOCATION:	RCIC Quad Intermediate Level		

THIS IS A DRILL

PLAYER MESSAGE:

You hear rushing steam. Sounds like the steam leak may be in the torus area.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO:	OSC-6	ELAPSED TIME:	0340
TO:	RCIC Inspection Team	CLOCK TIME:	_____
FROM:	OSC Team Controller		
LOCATION:	RCIC Quad Intermediate Level		

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Provide this indication to the OSC team dispatched to investigate the RCIC stream line break. If the team enters the RCIC quad, provide indication of steam flow noise and radiation levels as specified in the inplant radiation data for this area.

ANTICIPATED PLAYER RESPONSE:

Report observations to OSC.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO:	EOF-7X	ELAPSED TIME:	0345
TO:	Emergency Director	CLOCK TIME:	_____
FROM:	EOF Lead Controller		
LOCATION:	EOF		

THIS IS A DRILL

PLAYER MESSAGE:

Declare a General Emergency per EAL 2.4.1.A & B & C (coolant activity > 300 µCi/gm eq. I-131 & Drywell pressure > 2.0 psig & Inability to isolate primary containment)

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO:	EOF-7X	ELAPSED TIME:	0345
TO:	RCIC Isolation Team	CLOCK TIME:	_____
FROM:	OSC Team Controller		
LOCATION:	Main Steam Tunnel		

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Provide this message to the Emergency Director only if he has not declared a General Emergency by this time.

ANTICIPATED PLAYER RESPONSE:

Declare General Emergency (EAL 2.4.1.A & B &C) if not already declared.

Implement Procedure 5.7.5 "General Emergency" and Procedure 5.7.6 "Notification".

Formulate and issue protective action recommendation per Procedure 5.7.20 "Protective Actions".

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO: OSC-8
TO: RCIC Isolation Team
FROM: OSC Team Controller
LOCATION: Main Steam Tunnel

ELAPSED TIME: 0355
CLOCK TIME: _____

THIS IS A DRILL

PLAYER MESSAGE:

After exerting heavy force on the manual hand wheel, RCIC-MO-16 breaks off its back seat and can be closed

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO:	OSC-8	ELAPSED TIME:	0355
TO:	RCIC Isolation Team	CLOCK TIME:	_____
FROM:	OSC Team Controller		
LOCATION:	Main Steam Tunnel		

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Provide this indication to the OSC team dispatched to the steam tunnel to attempt closing the 16 valve once action is taken to turn the manual hand wheel.

ANTICIPATED PLAYER RESPONSE:

Report to OSC that the valve has been shut.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO:	EOF-9X	ELAPSED TIME:	0410
TO:	Emergency Director	CLOCK TIME:	_____
FROM:	EOF Lead Controller		
LOCATION:	EOF		

THIS IS A DRILL

PLAYER MESSAGE:

For demonstration purposes of the Exercise, begin recovery discussions/ downgrading procedures at this time.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO: EOF-9X
TO: Emergency Director
FROM: EOF Lead Controller
LOCATION: EOF

ELAPSED TIME: 0410
CLOCK TIME: _____

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

If discussions related to recovery/ downgrading procedures have not been initiated by this time, issue this message.

ANTICIPATED PLAYER RESPONSE:

Players should be cognizant of the following conditions in order to consider down grading and entry into recovery phase:

* All plant radiation levels are stable or decreasing with time
* ERP vent radiation monitor readings are back on normal range
* Plant conditions no longer constitute a hazard to plant personnel
* Measures have been instituted to correct or compensate for malfunctioning equipment or barriers designed to contain radioactive materials.

COOPER NUCLEAR STATION
EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO: All-10
TO: Facility Managers
FROM: Lead Facility Controllers
LOCATION: All Facilities

ELAPSED TIME: 0500
CLOCK TIME: _____

THIS IS A DRILL

PLAYER MESSAGE:

Terminate exercise play and notify players located outside the facility to return.

Perform a short critique of the exercise. When complete, perform the following:

1. Gather all facility logs, forms and other documents generated during the exercise and leave them at your station.

2. Return all equipment to appropriate storage locations.

3. Place all chairs, tables and other furniture back in their pre-exercise locations.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO: All-10
TO: Facility Managers
FROM: Lead Facility Controllers
LOCATION: All Facilities

ELAPSED TIME: 0500
CLOCK TIME: _____

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Terminate exercise play and notify all station personnel through the use of Message All-11. Conduct facility critiques and ensure all player comments are documented.

ANTICIPATED PLAYER RESPONSE:

Terminate from exercise.

COOPER NUCLEAR STATION

EMERGENCY EXERCISE MESSAGE FORM

MESSAGE NO:	All-11	ELAPSED TIME:	0500
TO:	Control Room Staff	CLOCK TIME:	_____
FROM:	Lead Exercise Controller		
LOCATION:	Actual Control Room		

THIS IS A DRILL

PLAYER MESSAGE:

Make the following Gai-tronics announcement when directed by the lead exercise controller:

"ATTENTION ALL PERSONNEL

ATTENTION ALL PERSONNEL.

THE EXERCISE HAS BEEN TERMINATED

NO FURTHER EXERCISE ANNOUNCEMENTS WILL BE MADE.

ALL EXERCISE PARTICIPANTS SHOULD CONDUCT A CRITIQUE IN YOUR EMERGENCY FACILITY"

THE EXERCISE HAS BEEN TERMINATED"

COOPER NUCLEAR STATION

EMERGENCY EXERCISE CONTROLLER FORM

MESSAGE NO: All-11 ELAPSED TIME: 0500
TO: Control Room Staff CLOCK TIME: _____
FROM: Lead Exercise Controller
LOCATION: Actual Control Room

THIS IS A DRILL

CONTROLLER INSTRUCTIONS:

Contact the Shift Supervisor in the Control Room and inform him that the exercise is now terminated and to please make the Gai-tronics announcement.

ANTICIPATED PLAYER RESPONSE:

Make termination announcement.

SECTION 8.2

OPERATIONS DATA SUMMARY

SECTION 8.2

OPERATIONS DATA SUMMARY

Operations Data Summary

ID	Name	units	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30
B000	APRM A Flux Level	%	92	84.1	79.3	59.8	43.6	43.9	0	0	0
B012	Reactor Total Core Flow	Mlbm/hr	76.4	65.0	57.8	37.3	30.7	30.8	11.0	11.8	11.2
B013	Reactor Core Press-Diff	PSID	21.5	16.1	12.2	5.3	3.6	3.6	1.0	0.9	1.0
B025	Reactor Pressure	PSIG	1020	1000	977	958	947	948	901	808	858
F084	Drywell Pressure PT512A	PSIG	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
G038	Drywell Pressure	PSIG	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5
G039	Torus Pressure	PSIG	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
N003	RCIC Flow	GPM	0	0	0	0	0	0	398	330	331
N004	RHR Flow A	GPM	0	0	0	0	0	0	7590	7590	7590
N005	RHR Flow B	GPM	0	0	0	0	0	0	0	0	0
N009	Reactor Water Level A (FZ)	in.	186	182	174	145	145	144	159	155	151
N011	Reactor Water Level B	in.	185	36	37	35	37	35	52	41	40
N013	Reactor Pressure A	PSIG	1020	999	977	958	947	948	901	808	858
N015	Containment Pressure A (WR)	PSIG	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
N017	Containment Pressure A (NR)	PSIG	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
N019	Suppression Pool Level A	in.	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.9
N023	Suppression Pool WTR Temp TE-1A	F	80	80	80	80	80	80	80	83	85
N277	Drywell Zone 2B Area Temp	F	121	121	121	120	120	120	120	120	120
N333	Reactor Water Level A (WR)	in.	40	40	42	41	43	41	60	52	48
N781	GRP 2 ISOL CHAN A		1	1	1	1	1	1	0	0	0
N783	GRP 3 ISOL CHAN A		1	1	1	1	1	1	0	0	0
N787	GRP 5 ISOL CHAN A		1	1	1	1	1	1	1	1	1
N789	GRP 6 ISOL CHAN A		1	1	1	1	1	1	1	1	1
N791	GRP 7 ISOL CHAN A		1	1	1	1	1	1	1	1	1

ID	Name	units	01:15 06:45	01:30 07:00	01:45 07:15	01:50 07:20	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30
B000	APRM A Flux Level	%	0	0	0	0	0	0	0	0	0
B012	Reactor Total Core Flow	Mlbm/hr	10.2	14.2	13.5	13.5	11.2	11.1	12.5	11.1	11.1
B013	Reactor Core Press-Diff	PSID	1.0	0.8	0.8	0.8	0.6	0.6	0.7	0.6	0.6
B025	Reactor Pressure	PSIG	970	543	502	506	546	574	542	499	523
F084	Drywell Pressure PT512A	PSIG	0.5	0.7	0.9	0.8	1.7	2.9	3.7	4.0	4.2
G038	Drywell Pressure	PSIG	0.5	1.0	0.9	0.9	1.7	2.9	3.7	4.0	4.2
G039	Torus Pressure	PSIG	0.5	0.7	0.9	0.8	1.7	2.0	2.3	3.1	3.4
N003	RCIC Flow	GPM	331	415	0	239	0	0	0	314	243
N004	RHR Flow A	GPM	7590	7560	7520	7530	7520	0	0	0	0
N005	RHR Flow B	GPM	0	7890	7870	7870	7860	0	0	0	0
N009	Reactor Water Level A (FZ)	In.	150	171	187	183	161	159	167	148	146
N011	Reactor Water Level B	In.	45	41	59	55	58	58	60	35	36
N013	Reactor Pressure A	PSIG	970	543	502	506	546	575	542	499	523
N015	Containment Pressure A (WR)	PSIG	0.5	0.7	0.9	0.8	1.6	2.8	3.7	4.0	4.2
N017	Containment Pressure A (NR)	PSIG	0.5	0.7	0.9	0.8	1.7	2.9	3.7	4.0	4.2
N019	Suppression Pool Level A	In.	12.9	13	13.1	13.1	13.2	13.3	13.3	13.4	13.4
N023	Suppression Pool WTR Temp E-1A	F	86	91	93	94	95	95	95	98	100
N277	Drywell Zone 2B Area Temp	F	120	118	116	116	124	140	151	153	156
N333	Reactor Water Level A (WR)	In.	51	59	65	65	65	65	65	56	55
N781	GRP 2 ISOL CHAN A		0	0	0	0	0	0	0	0	0
N783	GRP 3 ISOL CHAN A		0	0	0	0	0	0	0	0	0
N787	GRP 5 ISOL CHAN A		1	1	1	1	1	1	1	1	1
N789	GRP 6 ISOL CHAN A		1	1	1	1	0	0	0	0	0
N791	GRP 7 ISOL CHAN A		1	1	1	1	1	1	1	1	1

Operations Data Summary

ID	Name	units	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	04:45 10:15	05:00 10:30
B000	APRM A Flux Level	%	0	0	0	0	0	0	0	0
B012	Reactor Total Core Flow	Mlbm/hr	11.1	11.1	12.9	14.8	16.7	18.6	20.6	22.5
B013	Reactor Core Press-Diff	PSID	0.6	0.6	0.8	1.0	1.3	1.5	1.8	2.0
B025	Reactor Pressure	PSIG	544	571	555	531	506	482	457	433
F084	Drywell Pressure PT512A	PSIG	4.4	4.6	5.2	5.8	6.4	6.9	7.5	8.1
G038	Drywell Pressure	PSIG	4.4	4.6	5.2	5.8	6.4	6.9	7.5	8.1
G039	Torus Pressure	PSIG	3.5	3.7	4.1	4.9	5.5	6.0	6.5	7.2
N003	RCIC Flow	GPM	245	375	134	41	0	0	0	0
N004	RHR Flow A	GPM	0	0	0	0	0	0	0	0
N005	RHR Flow B	GPM	0	0	0	0	0	0	0	0
N009	Reactor Water Level A (FZ)	in.	146	145	145	144	143	142	142	141
N011	Reactor Water Level B	in.	37	39	53	68	82	97	112	127
N013	Reactor Pressure A	PSIG	544	571	555	531	506	482	457	433
N015	Containment Pressure A (WR)	PSIG	4.4	4.6	5.2	5.8	6.5	7.1	7.7	8.3
N017	Containment Pressure A (NR)	PSIG	4.4	4.6	5.2	5.8	6.4	6.9	7.5	8.1
N019	Suppression Pool Level A	in.	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
N023	Suppression Pool WTR Temp TE-1A	°F	100	100	102	104	106	108	110	113
N277	Drywell Zone 2B Area Temp	°F	158	161	169	177	185	193	201	209
N333	Reactor Water Level A (WR)	in.	56	57	69	82	95	108	121	134
N781	GRP 2 ISOL CHAN A		0	0	0	0	0	0	0	0
N783	GRP 3 ISOL CHAN A		0	0	0	0	0	0	0	0
N787	GRP 5 ISOL CHAN A		1	1	1	1	1	1	1	1
N789	GRP 6 ISOL CHAN A		0	0	0	0	0	0	0	0
N791	GRP 7 ISOL CHAN A		1	1	1	1	1	1	1	1

Section 9

RADIOLOGICAL DATA

Section 9: RADIOLOGICAL DATA

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Section 9.1

Radiological Assumptions

Assumptions

General

1. The radiological effluent and process monitor data in this scenario is modeled to be consistent with the postulated operational sequence of events. Protective action recommendations are based on plant conditions which drive the classification of General Emergency. Initial Area Radiation Monitor data was developed using the CNS simulator. As such, key in-plant radiological conditions have been designed to allow participants to perform actions consistent with the scenario and may deviate from the dynamic values generated by the simulator during the evaluated exercise.

2. The release path for this scenario is through the Elevated Release Point originating from inside the Reactor Building from a ruptured RCIC line in the Torus area. Main steam (reactor coolant) noble gas and halogen relative abundance will be consistent with a source activity of approximately 20% cladding failure as calculated using Chemistry Procedure 8.4.1.1, "Estimating Core Damage" in order to provide chemistry results which are consistent with the classification. Radioactive material released to the environment will consist of noble gases and halogens. Isotopic fractions are maintained consistent with a cladding failure. Process reduction factors and hold up times are consistent with the methodology of NUREG-1228 utilized within the CNS-DOSE code, therefore appropriate credit is taken towards removal of halogen sources by these means. Since the release bypasses the drywell and torus, by a direct release of reactor coolant into the reactor building, no filtration or reduction credit is taken for primary containment.

3. Onsite and field data will be provided to plant teams only when they perform appropriate tasks and request specific information.

Dose Assessment and Environmental Data

1. Stack release concentrations are based upon a ventilation flow rate of 6,400 CFM. This is consistent with the isolation of the Reactor Building ventilation, initiation of both trains of Stand-By Gas Treatment at 1,350 CFM each, and continued use of Radwaste Building, Off-Gas Building, and Turbine Building (high) fans.

2. The dispersion factors used in dose assessment calculations for the derivation of protective action recommendations and the creation of offsite field data are those contained in the CNS-DOSE computerized dose assessment program, for EPA TEDE, external, and thyroid dose rates.

