DAVIS-BESSE NUCLEAR POWER STATION

EMERGENCY PREPAREDNESS EXERCISE MANUAL

May 8, 1991

9105300163 910503
PDR ADOCK 05000346
F PDR

DAVIS-BESSE NUCLEAR POWER STATION

DRILL/EXERCISE APPROVAL

COVER SHEET

DRILL TITLE: 1991 Dry Run

DATE OF CONDUCT: April 17, 1991 TIME OF CONDUCT: 0730

DRILL LEAD CONTROLLER: B. W. Cope

APPROVED: _____ 1-28-91
Supervisor - Onsite Emergency Preparedness — Date

*APPROVED: _____ 1-29-91
Supervisor - Offsite Emergency Preparedness — Date

APPROVED: _____ 1-28-91
Manager - Emergency Preparedness — Date

**APPROVED: _____ 1/28/91
Plant Manager — Date

***APPROVED: _____ 3/4/91
Vice President, Nuclear — Date

*Partial or Full-Participation Drills/Exercises

**Scope, Objectives, Scenario of all Drills

***Scope, Objectives, Scenario of all Exercises

Davis-Besse Nuclear Power Station

1991 Emergency Preparedness Exercise

-Forward-

The Davis-Besse Nuclear Power Station (DBNPS) Emergency Plan describes the nuclear emergency response capabilities at DBNPS, including support provided by federal, state and local governments, and private organizations. The Plan describes a program of continuous emergency preparedness, one element of which is an annual evaluated exercise.

The conduct of this exercise provides the opportunity to implement the emergency plan and its associated procedures, and to activate and enable the evaluation of major portions of the emergency response organizations, as required in 10 CFR 50.47.(b)(14) and Appendix E. This exercise therefore provides an opportunity to further enhance emergency response capabilities.

The 1991 exercise program provides for activation of the DBNPS emergency response organization and the opportunity for offsite organizations to demonstrate their capabilities.

This Exercise Manual provides the basis for the conduct of the exercise: a simulated radiological incident at the Davis-Besse Nuclear Power Station, located near Oak Harbor, Ohio. It is to be used as the control mechanism for the conduct and evaluation of the exercise, and consists of two parts. Part 1 defines the scope and objectives of the exercise, and provides an overview of the activities. Part 2 includes the specific sequence of events (i.e. the scenario) and pertinent data. It is therefore subject to a limited, controlled distribution. Only Exercise Controllers, Evaluators and authorized observers will receive advance distribution of the information in Part 2.

In the development of an accident which is severe enough to adequately test the emergency response capabilities of participating organizations, it is necessary to postulate extremely unrealistic situations and multiple failures of redundant reactor protection functions and systems.

The objective of this exercise is to demonstrate the ability of the participating organizations to protect the public, and appropriately respond to this highly improbable sequence of events.

TABLE OF CONTENTS FOR 1991 EXERCISE MANUAL

TABLE OF CONTENTS FOR 1991 EXERCISE MANUAL (Cont.)

1.0 SCOPE AND OBJECTIVES

1.1 Scope

The 1991 Davis-Besse Emergency Preparedness "Evaluated Exercise", to be conducted on May 8, 1991 will test and provide the opportunity to evaluate the Onsite Davis-Besse Emergency Plan and Emergency Plan procedures. It will also test the emergency response organization's ability to assess and respond to emergency conditions and take adequate actions to protect the health and safety of the public and station personnel. The exercise will demonstrate the utilization of the Station's Emergency Response Organization. The exercise will involve activation and operation of select local emergency response organizations. Whenever practical, the exercise incorporates provisions for "Free Play" on the part of the participants. Additionally selected "real time" activities will be conducted to allow the repair teams the opportunity to provide service and repairs to station equipment during the course of the exercise. These "repairs" will allow the response organization to have an increased impact upon the direction that the exercise proceeds as well as impacting the completion of the exercise activities.

The scenario will simulate a sequence of events resulting in a radiological release to the environment. This release will be of sufficient magnitude to warrant mobilization of state and local agencies in response to the simulated emergency.

The scenario will also incorporate a Medical Drill and a PASS Drill.

In the development of an accident sequence which is severe enough to adequately test the emergency response capabilities of participating organizations, it is necessary to postulate extremely unrealistic situations and multiple failures of redundant reactor protection functions and systems.

1.2 DAVIS-BESSE NUCLEAR POWER STATION OBJECTIVES

REF. #	FACILITIES	OBJECTIVE
A.1	Administrative	CONDUCT AN EXERCISE OF THE DAVIS-BESSE NUCLEAR POWER STATION (DBNPS) EMERGENCY PLAN, ANNUALLY.
A.2	Administrative	PROVIDE AN OPPORTUNITY FOR THE STATE OF OHIO, OTTAWA COUNTY, AND LUCAS COUNTY TO PARTICIPATE IN AN EXERCISE, ANNUALLY (FULL VS PARTIAL PARTICIPATION).
A.3	Administrative	PREPARE AN EXERCISE INFORMATION PACKAGE TO MEET MINIMUM STANDARDS.
A.4	Administrative	CONDUCT A CRITIQUE OF THE EXERCISE.
A.5	Administrative	ESTABLISH MEANS TO ENSURE COMPLETION OF CORRECTIVE ACTIONS.
A.6	Administrative	INVOLVE STATE OF OHIO, OTTAWA COUNTY, AND LUCAS COUNTY EMERGENCY RESPONSE PERSONNEL, ORGANIZATIONS AND AGENCIES IN A FULL OR PARTIAL-PARTICIPATION EXERCISE, AT LEAST ONCE EVERY 2 YEARS.
A.9	Administrative	CONDUCT THE EXERCISE IN VARIOUS WEATHER CONDITIONS (DURING DIFFERENT SEASONS).
B.1	All	DEMONSTRATE THE DIRECTION OF THE EMERGENCY ORGANIZATION AND IMPLEMENTATION OF THE EMERGENCY PLAN AND EMERGENCY PLANT PROCEDURES.
B.2	Control Room, ECC	DEMONSTRATE THE TRANSFER OF THE EMERGENCY COORDINATOR DUTIES.
B.3	All	DEMONSTRATE THE ABILITY FOR TIMELY ACTIVATION AND STAFFING OF THE EMERGENCY FACILITIES.
B.4	All	DEMONSTRATE THE ABILITY TO CONTROL ACCESS TO EMERGENCY FACILITIES.
B.9	ECC	DEMONSTRATE THE AVAILABILITY AND DISPATCH OF A TECHNICAL LIAISON TO OFFSITE GOVERNMENTAL EOC'S (DEMONSTRATED ONLY WITH FULL OFFSITE PARTICIPATION).
C.1	Control Room, TSC	DEMONSTRATE THE ABILITY TO ASSESS THE INCIDENT CONDITIONS.
C.2	Control Room, ECC, TSC	DEMONSTRATE THE ABILITY TO RECOGNIZE EMERGENCY ACTION LEVELS (EAL'S) AND PROPERLY CLASSIFY THE INCIDENT.
D.1	Control Room, ECC	DEMONSTRATE THE ABILITY TO NOTIFY KEY OFFICIALS IN THE EMERGENCY ORGANIZATIONS (STATION, CORPORATE, STATE OF OHIO, OTTAWA COUNTY, AND LUCAS COUNTY) VIA THE NOTIFICATION SYSTEM/PROCEDURES WITHIN 15 MINUTES OF CLASSIFICATION.

REF. #	FACILITIES	OBJECTIVE
D.2	Control Room, ECC	DEMONSTRATE THE ABILITY TO NOTIFY THE NRC OF ANY EMERGENCY CLASSIFICATION WITHIN ONE HOUR OF THE OCCURRENCE.
D.3	All	DEMONSTRATE THE CAPABILITY TO NOTIFY AND/OR ACTIVATE EMERGENCY PERSONNEL IN EACH RESPONSE ORGANIZATION.
D.4	Control Room, ECC	DEMONSTRATE THE ABILITY TO DEVELOP AND SEND AN INITIAL EMERGENCY MESSAGE FOR OFFSITE NOTIFICATION.
D.5	Control Room, ECC	DEMONSTRATE THE ABILITY TO DEVELOP AND SEND FOLLOW-UP MESSAGES FOR INFORMATION FOR OFFSITE AUTHORITIES.
D.6	Control Room, TSC, ECC	DEMONSTRATE THE COMMUNICATIONS CAPABILITY AMONG THE CONTROL ROOM, TSC AND ECC, AND AMONG DBNPS, THE STATE OF OHIO, OTTAWA COUNTY, AND LUCAS COUNTY EMERGENCY OPERATIONS CENTERS AND THE FIELD ASSESSMENT TEAMS, TO INCLUDE EVALUATION OF THE ABILITY TO UNDERSTAND MESSAGE CONTENT (COMMUNICATIONS DRILL REQUIREMENT).
D.7	Selected	DEMONSTRATE BACKUP COMMUNICATIONS CAPABILITY.
D.8	Control Room, ECC	DEMONSTRATE THE ABILITY TO DEVELOP A LEGITIMATE, INFORMATIVE AND CLEARLY UNDERSTOOD MESSAGE SUMMARIZING THE EMERGENCY, TO BE SENT TO THE STATE OF OHIO, OTTAWA COUNTY, AND LUCAS COUNTY OFFICIALS WHO ARE RESPONSIBLE FOR MAKING THE DECISION TO ACTIVATE THE ALERT AND NOTIFICATION SYSTEM.
D.9	Control Room, ECC	DEMONSTRATE THE COMMUNICATIONS CAPABILITY WITH THE STATE OF OHIO, OTTAWA COUNTY, AND LUCAS COUNTY WITHIN THE PLUME EXPOSURE EPZ (COMMUNICATION DRILL REQUIREMENT - VERIFY OPERABILITY OF HARDWARE ONLY).
D.11	Control Room, TSC, ECC	DEMONSTRATE THE COMMUNICATION CAPABILITY FROM THE CONTROL ROOM, TSC AND ECC WITH NRC HEADQUARTERS (COMMUNICATION DRILL REQUIREMENT).
D.12	OSC, SEC	DEMONSTRATE THE COMMUNICATIONS CAPABILITY WITH FIXED AND MOBILE MEDICAL SUPPORT FACILITIES (MEDICAL DRILL REQUIREMENT).
E.1	ECC	DEMONSTRATE THE METHODS AND TECHNIQUES FOR DETERMINING THE SOURCE TERM OF RELEASES OR POTENTIAL RELEASES OF RADIOACTIVE MATERIAL WITHIN PLANT SYSTEMS.
E.2	ECC	DEMONSTRATE THE METHODS AND TECHNIQUES FOR DETERMINING THE MAGNITUDE OF THE RELEASES OF RADIOACTIVE MATERIALS BASED ON PLANT SYSTEM PARAMETERS AND EFFLUENT MONITORS.

REF. #	FACILITIES	OBJECTIVE
E.3	ECC	DEMONSTRATE THE ABILITY TO ESTIMATE INTEGRATED DOSE FROM PROJECTED AND ACTUAL DOSE RATES AND TO COMPARE THESE ESTIMATES WITH THE PAG'S.
E.4	OSC, ECC	DEMONSTRATE THE ABILITY TO IMPLEMENT EXPOSURE GUIDELINES.
E.5	OSC, ECC	DEMONSTRATE THE ABILITY TO CONTINUOUSLY MONITOR AND CONTROL EMERGENCY WORKER EXPOSURE.
E.7	ECC, RTL, RMT	DEMONSTRATE THE RESOURCES AND CAPABILITY FOR MONITORING WITHIN THE PLUME EXPOSURE EPZ.
E.11	OSC	DEMONSTRATE THE AVAILABILITY OF RESPIRATORY PROTECTION, PROTECTIVE CLOTHING AND KI.
E.12	OSC	DEMONSTRATE THE ORGANIZATIONAL ABILITY TO AUTHORIZE EMERGENCY WORKER EXPOSURE IN EXCESS OF 10 CFR PART 20 LIMITS.
E.15	OSC, SEC	DEMONSTRATE THE CAPABILITY FOR TRANSPORTATION OF A RADIOLOGICAL ACCIDENT VICTIM (MEDICAL DRILL REQUIREMENT).
E.17	OSC	DEMONSTRATE THE RESPONSE TO, AND ANALYSIS OF, SIMULATED ELEVATED AIRBORNE AND LIQUID SAMPLES AND DIRECT RADIATION MEASUREMENTS IN THE ENVIRONMENT.
E.18	OSC	DEMONSTRATE THE CAPABILITY TO ANALYZE AN ACTUAL SAMPLE OBTAINED FROM A PLANT SYSTEM INCLUDING USE OF THE POST-ACCIDENT SAMPLING SYSTEM WITHIN 3 HOURS.
F.1	ECC	DEMONSTRATE THE ABILITY TO RECOMMEND PROTECTIVE ACTIONS TO APPROPRIATE OFFSITE AUTHORITIES; BASES OF RECOMMENDATIONS TO INCLUDE CONSIDERATION OF PROTECTION AFFORDED BY SHELTERING, AS WELL AS EVACUATION TIME ESTIMATES.
F.2	JPIC	DEMONSTRATE THE OPERATION OF THE JOINT PUBLIC INFORMATION CENTER AND THE AVAILABILITY OF SPACE FOR THE MEDIA.
F.3	JPIC	DEMONSTRATE THE ABILITY TO BRIEF THE MEDIA IN A CLEAR, ACCURATE AND TIMELY MANNER.
F.4	ECC	DEMONSTRATE THE ABILITY TO PROVIDE ADVANCE COORDINATION OF INFORMATION RELEASES (DEMONSTRATED ONLY WITH FULL OFFSITE PARTICIPATION).
F.5	SEC	DEMONSTRATE THE ABILITY TO WARN OR ADVISE INDIVIDUALS ONSITE OR IN OWNER CONTROLLED AREAS.
F.8	SEC	DEMONSTRATE THE ABILITY TO ACCOUNT FOR ALL INDIVIDUALS IN THE PROTECTIVE AREA WITHIN 30 MINUTES.
F.9	OSC	DEMONSTRATE THE ABILITY TO CONDUCT SEARCH AND RESCUE PROCEDURES.

REF. #	FACILITIES	OBJECTIVE
F.11	OSC	DEMONSTRATE THE CAPABILITY FOR ONSITE FIRST AID (MEDICAL DRILL REQUIREMENT).
F.12	OSC	DEMONSTRATE THE PROVISIONS ARE AVAILABLE FOR THE EVALUATION OF RADIATION EXPOSURE OF, AND RADIATION UPTAKE IN A RADIOLOGICAL ACCIDENT VICTIM (MEDICAL DRILL REQUIREMENT).
G.1	All	DEMONSTRATE PRELIMINARY DISCUSSIONS OF REENTRY AND RECOVERY CAPABILITIES AND AVAILABILITY OF PROCEDURES.
G.2	All	DEMONSTRATE THE FACILITY RECOVERY ORGANIZATION.

2.0 DRILL INFORMATION

2.1 Exercise Participants

The participants in the Exercise will include the following groups:

2.1.1 The Davis-Besse Nuclear Power Station (DBNPS)

1. Control Room Staff (CTRM)
2. Technical Support Center (TSC)
3. Operations Support Center (OSC)
4. Emergency Control Center (ECC)
5. Dose Assessment Center (DAC)
6. Radiological Testing Lab (RTL)
7. Radiation Monitoring Teams (RMTs)
8. Joint Public Information Center (JPIC)

2.1.2 Organizations from Ottawa, Lucas and Erie Counties and the State of Ohio will also be participating.

2.2 Exercise Organizations

The organization for this Exercise will consist of the Exercise Coordinators, the Controllers, the Evaluators, the Players, and the Observers, as follows:

2.2.1 The Exercise Coordinator is responsible for a successful exercise, and will coordinate all Exercise preparations. Subsequent to the conduct of the exercise, he will coordinate the preparation of a consolidated evaluation package, and prepare and follow up on the corrective actions recommended as a result of the evaluation and critique.

2.2.2 The Lead Exercise Controller is responsible for the safe conduct of the exercise. He will coordinate the resolution of any scenario-related inter-facility questions, and ensure that the conduct of the exercise does not adversely impact the operation of the Station.

2.2.3 Controllers are personnel selected to perform functions as follows:

1. A Lead Facility Controller is assigned to each emergency response facility. The Lead Facility Controller is responsible for all Controller, Evaluator, and Observer activities in that facility and, as appropriate, its associated teams. Controllers for teams or subgroups of a facility report to the Lead Facility Controller.

2. The Controllers will deliver "Cue Cards" to designated players at specified times and places during the drill, including contingency messages as required to keep the drill moving according to the scenario. Controllers will also observe the participants at their assigned locations, and prepare an evaluation. Controllers will submit written evaluations to the Lead Facility Controllers, who will summarize all comments for submittal to the Lead Exercise Controller. Controllers are provided with instructions and evaluation forms in Section 4.0 of this manual.

3. All Controllers will act as Evaluators, as described below, and will be identified as Controllers by wearing red arm bands.

2.2.4 Evaluators are personnel who are assigned to judge the effectiveness of participating organizations, personnel, and activities. Evaluators will record their observations using the evaluation forms provided and make recommendations to the Lead Facility Controller. They will evaluate performance on the basis of standards or requirements contained in the Emergency Plan, Implementing Procedures, exercise messages, and appropriate evaluation criteria. Toledo Edison Evaluators will be identified by wearing red arm bands.

2.2.5 Players include all personnel assigned to perform emergency functions as described in the Emergency Plan and procedures. Players will be identified by wearing blue arm bands.

2.2.6 Observers may be authorized, on a limited basis, to participate in the drill for the purpose of observing exercise activity for personal education. Onsite Observers will report initially to the DBNPS Emergency Preparedness Manager for credential review and authorized admittance. They will be provided with orientation information and appropriate exercise publications. Onsite Observers will be identified by wearing green arm bands. Offsite observers will report to the Lead Facility Controller for the respective facility and will be identified by wearing green arm bands.

Requests to participate as an Observer should be made in writing and contain the Observer's full name, home address and phone number, and organizational affiliation. Requests to participate as Onsite Observers must be submitted to the DBNPS Emergency Preparedness Manager no later than one week before the exercise.

2.3 Emergency Response Facilities

During the Exercise, the following facilities will be activated to manage, assess, and support emergency response activities.

2.3.1 Onsite Facilities

The Toledo Edison Company emergency response facilities are:

1. Control Room (CTRM)

   The DBNPS Control Room, located on the 623' elevation of the Auxiliary Building, is the facility from which the routine operation of the plant is conducted. During abnormal or emergency conditions, when the Emergency Plan is implemented, the Shift Supervisor is given additional responsibilities as the Emergency Director. In this capacity, he is responsible for the coordination of the Toledo Edison/DBNPS response to the emergency until relieved. The initial response to this scenario, and any emergency condition, is managed by the Operating Shift Crew in the Control Room. Once the Shift Supervisor is relieved of the responsibilities of Emergency Director, the Operating Shift Crew retains responsibility for operation of plant systems and equipment.

   NOTE: For this Exercise the Control Room Mock-up located in the Training Center will be used.

2. Technical Support Center (TSC)

   When emergency conditions escalate to an Alert status or higher, coordination of the operations aspects of the emergency response will shift from the Control Room to the TSC, located in the Davis-Besse Administration Building. The primary function of the TSC is to support an organization that provides technical assistance to Station personnel during emergency conditions. The TSC provides direct voice and data communications contact with the Corporate Emergency Response (CER) organization. Control Room instrumentation can be observed using closed-circuit television (CCTV) from the TSC. The TSC also contains the DADS (Data Acquisition and Display System) and the SPDS (Safety Parameter Display System) to enable the TSC staff to acquire plant data in support of technical evaluations needed to mitigate emergency conditions and recovery operations.

   The TSC contains work space for up to 25 people.

A "Satellite TSC" immediately adjacent to the Control Room, provides work space for the Emergency Assistant Plant Manager. (This location allows better coordination of the emergency response functions by being closer to problems needing attention.)

NOTE: Personnel who would normally be in the "Satellite TSC" will be in the Control Room Mock-up for this Exercise.

3. Operations Support Center (OSC)

The OSC, is located in the second floor lunchroom of the Personnel Shop Facility (PSF). It provides a location for assembly and coordination of emergency response teams during an emergency. The OSC is activated at Alert or higher emergency conditions, and may be activated for an Unusual Event at the discretion of the Shift Supervisor/Emergency Director.

The purpose of the Operations Support Center is to provide a pool of skilled manpower from which emergency response teams are assembled (e.g. First Aid, Operations, Fire Brigade, Emergency Maintenance and Reentry teams). Also, it provides an assembly area for designated plant personnel who are not on shift.

4. Emergency Control Center (ECC)

The ECC, located in the Davis-Besse Administration Building, is activated at Alert or higher emergency conditions. The ECC's primary function is to provide a centralized location for management of protective action planning, and continuous coordination and control of onsite and offsite emergency activities.

The ECC staff evaluates the impact of actual or potential radioactive releases, and provides management assistance in the decision-making process to protect the public health and safety. Recommendations to State and County authorities are based on Station conditions as well as radiological and meteorological data. The ECC contains advanced systems to establish and maintain communications with state, federal, and local officials, and to enable coordination and control of Radiation Monitoring Teams (RMTs).

The ECC provides space for occupancy of at least 16 people.

5. Dose Assessment Center (DAC)

A section of the ECC that controls the operation of the Field Radiation Monitoring to gather radiation data for evaluation of the impact of actual or potential radioactive releases. Provides technical assistance in the decision to protect the public health and safety. The Dose Assessment Center contains communication and computer equipment to contact RMT's and project radiation doses offsite.

6. Radiological Testing Laboratory (RTL)

The RTL's primary function is to provide a location near the ECC and TSC for radiological analysis of low level environmental samples. The RTL contains work areas for 4 people and additional space allotted for temporary occupancy by field personnel. Major equipment components in the RTL are designed to be easily removable for potential use in the field.

7. Radiation Monitoring Team (RMTs)

Radiation Monitoring Teams are emergency responders trained to monitor radiological conditions outside the Protected Area, and report these conditions to the Dose Assessment Center for evaluation.

8. Joint Public Information Center (JPIC)

The Joint Public Information Center (JPIC) is the emergency facility for coordinating news releases and providing joint briefings media during an event at Davis-Besse. A primary and an alternate location are available to support this function. Toledo Edison Company, state, local and federal agencies represented at the JPIC jointly prepare news information for release to the public via the news media. Equipment and work spaces for Public Information Officers and their staffs are provided to support timely communications on plant status and emergency response actions. JPIC facilities include news briefing areas for approximately 200 electronic and print media representatives. Facility operations and administrative support are coordinated by Toledo Edison. JPIC support is available for any plant emergency. However, facility activation is mandatory at (and above) the Alert emergency classification level.

a. Primary JPIC

The primary JPIC is located in the Energy Education Center (EEC) at the Davis-Besse Administration Building.

b. Alternate JPIC

The alternate JPIC is located in the Edison Club - Auditorium, 1036 River Road, Maumee, Ohio.

2.4 Exercise Conduct

2.4.1 Overview

The Exercise will simulate an abnormal incident at Davis-Besse which will escalate to a General Emergency. The simulated emergency will then terminate and the Recovery Phase will be initiated.

The conduct of the Exercise will demonstrate the effectiveness of participating organizations, personnel, and activities in support of the Emergency Plan and associated procedures.

2.4.2 Actions

Emergency response actions during the simulated emergency will include: recognition and classification of emergency conditions; assessment of onsite/offsite radiological consequences; alert/notification and mobilization of the emergency response organization; implementation of in-plant corrective actions; activation/operation of emergency response facilities and equipment; preparation of reports, messages, and recordkeeping.

2.4.3 Communications

The Exercise will also demonstrate the effective use of communications systems.

2.4.4 Players

The success of the Exercise is largely dependent upon player reaction, knowledge of the Emergency Plan and objectives of the exercise. Initial conditions which will affect player action or reaction will be provided to the players at the time the drill begins. Most elements of the Exercise will be introduced through the use of "Cue Cards". Players are responsible for initiating actions in accordance with exercise instructions, responsibilities, and procedures for their particular duties. Each Player will advise his/her Controller prior to performing emergency response actions, to ensure that the Player is credited for those actions.

1. The Control Room (Mock-up) will be the central point for distribution of exercise cue cards, and is the key to ensuring that the Exercise is on schedule. Simulated plant parameters will be provided to the Mock-up Operators using plant data and status sheets. The Mock-up Operators are responsible for relaying pertinent plant drill data to other emergency

facilities. The Safety Parameter Display System (SPDS) and the TSC Plant Status display will exhibit specific parameters. SPDS trends will display gradual trend changes in plant parameters. The TSC will have point value and group displays available to monitor the current plant status. A redundant SPDS system will continue to provide actual SPDS parameters and alarms.

In the event of an actual emergency resulting in the termination of the Exercise, real-time SPDS will be restored to the TSC within minutes. The plant computer will not be used for the exercise.

2. In order to develop a sequence that exercises the entire emergency response organization, it is necessary to suppose incredible situations. The Players must accept the exercise messages as written. Time shall not be spent discussing why a situation could not occur. Players shall react as though it did. If corrective actions are proposed that would terminate the emergency, they should be identified to the Lead Facility Controller, so that he can acknowledge the corrective actions, but continue the scenario progress as designed. Players are expected to "free play" the scenario to the extent practical. Notifications of, and contact with supervisors, plant management, and offsite agencies will be made in accordance with plant procedures.

   Players are reminded not to be excessively concerned with the mechanics or cause of the simulated malfunctions. This Exercise is designed to evaluate the Emergency Plan, Implementing Procedures, and Emergency Preparedness Training Program; not the probability, feasibility, or detailed mechanics of the simulated accident. Players should note any needed improvements to Emergency Response Facilities and equipment, Emergency Procedures, or Emergency Preparedness Training that come to their attention during the Exercise. Players shall submit recommendations to the appropriate Controller at the conclusion of the Exercise.

2.5 Precautions and Limitations

This section provides guidance on the conduct of this Exercise. Prior to initiation, a briefing will be held to review the drill process with all Controllers and Evaluators.

2.5.1 Should, at any time during the conduct of this Exercise, an actual emergency situation arise, all activities related to the Exercise may be suspended by the Lead Exercise Controller. It is the responsibility of any Controller who becomes aware of an actual emergency to suspend Exercise activities 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 shall notify all Lead Facility Controllers. The Lead Exercise Controller shall make a determination at that point whether to continue, place a temporary hold on, or terminate the Exercise.

2.5.2 Should, at any time during the conduct of this Exercise, a controller witness any participant undertake any action which would, in the opinion of the controller, place either an individual or a component in an unsafe condition, the controller is responsible for intervening and terminating the unsafe activity immediately. Upon termination of the activity, the controller is responsible for contacting the Lead Exercise Controller and informing him of the situation. The Lead Exercise Controller shall make a determination at that point whether to continue, place a temporary hold on, or terminate the Exercise.

2.5.3 Manipulation of any plant operating systems, valves, breakers, or controls in response to this Exercise is to be properly controlled by existing procedures and qualified personnel. There shall be no alteration of any plant operating equipment, systems, or circuits during the response to this Exercise without operators permission. Any equipment manipulation/work will be in accordance with proper station procedures. Carried out by qualified personnel with the operating crew authority and permission.

2.5.4 All telephone communications, radio transmissions, and public address announcements related to the exercise shall begin and end with the statement, "This is a drill".

Controllers are reminded not to "coach" Players, but shall ensure that Exercise communications are clearly identified as such, to avoid confusion with other activities. Repeated failure to identify that communications are part of a Exercise shall require intervention by a controller.

2.5.5 Care shall be taken to prevent any non-participating individuals who may observe Exercise activities from believing that an actual emergency exists. Any 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.

2.5.6 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.

2.5.7 Should any onsite security actions be required in response to this Exercise, Exercise participants are to cooperate as directed by the Security Force. Security representatives are to be prudent and tolerant in their actions.

2.5.8 While Exercise participants are to inject as much realism into the exercise as possible, the safety of the plant and personnel shall not be jeopardized.

2.6 Evaluation and Critique

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

After the Exercise is completed, the Lead Exercise Controller shall conduct a post-exercise critique. Deficiencies in the Emergency Plan, Implementing Procedures, the emergency preparedness training program, facilities, equipment, and/or other areas shall be identified through the critique process. The deficiencies shall be documented by the Lead Exercise Controller and corrected by the individuals who have responsibility in the area of the identified deficiency.

The schedule for the critiques is included in Section 5.0.

2.7 Scenario Development Committee

Chairman	D. J. Gordon	Emergency Preparedness

Plant Operations/TSC

1.	L. G. Keller	Operations (SRO)
2.	J. L. Freels	Operations (SRO)
3.	D. R. Lightfoot	Planning/Scheduling

Radiological Control

1.	C. E. Upchurch	Emergency Preparedness
2.	D. S. Jazwiecki	Radiological Control
3.	B. R. Zibung	Radiological Control

Maintenance

1.	G. D. Shietz	Electrical
2.	R. J. Wilhelm	Mechanical
3.	J. W. Zimmerman	I&C
4.	V. J. Sodd	Maintenance Services

Dose Assessment

1.	C. E. Upchurch	Emergency Preparedness
2.	I. M. Borland	Radiological Control

Chemistry/PASS/Core Damage

1.	M. M. Alexich	Chemistry
2.	R. W. Voll	Reactor Engineering

Computer Support (DADS/SPDS/MET)

1.	R. A. Bast	Computer Group

Medical

1.	W. E. Comings	Industrial Safety

JPIC/Corporate

1.	J. D. Basa	Emergency Preparedness
2.	K. L. Moore	Emergency Preparedness

Security

1.	R. E. Maier	Security
2.	F. F. Pitzen	Security
3.	D. M. Ruff	Emergency Preparedness

Offsite Interfaces

1.	M. P. Findlay	Emergency Preparedness
2.	C. R. Dewitz	Emergency Preparedness
3.	S. E. Gerhardstein	Emergency Preparedness

3.1 References

3.1.1 DBNPS Emergency Plan - Toledo Edison Company, (Rev. 13, 12/89)

3.1.2 DBNPS Emergency Plan Implementing Procedures

3.1.3 DBNPS Emergency Plan Station Support Procedures

3.1.4 10 CFR 50.47, 50.54 and Appendix E

3.1.5 DBNPS Radiation Protection Manual

3.1.6 DBNPS, Unit 1, Technical Specifications

3.1.7 DBNPS Piping and Instrumentation Drawings

3.1.8 Toledo Edison Corporate Emergency Response (CER) Plan

3.1.9 Toledo Edison Corporate Emergency Response Plan (CER) Implementing Procedures

3.2 List of Abbreviations

AFP	Auxiliary Feed (Water) Pump
ALARA	As Low As Reasonably Achievable
ARM	Area Radiation Monitor
ARTS	Anticipatory Reactor Trip System
ATMOS	Atmosphere
ATWS	Anticipated Transient Without Scram
AUX	Auxiliary
AVG	Average
BAAT	Boric Acid Addition Tank
BKWSH	Back Wash
BRKR	Electrical Circuit Breaker
BWST	Borated Water Storage Tank
CAM	Continuous Air Monitor
CANS	Computerized Automated Notification System
CAS	Central Alarm Station
CCTV	Closed Circuit Television
CCW	Component Cooling Water System
CER	Toledo Edison Corporate Emergency Response Organization
CFT	Reactor Core Flood Tank
CFR	Code of Federal Regulations
CNDS	Condensate System
COND	Condenser
CPM	Counts Per Minute
CS	Containment Spray System
CST	Condensate Storage Tank
CT	Circulating Water System
CTMT	Reactor Containment Building
CTRM	Control Room
DADS	Data Acquisition and Display System
DBAB	Davis-Besse Administrative Building
DBNPS	Davis-Besse Nuclear Power Station
DEI	Dose Equivalent Iodine

DEMIN	Demineralizer
DH	Decay Heat Removal System
DISCH	Discharge
DP	Differential Pressure
DWS	Demineralized Water System
EAL	Emergency Action Level
ECC	Emergency Control Center
EDG	Emergency Diesel Generator
EEC	Energy Education Center
EFP	Emergency Feed Water Pump
EMA	Emergency Management Agency
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPZ	Emergency Planning Zone
EVAL	Evaluated
FAT	First Aid Team
FEMA	Federal Emergency Management Agency
FT	Feet
FW	Feed Water
GPM	Gallons Per Minute
HDR	Header
HLCWT	High Level Cooling Water Tank
HPI	High Pressure Injection System
HVAC	Heating Ventilation and Air Conditioning System
HX	Heat Exchanger
I&C	Instrument and Control Department
IN	Inch
INST	Instrument
JPIC	Joint Public Information Center
KI	Potassium Iodide
LP	Low Pressure
LVL	Level
MISC	Miscellaneous
MSIV	Main Steam Isolation Valve
MTR	Motor
MU	Makeup System
NI	Nuclear Instrumentation
NRC	Nuclear Regulatory Commission
OTSG	Once Through Steam Generator
OOS	Out of Service
OSC	Operations Support Center
PA	Public Address System
PASS	Post Accident Sampling System
PC	Protective Clothing
PI	Pressure Indication
PMP	Pump
PORV	Pressurizer Power Operated Relief Valve
PPF	Personnel Processing Facility
PR	Public Relations
PSF	Personnel Shop Facility
PSIA	Pounds Per Square Inch Absolute
PSIG	Pounds Per Square Inch Gauge
PT	Periodic Test
PTS	Pressurized Thermal Shock
PWR	Pressurized Water Reactor

PWST	Primary Water Storage Tank
PZR	Pressurizer
RCA	Radiologically Controlled Area
RC	Radiological Controls
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RE	Fixed Radiation Instrument
RLF	Relief Valve
RM	Radiation Monitor
RMT	Radiation Monitoring Team
RTL	Radiological Testing Laboratory
Rx	Reactor
SAS	Secondary Alarm System
SFP	Spent Fuel Pool
SFAS	Safety Features Actuation System
SFRCS	Steam and Feed Water Rupture Control System
SJAE	Steam Jet Air Ejector
SPDS	Safety Parameter Display System
SPF	Spent Fuel
SRST	Spent Resin Storage Tank
ST	Surveillance Test
SW	Service Water System
SYS	System
Tc	Reactor Coolant System Cold Leg Temperature
TC	Thermal Couple
TDG	Total Dissolved Gases
Th	Reactor Coolant System Hot Leg Temperature
TPCW	Turbine Plant Cooling Water
TRBL	Trouble
TSC	Technical Support Center
VOM	Volt Ohm Meter
WGST	Waste Gas Storage Tank
WK	Week
WR	Wide Range Instrument
WTR	Water
XFER	Transfer
XMIT	Transmit

3.3 Definitions

3.3.1 ALERT: The level of emergency classification which indicates that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

3.3.2 ANTICIPATED TRANSIENT WITHOUT SCRAM (ATWS): Failure of the reactor control rods to insert into the core upon a scram signal from the Reactor Protection System or the failure of said system to initiate a SCRAM when Reactor Protection System trip limits have been exceeded.

3.3.3 ASSESSMENT ACTIONS: Those actions taken during or after an accident to obtain and process information that is necessary to make decisions to implement specific emergency measures.

3.3.4 CONTROL ROOM (CTRM): The principle onsite location from which the reactor is controlled and from which emergency control is initially exercised. The CTRM is located on the 623' elevation of the Auxiliary Building.

3.3.5 CONTROLLER: A member of the Exercise control group, assigned to one or more activities or functions for the purpose of keeping the action going according to a scenario, resolving scenario discrepancies, and supervising the actions of the players.

3.3.6 CORRECTIVE ACTIONS: Those emergency measures taken to improve or terminate an emergency situation.

3.3.7 DECONTAMINATION: The process by which the body or an object is relieved of radioactive substances (contamination).

3.3.8 DOSE ASSESSMENT: The process of estimating the amount of radiation a person will potentially receive as a result of exposure to a radiological release.

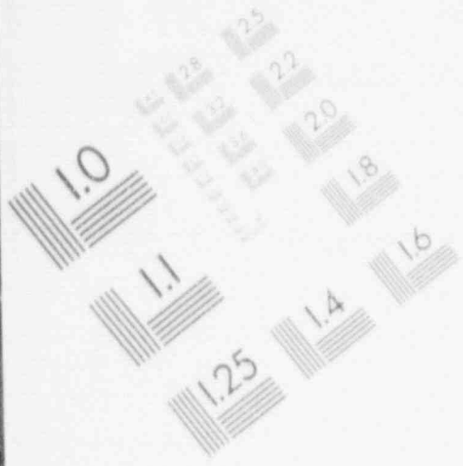
3.3.9 DRILL: A supervised event aimed at evaluating, developing, and maintaining skills in a particular operation.

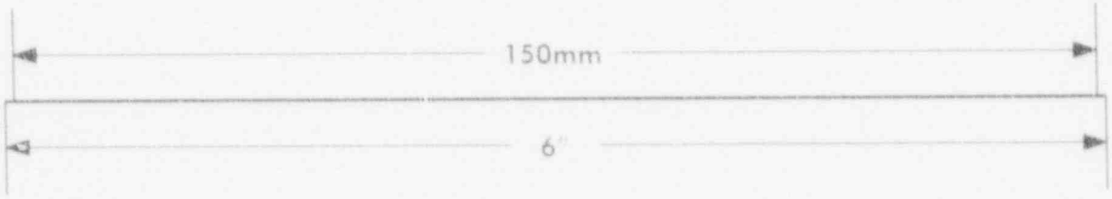
3.3.10 EMERGENCY ACTION LEVELS (EALs) - Radiological dose rates; specific contamination levels or airborne, waterborne, or surface-deposited concentrations of radioactivity; or specific plant conditions that may be used as thresholds for initiating specific emergency measures.

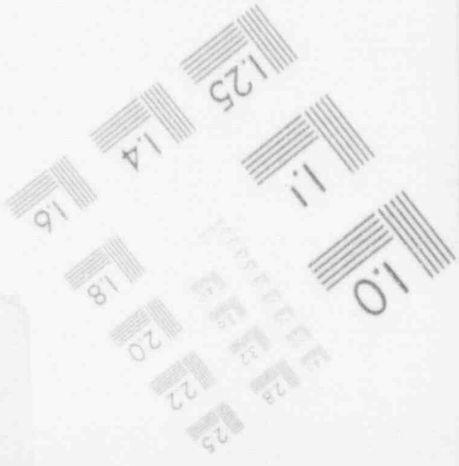
3.3.11 EMERGENCY CONTROL CENTER (ECC): The Toledo Edison emergency response facility from which overall direction and control are exercised for emergencies at DBNPS. The facility also provides a central point of contact for communications and external (non-Toledo Edison) organizations, and is fully activated for emergencies classified as an Alert or higher.

1

IMAGE EVALUATION
TEST TARGET (MT-3)





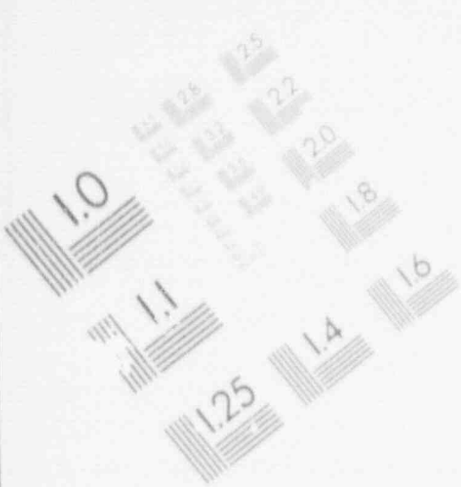


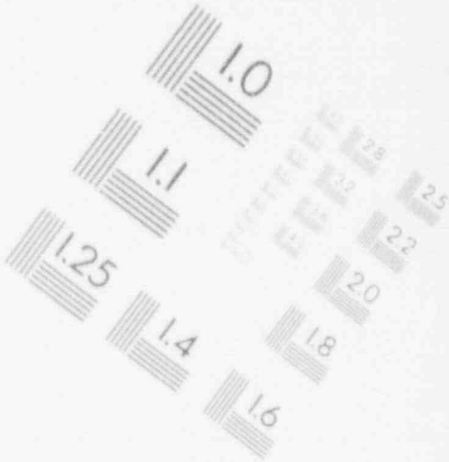
1

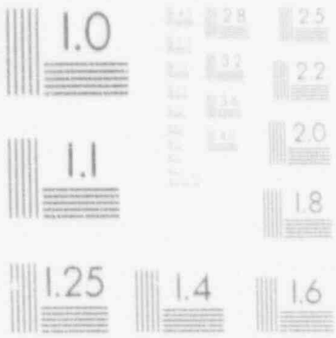
IMAGE EVALUATION
TEST TARGET (MT-3)

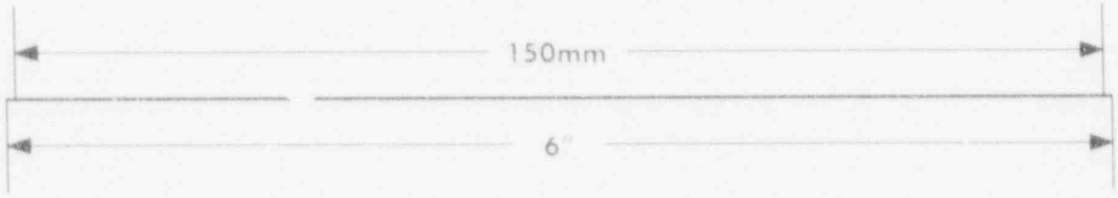
1

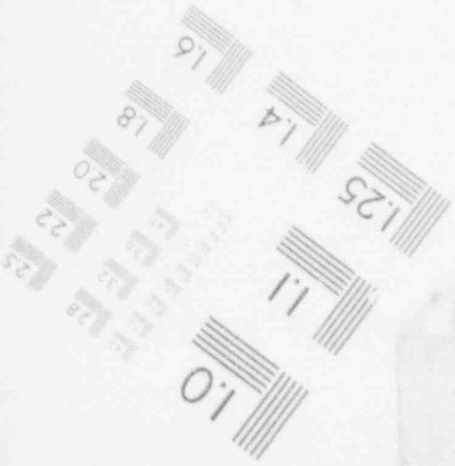
IMAGE EVALUATION
TEST TARGET (MT-3)

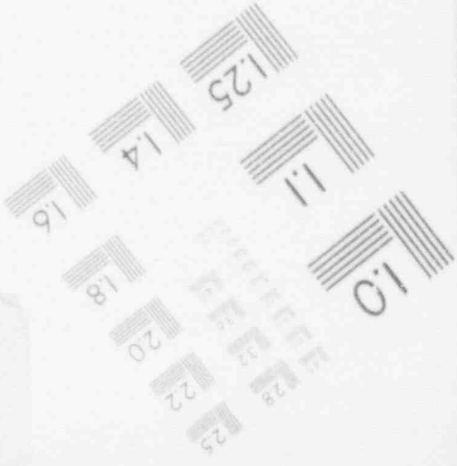












3.3.12 EMERGENCY OPERATIONS CENTER (EOC): An emergency response facility from which government officials exercise direction and control. The EOCs are located as follows:

Ottawa County:	Basement of the Ottawa County Courthouse Madison Ave. Port Clinton, Ohio
Lucas County:	Subbasement of the Lucas County Correction Facility 1622 Spielbush Ave. Toledo, Ohio
State of Ohio:	Basement of the Robert B. Beightler Armory 2825 West Granville Rd. Worthington, Ohio
State of Michigan:	Emergency Management Division Suite 300 3005 Washington Square Lansing, Michigan 48913

3.3.13 EMERGENCY PLANNING ZONES (EPZs): The land areas encompassed within approximately 10 and 50 mile radii of the DBNPS, in which protective actions may be necessary to protect the public in the event of a nuclear plant accident. The 10 mile zone is referred to as the Plume Exposure EPZ; the 50 mile zone is termed the Ingestion Exposure EPZ (IPZ).

3.3.14 EMERGENCY RESPONSE FACILITY: Any of several onsite and offsite centers which are activated to coordinate emergency actions. Included in this category are the Control Room, Technical Support Center, Operations Support Center, Emergency Control Center, Joint Public Information Center, and State and local Emergency Operations Centers.

3.3.15 EVALUATOR: A member of the exercise evaluation group, assigned to one or more activities or functions for the purpose of evaluating and making recommendations for improvement. An evaluator may serve in a dual capacity as both a Controller and Evaluator.

3.3.16 EXCLUSION AREA: The area surrounding the DBNPS in which the Toledo Edison Company has the authority to determine all activities including exclusion or removal of persons and property from the area during accident conditions.

3.3.17 EXERCISE: An event which tests the overall functions and capabilities of organizations involved in responding to an emergency situation. An exercise will usually simulate an emergency that results in offsite radiological releases which require response by offsite authorities.

3.3.18 GENERAL EMERGENCY: The most severe level of emergency classification which indicates that events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Release of radioactive material can be reasonably expected to exceed PAG exposure levels offsite.

3.3.19 INGESTION PATHWAY: The exposure mode for which the zone of concern encompasses an area of approximately 50 mile radius around DBNPS. The principle exposure in this area would be from ingestion of contaminated water or foods; such as milk or fresh vegetables. The period of potential exposure could range in length from hours to months.

3.3.20 JOINT PUBLIC INFORMATION CENTER (JPIC): An emergency response facility, located in the Davis-Besse Administration Building, which is staffed by Toledo Edison Company, local, State, NRC and FEMA officials. The JPIC provides a forum and point of contact for a coordinated release of news and information to he news media, general public, Toledo Edison Company employees and the special interest groups.

3.3.21 OBSERVER: Any individual who is authorized to observe the Exercise, but is not authorized to interact with the players.

3.3.22 OFFSITE: All land and water areas outside the Owner-Controlled Area fence surrounding the DBNPS.

3.3.23 ONSITE: All land and water areas within the Owner-Controlled Area surrounding the DBNPS.

3.3.24 OPERATIONS SUPPORT CENTER (OSC): An onsite emergency response facility which provides a location where emergency response teams can be assembled and coordinated during an emergency.

3.3.25 OWNER-CONTROLLED AREA: The area around the DBNPS that is owned/ and to which the access controlled, by the Toledo Edison Company.

3.3.26 PARTICIPANT: An individual who has some part in the Exercise, whether as an Evaluator, Controller, Player or Observer.

3.3.27 PLAYERS: All individuals (DBNPS, Toledo Edison Company personnel, and individuals from offsite organizations and agencies) who are assigned to perform functions of the emergency response organization, as described in the appropriate Emergency Plan and Emergency Plan Implementing Procedures.

3.3.28 PLUME EXPOSURE PATHWAY: The exposure mode for which the zone of concern encompasses an area of approximately a 10 mile radius around DBNPS. The principle exposure sources in this area are: 1) whole body external exposure to gamma radiation from the plume and deposited material, and 2) inhalation exposure from the passing radioactive plume. The period of potential exposure could range from hours to days.

3.3.29 POPULATION AT RISK: Those persons for whom protective actions would be taken.

3.3.30 PROTECTED AREA: The area within the Site Boundary encompassed by physical barriers and to which access is controlled for security purposes.

3.3.31 PROTECTIVE ACTION: Those emergency measures taken after an accident or an uncontrolled release of radioactive materials has occurred, for the purpose of preventing or minimizing radiological exposures to personnel that would otherwise occur.

3.3.32 PROTECTIVE ACTION GUIDES (PAGs): Projected radiological doses to individuals in the general population which warrant protective action following a release of radioactive material.

3.3.33 RADIOLOGICALLY CONTROLLED AREA (RCA): Any area in which the general area radiation level is equal to or exceeds 0.25 mrem/hr or radioactive loose surface contamination is equal to or exceeds 1000 dpm/100 cm^2 beta-gamma, or 20 dpm/100 cm^2 alpha activity. A general REF is required for entry to this type area.

3.3.34 RADIOLOGICAL MONITORING TEAMS (RMTs): Two-person teams responsible for monitoring radiation levels in the environment and collecting soil, air, vegetation, snow, and water samples for laboratory analysis.

3.3.35 SITE AREA EMERGENCY: The level of emergency classification which indicates that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. any releases of radioactive material are not expected to exceed Protection Action Guide (PAG) exposure levels, except within the Site Boundary.

3.3.36 TECHNICAL SUPPORT CENTER (TSC): An onsite emergency response facility for use by technical and management personnel in support of the command and control functions executed in the Control Room.

3.3.37 UNUSUAL EVENT: The lowest level of emergency classification, which indicates that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant.

4.0 CONTROLLER AND EVALUATOR INSTRUCTIONS

Each Controller and Evaluator should be familiar with the following:

1. The objectives of the exercise.

2. The assumptions and precautions being taken.

3. The exercise scenario, including the initiating events and the expected course of action to be taken.

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

5. The evaluation checklists provided herein.

4.1 Controller Instructions

4.1.1 Controllers shall position themselves at their assigned locations a minimum of 30 minutes prior to the activation of the facility for which they have responsibility.

4.1.2 Controller communications shall be tested prior to exercise commencement. All watches and clocks shall be synchronized with the Lead Exercise Controller's as part of the communications testing.

4.1.3 All controllers shall comply with instructions from the Lead Exercise Controller.

4.1.4 No cue cards shall be delivered out of sequence or other than as written unless specifically authorized by the Lead Exercise Controller.

4.1.5 Cue cards controlling the progress of the scenario are noted with a number. Contingency cue cards are noted with a number followed by the letter "X" (e.g., 10X). Contingency cue cards are only delivered if certain conditions indicated on the card are met.

4.1.6 Data sheets shall be distributed only in the Control Room.

4.1.7 Controllers will not provide information to the players regarding scenario progression or resolution of problems encountered in the course of the simulated emergency. Participants are expected to obtain information through their own organizations and exercise their own judgement in determining response actions and resolving problems.

4.1.8 Some Players may insist that parts of the scenario are unrealistic. The Lead Controllers have the sole authority to clarify any questions regarding scenario content.

4.2 Evaluator Instructions

Each evaluator shall take detailed notes regarding the progress of the exercise and the 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.

The standards below should be used by the controller/evaluator to evaluate assigned areas pertaining to the emergency response. A dual purpose will be served by this rating system. First, the capability of each facility or response area will be evaluated, and second, the system will provide a vehicle for directing improvement. The rating scale is as follows:

Satisfactory - Personnel and equipment generally performed as expected. Any errors noted were not severe and could be corrected without undue labor or expense.

Unsatisfactory - Personnel and equipment generally performed below expectations, and there was several significant deficiencies noted. The area's ability to carry out its functions was diminished.

N/A - Not Applicable to the situation.

N/O - Not Observed.

As appropriate, evaluator comments should consider the demonstration of the following facility and team evaluation elements:

4.2.1 Facility

1. Accurate and timely determination of emergency action levels.

2. Timely activation and staffing for each emergency action level.

3. Familiarity of personnel with appropriate emergency procedures, duties and responsibilities.

4. Timely notification of Toledo Edison, local, state and federal personnel/agencies (information updates performed).

5. Adequacy of internal information systems (e.g., message handling, displays, status boards and maps).

6. Properly controlled documentation and accurate, timely record keeping.

7. Use of correct communications procedures and techniques.

8. Capability of facility managers to interface with personnel and coordinate facility activities.

9. Consideration for personnel safety (e.g., exposure control).

10. Adequacy of interface between emergency response facilities.

11. Adequacy of equipment and supplies.

12. Timely initiation of onsite protective/corrective actions.

13. Development of offsite protective action recommendations.

14. Radiological surveys and assessment of plant damage and hazardous conditions performed.

15. Timely requests for emergency support services.

16. Coordinated, accurate and timely dissemination of information to the news media.

4.2.2 Emergency Teams

1. Timely notification and activation.

2. Adequacy of staffing.

3. Familiarity with appropriate emergency procedures, duties and responsibilities.

4. Availability and utilization of proper equipment.

5. Performance of contamination control/decontamination.

6. Proper interface with emergency support personnel.

7. Use of correct communications instructions and techniques.

8. Adequacy of briefing sessions per the dispatch.

9. Direction and control by team leaders.

10. Timely requests for additional assistance.

11. Coordination and interface between emergency response team members.

12. Proper interface with plant supervisory personnel.

13. Availability of reference documents.

14. Utilization of proper radiological control practices (e.g., access control, protective clothing, shielding, stay time).

15. Assessment of radiological conditions.

16. Timely and proper damage assessment.

17. Properly maintained records.

Evaluators will record their comments and prepare a written evaluation of the exercise. Evaluation forms will be provided to each evaluator for more specific evaluation criteria.

4.2.3 Personnel Assignments

Figure 4.1 lists the personnel assignments for the onsite controller organization.

4.2.4 Evaluation Packages

The following evaluation packages will be provided to the appropriate controller evaluators at the pre-exercise briefing:

Control Room

Operations Support Center

Repair Teams

Technical Support Center

Emergency Control Center

Joint Public Information Center

Dose Assessment Center

Fire Brigade

First Aid Team

Radiation Monitoring Teams

Security

Radiological Testing Laboratory

4.2.5 Evaluation Process

All evaluators shall maintain an exercise chronology. This chronology shall be of sufficient detail to enable subsequent completion of the appropriate evaluation form. It should contain a synopsis of significant exercise events, actions taken (or not taken) by players, questions noted, and positive as well as negative assessments made by the evaluator. This chronological record may be used to corroborate critique items that are questioned by participants.

Each evaluator shall also complete an evaluation form for the facility or function to which they are assigned.

Each Lead Facility Controller shall de-brief the evaluators in their facility and compile an Exercise Evaluation Report Sheet for that facility. This report sheet shall reflect an overall assessment of the performance of that facility, and of the five (5) specific categories. Significant weaknesses or deficiencies shall be itemized to ensure adequate follow-up attention is devoted to resolution of the problem. Significant positive items shall be included here as well.

The formal post-exercise critique shall be conducted by the Lead Exercise Controller, with each Lead Facility Controller providing an evaluation of their facility.

TABLE 4.1

EXERCISE CONTROLLER ASSIGNMENTS

MOCK-UP	
* B. W. Cope	Control Room Management
J. L. Freels	Control Room Operator
L. G. Keller	Control Room Operator
C. F. Blausey	Control Room Data
OSC	
* V. J. Sodd	OSC Management
P. J. Volker	OSC RC Coordinator
W. C. Comings	OSC First Aid Team
D. S. Jazwiecki (RC)	OSC Response Team
G. D. Shiets	OSC Response Team
J. W. Zimmerman	OSC Response Team
R. J. Wilhelm	OSC Response Team
M. M. Alexich (Chem)	OSC Response Team
B. R. Zibung (RC)	OSC Response Team
ASSEMBLY AREAS	
* D. M. Ruff	Assembly Areas
J. C. Troknya	Assembly Area Coordinator
D. M. Behrens	Assembly Area Coordinator
TSC	
* D. R. Lightfoot	TSC Management
R. B. Coad	Emergency RC Manager
R. W. Voll	TSC Engineers
N. L. Bonner	TSC Engineers
R. A. Bast	TSC Computers
ECC	
* J. J. Johnson	ECC Lead
A. E. Lee	Emergency Director
P. J. Smith	CANS/Emergency Facility Services Manager
C. E. Upchurch	Dose Assessment
RTL	
T. M. Sxydlowski	RMT
D. F. Isherwood (RMT)	RMT
R. C. Leow	RMT
* G. R. Rawn	RTL Coordinator
T. L. Stiefel	RMT
S. S. Hawley	RMT
I. M. Borland	RMT

* Indicates Lead Facility Controller

TABLE 4.1 (continued)

EXERCISE CONTROLLER ASSIGNMENTS

SECURITY

C. L. DeTray	Emergency Security Manager
L. Lenz	CAS/PA
	PPF
C. E. Woods	DBAB Security
	Emergency Security Manager
* R. E. Maier	Security Lead

CONTROL CELL

A. V. Antrassian	Simulated NRC Duty Officer
G. V. Anderson	Emergency Preparedness Staff
J. A. Harmon	Emergency Preparedness Staff

JPIC

* J. D. Basa	JPIC Manager
K. L. Moore	Corporate EP Advisor
V. M. Watson	JPIC

OTHERS

D. J. Gordon	Rover

* Indicates Lead Facility Controller

SECTION 5.0

SCHEDULE OF EVENTS

Davis-Besse Nuclear Power Station

1991 Annual Emergency Preparedness Exercise

Schedule of Meetings

Date/Time	Where	What
May 7, 1991	Room 209 - 210 DBNPS Administration Building	Offsite Controller Meeting
May 7, 1991 10:00 - 11:00	Energy Education Center DBNPS Administration Building	Utility Controllers Meeting
May 7, 1991 13:00 - 15:00	Room 209 - 210 DBNPS Administration Building	NRC Briefing
May 7, 1991 15:00 - 16:00	Energy Education Center DBNPS Administration Building	Utility Players Briefing
May 8, 1991 All Day	**All Facilities**	**Exercise**
May 9, 1991 08:00 - 12:00	Energy Education Center DBNPS Administration Building	Utility Controllers Debriefing
May 9, 1991 08:00 - 14:00	Rooms 168 and 169 DBNPS Administration Building	Offsite Controllers De-briefing
May 10, 1991 08:00 - 10:30	Energy Education Center DBNPS Administration Building	Player/NRC Critique
09:30 - 11:00	Ottawa County EOC	FEMA Critique
11:00 - 12:30	Ottawa County EOC	Public Critique

6.1 Narrative Summary

The 1991 Emergency Preparedness Exercise is to be an eight (8) hour exercise with offsite participation.

