10/13/82
Salem

PSEG

Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038

Nuclear Department

September 16, 1982

50-272

Ronald C. Haynes
Regional Administrator
US NRC - Region I
631 Park Avenue
King of Prussia, PA

Dear Mr. Haynes:

Enclosed are amended copies of the scenario for October 13, 1982 exercise. The revisions reflect changes agreed upon during our April 20, 1982 meeting with representatives of NRC and FEMA.

If you have any questions concerning the exercise or scenario, please feel free to contact Peter A. Moeller (609) 935-6000, ext. 4544.

Sincerely,

J. M. Zupko, Jr.
General Manager -
Nuclear Services

Enclosure

cc: John Brucker, FEMA III
Frank T. Petrone, FEMA II
Harold Spedding, NJ OEM
Dominic Petrilli, DEPOD
Brian Grimes, NRC, Headquarters
Leif Norrholm, NRC, Salem

IE35

1982 FEMA/NRC OBSERVED
SALEM GENERATING STATION (SGS)
EXERCISE SCENARIO

TABLE OF CONTENTS

1982 FEMA/NRC OBSERVED
SALEM GENERATING STATION (SGS)
EXERCISE SCENARIO

CONTROLLED DISTRIBUTIONS - Not to be provided to exercise "players" prior to the exercise

ERRATA

Section I - Part G, Page 2

Item V-4 should be

Facility	Location
4. Registration Center	New Castle, Delaware

EXERCISE WEEK SCHEDULE FOR 1982
FEMA/NRC OBSERVED SGS EXERCISE

Tuesday - October 12, 1982

A. Time: 10:30 AM
Location: Second Sun
Hancocks Bridge, New Jersey
Purpose: SGS Observers/Evaluators Briefing
Attendees*: Site observers/evaluators/referees
New Jersey representatives
Delaware representatives
Meeting Coordinator: C. Sakenas

B. Time: 11:30 AM
Location: Second Sun
Hancocks Bridge, New Jersey
Purpose: Field Monitoring Referees Briefing
Attendees*: New Jersey Field Monitoring Referees
Delaware Field Monitoring Referees
Meeting Coordinator: S. Porter

C. Time: 1:30 PM
Location: State Police Division Headquarters
River Road
West Trenton, New Jersey
Purpose: New Jersey Observers/Referees Briefing
Attendees*:
New Jersey observers and referees
Meeting Coordinator: To be determined

D. Time: 1:30 PM
Location: Governor Bacon Health Center
Delaware City, Delaware
Purpose: Delaware Observers/Referees Briefing
Attendees*:
Delaware observers/referees
Meeting Coordinator: D. Petrilli

Wednesday - October 13, 1982

Beginning approximately 8:00 AM — 1982 FEMA/NRC observed SGS exercise

See Section I - Parts D and E for maps, locations, and participants

* FEMA, RAC, NRC invited to attend

Thursday - October 14, 1982

A. Time: 10:00 AM
Location: State Police Division Headquarters
River Road
West Trenton, New Jersey
Purpose: New Jersey internal critique of State, County and municipal performance
Attendees: State and County agency leaders
State, County, and municipal referees and observers
FEMA II
RAC II
Meeting Coordinator: Maj. H. Spedding

B. Time: 10:00 AM
Location: Governor Bacon Health Center
Delaware City, Delaware
Purpose: Delaware internal critique of State and County performance
Attendees: State and County agency leaders
State and County referees and observers
FEMA III
RAC III
Meeting Coordinator: D. Petrilli

C. Time: 10:00 AM
Location: Second Sun
Hancocks Bridge, New Jersey
Purpose: Public Service Electric & Gas internal critique of SGS site performance
Attendees: SGS site personnel
SGS site referees and observers
NRC Region I
Meeting Coordinator: C. Sakenas

D. Time: 2:30 PM
Location: Second Sun
Hancocks Bridge, New Jersey
Purpose: Critique of Exercise
Attendees: New Jersey agency leaders
Delaware agency leaders
Public Service Electric & Gas
NRC Region I
FEMA II
FEMA III
Meeting Coordinator: NRC and FEMA
Non-participating attendees: Public

Objectives for the 1982
NRC/FEMA Observed SGS Exercise

An integrated exercise will be conducted in order to demonstrate the radiological preparedness of the Salem Generating Station (SGS), Public Service Electric & Gas, the State, County and municipal agencies of New Jersey and the State and County agencies of Delaware, by implementation of their emergency plans.