3. Air sample results are calculated using EPIP 5.7.18, "Offsite and Site Boundary Monitoring," 5.7.19, "Onsite Radiological Surveys," and Health Physics Procedure 9.6.4, "Eberline SAM-2." Airborne concentrations are calculated using an assumed air sample volume of 15 ft^3 and a background level of 40 CPM. E-140-N efficiencies are assumed to be 10%.

4. Survey results within the plume or other high airborne areas are similar at waist and ground level readings. It is assumed deposition values are insignificant compared to immersion levels while surveys are performed within the plume.

5. Open window reading are assumed to be approximately 2.3 times greater than closed window readings while immersed in the plume for this isotopic mix.

6. E-140-N area reading conversion: 2000 CPM = 1 mR/hr Open Window.

Count Room Data

1. The fractions for the various radionuclides are generated by back calculation from the values utilized by the simulator to drive the events. Core damage assessment performed using Chemistry Procedure 8.4.1.1, "Estimating Core Damage", assumes the reactor has been operating at an average power of 100% for 280 days.

2. Dose rates from post-accident samples were calculated using the Radiological Health Handbook rule of thumb:

$$\text{R/hr at 1 foot } 5.64CE$$

where:

C = number of curies
E = energy in MeV

E is conservatively assumed to be 0.5 MeV for iodine and 0.7 MeV for noble gases.

In-Plant Radiological Data

1. The fractions for the various radionuclides are determined as in item 1 above.

2. Immersion dose rates were developed by calculating a center point dose in a semi-infinite cloud of noble gases, utilizing the formula:

$$D = \sum X_i * DF_i$$

where:

D = gamma air dose
X_i = concentration of nuclide i
DF_i = dose factor for exposure to a semi-infinite cloud of nuclide i.

Dose factors were obtained from Regulatory Guide 1.109, Table B-1, pp. 1.109-21.

3. Dose rates for in-plant areas are calculated using point, line, and plane source equations from simulator generated ARM response data. Where appropriate, dose rates from affected plant systems are also calculated using point, line, and plane source equations.

4. Air sample results are calculated in the same manner as the field team air samples described in the dose assessment section above.

Release Rate Curves

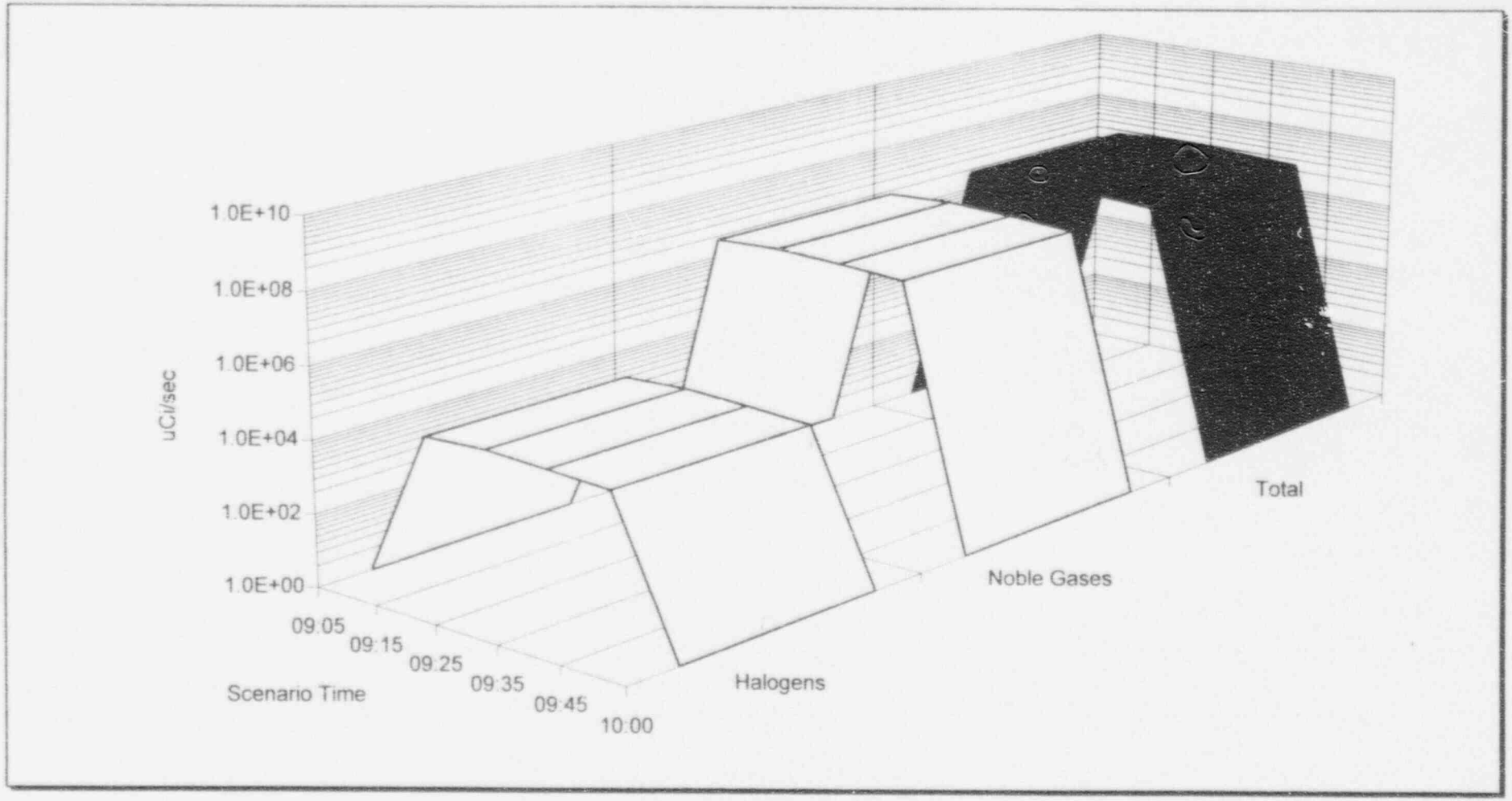


Table 9.1-1

Scenario / *Elapsed*	**09:05** / **03:35**	**09:15** / **03:45**	**09:25** / **03:55**	**09:35** / **04:05**	**09:45** / **04:15**	**10:00** / **04:30**
Noble Gases	1.0E+00	2.0E+07	2.5E+07	2.2E+07	1.8E+07	1.0E+00
Halogens	1.0E+00	1.3E+04	1.6E+04	1.4E+04	1.2E+04	1.0E+00
Total	1.0E+00	2.0E+07	2.5E+07	2.2E+07	1.8E+07	1.0E+00

Section 9.2

Messages and Trend Data

Section 9.3

Count Room Data

MIDWESTERN ZONE FORECASTS
NATIONAL WEATHER SERVICE, LINCOLN NE.

A changing weather pattern will exist throughout the area. A weak high pressure zone will move through the region towards the east causing winds to shift to a more westerly direction. Clouds will develop during the afternoon yielding a slight chance of scattered flurries as the unorganized front moves through. Skies will be cleared by tomorrow morning with an area of high pressure dominating the region for the next several days.

MISSOURI RIVER AREA
NEBRASKA CITY AND SOUTHEASTERN NE.

This morning will be partly cloudy with temperatures 30° to 40°. Winds steady from the NE 3 to 8 MPH. 20% chance of precipitation.

This afternoon will be partly cloudy with temperatures 40° to 50°. Winds picking up from the NE 5 to 10 MPH with gusts of up to 15 MPH. 30% chance of precipitation.

This evening will be cloudy with temperatures 35° to 45°. Winds from the NE 5 to 10 MPH with gusts of up to 15 MPH. 40% chance of precipitation.

Tonight, cloudy and breezy temperatures 25° to 35°. Winds from the NE 5 to 10 MPH with gusts of up to 15 MPH. 30% chance of precipitation.

Tomorrow morning will be sunny with temperatures ranging 25° to 35°F. Winds from the east 10 to 15 MPH with gusts of up to 20 MPH. 20% chance of precipitation.

Tomorrow afternoon will have increasing clouds with temperatures 35° to 45°. Winds from the east 15 to 20 MPH with gusts of up to 25 MPH. 30% chance of precipitation.

Tomorrow Evening will have decreasing cloudiness with high temperatures 45° to 55°. Winds steady from the ESE 8 to 13 MPH. 20% chance of precipitation.

Long range forecast; clear skies with high temperatures 45° to 55° and low temperatures 25° to 35°. Winds will be steady from the SE 5 to 10 MPH.

Meteorological Vent and Flow Data

Elapsed	Scenario	Wind Direction (°From) 100m	60m	10m	Wind Speed (MPH) 100m	60m	10m	Stability Class	°F
00:00	05:30	058	057	055	4.8	4.7	4.5	C	23
00:15	05:45	057	056	054	5.0	4.9	4.7	C	23
00:30	06:00	058	057	055	5.4	5.3	5.1	C	24
00:45	06:15	057	056	054	5.2	5.1	4.9	C	24
01:00	06:30	057	056	054	5.3	5.2	5.0	C	24
01:15	06:45	057	056	054	5.5	5.4	5.2	C	24
01:30	07:00	058	057	055	5.6	5.5	5.3	C	24
01:45	07:15	058	057	055	5.8	5.7	5.5	C	25
02:00	07:30	057	056	054	5.7	5.6	5.4	C	25
02:15	07:45	057	056	054	5.5	5.4	5.2	C	26
02:30	08:00	057	056	054	5.8	5.7	5.5	C	26
02:45	08:15	057	056	054	6.0	5.9	5.7	C	27
03:00	08:30	057	056	054	6.1	6.0	5.8	C	28
03:15	08:45	057	056	054	6.0	5.9	5.7	C	29
03:30	09:00	056	055	053	6.2	6.1	5.9	C	29
03:45	09:15	056	055	053	6.1	6.0	5.8	C	30
04:00	09:30	056	055	053	6.0	5.9	5.7	C	31
04:15	09:45	057	056	054	7.3	7.2	7.0	C	32
04:30	10:00	057	056	054	8.0	7.9	7.7	C	33
04:45	10:15	057	056	054	9.0	8.9	8.7	C	34
05:00	10:30	058	057	055	10.0	9.9	9.7	C	35

Table 9.2-1

Elapsed	SBGT CFM	RBV CFM	ERP CFM	TB Vent CFM
00:00	ISOLATED	70,000	3,000	152,000
00:15	ISOLATED	70,000	3,000	152,000
00:30	2,700	ISOLATED	4,400	152,000
00:45	2,700	ISOLATED	4,400	152,000
01:00	2,700	ISOLATED	4,400	152,000
01:15	2,700	ISOLATED	4,400	152,000
01:30	2,700	ISOLATED	4,400	152,000
01:45	2,700	ISOLATED	4,400	152,000
02:00	2,700	ISOLATED	4,400	152,000
02:15	2,700	ISOLATED	4,400	152,000
02:30	2,700	ISOLATED	4,400	152,000
02:45	2,700	ISOLATED	4,400	152,000
03:00	2,700	ISOLATED	4,400	152,000
03:15	2,700	ISOLATED	4,400	152,000
03:30	2,700	ISOLATED	4,400	152,000
03:45	2,700	ISOLATED	4,400	152,000
04:00	2,700	ISOLATED	4,400	152,000
04:15	2,700	ISOLATED	4,400	152,000
04:30	2,700	ISOLATED	4,400	152,000
04:45	2,700	ISOLATED	4,400	152,000
05:00	2,700	ISOLATED	4,400	152,000

Table 9.2-2

Monitor Trend Data

Table 9.2-3

ID	Name	units	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30
N091	ARM-1 Fuel Pool Area (Refueling) RMA	mR/hr	210	210	210	210	210	210	210	210	210
N092	ARM-2 Fuel Pool Area	mR/hr	1.93	1.97	2.12	2.27	2.27	2.27	3.77	3.77	3.77
N093	ARM-3 New Fuel Area	mR/hr	0.04	0.05	0.08	0.11	0.11	0.11	0.41	0.41	0.41
N094	ARM-4 RWCU Precoat Area	mR/hr	7.3	11.5	18.5	26.3	26.0	26.0	101.0	101.0	101.0
N095	ARM-5 RWCU Sludge/Precoat Area	mR/hr	1.0	1.2	1.9	2.7	2.7	2.7	10.2	10.2	10.2
N096	ARM-6 Tip System Index Area	mR/hr	26.2	28.0	35.4	43.0	43.0	43.0	118.0	118.0	118.0
N097	ARM-7 Tip System Drive Area	mR/hr	1.86	1.86	1.87	1.89	1.89	1.89	2.04	2.04	2.04
N098	ARM-8 CRD/HCU Equip Area-South	mR/hr	0.73	0.90	1.64	2.40	2.40	2.40	9.90	9.90	9.90
N099	ARM-9 CRD/HCU Equip Area-North	mR/hr	4.74	5.08	6.56	8.09	8.09	8.09	23.10	23.10	23.10
N100	ARM-10 HPCI Pump Room	mR/hr	0.92	0.71	0.71	0.86	0.91	0.86	2.36	2.36	2.36
N101	ARM-11 RHR Pump Room-SW	mR/hr	4.10	4.62	6.84	9.12	9.12	9.12	31.60	31.60	31.60
N102	ARM-12 RHR Pump Room-NW	mR/hr	16.80	17.70	21.40	25.20	25.20	25.20	62.70	62.70	62.70
N103	ARM-13 RCIC/CS Pump Room-NE	mR/hr	2.62	2.65	2.73	2.81	2.80	2.80	56.60	51.00	53.90
N104	ARM-14 CS Pump Room-SE	mR/hr	2.55	2.56	2.64	2.71	2.71	2.71	4.74	3.59	3.57
N105	ARM-15 Turb Front Standard	mR/hr	118.0	123.0	306.0	493.0	499.0	499.0	22.8	19.9	15.2
N106	ARM-16 Turb Mez Control Corr	mR/hr	0.09	0.12	0.11	OSH	OSH	OSH	OSH	OSH	OSH
N107	ARM-17 Turb Bsmt Control Corr	mR/hr	0.06	0.06	0.06	33.04	38.08	59.36	71.96	63.28	55.16
N108	ARM-18 Reactor Feed Pump Area	mR/hr	9.36	10.10	215.00	5460.00	6270.00	9780.00	7590.00	6630.00	5790.00
N109	ARM-19 Condensate Pump Area	mR/hr	0.10	0.11	0.10	0.09	0.08	0.08	0.06	0.06	0.06
N111	ARM-21 Grade Level Control Corridor	mR/hr	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.23
N079	ERP Normal Range	µCi/sec	1	1	2	2	2	2	2	1	1
N078	ERP High Range	µCi/sec	DS	DS	DS	DS	DS	DS	DS	DS	DS
N303	MS Line A Radiation Monitor	mR/hr	265	419	620	749	712	713	336	336	336
N082	SJAE A Radiation Monitor	mR/hr	4	4	1500	11800	13600	21200	25700	22600	19700
N083	SJAE B Radiation Monitor	mR/hr	6	6	2310	18200	20900	32600	25300	22100	19300
N064	HR Drywell Ladder ARM RMA	R/hr	5	11	19	29	29	29	1920	2000	1976