The scenario involves a reactor coolant pump seizure. Prior to the start of the drill the Control Room staff is informed that a slow controlled shutdown began at 0630 on T.S. 3.4.8. An UNUSUAL EVENT was declared on EAL 1.D.1 (high coolant activity requiring shutdown).

At 0745 (Exercise T:01/45) the RCP seizes, the pump impeller breaks loose and parts are transferred into the reactor core. The pump seal also fails and a LOCA starts. The Containment Radiation Monitor reading increases. An ALERT is declared on EAL 2.A.2 (Reactor Coolant System leak greater than 50 GPM). The impeller parts will later cause core damage.

One and a half hours after the pump seizure some Incore thermocouples have increased and a High Containment Radiation Alarm is received. A SITE AREA EMERGENCY is declared on EAL 1.F.2 (High Containment Radiation Levels).

Failure of a Containment Sump Isolation Valve provides a release path. A GENERAL EMERGENCY should be declared on one of the following EALs:

- 1.E.1 (Loss of 2 of 3 Fission Product Barriers)
- 6.D.3 (Very High Dose Rates at the Site Boundary)

Utility PARs are to evacuate Subareas 1 and 12, shelter as a minimum Subareas 2 and 6, and recommend no action in remaining subareas.

Players will be directed to take a PASS sample.

An indication of a leak in Fire Main will occur.

Plume tracking and mitigation efforts continue. When the Emergency Workers shut the Containment Sump Isolation Valve or close up Valve DH 2733 the release path is closed.

Reentry and Recovery discussions will take place. The emergency phase of the Exercise will be terminated when the Lead Exercise Controller determines that all objectives have been met.

Each facility will conduct a critique and restore the facilities to their pre-exercise condition.

The Recovery Team will assemble in Conference Room 200/200 for Recovery discussions after which the Exercise will be terminated.

6.2 Initial Conditions

6.2.1 Close of Business May 7, 1991

Plant operating at 100% power, all systems in automatic.

- Primary chemistry is out of specification and action is required in accordance with Tech Spec 3.4.8 by 0645, May 8, 1991.
- ECCS Train #1 is out of service to repair valve DH-2733.
- Work is scheduled to start on valve DH-2733, which is expected to be returned to service tomorrow at 2000.

6.2.2 Start of Exercise May 8, 1991

- The plant is being shutdown at 20% per hour and is currently at 80% power.
- An UNUSUAL EVENT was declared at 0645 due to commencement of Reactor shutdown on Tech Spec 3.4.8, high Reactor coolant activity (EAL 1.D.1).
- ECCS Train #1 is out of service due to work on valve DH-2733.
- Valve DH-2733 has been disassembled to repair disk.
- During disassembly the valve bonnet was damaged. A new bonnet has been ordered and is due to arrive at 10:00 a.m., May 9.
- Chemistry results will be given for a 0330 sample.
- Initial notifications for UNUSUAL EVENT have been completed.
- A high vibration alarm (yellow) was received on 1-2 RCP at 0300.

6.3 Sequence of Events

All Times Are Approximate

T:Time	Time	Event
00/00	0600	The Shift Supervisor is briefed in the Control Room and the Exercise Authorization Form is approved. NOTE: The 1991 Exercise will utilize the Control Room Mock-up instead of the Plant Control Room. This facility is a pictorial simulation of the Control Room utilized for operator training.
00/15	0615	The Lead Exercise Controller from the Control Room will direct the following actions: ° A Gai-Tronics announcement for the start of the Exercise. ° Activation of the ERO pager drill code, which advises all ERO pager carriers that the pages which follow are drill-related.
00/30	0630	The Lead Exercise Controller from the Control Room will direct the following actions: NOTE: These activities will be performed with assistance from the onshift operations personnel. These actions assist in establishing the initial conditions for the Exercise and transfer to the Mock-up. ° Declaration of an UNUSUAL EVENT as per EAL 1.D.1, High Reactor Coolant Activity requiring shutdown, and a simulated plant shutdown will commence at a rate of 20% per hour. ° As per procedure, HS-EP-01600, Unusual Event: - Station Alarm will be sounded and Unusual Event announcement made. - The Computerized Automated Notification System (CANS) is activated. This notifies and request response from the on call Emergency Response Organization (ERO), notifies the Toledo Edison Company Telephone Operator and the Davis-Besse NRC Resident Inspectors. ° No assistance will be sought from the onshift maintenance staff. ° A Controller will be stationed in the Control Room for the remainder of the Exercise to act as a liaison between the Control Room and the Mock-up.

T:Time	Time	Event
00/40	0640	Ottawa and Lucas Counties and the State of Ohio are notified of the Unusual Event.
00/45	0645	The NRC will be notified that the Exercise has begun via the Emergency Notification System (ENS).
01/15	0715	The following organizations are briefed as to the initial plant conditions for the exercise: ° Continuous Services Maintenance Personnel. ° Chemistry and Radiological Controls Personnel. ° The operations personnel in the Mock-up. These individuals are briefed and receive a turnover from the simulated Control Room staff (Mock-up Controllers).
01/30	0730	Control Room makes a second Gai-Tronics announcement advising station personnel that the Exercise is in progress and that the plant is in a simulated Unusual Event, due to high reactor coolant activity requiring shutdown.
01/45	0745	Reactor Coolant Pump 1-2 Seizure and seal failure. Mock-up operations shift evaluate the available data and classify the event: ° Leak rate through pump seal of 100 GPM. ° Containment radiation monitors and sump level are increasing due to Reactor Coolant Pump seal failure. A worker contacts the Mock-up to inform them of an injured co-worker. The Station Alarm is sounded and the First Aid Team (FAT) is dispatched as per HS-EP-02000, Medical Emergencies. The First Aid Team arrives on the scene and evaluates the situation. The area is contaminated and the injuries require offsite assistance.
01/50	0750	High Containment Radiation Alarm.
01/55	0755	An ALERT is declared due to EAL 1.D.2, High Reactor Coolant Activity with Reactor Coolant Pump Seizure or EAL 2.A.2, Reactor Coolant System Leak Rate Greater Than 50 GPM. Procedure HS-EP-01700, Alert, is implemented: ° The Plant Control Room is requested to sound the Station Alarm and make appropriate announcement.

T:Time	Time	Event
01/55	0755	The CANS is activated calling out oncall ERO.
		CAS/SAS calls for offsite assistance via the Ottawa County Sheriff's Dispatcher.
		NOTE: Normally 911 would be used, however a non-emergency telephone number will be used and priority at the Sheriff's office will be real emergencies.
		The Ottawa County Sheriff's Dispatcher tones out (pages) Mid County Emergency Medical Services and advise them that the individual is potentially contaminated.
		The CAS/SAS Operator will call Magruder Hospital and advise them that a potentially contaminated individual will be transported from Davis-Besse.
02/05	0805	Offsite notifications, upgrading to an ALERT, are made to Ottawa County, Lucas County and the State of Ohio.
		Oncall ERO personnel make assigned phone tree callouts.
02/15	0815	NRC notifications are made to the Control Cell.
		NOTE: The Control Cell has been established by the utility to simulate interfaces with groups which are not participating in the Exercise.
		ERO Staff begins to arrive in the Emergency Response Facilities (ERFs).
		Non-essential personnel within the Protected Area assemble in the designated Assembly Areas within the Personnel Shop Facilities (PSF).
		NOTE: 15 minutes after the assembly announcements the Assembly Area Coordinators will be directed to return non-essential personnel to work.
		Access to the Owner Controlled Area, DBAB ERFs and the Protected Area are restricted.
		NOTE: Access to the Owner Controlled Area and Protected Area will be restored by the controllers after approximately 5 minutes.
		Cancelling of tours and training classes will be simulated.

T:Time	Time	Event
02/20	0820	The Mid County ambulance arrives onsite. The First Aid Team Leader provides a turnover to the EMT. Radiological Control Technicians prepare the ambulance and the contaminated victim for transport. NOTE: See medical scenario in Section 8.0 for summary of the medical activities.
02/25	0825	The ERFs begin to activate. The Emergency Director in the TSC/ECC will evaluate the ERF staffing and prepare to receive a turnover from the Emergency Director in the Control Room Mock-up. Technical Liaisons will be dispatched to Ottawa and Lucas Counties. NOTE: The State of Ohio Technical Liaison will be prestaged in Columbus, Ohio to reduce two-hour response time.
02/35	0835	The ambulance exits the Protected Area. The ambulance has been routed to Fremont Memorial Hospital in Fremont, Ohio. NOTE: Red lights and sirens will NOT be used. A Radiological Control Technician is on board the ambulance, assisting in contamination control. A Radiological Control Supervisor is dispatched to the hospital to assist.
02/45	0845	Leak rate from Reactor Coolant Pump Seal increases to 150 GPM.
03/00	0900	Leak rate increases to 250 GPM.
03/05	0905	Attempt to start #2 Make Up Pump fails.
03/08	0908	Piggy Back Valve, DH64, fails to open.
03/10	0910	Chemistry results indicate > 100/E/gram Specific Activity. Leak Rate increases to 350 GPM.

T:Time	Time	Event
03/15	0915	High Containment Radiation Alarm
		Incore thermocouples indicate superheat conditions may exist.
		The ambulance arrives at Fremont Memorial Hospital and transfer the victim to the hospital staff.
		Decontamination activities are initiated, medical conditions should be the number one priority throughout the process.
03/18	0918	Reactor Trips
		Containment pressure reads 18.5 psi.
03/20	0920	A SITE AREA EMERGENCY is declared on EAL 1.D.4, Core Damage With Inadequate Core Cooling.
		° The Plant Control Room is directed to sound the Station Alarm and make appropriate announcement.
03/35	0935	Non-essential personnel are evacuated from the Protected Area and Protected Area Accountability is performed.
		NOTES: - Protected Area Personnel will be evacuated to the Personnel Processing Facility (PPF) Parking Lot. - Owner Controlled Area Assembly will be simulated.
		The Emergency Director and his staff will determine what actions should be taken with non-essential personnel. Controllers will note their decisions but will not allow individuals to actually be dismissed.
		A missing person will be identified and Search and Rescue operations begun.
03/55	0955	Sirens and EBS activation for SITE AREA EMERGENCY.
04/05	1005	Missing person found.
		Assembled non-essential personnel will be returned to work following the location of the missing individual.

T:Time	Time	Event
04/40	1040	The Radiological Control Supervisor, at Fremont Hospital, contacts the station and advises that the victim has been decontaminated and is stable.
05/14	1114	Containment Emergency Sump Isolation Valve (DH 9B) fails causing a breech in containment and a radiological release begins.
		Station Vent readings increase.
05/15	1115	A GENERAL EMERGENCY is declared on EAL 1.E.1, Loss of 3 of 3 fission product barriers.
		Dose Assessment personnel and RMTs commence tracking plume.
		Utility makes Protective Action Recommendation to evacuate 0-2 miles (Subarea 1 and 12), shelter as a minimum 2-5 (Subarea 2 and 6), no action 5-10 (all other Subareas).
		Lucas and Ottawa Counties establishing Perimeter and Traffic Control Points.
05/45	1145	Siren and EBS activation for General Emergency.
06/00	1200	A PASS sample is requested by Cue Card. Normally this type of sample would not be taken until several days have passed and other core damage evaluations have been performed.
06/30	1230	By cue card the Emergency Facilities Services Manager will be asked to obtain watch relief for 2 key players for each ERF. The actual relief individual will be contacted and advised of a 1800 shift change, however no actual relief will occur.
		Indications of leak in Fire Main.
07/05	1305	Temporary repairs have been made to stop the release.
07/30	1320	Wind speed increases dispersing the plume.
08/00	1400	Declassification discussions are conducted. A Recovery Organization is selected from the players. The emergency phase of the Exercise is terminated.
08/05	1405	Short break is taken, followed by facility critiques.
		NOTES: PASS activities will continue until the sampling process has been completed.
		The JPIC will continue until Lead JPIC Controller terminates activities.

T:Time	Time	Event
08/05	1405	Termination announcement is made on the Gai-Tronics.
		Activation of the ERO pager all clear code, which advises all ERO pager carriers that the drill is over.
08/15	1415	Lead Controllers will lead the critiques, collect comments and documentation.
09/00	1500	The Recovery Team will assemble in Room 209/210 for Recovery discussions.
09/45	1545	The Exercise will be terminated following recovery discussions.

Section 7.0

Cue Cards

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 1

TO: Control Room Staff

TIME: 06:15

T: 00/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Make the following Gai-Tronics announcement twice:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL. THE 1991 EVALUATED EMERGENCY PREPAREDNESS EXERCISE IS COMMENCING. ALL ANNOUNCEMENTS PROCEEDED BY 'THIS IS A DRILL' ARE FOR PARTICIPANTS ONLY. IF AN ACTUAL EMERGENCY OCCURS, AN ANNOUNCEMENT WILL BE MADE THAT THE DRILL HAS BEEN SUSPENDED UNTIL FURTHER NOTICE. ALL PERSONNEL ARE REQUESTED TO MINIMIZE THE USE OF THE GAI-TRONICS UNTIL THE DRILL HAS BEEN TERMINATED."

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 1

TO: Lead Drill Controller

TIME: 06:15

T: 00/15

ANTICIPATED RESPONSE:

Control Room staff member will make announcement.

INSTRUCTIONS:

After getting drill authorization from Shift Supervisor, make announcement.

Have the drill code sent on ERO pagers.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 2

TO: Control Room Staff TIME: 06:30

T: 00/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Have the Control Room Staff declare an UNUSUAL EVENT on EAL 1.D.1, Commencement of Reactor Shutdown Due To Tech Spec. 3.4.8, High Reactor Coolant Activity.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 2

TO: Control Room Controller

TIME: 06:30

T: 00/30

ANTICIPATED RESPONSE:

Control Room staff declares Unusual Event and performs steps per procedure HS-EP-01600.

INSTRUCTIONS:

These actions are performed by Controllers to set up initial condition for Exercise.

1. Make Gaitronics announcement for Unusual Event.
2. Activate CANS.
3. Use the 4-Way Ring Down Phone to notify Ottawa County, Lucas County and the State of Ohio. Use attached Initial Notification Form and FAX it to ECC.
4. Use the ENS Phone (red phone) to inform the NRC the 1991 Evaluated Exercise is commencing. FAX the attached LER to the ECC.
5. A Controller shall be assigned in the Control Room for the remainder of the exercise to act as liaison between the Control Room Staff and the Control Room Mock-up.
6. The Lead Exercise Controller shall now report to the Control Room Mock-up.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 3

TO: Mock-up Staff

TIME: 07:15

T: 01/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Initial Conditions:

- The Plant has been operating in Mode 1 at 100% power for six months.
- At 0300 #2-1 RCP Noise Monitor alarmed.
- An UNUSUAL EVENT was declared at 0645 due to commencement of Reactor Shutdown on T.S. 3.4.8, high reactor coolant activity (EAL 1.D.1). A 20% per hour shutdown was started. The unit is currently at 80% power.
- The results of a 0330 chemistry sample are as noted on attached Chemistry Sheet. The next chemistry sample will be taken at 0730.
- Initial notifications for the declaration of the Unusual Event have been completed.
- ECCS train #1 is out of service for work on valve DH 2733.
- The 72 hour clock for T.S. 3.5.2 began 1800 on May 7.
- Valve DH 2733 has been disassembled to repair disk - estimated to be completed at 2000, May 9, 1991.

****

THIS IS A DRILL

****

Emergency Drill Material

DATE 5/6/91 REACTOR MODE 1 CURRENT $\bar{E}$ VALUE 0.612

SAMPLE TIME 0330 SAMPLE POINT LETDOWN DATE DETERMINED 4/15/91

PRIMARY COOLANT SYSTEM RADIOCHEMISTRY						
ANALYSIS	GROSS ACTIVITY	DOSE EQUIVALENT I-131	ISOTOPIC ANALYSIS (µCi/gm) I-131	I-133	I-135	$\bar{E}$
LIMIT	100/$\bar{E}$ µCi/gm	1.0- µCi/gm	N/A			N/A
MODES	1-4	1	1-5 (C)			1
FREQUENCY	1/72 HOURS	1/14 DAYS (A)	1/14 DAYS (A)			1/6 MONTHS (B)
RESULTS	2.16e1 µCi/gm	1.39e0 µCi/gm	9.07e-1	1.22e0	1.15e0	N/A MEV
SAT/UNSAT	SAT	UNSAT				

Section II shall be completed if the specific activity exceeds 1.0 µCi/gram DEI or a thermal power change exceeds 15% of rated thermal power within a 1 hr. period. IF neither of these conditions exist, THEN N/A Section II.

IF a $\bar{E}$ determination was not performed, THEN N/A the $\bar{E}$ result section.

END

Section II
CURRENT

15% power change within 1 hour N/A Date / Time

DEI initially > 1.0 µCi/g 5/6/91 0645 Date / Time

No. of hours DEI > 1.0 µCi/g 44.75 hrs

DEI ≤ 1.0 µCi/g N/A Date / Time

NOTES

(A) Required frequency is increased to once per 4 hour whenever DEI or Specific Activity limit is exceeded. Also, a DEI sample is required 2-6 hours after a 15% change in Rated Thermal Power occurs within a one hour period.

(B) Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the Reactor was last subcritical for 48 hours.

(C) Applicable in Modes 2-5 only when note (A) applies.

All out of specification conditions have been reported as required.

(ANALYST SIGNATURE) 5/8/91 (DATE)

NMM

Attachment 1
Page 1 of 1

ATTACHMENT 1: PRIMARY COOLANT SYSTEM RADIOCHEMISTRY DATA SHEET

DR-CH-03000
Revision 02

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 3

TO: Mock-up Controller

TIME: 07:15

T: 01/15

ANTICIPATED RESPONSE:

None

INSTRUCTIONS:

Acting as the offgoing Control Room staff, provide information on this cue card and chemical analysis status to the Control Room Mock-up staff and answer any questions that are asked about plant status.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 4

TO: Continuous Service Maintenance Supervisor TIME: 07:15

T: 01/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Initial Conditions:

- The Plant had been operating in Mode 1 at 100% power for six months.
- An UNUSUAL EVENT was declared at 0645 due to commencement of reactor shutdown on T.S. 3.4.8 high reactor coolant activity. A slow controlled shutdown was started.
- The results of a 0330 chemistry sample are as noted on attached Chemistry Sheet. The next chemistry sample will be taken at 0730.
- Valve DH 2733 has been disassembled to repair disk estimated to be completed at 2000, May 9, 1991.

More info on valve.

- DH-2733 was disassembled for repair on May 7. During the disassembly the chainfall supporting the bonnet failed, allowing the bonnet to fall and strike a large support beam. The bonnet has a large gouge in the seating area and engineering determined that it is not re-useable. A new bonnet has been ordered the earliest it can be delivered is 10:00 am on May 9.

- All 24 studs were removed and galling occurred in valve body. Engineering has approved the re-drilling and retapping to the next size. The work has started, new studs have been ordered and will arrive the same time as the bonnet.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 4

TO: OSC Lead Controller

TIME: 07:15

T: 01/15

ANTICIPATED RESPONSE:

None

INSTRUCTIONS:

- Provide this information to the Continuous Services Foreman and answer any questions about the initial conditions.
- Use this information after release has started if team is sent to try button up valve.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 5

TO: Shift Chemistry Technician TIME: 07:15

T: 01/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Initial Conditions:

- The Plant has been operating in Mode 1 at 100% power for six months.
- Reactor coolant activity has been increasing for 1 week.
- Technical Specification 3.4.8 for Reactor Coolant activity was exceeded at 0645 on 5/6/91 starting a 48 hour clock.
- An UNUSUAL EVENT was declared at 0545 due to commencement of Reactor Shutdown on T.S. 3.4.8 high reactor coolant activity. A slow controlled shutdown was started. Current Reactor Power is 80%.
- The results of a 0330 chemistry sample are as noted on the attached Chemistry Sheet. The next chemistry sample is due at 0730.

****

THIS IS A DRILL

****

Emergency Drill Material

DATE 5/8/91 REACTOR MODE 1 CURRENT $\bar{E}$ VALUE 0.612

SAMPLE TIME 0330 SAMPLE POINT LETDOWN DATE DETERMINED 4/15/91

PRIMARY COOLANT SYSTEM RADIOCHEMISTRY						
ANALYSIS	GROSS ACTIVITY	DOSE EQUIVALENT I-131	ISOTOPIC ANALYSIS (μCi/gm) I-131	I-133	I-135	$\bar{E}$
LIMIT	100/$\bar{E}$ μCi/gm	1.0- μCi/gm	N/A			N/A
MODES	1-4	1	1-5 (C)			1
FREQUENCY	1/72 HOURS	1/14 DAYS (A)	1/14 DAYS (A)			1/6 MONTHS (B)
RESULTS	2.16e1 μCi/gm	1.39e0 μCi/gm	8.07e-1	1.22e0	1.15e0	N/A MEV
SAT/UNSAT	SAT	UNSAT				

Section II shall be completed if the specific activity exceeds 1.0 μCi/gram DEI or a thermal power change exceeds 15% of rated thermal power within a 1 hr period. IF neither of these conditions exist, THEN N/A Section II.

IF a $\bar{E}$ determination was not performed, THEN N/A the $\bar{E}$ result section.

END

Section II
CURRENT

15% power change within 1 hour Date N/A Time

DEI initially > 1.0 μCi/g Date 5/6/91 Time 0645

No. of hours DEI > 1.0 μCi/g 44.75 hrs

DEI ≤ 1.0 μCi/g Date N/A Time

NOTES

(A) Required frequency is increased to once per 4 hour whenever DEI or Specific Activity limit is exceeded. Also, a DEI sample is required 2-6 hours after a 15% change in Rated Thermal Power occurs within a one hour period.

(B) Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the Reactor was last subcritical for 48 hours.

(C) Applicable in Modes 2-5 only when note (A) applies.

All out of specification conditions have been reported as required.

(ANALYST SIGNATURE) 5/8/91 (DATE)

Attachment 1
Page 1 of 1

ATTACHMENT 1: PRIMARY COOLANT SYSTEM RADIOCHEMISTRY

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 5

TO: OSC Chemistry Controller

TIME: 07:15

T: 01/15

ANTICIPATED RESPONSE:

Chemistry Technician will review Chemistry data.

INSTRUCTIONS:

1. Give this to the oncoming Chemistry Technician.
2. Have player simulate a chemistry sample was started at 0700.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 6

TO: Radiological Controls Personnel
Supervisor - Security Shift

TIME: 07:15

T: 01/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Initial Conditions:

- The Plant has been operating in Mode 1 at 100% power for six months.
- An UNUSUAL EVENT was declared at 0645 due to commencement of Reactor Shutdown on T.S. 3.4.8, high reactor coolant activity (EAL 1.D.1). A slow controlled shutdown was started.
- The results of a 0330 chemistry sample are as noted on attached Chemistry Sheet. The next chemistry sample will be taken at 0730.
- Initial notifications for the declaration of the Unusual Event have been completed.
- Valve DH 2733 has been disassembled for repair.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 6

TO: OSC RC Controller
Lead Security Controller

TIME: 07:15

T: 01/15

ANTICIPATED RESPONSE:

Personnel will review data.

INSTRUCTIONS:

Give information to the oncoming Radiological Controls Supervisor.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 7

TO: Control Room Staff TIME: 07:30

T: 01/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Make the following Gai-Tronics announcement twice:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL. THE 1991 EVALUATED EXERCISE IS IN PROGRESS. ALL ANNOUNCEMENTS PROCEEDED BY 'THIS IS A DRILL' ARE FOR PARTICIPANTS ONLY. IF AN ACTUAL EMERGENCY OCCURS, AN ANNOUNCEMENT WILL BE MADE THAT THE DRILL HAS BEEN SUSPENDED UNTIL FURTHER NOTICE. ALL PERSONNEL ARE REQUESTED TO MINIMIZE THE USE OF THE GAI-TRONICS UNTIL THE DRILL HAS BEEN TERMINATED."

Make the following Gai-Tronics announcement once:

"THIS IS A DRILL, AN UNUSUAL EVENT WAS DECLARED AT 0645 DUE TO COMMENCING REACTOR SHUTDOWN IN ACCORDANCE WITH TECH SPEC 3.4.8, HIGH REACTOR COOLANT ACTIVITY. THIS IS A DRILL."

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 7

TO: Control Room Controller

TIME: 07:30

T: 01/30

ANTICIPATED RESPONSE:

Control Room staff will make announcement.

INSTRUCTIONS:

Call the Control Room Mock-up Controllers and inform them this announcement has been made.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 8

TO: Mock-up Staff

TIME: 07:45

T: 01/45

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Annuciator/Alarm Panel Sheets

Make-up Tank Level Strip Chart.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 8

TO: Mock-up Controller

TIME: 07:45

T: 01/45

ANTICIPATED RESPONSE:

Operators review plant EOPs and EALs. Declare an ALERT based on EAL 1.D.2, High Reactor Coolant Activity with Pump Seizure, or EAL 2.A.2, Reactor Coolant Leak Rate > 50 GPM.

INSTRUCTIONS:

Give players Alarm Panel Sheet and Strip Chart.

NOTE: Annuciator/Alarm Panel Sheets and Strip Charts are handed out with Plant Data and Rad Data Sheets.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 9

TO: Co-Worker of Injured Worker

TIME: 07:45

T: 01/45

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

A Radwaste Box has fallen on your co-worker. His right leg is trapped under the box.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 9

TO: OSC Controller

TIME: 07:45

T: 01/45

ANTICIPATED RESPONSE:

Worker will call the Control Room on Gai-Tronics or 7777 to report injury.

INSTRUCTIONS:

1. Give Cue Card to Radwaste Serviceman.
2. Use the attached Body Map and Area Map to provide radiological survey data to RC Technicians.
3. Use the following to provide medical conditions to First Aid Team:

   - Worker has a compound fracture of lover right leg.
   - Moderate bleeding from leg wound.
   - Indications of mild shock.
   - Original vitals.

     Blood Pressure: 100/60
     Pulse: 120 bpm, weak
     Respirations: 8 rpm labored

   - After treatment (EMS)

     Blood Pressure: 114/75
     Pulse: 75 bpm
     Respirations: 12 rpm Normal

   The Medical Controller may vary vitals at his discretion depending on conditions and treatment.

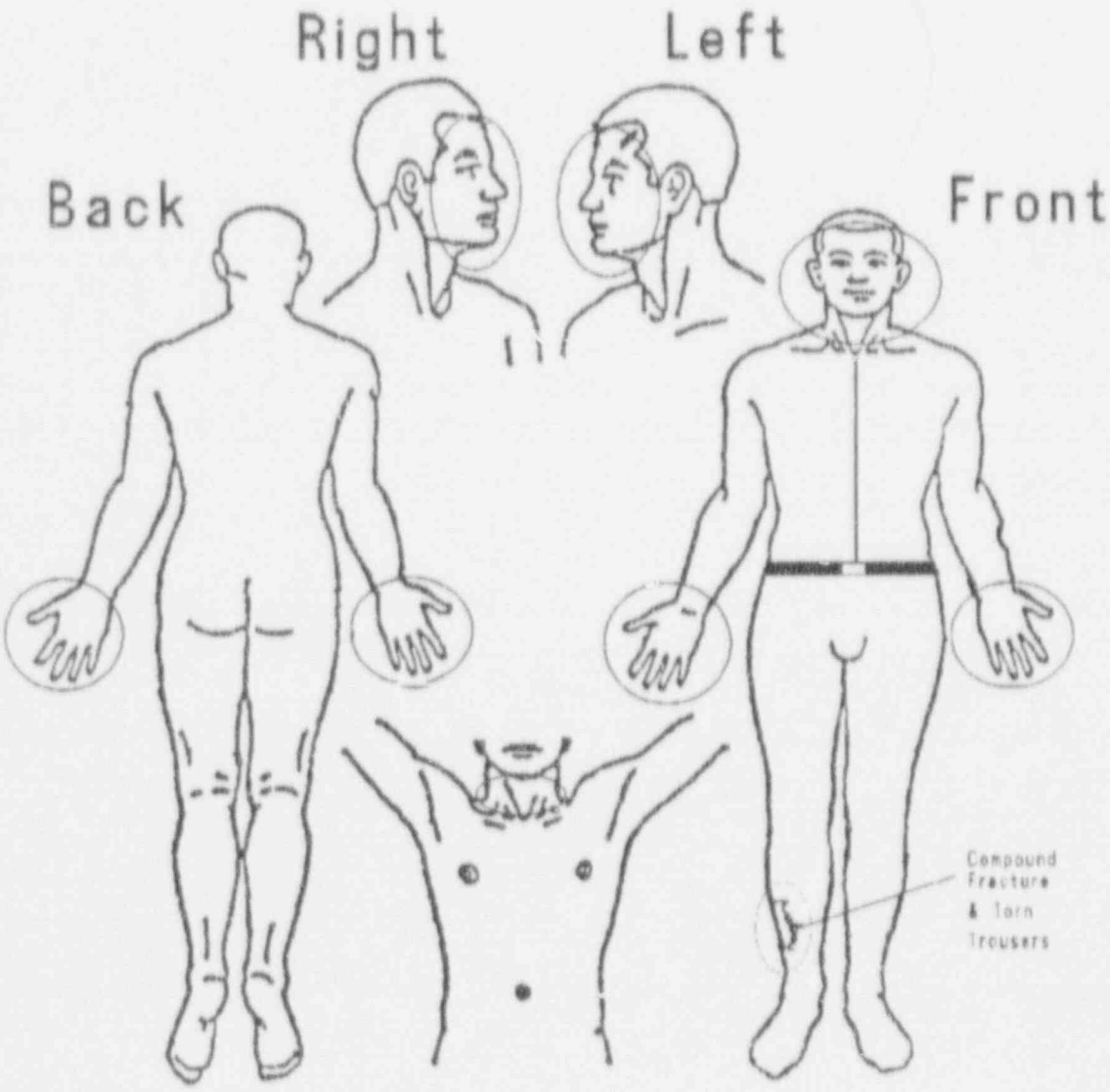
****

THIS IS A DRILL

****

Body Contamination Map

All readings in CPM Net



- Indicates Contaminated Skin Areas

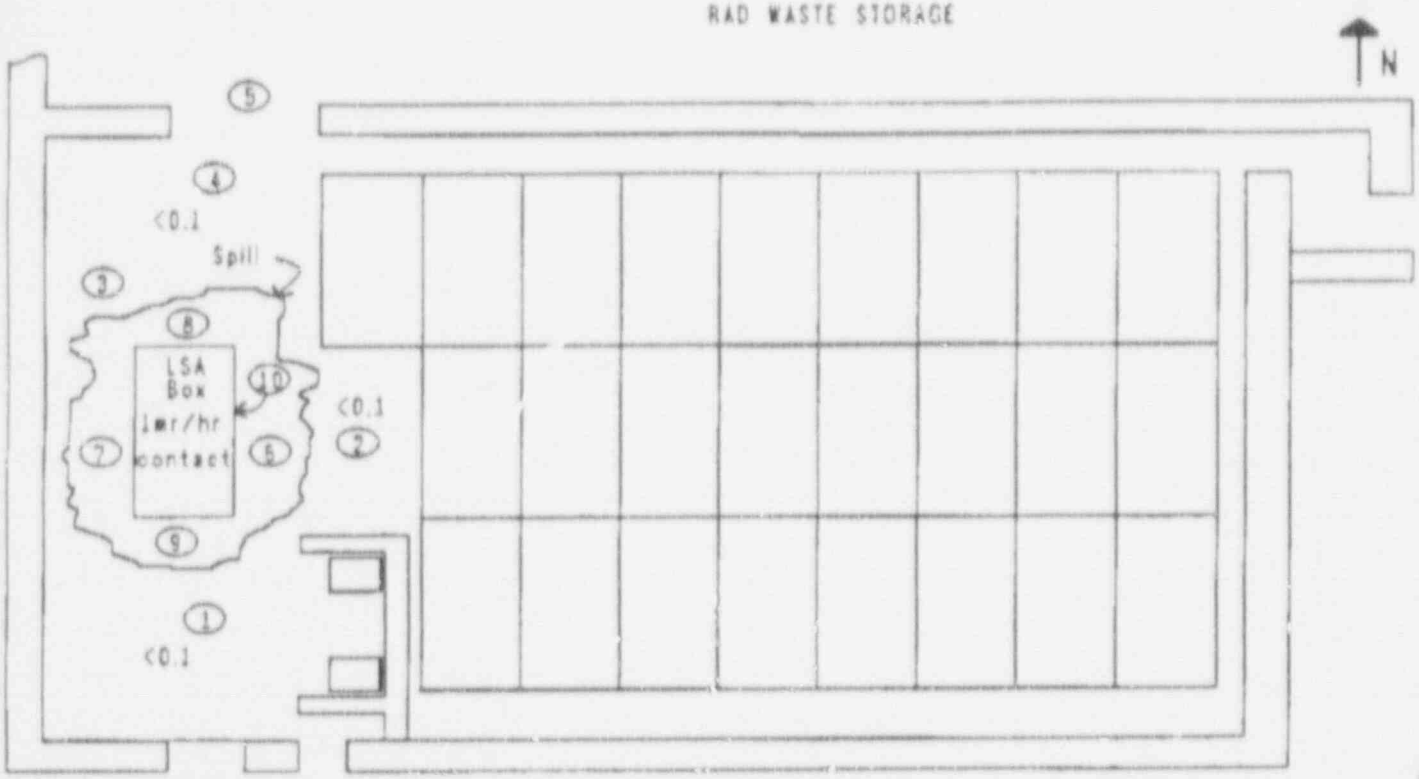
Initial Conditions - Clothes On:

Vary contamination levels from 2000-10,000 CCPM over clothes and exposed skin.

After/if clothes are removed

Leg Wound area 8000 CCPM
Vary other indicated areas 2000-10000 CCPM

RAD WASTE STORAGE



Contamination Levels (before decon) CPM		
Smear	Beta/Gamma	Alpha
1	<1000	<100
2	<1000	<100
3	<1000	<100
4	<1000	<100
5	<1000	<100
6	2k	<100
7	3k	<100
8	2k	<100
9	1k	<100
10	4k	<100

After Decon all areas will be clean.

AMS-3 Particulate

Time D1/50 1500 CPM above Background

Time D2/00 750 CPM above Background

Time D2/10 250 CPM above Background

Time D2/20 Background

NOTE: All other readings are as read

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 10

TO: Mock-up Staff

TIME: Approx. 07:50

T: Approx. 01/50

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Make notifications as follows:

Gai-tronics - Inform your controller.

NRC - Call number listed on Control Cell list.

Counties and State - 4-way ring-down phone

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 10

TO: Mock-up Staff

TIME: Approx. 07:50

T: Approx. 01/50

ANTICIPATED RESPONSE:

Players make announcements.

INSTRUCTIONS:

1. Give this card to players as they attempt to make notifications.

2. When players attempt to use Gai-tronics inform the Control Room Controller to issue Cue Card No. 11 to make ALERT announcement.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 11

TO: Control Room Staff TIME: Approx. 07:50

T: Approx. 01/50

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

SOUND THE INITIATE EMERGENCY PROCEDURE ALARM and make the following announcement twice:

"THIS IS A DRILL, ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: AN ALERT HAS BEEN DECLARED. ALL MEMBERS OF THE ONSITE EMERGENCY ORGANIZATION REPORT TO YOUR DESIGNATED EMERGENCY RESPONSE FACILITIES. ALL NONESSENTIAL PERSONNEL GO TO THE NEAREST DESIGNATED EMERGENCY ASSEMBLY AREA AND STAND BY. THIS IS A DRILL."

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 11

TO: Control Room Controller

TIME: Approx. 07:50

T: Approx. 01/50

ANTICIPATED RESPONSE:

Control Room staff makes announcement.

INSTRUCTIONS:

Give this cue card to Control Room staff when directed to by a Mock-up Controller.

NOTE: Controller may make announcement with permission of Control Room staff.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 12

TO: CAS/SAS Operator TIME: Approx. 07:55

T: Approx. 01/55

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

DO NOT USE 911.

Call the Ottawa County Sheriff's Dispatcher at 734-4404.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 12

TO: CAS/SAS Controller

TIME: Approx. 07:55

T: Approx. 01/55

ANTICIPATED RESPONSE:

Player will call Sheriff's Dispatcher on non-emergency number.

INSTRUCTIONS:

1. Give this card to the player when he/she attempts to call Sheriff's Dispatcher.
2. If the CAS/SAS Operator does not call Magruder Hospital, have him or her do so. Make sure they use "This is a Drill".

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 13

TO: Supervisor - Security Shift

TIME: Approx. 07:55

T: Approx. 01/55

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

- Resume normal access to the Owner Controlled Area.
- Continue checking badges for Emergency Responders, but allow all badged personnel to enter Protected Area.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 13

TO: Lead Security Controller

TIME: Approx. 07:55

T: Approx. 01/55

ANTICIPATED RESPONSE:

Access is restored to Owner Controlled Area and Protected Area.

INSTRUCTIONS:

Give this message to the Supervisor - Security Shift, after Owner Controlled Area and Protected Area access has been demonstrated.

NOTE: If traffic is backing up at the PPF or TED Gate, access may be restored sooner.

****

THIS IS A DRILL

****

BNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 14X

TO: Mock-up Staff

TIME: 08:00

T: 02/00

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Declare an ALERT based on EAL 1.D.2, High Reactor Coolant Activity With Seizure of a Reactor Coolant Pump.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 14X

TO: Mock-up Controller

TIME: 08:00

T: 02/00

ANTICIPATED RESPONSE:

Players declare an ALERT.

INSTRUCTIONS:

Provide this card only if an ALERT has not been declared. Contingent upon a Lead Controller evaluation of Control Room Mock-up staff activity.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 15

TO: OSC Chemistry Personnel

TIME: 08:10

T: 02/10

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

You were in the process of analyzing a primary chemistry sample when the ALERT was declared.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 15

TO: OSC Chemistry Controller

TIME: 08:10

T: 02/10

ANTICIPATED RESPONSE:

Chemistry Technician informs OSC Manager and is directed to complete analysis.

INSTRUCTIONS:

1. Give this card to a Chemistry Technician when the OSC becomes activated.
2. If the Technician does not take action to continue analyzing sample, prompt him/her to do so.
3. Sample results will be issued at 09:10.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 16

TO: Assembly Area Coordinator

TIME: Approx. 08:15

T: Approx. 02/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Have all assembled personnel return to work. Inform the Emergency Facilities Services Manager that you have been directed by a controller to take this action.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD N 16

TO: Assembly Area Controller

TIME: Approx. 08:15

T: Approx. 02/15

ANTICIPATED RESPONSE:

Non-essential personnel are returned to work.

INSTRUCTIONS:

Give this to the Assembly Area Coordinators after assembly of the Protected Area has been completed.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 17

TO: Emergency Director TIME: Approx. 08:15

T: Approx. 02/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

The Exercise Controllers are directing that assembled personnel return to work.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 17

TO: Emergency Director Controller

TIME: Approx. 08:15

T: Approx. 02/15

ANTICIPATED RESPONSE:

None

INSTRUCTIONS:

Give this cue card to the Emergency Director 15 minutes after ALERT notification.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 18

TO: NRC Liaison Communicator

TIME: 08:50

T: 02/50

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

The ENS (Red) Phone has gone dead.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 18

TO: ECC Controller

TIME: 08:50

T: 02/50

ANTICIPATED RESPONSE:

Player will use Section 2.1 of Emergency Telephone Directory to contact NRC Operations Center over commercial lines. Player should attempt to have ENS phone repaired.

INSTRUCTIONS:

1. Hang up phone being used by NRC Communicator and give player message.
2. After player has looked up NRC Operations Center phone numbers let them re-establish connection with Phone Control Cell.
3. If or when an individual arrives to repair ENS phone, tell them it is working at this time.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 19

TO: Mock-up Staff

TIME: 09:00

T: 03/00

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Computer Alarm

Incore Thermocouple readings

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 19

TO: Mock-up Controller

TIME: 09:00

T: 03/00

ANTICIPATED RESPONSE:

1. Players take actions to evaluate Alarms review procedures and EALs.
2. Recommend declaration of a Site Area Emergency to TSC.

INSTRUCTIONS:

Give players Alarm Panel Sheets and Incore Thermocouple readings.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 20

TO: Missing Person TIME: 09:00

T: 03/00

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Stay in Room 320, behind Door 318 until Search and Rescue Team locates you.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 20

TO: OSC Controller

TIME: 09:00

T: 03/00

ANTICIPATED RESPONSE:

Individual will go to Room 320 and remain there until located by Search and Rescue Team.

INSTRUCTIONS:

Have individual act as lost person.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 21

TO: Mock-up Staff TIME: 09:00

T: 03/00

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Shifted Makeup Pump Suction to BWST.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 21

TO: Mock-up Controller

TIME: 09:00

T: 03/00

ANTICIPATED RESPONSE:

None

INSTRUCTIONS:

- The Makeup Pump Suction will remain on the BWST for the duration of the exercise.
- This card is to ensure data sheets match.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 22

TO: Mock-up Staff TIME: Approx. 09:05

T: Approx. 03/05

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

********** **********

INFORMATION:

When you attempted to start #2 Make-up Pump it fails to start.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 22

TO: Mock-up Controller

TIME: Approx. 09:05

T: Approx. 03/05

ANTICIPATED RESPONSE:

Players direct OSC to investiage pump problem.

INSTRUCTIONS:

1. Give this cue card to players when they attempt to start #2 Make-up Pump.
2. If they do not attempt to start pump give them cue card at 09:05.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 23

TO: OSC Team Investigating #2 Make-up Pump TIME: Approx. 09:05

T: Approx. 03/05

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

As found by first team:

- AD 105 is open.
- Springs are charged.
- No targets on relays.

If attempt is made to close breaker:

- Breaker does not close.
- No sounds are heard indicating no "tripping free".

Inspection shows:

- That there is clearnace between trip/close CAMS and trip/close plungers.
- There is no apparent reason for AD 105 not closing.

After performing DB-ME-09104 the problem is either:

- Spring release trigger is hung up, or
- Spring release coil is open, further investigation will confirm this is problem.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 23

TO: OSC Controller

TIME: Approx. 09:05

T: Approx. 03/05

ANTICIPATED RESPONSE:

Players use procedure DB-ME-09104 and a volt meter to inspect breaker.

Players find problem and attempt to replace breaker with spare.

Players can re-assemble spare breaker in "B" Bus Room or cannablize spares or obtain new release coil from warehouse.

INSTRUCTIONS:

1. Give players appropriate information as they investigate problems.

2. The spare 4160 volt breaker in "B" Bus Room is having a PM performed on it - it is disassembled and will take 1-2 hours to reassemble.

   The spare 4160 volt breaker in "A" Bus Room is missing the cranking mechanisum which was removed during a PM and a new one has been ordered but has not arrived yet.

3. Any time after 11:05 players may be allowed to return pump to service, if they have demonstrated proper actions to repair problem.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 24

TO: Mock-up Staff TIME: Approx. 09:08

T: Approx. 03/08

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

When you attempted to open piggy back valve, DH64, it failed to open.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 24

TO: Mock-up Controller

TIME: Approx. 09:08

T: Approx. 03/08

ANTICIPATED RESPONSE:

Players will direct OSC to investigate piggy back (DH64) valve problem.

INSTRUCTIONS:

1. Give this cue card to players when they attempt to open piggy back valve.
2. If they do not attempt to open valve give card to them 3 minutes after cue card for Make-up Pump.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 25

TO: OSC Team Investigating Failed Piggy Back (DH64) Valve

TIME: Approx. 09:08

T: Approx. 03/08

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

As found by First Team:

- Breaker for MOV is tripped.
- Valve is jammed and will not open manually.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 25

TO: OSC Team Controller

TIME: Approx. 09:08

T: Approx. 03/08

ANTICIPATED RESPONSE:

Players will attempt to open valve manually.

INSTRUCTIONS:

1. Give card to players when they investigate valve problem.
2. If they attempt to open valve manually the operator will break off.
3. After 11:10 they may be allowed to open valve.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 26

TO: OSC Chemistry Personnel Assigned To Complete 0730 Sample

TIME: 09:10

T: 03/10

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

See attached Chemistry Sheet for Chemistry Data.

****

THIS IS A DRILL

****

Emergency Drill Material

DATE 5/8/91 REACTOR MODE 1 CURRENT $\bar{E}$ VALUE 0.612

SAMPLE TIME 0700 SAMPLE POINT LETDOWN DATE DETERMINED 4/15/91

PRIMARY COOLANT SYSTEM RADIOCHEMISTRY

ANALYSIS	GROSS ACTIVITY	DOSE EQUIVALENT I-131	ISOTOPIC ANALYSIS (µCi/gm) I-131	I-133	I-135	$\bar{E}$
LIMIT	100/$\bar{E}$ µCi/gm	1.0- µCi/gm	N/A			N/A
MODES	1-4	1	1-5 (C)			1
FREQUENCY	1/72 HOURS	1/14 DAYS (A)	1/14 DAYS (A)			1/6 MONTHS (B)
RESULTS	2.17 µ/µCi/gm	1.40 e-2 µCi/gm	9.11 e-1	1.23 e-0	1.15 e-0	N/A MEV
SAT/UNSAT	SAT	UNSAT				

Section II shall be completed if the specific activity exceeds 1.0 µCi/gram DEI or a thermal power change exceeds 15% of rated thermal power within a 1 hr period. IF neither of these conditions exist, THEN N/A Section II.

IF a $\bar{E}$ determination was not performed, THEN N/A the $\bar{E}$ result section.

END

Section II

CURRENT

15% power change within 1 hour N/A Date Time

DEI initially > 1.0 µCi/g 5/6/91 Date 0645 Time

No. of hours DEI > 1.0 µCi/g 47.75 hrs

DEI ≤ 1.0 µCi/g N/A Date Time

NOTES

(A) Required frequency is increased to once per 4 hour whenever DEI or Specific Activity limit is exceeded. Also, a DEI sample is required 2-6 hours after a 15% change in Rated Thermal Power occurs within a one hour period.

(B) Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the Reactor was last subcritical for 48 hours.

(C) Applicable in Modes 2-5 only when note (A) applies.

All out of specification conditions have been reported as required.

Joe Teator 5/8/91
(ANALYST SIGNATURE) (DATE)

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO 26

TO: OSC Chemistry Controller

TIME: 09:10

T: 03/10

ANTICIPATED RESPONSE:

Players review Chemistry Data. This data indicates > 100/$\bar{E}$/gram specific activity and call Control Room (Mock-up).

INSTRUCTIONS:

1. Give this data to OSC Chemistry personnel assigned to completed 0730 sample.
2. When the player calls the Control Room Mock-up a Controller there will issue the Chemistry Data Sheet.
3. If Player does not call the Control Room Mock-up in 5 minutes prompt them to do so.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 27

TO: Mock-up Staff

TIME: Approx. 09:10

T: Approx. 03/10

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

0730 Chemistry sample results.

****

THIS IS A DRILL

****

Emergency Drill Material

DATE 5/8/91 REACTOR MODE 1 CURRENT $\bar{E}$ VALUE 0.612

SAMPLE TIME 0700 SAMPLE POINT LETDOWN DATE DETERMINED 4/15/91

PRIMARY COOLANT SYSTEM RADIOCHEMISTRY						
ANALYSIS	GROSS ACTIVITY	DOSE EQUIVALENT I-131	ISOTOPIC ANALYSIS (μCi/gm) I-131	I-133	I-135	$\bar{E}$
LIMIT	100/$\bar{E}$ μCi/gm	1.0- μCi/gm	N/A			N/A
MODES	1-4	1	1-5 (C)			1
FREQUENCY	1/72 HOURS	1/14 DAYS (A)	1/14 DAYS (A)			1/6 MONTHS (B)
RESULTS	2.17 μ/μCi/gm	1.76 e-1 μCi/gm	9.11 e-1	1.23 e-0	1.15 e-0	e/A MEV
SAT/UNSAT	SAT	UNSAT				

Section II shall be completed if the specific activity exceeds 1.0 μCi/gram DEI or a thermal power change exceeds 15% of rated thermal power within a 1 hr. period. IF neither of these conditions exist, THEN N/A Section II.

IF a $\bar{E}$ determination was not performed, THEN N/A the $\bar{E}$ result section.

END

Section II
CURRENT

15% power change within 1 hour N/A Date Time

DEI initially > 1.0 μCi/g 5/6/91 Date 0645 Time

No. of hours DEI > 1.0 μCi/g 47.75 hrs

DEI ≤ 1.0 μCi/g N/A Date Time

NOTES

(A) Required frequency is increased to once per 4 hour whenever DEI or Specific Activity limit is exceeded. Also, a DEI sample is required 2-6 hours after a 15% change in Rated Thermal Power occurs within a one hour period.

(B) Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the Reactor was last subcritical for 48 hours.

(C) Applicable in Modes 1-5 only when note (A) applies.

All out of specification conditions have been reported as required.

Joe Teolon / 5/8/91
(ANALYST SIGNATURE) (DATE)

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 27

TO: Mock-up Controller

TIME: Approx. 09:10

T: Approx. 03/10

ANTICIPATED RESPONSE:

Players review data.

INSTRUCTIONS:

1. Give the Chemistry Data Sheet to the players when the Chemistry Technician calls in.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD No. 28

TO: Control Room

TIME: Approx. 09:20

T: Approx. 03/20

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

SOUND THE INITIATE EMERGENCY PROCEDURE ALARM, and make the following announcement over the Public Address System TWICE:

"THIS IS A DRILL, ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: A SITE AREA EMERGENCY HAS BEEN DECLARED. ALL MEMBERS OF THE ONSITE ORGANIZATION REPORT TO YOUR DESIGNATED EMERGENCY RESPONSE FACILITIES. ALL NONESSENTIAL PERSONNEL WITHIN THE PROTECTED AREA EVACUATE TO THE PPF PARKING LOT IMMEDIATELY. THIS IS A DRILL."

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 28

TO: Control Room Controller

TIME: Approx. 09:20

T: Approx. 03/20

ANTICIPATED RESPONSE:

Control Room staff or Controller will make announcement.

INSTRUCTIONS:

Give this cue card (or make announcement) to Control Room staff when directed to by a Control Room Mock-up Controller.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 29

TO: Emergency Facilities Service Manager

TIME: Approx. 09:20

T: Approx. 03/20

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

When you call the Assembly Area Coordinators, inform them Owner Controlled Area Assembly is being simulated. Have them get their kits and call you back with an estimate of the number of people who would assemble in their area.

When they call back with an estimate of the number of people who would assemble tell them no further action is required at this time.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 29

TO: Emergency Facilities Manager Controller

TIME: Approx. 09:20

T: Approx. 03/20

ANTICIPATED RESPONSE:

Player calls Assembly Area Coordinators.

INSTRUCTIONS:

1. Give this cue card to Emergency Facilities Service Manager when he/she starts to call Assembly Area Coordinators.
2. If he/she does not start to call within 2 minutes of Site Area Emergency declaration, direct him/her to due so.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 30

TO: Emergency Director
Emergency Plant Manager
Emergency Security Manager

TIME: Approx. 09:20

T: Approx. 03/20

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Simulate assembly of the Owner Controller Area.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 30

TO: Emergency Director Controller

TIME: Approx. 09:20

T: Approx. 03/20

ANTICIPATED RESPONSE:

Players will simulate activities related to Owner Controlled Area assembly.

INSTRUCTIONS:

Give this card to individuals when the SITE AREA EMERGENCY is declared.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 31X

TO: Emergency Director TIME: 09:30

T: 03/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Declare a SITE AREA EMERGENCY on EAL 1.D.4., Core Damage With Inadequate Core Cooling.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 31X

TO: Emergency Director Controller

TIME: 09:35

T: 03/30

ANTICIPATED RESPONSE:

Players will declare Site Area Emergency.

INSTRUCTIONS:

Give this card to the Emergency Director ONLY IF a Site Area Emergency has not been declared.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 32

TO: Lead Drill Controller in Mock-up

TIME: Approx. 10:05

T: Approx. 04/05

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFOKMATION:

The missing person has been located.

Inform the Roving Controller in the PPF Parking Lot to return evacuees to work.

Inform Lead Facility Controllers to issue cue card to players that controllers are taking this action.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 32

TO: Lead OSC Controller

TIME: Approx. 10:05

T: Approx. 04/05

ANTICIPATED RESPONSE:

The Lead Drill Controller will inform the Roving Controller in the PPF Parking Lot to return evacuees to work and inform facility Lead Controllers to issue cue card to players that this action has been taken.

INSTRUCTIONS:

1. When word is received in the OSC that the missing person has been located inform the Lead Drill Controller.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 33

TO: Evacuees in PPF Parking Lot

TIME: Approx. 10:05

T: Approx. 04/05

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Return to work, no further actions will be required for remainder of exercise.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 33

TO: Roving Controller In PPF Parking Lot

TIME: Approx. 10:05

T: Approx. 04/05

ANTICIPATED RESPONSE:

Personnel will return to work.

INSTRUCTIONS:

When told to by the Lead Drill Controller, have personnel evacuated from Protected Area return to work.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 34

TO: Emergency Director TIME: Approx. 10:10

T: Approx. 04/10

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

For purposes of the Exercise, Controllers are instructing personnel assembled outside the Protected Area to return to work. DO NOT take any actions to expedite or stop this process.

Simulate that they are assembled in the Owner Controlled Area for any future activities that would involve them. Ensure the Emergency Facilities Manager, the Emergency Plant Manager, Emergency Offsite Manager and the Emergency Security Manager are aware of these actions.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 34

TO: Emergency Director Controller

TIME: Approx. 10:10

T: Approx. 04/10

ANTICIPATED RESPONSE:

Emergency Director informs other players.

INSTRUCTIONS:

Give this cue card to the Emergency Director when told to by a Lead Controller.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 35

TO: Mock-up Staff TIME: 11:14

T: 05/14

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Station Vent Alarms

Valve DH9B opens

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 35

TO: Mock-up Controller

TIME: 11:14

T: 05/14

ANTICIPATED RESPONSE:

Players will review data and EALs.