The exercise will provide the basis for an evaluation by the participating organizations of the adequacy of their emergency plans and of their competancy in implementing the plans. The benefit of the self-critique will be the identification of any problems and the corrective measures required to improve performance.

The onsite and offsite objectives of the exercise are as follows:

A. Emergency Operations Facilities and Resources

1. Demonstrate the ability of the licensee to activate and staff the emergency response facilities as appropriate for the existing emergency class and to transfer functional responsibilities from the Control Room, to the TSC, to the EOF.

2. Demonstrate the timely response of onsite licensee personnel to a call for activation of the TSC and offsite licensee personnel to a call for activation of the EOF.

3. Demonstrate the effectiveness of the following licensee emergency facilities: TSC, OSC, EOF, Media Center, and General Office.

4. Demonstrate the effectiveness of the New Jersey and Delaware State and County EOCs, and the New Jersey municipal EOCs.

5. Demonstrate that the communication systems between the licensee, the EOC's, the Federal agencies, and the contiguous States are operable.

6. Demonstrate that messages are transmitted in an accurate and timely manner; that messages are properly logged; that status boards are accurately maintained and updated; that appropriate briefings are held and incoming EOC personnel are briefed and updated.

7. Demonstrate that each licensee, State, County, and local emergency response facility has adequate access control and that adequate security can be maintained.

8. Demonstrate that each licensee, State, County, and local emergency response facility has adequate space, equipment, and supplies.

B. Alerting and Mobilization of Officials and Staff

1. Demonstrate that licensee and offsite notification and alerting of officials and staff can be accomplished in a timely manner and that all initial notification and updating is verified and logged.

2. Demonstrate that the States, Counties, and New Jersey municipalities can establish appropriate notification and communication links.

3. Demonstrate that organizations outside PSE&G that would be contacted to provide assistance (e.g. INPO, NSSS supplier) can be notified as appropriate, although they will not be involved during the exercise.

4. Demonstrate the ability of the States, Counties, and New Jersey municipalities to activate and man the emergency operations centers as appropriate for the existing emergency class.

5. Demonstrate the timely response of State, County, and local personnel to call for activation of their EOCs.

6. Demonstrate the ability of the licensee to communicate with their monitoring teams, rescue parties, and other personnel as needed.

7. Demonstrate that all agencies have 24 hour capability and that all agency representatives who are assigned emergency responsibilities can effectively operate from their planned location inside or outside the EOC.

C. Emergency Operations Management

1. Demonstrate the ability of the licensee to activate and man the emergency response facilities as appropriate for the existing emergency class and to transfer functional responsibilities from the Control Room, to the TSC, to the EOF.

2. Demonstrate the timely response of onsite licensee personnel to a call for activation of the TSC and offsite licensee personnel to a call for activation of the EOF.

3. Demonstrate the effectiveness of the following licensee emergency facilities: TSC, OSC, EOF, Media Center, and General Office.

4. Demonstrate the effectiveness of the New Jersey and Delaware State and County EOCs, and the New Jersey muncipal EOCs.

5. Demonstrate the ability of the licensee to communicate with their monitoring teams, rescue parties, and other personnel as needed.

6. Demonstrate that messages are transmitted in an accurate and timely manner; that messages are properly logged; that status boards are accurately maintained and updated; that appropriate briefings are held and incoming EOC personnel are briefed and updated.

7. Demonstrate that the designated officials of the States, Counties, and New Jersey municipalities in each EOC are in command; that officials designated in the plan are actually in charge of the overall coordination of the response; and that offsite representatives are present in the TSC and/or EOF as appropriate.