Monitor Trend Data

Table 9.2-3

ID	Name	units	01:15 06:45	01:30 07:00	01:45 07:15	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45
N091	ARM-1 Fuel Pool Area (Refueling) RMA	mR/hr	210	210	210	210	210	210	210	210	210
N092	ARM-2 Fuel Pool Area	mR/hr	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77
N093	ARM-3 New Fuel Area	mR/hr	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
N094	ARM-4 RWCU Precoat Area	mR/hr	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0
N095	ARM-5 RWCU Sludge/Precoat Area	mR/hr	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
N096	ARM-6 Tip System Index Area	mR/hr	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0
N097	ARM-7 Tip System Drive Area	mR/hr	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04
N098	ARM-8 CRD/HCU Equip Area-South	mR/hr	9.90	9.90	9.90	9.90	9.90	9.90	9.90	9.90	9.90
N099	ARM-9 CRD/HCU Equip Area-North	mR/hr	23.10	23.10	23.10	23.10	23.10	23.10	23.10	23.10	23.10
N100	ARM-10 HPCI Pump Room	mR/hr	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36
N101	ARM-11 RHR Pump Room-SW	mR/hr	31.60	31.60	31.60	31.60	31.60	31.60	31.60	31.60	31.60
N102	ARM-12 RHR Pump Room-NW	mR/hr	62.70	62.70	62.70	62.70	62.70	62.70	62.70	62.70	62.70
N103	ARM-13 RCIC/CS Pump Room-NE	mR/hr	60.30	36.00	25.20	29.80	26.60	20.70	32.80	34.10	35.30
N104	ARM-14 CS Pump Room-SE	mR/hr	3.57	3.57	3.57	3.57	3.57	3.57	3.57	3.57	3.57
N105	ARM-15 Turb Front Standard	mR/hr	12.2	10.2	8.6	7.8	7.5	7.2	6.9	6.7	6.5
N106	ARM-16 Turb Mez Control Corr	mR/hr	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH
N107	ARM-17 Turb Bsmt Control Corr	mR/hr	48.44	42.28	35.84	31.36	29.68	27.52	26.01	24.56	23.21
N108	ARM-18 Reactor Feed Pump Area	mR/hr	5040.00	4380.00	3690.00	3240.00	3060.00	2817.00	2655.00	2505.00	2361.00
N109	ARM-19 Condensate Pump Area	mR/hr	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
N111	ARM-21 Grade Level Control Corridor	mR/hr	0.23	0.22	0.22	0.21	0.21	0.21	0.21	0.20	0.20
N079	ERP Normal Range	µCi/sec	1	1	2	2	2	2	2	1	1
N078	ERP High Range	µCi/sec	DS	DS	DS	DS	DS	DS	DS	DS	DS
N303	MS Line A Radiation Monitor	mR/hr	336	336	336	336	336	336	336	336	336
N082	SJAE A Radiation Monitor	mR/hr	17300	15100	12800	11200	10600	9830	9290	8770	8290
N083	SJAE B Radiation Monitor	mR/hr	16800	14600	12300	10800	10200	9390	8850	8350	7870
N064	HR Drywell Ladder ARM RMA	R/hr	1953	1929	1906	1882	1859	1835	1812	1788	1765

Monitor Trend Data

Table 9.2-3

ID	Name	units	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
N091	ARM-1 Fuel Pool Area (Refueling) RMA	mR/hr	210	210	210	210	210	210
N092	ARM-2 Fuel Pool Area	mR/hr	3.77	3.77	3.77	3.77	3.77	3.77
N093	ARM-3 New Fuel Area	mR/hr	0.41	0.41	0.41	0.41	0.41	0.41
N094	ARM-4 RWCU Precoat Area	mR/hr	101.0	101.0	101.0	101.0	101.0	101.0
N095	ARM-5 RWCU Sludge/Precoat Area	mR/hr	10.2	10.2	10.2	10.2	10.2	10.2
N096	ARM-6 Tip System Index Area	mR/hr	118.0	118.0	118.0	118.0	118.0	118.0
N097	ARM-7 Tip System Drive Area	mR/hr	2.04	2.04	2.04	2.04	2.04	2.04
N098	ARM-8 CRD/HCU Equip Area-South	mR/hr	9.90	9.90	9.90	9.90	9.90	9.90
N099	ARM-9 CRD/HCU Equip Area-North	mR/hr	23.10	23.10	23.10	23.10	23.10	23.10
N100	ARM-10 HPCI Pump Room	mR/hr	2.36	2.36	2.36	2.36	2.36	2.36
N101	ARM-11 RHR Pump Room-SW	mR/hr	31.60	31.60	31.60	31.60	31.60	31.60
N102	ARM-12 RHR Pump Room-NW	mR/hr	62.70	62.70	62.70	62.70	62.70	62.70
N103	ARM-13 RCIC/CS Pump Room-NE	mR/hr	36.70	37.45	37.49	37.54	37.58	37.66
N104	ARM-14 CS Pump Room-SE	mR/hr	3.57	3.57	3.57	3.57	3.57	3.57
N105	ARM-15 Turb Front Standard	mR/hr	6.3	5.6	4.9	4.2	3.5	2.1
N106	ARM-16 Turb Mez Control Corr	mR/hr	OSH	OSH	OSH	OSH	OSH	OSH
N107	ARM-17 Turb Bsmt Control Corr	mR/hr	21.50	15.93	10.42	4.92	4.62	3.92
N108	ARM-18 Reactor Feed Pump Area	mR/hr	2184.00	1599.91	1022.63	445.34	420.00	360.00
N109	ARM-19 Condensate Pump Area	mR/hr	0.06	0.06	0.06	0.06	0.06	0.06
N111	ARM-21 Grade Level Control Corridor	mR/hr	0.20	0.20	0.20	0.20	0.20	0.20
N079	ERP Normal Range	µCi/sec	OSH	OSH	OSH	100	48	15
N078	ERP High Range	µCi/sec	20000000	23000000	18000000	DS	DS	DS
N303	MS Line A Radiation Monitor	mR/hr	336	336	336	336	336	336
N082	SJAE A Radiation Monitor	mR/hr	7680	5690	3723	1756	1650	1400
N083	SJAE B Radiation Monitor	mR/hr	7280	5333	3409	1484	1400	1200
N064	HR Drywell Ladder ARM RMA	R/hr	1741	1718	1694	1671	1647	1600

Reactor Coolant Activity

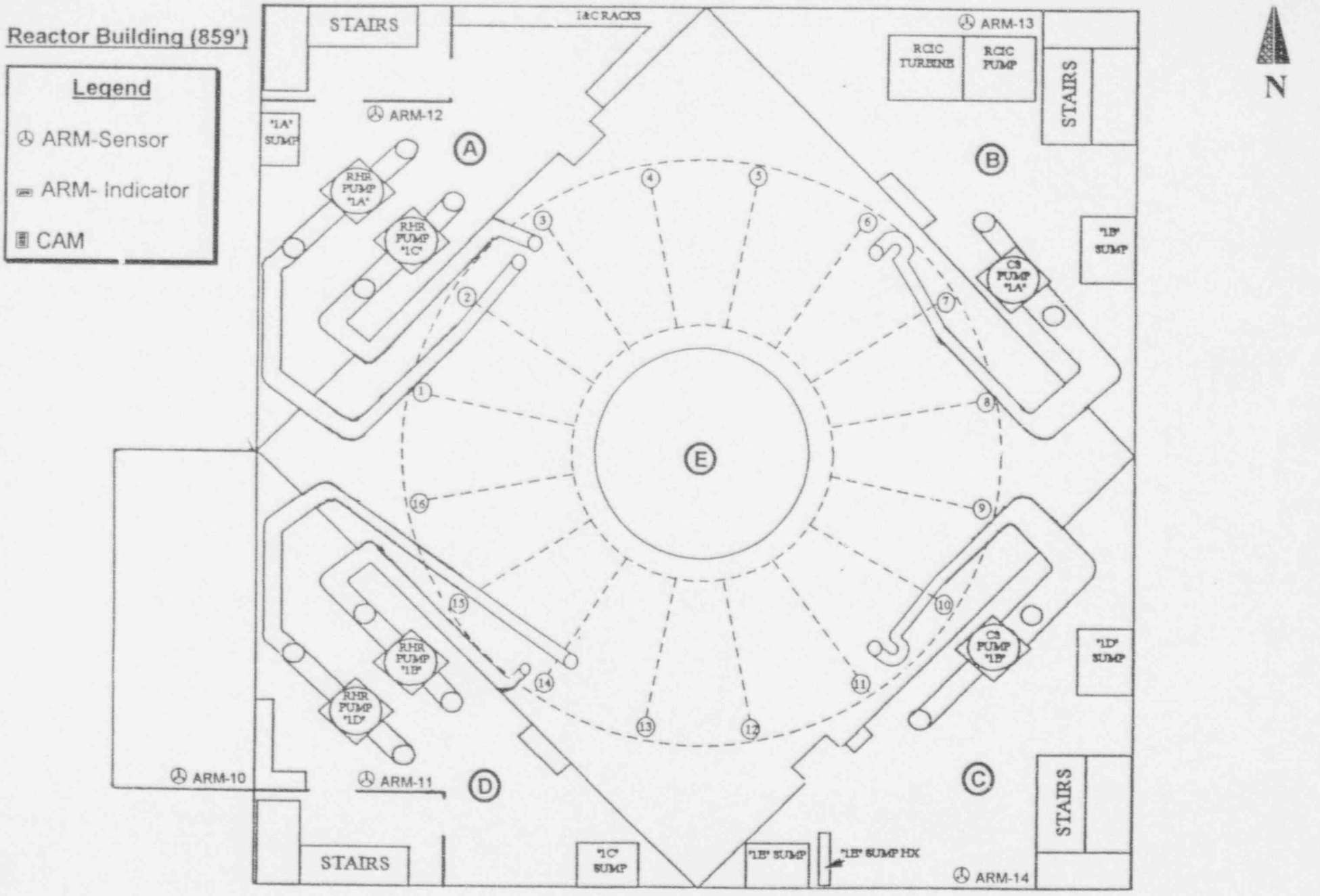
Table 9.4-1

Elapsed	00:10	01:00	02:00	03:00	04:00	05:00
Scenario	05:40	06:30	07:30	08:30	09:30	10:30
Noble Gasses (µCi/cc)						
Xe-133	1.92E+02	1.92E+02	1.91E+02	1.89E+02	1.88E+02	1.87E+02
Xe-135	1.16E+00	1.11E+00	1.03E+00	9.53E-01	8.83E-01	8.18E-01
Kr-85m	4.42E+00	4.04E+00	3.46E+00	2.96E+00	2.54E+00	2.17E+00
Kr-85	7.39E-0	7.39E-02	7.39E-02	7.39E-02	7.39E-02	7.39E-02
Kr-87	4.48E+00	3.26E+00	1.89E+00	1.09E+00	6.33E-01	3.67E-01
Kr-88	9.52E+00	8.26E+00	6.47E+00	5.07E+00	3.97E+00	3.11E+00
Total	2.12E+02	2.08E+02	2.03E+02	2.00E+02	1.97E+02	1.94E+02
Iodines (µCi/cc)						
I-131	3.00E+02	2.99E+02	2.98E+02	2.97E+02	2.96E+02	2.95E+02
I-132	3.82E+01	3.20E+01	2.36E+01	1.74E+01	1.29E+01	9.48E+00
I-133	2.06E+02	2.02E+02	1.95E+02	1.89E+02	1.83E+02	1.77E+02
I-134	4.66E+01	2.94E+01	1.33E+01	6.02E+00	2.73E+00	1.24E+00
I-135	1.10E+02	1.03E+02	9.28E+01	8.35E+01	7.51E+01	6.75E+01
DEI	3.67E+02	3.64E+02	3.60E+02	3.56E+02	3.53E+02	3.49E+02
Particulates (µCi/cc)						
Cs-134	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01
Cs-137	7.72E+00	7.72E+00	7.72E+00	7.72E+00	7.72E+00	7.72E+00
Cs-138	4.32E+02	3.16E+02	1.85E+02	1.08E+02	6.31E+01	3.69E+01
Te-132	6.72E-01	6.69E-01	6.63E-01	6.57E-01	6.51E-01	6.45E-01
Sr-91	5.60E-03	5.37E-03	4.99E-03	4.64E-03	4.31E-03	4.01E-03
Sr-92	5.98E-03	5.15E-03	3.99E-03	3.09E-03	2.39E-03	1.85E-03
Ba-140	8.44E-03	8.43E-03	8.41E-03	8.39E-03	8.37E-03	8.35E-03
Total	4.57E+02	3.41E+02	2.10E+02	1.33E+02	8.86E+01	6.23E+01
Sample Exposure Rates (mR/hr)						
10 ml Sample Volume						
On Contact						
No Shield	2946.67	2916.77	2872.81	2835.30	2802.22	2772.33
2" Pb Shield	294.67	291.68	287.28	283.53	280.22	277.23
4" Pb Shield	29.47	29.17	28.73	28.35	28.02	27.72
1 Foot						
No Shield	20.46	20.26	19.95	19.69	19.46	19.25
2" Pb Shield	2.05	2.03	2.00	1.97	1.95	1.93
4" Pb Shield	0.20	0.20	0.20	0.20	0.19	0.19
0.1 ml Sample Volume						
On Contact						
No Shield	29.47	29.17	28.73	28.35	28.02	27.72
2" Pb Shield	2.95	2.92	2.87	2.84	2.80	2.77
4" Pb Shield	0.29	0.29	0.29	0.28	0.28	0.28
1 Foot						
No Shield	0.20	0.20	0.20	0.20	0.19	0.19
2" Pb Shield	0.02	0.02	0.02	0.02	0.02	0.02
4" Pb Shield	0.00	0.00	0.00	0.00	0.00	0.00

Section 9.4

In-Plant Radiation Data

Reactor Building (859')



In-Plant Radiation Data

Reactor Building (859')

Table 9.4-1

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	18.48	19.47	23.54	27.72	27.72	27.72	68.97	68.97	68.97	68.97	68.97	68.97
B	2.96	2.99	3.08	3.18	3.16	3.16	63.96	57.63	60.91	68.14	40.68	28.48
C	2.75	2.76	2.85	2.93	2.93	2.93	5.12	3.88	3.86	3.86	3.86	3.86
D	4.72	5.31	7.87	10.49	10.49	10.49	36.34	36.34	36.34	36.34	36.34	36.34
E	15.71	16.55	20.01	23.56	23.56	23.56	58.62	85.00	112.00	139.00	166.00	193.00
ARMs												
11	4.1	4.6	6.8	9.1	9.1	9.1	31.6	31.6	31.6	31.6	31.6	31.6
12	16.8	17.7	21.4	25.2	25.2	25.2	62.7	62.7	62.7	62.7	62.7	62.7
13	2.6	2.7	2.7	2.8	2.8	2.8	56.6	51.0	53.9	60.3	36.0	25.2
14	2.6	2.6	2.6	2.7	2.7	2.7	4.7	3.6	3.6	3.6	3.6	3.6
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
E	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
E	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW

In-Plant Radiation Data

Reactor Building (859')

Table 9.4-1

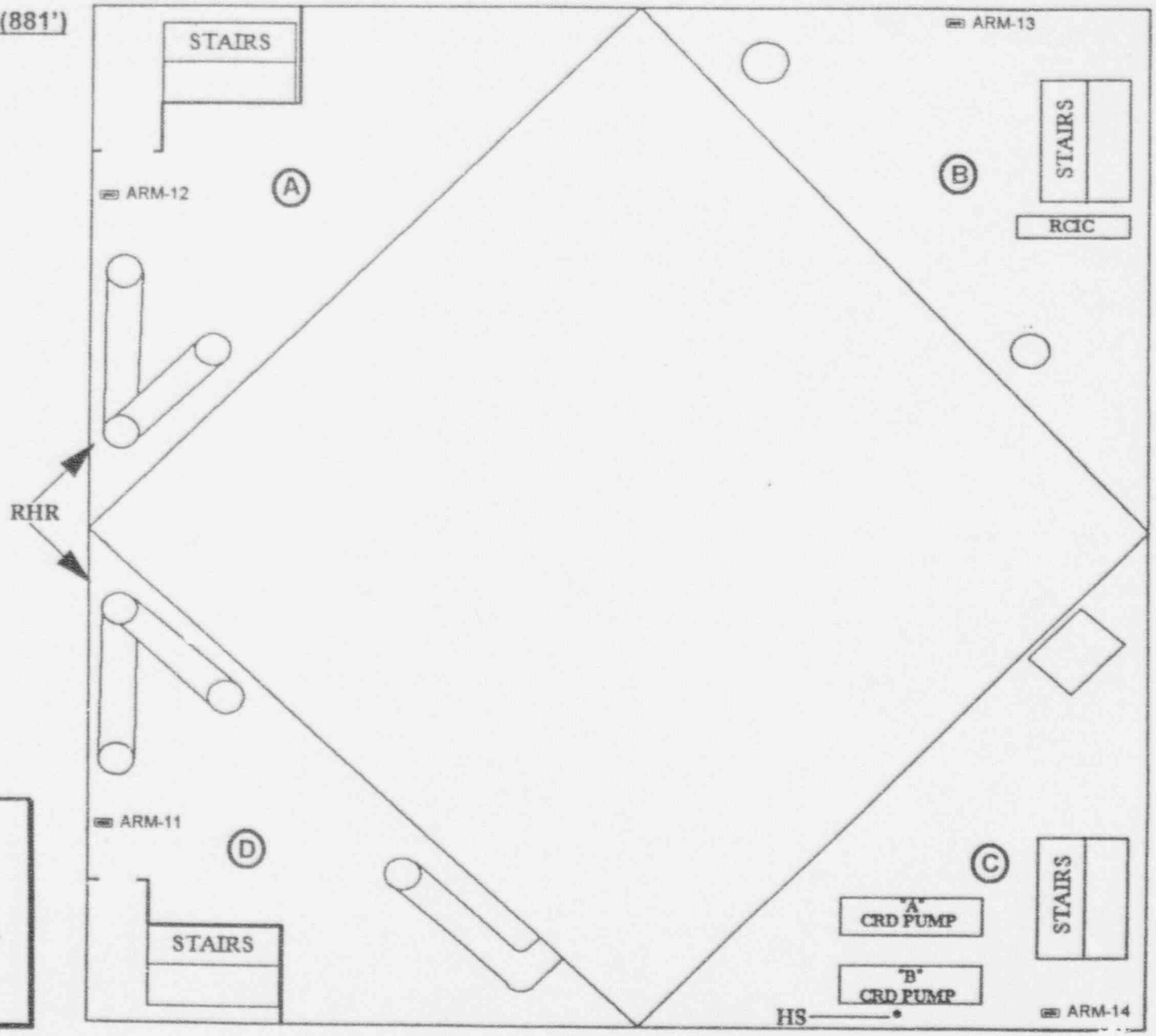
Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	68.97	68.97	68.97	68.97	68.97	68.97	68.97	68.97	68.97	68.97	68.97	68.97
B	33.67	30.06	23.39	37.06	38.53	39.89	41.47	42.32	42.37	42.41	42.46	42.56
C	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
D	36.34	36.34	36.34	36.34	36.34	36.34	36.34	36.34	36.34	36.34	36.34	36.34
E	220.00	247.00	274.00	301.00	328.00	350.00	2000.00	2000.00	2000.00	890.00	420.00	350.00
ARMs												
11	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6
12	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
13	29.8	26.6	20.7	32.8	34.1	35.3	36.7	37.4	37.5	37.5	37.6	37.7
14	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
E	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	5.00E+05	3.80E+06	2.10E+07	2.30E+07	2.00E+07	8.80E+06
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
E	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	9.60E+05	9.30E+05	8.90E+05	4.80E+03	2.20E+02	6.00E+01

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Reactor Building (881')



In-Plant Radiation Data

Reactor Building (881')

Table 9.4-2

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	10.90	11.49	13.89	16.35	16.35	16.35	40.69	40.69	40.69	40.69	40.69	40.69
B	1.51	1.53	1.57	1.62	1.61	1.61	32.62	29.39	31.06	34.75	20.75	14.52
C	1.46	1.47	1.51	1.55	1.55	1.55	2.71	2.05	2.04	2.04	2.04	2.04
D	2.59	2.92	4.33	5.77	5.77	5.77	19.99	19.99	19.99	19.99	19.99	19.99
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:
Blank or zero value cells reported "As Read". In high airborne areas OW=CW x 2.3, otherwise OW=CW.

In-Plant Radiation Data

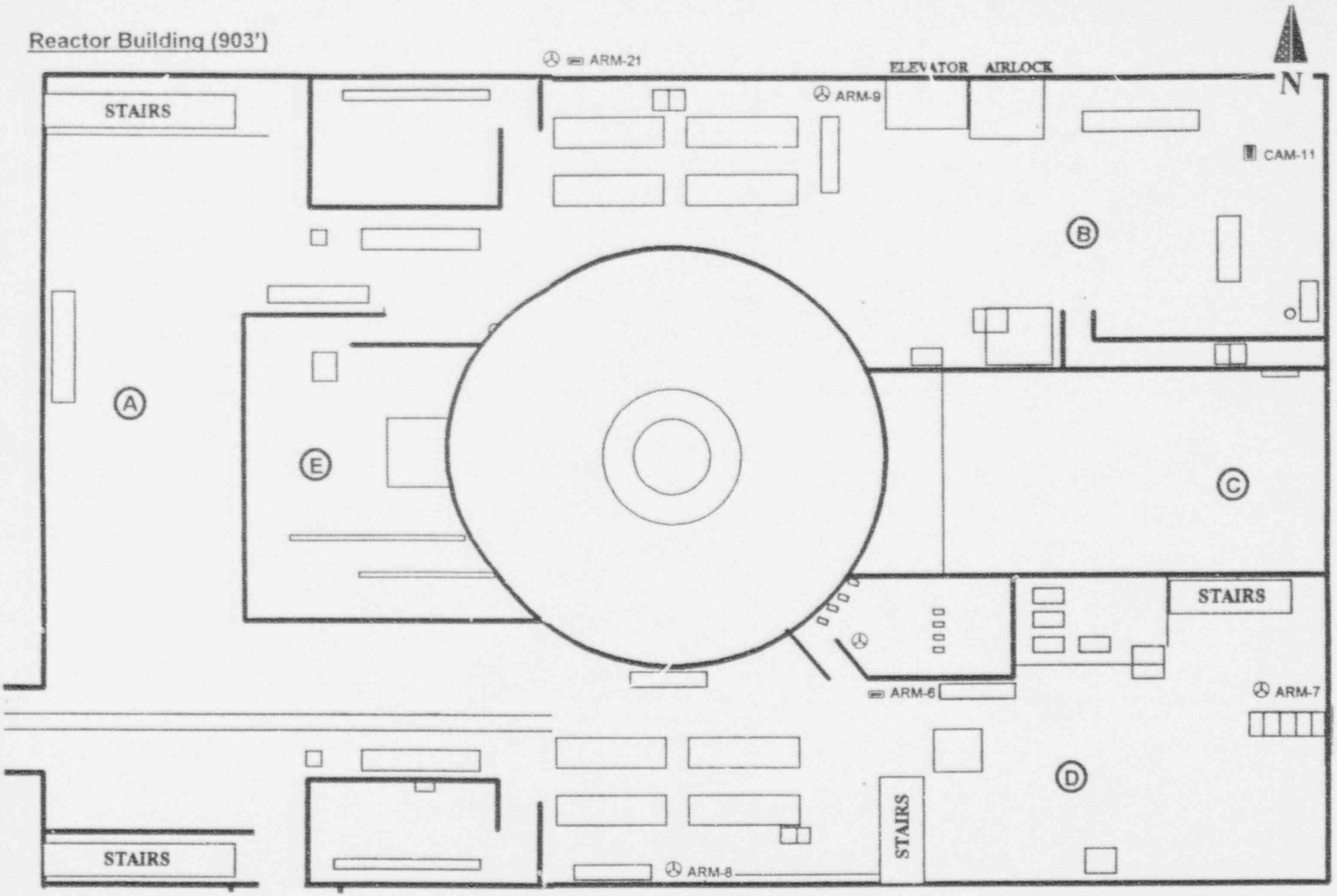
Reactor Building (881')

Table 9.4-2

Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69	40.69
B	17.17	15.33	11.93	18.90	19.65	20.34	21.15	21.58	21.61	21.63	21.66	21.71
C	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04
D	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:
Blank or zero value cells reported "As Read". In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Reactor Building (903')



In-Plant Radiation Data

Reactor Building (903')

Table 9.4-3

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.31	0.30	0.30	0.29	0.29
B	5.12	5.49	7.08	14.98	14.24	14.26	6.72	6.72	6.72	6.72	6.72	6.72
C	286.20	452.52	669.60	808.92	768.96	770.04	362.88	362.88	362.88	362.88	362.88	362.88
D	2.01	2.01	2.02	2.04	2.04	2.04	2.20	2.20	2.20	2.20	2.20	2.20
E	20.66	21.77	26.32	31.00	31.00	31.00	77.12	77.12	77.12	77.12	77.12	77.12
ARMs												
6	26.2	28.0	35.4	43.0	43.0	43.0	118.0	118.0	118.0	118.0	118.0	118.0
7	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0
8	0.7	0.9	1.6	2.4	2.4	2.4	9.9	9.9	9.9	9.9	9.9	9.9
9	4.7	5.1	6.6	8.1	8.1	8.1	23.1	23.1	23.1	23.1	23.1	23.1
21	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
E	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
E	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW

In-Plant Radiation Data

Reactor Building (S03')

Table 9.4-3

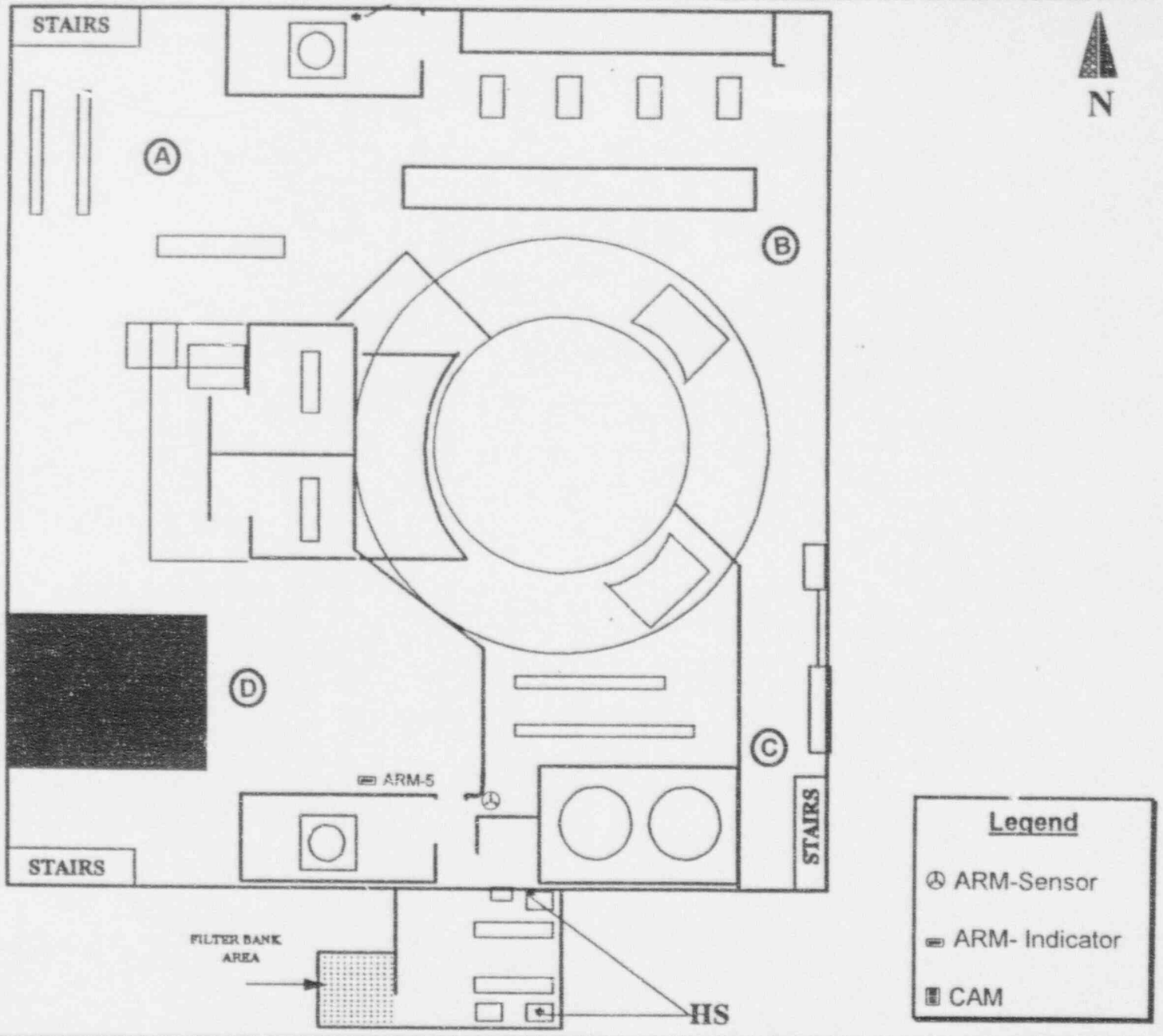
Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07
B	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72
C	362.88	362.88	362.88	362.88	362.88	362.88	362.88	362.88	362.88	362.88	362.88	362.88
D	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
E	77.12	77.12	77.12	77.12	77.12	77.12	77.12	77.12	77.12	77.12	77.12	77.12
ARMs												
6	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0
7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
8	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
9	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1
21	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
E	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
E	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Reactor Building (931')