GENERAL EMERGENCY EAL 6.D.3, High Station Vent Monitoring Readings or EAL 1.E.1, Loss of 3 of 3 Fission Products Barriers.

INSTRUCTIONS:

Give Annunciator card to player.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 36

TO: OSC Team Investigating DH9B Valve TIME: Approx. 11:15

T: Approx. 05/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Give this information verbally as teams investigate problems:

- Breaker BE 1112 was tagged "open" as indicated by the operating mechanism, however the breaker was actually "closed" because the plastic operating handle on the breaker itself was broken and could not operate the valve.

- Wire TR shorted to Wire XI inside BE 1112 bucket, causing the open contactor to pick up and open valve DH 9B.

- Torque switch and limit switches did not stop DH 9B motor when the valve was fully open. The motor continued to run causing the stem nut threads to be stripped and the motor burned up. This prevents the valve from being closed manually using the manual operator.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 36

TO: OSC Team Controller

TIME: Approx. 11:15

T: Approx. 05/15

ANTICIPATED RESPONSE:

Teams report results and continue to attempt to close valve.

INSTRUCTIONS:

1. Give players information as they investigate why valve DH 9B opened and attempt to close it.

2. Do not let them close valve until 1300.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 37

TO: Control Room Staff TIME: Approx. 11:20

T: Approx. 05/20

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

SOUND THE INITIATE EMERGENCY PROCEDURE ALARM.

Make the following announcement twice:

"THIS IS A DRILL. ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL; A GENERAL EMERGENCY HAS BEEN DECLARED. NO EATING DRINKING OR SMOKING UNTIL FURTHER NOTICE. ALL MEMBERS OF THE ONSITE EMERGENCY RESPONSE ORGANIZATION REPORT TO YOUR DESIGNATED EMERGENCY RESPONSE FACILITIES. PROTECTED AREA EVACUATION IS NOT REQUIRED. OWNER CONTROLLED AREA ASSEMBLY AND EVACUATION ARE NOT REQUIRED. THIS IS A DRILL."

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 37

TO: Control Room Controller

TIME: Approx. 11:20

T: Approx. 05/20

ANTICIPATED RESPONSE:

Announcement will be made.

INSTRUCTIONS:

Give this cue card to Control Room staff (or make the announcement yourself, with permission) when directed to by the Mock-up Controllers.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 38

TO: Emergency Director TIME: Approx. 11:20

T: Approx. 05/20

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Owner Controlled Area evacuation to is being simulated. Simulate all actions, do not actually evacuate the site.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 38

TO: Emergency Director Controller

TIME: Approx. 11:20

T: Approx. 05/20

ANTICIPATED RESPONSE:

Emergency Director will simulate site evacuation.

INSTRUCTIONS:

Give this cue card to the Emergency Director after the declaration of a General Emergency.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 39X

TO: Emergency Director

TIME: 11:30

T: 05/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Declare a GENERAL EMERGENCY in accordance EAL 1.E.1, Loss of 3 of 3 Fission Product Barriers.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 39X

TO: Emergency Director Controller

TIME: 11:30

T: 05/30

ANTICIPATED RESPONSE:

Emergency Director will declare a General Emergency.

INSTRUCTIONS:

Provide this card only if the Emergency Director has not already declared a General Emergency and is not in the process of doing so.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 40

TO: Emergency Plant Manager TIME: 12:00

T: 06/00

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

For the purposes of the Exercise, direct that a PASS sample be taken at this time.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 40

TO: TSC Lead Controller

TIME: 12:00

T: 06/00

ANTICIPATED RESPONSE:

Emergency Plant Manager will direct personnel to obtain a PASS sample.

INSTRUCTIONS:

Give cue card to player.

Although this type of sample would not normally be taken at this time, for the purposes of the Exercise the controllers are directing the players to do so.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 41

TO: Emergency Facility Services Manager TIME: 12:05

T: 06/05

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

This is a Drill.

I am the Offsite Assembly Area Coordinator at Lindsey Service Center. There are 395 personnel assembled here. We have no indication of any contamination on personnel or vehicles. What should I do with them.

This is a Drill.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 41

TO: Control Cell

TIME: 12:05

T: 06/05

ANTICIPATED RESPONSE:

Player informs the Emergency Offsite Manager.

INSTRUCTIONS:

55 minutes after the declaration of a General Emergency Facility Services Manager at ext. 8471 and read this cue card.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 41.1

TO: OSC Chemistry Technician

TIME: 12:15

T: 06/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

For the purpose of the Exercise the PASS sample is completed.

See attached sheet for results.

****

THIS IS A DRILL

****

PASS SAMPLE ANALYSIS RESULTS FORM

NOTE

Make sure the gaseous activity of RCS represents the results of liquid phase and gaseous phase of RCS sample.

		RCS	Sump	Containment	Other
Sample	Date May 8, 1991				
	Time ~ 1400				
	Temperature F 400				
	Pressure PSIA 7300				
System	Temperature F				
	Pressure PSIA				
Activity	μCi/cc				
	Xe-133	14.34	0.186	3.23E-2	
	Kr-88	3.63E-3	<6E-6	0.33E-2	
	I-131	5.65	0.259	7.73E-9	
	I-133	0.82	<E-5	1.27E-9	
	Ba-140	0	0	0	
	Other isotopes				
Sample activities are adjusted for decay to					
	Date				
	Time				

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 41.1

TO: CSC Controller

TIME: 12:15

T: 06/15

ANTICIPATED RESPONSE:

The OSC will transmit the chemistry results to the TSC where the engineers will use data to calculate/confirm core damage.

INSTRUCTIONS:

1. Give cue card to players.

2. If they question how sample results were obtained so quick, tell them it's for drill purposes.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 42

TO: Emergency Facilities Services Manager TIME: Approx. 12:30

T: Approx. 06/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Call reliefs for the following positions, when you reach individual ensure that they would be available for a 1800 shift change and inform them NOT to come in:

- Emergency Director
- Emergency Facilities Services Manager
- Emergency Plant Manager
- Dose Assessor
- Emergency RC Manager
- Emergency Security Manager
- OSC Manager
- OSC Team Briefer/Debriefer
- OSC RC Coordinator
- Company Spokesperson

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 42

TO: CANS/Emergency Facilities Services Manager Controller

TIME: Approx. 12:30

T: Approx. 06/30

ANTICIPATED RESPONSE:

Player will contact relief shift individuals.

INSTRUCTIONS:

Give cue card to player when he/she starts to work on shift turnover.

OR

If no actions are being taken towards shift change by 12:30, give player this card.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 43

TO: Mock-up Staff

TIME: 12:30

T: 06/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

You have indication the Electric Fire Pump has started.

Deluge valve alarms.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 43

TO: Mock-up Controller

TIME: 12:30

T: 06/30

ANTICIPATED RESPONSE:

Players investigate problem with Fire Main.

- Send personnel to check for fire.
- Send personnel to Water Treatment Building to check on Electric Firewater Pump.

INSTRUCTIONS:

1. Give players cue card and anniciator/alarms.
2. Tell them alarms are clearing.
3. There is no change in level of Fire Water Storage Tank.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 44

TO: OSC Team Investigating Fire Main Problem with Deluge Valve

TIME: Approx. 12:30

T: Approx. 06/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

There is no indications of leakage or flow through Deluge Valves.

No fire is detected.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 44

TO: OSC Team Controller

TIME: Approx. 12:30

T: Approx. 06/30

ANTICIPATED RESPONSE:

Players continue to locate where fire water is going. After they are unable to find any usage or leaks in Fire Main, they will attempt to turn Electric Fire Water Pump off.

INSTRUCTIONS:

1. Tell players there is no leakage or flow from any deluge valves. A no visual leakage from Fire Main.

2. After they have determined there is no outflow of water and attempt to stop pump:

   - When they push panel off button pump will stop.

   - When they release button pump will start again.

   - After they open panel and simulate repairs pump will stay off.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 45

TO: OSC Team Investigating Problem With Electric Fire Pump

TIME: Approx. 12:30

T: Approx. 06/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Pump is running and will not shut off.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 45

TO: OSC Team Controller

TIME: Approx. 12:30

T: Approx. 06/30

ANTICIPATED RESPONSE:

Contact I&C to troubleshoot Electric Fire Pump. I&C Techs should:

- Check pressure at PI-1056
- Locate drawings for pump M-140-57/E-49BSH42A/B.
- Locate pressure switch.
- New PS 1056 is inside Controller, old PS 1056 not connected.

INSTRUCTIONS:

After OSC and Mock-up staff have determined pump is not required:

- If the attempt to shut pump off by pushing stop button, pump will stop but as soon as the release button it will restart.
- If they open pump power supply breaker BE 403 then BF 403 would supply power if they open both pump will stop.
- They will find a problem with pump relays causing pump to start without valid signal.

When I&C Techs investigate problem:

- The only way operators can stop pump is to hold the "stop" button on the new controller cabinet.
- PI 1056 indicates pressure > 125 psi.
- Voltage across contacts is high setpoint 120 VAC (contacts open).
- Voltage across contacts low setpoint is 0VAC (contacts closed).
- Low pressure (NC) contact problem - Mercroid switch A is bad.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. 46

TO: Emergency Director

TIME: Approx. 14:00

T: Approx. 08/00

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Discuss declassification and select Key Recovery Organization personnel. Have Recovery Team meet in room 209/210 at 1500 after facility critiques.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 46

TO: Emergency Director Controller

TIME: Approx. 14:00

T: Approx. 08/00

ANTICIPATED RESPONSE:

Declassification discussions occur and a Recovery Team is selected and told to meet in Room 209/210.

INSTRUCTIONS:

1. Call the Lead Drill Controller in the Mock-up prior to delivering this card.

2. If declassification discussions are occurring card may be issued earlier.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 47

TO: Emergency Director TIME: Approx. 14:00

T: Approx. 08/00

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Contact the Company Spokesperson.

Identify Reentry and Recovery discussions will require Company Spokesperson support. Alternate JPIC activities should continue with the present staff. The Company Spokesperson should contact and brief the stand by relief to participate in Reentry and Recovery discussions.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 47

TO: ECC Lead Controller

TIME: Approx. 14:00

T: Approx. 08/00

ANTICIPATED RESPONSE:

Emergency Director informs the Company Spokesperson to brief the standby relief of current media activities.

INSTRUCTIONS:

Stand by relief should be the Company Spokesperson identified during performance of shift change notification.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. 48

TO: Control Room TIME: Approx. 14:05

T: Approx. 08/05

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Make the following announcement, twice:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL, THE EMERGENCY PHASE OF THE 1991 EVALUATED EXERCISE IS NOW OVER. THERE WILL BE NO FURTHER DRILL ANNOUNCEMENTS."

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. 48

TO: Control Room Controller

TIME: Approx. 14:05

T: Approx. 06/20

ANTICIPATED RESPONSE:

Announcement is made.

INSTRUCTIONS:

Have Control Room staff (or make announcement yourself with permission) make announcement.

Send out All Clear "0000" code on CANS, in accordance with HS-EP-02110, Emergency Notifications.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-1

TO: JPIC Controller TIME: 07:15

T: 01/15

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Call the Edison Operator at 249-5000. State "This is a drill." (Use phone listings provided in the Emergency Preparedness Telephone Directory.) Identify your self as a reporter from the Fremont Messenger.

Ask the following questions:

1. What caused the emergency?
2. Is anyone injured?
3. What is the condition of the reactor?

Provide extension used to initiate call if callback number is requested.

Provide the following information:

This call represents the twelfth media inquiry on the emergency conditions at DBNPS.

This is a Drill.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-1

TO: JPIC Controller

TIME: 07:15

T: 01/15

ANTICIPATED RESPONSE:

PA Duty Officer should respond to questions. Callback number could be requested for unanswered questions.

PA Duty Officer should contact the Company Spokesperson or JPIC Manager and recommend activation of the alternate JPIC due to high media interest.

INSTRUCTIONS:

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-2X

TO: JPIC Controller TIME: 07:30

T: 01/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Call the Public Affairs Duty Officer. State "This is a Drill". Identify yourself as the JPIC Controller.

As the following question:

What actions have you taken in response to the emergency conditions at DBNPS?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-2X

TO: JPIC Controller

TIME: 07:30

T: 01/30

ANTICIPATED RESPONSE:

PA Duty Officer may have dispatched to the alternate JPIC as the JPIC Writer.

PA Duty Officer should respond by identifying high media interest in the emergency, condition, and that the Company Spokesperson and JPIC MAnager have been advised to activate the alternate JPIC.

INSTRUCTIONS:

If the PA Duty Officer does not indicate that the Company Spokesperson and JPIC Manager have been advised to activate the Alternate JPIC, provide the following information.

Contact the Company Spokesperson and JPIC Manager. Advise activation of the alternate JPIC due to high media interest.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-3X

TO: Company Spokesperson

TIME: Alert Notification

T: N/A

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

The Unusual Event has raised unusually high media interest.

Activate the alternate JPIC. Full staff activation is required.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-3X

TO: JPIC Controller

TIME: Alert Notification

T: N/A

ANTICIPATED RESPONSE:

Company Spokesperson should inform the JPIC Manager to start call tree activation of the JPIC staff.

INSTRUCTIONS:

Provide this card only if staff notification to activate the alternate JPIC has not been performed. Staff and facility activation should have started at approximately T-01/30 by recommendation from the PA Duty Officer.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-4X

TO: JPIC Manager TIME: approx. 08:40

T: approx. 02/45

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Call the Emergency Control Center. Request information on the following:

- Plant Status
- Cause of the emergency declaration
- Potential for conditions to worsen

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-4X

TO: JPIC Controller

TIME: approx. 08:45

T: approx. 02/45

ANTICIPATED RESPONSE:

EOM or other official in the ECC should provide emergency information to the JPIC Manager as requested.

INSTRUCTIONS:

Observe interaction of JPIC Manager, JPIC Writer and Company Spokesperson following receipt of plant information.

Provide this card only if the JPIC Manager has not contacted the EOM within 30 minutes of arrival at the Alternate JPIC.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-5

TO: Control Cell

TIME: 09:00 - 09:20

T: 03/00 - 03/20

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Use the following questions only during the ALERT classification. Place calls at the indicated time. Call the Edison Operator at 5000. State "This is a drill" for all calls. Log responses to questions.

1. Name: Andy/Ann Davis
   Town: Toledo

   I'm at radio station WCWA, 1230 AM. We've just been informed by Ottawa County officials to announce closing of Crane Creek State Park and to tell boaters near Davis-Besse to leave the area. Supposedly this is due to a disaster at the plant. Our next news goes on in five minutes and I need answers to some questions, so here's the first one.

   What is the reason for the evacuation?
   How long will it last?
   What should the people do?
   Why didn't the sirens go off?
   Is anyone at the plant injured?

   Thanks, if anything changes let me know right away. Call me at _____ (provide your extension).

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-5(Cont.)

TO: Control Cell

TIME: 09:00 - 09:20

T: 03/00 - 03/20

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

2. Name: Jan Ardell
   Town: Port Clinton

   I'm from the Port Clinton News Herald and got a tip that Davis-Besse has had a big emergency.

   What happened? --- How many people were injured?
   Is the public in danger? --- When will it be fixed?
   How large is the hole in the reactor?
   OK, thanks. This is a drill.

3. Name: Glen/Glenda Meyer
   Town: Toledo

   I'm at WTOL, TV11. Our news desk was asked to report on your emergency.

   What caused the emergency at Davis-Besse?
   How long has this problem been going on?
   Is there any radiation problem?
   Why is the park and lake being evacuated?
   Are you sure there isn't any radiation getting out into the air?
   Our crew will be coming out, where should they go for a tour?

This is a drill.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-5(Cont.)

TO: Control Cell TIME: 09:00 - 09:20

T: 03/00 - 03/20

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

4. Name: Gale Hudson
   Town: Toledo

   Hi, this is Gale Hudson from the Blade. I heard on my car radio that Davis-Besse is in trouble again.

   What's the problem? --- Is anybody contaminated?
   What actions have taken place? --- Is public safety a concern?
   How much contaminated water is leaking and where is it going?
   Are the plant workers evacuating? --- This is a drill.

5. Name: Barb/Bob Yound
   Town: Fremont

   I was going to take my kids to Crane Creek today and then I heard about some kind of nuclear problem on the radio. The DJ said it was an alert.

   What does that mean?
   If there isn't any affect then why is the park closed?
   What should I do if it gets worse?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-5(Cont.)

TO: Control Cell

TIME: 09:00 - 09:20

T: 03/00 - 03/20

ANTICIPATED RESPONSE:

JPIC Manager, JPIC Writer or Company Spokesperson should respond to questions. Call back number should be requested.

INSTRUCTIONS:

Provide extension you are using.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-6

TO: Control Cell

TIME: 09:45

T: 03/45

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Call the Edison Operator at extension 5000. Ask to speak to Public Affairs about the Davis-Besse emergency. When connected, ask the following questions. Note responses.

Name: Dee Parker
Town: Columbus

This is a Drill.

I'm calling from the Columbus Dispatch. We got a call from the Governor's Press Secretary saying he had to cancel an interview because of an emergency at Davis-Besse station. According to him the Governor must respond to the accident.

What does Alert mean? What other types of accidents are there?
Will you FAX any information you have to me? (Provide control cell FAX number if agreed.)
What other governmental officials are involved?
If the radiation gets out can it get to Columbus?
I'm going to send a crew out. Where should they go when they get to the plant?
We'll need someone to help show them around, will you be available.

This is a Drill.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-6

TO: Control Cell

TIME: 09:45

T: 03/45

ANTICIPATED RESPONSE:

JPIC Manager, JPIC Writer, Company Spokesperson or Public Concern Operator should respond to questions. Call back number should be requested.

INSTRUCTIONS:

Provide Control Cell fax and telephone number if requested.

Keep copies of any information sent to the Control Cell.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-7

TO: Control Cell - Public TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Place calls during the indicated time. Start questions upon notification of Site Area Emergency and siren activation. Call as frequently as possible. Each Public Concern Operator should respond to one call every five minutes. Repeat questions if necessary. State "This is a Drill" for all calls.

1. Name: Dale Caldwell
   Town: Bono - Jerusalem Township

   I need help! I heard on TV that I'm supposed to ready my Emergency brochure. I can't find mine. What should I do?

2. Name: Karen/Dan Zeller
   Town: Perrysburg

   What is the expected increase in cancer cases because of the accident?

   What are my electric rates going to be now?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell - Public

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

3. Name: Dawn/Don Edwards
   Town: Marblehead

   What caused this disaster? How many people are going to get sick because of this problem?

4. Name: Sam/Sally Blake
   Town: Lacarne

   Does this emergency affect my electricity? Where is my power coming from? If power goes away I won't be able to listen to the news, I don't have a battery powered radio. What should I do?

5. Name: Gale Fletcher
   Town: Allen Township

   I just moved into this house last week. We don't understand what is going on or what to do. My family is frightened and want to leave. Will you explain what this is about?

6. Name: Jim/Jane Little
   Town: Elliston

   Do you have the reactor turned off yet? Is it going to blowup? What do emergencies really mean?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-7(Cont.)

TO: Control Cell - Public TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

7. Name: Mark/Martha Felner
   Town: Toledo

   This accident is almost like Chernobyl all over again, so why haven't we been told to evacuate?

8. Name: Dr. Pool, MD
   Town: San Diego, California

   I'm a specialist in nuclear medicine. I'm getting ready to leave California for your plant. Please give me the account number I should charge my expenses against. My staff will also be arriving tomorrow.

9. Name: Craig/Clare Booth
   Town: Rocky Ridge

   Who determined the meanings of Emergency Classifications? Isn't an emergency an emergency? Why are we told to do things differently for each classification?

10. Name: Bart/Ben Tork
    Town: Fremont

    I'm a retired engineer and want to help you. Where should I go to lend a hand: What exactly is the problem?

11. Name: Mark/Maggie Blass
    Town: Bowling Green

    What broke to cause all of this confusion? How many of those broken parts do you have? How often do they break? Has this happened anywhere else in America? Where?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-7(Cont.)

TO: Control Cell - Public TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

12. Name: Greg/Gail Brady
    Town: Toledo

    I'm a student at UT working on my doctorate in industrial psychology. How are people reacting at the plant? How about public response - has anyone called and what questions are they asking?
    How many people live near the plant?
    Where is your company president, and will he be going to the plant?

13. Name: Dee/Deek Martin
    Town: Detroit

    I'm a staff reporter from the Detroit Free Press. Has Fermi been asked to help?
    How many people are affected?
    What broke and why?
    Is the leaking fluid getting into Lake Erie?
    What keeps it from getting out?

14. Name: Jamie Singleton
    Town: Washington D.C.

    This is Jamie Singleton from USCEA. Please provide me your FAX number, a list of your current public information assistance needs, and biographical sketches of your official spokesperson. (Provide Control Cell FAX Number.)

15. Name: Penny/Paul Steel
    Town: Cleveland

    What does this accident mean in terms of employment in Toledo? Will the emergency affect property values near Port Clinton? What does the NRC do during emergencies?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-7(Cont.)

TO: Control Cell - Public T. &: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

16. Name: Agnes/Adam Avery
Town: Oak Harbor

I own a condo at Green Cove; what should I do to protect my property from the leaking radiation.

17. Name: Joan/Rich Hillman
Town: Genoa

I've heard about the disaster on my radio. If I need to evacuate how will you tell me? By the way, how are you sure everybody knows what to do? Who makes the decision to evacuate; the County Commissioners, Governor or Toledo Edison?

18. Name: Bingo Warren
Town: Sandusky

Good afternoon, this is Bingo Warren - Radio Station WJDB; "All New 92". We're on the air live, and want a few answers to some questions concerning the Davis-Besse Emergency. What kind of danger is there to the public due to this accident? How did this tragedy happen? Tell our listeners what safety actions they need to take. What's going on at the plant right now? One last question; how expensive will this be to fix, and who picks up the cost?

19. Name: Kelly Williams
Town: Port Clinton

By listening to the radio I understand that I'm OK. If the radioactivity gets out will it get into the lake? I'm really enjoy fishing and I have almost $5,000 in equipment. If the accident affects the lake and I can't use my gear, will Toledo Edison pay me for my lost hobby?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell - Public

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

20. Name: Davey Leat
    Town: Dayton

    I heard about your emergency, could it affect my health?

    What level of contamination causes cancer?

    What are the exposures near Toledo?

    When was the last time the plant was refueled?

    Why wasn't the broken part found during refueling?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

21. Name: Craig/Karen Gardner
    Town: Bono

    I'm calling to see how much longer the beach at Crane Creek will be closed. Is the beach contaminated with radiation and how will you clean it up? What is going to happen to the fishing business in Port Clinton?

22. Name: Adam/Alice Johnson
    Town: Fremont (Boating Supply Store Owner)

    I called the Ottawa County Emergency Management Agency to make a claim for lost business at my store. They said to call Toledo Edison because you're supposed to know what to do. I'm going to lose about $50,000.

23. Name: Paula/Pete Ross
    Town: Perrysburg

    What are the emergency levels and why are they different? Isn't an emergency dangerous anytime? How do you tell the difference between emergencies?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

24. Name: Jane/Jack Bottomstone
    Town: Curtice (Farmer on Wildacre Road)

    How far from the plant do the safety monitoring teams go to detect radiation? I think my field should be checked and I'm not paying to have it done. When will you get here?

25. Name: Dale Jefferies
    Town: Genoa

    What does the NRC have to say about this emergency? Who says that we're safe - Toledo Edison, the State, or the NRC? What do they base the decision on?

26. Name: Tina/Ted Roberts
    Town: Maumee

    How long will the cleanup take at the plant? Will truckloads of radioactive waste be removed from the site? Where would it be sent to, and how does it get there?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

27. Name: Gloria/George Byrd
    Town: Lucky

    I called my broker about activity of Centerior Stock today. She said trading was stopped. Will I be able to claim any losses through your insurance people?

28. Name: Sally/Seth McCoy
    Town: Greytown

    My home uses well water. Is it safe to drink the water or should I wait until you have tested it?

29. Name: Phil Duffy
    Town: Riga, Mich.

    My family was fishing in Lake Erie this morning and caught a few Walleye.

    Are they safe to eat?

    Do they need to be boiled first?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-7(Cont.)

TO: Control Cell TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

30. Name: Barb/Bart Glee
Town: Limestone

Where can I get some of those radiation protection pills (KI)? How do those work and what do they look like?

31. Name: Betty/Bob Becker
Town: Oak Harbor

How do you know that the containment building will hold? What if it explodes? How far could the fallout spread?

32. Name: Alma/Jack Feaster
Town: Lindsey

How many people from the NRC are at Davis-Besse? Are they in charge and who are they? What are their names?

33. Name: Jenny/Stan Davies
Town: Port Clinton

Is this the same as Chernobyl? How does radiation cause cancer? Don't doctors use radiation to stop cancer? I'm really confused about all of this.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

34. Name: Emma/Ernie Tipps
Town: Oak Harbor

Where will we get electricity now that Davis-Besse is brokedown again? I'll bet this mistake is going to cost me a fortune. How long will it take to fix the problem and how much will it cost?

35. Name: Doctor J. Wood, MD.
Town: Sacramento, California

This is Doctor Wood calling. I received this number from Ottawa County. My services have been requested for post trauma disorders. My staff and I will be arriving at 9 p.m. in Toledo. You are to provide me an account number for billing. Could you please give me the invoice number? (If asked, your staff consists of 5 assistants. Your cost is $7,200 for a 12 hour day plus expenses.)

36. Name: Sandy Tolbert
Town: Clay Center

How long will the reactor be broken? What is the damage to the reactor core?

Is this going to cause Davis-Besse to close down for good?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

37. Name: Clay/Clair Finch
Town: Pittsburgh (Reporter for the Pittsburg Press)

I understand that your nuclear plant is near meltdown. Is that true?

According to a spokesman from Commonwealth Edison this is the most serious accident in the United States since Three Mile Island. Would you comment on that statement?

How many people have been evacuated so far?

What is the status of the employees who were injured when the emergency started?

38. Name: J. Smith
Town: Toledo

Request an interview with someone from the Public Affairs Department. Inform the operator that you are J. Smith from the radio station WPAK-FM 109. You have a scheduled news broadcast on the hour and intend to discuss the Davis-Besse accident. You were informed by UPI network. When connected, ask the following:

a. Who are you and what is your title?
b. What is the condition of the reactor?
c. Is anyone hurt?
d. Who should listeners call for more information?
e. Will this get worse?
f. Are local citizens safe?
g. What is the impact on power availability?
h. What is you corporate headquarters doing? Who is in charge and when will they be able to speak with me?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

39. Name: Wilma/Fred Boulder
    Town: Detroit

    How many times has this happened before at Davis-Besse? How about other power plants. What is the cause of the accident? What is the cost of replacing the broken sections?

40. Name: Judy/Elroy Jensen
    Town: Port Clinton

    What was the latest EBS message? How do I make a claim if I need to?

    When will this problem be fixed?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-7(Cont.)

TO: Control Cell-Public

TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

41. This is Jill/John Richards. Hello, I saw this number on my television and thought I should call. I live in Toledo. What is the latest on the emergency at Davis-Besse? Do you think we are safe here in Toledo? What is the difference between an Alert and a Site Area Emergency? This is a drill. (Provide the operator our telephone number if requested. Note the time your call was returned).

42. This is Karen/Deven Dell. I live in Genoa. My kids are at the sitters house in Oak Harbor and I work in Port Clinton. I'm a single parent and can't get over to pick up my kids because of the traffic jam. If you move my kids, where will I be able to find them? I'm really worried, what should I do? (You have two sons, ages 2 and 3.)

43. Hello, This is Paul Fenton. I live about 12 miles south of Oak Harbor. I'm outside your emergency zone, I know, because I just saw the map on TV. I'm still worried because no line on a map is going to keep me safe from radiation. Should I be doing anything special like going to the basement or filling containers with water, or just what am I supposed to do?

44. This is Sue/Stan Keller. I heard the sirens again and this time I'm going to Fremont. That is were I'm supposed to evacuate to, right? (Caller lives in Graytown.)

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-7(Cont.)

TO: Control Cell-Public TIME: 10:15 - 15:30

T: 04/15 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

45. Name: Ann/Allen Jones. What's going on out there? I own a bait shop in Bono. Some of my customers are getting angry because the rangers are sending them out of the area. People want refunds and my charter business for the day is lost. Who's gonna pay for this?

46. Name: Barb/Bob Reeler. I live on Duff-Washa Road near Highway 19. People are leaving the plant in a hurry, the sirens have gone off; where should I go? The radio said no action is required but people are leaving, what's really going on?

47. (Media) Hi, this is Paul Evens from the Blade. What is the latest about the emergency out there? How are your injured employees doing? Who is in charge at Davis-Besse during an emergency? Has Toledo Edison estimated how much this will cost the rate-payers? This is a drill. (Provide the operator your telephone number if requested. Note the time your call was returned.)

48. This is Donna/Doug Hillman. I heard two radio shows tell about the nuclear problems and that they are getting worse. Where should I take may kids because we're leaving town. I live in Lacarne and want to know the closest place to see what's set up for evacuation.

49. This is Rhonda/Rick Stover. I need a copy of the emergency information. I live in Oak Harbor and can't find the copy mailed to me last year. Where can I get one if we're told to evacuate? Where should I go if they tell us to leave?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-7(Cont.)

TO: Control Cell Controller

TIME: 10:15 - 15:30

T: 04/15 - 09/30

ANTICIPATED RESPONSE:

Public Concern Operators should respond to questions. Call back number should be requested.

INSTRUCTIONS:

Provide extension you are using.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-8

TO: Mock Media Leader

TIME: 10:45

T: 04/45

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Enter the alternate JPIC via the media entrance. Upon entrance and completion of registration, ask for plant conditions, information on persons who are affected, public safety recommendations, and who will be presenting information.

Be aggressive in questioning.

Use "this is a drill" when talking with the JPIC staff.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-8

TO: JPIC Controller

TIME: 10:45

T: 04/45

ANTICIPATED RESPONSE:

Observe the Media registration process for arriving Media representatives.

INSTRUCTIONS:

None

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-9

TO: Mock Media

TIME: 10:55

T: 04/55

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Enter the JPIC via the media entrance. When registration is completed, ask for information on areas that are affected by the emergency, numbers of people by subarea that could be affected, status on the plant systems and potential for safety problems.

Be aggressive in questioning.

Use "this is a drill" when talking with the JPIC staff.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-9

TO: Media Controller

TIME: 10:55

T: 04/55

ANTICIPATED RESPONSE:

Consistent with questioning. Response may be provided by JPIC Manager or Company Spokesperson.

INSTRUCTIONS:

Observe the Media registration process for arriving media representatives.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-10

TO: Media Actors

TIME: 11:30 - 15:30

T: 05/30 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Interject free play consistent with simulated Emergency Conditions at DBNPS. Questions may be directed to any JPIC Staff member. Use "This is a drill" when questioning the staff.

Ask questions concerning the following:

Actions Taken to protect public health and safety.

Plant Conditions (Technical).

Effect on Toledo Edison and Centerior.

Player could refer your question to the Company Spokesperson or other information sources.

Remember - In order to achieve all exercise objectives incidents could be unrelated.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-10

TO: Media Actor Controller

TIME: 11:30 - 15:30

T: 05/30 - 09/30

ANTICIPATED RESPONSE:

Response should be consistent with questions.

INSTRUCTIONS:

Be aggressive in questioning.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-11

TO: Media Actors TIME: 11:30 - 12:30

T: 05/30 - 06/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

As simulated news media, your responsibility is to ask questions of the spokespersons. The purpose is to assure that each spokesperson demonstrates the ability to brief the news media in a timely manner. Below are just sample questions, but you should develop your own based on their statements. If real news media are present and are asking sufficient questions, make your role less active. Use "This is a drill" when questioning the staff.

State of Ohio Spokesperson:

1. Has the State activated it's emergency center?
2. Has the Governor made a statement?
3. Has Toledo Edison kept the State briefed?

Ottawa County Spokesperson:

1. Has Toledo Edison requested assistance from Ottawa County?

Lucas County Spokesperson:

1. Have you evacuated any of Lucas County?
2. What kind of training have the Lucas County employees received to prepare for this emergency?
3. What action has the Lucas County Sheriff taken?

Toledo Edison Spokesperson:

1. Did the reactor shutdown by itself?
2. Has Toledo Edison evacuated the site?
3. Are there enough people left on site to prevent further problems?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-11

TO: Media Actor Controller

TIME: 11:30 - 12:30

T: 05/30 - 06/30

ANTICIPATED RESPONSE:

Each spokesperson should address only those questions that apply to his agency or company. The spokespersons should not speculate.

INSTRUCTIONS:

Be aggressive in questioning.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-12

TO: Media Actors TIME: 12:30 - 15:30

T: 06/30 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

As simulated news media, your responsibility is to ask questions of the spokespersons. The purpose is to assure that each spokesperson present demonstrates the ability to brief the news media in a timely manner. Below are just sample questions, but you should develop your own based on their statements. If real news media are present and are asking sufficient questions, make your role less active.

State of Ohio Spokesperson:

1. When did the Governor declare the emergency?
2. Have other states with nuclear plants offered Ohio assistance?
3. Will the State reimburse farmers for their losses?

Ottawa County/Lucas County Spokesperson:

1. How many people live in the evacuation zones?
2. How many people must be evacuated?
3. What are the protective actions necessary for Toledo?

Toledo Edison Spokesperson:

1. What more can you tell about the plant?
2. Is there any indication of intentional damage?
3. What is Centerior Energy in Independence doing.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-12

TO: Media Actor Controller

TIME: 12:30 - 15:30

T: 06/30 - 09/30

ANTICIPATED RESPONSE:

Each spokesperson should address only those questions that apply to his agency or company. The spokesperson should not speculate.

INSTRUCTIONS:

Be aggressive in questioning.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise CUE CARD NO. PR-13

TO: Media Actors TIME: 13:00 - 15:30

T: 07/00 - 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

As simulated news media, your responsibility is to ask questions of the spokespersons. The purpose is to assure that each spokesperson present demonstrates the ability to brief the news media in a timely manner. Below are just sample questions, but you should develop your own based on their statements. If real news media are present and are asking sufficient questions, make your role less active.

State of Ohio Spokesperson:

1. Do you have a copy of the latest EBS Message?
2. How much radiation has the state detected?
3. Has the state requested assistance from the Federal Government?

Ottawa County Spokesperson:

1. How many people have been evacuated?
2. Has anyone refused to leave their home or business?
3. How many people have registered at evacuation centers?

Lucas County Spokesperson:

1. How much will this cost Lucas County?
2. Were people cooperative when told to evacuate?

Toledo Edison Spokesperson:

1. Why was Davis-Besse operating with so many pieces of equipment broken?
2. Have you personally been to the Control Room to discuss the emergency with the operators?
3. Would improved operator training have prevented this emergency?

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-13

TO: Media Actor Controller

TIME: 13:00 - 15:30

T: 07/00 - 09/30

ANTICIPATED RESPONSE:

Each spokesperson should address only those questions that apply to his agency or company. The spokespersons should not speculate.

INSTRUCTIONS:

Be aggressive in questioning.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-14

TO: Media Actors

TIME: Approx. 15:30

T: Approx. 09/30

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Following the media briefing, sign out and exit the alternate JPIC.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-14

TO: JPIC Controller

TIME: Aprox. 15:30

T: Approx. 09/30

ANTICIPATED RESPONSE:

Media actors sign out and exit the alternate JPIC.

INSTRUCTIONS:

Provide this card to the media actor following the final news briefing.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS EXERCISE CUE CARD

SCENARIO NO. 1991 Evaluated Exercise

CUE CARD NO. PR-15X

TO: Company Spokesperson

TIME: Approx. 15:45

T: Approx. 09/45

****

THIS IS A DRILL

DO NOT initiate actions affecting normal plant operations.

****

INFORMATION:

Media interest has subsided. All media representatives have exited from the alternate JPIC.

****

THIS IS A DRILL

****

DBNPS EMERGENCY PREPAREDNESS CUE CARD (Cont'd)

CUE CARD NO. PR-15X

TO: JPIC Controller

TIME: Approx. 15:45

T: Approx. 09/45

ANTICIPATED RESPONSE:

Company Spokesperson should initiate termination of alternate JPIC activities.

INSTRUCTIONS:

Provide this card only if JPIC activities remain in progress following media departure.

****

THIS IS A DRILL

****

8.0 STATION RADIOLOGICAL DATA AND RADIOCHEMISTRY DATA

This section provides in-plant and protected area dose rate information for Controller use during onsite emergency response team missions.

8.1 Plant Radiation Data

This section contains survey maps of in-plant radiation levels which can be used conjunction with the "Radiation Monitor Data" in Section 7.0.

Figure 8.1 also provides information regarding dose rates from the plume within the site boundary. Plume centerline dose rates are provided. Off-centerline dose rates are obtained by interpolation between the centerline value and the boundary of the plume. The plume does not reach the ground until 1 mile from the plant, therefore the closed window readings and open window reading will be the same onsite.

8.2 Onsite Medical Drill Sequence of Events (Ottawa County)

A Radwaste Serviceman is stacking radwaste boxes (B25 boxes) in the storage area of the Low Level Radioactive Waste Building. He is utilizing the motorized overhead crane to lift the boxes.

As a B25 box is lifted off the floor, the sling gives way and the box falls, trapping the serviceman's right lower leg.

The box, containing radioactively contaminated sawdust, breaks open and spills the contents onto the floor and the serviceman.

The serviceman's trousers are torn exposing a compound fracture of the right lower leg to the contaminated sawdust.

A co-worker contacts the Control Room to summon assistance.

- First Aid Team is summoned.
- First Aid Team leader requests offsite assistance.
- Mid County EMS is summoned.
- Victim is transported to Fremont Memorial Hospital for Decontamination and Treatment.

8.3 Radiochemistry Data

The scenario's initial conditions have the RCS radiochemistry exceeding T.S. 3.4.8. Figure 8.3 includes results from 0330 and 0730 samples.

8.4 PASS Sample Data

A cue card will direct a PASS sample be taken at approximately 1200 hours. This section contains PASS area radiation levels and significant sample results.

Figure 8.1

Plant Area Radiation Maps

Plant Radiation Data for 06:00 to 09:00 hours

00:00 to 03:00

The following maps show closed-window area radiation levels. The open and closed window readings are the same. Utilize the chart on each map to determine correct dose rates over time. All other area radiation levels are "as is".

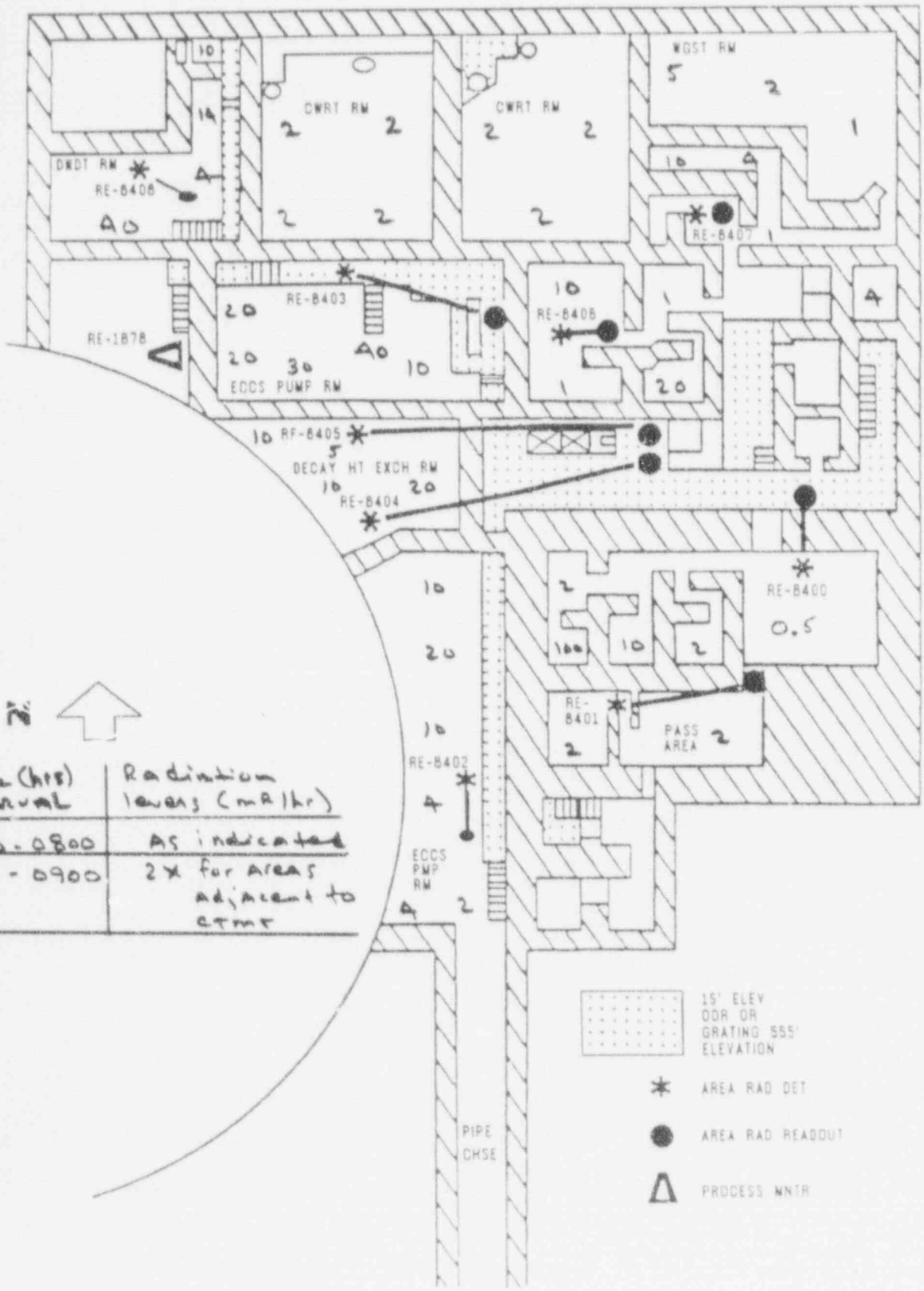
If air samples are collected and analyzed, the results are "as is" except for the Make-up Pump Room. Those air sample results are (10X) "as is".

If contamination surveys are performed, the results are "as is".

0600 - 0100 hrs

All Readings in mR/hr

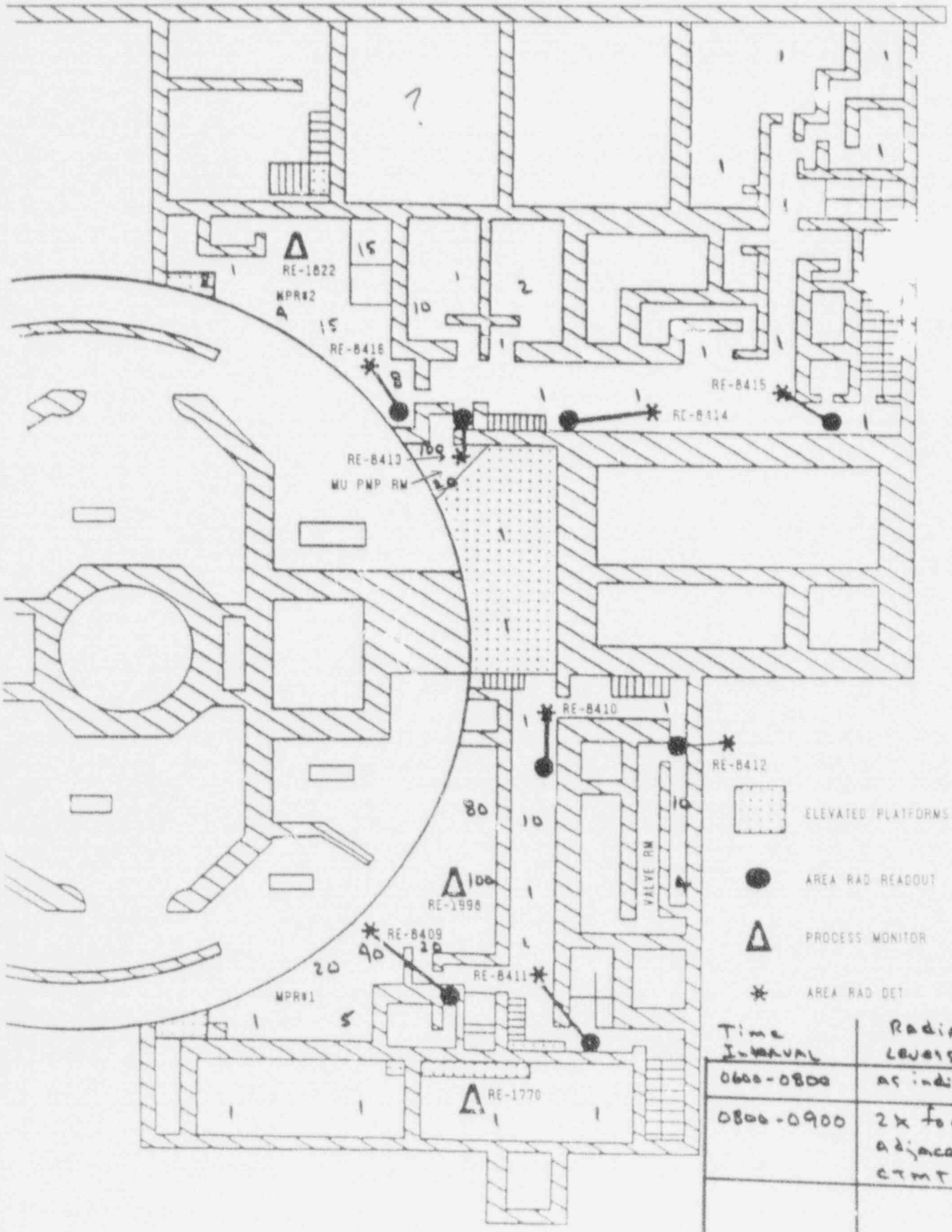
545' ELEV.



Time (hrs) Interval	Radiation levels (mR/hr)
0600 - 0800	As indicated
0800 - 0900	2X for areas adjacent to ctmt

All Readings in mR/hr 0600 - 0900

565' ELEV.

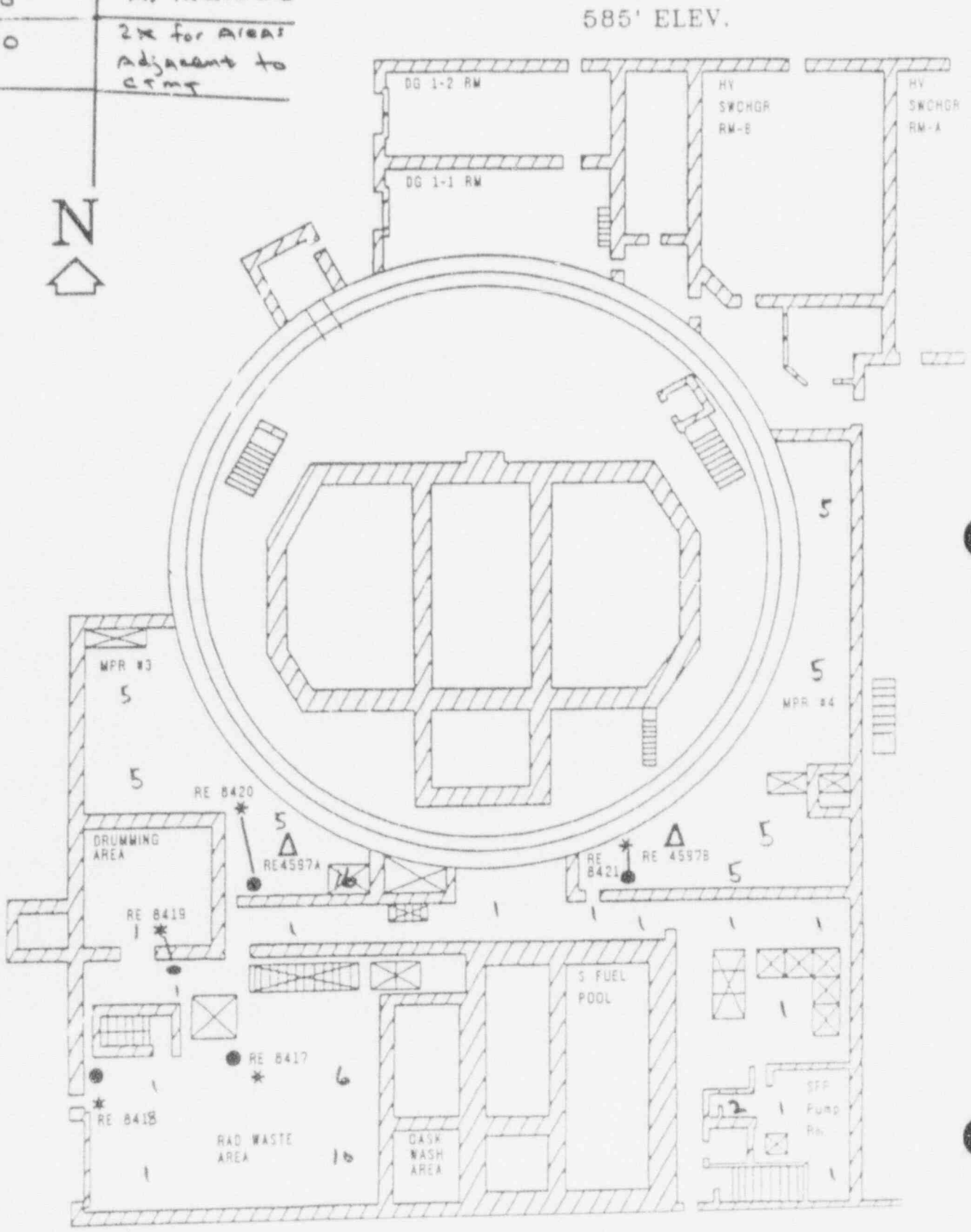


Time Interval	Radiation Levels (mR/hr)
0600-0800	as indicated
0800-0900	2x for areas adjacent to CTMT

All Readings in mR/hr

0600 - 0900 hrs.