8. Demonstrate the effectiveness of EOF and General Office support in assisting plant operations in accident evaluation and mitigation.

9. Demonstrate coordination between Federal, State, County, and New Jersey municipal agencies and between those agencies and the licensee.

10. Demonstrate that all agencies have 24 hour capability and that all agency representatives who are assigned emergency responsibilities can effectively operate from their planned location inside or outside the EOC.

D. Public Alerting and Notification

1. Demonstrate that the States' decision to notify the public can be accomplished in an effective and timely manner.

2. Demonstrate the public notification sequence procedure by activating the Emergency Broadcast to transmit an exercise EBS test message and a preplanned statement about the exercise and by activating the prompt notification siren system.

E. Public and Media Relations

1. Demonstrate the ability to establish a public information center; that there are accurate and timely press releases and briefings and that designated public information personnel are implementing their procedures.

F. Accident Assessment

1. Exercise the overall SGS Emergency Plan from Alert to General Emergency.

2. Demonstrate the ability of licensee personnel to recognize an emergency initiating event and properly characterize and classify the emergency according to the pre-established Emergency Action Levels and make proper notifications to offsite agenices.

3. Demonstrate that New Jersey, Delaware and PSE&G personnel can perform offsite dose projections and accident assessment for both radioactive noble gases and radioiodine quickly and accurately.

4. Demonstrate the ability of the licensee to determine the cause of the accident, take appropriate action and place the plant in a safe condition.

5. Demonstrate the ability of the licensee to interpret and analyze installed plant and radiation monitoring equipment.

6. Demonstrate the field monitoring capability of the licensee and the States for (1) predetermined area radiation levels, (2) air sampling and analysis for radioiodine and particulates in the plume exposure EPZ for plume exposure rate verification (3) tracking the plume; demonstrate that results can be effectively used in determining protective action recommendations.

7. Demonstrate that appropriate sampling can be done in the ingestion EPZ. It will be demonstrated that samples can be forwarded to a laboratory although no radioactivity analyses will be performed. I-131 concentration in milk will be predetermined to demonstrate that the results of such analyses could be effectively used to determine ingestion protective action recommendations.

8. Demonstrate the capability of the licensee to monitor, interpret and evaluate plant conditions and make protective action recommendations to the appropriate offsite authorities.

9. Demonstrate that independent accident assessment can be accomplished by the New Jersey Bureau of Radiation Protection and the Delaware Accident Assessment Advisory Group; that they are capable of recommending appropriate protective actions and that information is communicated between the licensee and the State accident assessment personnel.

10. Demonstrate that the field monitoring teams of the licensee and the States can be dispatched and deployed in a timely manner; that communications are adequate; that radiological monitoring equipment is functional; that simulated data are accurately obtained and transmitted through their respective channels.

11. Demonstrate the ability of the licensee to communicate with their monitoring teams, rescue parties, and other personnel as needed.

12. Demonstrate the effectiveness of EOF and General Office support in assisting plant operations in accident evaluation and mitigation.

13. Demonstrate the ability of the States and the licensee to evaluate a radiological release.

14. Demonstrate the capability of the licensee to monitor, interpret, and evaluate plant conditions and make protective action recommendations to the appropriate authorities.

15. Demonstrate the ability of the States to evaluate and make decisions to take protective actions based on recommendations from the licensee and/or other independent assessments.

G. Actions to Protect the Public

1. Demonstrate that the designated officials of the States, Counties, and New Jersey municipalities will provide timely support; that local offsite agencies such as first aid squads, police, and fire companies will provide timely support on an as-available-basis.

2. Demonstrate that access control points are established promptly and according to the plan, and that access and traffic control can be effectively implemented with 24 hour capabilities.

3. Demonstrate the capability for evacuation of the general public. Actual evacuation will only be simulated.

4. Demonstrate the following for at least one New Jersey Congregate Care Shelter/Decontamination Center and one Delaware Registration/Decontamination Center and Relocation Center: that it can be opened and staffed on a timely basis; that records can be maintained; that adequate provisions for the care of the evacuees can be located; and that health and sanitation requirements can be met.