In-Plant Radiation Data

Reactor Building (931')

Table 9.4-4

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.34	0.33	0.33	0.31	0.31
B	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.38	0.36	0.36	0.35	0.35
C	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.30	0.29	0.29	0.27	0.27
D	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.32	0.30	0.30	0.29	0.29
ARMs												
5	1.0	1.2	1.9	2.7	2.7	2.7	10.2	10.2	10.2	10.2	10.2	10.2
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

In-Plant Radiation Data

Reactor Building (931')

Table 9.4-4

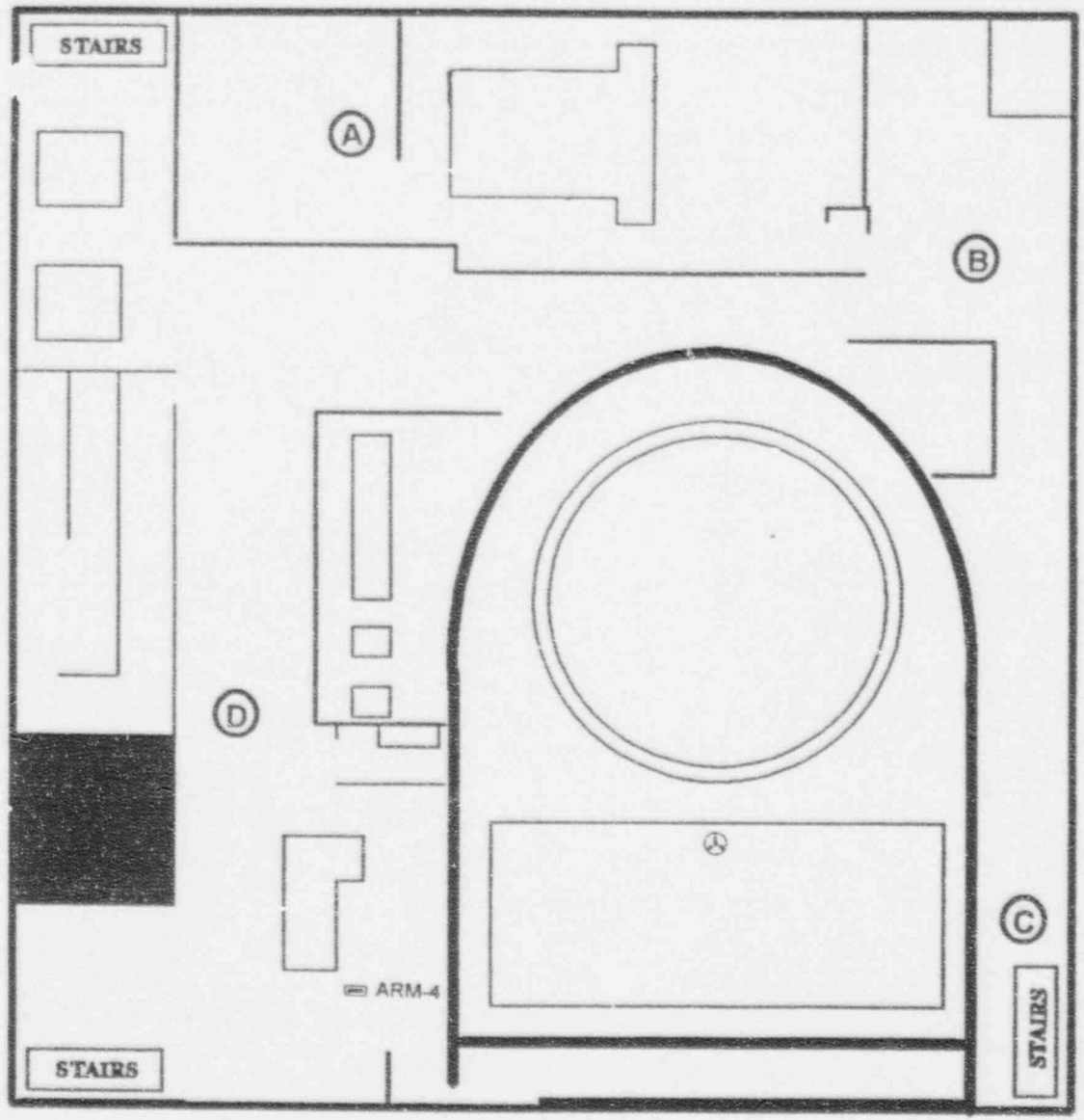
Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37
B	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.71
C	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95
D	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13
ARMs												
5	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Reactor Building (958')



In-Plant Radiation Data

Reactor Building (958')

Table 9.4-5

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
B	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.33	0.32	0.32	0.30	0.30
C	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.31	0.30	0.30	0.28	0.28
D	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.32	0.31	0.31	0.29	0.29
ARMs												
14	2.6	2.6	2.6	2.7	2.7	2.7	4.7	3.6	3.6	3.6	3.6	3.6
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

In-Plant Radiation Data

Reactor Building (958')

Table 9.4-5

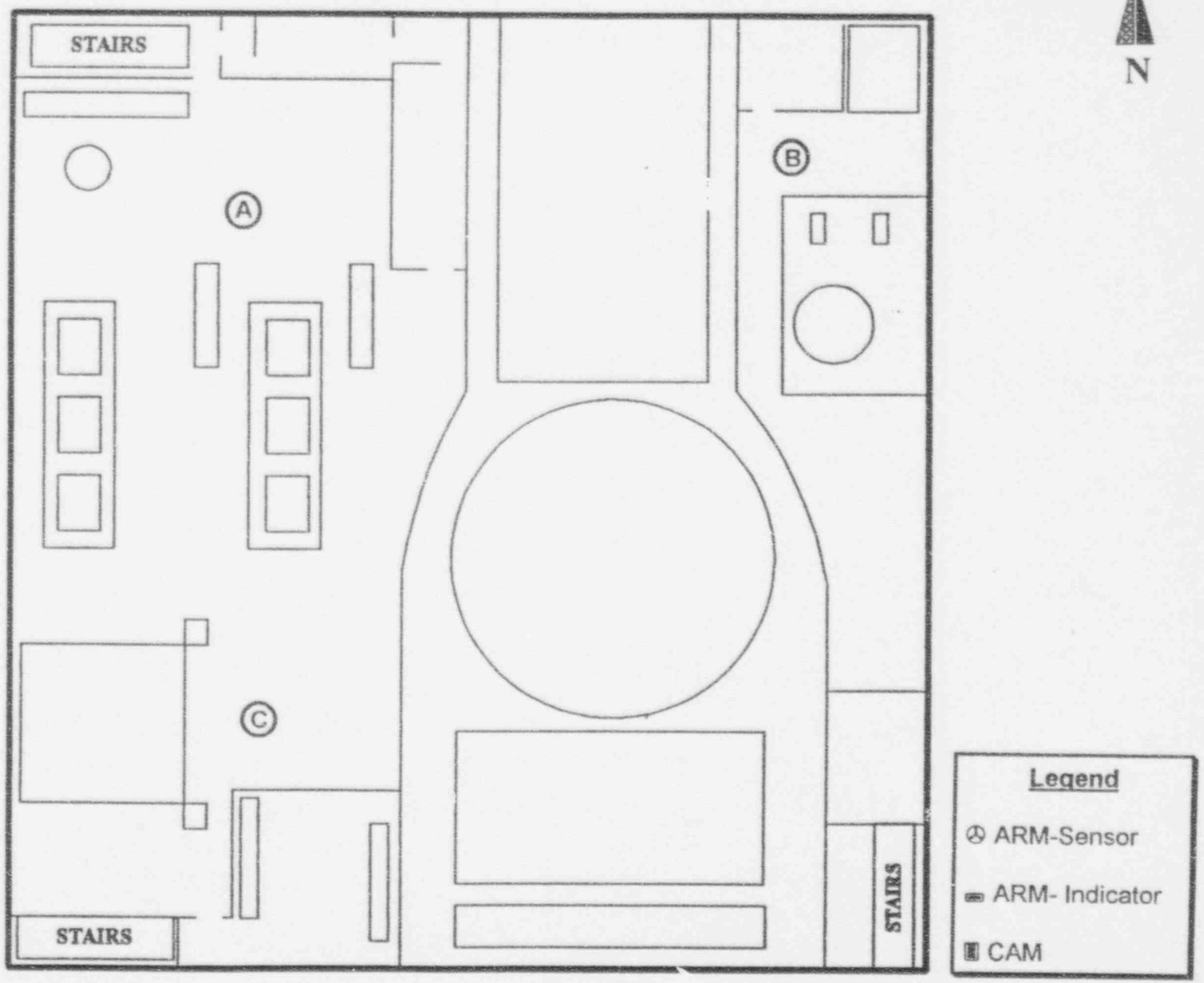
Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
B	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
C	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
D	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16
ARMs												
14	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Reactor Building (976')



In-Plant Radiation Data

Reactor Building (976')

Table 9.4-6

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.31	0.30	0.30	0.29	0.29
B	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.30	0.29	0.29	0.28	0.28
C	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.32	0.31	0.31	0.30	0.30
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

In-Plant Radiation Data

Reactor Building (976')

Table 9.4-6

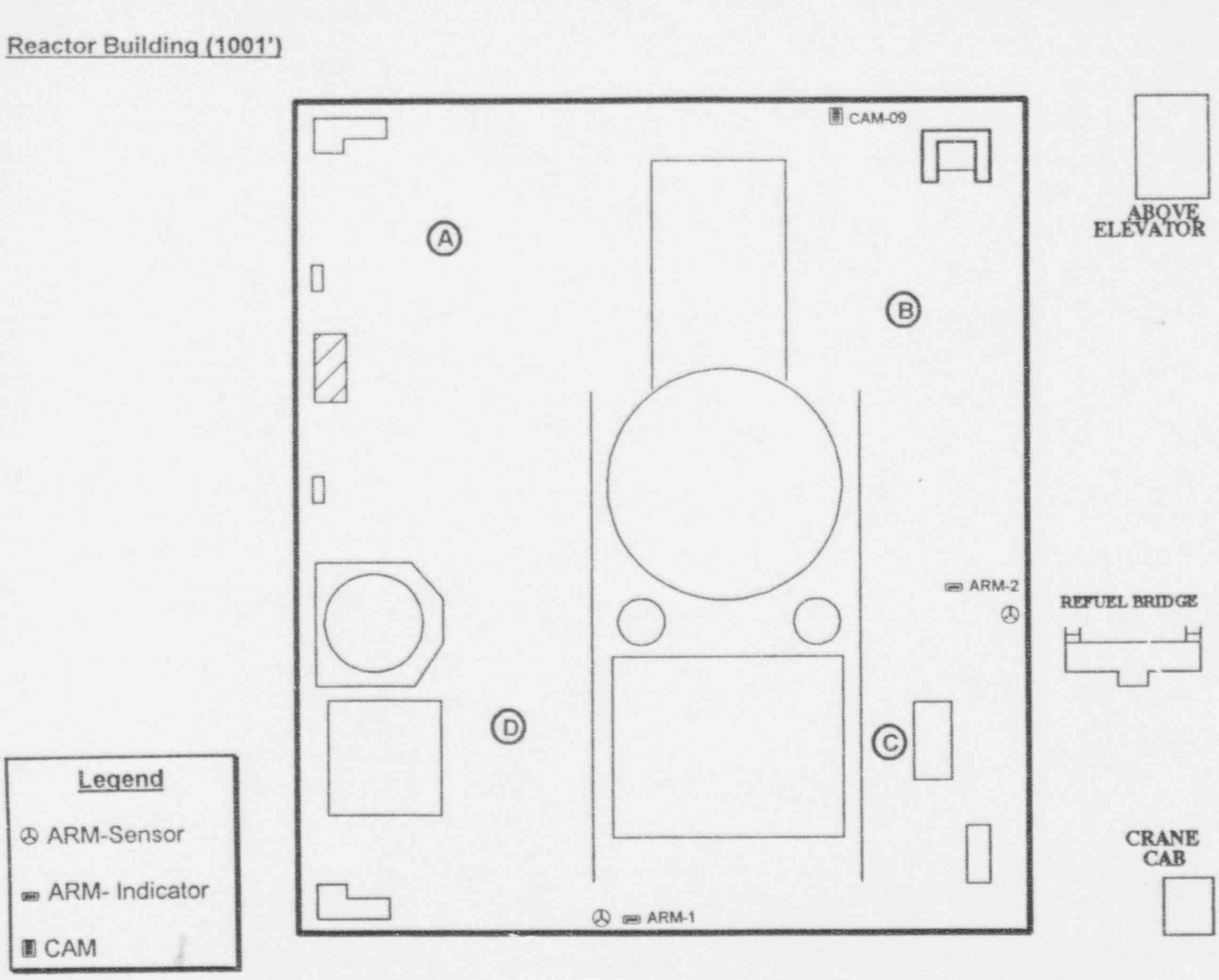
Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07
B	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
C	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Reactor Building (1001')



In-Plant Radiation Data

Reactor Building (1001') Table 9.4-7

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	2.12	2.17	2.33	2.50	2.50	2.50	4.15	4.15	4.15	4.15	4.15	4.15
B	2.34	2.38	2.57	2.75	2.75	2.75	4.56	4.56	4.56	4.56	4.56	4.56
C	1.85	1.89	2.04	2.18	2.18	2.18	3.62	3.62	3.62	3.62	3.62	3.62
D	1.97	2.01	2.16	2.32	2.32	2.32	3.85	3.85	3.85	3.85	3.85	3.85
ARMs												
1	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0
2	1.9	2.0	2.1	2.3	2.3	2.3	3.8	3.8	3.8	3.8	3.8	3.8
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:
Blank or zero value cells reported "As Read".
In high airborne areas OW=CW x 2.3, otherwise OW=CW.