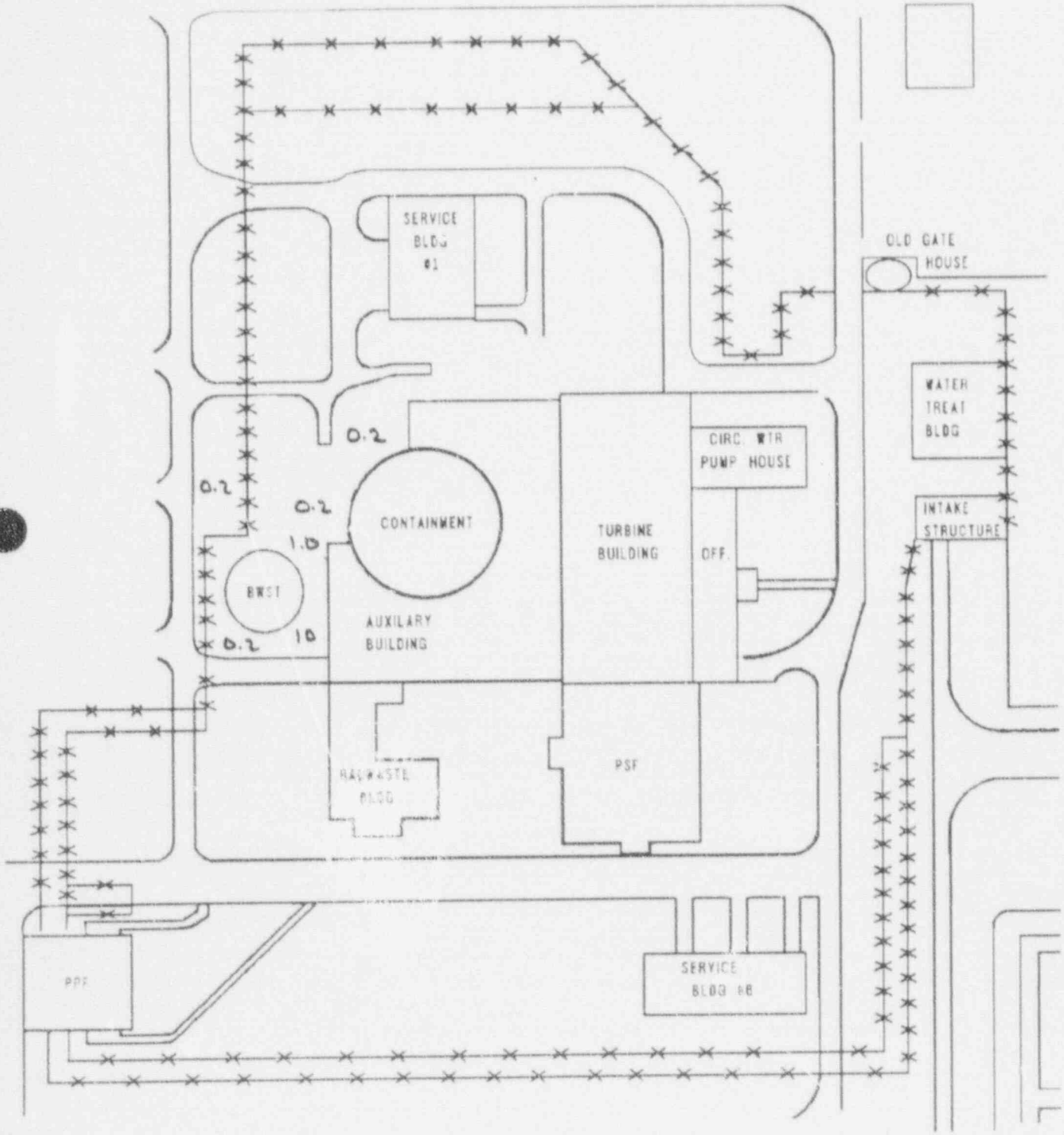
Time Interval	Radiation Levels (mR/hr)
0600 - 0800	As indicated
0800 - 0900	2x for areas adjacent to CTMS



Time Interval	Radiation Levels (mR/hr)
0600-0800	as indicated
0800-0900	2x for areas adjacent to CTMT

585' (Grade Level)

0600 - 0900

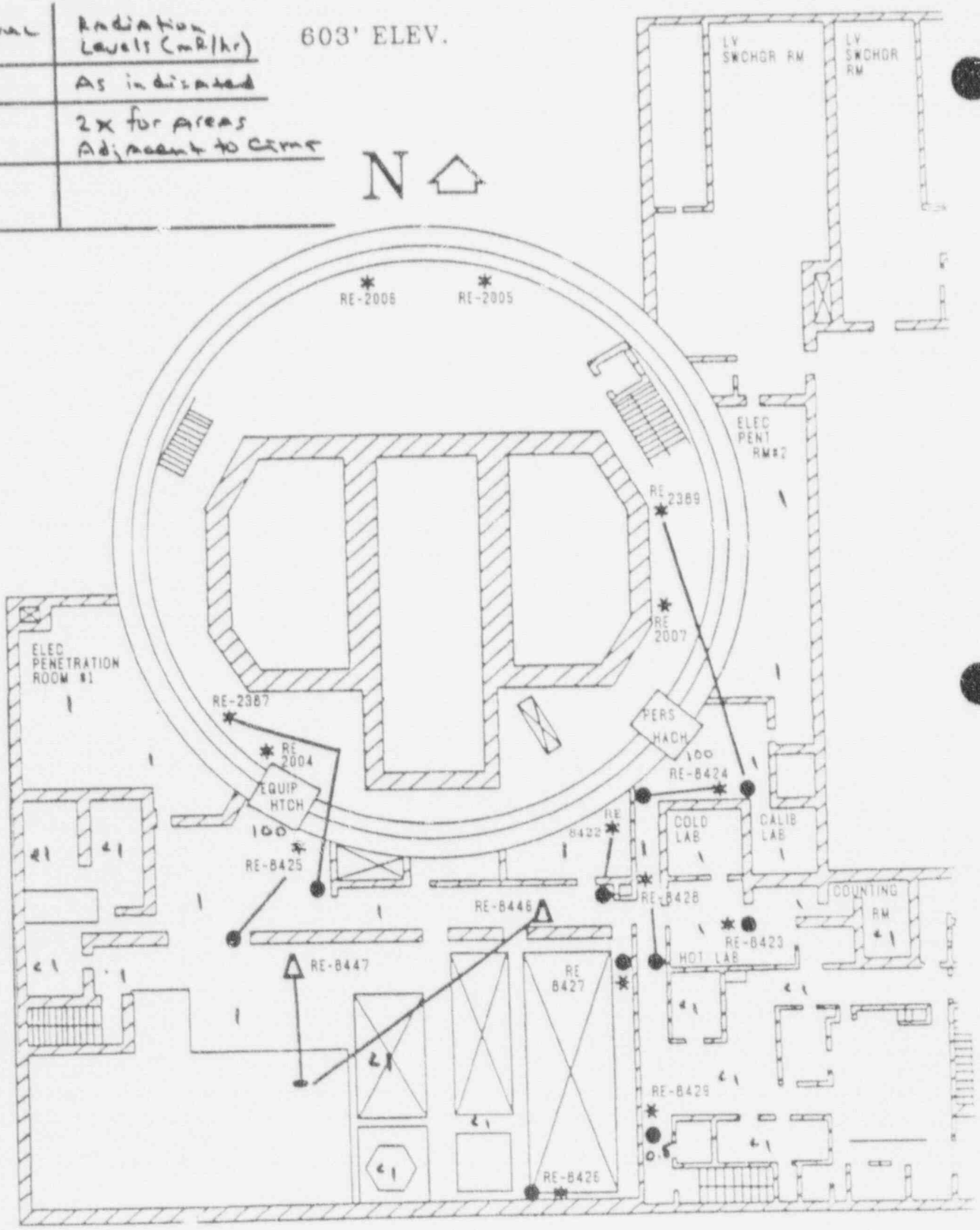


All Readings in mR/hr

0600 - 0900 hrs

Time Interval	Radiation Levels (mR/hr)
0600 - 0900	As indicated
0800 - 0900	2x for areas Adjacent to Cavity

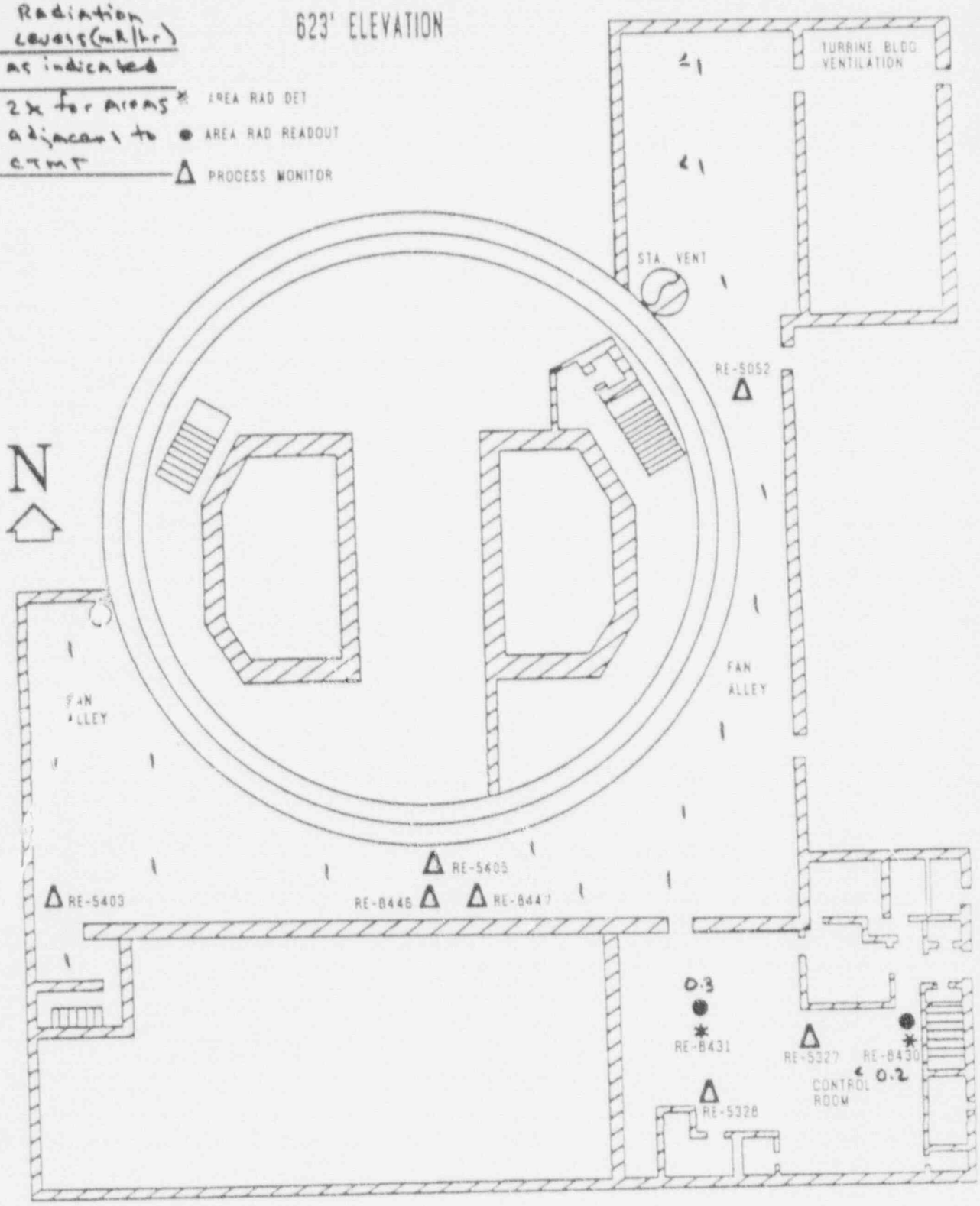
603' ELEV.



0600 - 0900

Time Interval	Radiation Levels (mR/hr)
0600-0800	as indicated
[illegible]-0900	2x for areas adjacent to CTMT

623' ELEVATION



0600 - 0900

Time Interval	Radiation Levels (mR/hr)
0600-0800	as indicated
0800-0900	2x for areas adjacent to CTMT

643' ELEV.

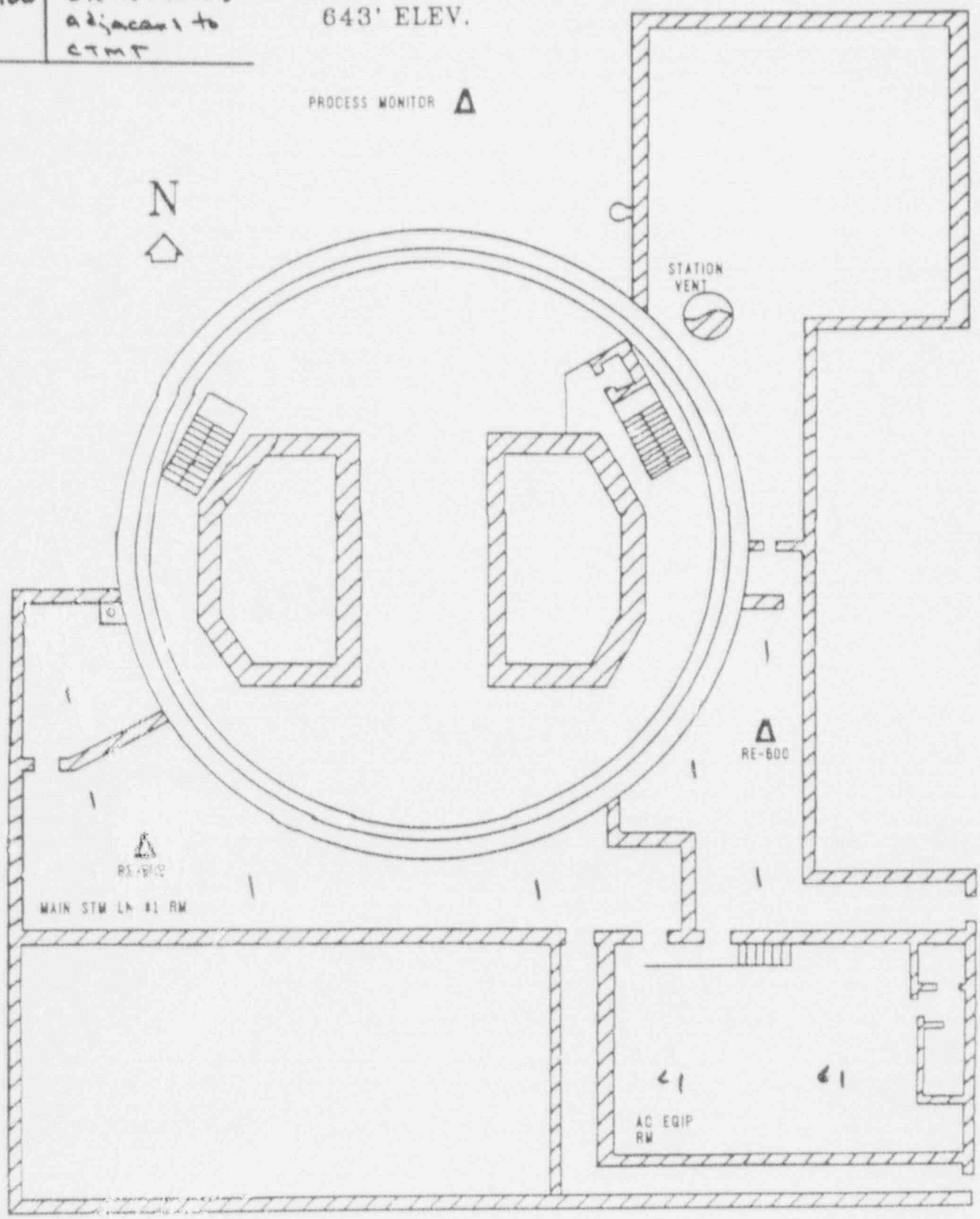


Figure 8.1

Plant Area Radiation Maps

Plant Radiation Data for 09:00 to 11:15 hours

03:00 to 05:15

The following maps show closed-window area radiation levels. The open and closed window readings are the same. Utilize the chart on each map to determine correct dose rates over time. All other radiation levels are "as is".

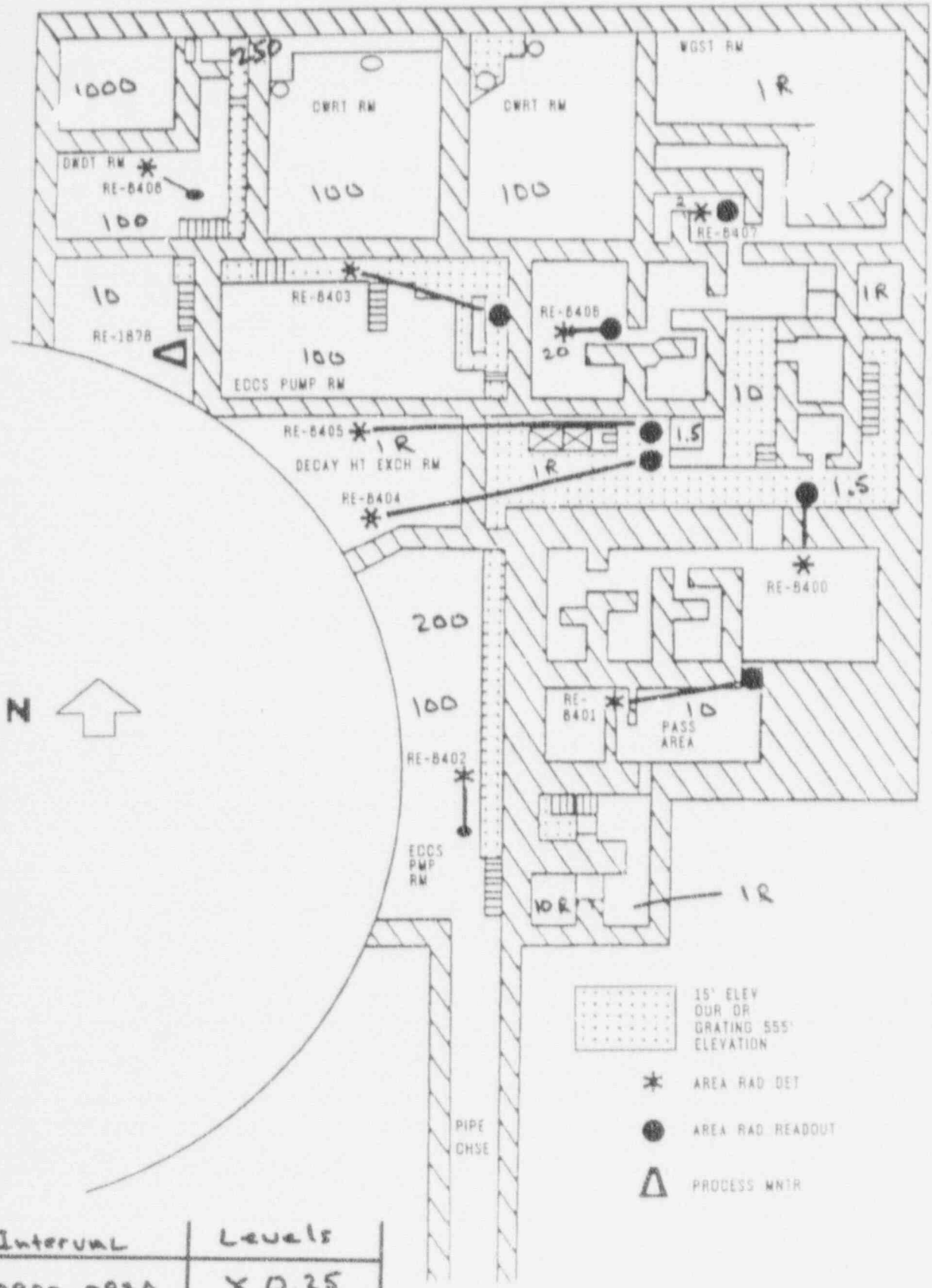
If air samples are collected and analyzed, the results are "as is" in the Auxiliary building except for the Make-up Pump Room. Those results are (20X) "as is".

If contamination surveys are performed, the results are "as is".

All Readings in mR/hr
except where noted

0900 - 1115

545' ELEV.

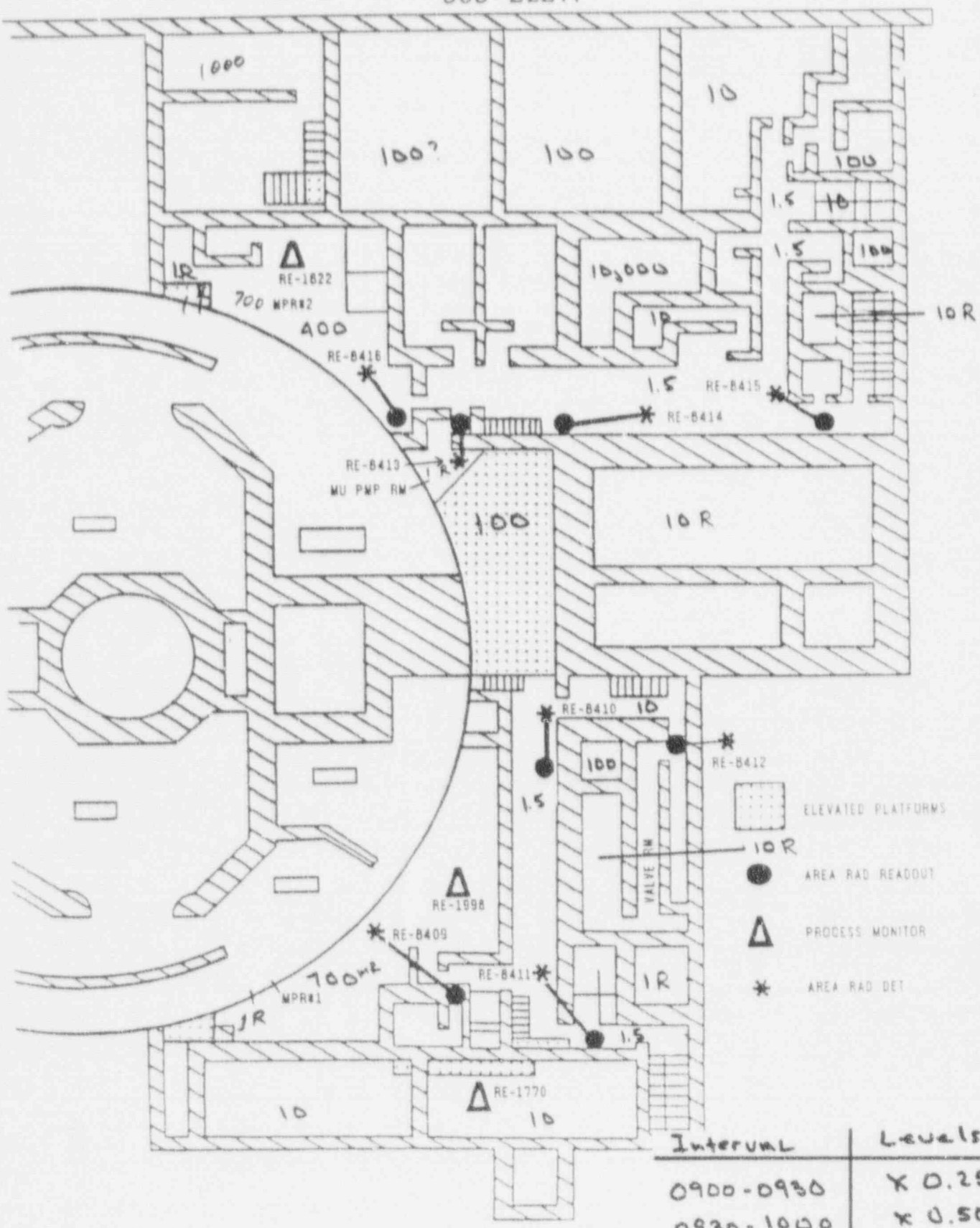


Interval	Levels
0900-0930	x 0.25
0930-1000	x 0.50
1000-1045	x 0.75
1045-1115	x 1.0

All Readings in mR/hr
except where noted.

0900 - 1115

565' ELEV.

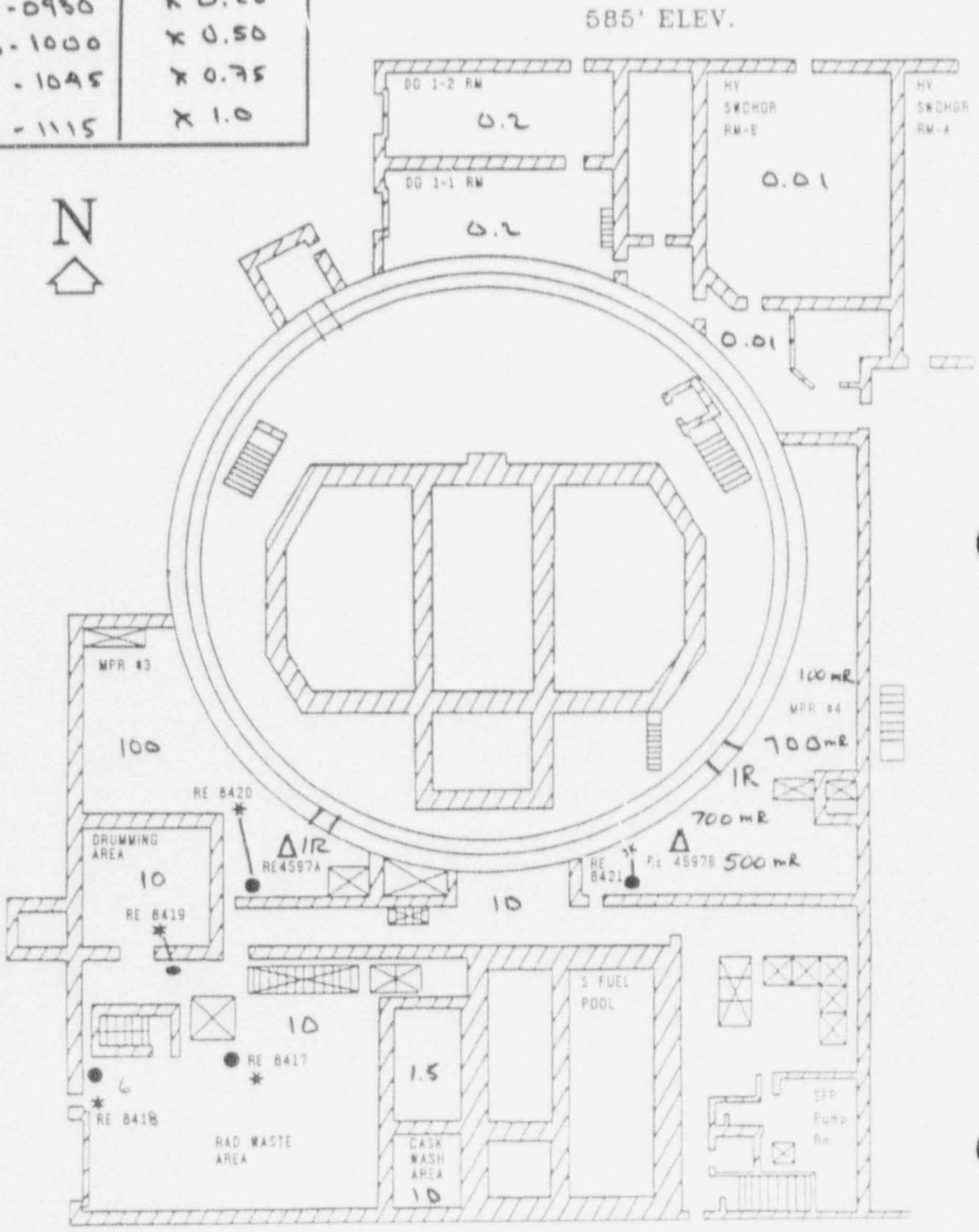


Interval	Levels
0900-0930	x 0.25
0930-1000	x 0.50
1000-1045	x 0.75
1045-1115	x 1.0

All Readings in mR/hr
except where noted

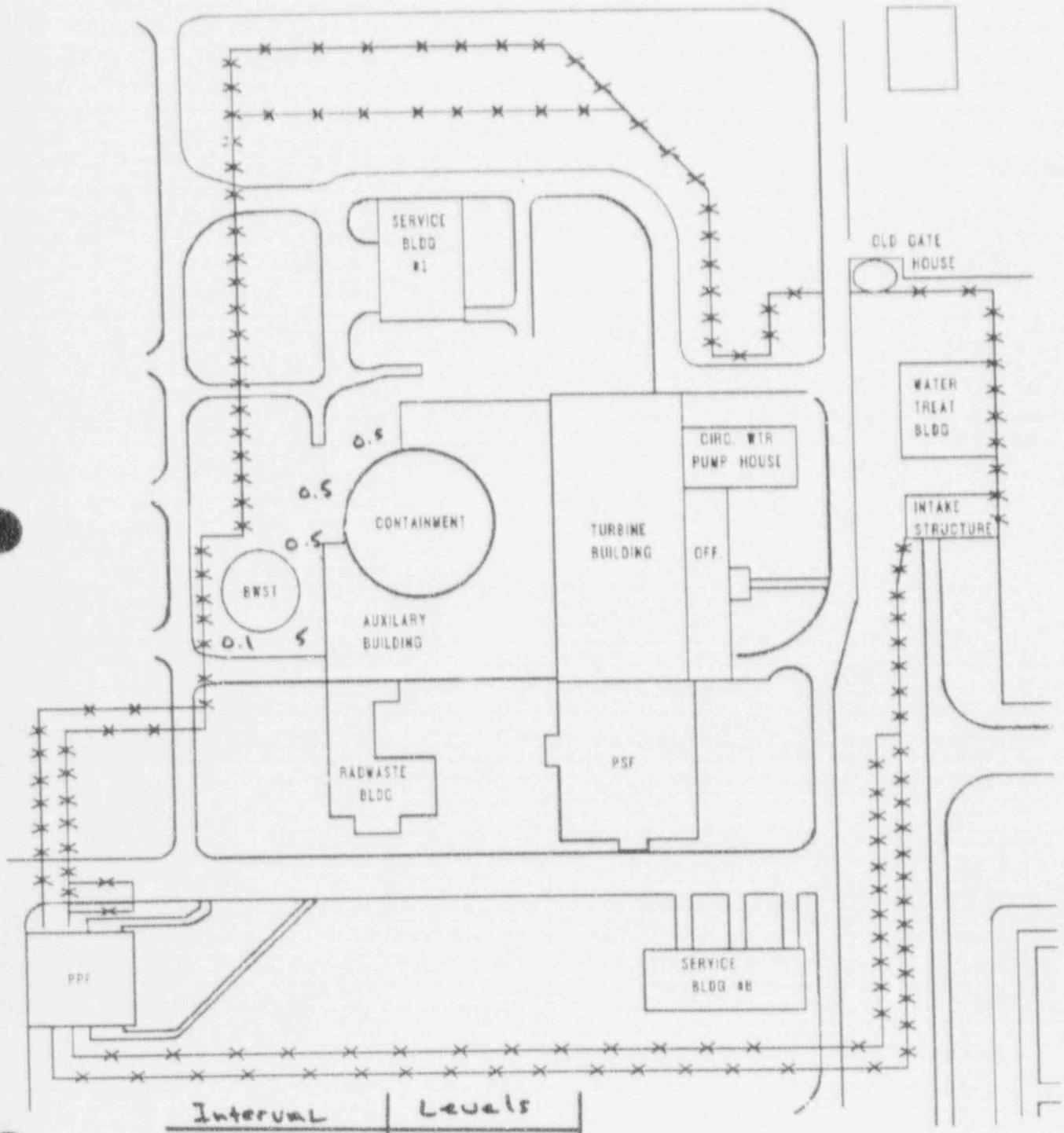
0900 - 1115

Interval	Levels
0900-0930	x 0.25
0930-1000	x 0.50
1000-1045	x 0.75
1045-1115	x 1.0



All Dose Rates in mR/hr

0900 - 1115



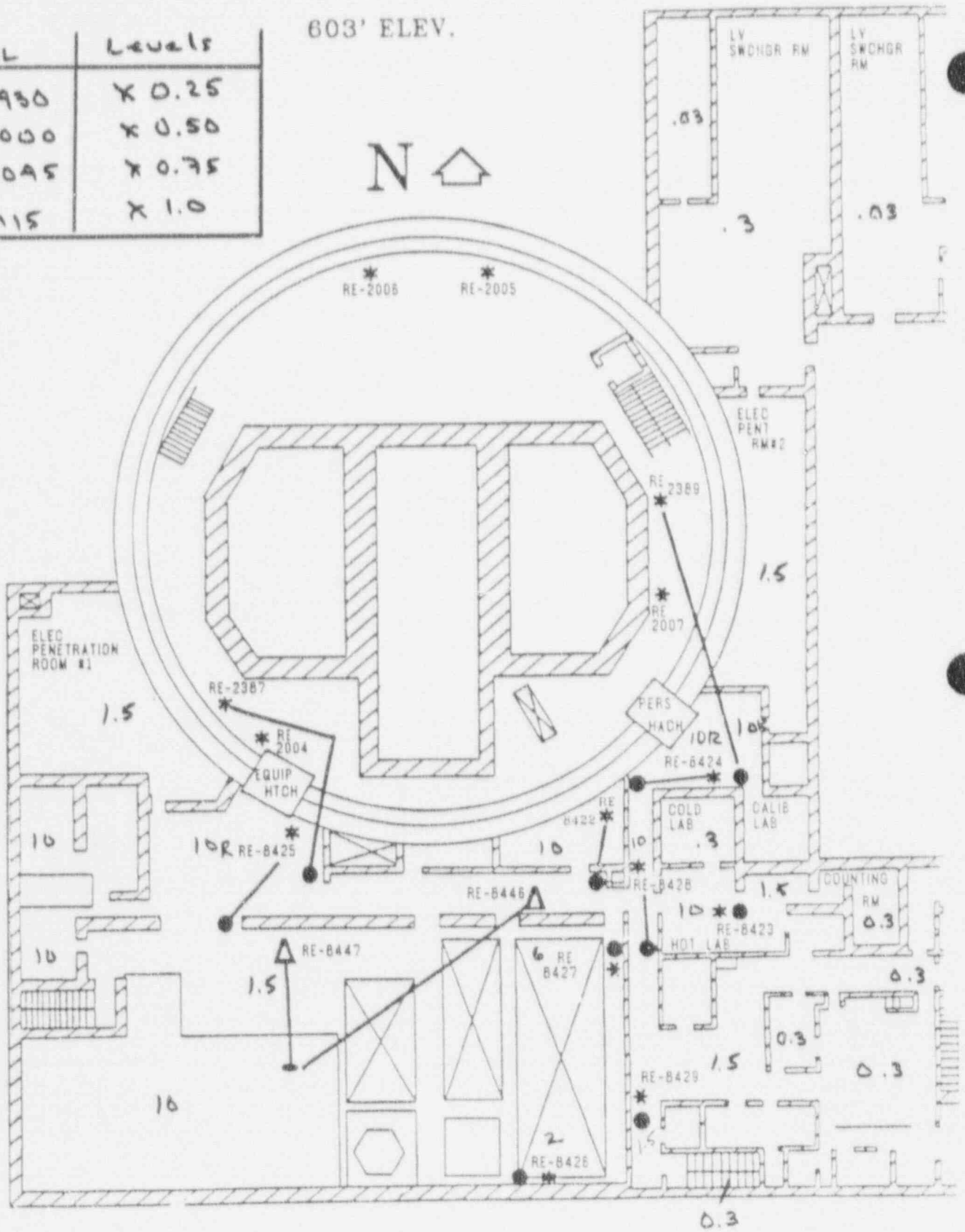
Interval	Levels
0900-0930	x 0.25
0930-1000	x 0.50
1000-1045	x 0.75
1045-1115	x 1.0

All Reading in mR/hr
except where noted

0900 - 1115

Interval	Levels
0900-0930	x 0.25
0930-1000	x 0.50
1000-1045	x 0.75
1045-1115	x 1.0

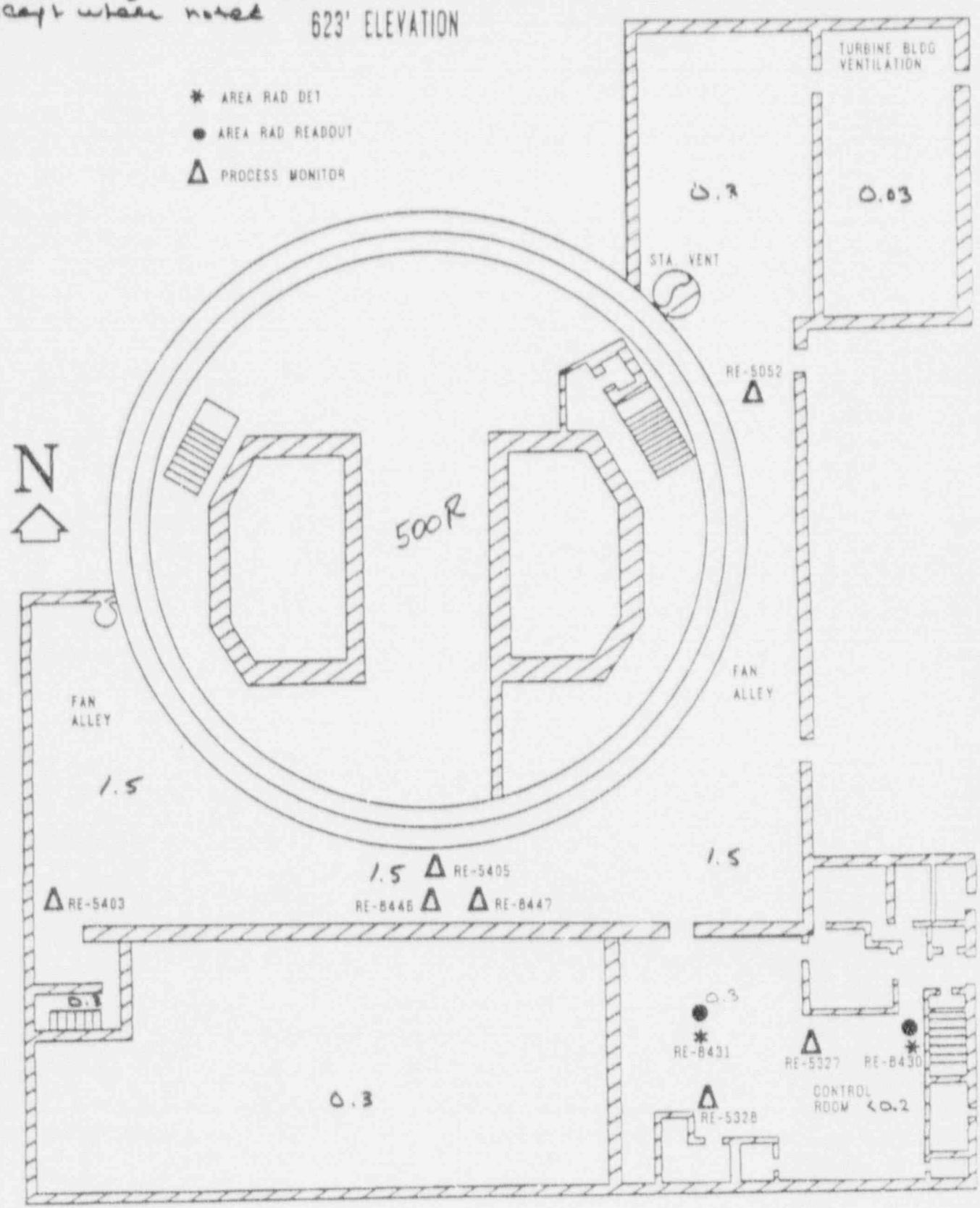
603' ELEV.



All readings in mR/hr except where noted

0900 - 1115

623' ELEVATION

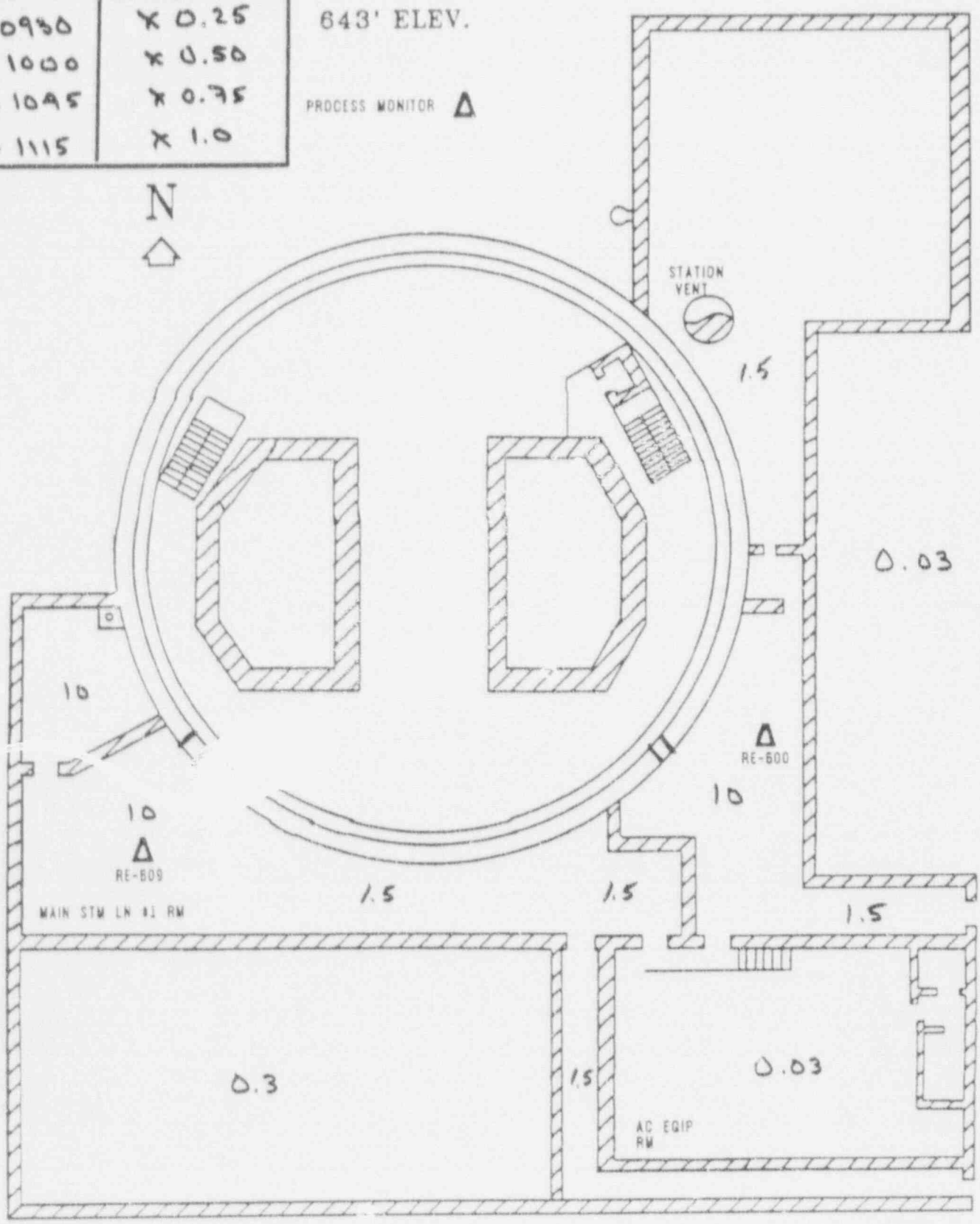


Interval	Levels
0900-0930	x 0.25
0930-1000	x 0.50
1000-1045	x 0.75
1045-1115	x 1.0

All Dose rates in mR/hr

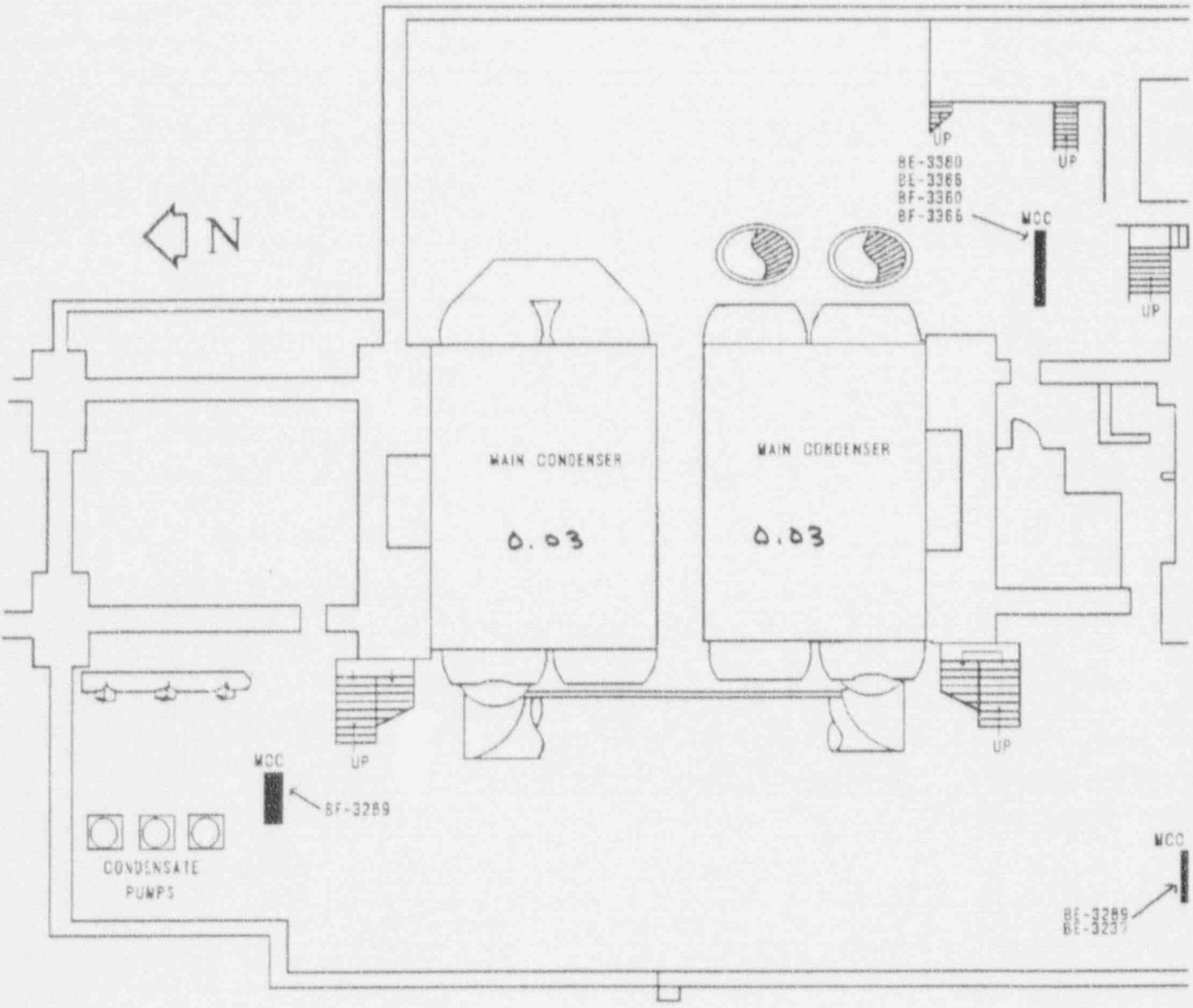
0900 - 1115

Interval	Levels
0900-0930	x 0.25
0930-1000	x 0.50
1000-1045	x 0.75
1045-1115	x 1.0



Dose Rates in mR/hr 0900 - 1115

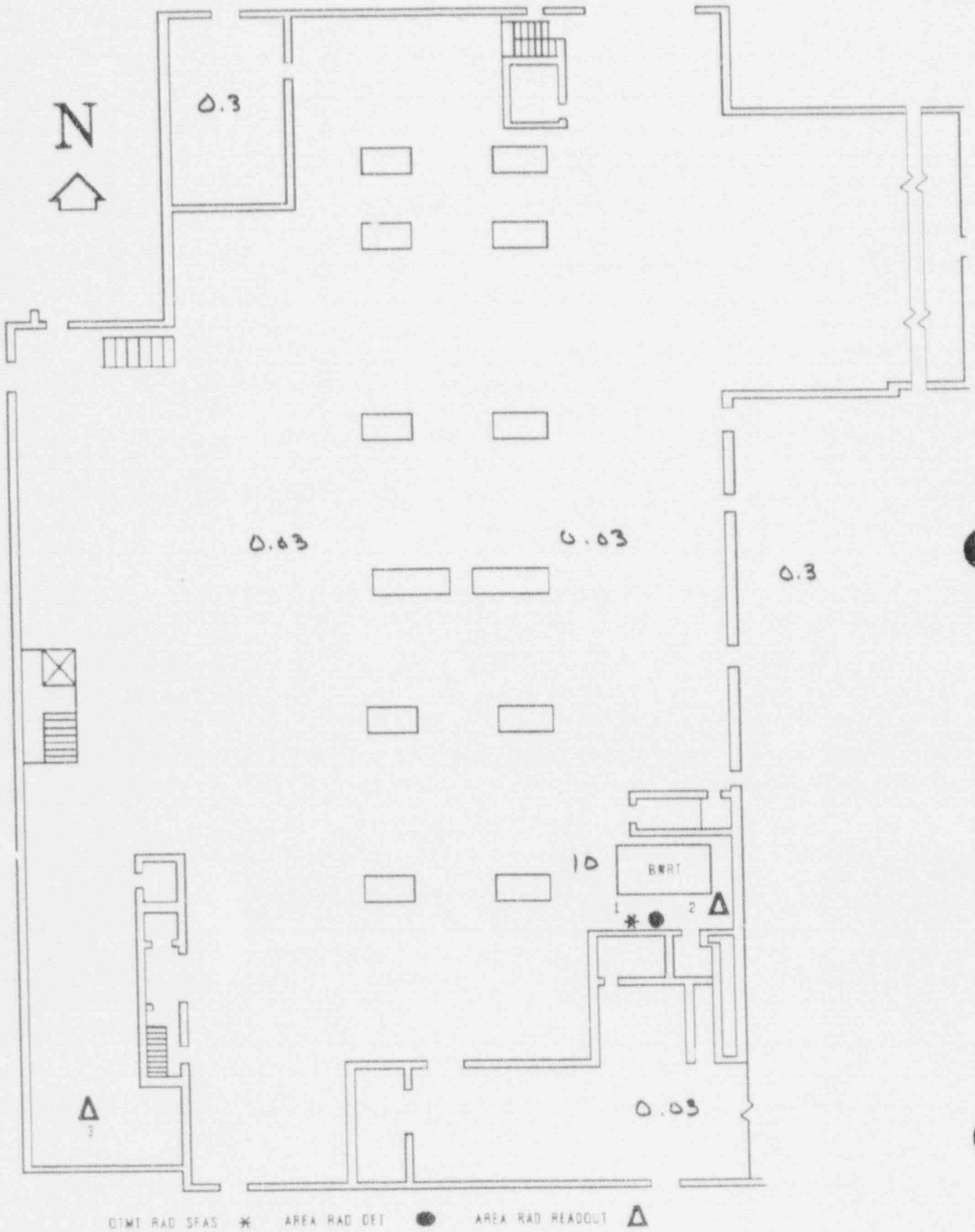
TURBINE BUILDING
ELEV. 567'



All Readings in mR/hr

0900 - 1115

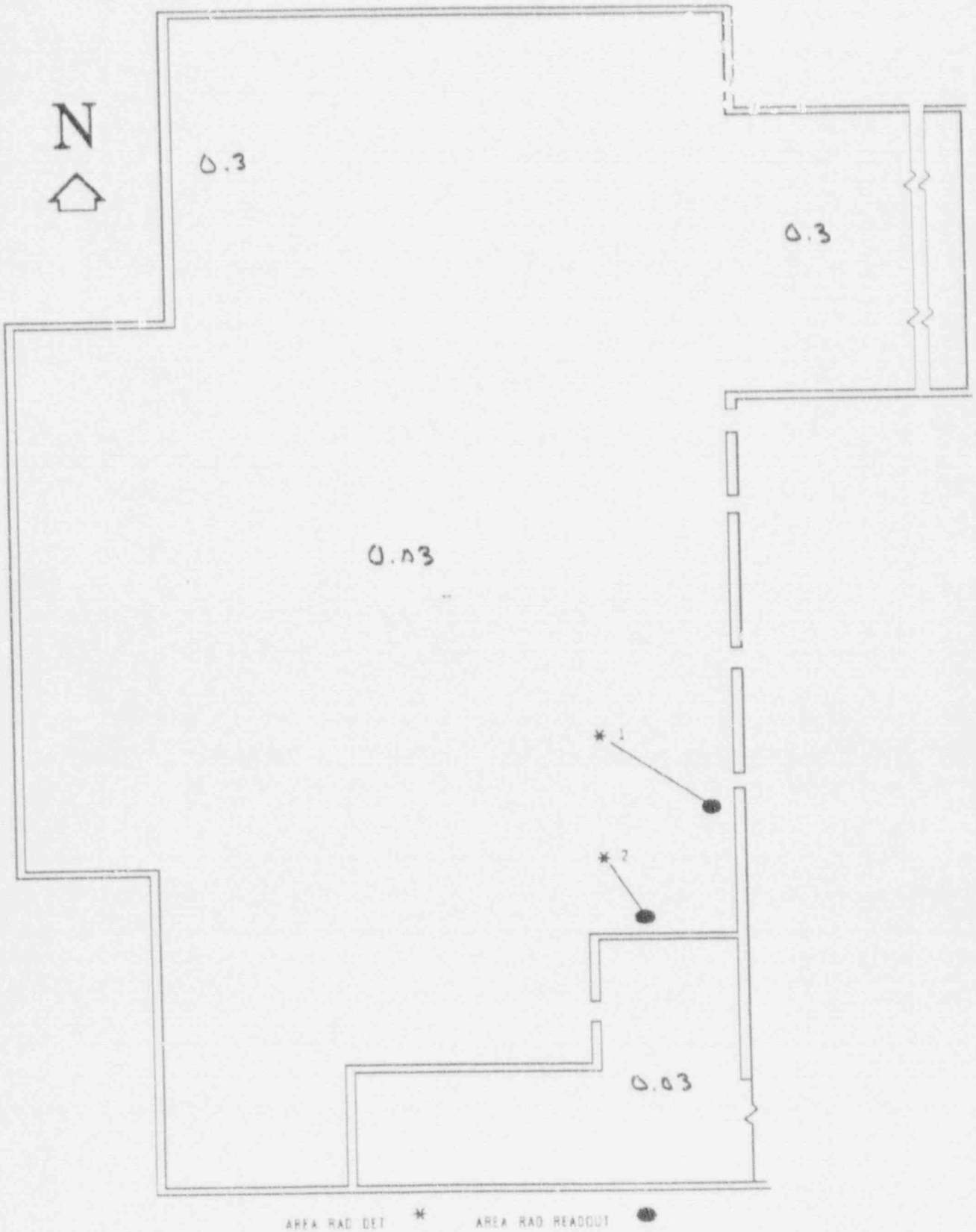
Turbine Building - 585'



All Readings in mR/hr

0900 - 1115

Turbine Building - 603'



All Readings in mR/hr

0400 - 1115

TURBINE BUILDING - 623'

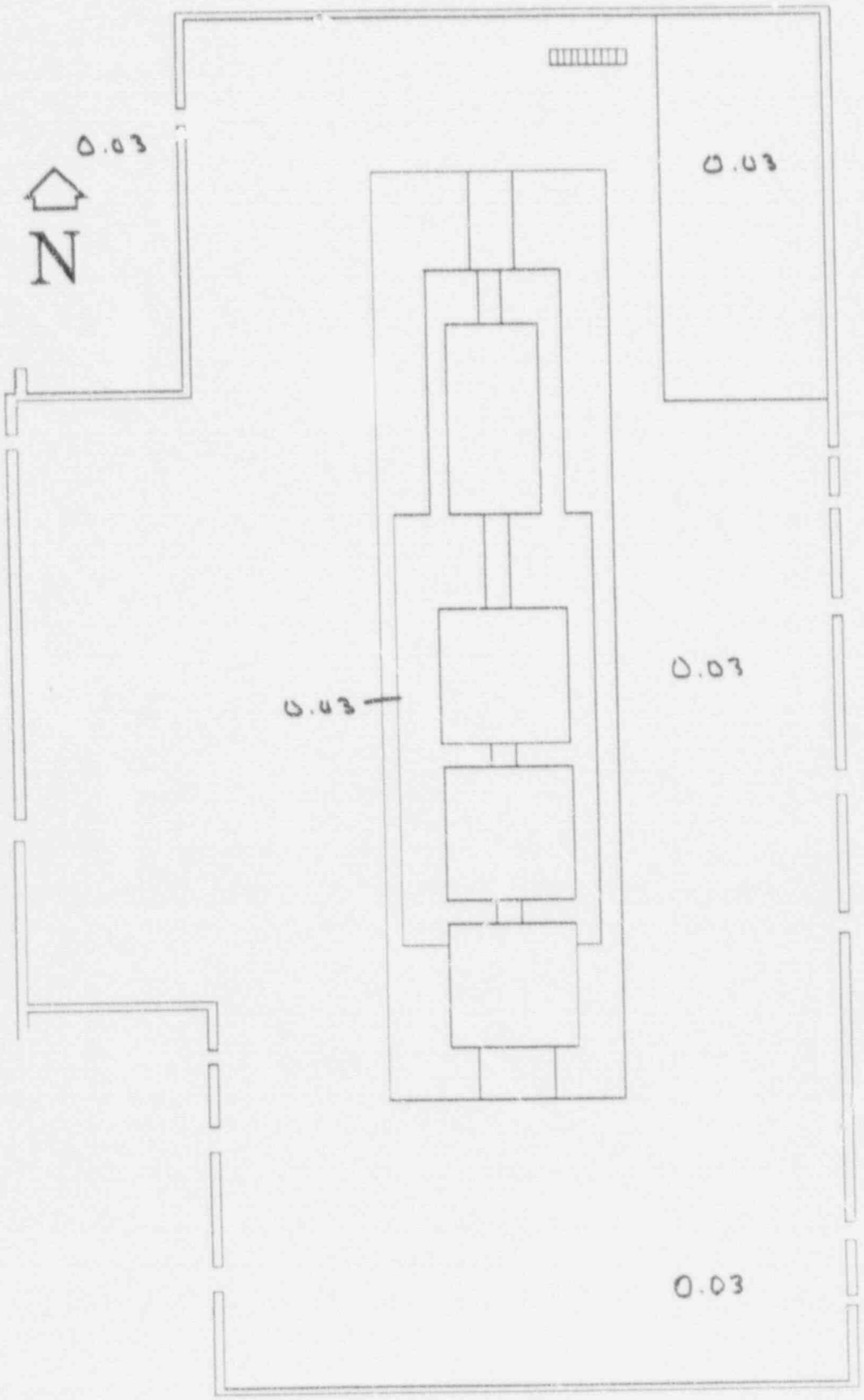


Figure 8.1

Plant Area Radiation Maps

Plant Radiation Data for 11:15 to 13:00 hours

05:15 to 07:00

The following maps show closed-window area radiation levels. Utilize the chart on each map to determine correct dose rates over time.

All open window readings should be the same as the closed area readings except for the following areas:

ECCS Pump Rooms, Decay Heat Exchange Room, Mechanical Penetration Rooms 1, 2, 3 and 4

For these areas, the open window readings should be (1.5X) the closed window readings. The air sample results are as follows:

Iodine 131	1.57E5	MPCs
Iodine 133	7.65E3	MPCs
Xenon 133	5.97E3	MPCs
Krypton 88	6.04E3	MPCs

All other radiation levels are "as is".