In-Plant Radiation Data

Reactor Building (1001')

Table 9.4-7

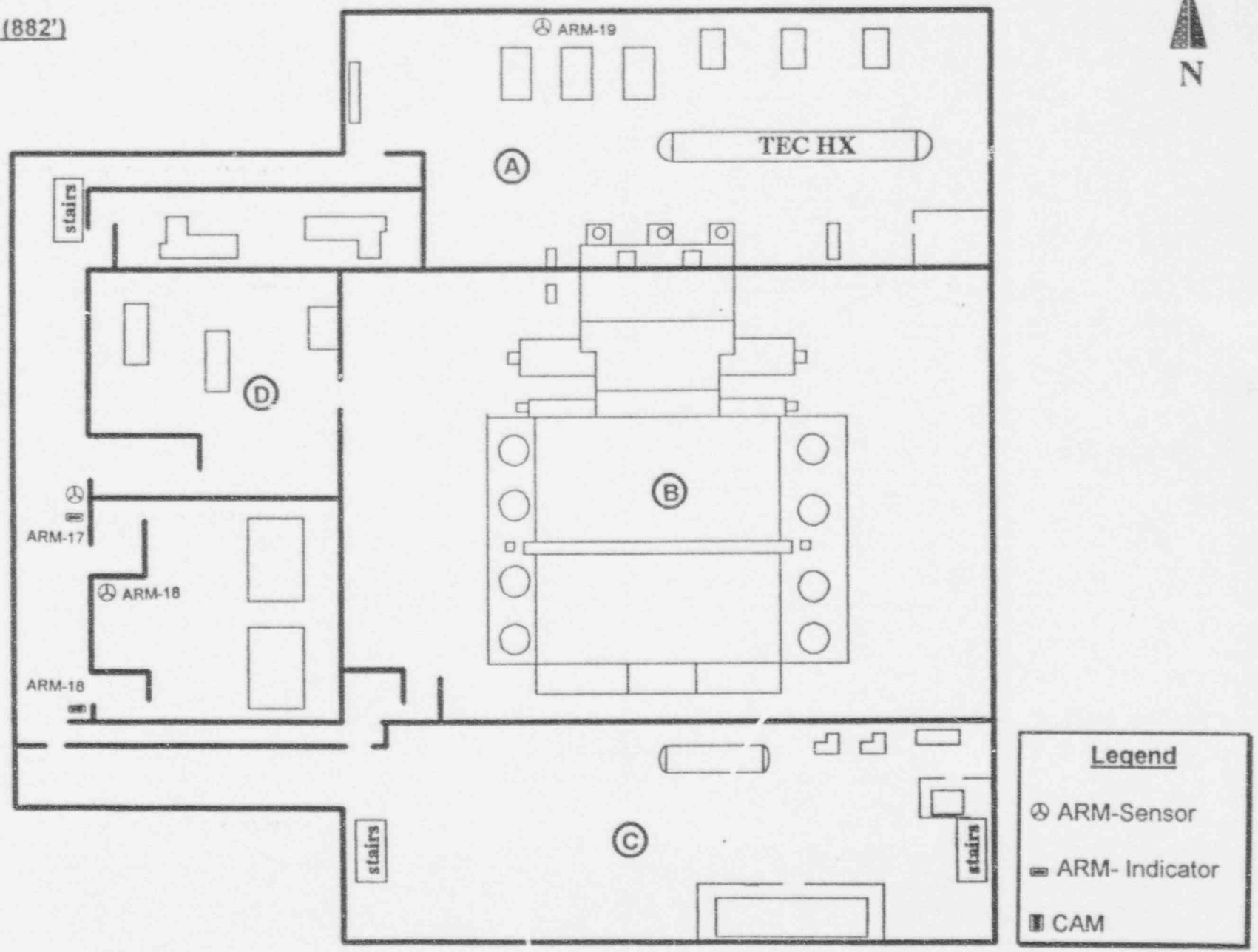
Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15
B	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56
C	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62
D	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85
ARMs												
1	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0
2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Turbine Building (882')



In-Plant Radiation Data

Turbine Building (882') Table 9.4-8

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
B	0.91	0.85	344.10	2711.07	3113.26	4856.10	3768.69	3292.02	2874.93	2502.53	2174.82	1832.21
C	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D	0.69	0.64	258.72	2038.40	2340.80	3651.20	2833.60	2475.20	2161.60	1881.60	1635.20	1377.60
ARMs												
17	0.1	0.1	0.1	33.0	38.1	59.4	72.0	63.3	55.2	48.4	42.3	35.8
18	9.4	10.1	215.0	5460.0	6270.0	9780.0	7590.0	6630.0	5790.0	5040.0	4380.0	3690.0
19	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:
Blank or zero value cells reported "As Read".
In high airborne areas OW=CW x 2.3, otherwise OW=CW.

In-Plant Radiation Data

Turbine Building (882')

Table 9.4-8

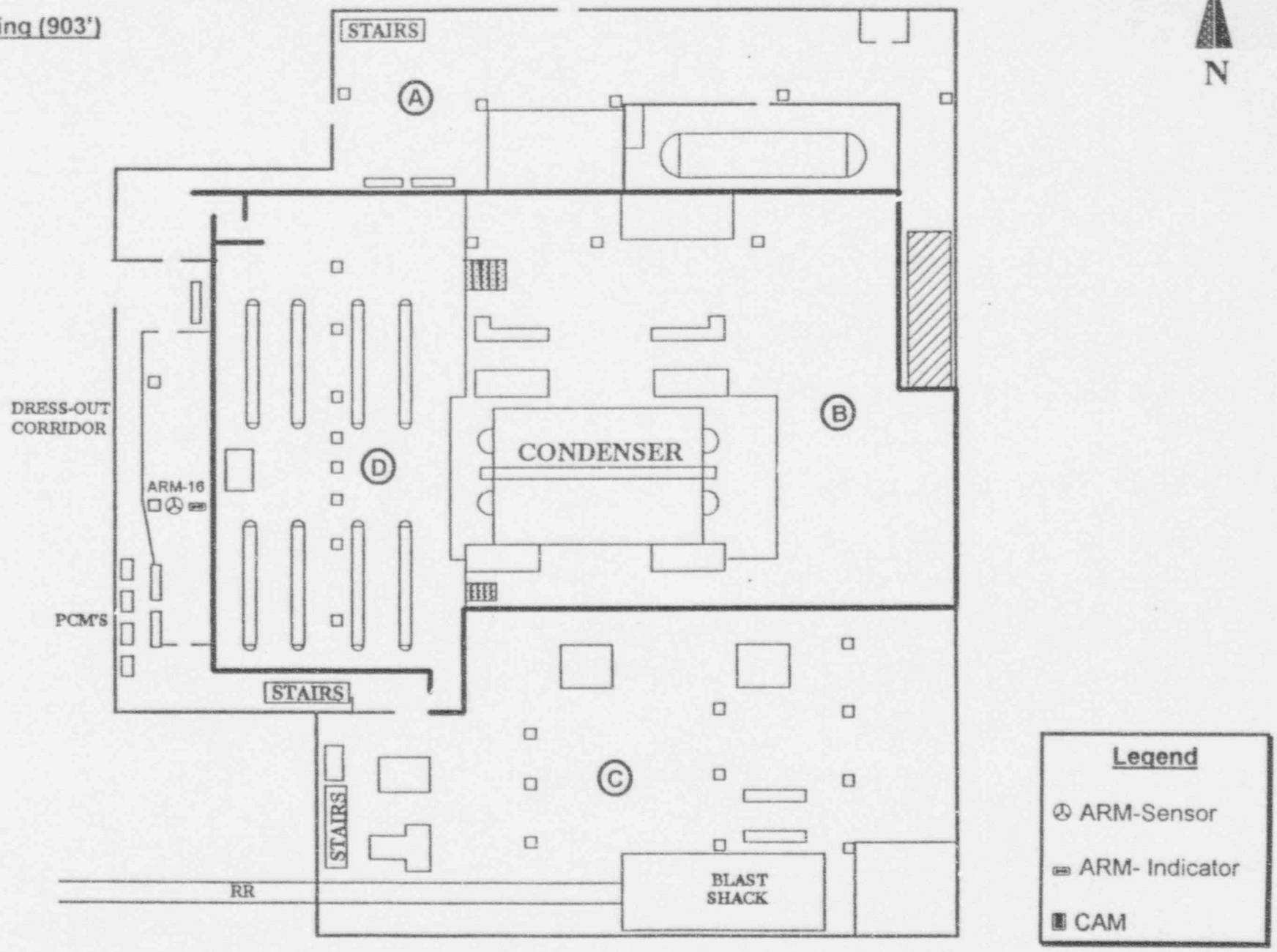
Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
B	1608.77	1519.39	1398.73	1318.30	1243.82	1172.32	1084.43	794.41	507.77	221.13	208.54	178.75
C	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D	1209.60	1142.40	1051.68	991.20	935.20	881.44	815.36	597.30	381.78	166.26	156.80	134.40
ARMs												
17	31.4	29.7	27.5	26.0	24.6	23.2	21.5	15.9	10.4	4.9	4.6	3.9
18	3240.0	3060.0	2817.0	2655.0	2505.0	2361.0	2184.0	1599.9	1022.6	445.3	420.0	360.0
19	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Turbine Building (903')



In-Plant Radiation Data

Turbine Building (903')

Table 9.4-9

Area	00:00 05:30	00:05 05:35	00:15 05:40	00:15 05:50	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
B	0.51	0.48	15.09	1519.20	1743.43	2719.41	2110.47	1843.53	1609.96	1401.42	1217.90	1026.04
C	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D	0.83	0.77	313.05	2466.46	2832.37	4417.95	3428.66	2994.99	2615.54	2276.74	1978.59	1666.90
ARMs												
16	0.1	0.1	0.1	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

In-Plant Radiation Data

Turbine Building (903')

Table 9.4-9

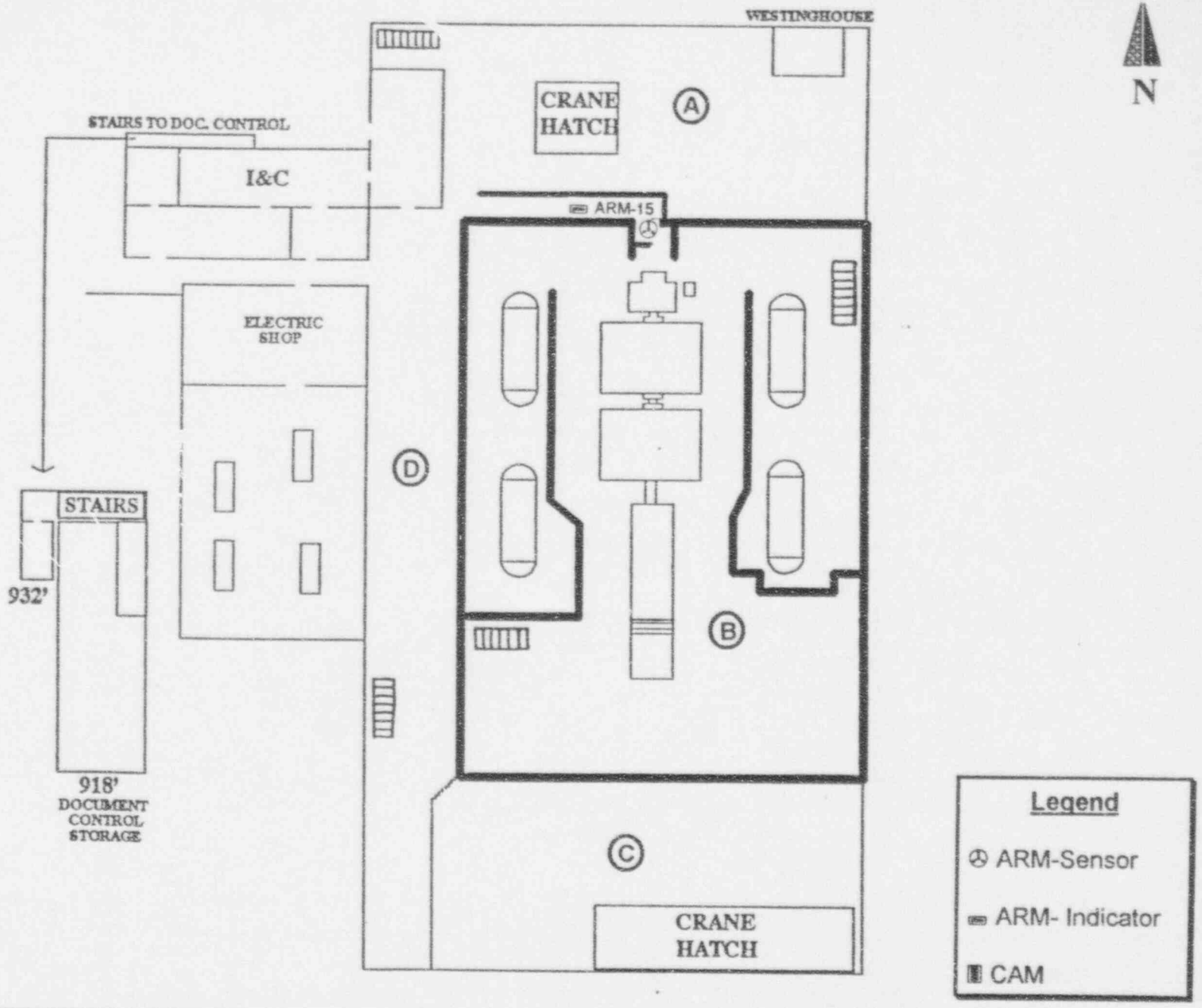
Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
B	900.91	850.86	783.29	738.25	696.54	656.50	607.28	444.87	284.35	123.83	116.78	100.10
C	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D	1463.62	1382.30	1272.53	1199.35	1131.59	1066.54	986.59	722.73	461.96	201.18	189.73	162.62
ARMs												
16	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH	OSH
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Turbine Building (932')



In-Plant Radiation Data

Turbine Building (932')

Table 9.4-10

Area	00:00 05:30	00:05 05:35	00:10 05:40	00:15 05:45	00:20 05:50	00:25 05:55	00:30 06:00	00:45 06:15	01:00 06:30	01:15 06:45	01:30 07:00	01:45 07:15
Ambient Radiation Levels (mR/hr)												
A	64.90	67.65	168.30	271.15	274.45	274.45	12.54	10.95	8.36	6.71	5.61	4.74
B	15.34	15.99	39.78	64.09	64.87	64.87	2.96	2.59	1.98	1.59	1.33	1.12
C	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
ARMs												
15	118.0	123.0	306.0	493.0	499.0	499.0	22.8	19.9	15.2	12.2	10.2	8.6
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW

In-Plant Radiation Data

Turbine Building (932')

Table 9.4-10

Area	02:00 07:30	02:15 07:45	02:30 08:00	02:45 08:15	03:00 08:30	03:15 08:45	03:30 09:00	03:45 09:15	04:00 09:30	04:15 09:45	04:30 10:00	05:00 10:30
Ambient Radiation Levels (mR/hr)												
A	4.30	4.14	3.94	3.81	3.70	3.60	3.47	3.08	2.70	2.32	1.94	1.17
B	1.02	0.98	0.93	0.90	0.87	0.85	0.82	0.73	0.64	0.55	0.46	0.28
C	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
ARMs												
15	7.8	7.5	7.2	6.9	6.7	6.5	6.3	5.6	4.9	4.2	3.5	2.1
Contamination Levels (CPM/100 cm2)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
B	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
C	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD
D	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD	BKGD

Notes:

Blank or zero value cells reported "As Read".

In high airborne areas OW=CW x 2.3, otherwise OW=CW.