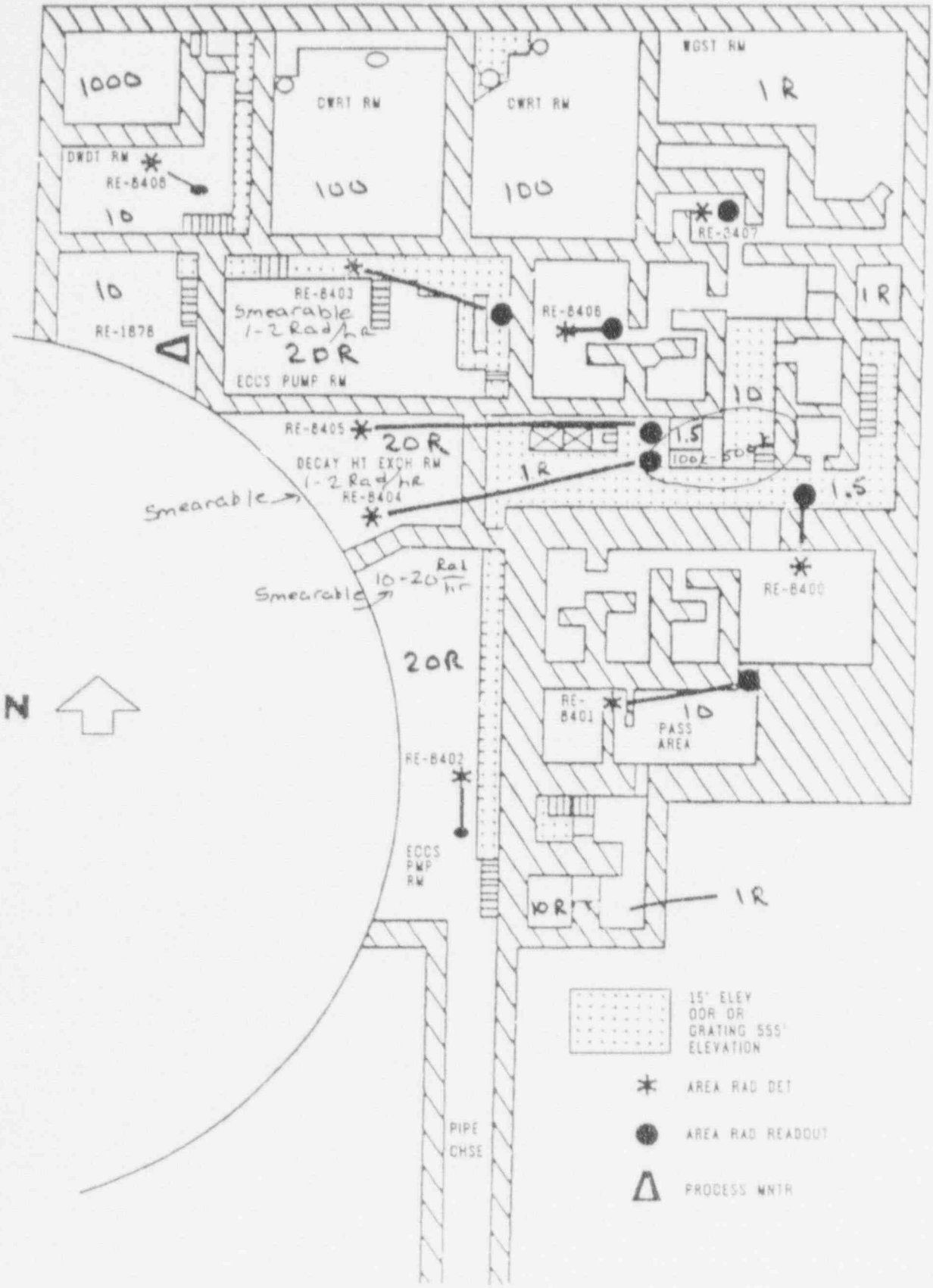
If air samples are collected and analyzed in other areas of the Auxiliary Building, the results are (100 X) "as is".

If contamination surveys are performed, the results are (100 X) "as is" for other areas of the Auxiliary Building where there is significant contamination.

All readings in mR/hr
except where noted

1115 - 1300

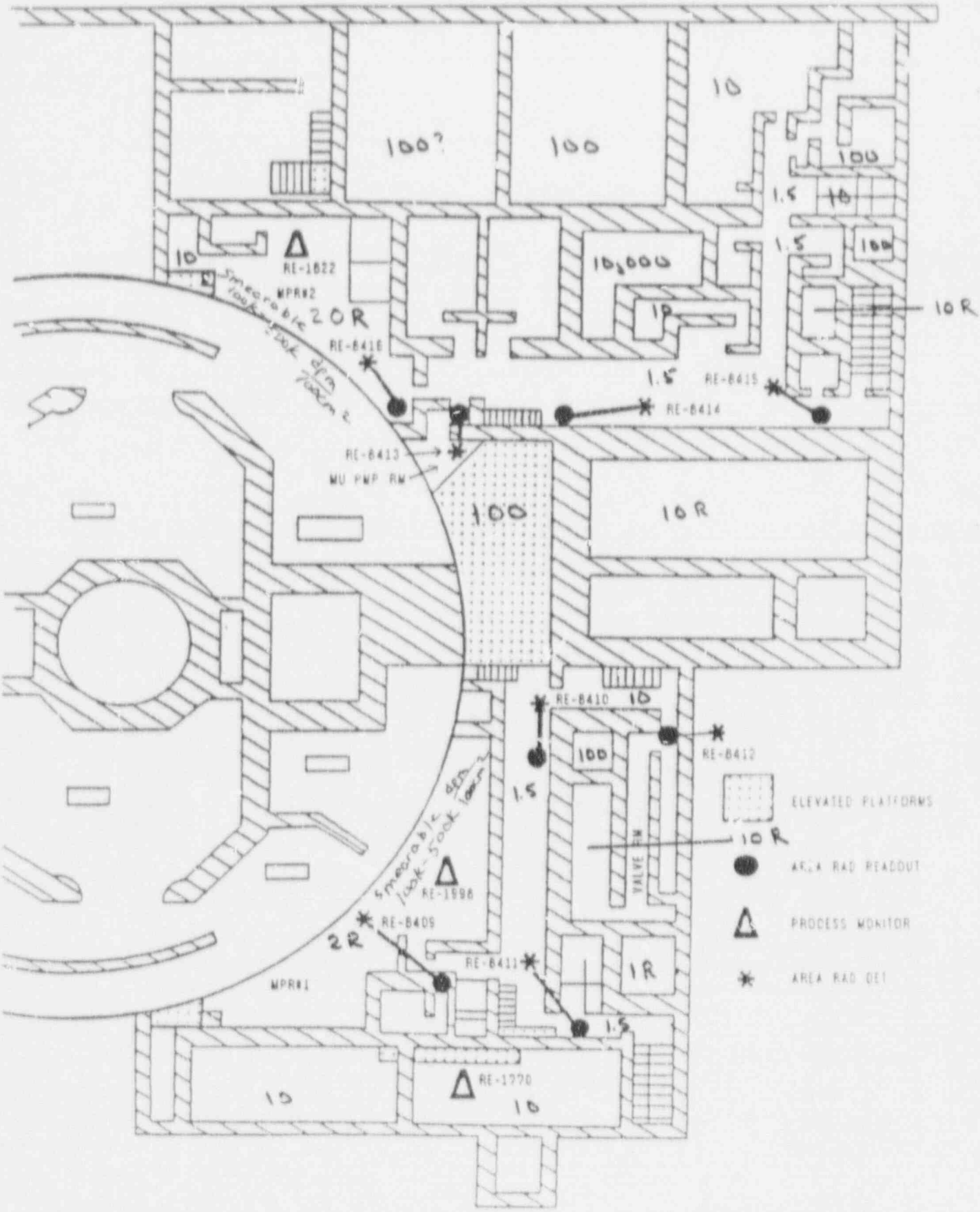
545' ELEV.



All readings in mR/hr
except where noted.

1115 — 1500

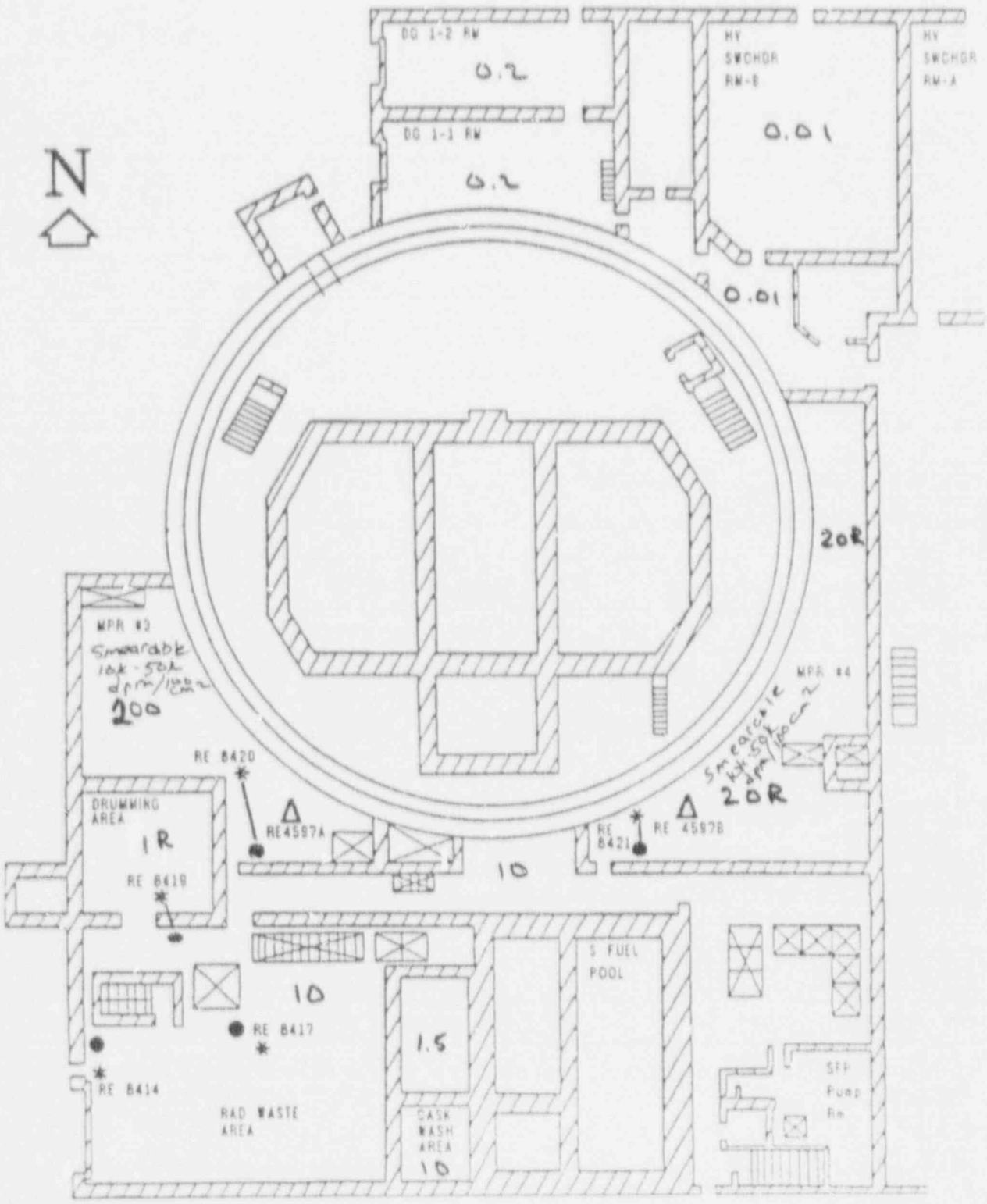
565' ELEV.



All Readings in rem/hr
(except where noted

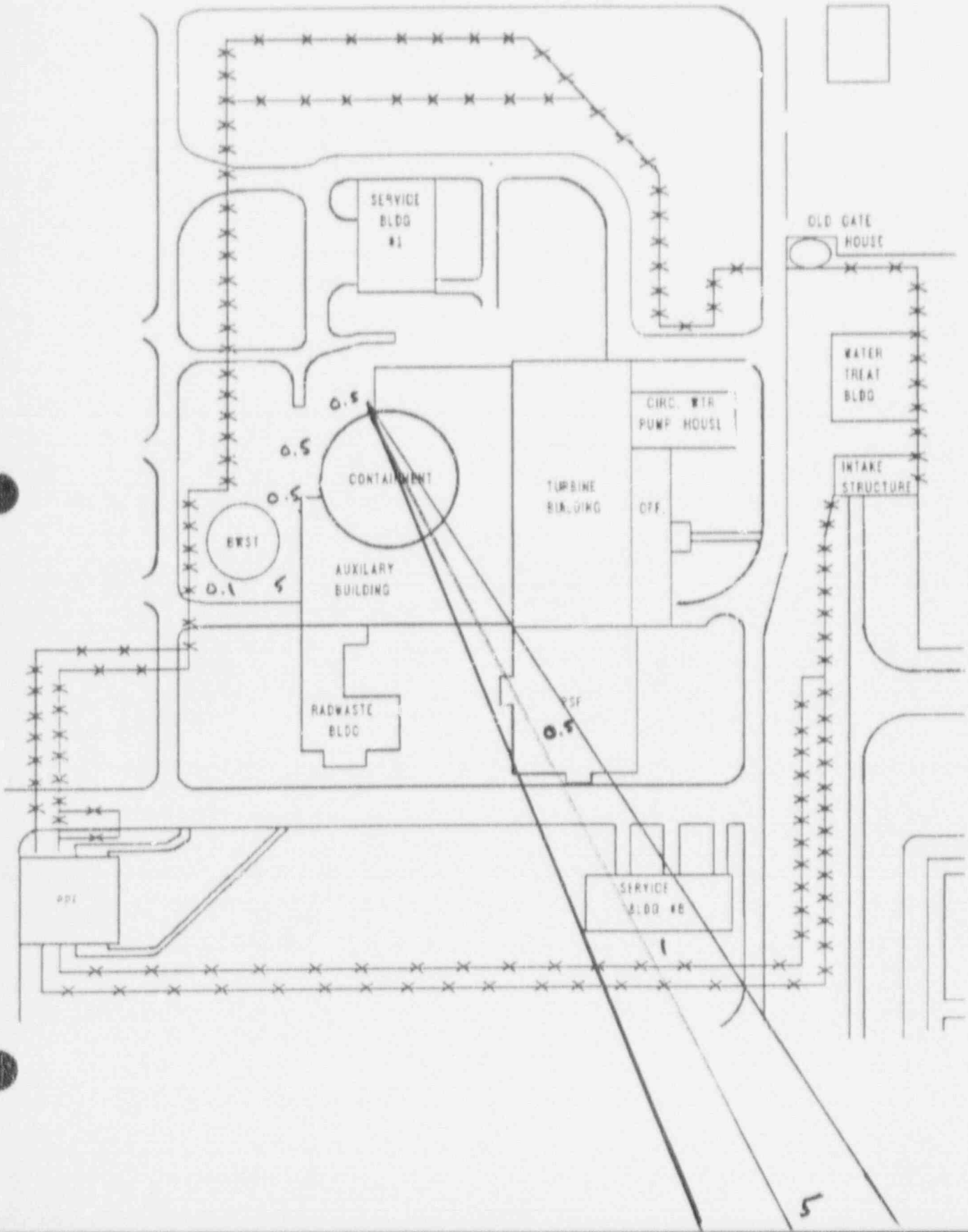
1115 - 1300

585' ELEV.



1. All Dose Rates in mR/hr
2. Open window readings are the same as closed window readings

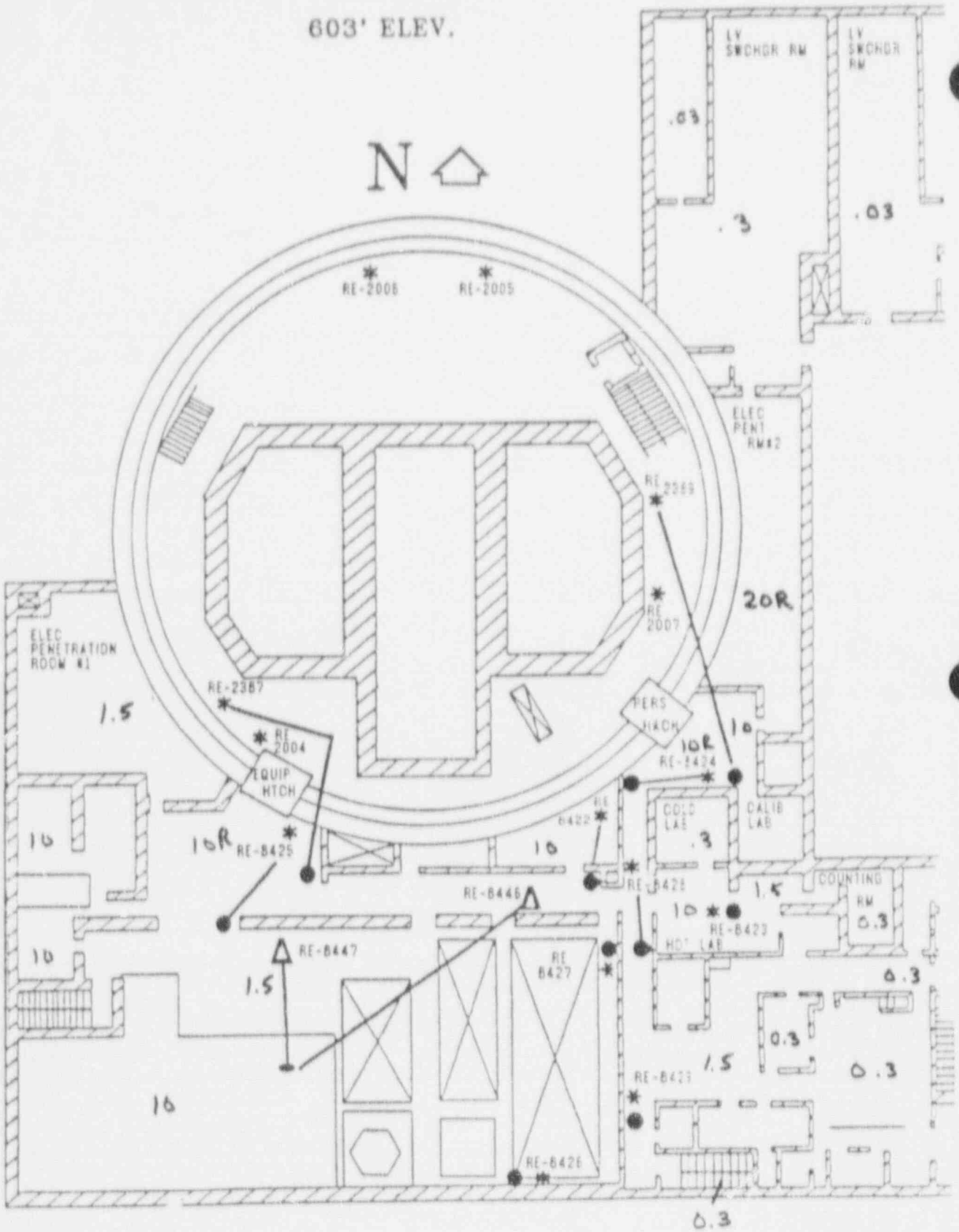
1115 - 1300



All readings in mR/hr
except where noted

1115 - 1300

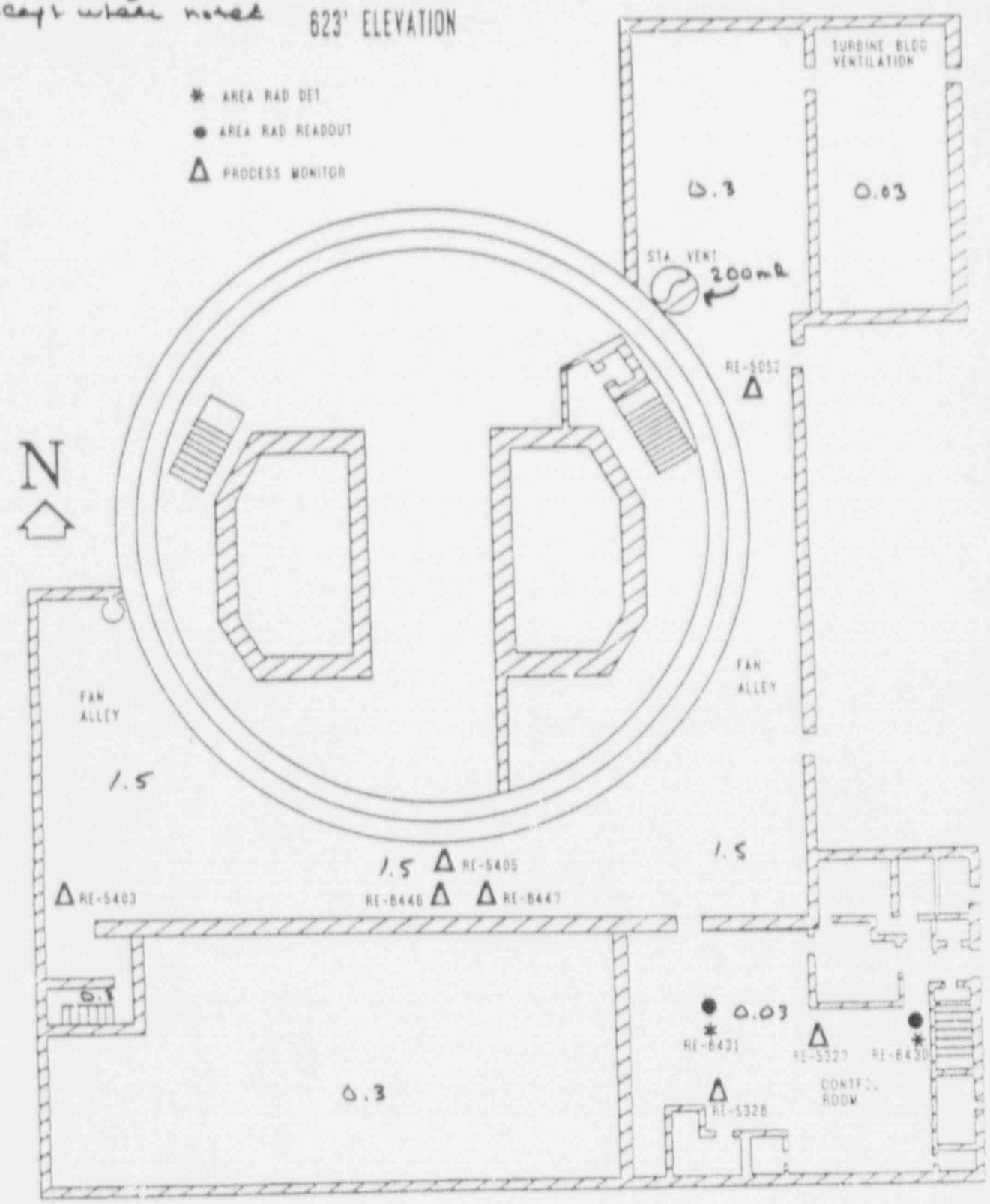
603' ELEV.



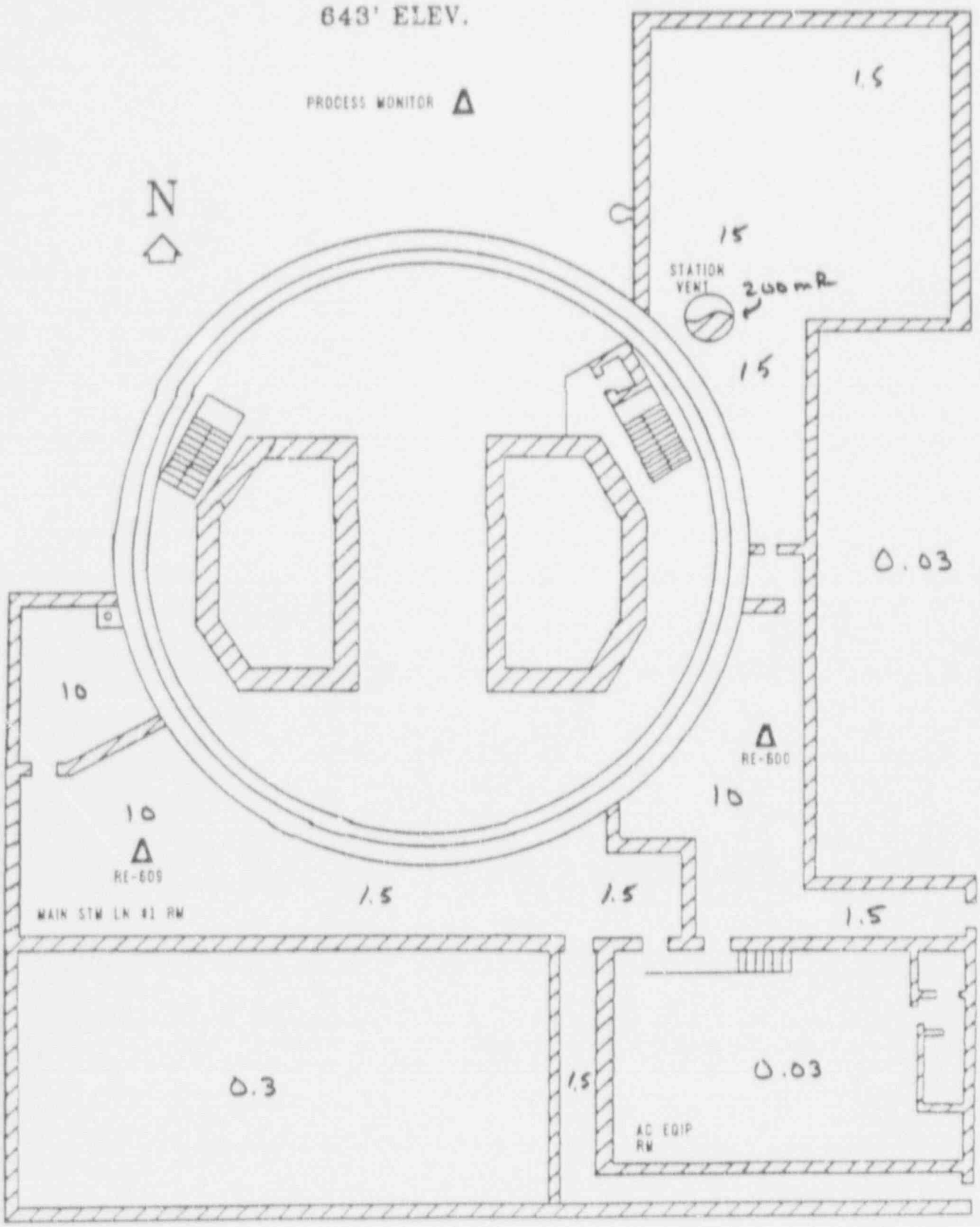
All readings in mR/hr
except where noted

1115 - 1300

623' ELEVATION

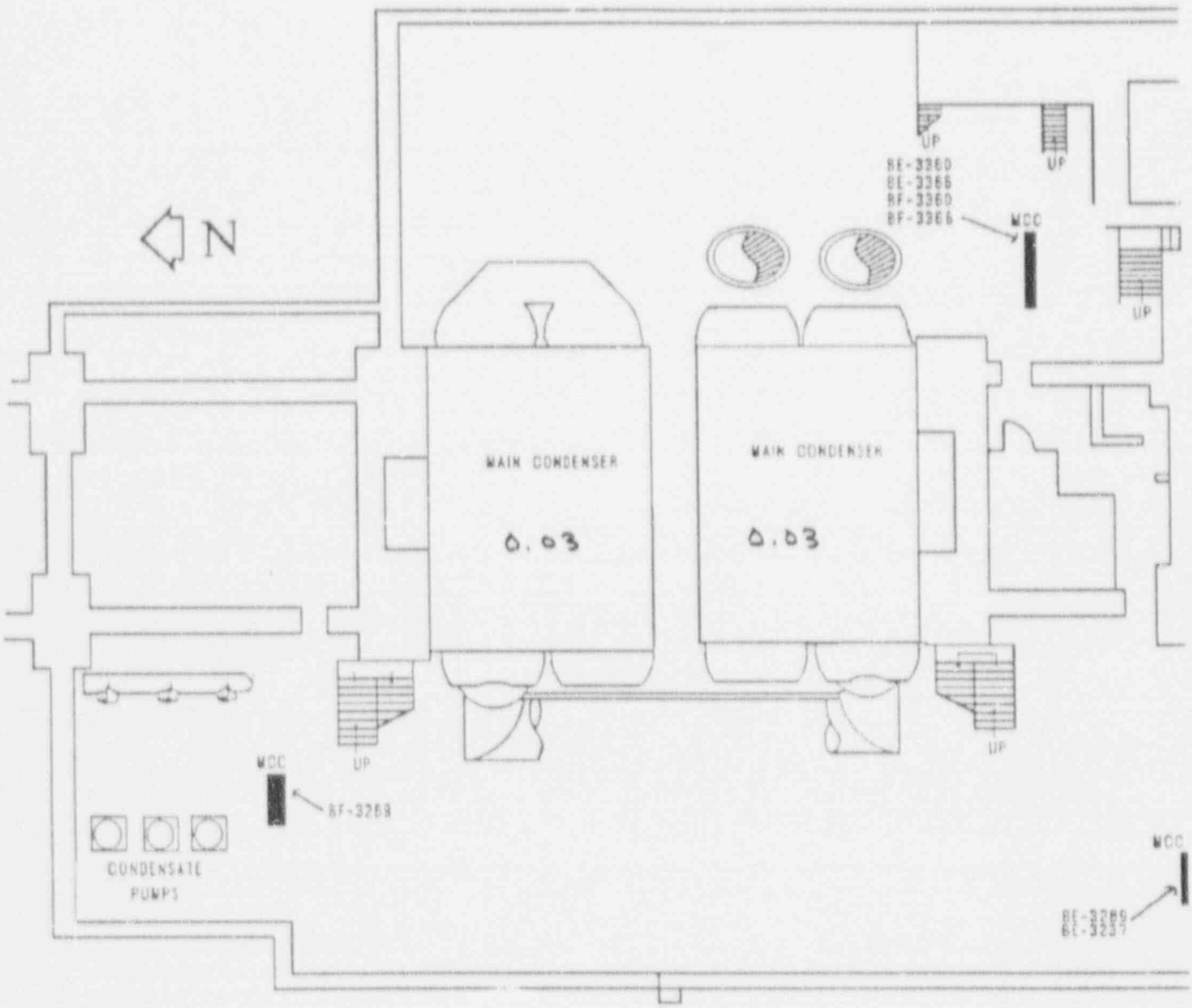


All Dose rates in mR/hr 1115 - 1300



Dose Rates in mR/hr 1115 - 1300

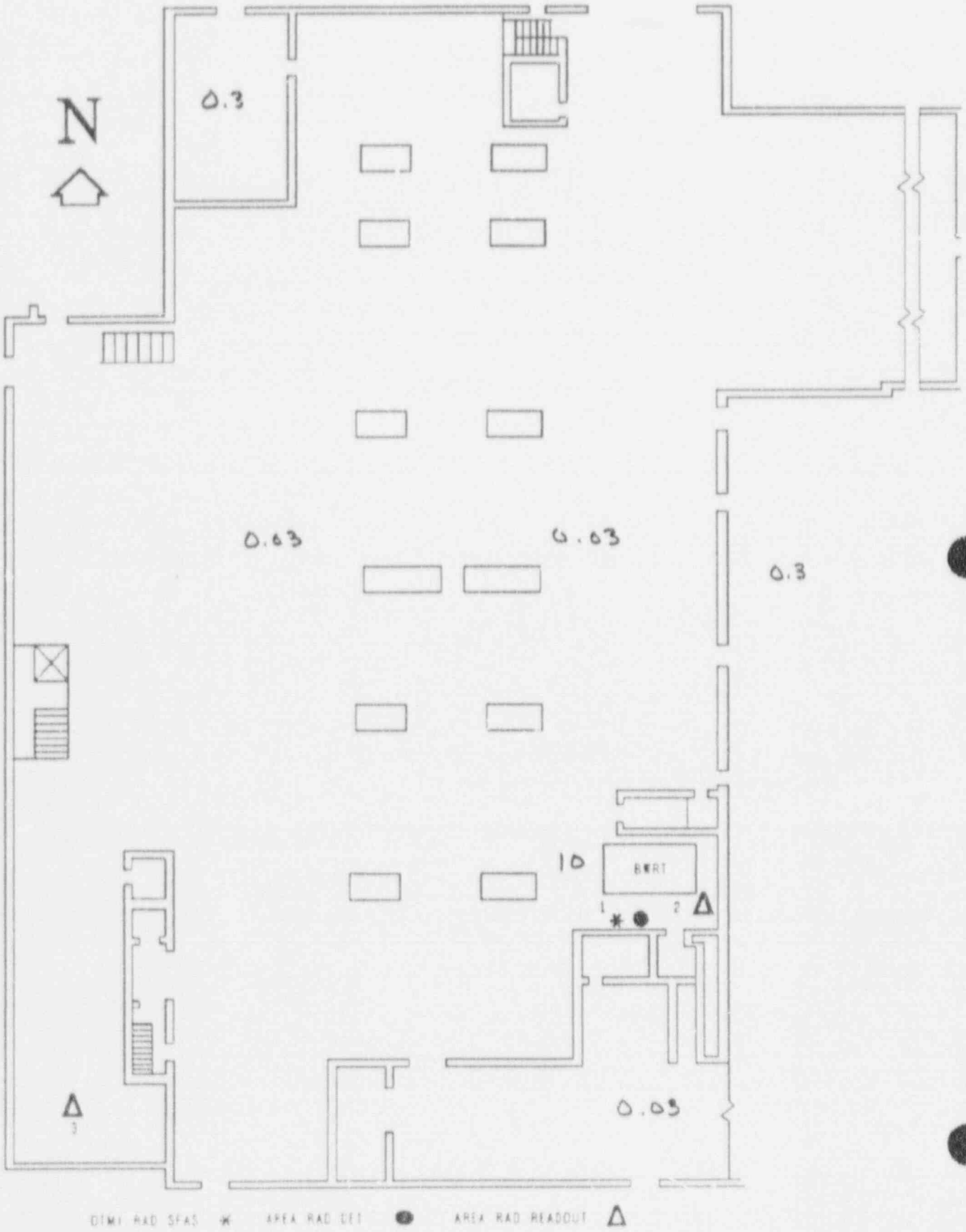
TURBINE BUILDING
ELEV. 567'



All Readings in mR/hr

1:15 - 1500

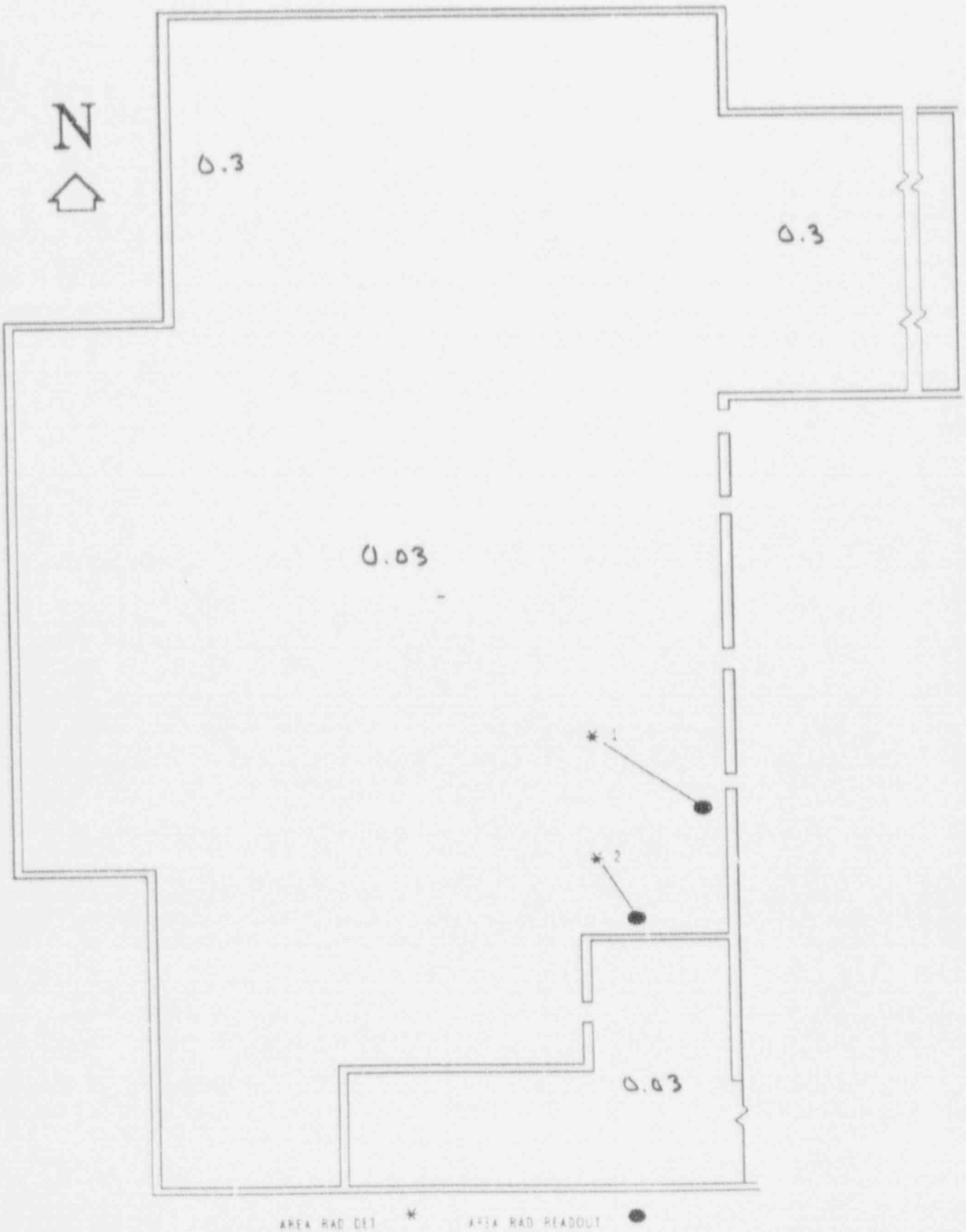
Turbine Building - 585'



All Readings in mR/hr

1115 - 1300

Turbine Building - 603'



All Readings in mR/hr

1115-1500

TURBINE BUILDING - 623'

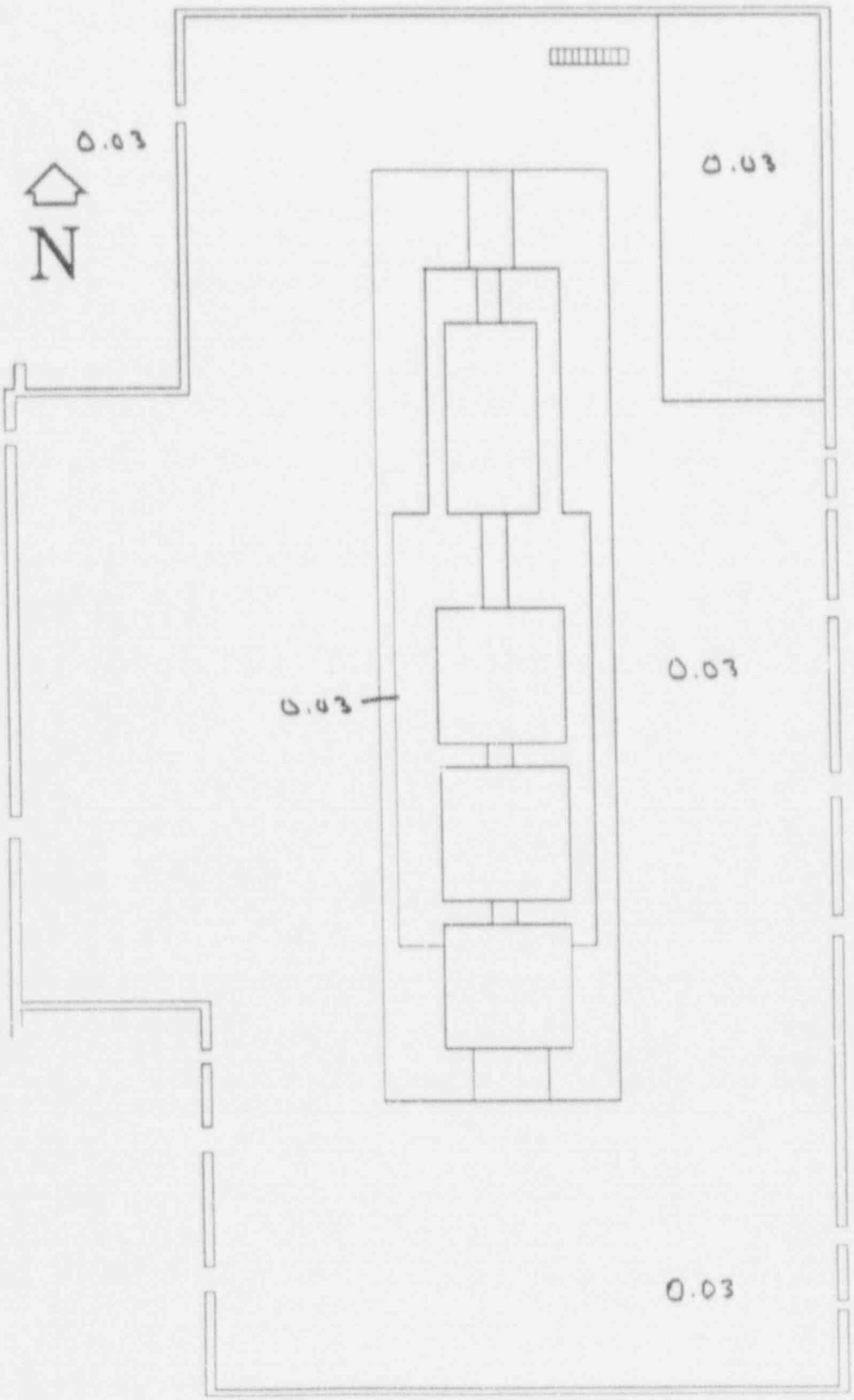


Figure 8.1

Plant Area Radiation Maps

Plant Radiation Data for 13:00 - 15:00 hours

07:00 - 09:00

The following maps show closed-window area radiation levels. The open and closed window readings are the same. Utilize the chart on each map to determine correct dose rates over time. All other radiation levels are "as is".

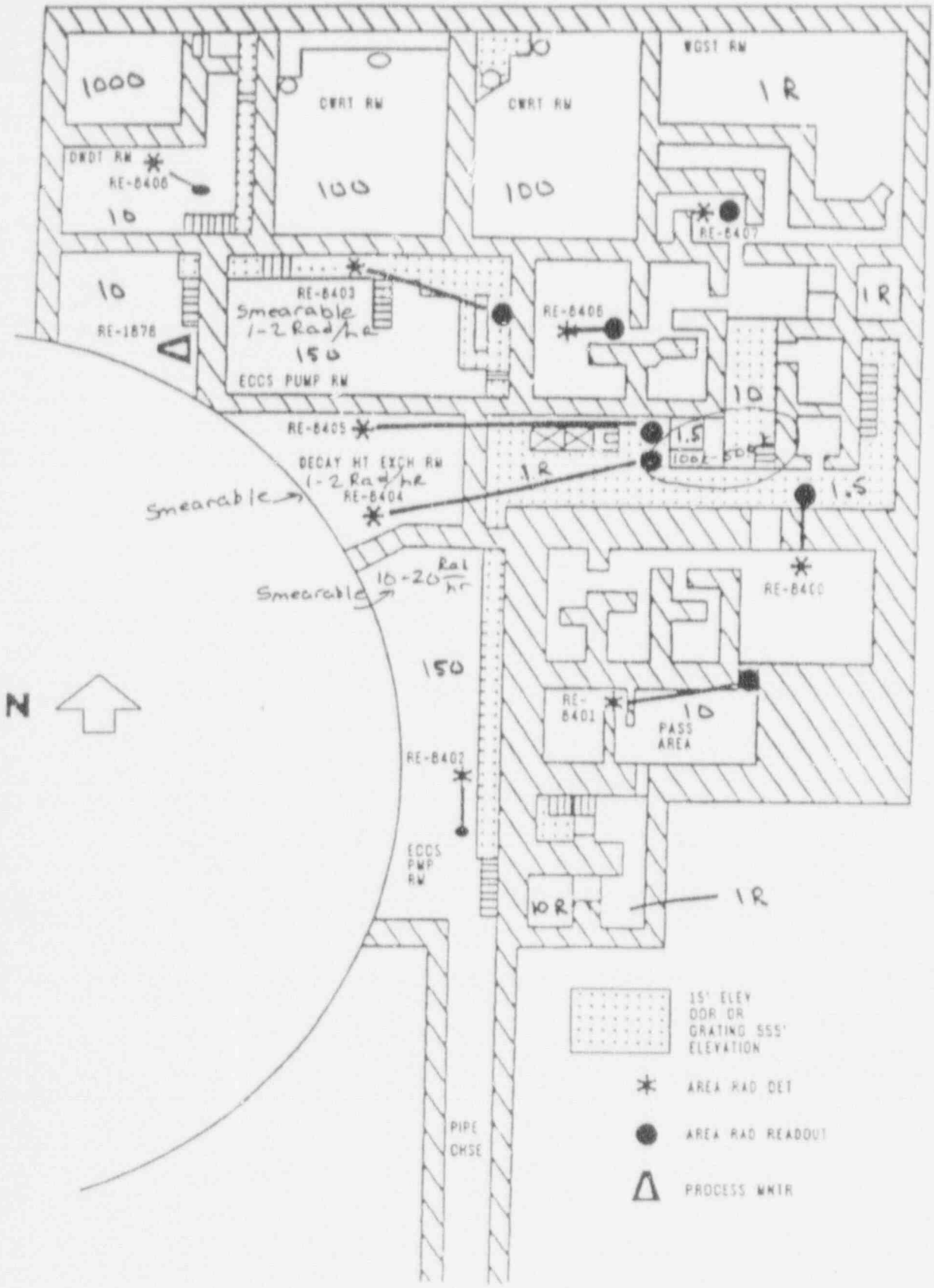
If air samples are collected and analyzed, the results are (10X) "as is" in the Auxiliary Building. All other air sample results are "as is".

If contamination surveys are performed, the results are (10X) "as is" in areas where there is significant contamination for other areas in the Auxiliary Building.

All readings in mR/hr
except where noted

1300 — 1500

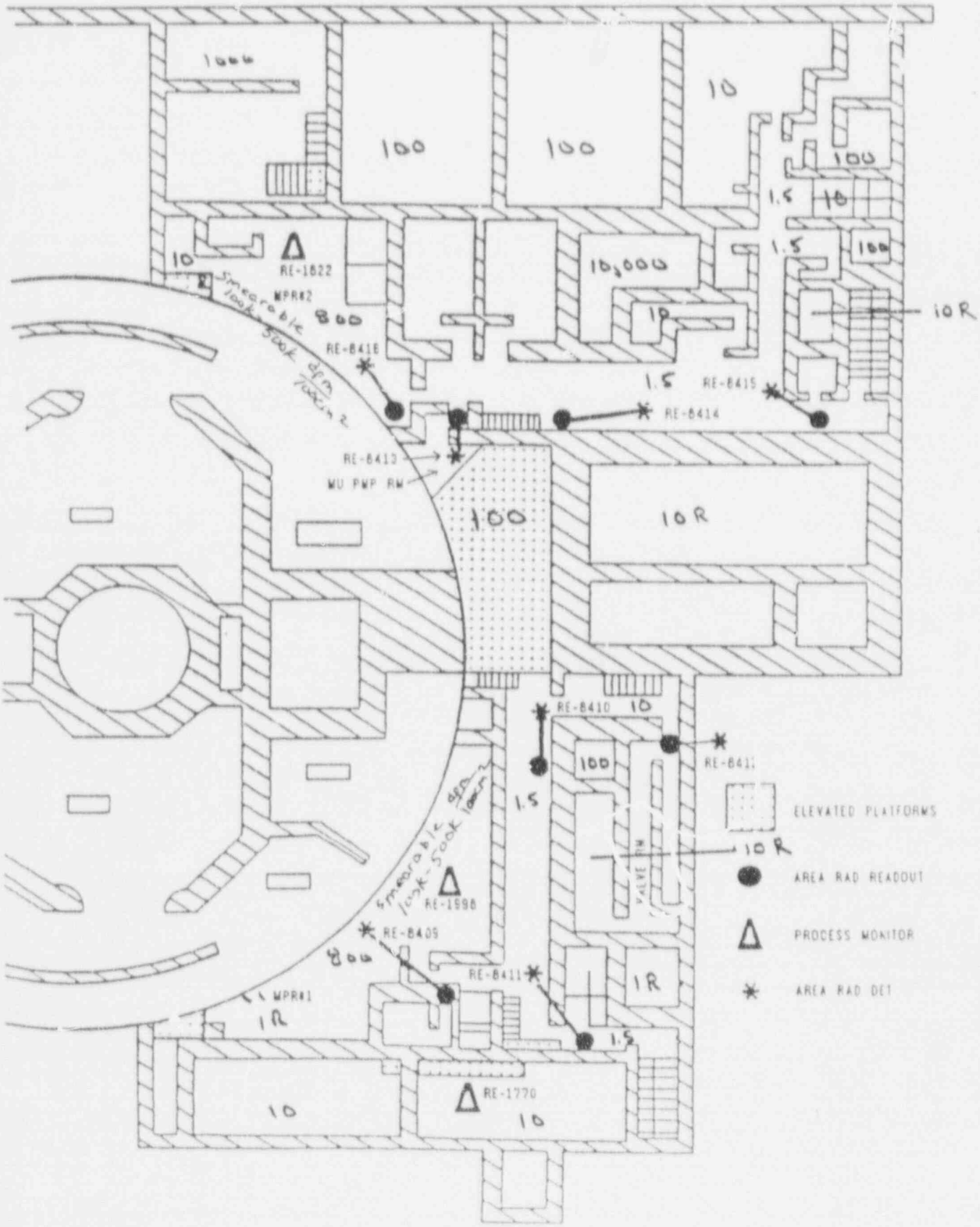
545' ELEV.



All readings in mrem except where noted.

1500 — 1500

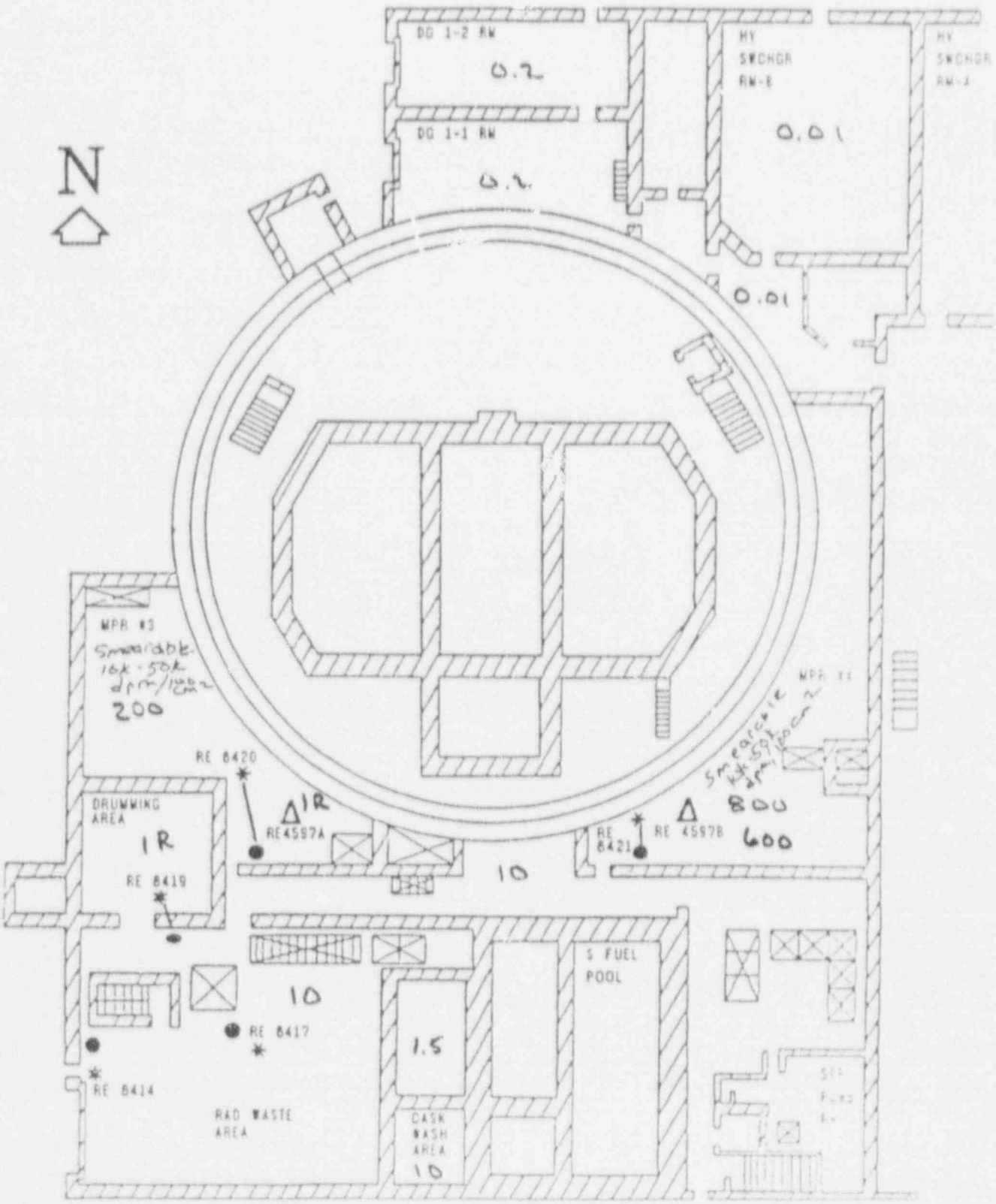
565' ELEV.



All Readings in mR/hr
except where noted

1300 - 1500

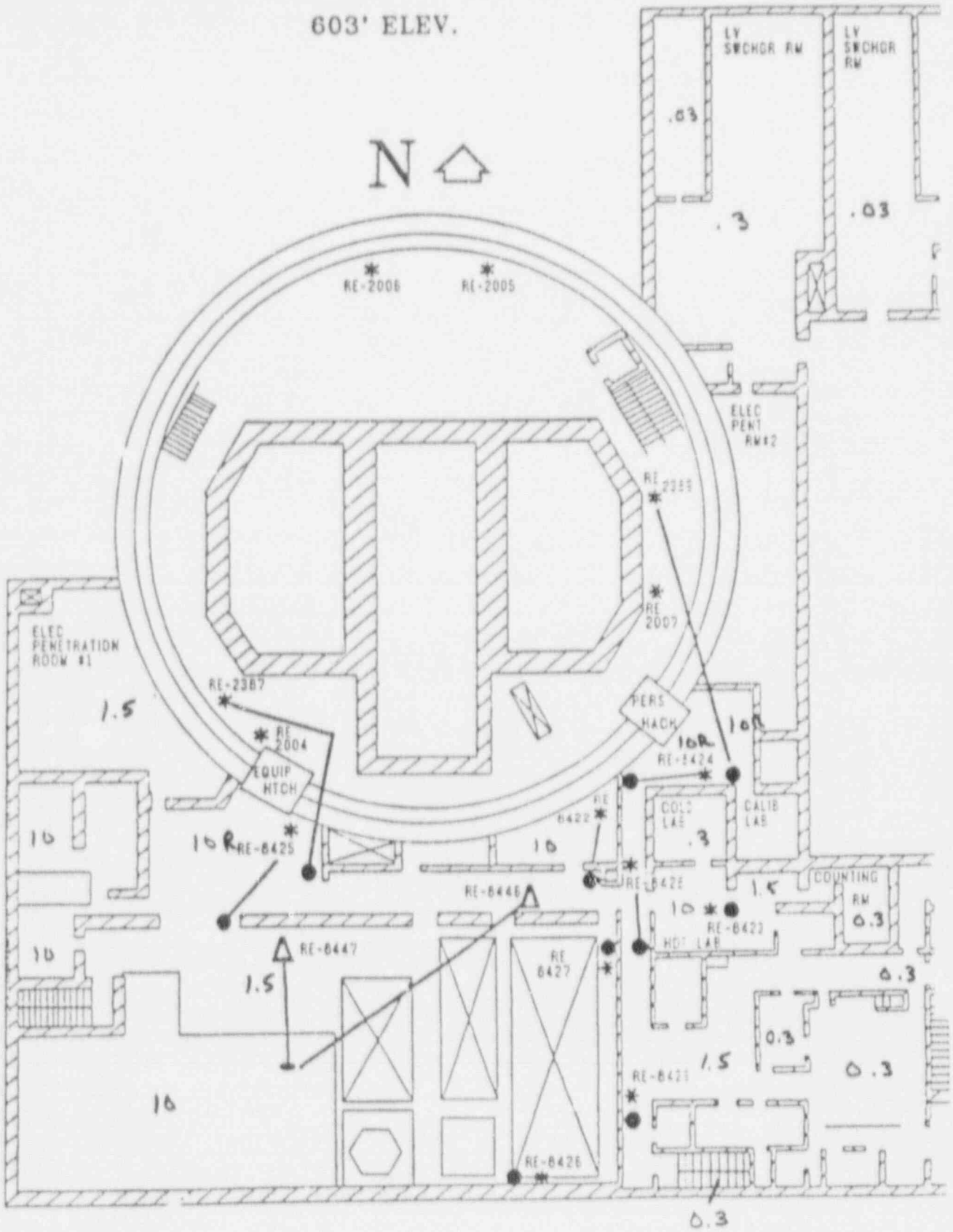
585' ELEV.