Section 9.5
Dose Assessment

CNS-DOSE Plume Projection
Scenario Time: 03:45

CNS DOSE ASSESSMENT PROGRAM

5-APR-1994 07:38:22

AAAA ALERT AAAA

PROTECTIVE ACTION RECOMMENDATION

MILES	NONE	EVACUATE SECTORS	SHELTER SECTORS
0 - 2	ALL		
2 - 5	ALL		
5 - 10	ALL		

RELEASE RATE (CI/SEC) .. ELEVATED RELEASE POINT
REL. THRU 08:00 .. 2.00E+01 CI/SEC (N/S)
RELEASE LENGTH . 4.0 HRS
CORE DEGRADED .. YES
WIND DIRECTION . 67.0 DEG (ENE to WSW)
WIND SPD/STAB .. 6.0 MPH C
TIME SINCE SCR . 3.3 HRS
SEC CONT BYP ... NO

MILE	DOSE RATE (REM/HR) TEDE	CDE	INTEGRATED DOSE (REM) TEDE	CDE	ODOUNE CONC (UCI/CC)
1	1.63E-02	8.30E-02	6.53E-02	1.32E-01	1.49E-07
2	6.35E-03	1.23E-02	2.54E-02	5.13E-02	5.78E-08
5	1.65E-03	3.33E-03	6.59E-03	1.33E-02	1.50E-08
10	6.39E-04	1.29E-03	2.56E-03	5.16E-03	5.82E-09

CNS-DOSE Plume Projection
Scenario Time: 03:55

CNS DOSE ASSESSMENT PROGRAM

5-AUG-1994 07:38:20

* ***** ALERT *****

PROTECTIVE ACTION RECOMMENDATION

MILES	EVACUATE SECTORS	SHELTER SECTORS
0 - 2	ALL	NONE
2 - 5	ALL	
5 - 10	ALL	

RELEASE POINT .. ELEVATED RELEASE POINT
RELEASE RATE ... 2.50E+01 Ci/SEC (N/G)
REL THRU SGBT .. YES
RELEASE LENGTH . 4.0 HRS
CORE DEGRADED .. YES
WIND DIRECTION . 57.0 DEG (ENE to WSW)
WIND SPEED/STAB .. 6.0 MPH C
TIME SINCE SCR . 3.3 HRS
SEC CONT BYP ... NO

MILE	DOSE RATE (REM/HR) TEDE	CDE	INTEGRATED DOSE (REM) TEDE	CDE	IODINE CONC (uCi/CC)
1	2.04E-02	2.22E-02	8.16E-03	1.66E-03	1.88E-07
2	7.93E-03	1.60E-02	3.17E-03	6.41E-03	7.23E-08
5	2.06E-03	4.16E-03	8.23E-04	1.66E-03	1.88E-08
10	7.98E-04	1.61E-03	3.19E-04	6.46E-04	7.28E-09

CNS-DOSE Plume Projection
Scenario Time: 04:05

CNS DOSE ASSESSMENT PROGRAM

5-AUG-1994 07:38:27

***** ALERT *****

PROTECTIVE ACTION RECOMMENDATION

MILES	NONE	EVACUATE SECTORS	SHELTER SECTORS
0 - 2	ALL		
2 - 5	ALL		
5 - 10	ALL		

RELEASE POINT .. ELEVATED RELEASE POINT
RELEASE RATE ... 2.30E+01 Ci/SEC (N/G)
REL THRU DURT .. YES
RELEASE LENGTH . 4.0 HRS
CORE DEGRADED .. YES
WIND DIRECTION . 57.0 DEG (ENE to WSW)
WIND SPD/STAB .. 6.0 MPH C
TIME SINCE S/D . 3.4 HRS
SEC CONT BYP ... NO

MILE	DOSE RATE (REM/HR) TEDE	CDE	INTEGRATED DOSE (REM) TEDE	CDE	IODINE CONC (uCi/CC)
1	1.27E-02	3.63E-03	7.10E-03	1.45E-01	1.64E-07
2	6.90E-03	1.41E-02	2.79E-03	5.64E-02	6.36E-08
5	1.03E-03	3.66E-03	7.24E-03	1.46E-02	1.65E-08
10	7.03E-04	1.42E-03	2.81E-03	5.68E-03	6.41E-09

CNS-DOSE Plume Projection
Scenario Time: 04:15

CNS DOSE ASSESSMENT PROGRAM

5-AUG-1994 07:38:27

***** ALERT *****

PROTECTIVE ACTION RECOMMENDATION

MILES	NONE	EVACUATE SECTORS	SHELTER SECTORS
0 - 2	ALL		
2 - 5	ALL		
5 - 10	ALL		

RELEASE POINT .. ELEVATED RELEASE POINT
RELEASE RATE ... 1.80E+01 Ci/SEC (N/G)
REL THRU SBGT .. YES
RELEASE LENGTH . 4.0 HRS
CORE DEGRADED .. YES
WIND DIRECTION . 57.0 DEG (ENE to WSW)
WIND SPD/STAB .. 6.0 MPH C
TIME SINCE S/D . 3.6 HRS
SEC CONT BYP ... NO

MILE	DOSE RATE (REM/HR) TEDE	DOSE RATE (REM/HR) CDE	INTEGRATED DOSE (REM) TEDE	INTEGRATED DOSE (REM) CDE	IODINE CONC (uCi/CC)
1	1.47E-02	2.97E-02	5.87E-02	1.19E-01	1.34E-07
2	5.71E-03	1.15E-02	2.28E-02	4.62E-02	5.21E-08
5	1.48E-03	2.99E-03	5.92E-03	1.20E-02	1.35E-08
10	5.75E-04	1.16E-03	2.30E-03	4.65E-03	5.24E-09

Total Population Dose

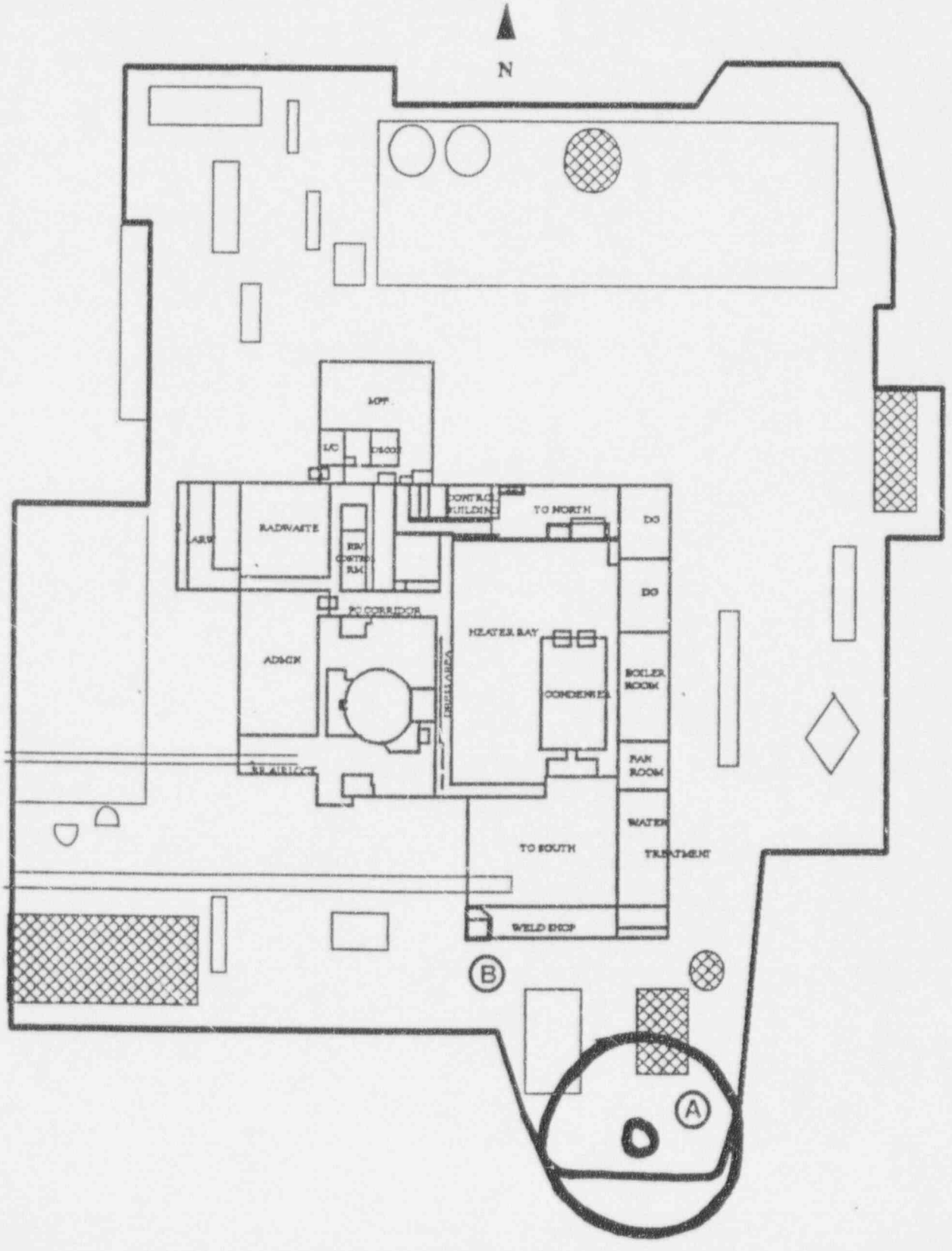
Time of Release From-To	*TEDE* (Dose in REM) 1.0	2.0	5.0	10.0	*THYROID* (Dose in REM) 1.0	2.0	5.0	10.0
03:45 to 03:55	0.003	0.001	0.000	0.000	0.006	0.002	0.001	0.000
03:55 to 04:05	0.003	0.001	0.000	0.000	0.007	0.003	0.001	0.000
04:05 to 04:15	0.003	0.001	0.000	0.000	0.006	0.002	0.001	0.000
04:15 to 04:30	0.004	0.001	0.000	0.000	0.007	0.003	0.001	0.000
Total	**0.013**	**0.005**	**0.001**	**0.001**	**0.026**	**0.010**	**0.003**	**0.001**

Table 9.5-1

Section 9.6

Environmental Data

Field Team Onsite Plume Map



Onsite Survey and Sample Data

Table 9.6-1

Area	05:30 00:00	06:00 00:30	09:15 03:45	09:25 03:55	09:35 04:05	09:45 04:15	10:00 04:30	10:15 04:45	10:30 05:00	10:45 05:15	11:00 05:30	11:15 05:45
Closed Window Levels (mR/hr)												
A	< 0.1	< 0.1	1.63E+01	2.04E+01	1.79E+01	1.47E+01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Open Window Levels (mR/hr)												
A	< 0.1	< 0.1	1.70E+01	2.12E+01	1.86E+01	1.53E+01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
B	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Airborne Sample Levels (CPM/CF where 2000 CPM = 1mr/hr)												
A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
B	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Release Segment Times

Table 9.6-2

Downwind Distance	Scenario/Elapsed Time									
	09:15	09:25	09:35	09:45	10:00	10:15	10:30	10:45	11:00	11:15
	03:45	03:55	04:05	04:15	04:30	04:45	05:00	05:15	05:30	05:45
0.5 miles		03:45	03:55	04:05	04:15					
1.0 miles		03:45	03:55	04:05	04:15					
1.5 miles			03:45	03:55	04:05					
2.0 miles			03:45	03:55	04:05					
2.5 miles				03:45	03:55	04:15				
3.0 miles				03:45	03:55	04:15				
3.5 miles					03:45	04:05				
4.0 miles					03:45	04:05				
4.5 miles						03:55	04:15			
5.0 miles						03:55	04:15			
5.5 miles						03:45	04:05			
6.0 miles						03:45	04:05			
6.5 miles							03:55	04:15		
7.0 miles							03:55	04:15		
7.5 miles							03:45	04:05		
8.0 miles							03:45	04:05		
8.5 miles								03:55	04:15	
9.0 miles								03:55	04:15	
9.5 miles								03:45	04:05	
10 miles								03:45	04:05	

Closed Window External Dose Rates (mR/hr)

Table 9.6-3

Downwind Distance	Scenario/Elapsed Time 09:15 / 03:45	09:25 / 03:55	09:35 / 04:05	09:45 / 04:15	10:00 / 04:30	10:15 / 04:45	10:30 / 05:00	10:45 / 05:15	11:00 / 05:30	11:15 / 05:45
0.5 miles		0.16	0.20	0.18	0.15					
1.0 miles		16.30	20.40	17.90	14.70					
1.5 miles			10.17	12.72	11.18					
2.0 miles			6.35	7.93	6.98					
2.5 miles				5.07	6.33	4.56				
3.0 miles				4.05	5.06	3.64				
3.5 miles					3.24	3.55				
4.0 miles					2.59	2.84				
4.5 miles						2.58	1.85			
5.0 miles						2.06	1.48			
5.5 miles						1.50	1.65			
6.0 miles						1.36	1.50			
6.5 miles							1.55	1.11		
7.0 miles							1.41	1.01		
7.5 miles							1.03	1.13		
8.0 miles							0.93	1.03		
8.5 miles								1.06	0.76	
9.0 miles								0.96	0.69	
9.5 miles								0.70	0.77	
10 miles								0.64	0.70	

Notes:

Survey results at 3' will be the same at 6" when inside the plume.

Open Window External Dose Rates (mR/hr) Table 9.6-4

Downwind Distance	Scenario/Elapsed Time									
	09:15	09:25	09:35	09:45	10:00	10:15	10:30	10:45	11:00	11:15
	03:45	03:55	04:05	04:15	04:30	04:45	05:00	05:15	05:30	05:45
0.5 miles		0.37	0.47	0.41	0.34					
1.0 miles		37.49	46.92	41.17	33.81					
1.5 miles			23.40	29.25	25.71					
2.0 miles			14.61	18.24	16.05					
2.5 miles				11.67	14.57	10.49				
3.0 miles				9.32	11.64	8.37				
3.5 miles					7.44	8.18				
4.0 miles					5.95	6.53				
4.5 miles						5.93	4.26			
5.0 miles						4.74	3.40			
5.5 miles						3.45	3.79			
6.0 miles						3.14	3.45			
6.5 miles							3.56	2.56		
7.0 miles							3.24	2.33		
7.5 miles							2.36	2.59		
8.0 miles							2.15	2.36		
8.5 miles								2.44	1.75	
9.0 miles								2.22	1.59	
9.5 miles								1.62	1.78	
10 miles								1.47	1.62	

Notes:

Survey results at 3' will be the same at 6" when inside the plume.

Thyroid Dose Rates (mRem/hr)

Table 9.6-5

Downwind Distance	Scenario/Elapsed Time 09:15 03:45	09:25 03:55	09:35 04:05	09:45 04:15	10:00 04:30	10:15 04:45	10:30 05:00	10:45 05:15	11:00 05:30	11:15 05:45
0.5 miles		3.30E-01	4.12E-01	3.63E-01	2.97E-01					
1.0 miles		3.30E+01	4.12E+01	3.63E+01	2.97E+01					
1.5 miles			2.06E+01	2.57E+01	2.26E+01					
2.0 miles			1.28E+01	1.60E+01	1.41E+01					
2.5 miles				1.02E+01	1.28E+01	9.19E+00				
3.0 miles				8.17E+00	1.02E+01	7.34E+00				
3.5 miles					6.53E+00	7.18E+00				
4.0 miles					5.22E+00	5.74E+00				
4.5 miles						5.21E+00	3.74E+00			
5.0 miles						4.16E+00	2.99E+00			
5.5 miles						3.03E+00	3.33E+00			
6.0 miles						2.75E+00	3.03E+00			
6.5 miles							3.13E+00	2.25E+00		
7.0 miles							2.85E+00	2.05E+00		
7.5 miles							2.07E+00	2.2[illegible]E+00		
8.0 miles							1.89E+00	2.[illegible]E+00		
8.5 miles								2.14E+00	1.54E+00	
9.0 miles								1.45E+00	1.40E+00	
9.5 miles								1.32E+00	1.56E+00	
10 miles								1.29E+00	1.42E+00	

Total Iodine Concentration (µCi/cc)

Table 9.6-6

Downwind Distance	Scenario/Elapsed Time 09:15 03:45	09:25 03:55	09:35 04:05	09:45 04:15	10:00 04:30	10:15 04:45	10:30 05:00	10:45 05:15	11:00 05:30	11:15 05:45
0.5 miles		1.49E-07	1.86E-07	1.64E-07	1.34E-07					
1.0 miles		1.49E-05	1.86E-05	1.64E-05	1.34E-05					
1.5 miles			9.28E-06	1.16E-05	1.02E-05					
2.0 miles			5.78E-06	7.23E-06	6.36E-06					
2.5 miles				4.62E-06	5.78E-06	4.16E-06				
3.0 miles				3.69E-06	4.61E-06	3.32E-06				
3.5 miles					2.94E-06	3.24E-06				
4.0 miles					2.35E-06	2.59E-06				
4.5 miles						2.35E-06	1.69E-06			
5.0 miles						1.88E-06	1.35E-06			
5.5 miles						1.36E-06	1.50E-06			
6.0 miles						1.24E-06	1.37E-06			
6.5 miles							1.41E-06	1.02E-06		
7.0 miles							1.29E-06	9.25E-07		
7.5 miles							9.34E-07	1.03E-06		
8.0 miles							8.50E-07	9.36E-07		
8.5 miles								9.68E-07	6.96E-07	
9.0 miles								8.80E-07	6.33E-07	
9.5 miles								6.40E-07	7.05E-07	
10 miles								5.82E-07	6.41E-07	

Iodine I-131Concentration (µCi/cc) Table 9.6-7

Downwind Distance	Scenario/Elapsed Time 09:15 03:45	09:25 03:55	09:35 04:05	09:45 04:15	10:00 04:30	10:15 04:45	10:30 05:00	10:45 05:15	11:00 05:30	11:15 05:45
0.5 miles		6.41E-08	8.00E-08	7.05E-08	5.76E-08					
1.0 miles		6.41E-06	8.00E-06	7.05E-06	5.76E-06					
1.5 miles			3.99E-06	4.99E-06	4.39E-06					
2.0 miles			2.49E-06	3.11E-06	2.73E-06					
2.5 miles				1.98E-06	2.48E-06	1.79E-06				
3.0 miles				1.59E-06	1.98E-06	1.43E-06				
3.5 miles					1.27E-06	1.39E-06				
4.0 miles					1.01E-06	1.11E-06				
4.5 miles						1.01E-06	7.27E-07			
5.0 miles						8.08E-07	5.81E-07			
5.5 miles						5.87E-07	6.45E-07			
6.0 miles						5.34E-07	5.87E-07			
6.5 miles							6.08E-07	4.37E-07		
7.0 miles							5.53E-07	3.98E-07		
7.5 miles							4.02E-07	4.42E-07		
8.0 miles							3.65E-07	4.02E-07		
8.5 miles								4.16E-07	2.99E-07	
9.0 miles								3.78E-07	2.72E-07	
9.5 miles								2.75E-07	3.03E-07	
10 miles								2.50E-07	2.76E-07	

Iodine Cartridge Readings (Net Sample CPM using SAM-II) Table 9.6-E

Downwind Distance	Scenario/Elapsed Time 09:15 03:45	09:25 03:55	09:35 04:05	09:45 04:15	10:00 04:30	10:15 04:45	10:30 05:00	10:45 05:15	11:00 05:30	11:15 05:45
0.5 miles		5138	6413	5655	4620					
1.0 miles		513769	641349	565491	462047					
1.5 miles			319992	399859	352153					
2.0 miles			199301	249299	219300					
2.5 miles				159173	199170	143439				
3.0 miles				127125	159121	114530				
3.5 miles					101529	111700				
4.0 miles					81087	89205				
4.5 miles						81140	58300			
5.0 miles						64825	46550			
5.5 miles						47050	51761			
6.0 miles						42800	47091			
6.5 miles							48768	35044		
7.0 miles							44354	31880		
7.5 miles							32217	35461		
8.0 miles							29307	32262		
8.5 miles								33367	24000	
9.0 miles								30347	21833	
9.5 miles								22061	24294	
10 miles								20068	22102	

Notes:
Assume sample volume as 15 cubic feet.
Assume SAM-II effeciency of 0.085.

Iodine Cartridge Readings (Net Sample CPM using E-520) Table 9.6-9

Downwind Distance	Scenario/Elapsed Time 09:15 03:45	09:25 03:55	09:35 04:05	09:45 04:15	10:00 04:30	10:15 04:45	10:30 05:00	10:45 05:15	11:00 05:30	11:15 05:45
0.5 miles		150	187	165	135					
1.0 miles		14988	18710	16497	13479					
1.5 miles			9335	11665	10273					
2.0 miles			5814	7273	6398					
2.5 miles				4644	5810	4185				
3.0 miles				3709	4642	3341				
3.5 miles					2962	3259				
4.0 miles					2366	2602				
4.5 miles						2367	1701			
5.0 miles						1891	1358			
5.5 miles						1373	1510			
6.0 miles						1249	1374			
6.5 miles							1423	1022		
7.0 miles							1294	930		
7.5 miles							940	1035		
8.0 miles							855	941		
8.5 miles								973	700	
9.0 miles								885	637	
9.5 miles								644	709	
10 miles								585	645	

Notes:
Assume sample volume as 10 cubic feet.
Assume E-520 contact effeciency of 0.0016.

Gross Particulate Concentration (µCi/cc) Table 9.6-10

Downwind Distance	Scenario/Elapsed Time 09:15 03:45	09:25 03:55	09:35 04:05	09:45 04:15	10:00 04:30	10:15 04:45	10:30 05:00	10:45 05:15	11:00 05:30	11:15 05:45
0.5 miles		9.69E-09	1.21E-08	1.07E-08	8.71E-09					
1.0 miles		9.69E-07	1.21E-06	1.07E-06	8.71E-07					
1.5 miles			6.03E-07	7.54E-07	6.64E-07					
2.0 miles			3.76E-07	4.70E-07	4.13E-07					
2.5 miles				3.00E-07	3.75E-07	2.70E-07				
3.0 miles				2.40E-07	3.00E-07	2.16E-07				
3.5 miles					1.91E-07	2.11E-07				
4.0 miles					1.53E-07	1.68E-07				
4.5 miles						1.53E-07	1.10E-07			
5.0 miles						1.22E-07	8.78E-08			
5.5 miles						8.87E-08	9.76E-08			
6.0 miles						8.07E-08	8.88E-08			
6.5 miles							9.19E-08	6.61E-08		
7.0 miles							8.36E-08	6.01E-08		
7.5 miles							6.07E-08	6.68E-08		
8.0 miles							5.52E-08	6.08E-08		
8.5 miles								6.29E-08	4.52E-08	
9.0 miles								5.72E-08	4.12E-08	
9.5 miles								4.16E-08	4.58E-08	
10 miles								3.78E-08	4.17E-08	

Gross Particulate Activity (Net Sample mR/hr using E-140-N) Table 9.6-11

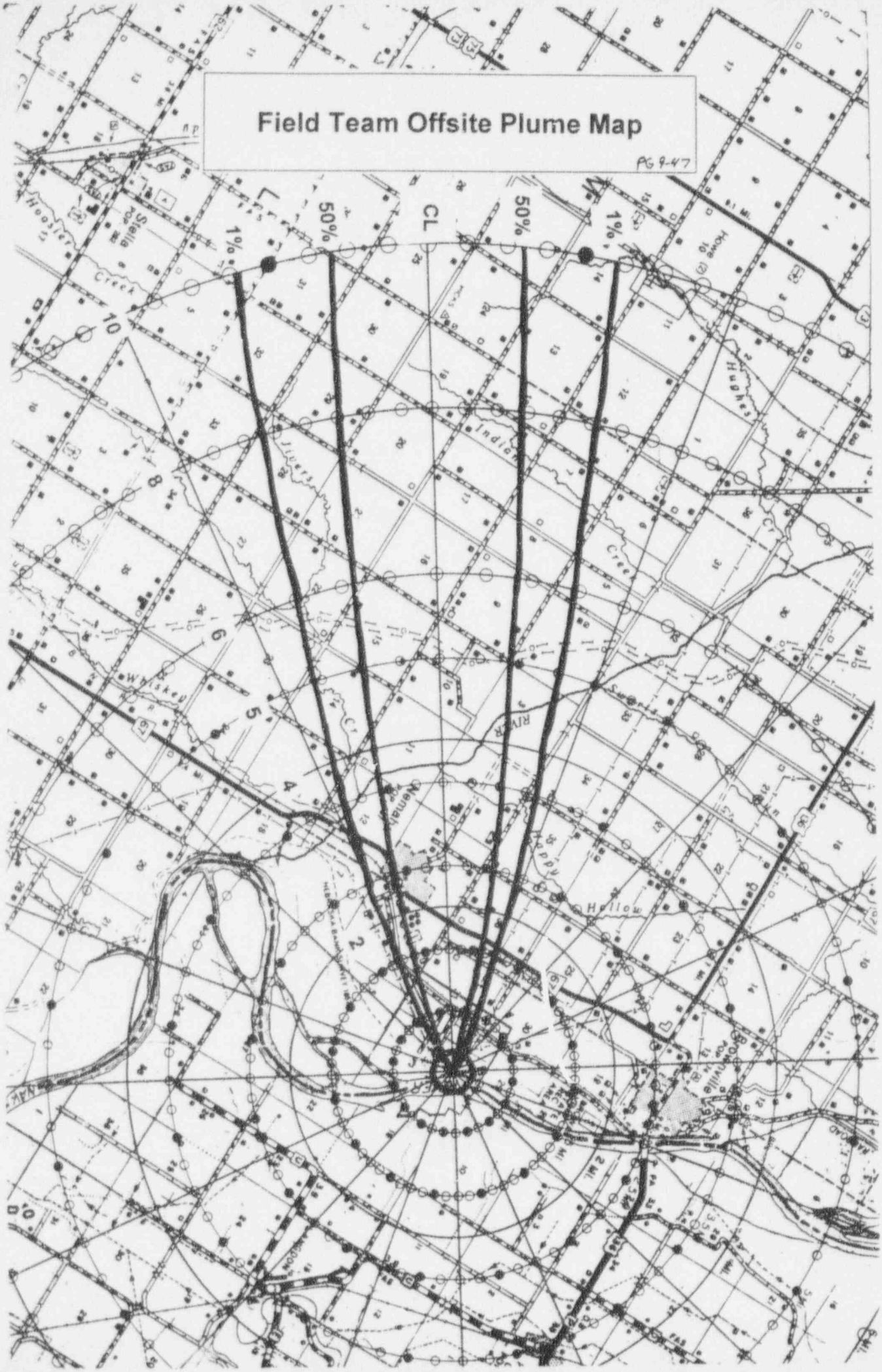
Downwind Distance	Scenario/Elapsed Time 09:15 / 03:45	09:25 / 03:55	09:35 / 04:05	09:45 / 04:15	10:00 / 04:30	10:15 / 04:45	10:30 / 05:00	10:45 / 05:15	11:00 / 05:30	11:15 / 05:45
0.5 miles		6.30E-01	7.86E-01	6.93E-01	5.66E-01					
1.0 miles		6.30E+01	7.86E+01	6.93E+01	5.66E+01					
1.5 miles			3.92E+01	4.90E+01	4.31E+01					
2.0 miles			2.44E+01	3.05E+01	2.69E+01					
2.5 miles				1.95E+01	2.44E+01	1.76E+01				
3.0 miles				1.56E+01	1.95E+01	1.40E+01				
3.5 miles					1.24E+01	1.37E+01				
4.0 miles					9.94E+00	1.09E+01				
4.5 miles						9.94E+00	7.14E+00			
5.0 miles						7.94E+00	5.70E+00			
5.5 miles						5.77E+00	6.34E+00			
6.0 miles						5.24E+00	5.77E+00			
6.5 miles							5.98E+00	4.29E+00		
7.0 miles							5.43E+00	3.91E+00		
7.5 miles							3.95E+00	4.35E+00		
8.0 miles							3.59E+00	3.95E+00		
8.5 miles								4.09E+00	2.94E+00	
9.0 miles								3.72E+00	2.68E+00	
9.5 miles								2.70E+00	2.98E+00	
10 miles								2.46E+00	2.71E+00	

Notes:
Assume sample volume as 10 cubic feet.
Assume background count rate as 0.02 mR/hr.

Particulate Activity (Net Sample CPM using E-520) Table 9.6-12

Downwind Distance	Scenario/Elapsed Time 09:15 / 03:45	09:25 / 03:55	09:35 / 04:05	09:45 / 04:15	10:00 / 04:30	10:15 / 04:45	10:30 / 05:00	10:45 / 05:15	11:00 / 05:30	11:15 / 05:45
0.5 miles		1.83E+03	2.28E+03	2.01E+03	1.64E+03					
1.0 miles		1.83E+05	2.28E+05	2.01E+05	1.64E+05					
1.5 miles			1.14E+05	1.42E+05	1.25E+05					
2.0 miles			7.09E+04	8.86E+04	7.80E+04					
2.5 miles				5.66E+04	7.08E+04	5.10E+04				
3.0 miles				4.52E+04	5.66E+04	4.07E+04				
3.5 miles					3.61E+04	3.97E+04				
4.0 miles					2.88E+04	3.17E+04				
4.5 miles						2.88E+04	2.07E+04			
5.0 miles						2.30E+04	1.66E+04			
5.5 miles						1.67E+04	1.84E+04			
6.0 miles						1.52E+04	1.67E+04			
6.5 miles							1.73E+04	1.25E+04		
7.0 miles							1.58E+04	1.13E+04		
7.5 miles							1.15E+04	1.26E+04		
8.0 miles							1.04E+04	1.15E+04		
8.5 miles								1.19E+04	8.53E+03	
9.0 miles								1.08E+04	7.76E+03	
9.5 miles								7.84E+03	8.64E+03	
10 miles								7.14E+03	7.86E+03	

Notes:
Assume sample volume as 10 cubic feet.
Assume E-520 contact effeciency of 0.3.


Field Team Offsite Plume Map
PG 9-47
1%
50%
CL
50%
1%