1311 readings in mR/hr
except where noted

1300 - 1500

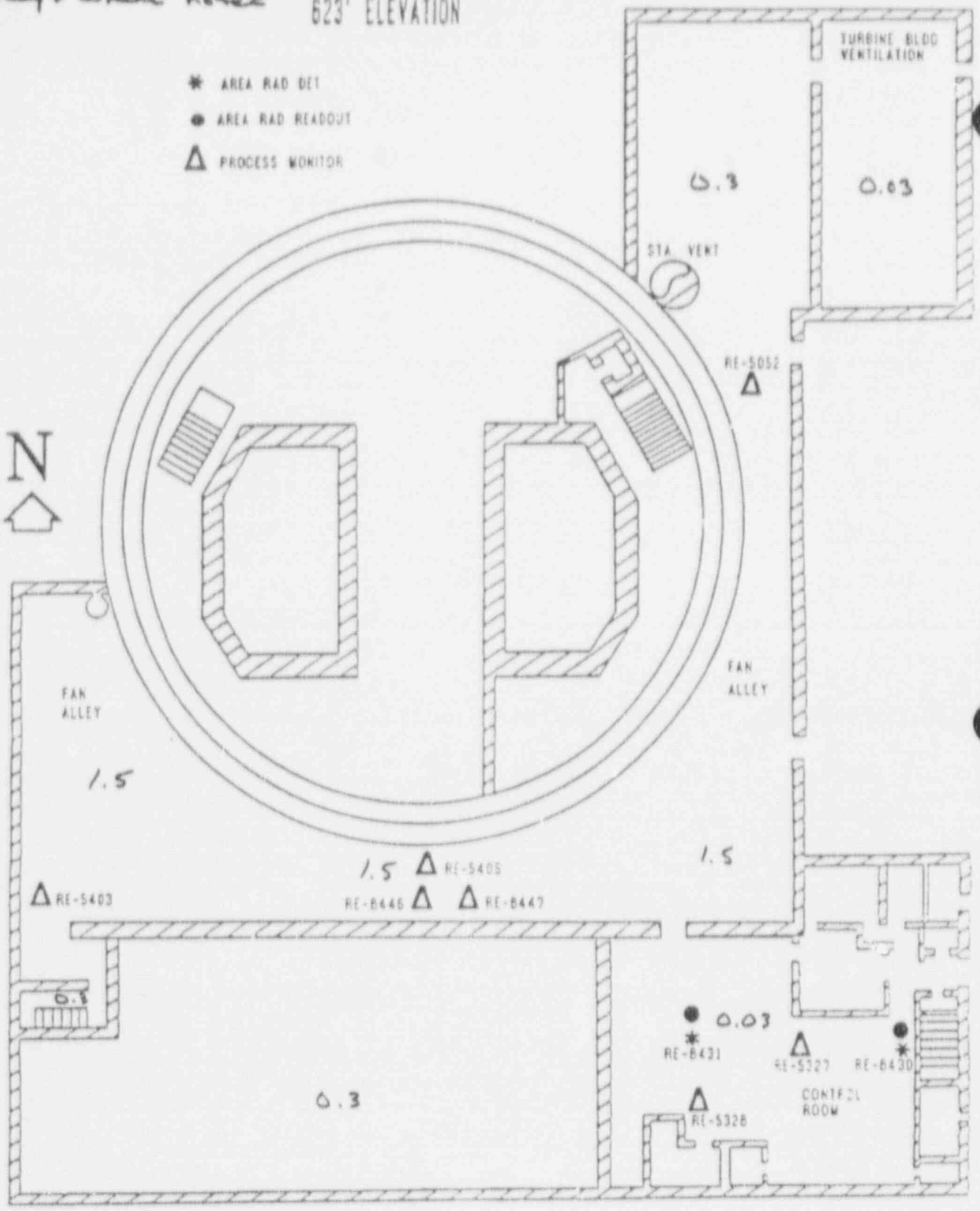
603' ELEV.



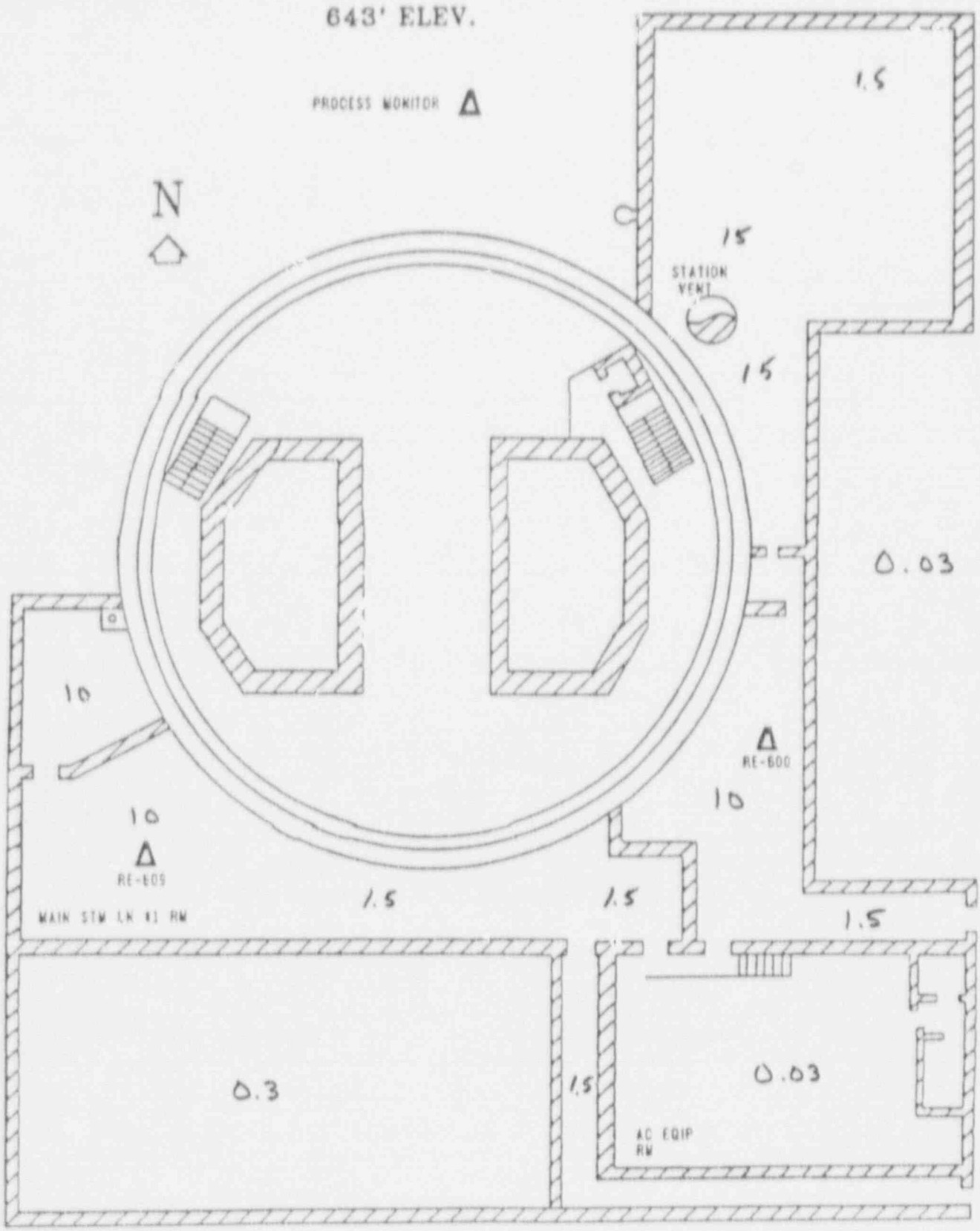
All readings in mR/hr
except where noted

1300 - 1500

623' ELEVATION



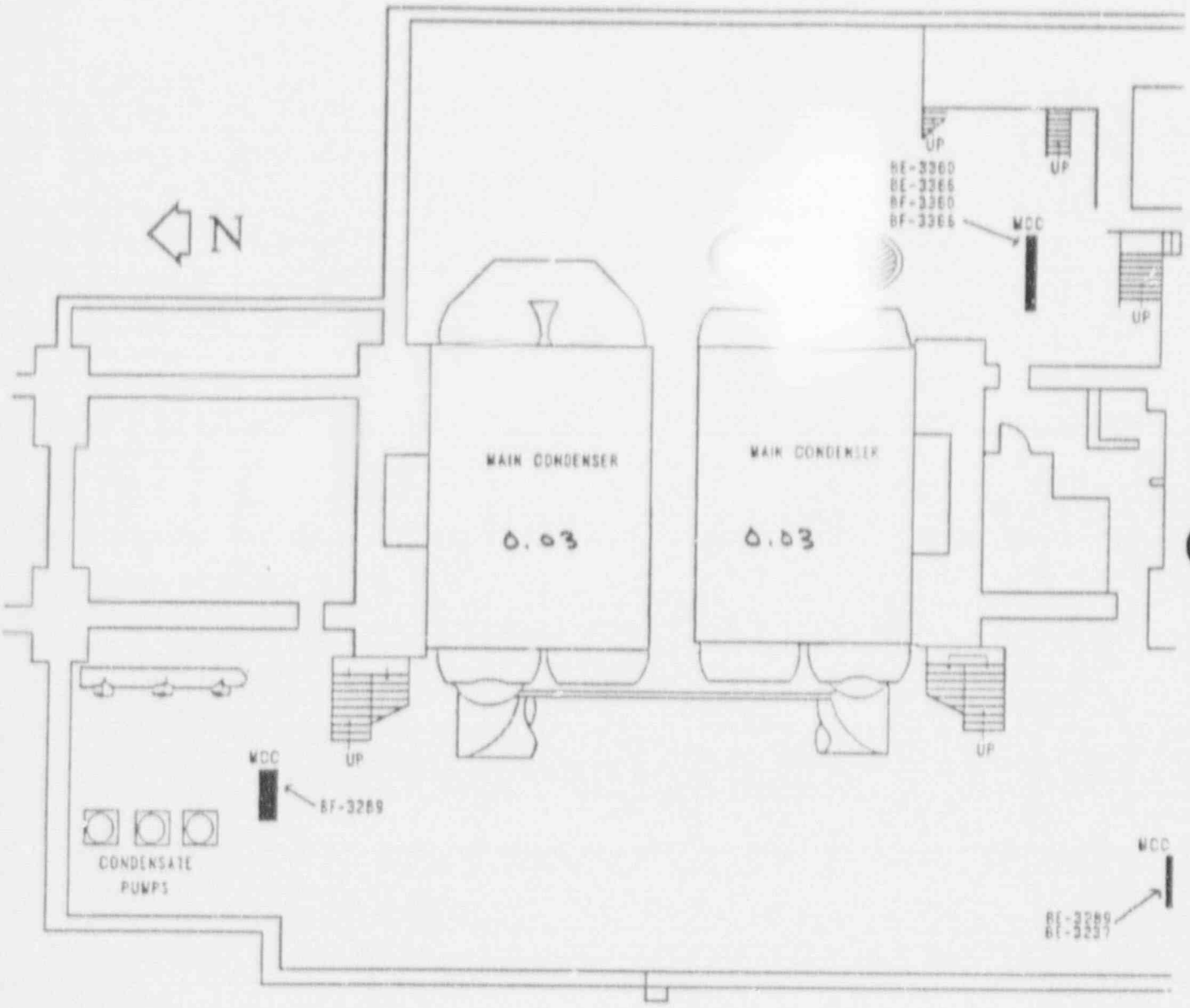
All Dose rates in mR/hr 1300 - 1500



Dose Rates in mR/hr

1300 - 1500

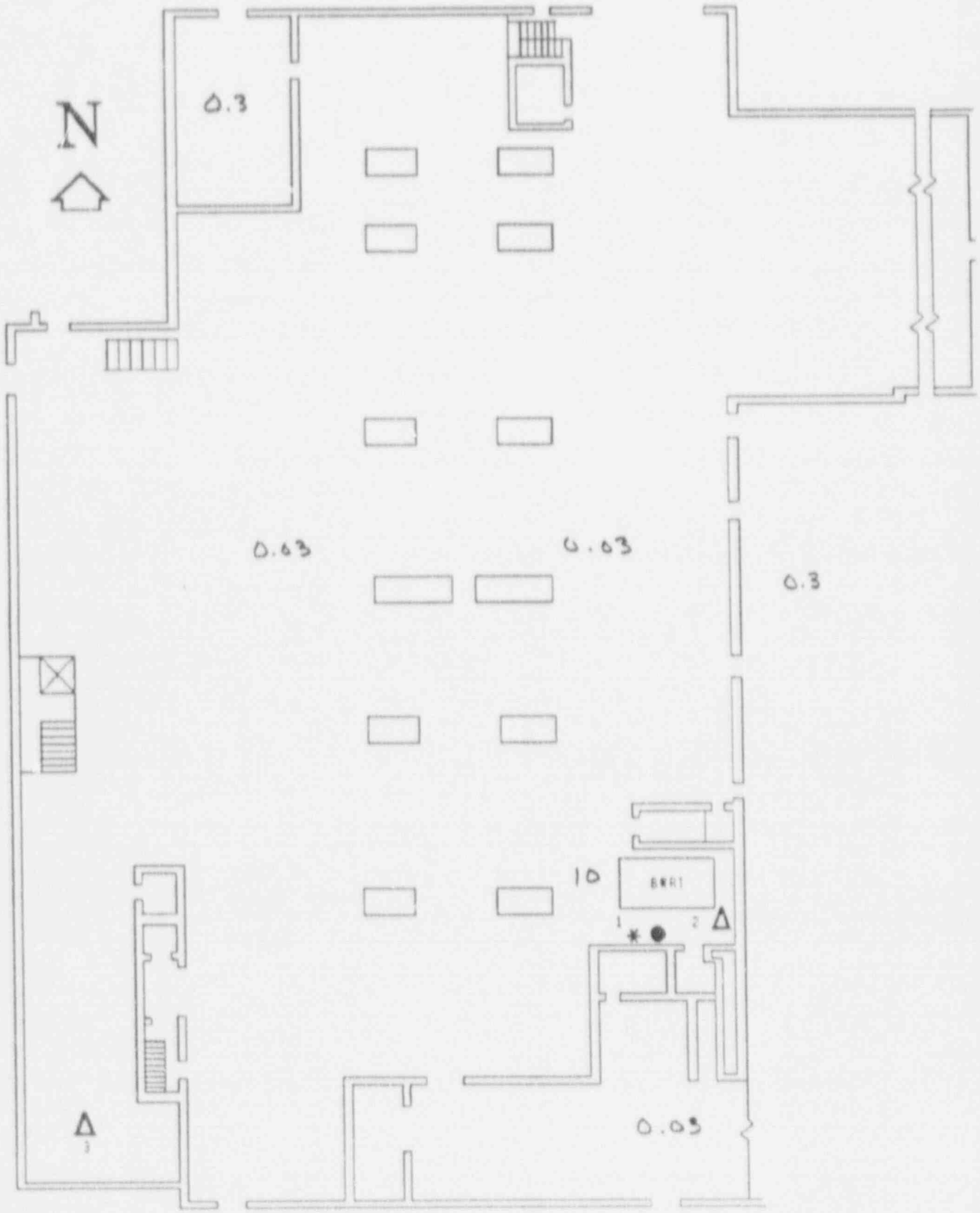
TURBINE BUILDING
ELEV. 587'



All Readings in mR/hr

1360 - 1500

Turbine Building - 585'

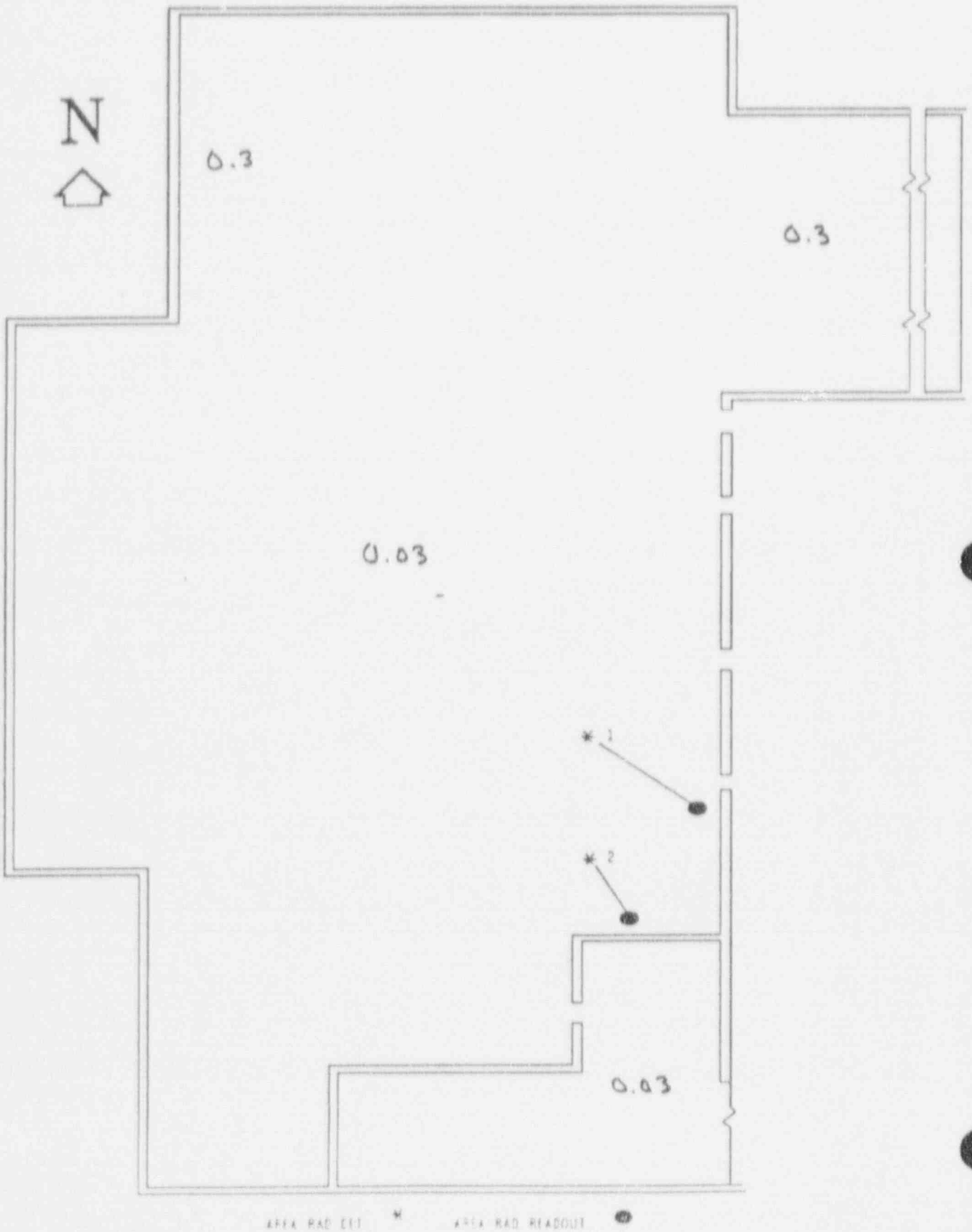


CTMT RAD SPAS ✱ AREA RAD DET ● AREA RAD READOUT △

All Readings in mR/hr

1300 - 1500

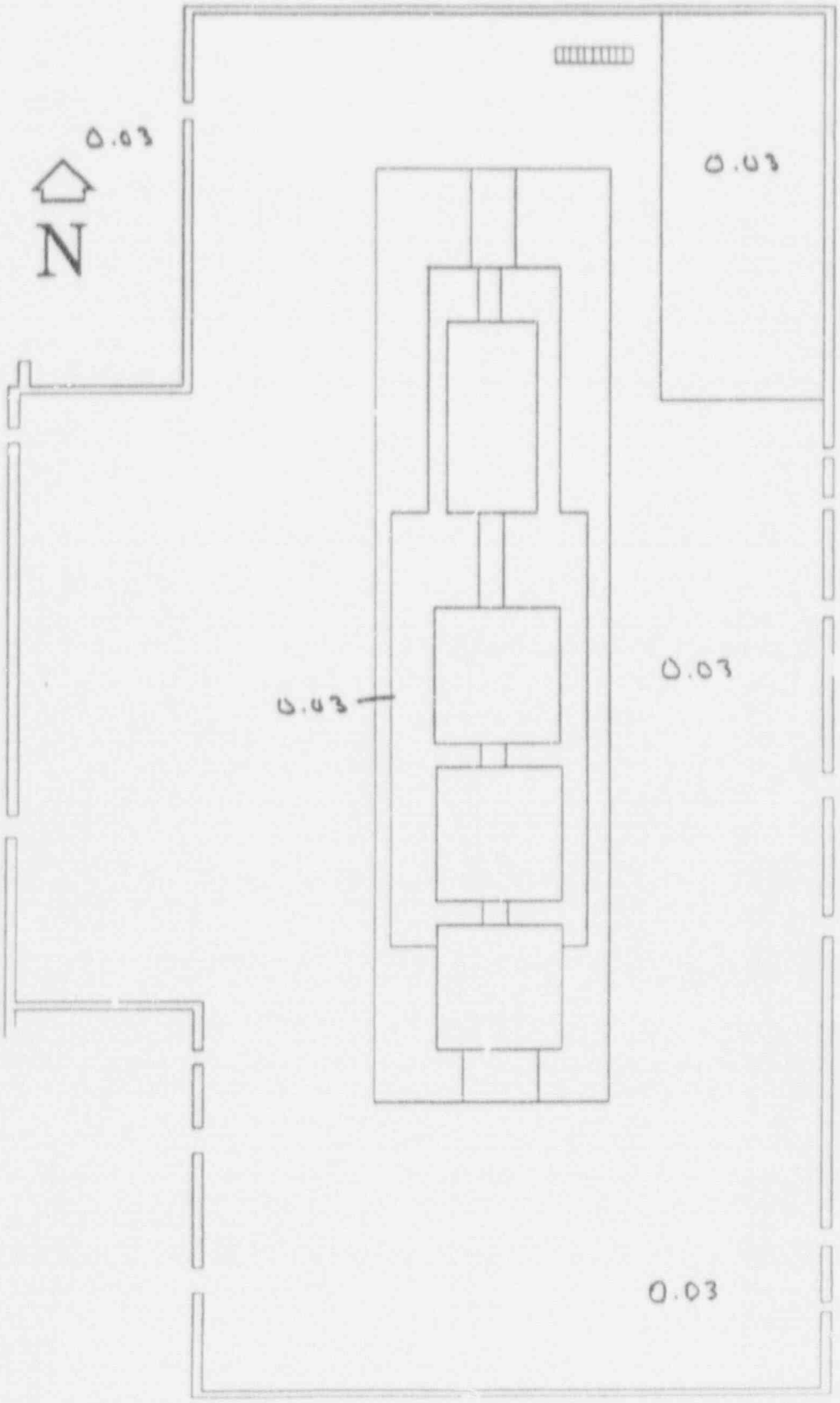
Turbine Building - 603'



All Readings in mR/hr

1300 - 1500

TURBINE BUILDING - 623'



All Dose Rates in mR/hr

1300 - 1500

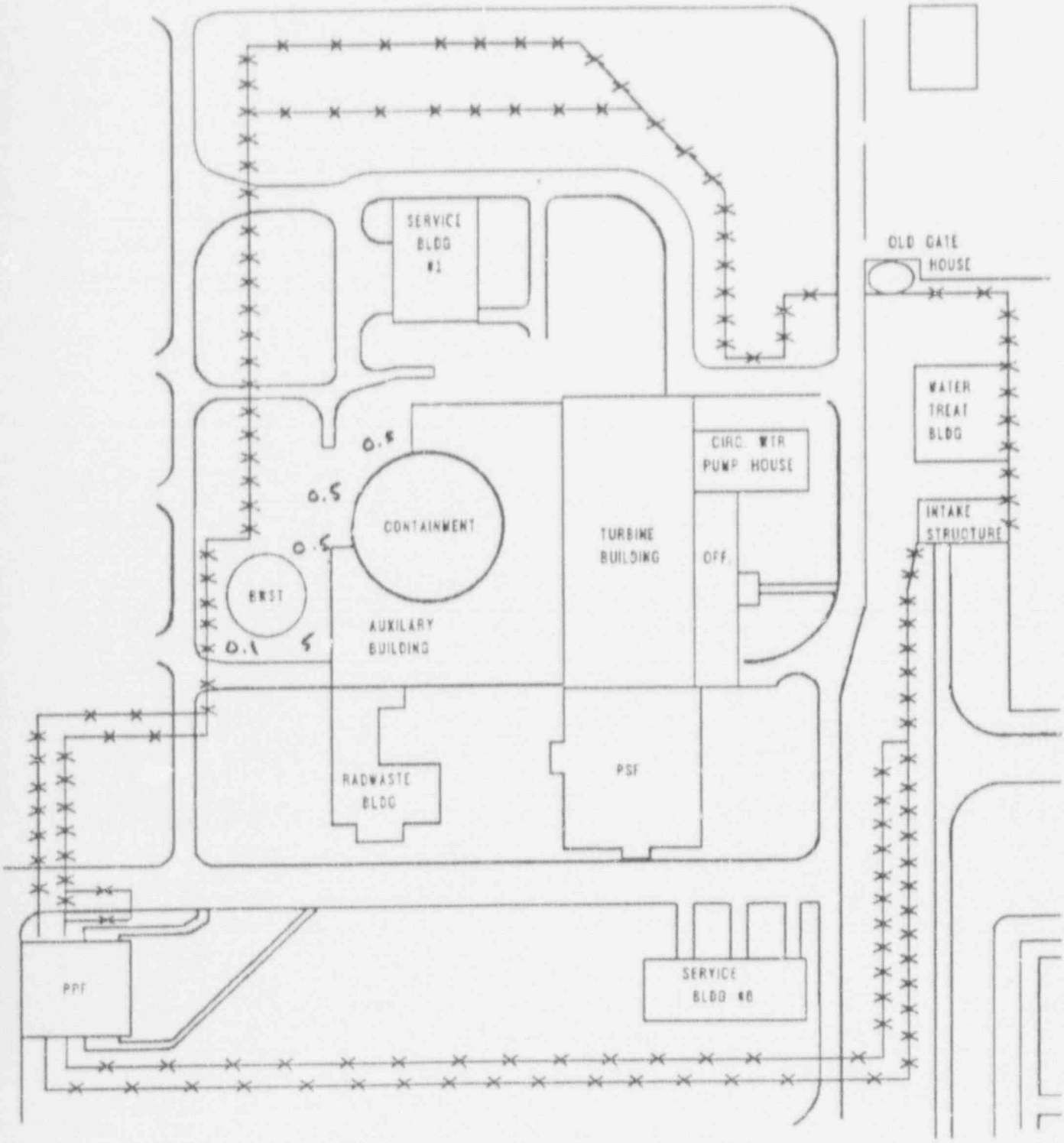
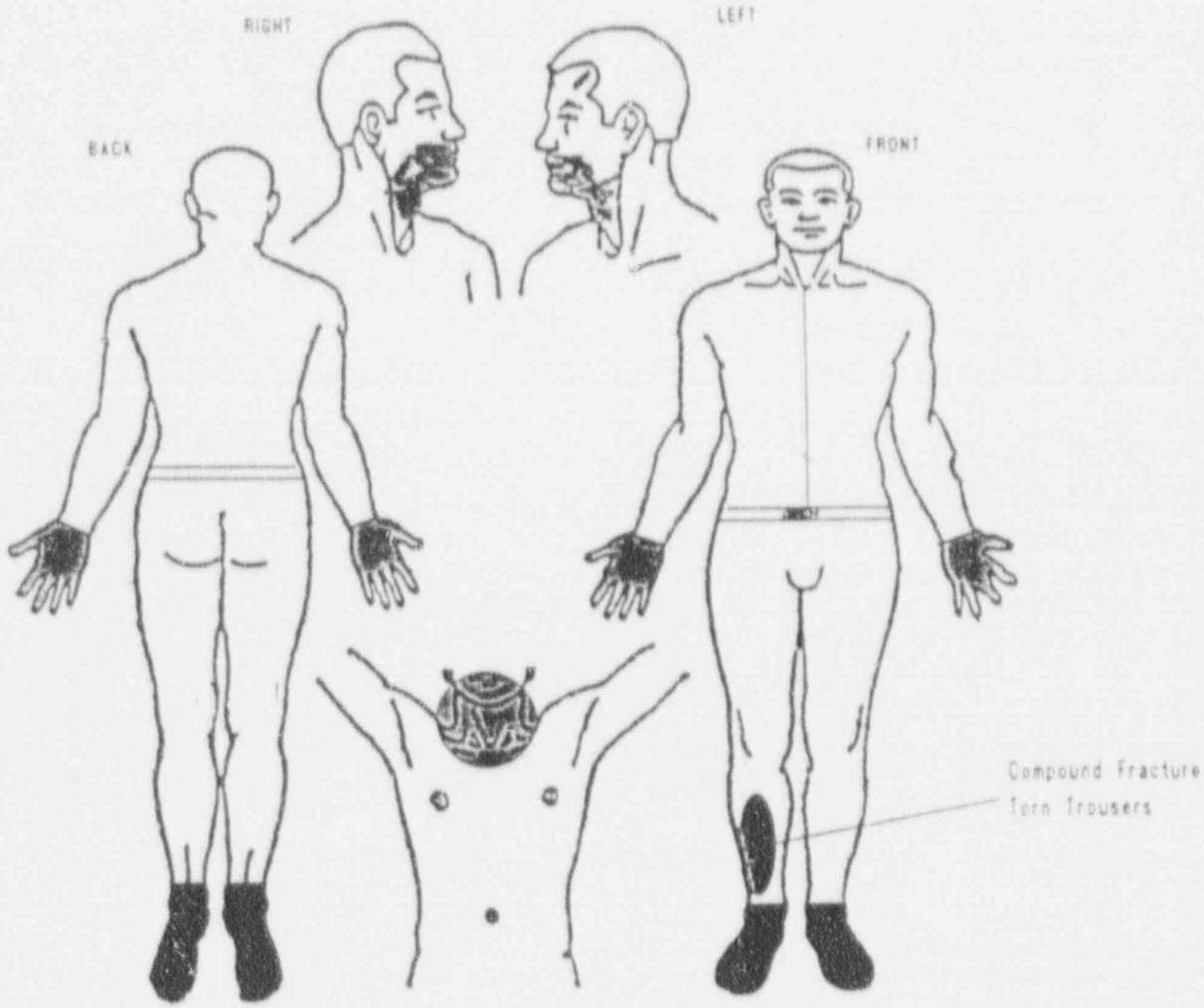


Figure 8.2

Medical Drill Body and Area Maps

All readings in CPM Net



Indicates Contaminated Skin Areas

Inital Conditions - Clothes on:

Vary contamination levels from 200 - 1000 ccpm over clothes and exposed skin (wound area should be 1000).

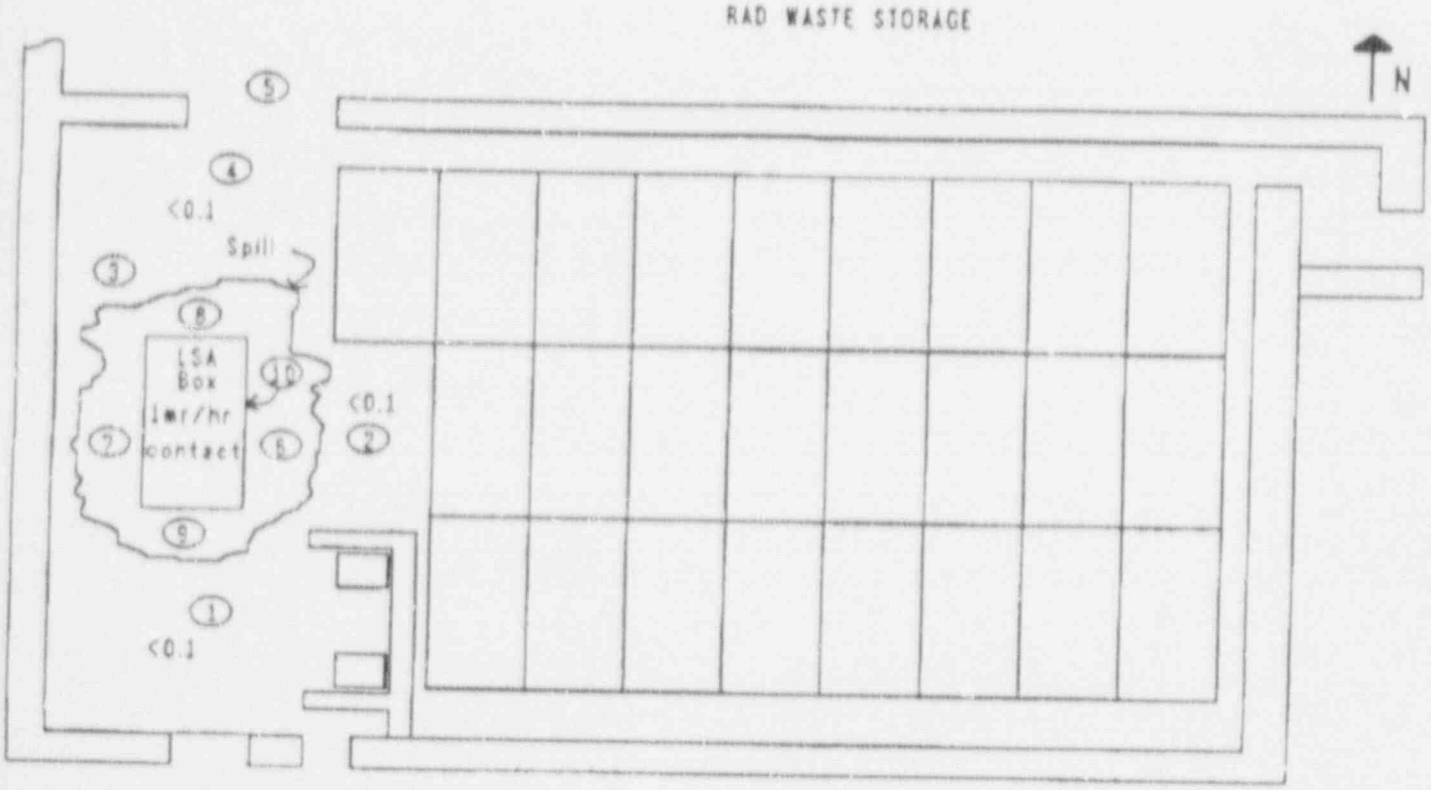
After clothes are removed, first decontamination:

All areas will be clean except wound area still reads 200 ccpm

After second decontamination all areas are clean.

Figure 8.2

Medical Drill Body and Area Maps



Contamination Levels (before decon) CPM		
Smear	Beta/Gamma	Alpha
1	<1000	<100
2	<1000	<100
3	<1000	<100
4	<1000	<100
5	<1000	<100
6	2k	<100
7	3k	<100
8	2k	<100
9	1k	<100
10	4k	<100

After Decon all areas will be clean.

AMS-3 Particulate

Time 01/50 1500 CPM above Background

Time 02/00 750 CPM above Background

Time 02/10 250 CPM above Background

Time 02/20 Background

NOTE: All other readings are as read

Figure 8.3

Radiochemistry Data

Emergency Drill Material

DATE 5/8/91 REACTOR MODE 1 CURRENT $\bar{E}$ VALUE 0.612

SAMPLE TIME 0700 SAMPLE POINT LETDOWN DATE DETERMINED 4/5/91

PRIMARY COOLANT SYSTEM RADIOCHEMISTRY						
ANALYSIS	GROSS ACTIVITY	DOSE EQUIVALENT I-131	ISOTOPIC ANALYSIS (μCi/gm) I-131	I-133	I-135	$\bar{E}$
LIMIT	100/$\bar{E}$ μCi/gm	1.0- μCi/gm	N/A			N/A
MODES	1-4	1	1-5 (C)			1
FREQUENCY	1/72 HOURS	1/14 DAYS (A)	1/14 DAYS (A)			1/6 MONTHS (B)
RESULTS	2.17e/μCi/gm	1.46e0 μCi/gm	9.11e-1	1.23e0	1.15e0	N/A MEV
SAT/UNSAT	SAT	UNSAT				

Section II shall be completed if the specific activity exceeds 1.0 μCi/gram DEI or a thermal power change exceeds 15% of rated thermal power within a 1 hr. period. IF neither of these conditions exist, THEN N/A Section II.

IF a $\bar{E}$ determination was not performed, THEN N/A the $\bar{E}$ result section.

END

Section II
CURRENT

15% power change within 1 hour N/A Date Time

DEI initially > 1.0 μCi/g 5/6/91 Date 0645 Time

No. of hours DEI > 1.0 μCi/g 47.75 hrs

DEI ≤ 1.0 μCi/g N/A Date Time

NOTES

(A) Required frequency is increased to once per 4 hour whenever DEI or Specific Activity limit is exceeded. Also, a DEI sample is required 2-6 hours after a 15% change in Rated Thermal Power occurs within a one hour period.

(B) Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the Reactor was last subcritical for 48 hours.

(C) Applicable in Modes 2-5 only when note (A) applies.

All out of specification conditions have been reported as required.

Joe Teator 5/8/91
(ANALYST SIGNATURE) (DATE)

Emergency Drill Material

DATE 5/8/91 REACTOR MODE 1 CURRENT $\bar{E}$ VALUE 0.612

SAMPLE TIME 0330 SAMPLE POINT LETDOWN DATE DETERMINED 4/15/91

PRIMARY COOLANT SYSTEM RADIOCHEMISTRY

ANALYSIS	GROSS ACTIVITY	DOSE EQUIVALENT I-131	ISOTOPIC ANALYSIS (μCi/gm) I-131	I-133	I-135	$\bar{E}$
LIMIT	100/$\bar{E}$ μCi/gm	1.0- μCi/gm	N/A			N/A
MODES	1-4	1	1-5 (C)			1
FREQUENCY	1/72 HOURS	1/14 DAYS (A)	1/14 DAYS (A)			1/6 MONTHS (B)
RESULTS	2.16e1 μCi/gm	1.39e0 μCi/gm	9.07e-1	1.22e0	1.15e0	N/A MEV
SAT/UNSAT	SAT	UNSAT				

Section II shall be completed if the specific activity exceeds 1.0 μCi/gram DEI or a thermal power change exceeds 15% of rated thermal power within a 1 hr period. IF neither of these conditions exist, THEN N/A Section II.

END

IF a $\bar{E}$ determination was not performed, THEN N/A the $\bar{E}$ result section.

Section II
CURRENT

15% power change within 1 hour N/A Date / Time

DEI initially > 1.0 μCi/g 5/6/91 Date / 0645 Time

No. of hours DEI > 1.0 μCi/g 44.75 hrs

DEI ≤ 1.0 μCi/g N/A Date / Time

NOTES

(A) Required frequency is increased to once per 4 hour whenever DEI or Specific Activity limit is exceeded. Also, a DEI sample is required 2-6 hours after a 15% change in Rated Thermal Power occurs within a one hour period.

(B) Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the Reactor was last subcritical for 48 hours.

(C) Applicable in Modes 2-5 only when note (A) applies.

All out of specification conditions have been reported as required.

(ANALYST SIGNATURE) 5/8/91 (DATE)

Figure 8.4

PASS Sample Data

Approximately 12:00 - 15:00 hours

06:00 - 12:00

The cue cards should be issued to the appropriate personnel at the correct times.

The maps show closed-window area radiation levels at the sample area and areas where the samples will be analyzed. All other radiological data can be obtained from Section 8.1 maps. The open and closed window readings are the same except for dose rates on the samples.

If air samples are collected and analyzed, the results are (20X) "as is" in the Auxiliary Building. All other air sample results are "as is".

If contamination surveys are performed, the results are (20 X) "as is" in areas where there is significant contamination for areas in the Auxiliary Building.

RADIOLOGICAL SURVEY FORM

ED 7995

SURVEY NUMBER	R.W.P. NUMBER
91-IN0	NA-

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
AUX.	545'	(106,109 PASS & MAINTENANCE HOT SHOP	5/8/91	12:00

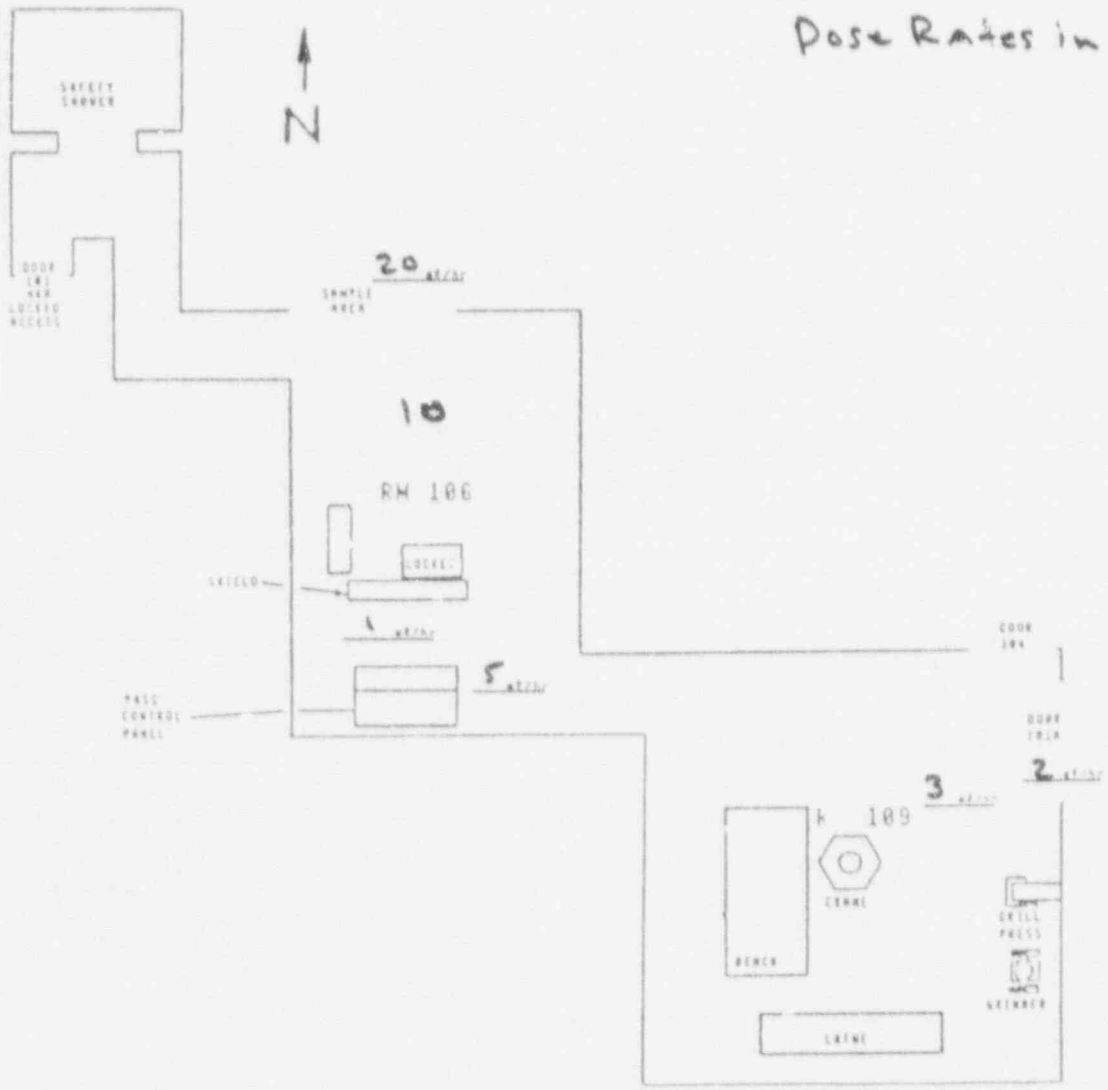
PURPOSE	% POWER
PASS SAMPLE- Before Sample MAP # 1	0

LEGEND:

All radiation readings are in mR/h unless otherwise noted

○ - SMEAR △ - NEUTRON β - BETA □ - AIR SAMPLE ✱ - CONTACT

RA - RADIATION AREA HRA - HIGH RADIATION AREA CA - CONTAMINATED AREA HCA - HIGH CONTAMINATION AREA



INSTRUMENTS USED		
MODEL NUMBER	ID NUMBER	CAL DUE DATE

PREPARED BY:		
NAME (Print)	SIGNATURE	DATE
APPROVED BY:		
NAME (Print)	SIGNATURE	DATE
REVIEWED BY:		
NAME (Print)	SIGNATURE	DATE

PAGE ____ OF ____ PAGES

RADIOLOGICAL SURVEY FORM

ED 7995

SURVEY NUMBER	R W P NUMBER
9 1 — N A	N A —

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
AUX.	545'	(106,109 PASS & MAINTENANCE HOT SHOP	5/8/91	12:00

PURPOSE	% POWER
PASS SAMPLE- During Sampling MAP # 2	0

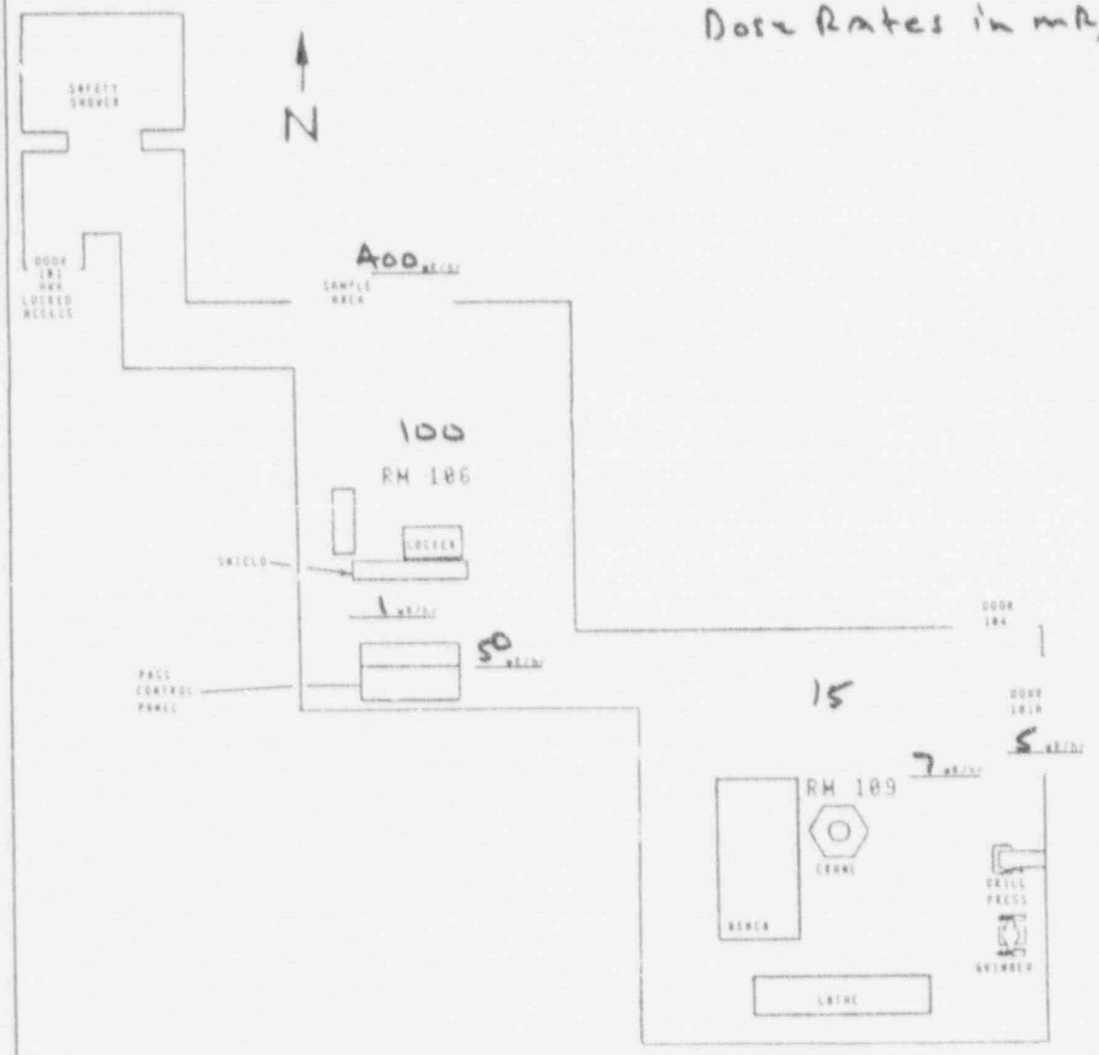
LEGEND:

All radiation readings are in mR/h unless otherwise noted

○ - SMEAR △ - NEUTRON β⁻ - BETA □ - AIR SAMPLE ★ - CONTACT

RA - RADIATION AREA HRA - HIGH RADIATION AREA CA - CONTAMINATED AREA HCA - HIGH CONTAMINATION AREA

Dose Rates in mR/hr



INSTRUMENTS USED

MODEL NUMBER	ID NUMBER	CAL DATE DATE

PREPARED BY

NAME (Print)	SIGNATURE	DATE

APPROVED BY

NAME (Print)	SIGNATURE	DATE

REVIEWED BY

NAME (Print)	SIGNATURE	DATE

PAGE ____ OF ____ PAGES

RADIOLOGICAL SURVEY FORM
ED 7995

SURVEY NUMBER	R W P NUMBER
9 1 — N A	N A —

BUILDING	ELEVATION	AREA/ROOM/SYSTEM	DATE	TIME
AUX.	545'	PASS & MAINTENANCE HOT SHOP (106,109	5/8/91	12:00

PURPOSE	* POWER
PASS SAMPLE- after Sample MAP # 3	0

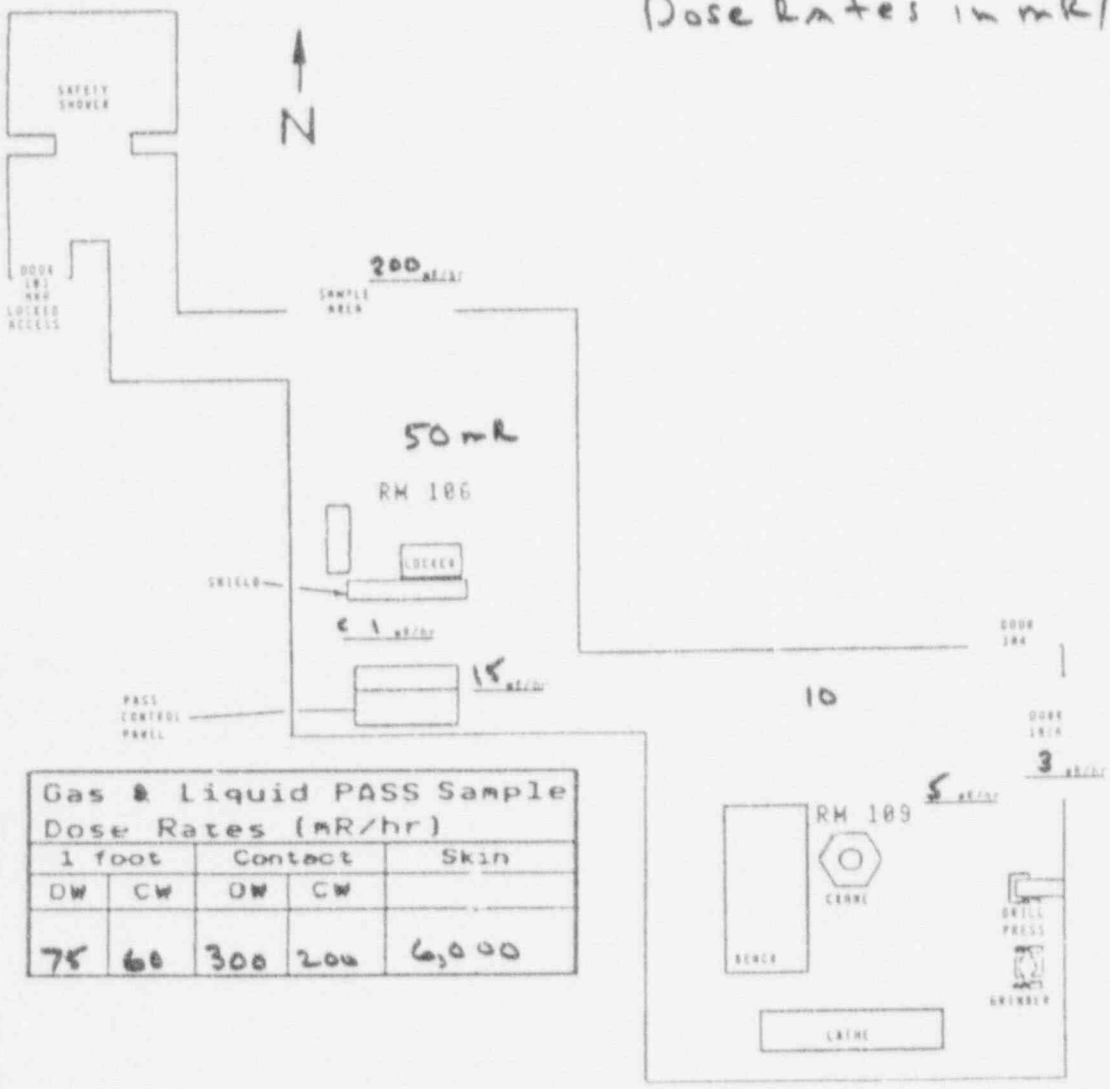
LEGEND:

All radiation readings are in mR/h unless otherwise noted

○ - SMEAR △ - NEUTRON β⁻ - BETA □ - AIR SAMPLE ★ - CONTACT

RA - RADIATION AREA HRA - HIGH RADIATION AREA CA - CONTAMINATED AREA HCA - HIGH CONTAMINATION AREA

Dose Rates in mR/hr



Gas & Liquid PASS Sample Dose Rates (mR/hr)				
1 foot		Contact		Skin
DW	CW	DW	CW	
75	60	300	200	6,000

INSTRUMENTS USED

MODEL NUMBER	ID NUMBER	CAL DUE DATE

PREPARED BY:

NAME (Print)	SIGNATURE	DATE

APPROVED BY:

NAME (Print)	SIGNATURE	DATE

REVIEWED BY:

NAME (Print)	SIGNATURE	DATE

PAGE ____ OF ____ PAGES

PASS SAMPLE ANALYSIS RESULTS FORM

NOTE

Make sure the gaseous activity of RCS represents the results of liquid phase and gaseous phase of RCS sample.

		RCS	Sump	Containment	Other
Sample	Date May 8, 1991				
	Time ~ 1400				
	Temperature F 400				
	Pressure PSIA 7300				
System	Temperature F				
	Pressure PSIA				
Activity	μCi/cc				
	Xe-133	14.34	0.184	3.27E-2	
	Kr-88	3.63E-3	<E-6	0.33E-2	
	I-131	5.15	0.289	7.73E-9	
	I-133	0.82	<E-5	1.27E-9	
	Ba-140	0	0	0	
	Other isotopes				
Sample activities are adjusted for decay to					
	Date				
	Time				

9.0 OFFSITE RADIOLOGICAL DATA

This section provides offsite dose rate information for Controller use during offsite emergency response team missions.

9.1 Radiological and Meteorological Summary

Core superheat begins at around 0745 hours (Drill Time 01/45) and subsequent clad damage results in approximately 100% of gap activity being release to the reactor coolant. Reactor coolant is released to the containment through a failed RCP 1-2 seal. Release to the atmosphere results through the containment sump suction line. The release is stopped when the isolation valve is closed.

Peak release rates are 24.8 Ci/sec noble gases and 0.062 Ci/sec iodine. The average meteorological conditions during the release period are as follows:

Wind Speed:	4 mph
Wind Direction:	335 degrees (from)
Stability Class:	E Slightly Stable ($-0.6 < \text{lower } \Delta T \leq 1.7$)

The actual scenario release duration is 2 hours. The following peak projected average dose rates and total doses are based upon a 2.0 hour release duration:

Whole Body Dose Rate		Whole Body Dose
Site Bdy.	0.63 Rem/hr	1.3 Rem
2 miles	0.22 Rem/hr	0.44 Rem
5 miles	0.06 Rem/hr	0.12 Rem
10 miles	0.03 Rem/hr	0.06 Rem

Thyroid Dose Rate		Thyroid Dose
Site Bdy.	13.29 Rem/hr	26.6 Rem
2 miles	4.70 Rem/hr	9.4 Rem
5 miles	1.33 Rem/hr	2.66 Rem
10 miles	0.52 Rem/hr	1.04 Rem

The release of radiation will begin at approximately 1114 hours (Drill Time 05/14). At this time the wind will be out of the north (335 degrees) at approximately 4.0 miles per hour. Controlling wind direction and speed will be at the 10 meter height on the meteorological tower. The release will stop at 1315 hours (Drill Time 07/15). Wind speed will rapidly increase from 4 mph so that the plume clears the 10-mile EPZ (at 1345 hours, Drill Time 07/45).

Table 9.1 provides meteorological data for the time period of the exercise. Figures 9.1 and 9.2 provide a weather forecast and extended forecast, respectively. This data will be given to players upon request.

Table 9.2 provides closed and open window whole body dose rates. Child thyroid dose rates are contained in Table 9.3. PRM-6 readings are provided on Figure 9.4. Table 9.5 provides SAM-2 instrument readings. Downwind iodine concentrations are given in Table 9.6. Figure 9.3 provides plume location.

Tables 9.7 and 9.8 are for state field monitoring teams and provide data at the plume centerline. Measurements taken off-centerline are approximated between centerline and the plume edge. Table 9.9 provides the State of Ohio - Nuclear Data System (NDS) Sheets. Particulate filter readings are $\leq$ background.

Table 9.1

Meteorological Data

Drill Time	Clock Time	M001 100-m WD	M002 75-m WD	M003 10-m WD	M004 100-m WS	M005 75-m WS	M006 10-m WS	M007 100-m SD	M008 75-m SD	M009 10-m SD	M0010 Delta T 100-10m	M0011 Delta T 75-10m	M0012 Amb Temp	M0013 100-m Dew Pt	M0014 10-m Dew Pt	M0015 Precip
1.30	7:30	79	77	75	9.0	8.8	8.5	8.8	9.5	9.3	-2.5	-1.9	58.3	43.9	46.5	0.0
1.45	7:45	77	76	74	8.6	8.4	8.1	8.8	9.5	9.3	-2.5	-1.9	58.3	43.9	46.5	0.0
2.00	8:00	72	71	69	8.3	8.1	7.8	8.8	9.5	9.3	-2.5	-1.9	58.3	43.9	46.5	0.0
2.15	8:15	67	65	64	8.5	8.3	8.0	8.8	9.5	9.3	-2.5	-1.9	58.3	43.9	46.5	0.0
2.30	8:30	62	63	62	8.0	7.8	7.5	8.8	9.5	9.3	-2.5	-1.9	58.3	43.9	46.5	0.0
2.45	8:45	58	55	56	7.8	7.6	7.3	8.4	9.1	8.9	-2.8	-2.2	59.0	44.6	47.2	0.0
3.00	9:00	47	48	47	7.4	7.2	6.9	8.3	9.0	8.8	-2.5	-1.9	59.6	45.2	47.8	0.0
3.15	9:15	40	41	42	4.9	4.7	4.4	8.3	9.0	8.8	-2.1	-1.5	60.3	45.9	48.5	0.0
3.30	9:30	31	32	37	5.0	4.8	4.5	8.4	9.1	8.9	-2.7	-2.1	60.9	46.5	49.1	0.0
3.45	9:45	23	24	25	5.4	5.2	4.9	8.2	8.8	8.6	-2.3	-1.7	61.6	47.2	49.8	0.0
4.00	10:00	25	16	17	5.4	5.2	5.0	8.0	8.7	8.5	-1.9	-1.3	62.2	47.8	50.4	0.0
4.15	10:15	9	10	9	6.2	6.0	5.7	7.9	8.6	8.4	-0.7	-0.1	62.8	48.5	51.1	0.0
4.30	10:30	0	1	1	4.7	4.5	4.2	7.8	8.5	8.3	-0.6	0.0	63.5	49.1	51.7	0.0
4.45	10:45	337	336	335	4.5	4.3	4.0	6.7	7.4	7.2	-0.7	-0.1	64.2	49.8	52.4	0.0
5.00	11:00	335	336	335	4.4	4.2	3.9	6.7	7.4	7.2	-0.6	0.0	64.8	50.4	53.0	0.0
5.15	11:15	334	337	336	4.6	4.4	4.1	6.7	7.4	7.2	-0.5	0.1	65.5	51.1	53.7	0.0
5.30	11:30	342	335	334	4.6	4.3	4.1	6.3	7.0	6.8	-0.6	0.0	65.8	51.4	54.0	0.0
5.45	11:45	337	338	337	4.3	4.1	3.8	6.3	7.0	6.8	-0.7	-0.1	66.2	51.8	54.4	0.0
6.00	12:00	332	333	333	4.2	4.0	3.7	6.9	6.3	7.4	-0.7	-0.4	66.5	52.1	54.7	0.0
6.15	12:15	334	335	335	4.4	4.2	3.9	6.8	6.2	7.3	-0.3	0.1	66.8	52.5	55.1	0.0
6.30	12:30	335	336	334	4.3	4.1	3.8	6.9	6.4	7.4	0.0	0.3	67.2	52.8	55.4	0.0
6.45	12:45	336	337	337	4.5	4.3	4.1	6.8	6.3	7.3	-0.2	0.1	67.5	53.2	55.8	0.0
7.00	13:00	334	336	336	4.5	4.3	4.1	6.4	5.9	6.9	-0.4	-0.1	67.7	53.3	55.9	0.0
7.15	13:15	334	335	335	24.0	23.8	23.5	6.2	5.7	6.7	-0.5	-0.1	67.8	53.5	56.1	0.0
7.30	13:30	335	335	334	24.6	24.4	24.1	6.0	5.4	6.5	-0.5	-0.2	68.0	53.6	56.2	0.0
7.45	13:45	336	335	334	24.6	24.4	24.1	5.6	5.1	6.1	-0.5	-0.1	68.2	53.8	56.4	0.0
8.00	14:00	340	341	338	24.8	24.6	24.3	5.8	5.2	6.3	-0.6	-0.2	68.3	52.9	55.5	0.0
8.15	14:15	344	345	340	24.8	24.6	24.3	6.0	5.4	6.5	-0.7	-0.3	68.5	53.1	55.7	0.0
8.30	14:30	348	349	348	25.5	25.3	25.0	6.1	5.6	6.6	-1.0	-0.6	68.6	53.2	55.8	0.0
8.45	14:45	349	351	352	26.2	26.0	25.7	6.5	5.9	7.0	-1.3	-1.0	68.8	53.4	56.0	0.0
9.00	15:00	353	354	353	25.9	25.7	25.4	6.7	6.2	7.2	-1.9	-1.5	68.8	53.4	55.0	0.0
9.15	15:15	355	353	357	25.9	25.7	25.4	7.4	6.8	7.8	-1.9	-1.3	68.9	53.5	55.1	0.0
9.30	15:30	357	358	359	26.4	26.2	25.9	7.5	7.0	8.0	-2.0	-1.4	68.9	53.6	55.2	0.0
9.45	15:45	356	357	0	26.8	26.6	26.3	8.0	7.5	8.5	-2.1	-1.5	69.0	53.6	55.2	0.0

Average meteorological conditions during release:

Wind speed: 4.0 MPH
Wind direction (from) 335 Degrees
Stability class: E

Table 9.2

CLOSED AND OPEN WINDOW WHOLE BODY DOSE RATE (mR/hr)*

CLOCK TIME	DRILL TIME	SITE BURY.	DOWNWIND DISTANCE (MILES) 1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
			@CLOSED WINDOW VALUES ARE DIRECTLY ABOVE OPEN WINDOW VALUES																		
11.14	5.14	0																			
		0																			
11.30	5.30	970	630																		
		970	850																		
11:45	5.45	900	580	340	220																
		900	780	460	300																
12:00	6.00	790	510	310	210	160	130														
		790	690	420	280	220	180														
12:15	6.15	720	470	280	180	150	120	100	83												
		720	640	380	240	200	160	140	110												
12:30	6.30	660	430	250	170	130	100	94	76	73	63										
		660	580	340	230	180	140	130	100	99	85										
12:45	6.35	600	390	210	150	120	94	83	67	67	58	54	46								
		600	530	310	200	160	130	110	90	91	79	72	62								
13.00	7.00	550	360	210	140	110	86	76	61	59	51	49	43	46	38						
		550	490	280	190	150	120	100	63	80	69	67	57	62	51						
13.15	7.15	490	320	190	130	99	78	69	56	54	47	43	37	43	35	38	32				
		490	430	260	180	130	110	93	75	73	63	58	50	57	47	51	43				
13.30	7.30												34	37	31	35	30	32	27		
													46	50	41	47	40	43	37		
13.45	7.45																				

* All values are calculated at Plume Centerline.
For measurements taken off-centerline, interpolate between the centerline and the edge of the plume.
Plume edge is 0.1 mR/hr OPEN and CLOSED window.

Table 9.3

Child Thyroid Dose Rates (Rem/hr)

Table 9.3

CHILD THYROID DOSE RATES (Rem/hr)*

			DOWNWIND DISTANCE (MILES)																		
CLOCK TIME	DRILL TIME	SITE BDRY.	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
1114	5.14	0																			
1130	5.30	0	12.8																		
1145	5.45	0	12.2	6.92	4.55																
1200	6.00	0	11.5	6.55	4.30	3.26	2.57														
1215	6.15	0	10.8	6.18	4.06	3.09	2.43	2.08	1.68												
1230	6.30	0	10.2	5.84	3.83	2.91	2.30	1.96	1.59	1.48	1.28										
1245	6.45	0	9.76	5.49	3.61	2.75	2.17	1.85	1.50	1.40	1.22	1.09	0.939								
1300	7.00	0	9.33	5.26	3.45	2.59	2.04	1.75	1.42	1.32	1.15	1.03	0.889	0.939	0.771						
1315	7.30	0	8.70	5.02	3.30	2.48	1.95	1.65	1.33	1.25	1.08	0.972	0.839	0.889	0.730	0.771	0.652				
1330	7.30												0.792	0.839	0.689	0.730	0.617	0.652	0.553		
1345	7.45																				

* All values are calculated at Plume Centerline.
For measurements taken off-centerline, interpolate between the centerline and the edge of the plume.

Table 9.4

PRM-6 READINGS (CPM)*

			DOWNWIND DISTANCE (MILES)																		
CLOCK TIME	DRILL TIME	SITE BDRY.	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
1114	5.14	0																			
1130	5.30	0	11000																		
1145	5.45	0	10000	5800	3800																
1200	6.00	0	9800	5500	3600	2700	2200														
1215	6.15	0	9200	5300	3500	2600	2100	1700	1400												
1230	6.30	0	8700	5000	3300	2500	2000	1700	1300	1200	1100										
1245	6.45	0	8400	4700	3100	2300	1900	1600	1300	1200	1000	920	790								
1300	7.00	0	8000	4500	3000	2200	1700	1500	1200	1100	980	870	750	790	650						
1315	7.15	0	7500	4300	2800	2100	1700	1400	1100	1100	930	830	710	750	620	650	550				
1330	7.30												680	710	590	620	520	550	470		
1345	7.45																				

* All values are calculated at Plume Centerline.
For measurements taken off-centerline, interpolate between the centerline and the edge of the plume.
Edge of plume readings are zero CPM.
10 cubic foot sample assumed.
All values are net counts.

Table 9.5

SAM-2 READINGS*

CLOCK TIME	DRILL TIME	SITE BDRY.	DOWNWIND DISTANCE (MILES) 1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
1114	5.14	0																			
1130	5.30	0	40570																		
1145	5.45	0	38607	21846	14356																
1200	6.00	0	36644	20739	13661	10299	8114														
1215	6.15	0	34681	19732	12966	9800	7721	6554	5305												
1230	6.30	0	32718	18674	12272	9302	7329	6237	5049	4681	4057										
1245	6.45	0	31409	17617	11577	8804	6936	5919	4792	4455	3861	3433	2965								
1300	7.00	0	30101	16913	11114	8305	6544	5602	4532	4228	3664	3267	2821	2965	2434						
1315	7.15	0	28138	16208	10651	7973	6282	5285	4279	4002	3468	3101	2678	2821	2316	2434	2060				
1330	7.30												2534	2678	2199	2316	1960	2060	1748		
1345	7.45																				

*All air samples tanke at plume Centerline.
10 cubic foot air sample.
SAM-2 efficiency is 0.016.
Sample counted in lower position.

Table 9.6

IODINE CONCENTRATIONS (uCi/cc)*

Clock Time	Drill Time	Site Bdry	Downwind Distance in Miles 1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
1114	5/14																				
1130	5/30	0.0E+00	4.7E-06																		
1145	5/45	0.0E+00	4.5E-06	2.5E-06	1.7E-06																
1200	6/00	0.0E+00	4.2E-06	2.4E-06	1.6E-06	1.2E-06	9.4E-07														
1215	6/15	0.0E+00	4.0E-06	2.3E-06	1.5E-06	1.1E-06	8.9E-07	7.6E-07	6.1E-07												
1230	6/30	0.0E+00	3.8E-06	2.2E-06	1.4E-06	1.1E-06	8.5E-07	7.2E-07	5.8E-07	5.4E-07	4.7E-07										
1245	6/45	0.0E+00	3.6E-06	2.1E-06	1.4E-06	1.0E-06	8.1E-07	6.9E-07	5.5E-07	5.2E-07	4.5E-07	4.0E-07	3.4E-07								
1300	7/00	0.0E+00	3.5E-06	2.0E-06	1.3E-06	9.7E-07	7.7E-07	6.5E-07	5.3E-07	4.9E-07	4.2E-07	3.8E-07	3.3E-07	3.2E-07	2.8E-07						
1315	7/15	0.0E+00	3.3E-06	1.9E-06	1.2E-06	9.2E-07	7.3E-07	6.2E-07	5.0E-07	4.6E-07	4.0E-07	3.6E-07	3.1E-07	3.0E-07	2.7E-07	2.6E-07	2.4E-07				
1330	7/30	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.5E-07	3.1E-07	2.9E-07	2.5E-07	2.5E-07	2.3E-07	2.2E-07	2.0E-07		
1345	7/45	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1400	8/00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

* All values are calculated at Plume Centerline
For measurements taken off-centerline, interpolate between the centerline and the edge of the plume.
Plume reaches ground level at one mile

Table 9.7

State of Ohio - Field Monitoring Data
Gross Gamma Readings (mR/hr)

Clock Time	Drill Time	H1	H2	H3	H4	H5	H6	H7	H8	H9
1115	5/15									
1130	5/30									
1145	5/45									
1200	6/00	130								
1215	6/15	120								
1230	6/30	101	10							
1245	6/45	90	8	0	5					
1300	7/00	85	5	0	3	40				
1315	7/15	77	3	0	3	33	10	35		
1330	7/30	0	0	0	0	30	7	30	0	15
1345	7/45	0	0	0	0	0	0	0	0	0
1400	8/00	0	0	0	0	0	0	0	0	0

* Assumes plume reaches ground level at 1 mile.
Edge of plume readings are 0.1 mR/hr.

Table 9.8 1991 Evaluated Exercise

STATE OF OHIO - FIELD MONITORING DATA
SPA-3 READINGS (net cpm)*

Clock Time	Drill Time	H1	H2	H3	H4	H5	H6	H7	H8	H9
1115	5/15									
1130	5/30									
1145	5/45									
1200	6/00	1.6E+05								
1215	6/15	1.5E+05	0.0E+0							
1230	6/30	1.5E+05	0.0E+0							
1245	6/45	1.4E+05	0.0E+0	0.0E+0	1.8E+02					
1300	7/00	1.3E+05	0.0E+0	0.0E+0	1.6E+02	5.1E+04				
1315	7/15	1.3E+05	0.0E+0	0.0E+0	1.4E+02	5.0E+04	4.4E+04	4.5E+04	0.0E+00	
1330	7/30					4.9E+04	4.1E+04	4.3E+04	0.0E+00	2.4E+04
1345	7/45									
1400	8/00									

* Assumes sample time = 15 minutes, flow rate = 60 LPM, efficiency = 0.1
Assumes plume reaches ground level at 1 mile.
Edge of plume readings are 0 CPM.

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 6:30:00 08-May-91 6:35:20

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	82.0	DEG
M006	WIND SPEED	11.4	MPH
M009	WIND DIRECTION STDV	9.3	DEG
M011	TEMPERATURE DIFFER.	-2.3	DEG F
P725	RCS HOT LEG PRESSURE	0.2162E+04	PSIG
T753	RCS HOT LEG TEMP	604.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	101.0	PERCENT
P305	CONTAINMENT PRESSURE	14.5	PSIA
R299	CONTAINMENT RADIATION	2.50	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 6:45:50 08-May-91 6:49:01

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	79.0	DEG
M006	WIND SPEED	9.2	MPH
M009	WIND DIRECTION STDV	9.6	DEG
M011	TEMPERATURE DIFFER.	-2.4	DEG F
P725	RCS HOT LEG PRESSURE	0.2163E+04	PSIG
T753	RCS HOT LEG TEMP	604.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	95.0	PERCENT
P305	CONTAINMENT PRESSURE	14.5	PSIA
R299	CONTAINMENT RADIATION	2.50	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 7:00:00 08-May-91 7:05:10

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	80.0	DEG
M006	WIND SPEED	9.4	MPH
M009	WIND DIRECTION STDV	9.3	DEG
M011	TEMPERATURE DIFFER.	-2.0	DEG F
P725	RCS HOT LEG PRESSURE	0.2169E+04	PSIG
T753	RCS HOT LEG TEMP	604.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	90.0	PERCENT
P305	CONTAINMENT PRESSURE	14.5	PSIA
R299	CONTAINMENT RADIATION	2.50	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 7:15:20 08-May-91 7:19:03

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	76.0	DEG
M006	WIND SPEED	9.0	MPH
M009	WIND DIRECTION STDV	9.4	DEG
M011	TEMPERATURE DIFFER.	-2.1	DEG F
P725	RCS HOT LEG PRESSURE	0.2159E+04	PSIG
T753	RCS HOT LEG TEMP	602.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	84.2	PERCENT
P305	CONTAINMENT PRESSURE	14.8	PSIA
R299	CONTAINMENT RADIATION	2.50	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 7:30:00 08-May-91 7:35:50

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	75.0	DEG
M006	WIND SPEED	8.5	MPH
M009	WIND DIRECTION STDV	9.3	DEG
M011	TEMPERATURE DIFFER.	-1.9	DEG F
P725	RCS HOT LEG PRESSURE	0.2158E+04	PSIG
T753	RCS HOT LEG TEMP	599.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	74.8	PERCENT
P305	CONTAINMENT PRESSURE	14.8	PSIA
R299	CONTAINMENT RADIATION	2.50	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 7:45:10 08-May-91 7:49:01

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	74.0	DEG
M006	WIND SPEED	8.1	MPH
M009	WIND DIRECTION STDV	9.3	DEG
M011	TEMPERATURE DIFFER.	-1.9	DEG F
P725	RCS HOT LEG PRESSURE	0.2123E+04	PSIG
T753	RCS HOT LEG TEMP	600.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	60.4	PERCENT
P305	CONTAINMENT PRESSURE	15.0	PSIA
R299	CONTAINMENT RADIATION	5.00	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 8:00:00 08-May-91 8:05:10

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	69.0	DEG
M006	WIND SPEED	7.8	MPH
M009	WIND DIRECTION STDV	9.3	DEG
M011	TEMPERATURE DIFFER.	-1.9	DEG F
P725	RCS HOT LEG PRESSURE	0.2181E+04	PSIG
T753	RCS HOT LEG TEMP	598.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	53.9	PERCENT
P305	CONTAINMENT PRESSURE	15.7	PSIA
R299	CONTAINMENT RADIATION	10.0	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 8:15:30 08-May-91 8:19:03

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	64.0	DEG
M006	WIND SPEED	8.0	MPH
M009	WIND DIRECTION STDV	9.3	DEG
M011	TEMPERATURE DIFFER.	-1.9	DEG F
P725	RCS HOT LEG PRESSURE	0.2137E+04	PSIG
T753	RCS HOT LEG TEMP	595.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	219.0	INCHES
R790	REACTOR POWER	42.0	PERCENT
P305	CONTAINMENT PRESSURE	15.7	PSIA
R299	CONTAINMENT RADIATION	15.0	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 8:30:00 08-May-91 8:35:10

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	62.0	DEG
M006	WIND SPEED	7.5	MPH
M009	WIND DIRECTION STDV	9.3	DEG
M011	TEMPERATURE DIFFER.	-1.9	DEG F
P725	RCS HOT LEG PRESSURE	0.2174E+04	PSIG
T753	RCS HOT LEG TEMP	592.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	34.0	PERCENT
P305	CONTAINMENT PRESSURE	16.1	PSIA
R299	CONTAINMENT RADIATION	30.0	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 8:45:20 08-May-91 8:49:01

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	56.0	DEG
M006	WIND SPEED	7.3	MPH
M009	WIND DIRECTION STDV	8.9	DEG
M011	TEMPERATURE DIFFER.	-2.2	DEG F
P725	RCS HOT LEG PRESSURE	0.2160E+04	PSIG
T753	RCS HOT LEG TEMP	589.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	219.0	INCHES
R790	REACTOR POWER	27.5	PERCENT
P305	CONTAINMENT PRESSURE	16.8	PSIA
R299	CONTAINMENT RADIATION	100	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 9:00:00 08-May-91 9:05:40

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	47.0	DEG
M006	WIND SPEED	6.9	MPH
M009	WIND DIRECTION STDV	8.8	DEG
M011	TEMPERATURE DIFFER.	-1.9	DEG F
P725	RCS HOT LEG PRESSURE	0.2167E+04	PSIG
T753	RCS HOT LEG TEMP	587.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	220.0	INCHES
R790	REACTOR POWER	21.9	PERCENT
P305	CONTAINMENT PRESSURE	17.3	PSIA
R299	CONTAINMENT RADIATION	200	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 9:15:40 08-May-91 9:19:02

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	42.0	DEG
M006	WIND SPEED	4.4	MPH
M009	WIND DIRECTION STDV	8.8	DEG
M011	TEMPERATURE DIFFER.	-1.5	DEG F
P725	RCS HOT LEG PRESSURE	0.2159E+04	PSIG
T753	RCS HOT LEG TEMP	581.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	219.0	INCHES
R790	REACTOR POWER	18.2	PERCENT
P305	CONTAINMENT PRESSURE	17.9	PSIA
R299	CONTAINMENT RADIATION	500	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 9:30:00 08-May-91 9:35:30

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	37.0	DEG
M006	WIND SPEED	4.5	MPH
M009	WIND DIRECTION STDV	8.9	DEG
M011	TEMPERATURE DIFFER.	-2.1	DEG F
P725	RCS HOT LEG PRESSURE	0.2089E+04	PSIG
T753	RCS HOT LEG TEMP	551.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	51.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	18.6	PSIA
R299	CONTAINMENT RADIATION	500	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 9:45:50 08-May-91 9:49:03

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	25.0	DEG
M006	WIND SPEED	4.9	MPH
M009	WIND DIRECTION STDV	8.6	DEG
M011	TEMPERATURE DIFFER.	-1.7	DEG F
P725	RCS HOT LEG PRESSURE	0.1795E+04	PSIG
T753	RCS HOT LEG TEMP	544.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	75.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	18.4	PSIA
R299	CONTAINMENT RADIATION	400	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 10:00:00 08-May-91 10:05:10

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	17.0	DEG
M006	WIND SPEED	5.0	MPH
M009	WIND DIRECTION STDV	8.5	DEG
M011	TEMPERATURE DIFFER.	-1.3	DEG F
P725	RCS HOT LEG PRESSURE	0.1622E+04	PSIG
T753	RCS HOT LEG TEMP	532.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	116.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	18.2	PSIA
R299	CONTAINMENT RADIATION	350	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 10:15:30 08-May-91 10:19:05

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	9.0	DEG
M006	WIND SPEED	5.7	MPH
M009	WIND DIRECTION STDV	8.4	DEG
M011	TEMPERATURE DIFFER.	-0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1592E+04	PSIG
T753	RCS HOT LEG TEMP	521.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	110.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	18.2	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 10:30:00 08-May-91 10:35:10

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	1.0	DEG
M006	WIND SPEED	4.2	MPH
M009	WIND DIRECTION STDV	8.3	DEG
M011	TEMPERATURE DIFFER.	0.0	DEG F
P725	RCS HOT LEG PRESSURE	0.1552E+04	PSIG
T753	RCS HOT LEG TEMP	508.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	116.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	18.0	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 10:45:20 08-May-91 10:49:04

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	335.0	DEG
M006	WIND SPEED	4.0	MPH
M009	WIND DIRECTION STDV	7.2	DEG
M011	TEMPERATURE DIFFER.	-0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1576E+04	PSIG
T753	RCS HOT LEG TEMP	507.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	130.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	17.7	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 11:00:00 08-May-91 11:05:40

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	335.0	DEG
M006	WIND SPEED	3.9	MPH
M009	WIND DIRECTION STDV	7.2	DEG
M011	TEMPERATURE DIFFER.	0.0	DEG F
P725	RCS HOT LEG PRESSURE	0.1569E+04	PSIG
T753	RCS HOT LEG TEMP	494.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	138.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	17.5	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 11:15:20 08-May-91 11:19:03

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	336.0	DEG
M006	WIND SPEED	4.1	MPH
M009	WIND DIRECTION STDV	7.2	DEG
M011	TEMPERATURE DIFFER.	0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1560E+04	PSIG
T753	RCS HOT LEG TEMP	479.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	138.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	17.3	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	9.00E-4	UCI/CC
R847	UNIT VENT XE-133	3.00E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 11:30:00 08-May-91 11:35:20

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	334.0	DEG
M006	WIND SPEED	4.1	MPH
M009	WIND DIRECTION STDV	6.8	DEG
M011	TEMPERATURE DIFFER.	0.0	DEG F
P725	RCS HOT LEG PRESSURE	0.1420E+04	PSIG
T753	RCS HOT LEG TEMP	464.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	140.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	17.1	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	8.10E-10	UCI/CC
R847	UNIT VENT XE-133	3.00E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 11:45:50 08-May-91 11:49:13

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	337.0	DEG
M006	WIND SPEED	3.8	MPH
M009	WIND DIRECTION STDV	6.8	DEG
M011	TEMPERATURE DIFFER.	-0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1310E+04	PSIG
T753	RCS HOT LEG TEMP	449.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	142.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	17.0	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	7.30E-4	UCI/CC
R847	UNIT VENT XE-133	2.90E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 12:00:00 08-May-91 12:05:00

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	333.0	DEG
M006	WIND SPEED	3.7	MPH
M009	WIND DIRECTION STDV	7.4	DEG
M011	TEMPERATURE DIFFER.	-0.4	DEG F
P725	RCS HOT LEG PRESSURE	0.1050E+04	PSIG
T753	RCS HOT LEG TEMP	434.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	144.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	16.8	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	6.69E-4	UCI/CC
R847	UNIT VENT XE-133	2.60E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 12:15:20 08-May-91 12:17:30

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	335.0	DEG
M006	WIND SPEED	3.9	MPH
M009	WIND DIRECTION STDV	7.3	DEG
M011	TEMPERATURE DIFFER.	0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	419.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	145.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	16.7	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.90E-4	UCI/CC
R847	UNIT VENT XE-133	2.40E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 12:30:00 08-May-91 12:35:30

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	334.0	DEG
M006	WIND SPEED	3.8	MPH
M009	WIND DIRECTION STDV	7.4	DEG
M011	TEMPERATURE DIFFER.	0.3	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	405.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	143.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	16.5	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.39E-4	UCI/CC
R847	UNIT VENT XE-133	2.10E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 12:45:10 08-May-91 12:48:23

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	337.0	DEG
M006	WIND SPEED	4.1	MPH
M009	WIND DIRECTION STDV	7.3	DEG
M011	TEMPERATURE DIFFER.	0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	388.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	142.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	16.4	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	4.80E-4	UCI/CC
R847	UNIT VENT XE-133	1.90E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 13:00:00 08-May-91 13:05:00

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	336.0	DEG
M006	WIND SPEED	4.1	MPH
M009	WIND DIRECTION STDV	6.9	DEG
M011	TEMPERATURE DIFFER.	-0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	374.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	141.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	16.2	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	4.99E-4	UCI/CC
R847	UNIT VENT XE-133	1.70E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 13:15:40 08-May-91 13:19:00

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	335.0	DEG
M006	WIND SPEED	23.5	MPH
M009	WIND DIRECTION STDV	6.7	DEG
M011	TEMPERATURE DIFFER.	-0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	359.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	149.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	15.9	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	1.20E-4	UCI/CC
R847	UNIT VENT XE-133	1.50E-01	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 13:30:00 08-May-91 13:35:30

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	334.0	DEG
M006	WIND SPEED	24.5	MPH
M009	WIND DIRECTION STDV	6.5	DEG
M011	TEMPERATURE DIFFER.	-0.2	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	342.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	145.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	15.8	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.09E-10	UCI/CC
R847	UNIT VENT XE-133	8.00E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 13:45:50 08-May-91 13:47:03

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	334.0	DEG
M006	WIND SPEED	24.1	MPH
M009	WIND DIRECTION STDV	6.1	DEG
M011	TEMPERATURE DIFFER.	-0.1	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	329.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	140.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	15.6	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	8.00E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Table 9-9

State of Ohio Nuclear Data System (NDS) Sheets

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 14:00:00 08-May-91 14:05:00

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	338.0	DEG
M006	WIND SPEED	24.3	MPH
M009	WIND DIRECTION STDV	6.3	DEG
M011	TEMPERATURE DIFFER.	-0.2	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	315.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	135.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	15.5	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT I-131	5.09E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

****

D A V I S - B E S S E
D A V I S - B E S S E
SCAN TIME --- 08-May-91 14:15:30 08-May-91 14:48:03

ID	DESCRIPTION	VALUE	UNITS
M003	WIND DIRECTION	340.0	DEG
M006	WIND SPEED	24.3	MPH
M009	WIND DIRECTION STDV	6.5	DEG
M011	TEMPERATURE DIFFER.	-0.3	DEG F
P725	RCS HOT LEG PRESSURE	0.1000E+04	PSIG
T753	RCS HOT LEG TEMP	310.0	DEG F
L768	PRESSURIZER COMPENSATED LEVEL	142.0	INCHES
R790	REACTOR POWER	0.0	PERCENT
P305	CONTAINMENT PRESSURE	15.4	PSIA
R299	CONTAINMENT RADIATION	325	R/HR
R845	UNIT VENT 1-131	5.00E-10	UCI/CC
R847	UNIT VENT XE-133	4.20E-07	UCI/CC
R883	UNIT VENT STACK FLOW	146.0	KCFM

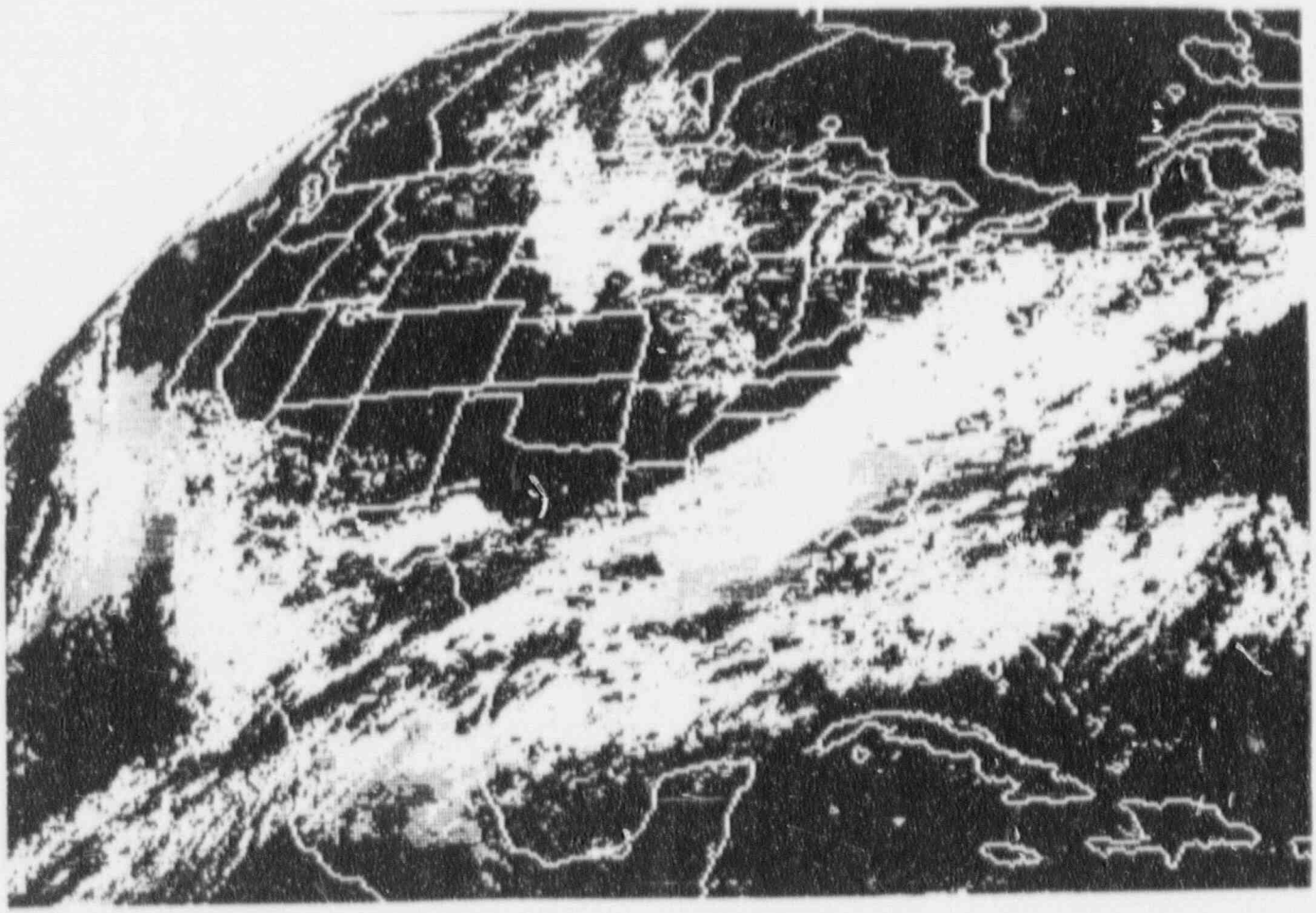
ALT-F10 HELP /VT-100 /FDX /1200 N81 /LOG CLOSED /PRT OFF /CR /CR

Figure 9.1

Meteorological Data

WEATHER FORECAST

SUPSAT image printed by "WS-View" from Robertson Software.
US 06:00 (06)GMT 8-MAY-91 SUPERNORAM COPYRIGHT WSI CORP.
Lowest (Warm) ---- Cloud Tops ---- (Cold) Highest



```
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
TOOH-TOLEDO AND VICINITY FORECAST
NATIONAL WEATHER SERVICE TOLEDO OH
615 AM EDT TUES MAY 8 1991

.TODAY. . .CLEAR.  HIGH 66 TO 70.  WINDS EAST 3 TO 30 MPH.
.TONIGHT. . . CLEAR.  LOW NEAR 50.  WINDS SOUTHEAST 30 TO 5 MPH.
.WEDNESDAY. . .CLEAR.  HIGH IN MID 80S.
CHANGE OF PRECIPITATION IS 0 PERCENT.
&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&
```

Figure 9.2

Meteorological Data

EXTENDED FORECAST

OHIO EXTENDED FORECAST
NATIONAL WEATHER SERVICE CLEVELAND OH
300 AM EDT TUES MAY 8 1991

.WEDNESDAY THROUGH FRIDAY

FAIR THROUGH THE PERIOD. HIGHS IN THE MID 60S WEDNESDAY. . .IN THE 70S THURSDAY. . .AND 65 TO 70 FRIDAY. LOWS IN THE MID 40S WEDNESDAY. . .AND IN THE LOW 50S THURSDAY AND FRIDAY.

&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&

SUSPAT image printed by "WX-View" from Robertson Software.
US 12:00(12)GMT 7-MAY-91 SUPERCGMAP3 COPYRIGHT WSI CORP.

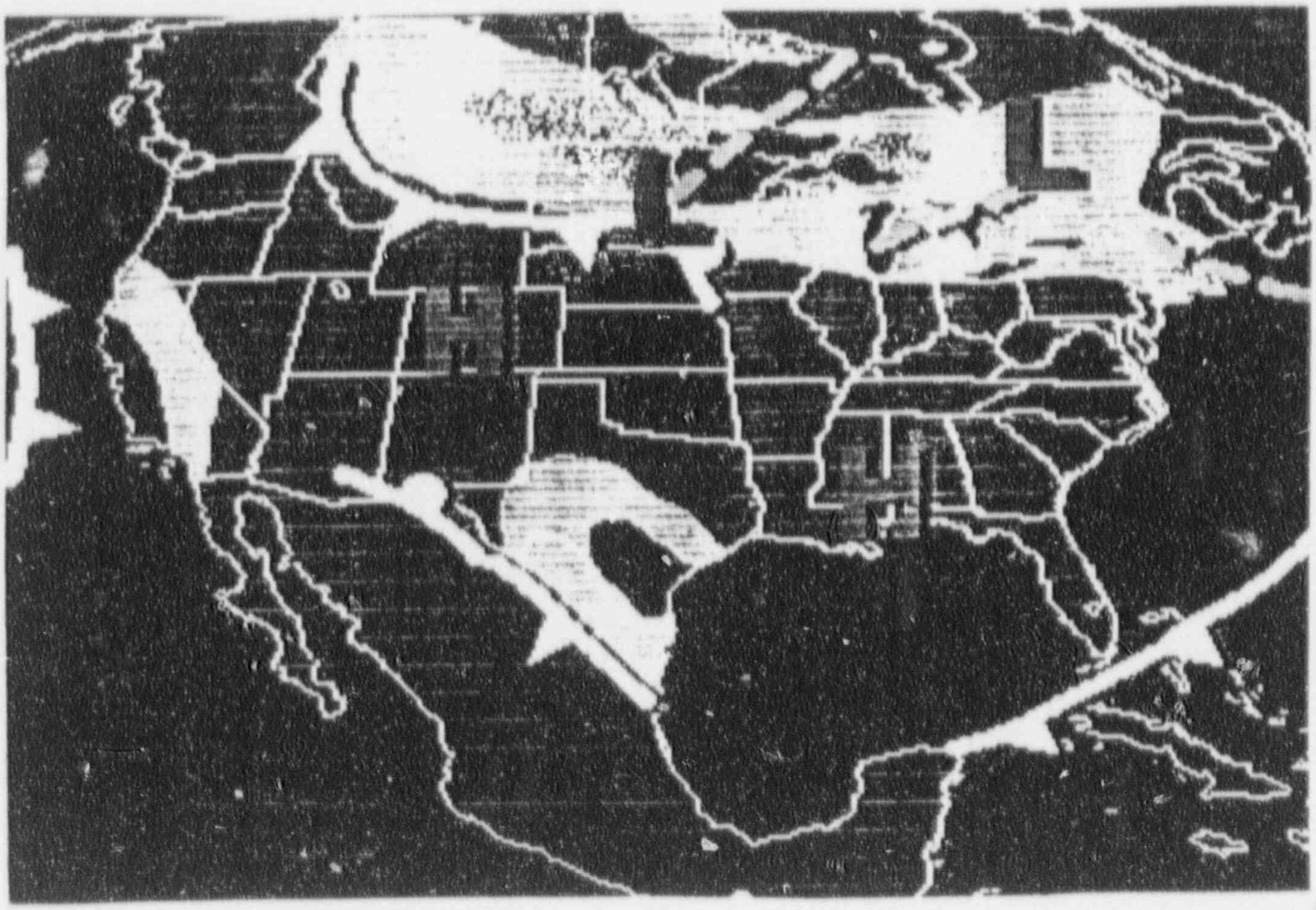


Figure 9.3

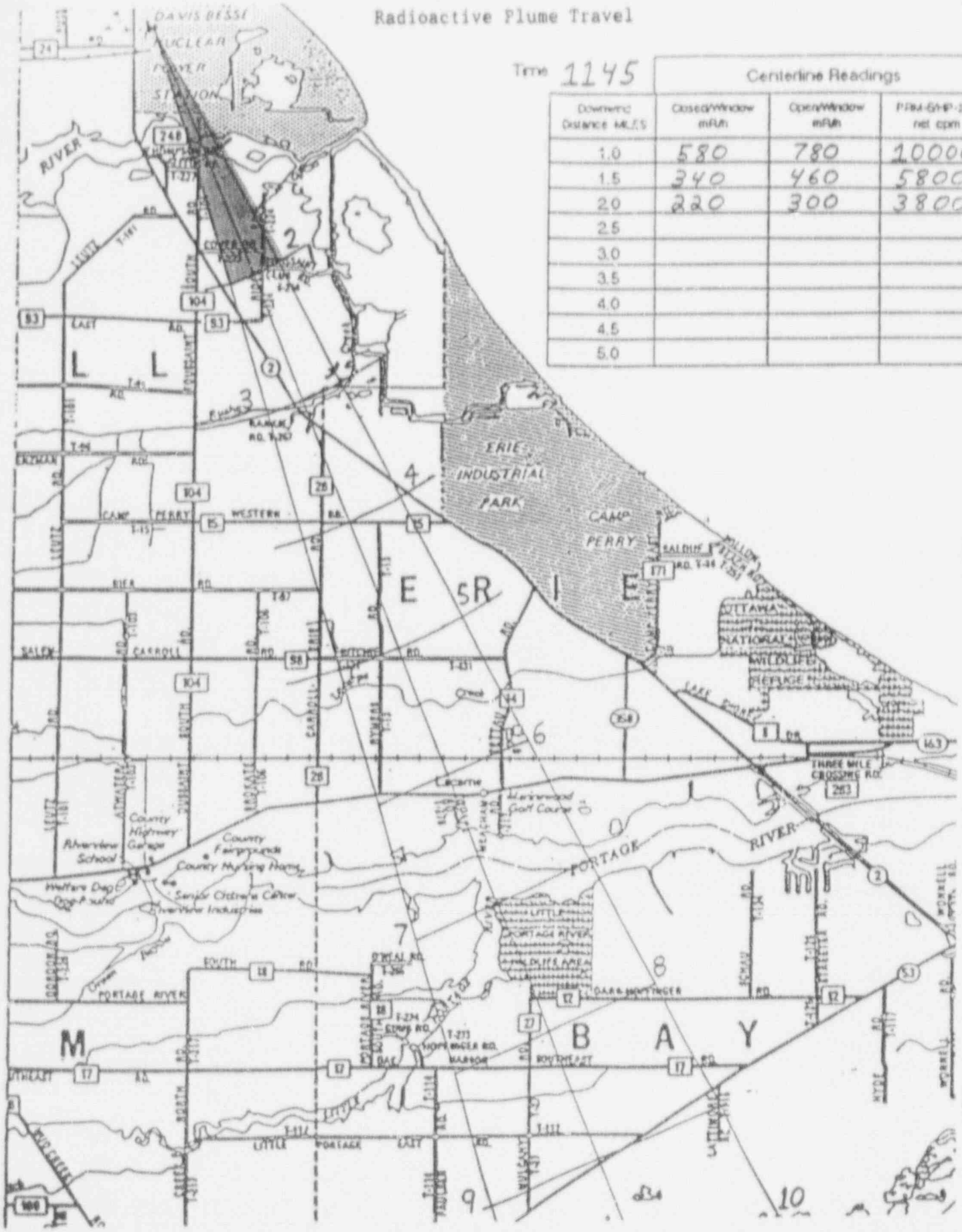
Radioactive Flume Travel

Time 1130

Downwind Distance MILES	Centerline Readings		
	Closed/Window mR/h	Open/Window mR/h	PRM-6/HP-250 net cpm
1.0	630	850	11000
1.5			
2.0			
2.5			
3.0			
3.5			
4.0			
4.5			
5.0			

Figure 9.3 (Cont.)

Radioactive Plume Travel



Time 1145

Downwind Distance MILES	Centerline Readings		
	Closed/Window mR/h	Open/Window mR/h	PBM-6/HP-260 net cpm
1.0	580	780	10000
1.5	340	460	5800
2.0	220	300	3800
2.5			
3.0			
3.5			
4.0			
4.5			
5.0			

Figure 9.3 (Cont.)

Radioactive Plume Travel

Time 1200

Downwind Distance MILES	Centerline Readings: Closed/Window mR/h	Centerline Readings: Open/Window mR/h	Centerline Readings: PRM-6/HP-250 net cpm
1.0	510	690	9800
1.5	310	420	5500
2.0	210	280	3600
2.5	160	220	2700
3.0	130	180	2200
3.5			
4.0			
4.5			
5.0			

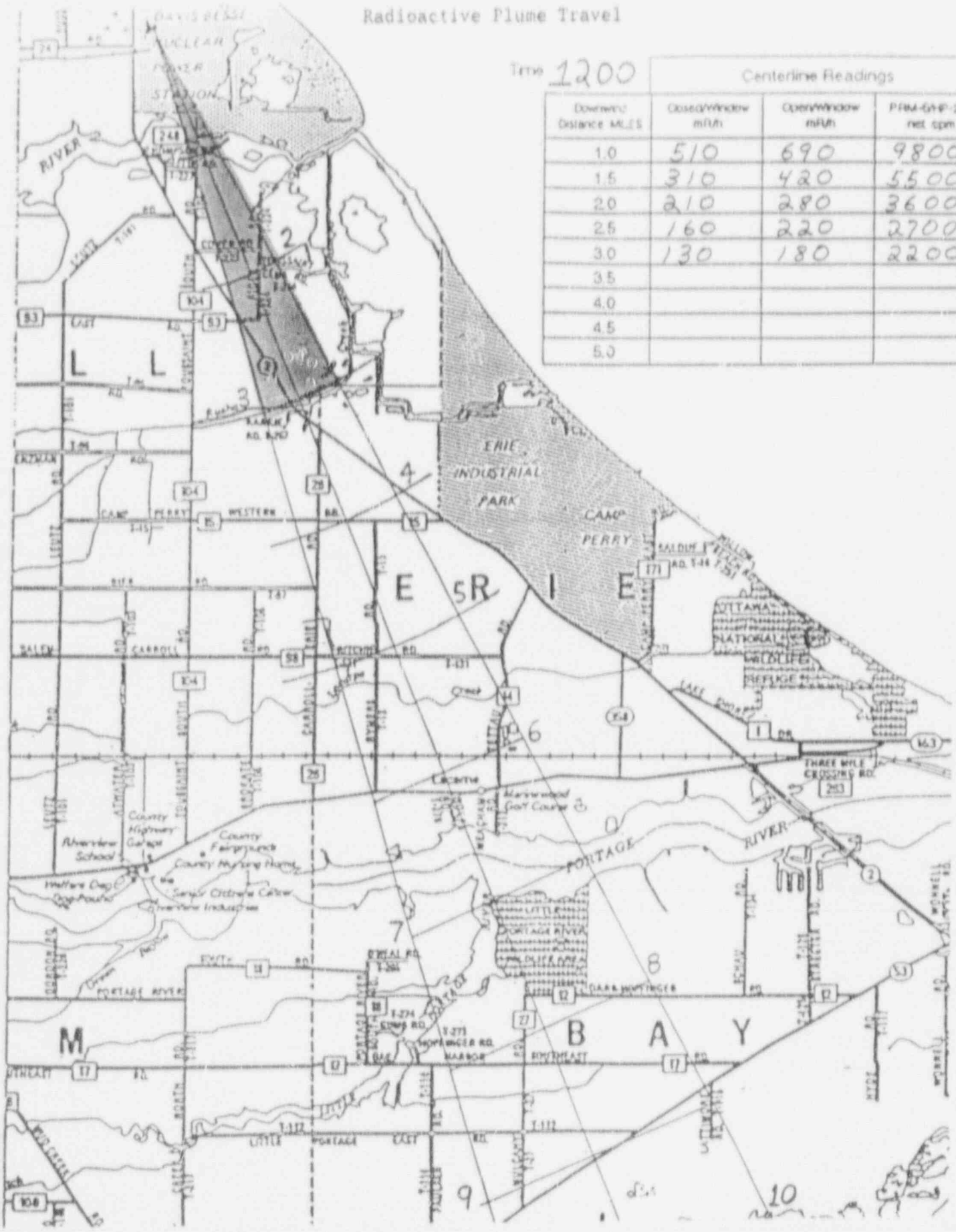


Figure 9.3 (Cont.)

Radioactive Plume Travel

Time 1215

Downwind Distance MILES	Centerline Readings		
	Closed Window mR/h	Open Window mR/h	PRM-6MP-250 net cpm
1.0	470	640	9200
1.5	280	380	5300
2.0	180	240	3500
2.5	150	200	2600
3.0	120	160	2100
3.5	100	140	1700
4.0	83	110	1400
4.5			
5.0			

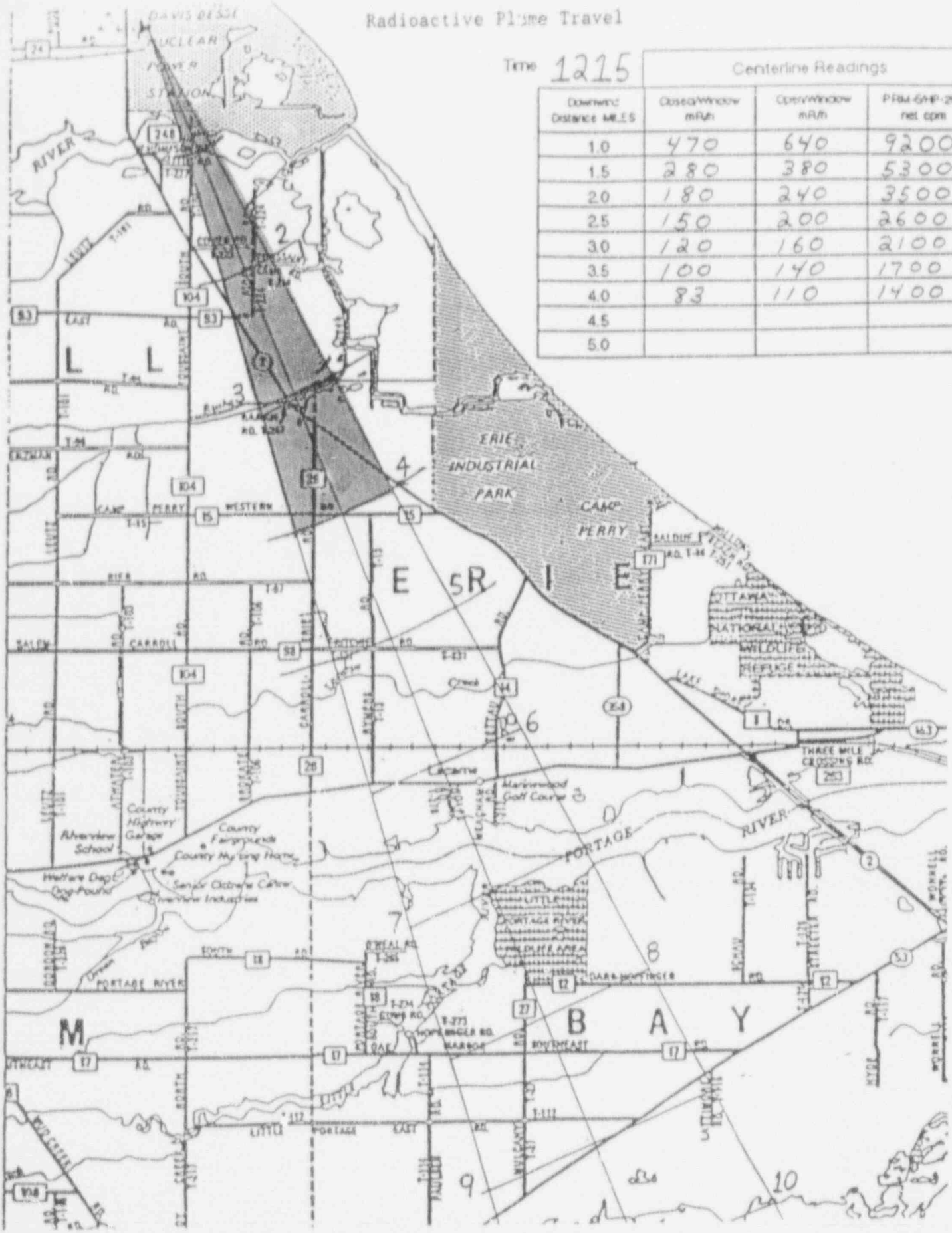


Figure 9.3 (Cont.)

Radioactive Plume Travel

Time 1230

Downwind Distance MILES	Centerline Readings: Closed/Window mR/h	Centerline Readings: Open/Window mR/h	Centerline Readings: PRM-6/HP-260 net cpm
1.0	430	580	8700
1.5	250	340	5000
2.0	170	230	3300
2.5	130	180	2500
3.0	100	140	2000
3.5	94	130	1700
4.0	76	100	1300
4.5	73	99	1200
5.0	63	85	1100
5.5			
6.0			
6.5			
7.0			
7.5			
8.0			
8.5			
9.0			
9.5			
10.0			

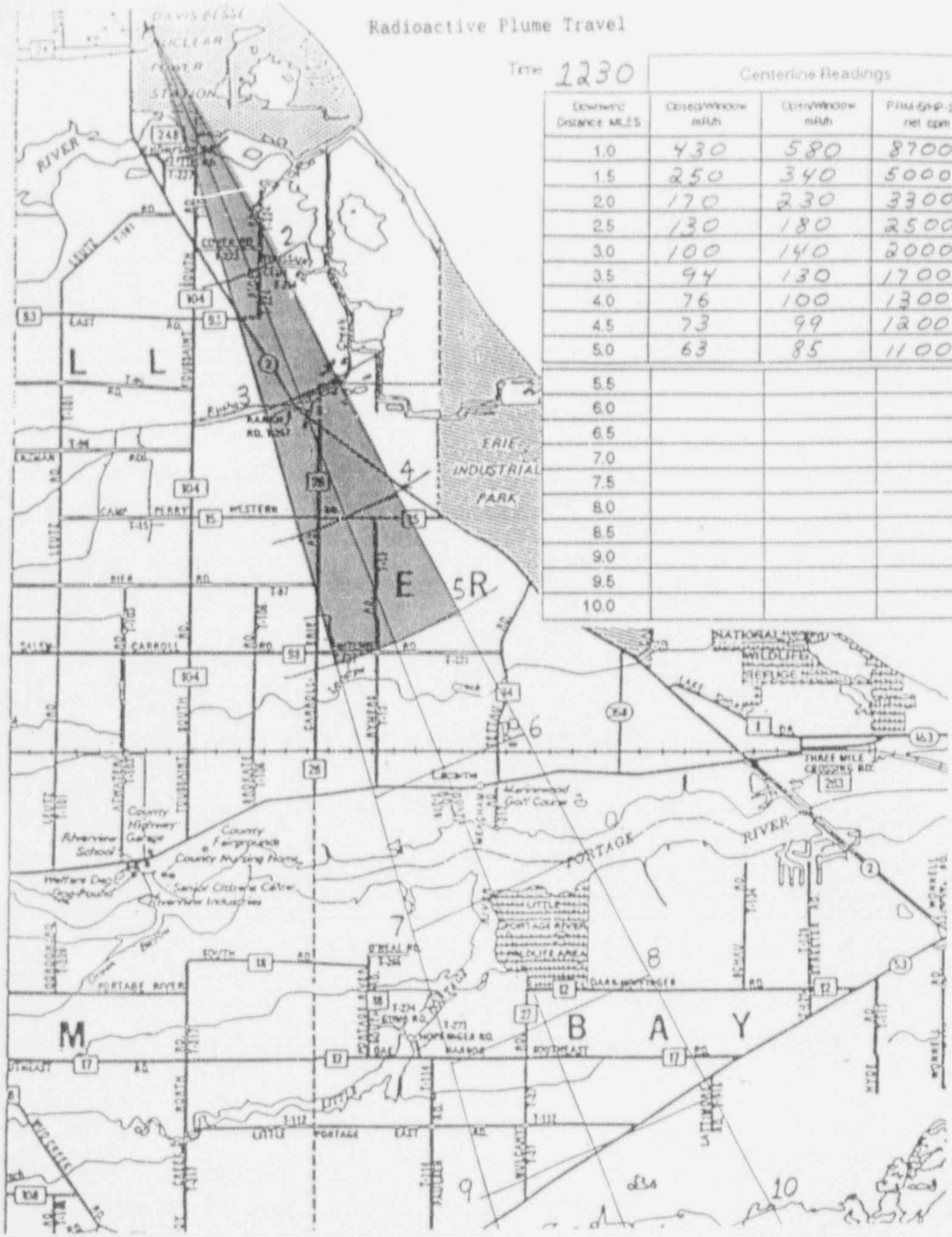


Figure 9.3 (Cont.)

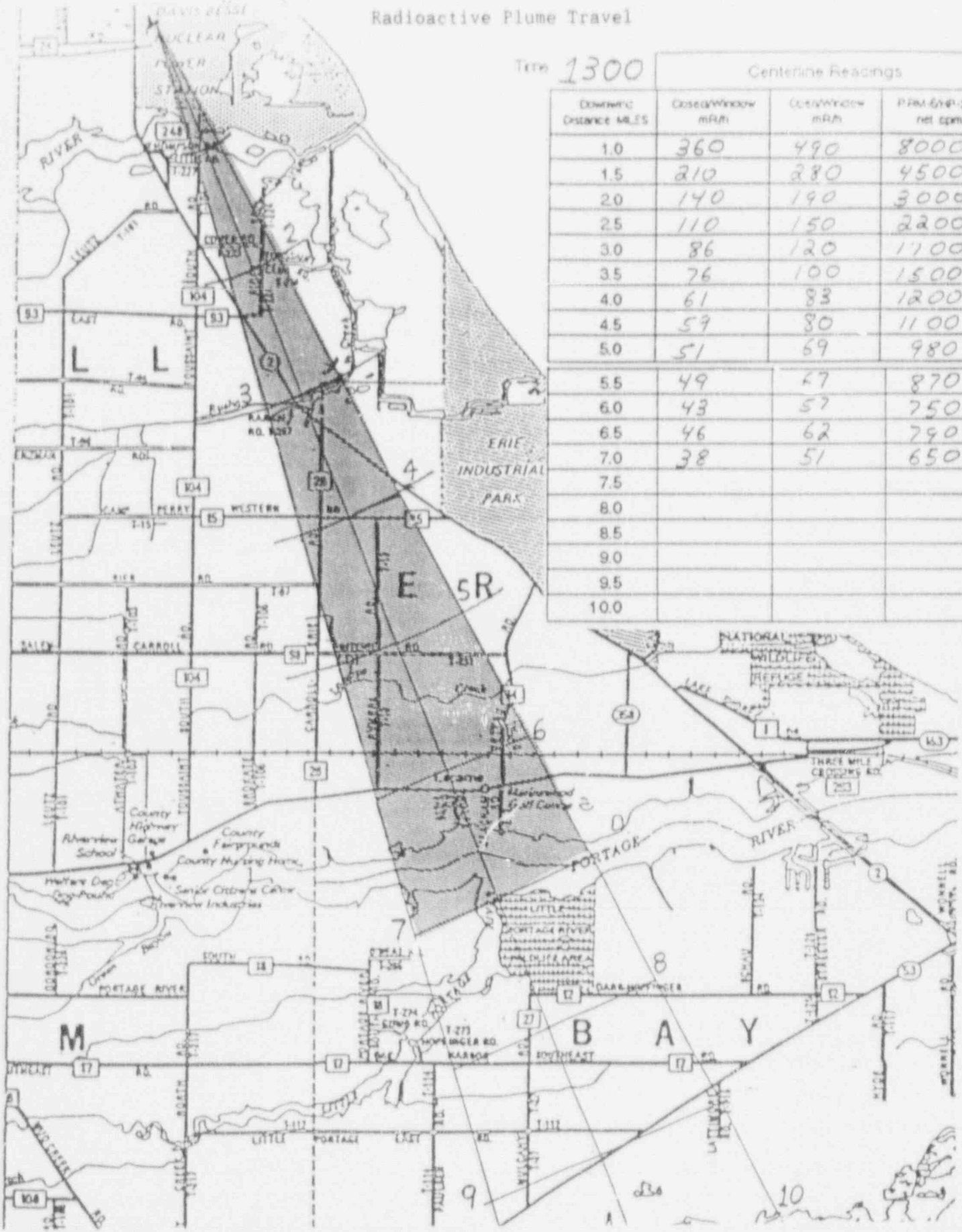
Radioactive Plume Travel

Time 1245

Downwind Distance MILES	Centerline Readings: Closed/Window mR/h	Open/Window mR/h	PRM-6/NP-250 net cpm
1.0	390	530	8400
1.5	230	310	4700
2.0	150	200	3100
2.5	120	160	2300
3.0	94	130	1900
3.5	83	110	1600
4.0	67	90	1300
4.5	67	91	1200
5.0	58	79	1000
5.5	54	72	920
6.0	46	62	790
6.5			
7.0			
7.5			
8.0			
8.5			
9.0			
9.5			
10.0			

Figure 9.3 (Cont.)

Radioactive Plume Travel

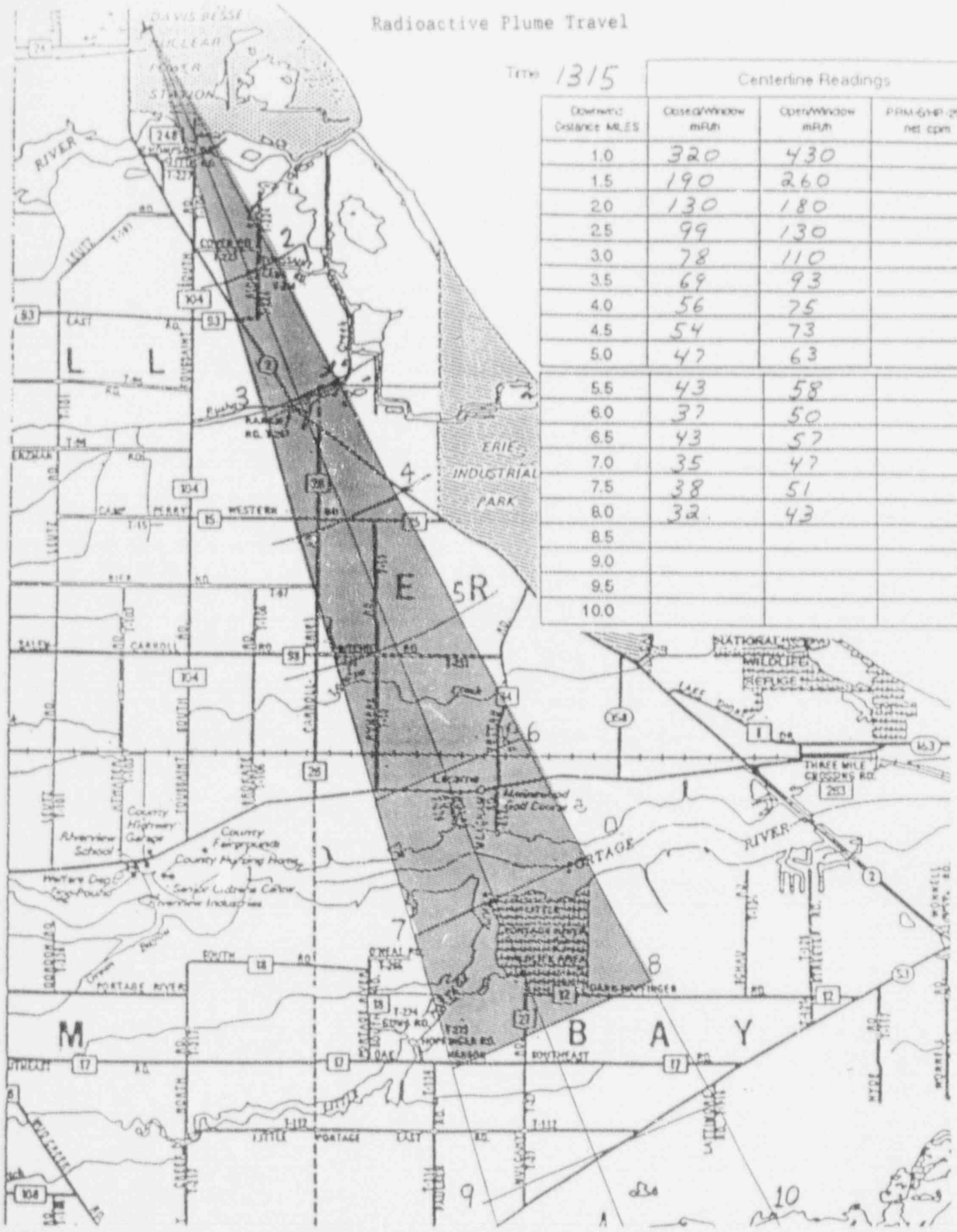


Time 1300

Downwind Distance MILES	Centerline Readings: Closed/Window mR/h	Open/Window mR/h	P.R.M. 6/HP-260 net cpm
1.0	360	490	8000
1.5	210	280	4500
2.0	140	190	3000
2.5	110	150	2200
3.0	86	120	1700
3.5	76	100	1500
4.0	61	83	1200
4.5	57	80	1100
5.0	51	69	980
5.5	49	67	870
6.0	43	57	750
6.5	46	62	790
7.0	38	51	650
7.5			
8.0			
8.5			
9.0			
9.5			
10.0			

Figure 9.3 (Cont.)

Radioactive Plume Travel

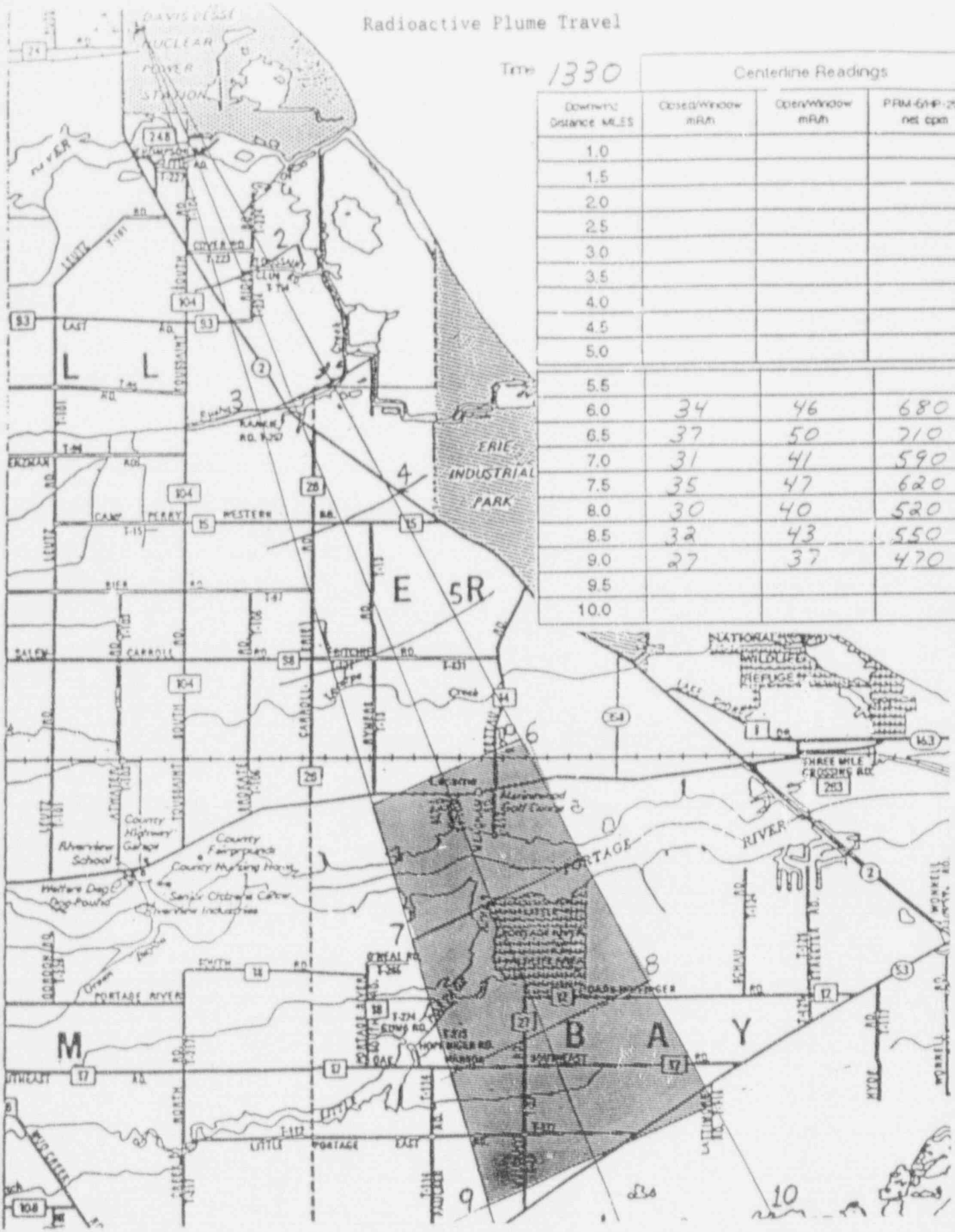


Time 1315

Downwind Distance MILES	Centerline Readings: Closed/Window mRuh	Centerline Readings: Open/Window mRuh	Centerline Readings: PRM-6/HP-250 net cpm
1.0	320	430	
1.5	190	260	
2.0	130	180	
2.5	99	130	
3.0	78	110	
3.5	69	93	
4.0	56	75	
4.5	54	73	
5.0	47	63	
5.5	43	58	
6.0	37	50	
6.5	43	57	
7.0	35	47	
7.5	38	51	
8.0	32	43	
8.5			
9.0			
9.5			
10.0			

Figure 9.3 (Cont.)

Radioactive Plume Travel

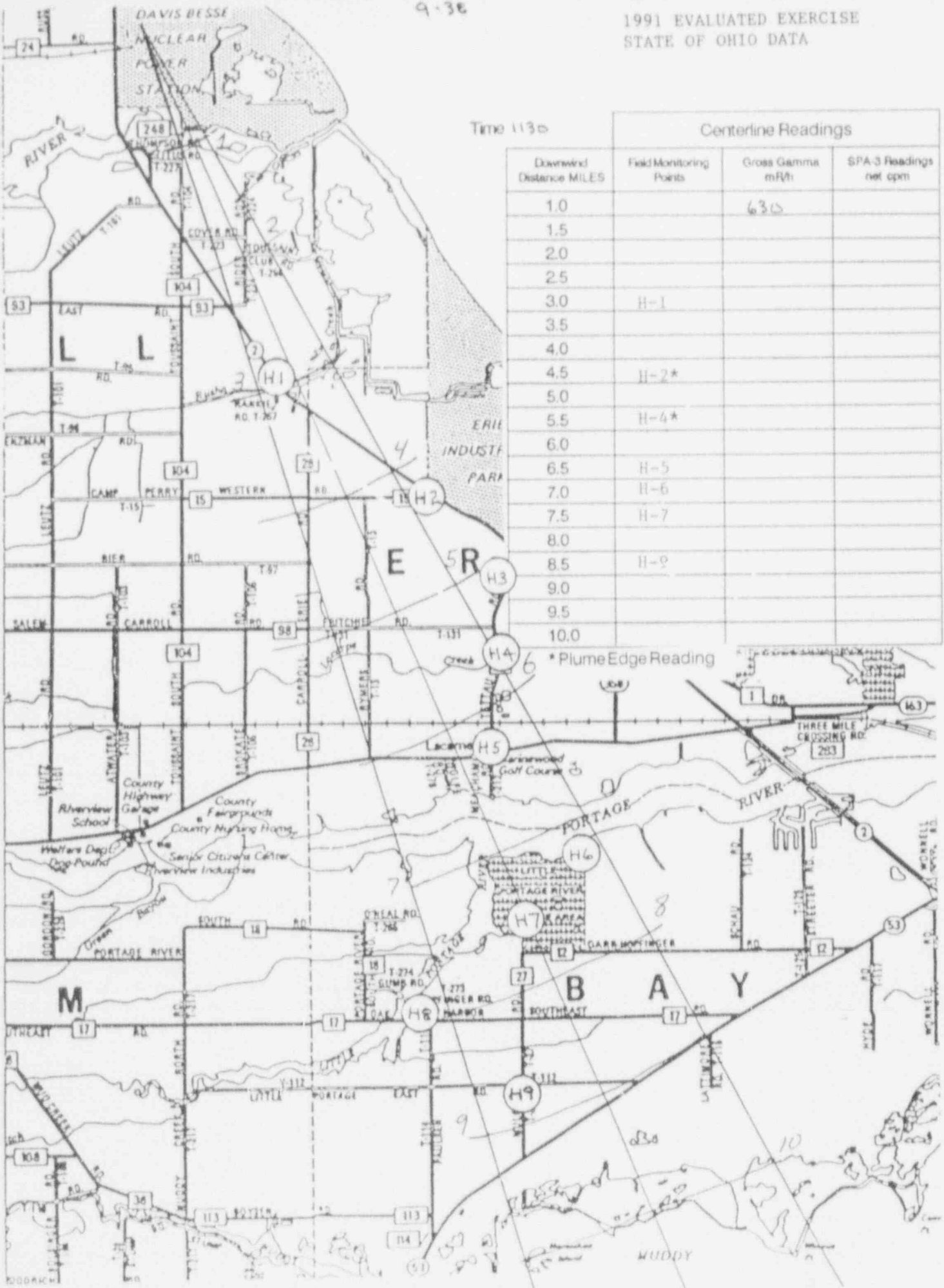


Time 1330

Downwind Distance MILES	Centerline Readings: Closed/Window mR/h	Open/Window mR/h	PRM-6/HP-260 net cpm
1.0			
1.5			
2.0			
2.5			
3.0			
3.5			
4.0			
4.5			
5.0			
5.5			
6.0	34	46	680
6.5	37	50	710
7.0	31	41	590
7.5	35	47	620
8.0	30	40	520
8.5	32	43	550
9.0	27	37	470
9.5			
10.0			

9-38

1991 EVALUATED EXERCISE
STATE OF OHIO DATA

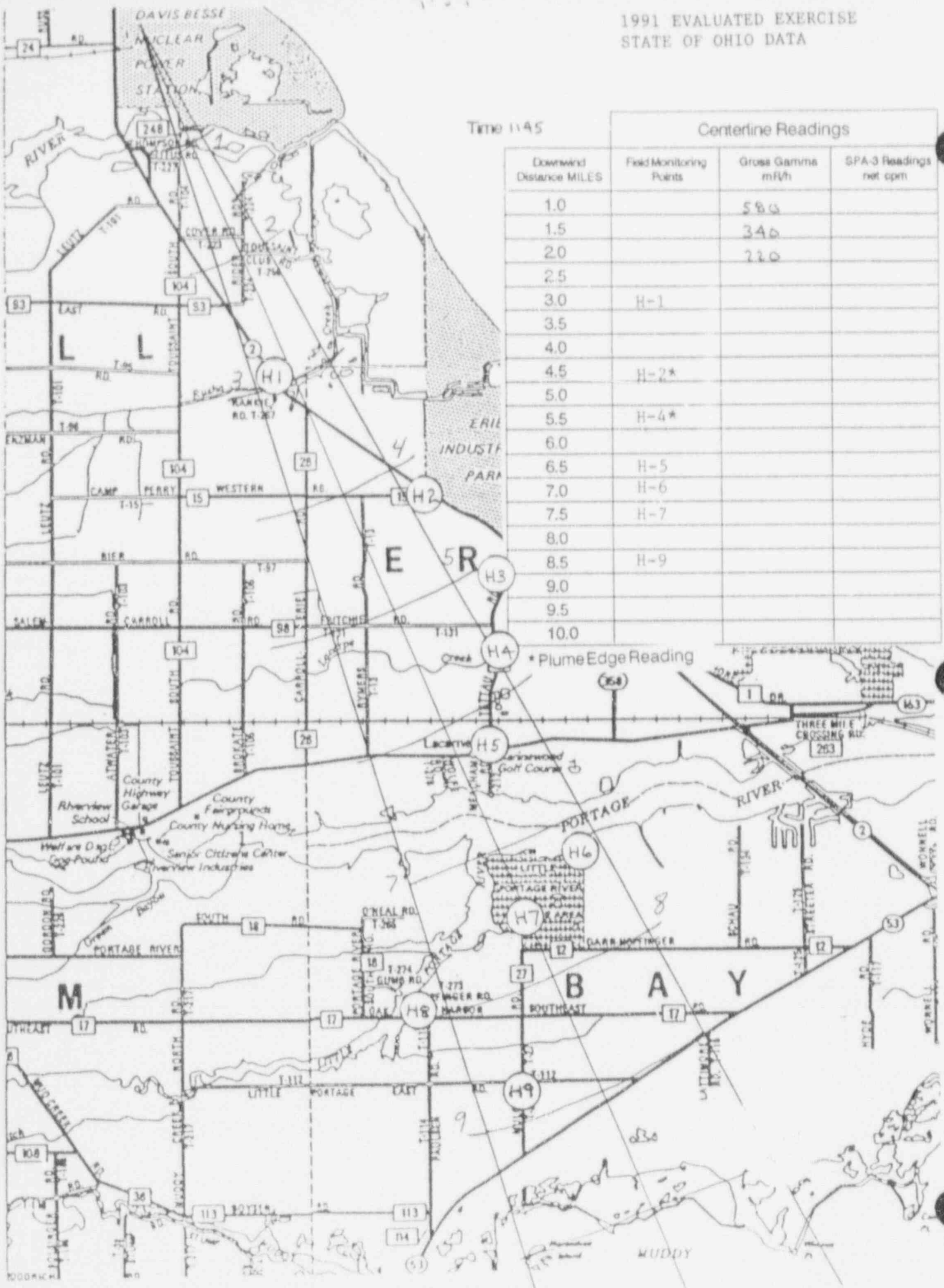


Time 1130

Downwind Distance MILES	Centerline Readings: Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0		630	
1.5			
2.0			
2.5			
3.0	H-1		
3.5			
4.0			
4.5	H-2*		
5.0			
5.5	H-4*		
6.0			
6.5	H-5		
7.0	H-6		
7.5	H-7		
8.0			
8.5	H-9		
9.0			
9.5			
10.0			

* Plume Edge Reading

1991 EVALUATED EXERCISE
STATE OF OHIO DATA

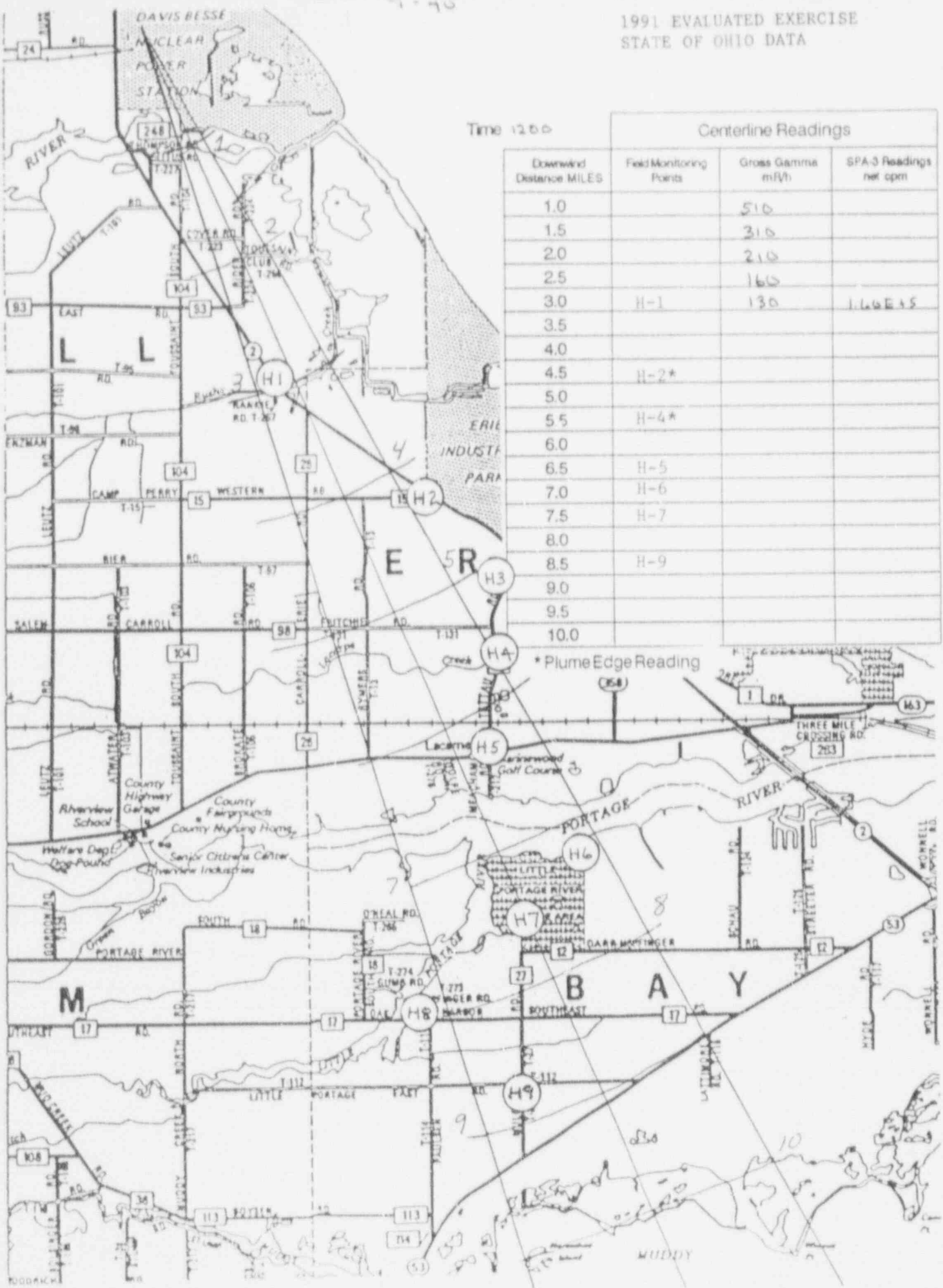


Time 1145

Centerline Readings			
Downwind Distance MILES	Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0		580	
1.5		340	
2.0		220	
2.5			
3.0	H-1		
3.5			
4.0			
4.5	H-2*		
5.0			
5.5	H-4*		
6.0			
6.5	H-5		
7.0	H-6		
7.5	H-7		
8.0			
8.5	H-9		
9.0			
9.5			
10.0			

* Plume Edge Reading

1991 EVALUATED EXERCISE
STATE OF OHIO DATA

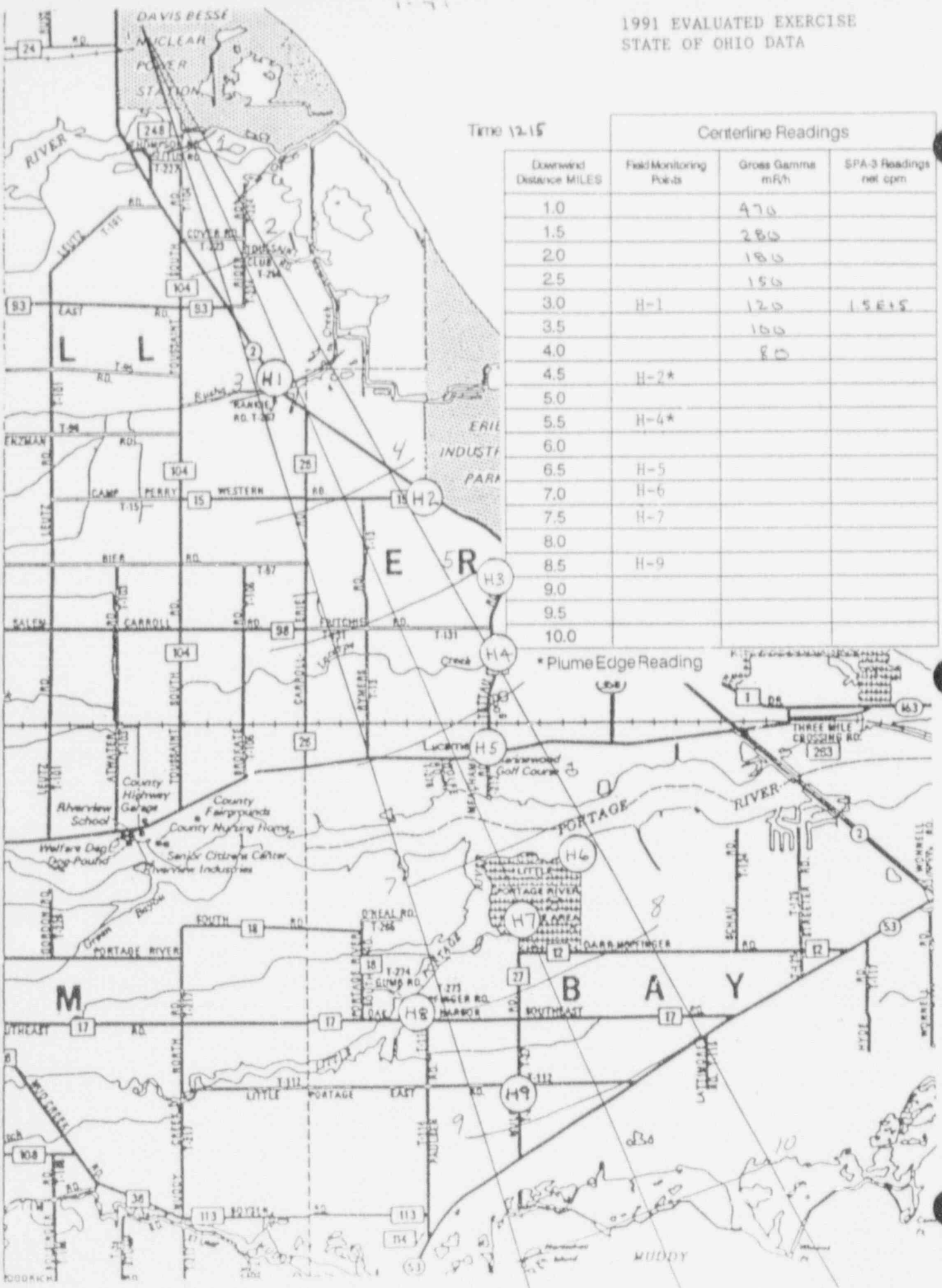


Time 1200

Downwind Distance MILES	Centerline Readings		
	Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0		510	
1.5		310	
2.0		210	
2.5		160	
3.0	H-1	130	1.66E+5
3.5			
4.0			
4.5	H-2*		
5.0			
5.5	H-4*		
6.0			
6.5	H-5		
7.0	H-6		
7.5	H-7		
8.0			
8.5	H-9		
9.0			
9.5			
10.0			

* Plume Edge Reading

1991 EVALUATED EXERCISE
STATE OF OHIO DATA

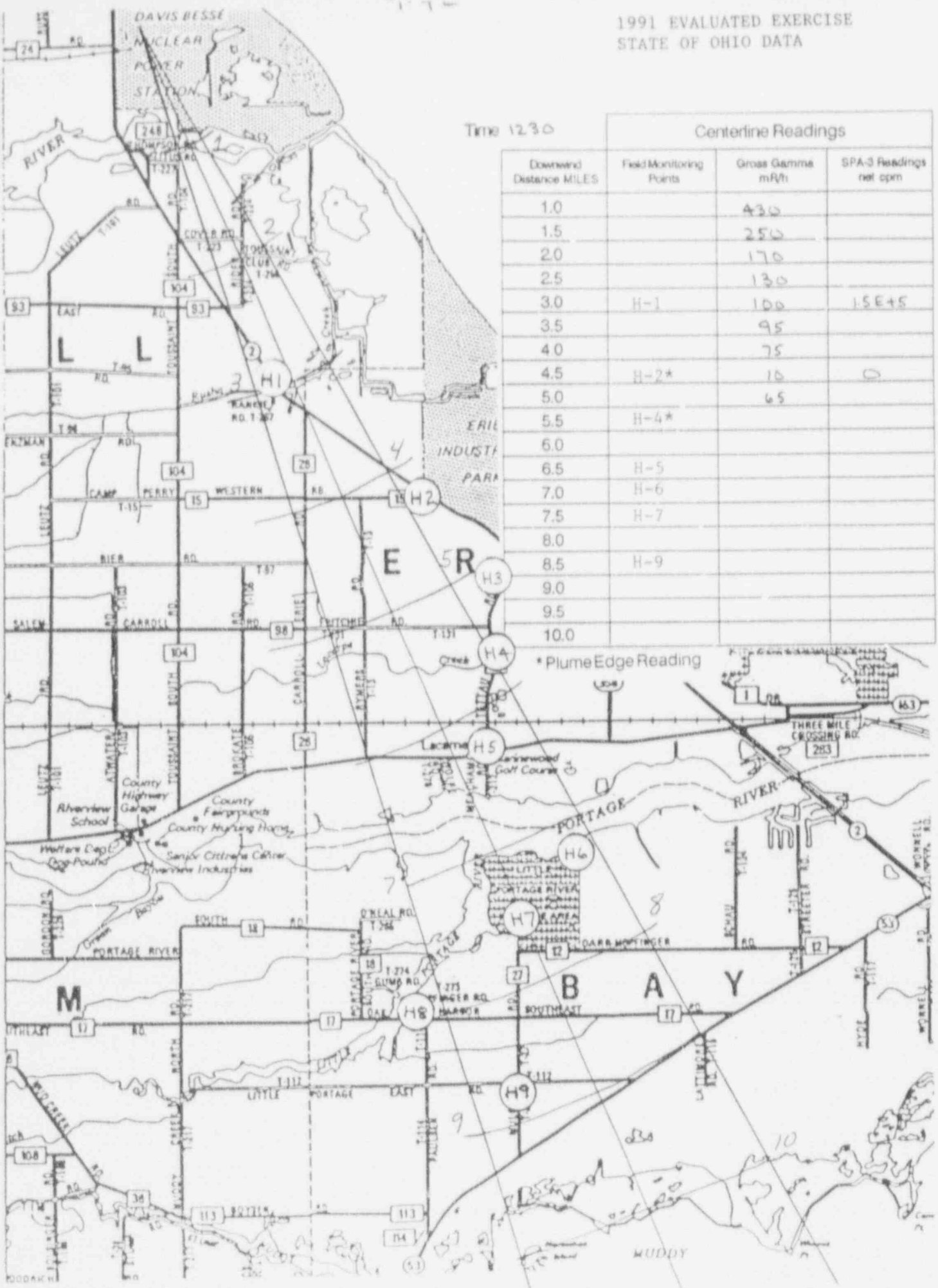


Time 12:15

Downwind Distance MILES	Centerline Readings		
	Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0		470	
1.5		280	
2.0		180	
2.5		150	
3.0	H-1	120	1.5E+5
3.5		100	
4.0		80	
4.5	H-2*		
5.0			
5.5	H-4*		
6.0			
6.5	H-5		
7.0	H-6		
7.5	H-7		
8.0			
8.5	H-9		
9.0			
9.5			
10.0			

* Plume Edge Reading

1991 EVALUATED EXERCISE
STATE OF OHIO DATA

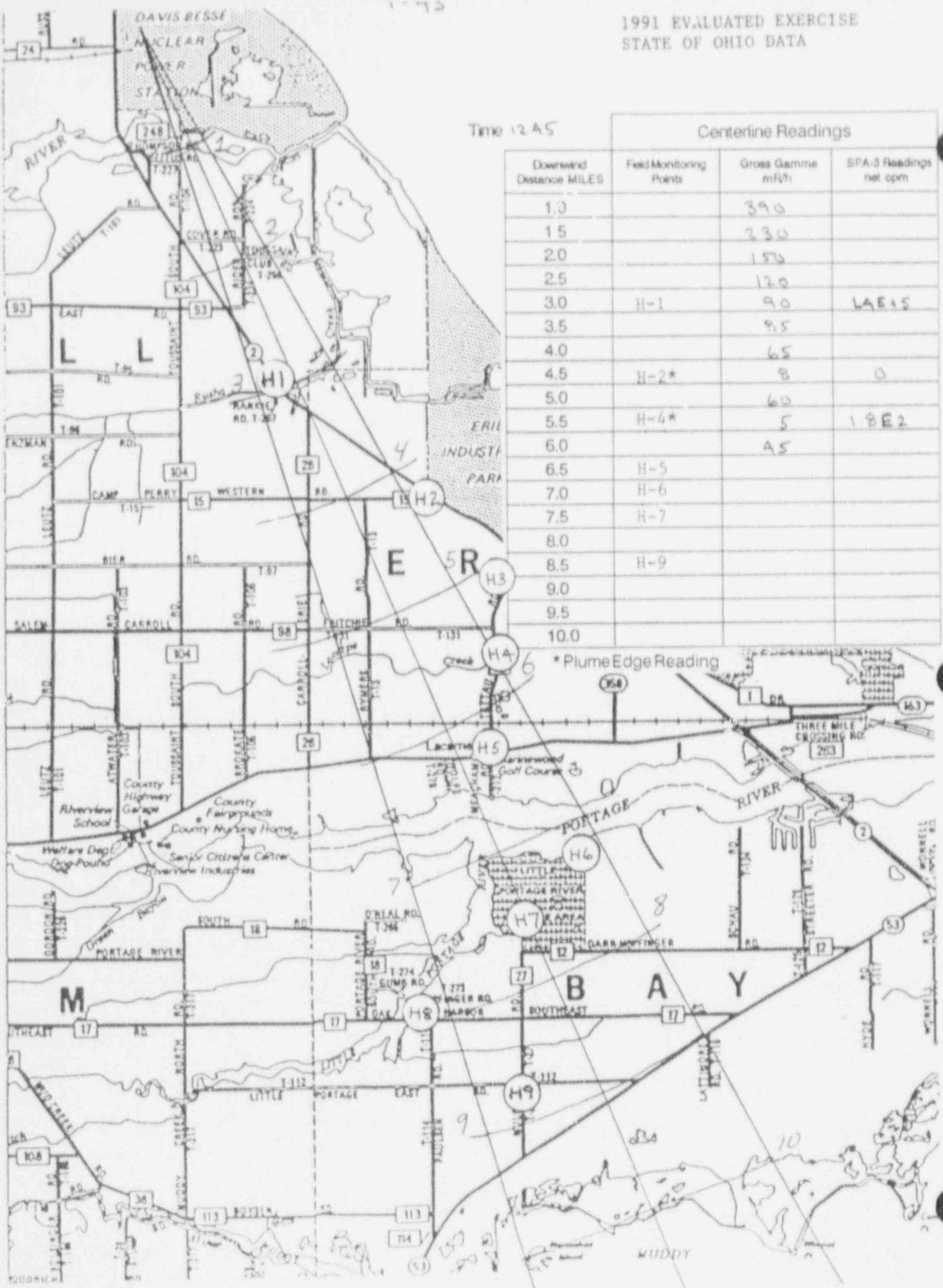


Time 1230

Downwind Distance MILES	Centerline Readings: Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0		430	
1.5		250	
2.0		170	
2.5		130	
3.0	H-1	100	1.5E+5
3.5		95	
4.0		75	
4.5	H-2*	10	0
5.0		65	
5.5	H-4*		
6.0			
6.5	H-5		
7.0	H-6		
7.5	H-7		
8.0			
8.5	H-9		
9.0			
9.5			
10.0			

* Plume Edge Reading

1991 EVALUATED EXERCISE
STATE OF OHIO DATA

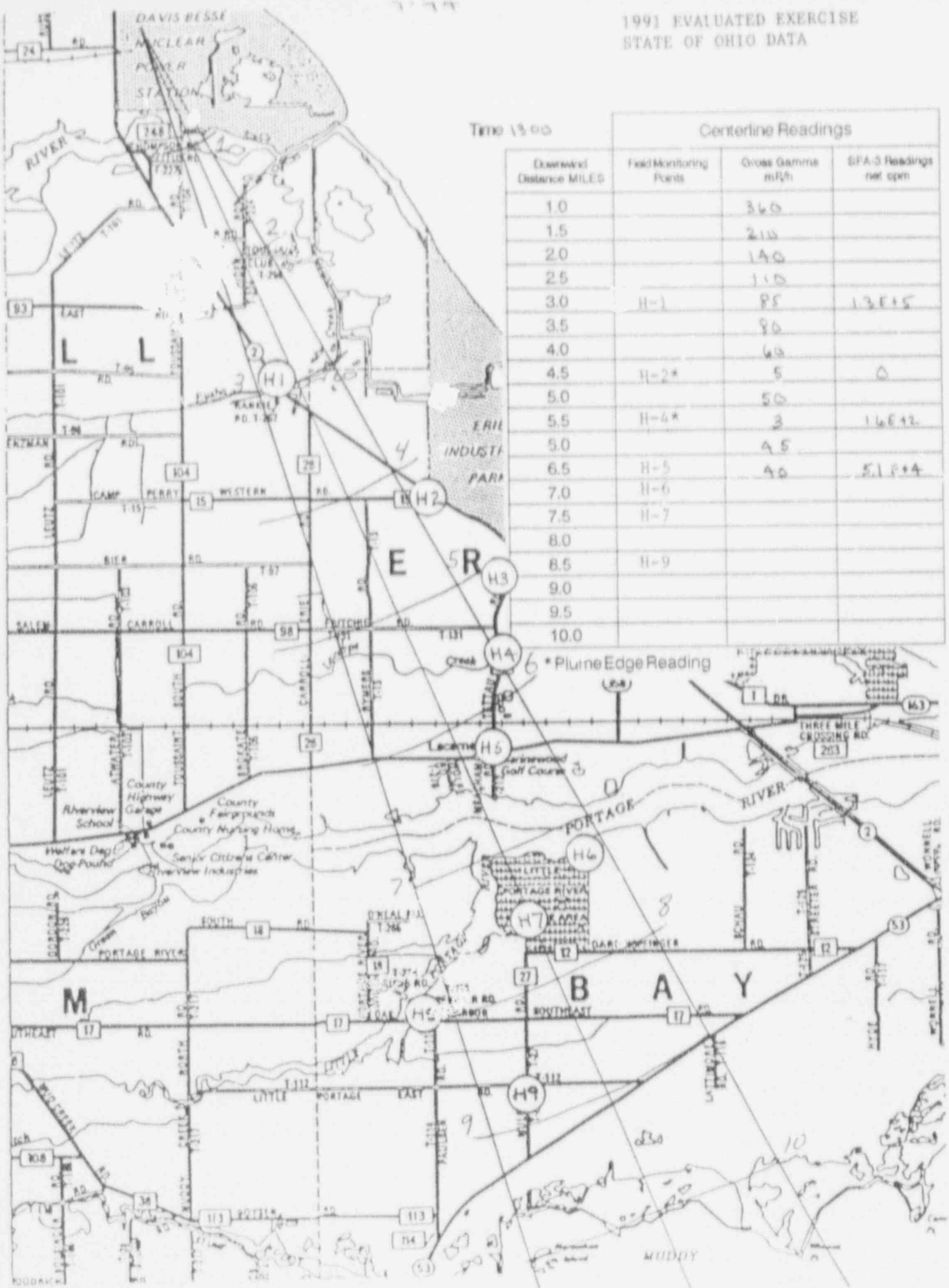


Time 1245

Centerline Readings			
Downwind Distance MILES	Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0		390	
1.5		230	
2.0		150	
2.5		120	
3.0	H-1	90	LAB 1.5
3.5		95	
4.0		65	
4.5	H-2*	8	0
5.0		60	
5.5	H-4*	5	1.8E2
6.0		45	
6.5	H-5		
7.0	H-6		
7.5	H-7		
8.0			
8.5	H-9		
9.0			
9.5			
10.0			

* Plume Edge Reading

1991 EVALUATED EXERCISE
STATE OF OHIO DATA

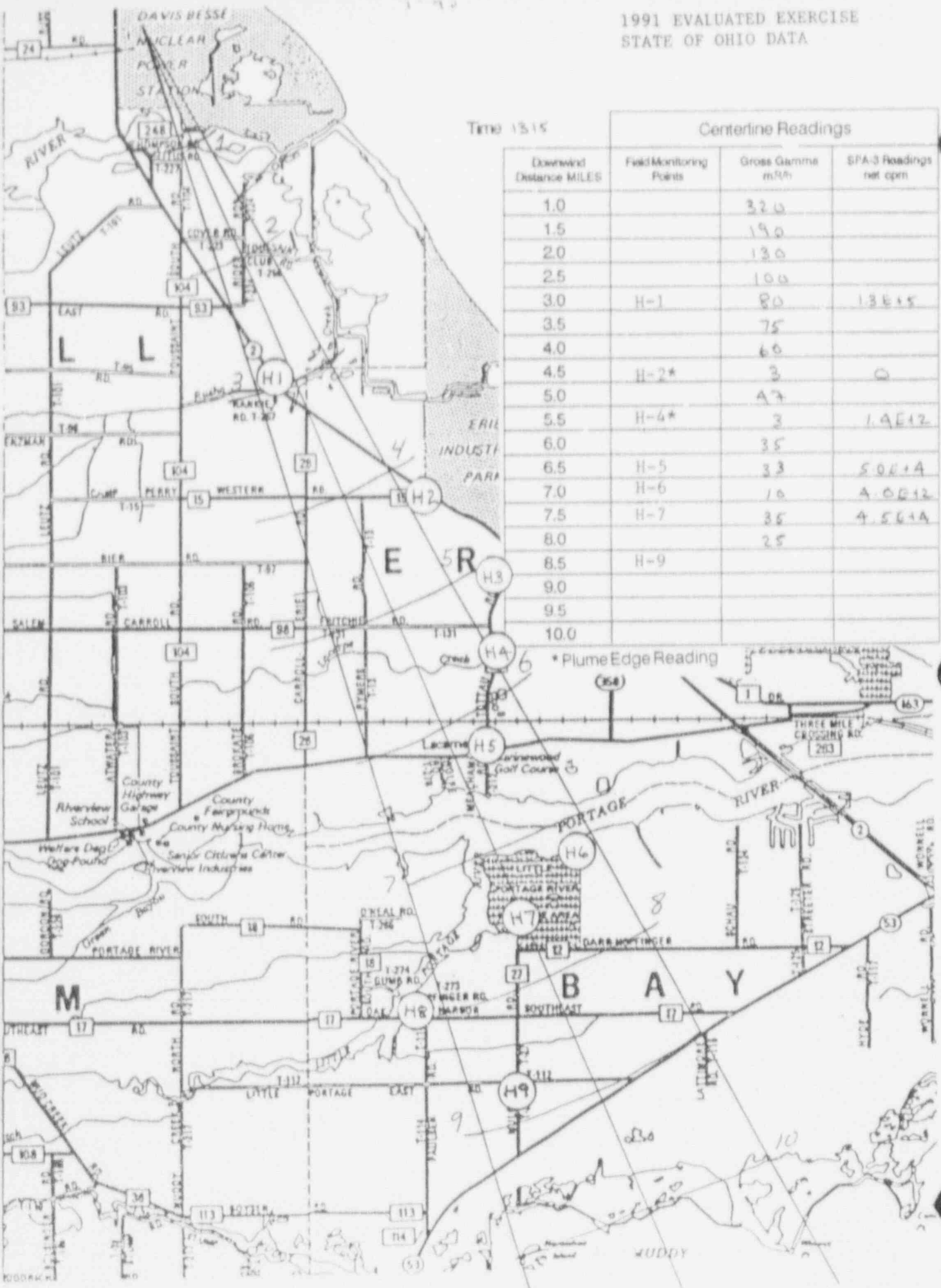


Time 13:00

Downwind Distance MILES	Centerline Readings: Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0		360	
1.5		210	
2.0		140	
2.5		110	
3.0	H-1	85	13E+5
3.5		80	
4.0		60	
4.5	H-2*	5	0
5.0		50	
5.5	H-4*	3	1.6E+2
5.0		45	
6.5	H-5	40	5.1E+4
7.0	H-6		
7.5	H-7		
8.0			
8.5	H-9		
9.0			
9.5			
10.0			

* Plume Edge Reading

1991 EVALUATED EXERCISE
STATE OF OHIO DATA

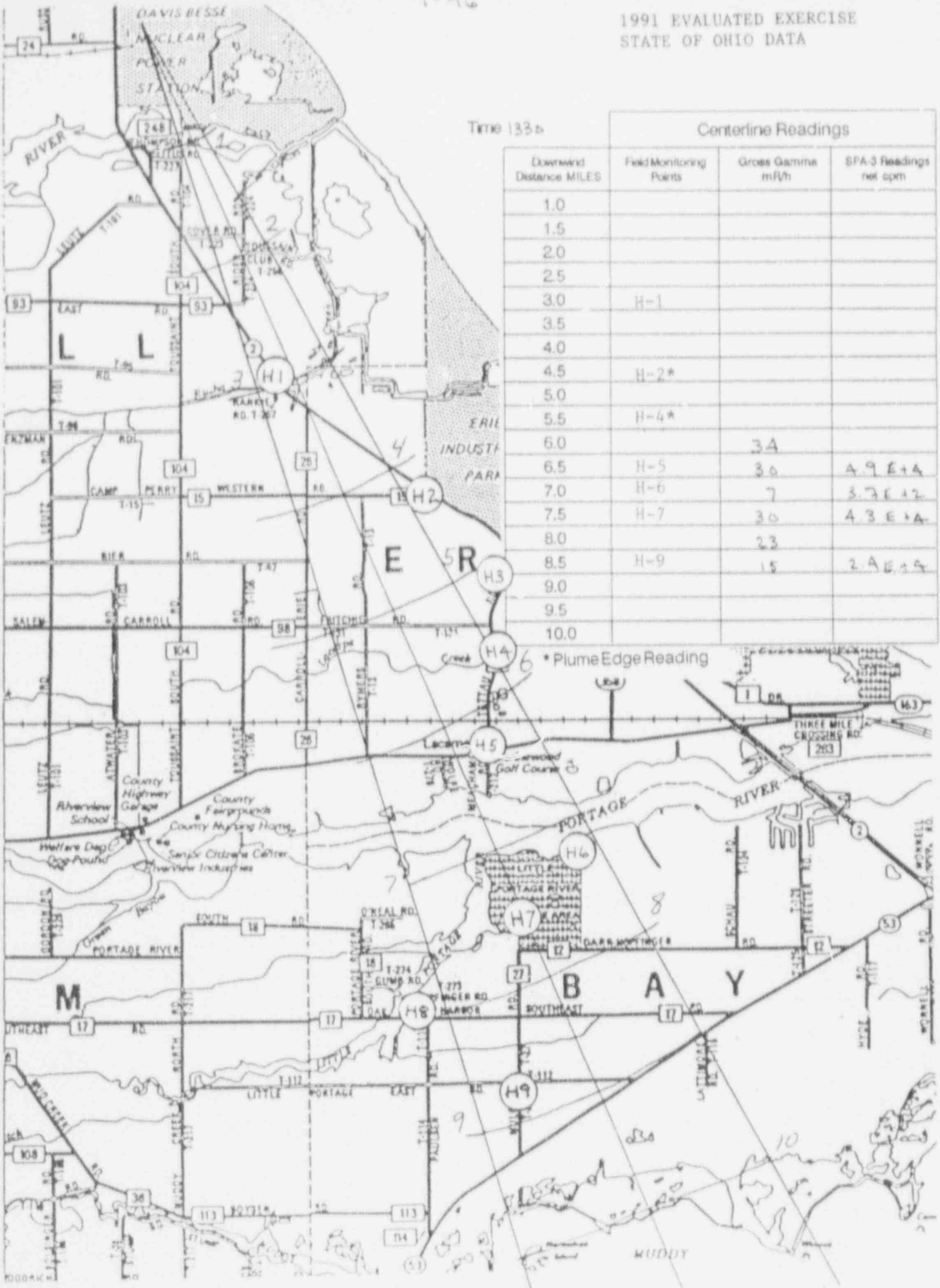


Time 1315

Downwind Distance MILES	Centerline Readings		
	Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0		320	
1.5		190	
2.0		130	
2.5		100	
3.0	H-1	80	13E+5
3.5		75	
4.0		60	
4.5	H-2*	3	0
5.0		47	
5.5	H-4*	3	1.9E+2
6.0		35	
6.5	H-5	33	5.0E+4
7.0	H-6	10	4.0E+2
7.5	H-7	35	4.5E+4
8.0		25	
8.5	H-9		
9.0			
9.5			
10.0			

* Plume Edge Reading

1991 EVALUATED EXERCISE
STATE OF OHIO DATA



Time 1336

Downwind Distance MILES	Centerline Readings: Field Monitoring Points	Gross Gamma mR/h	SPA-3 Readings net cpm
1.0			
1.5			
2.0			
2.5			
3.0	H-1		
3.5			
4.0			
4.5	H-2*		
5.0			
5.5	H-4*		
6.0		34	
6.5	H-5	30	4.9E+4
7.0	H-6	7	3.7E+2
7.5	H-7	30	4.3E+4
8.0		23	
8.5	H-9	15	2.4E+4
9.0			
9.5			
10.0			

* Plume Edge Reading