5. Demonstrate inplant building evacuation.

H. Health, Medical, and Exposure Control Measures

1. Demonstrate the ability of the licensee to provide adequate radiation protection services such as dosimetry and personnel monitoring (frisking) and the ability to perform area surveys under emergency conditions.

2. Demonstrate the ability of the licensee to enter a simulated highly contaiminated area.

3. Demonstrate the ability by simulation (walk through) the taking of a reactor coolant (RCS) sample and a vent sample.

4. Demonstrate the ability of the licensee's Health Physics personnel to conduct onsite surveys and do ALARA evaluations.

5. Demonstrate the ability to perform personnel monitoring.

6. Demonstrate that the designated officials of the States, Counties, and New Jersey municipalities will provide timely support; that local offsite agencies such as first aid squads,

police, and fire companies will provide timely support on an as-available-basis.

7. Demonstrate the ability of the designated hospital to treat a simulated contaminated offsite injured patient and that the ambulance service can effectivley transport simulated contaminated injured personnel to the hospital. Demonstrate that the ambulance and associated equipment can be decontaminated and that contaminated clothing and disposable materials are properly discarded.

8. Demonstrate that before assignments State, County and local emergency workers as appropriate are briefed and receive dosimeters and KI supplies; that permanent records are maintained; and that the opened decontamination centers are properly manned and supplied.

9. Demonstrate the ability of the licensee to account for onsite personnel.

10. Demonstrate the ability of the licensee to rapidly deploy search and rescue teams.

I. Recovery and Reentry Operations

1. Demonstrate the response of licensee damage control teams.

2. Demonstrate that licensee, State and local re-entry and/or recovery procedures such as health and sanitation, safety criteria for acceptable radioactive contamination levels, re-entry access control, and public information are implemented.

3. Demonstrate the ability of the licensee to rapidly deploy search and rescue teams.

REFERENCE DOCUMENTS FOR THE 1982 FEMA/NRC OBSERVED SGS EXERCISE

1. State of New Jersey, Radiological Emergency Response Plan for Nuclear Power Plants, Attachment D, latest revision

2. State of New Jersey, Radiological Emergency Response Plan, New Jersey Counties affected by Salem Nuclear Generating Station, latest revision

3. State of New Jersey, Radiological Emergency Response Plan, Standard Operating Procedures, latest revision

4. State of New Jersey, Radiological Emergency Response Plan, Implementing Procedures, latest revision

5. State of Delaware, Radiological Emergency Plan, latest revision

6. State of Delaware, Radiological Emergency Plan, counties Affected by Salem Nuclear Generating Station, latest revision

7. State of Delaware, Radiological Emergency Operations, Standard Operating Procedures, latest revision

8. State of Delaware, Radiological Emergency Operations, Implementing Procedures, latest revision

9. State of Delaware and Counties Affected by Salem Nuclear Generating Station, Radiological Emergency Plan, Attachments, latest revision

10. States of Delaware and New Jersey Radiological Emergency EBS Manual for Salem Generating Station, latest revision

11 Salem Generating Staion Emergency Plan, latest revision

12. Salem Generating Station Emergency Plan Procedures, latest revision

MAPS, LOCATIONS AND ADDRESSES FOR 1982 FEMA/NRC OBSERVED SGS EXERCISE

I. PRINCIPAL OPERATING AREA

The principal operating area for the exercise will be the plume exposure emergency planning zone around the Salem Generating Station (SNGS). (Map 1)

II. NEW JERSEY STATE, COUNTY, AND LOCAL FACILITY LOCATIONS

State EOC (Map 2)	- State Police Division Headquarters River Road West Trenton, NJ 08628
Salem County EOC (Maps 3 and 10)	- 94 Market Street Salem City, NJ 08079
Salem City EOC (Maps 3, 4, and 10)	- Municipal Building 1 New Market Street Salem City, NJ 08079
Elsinboro EOC (Maps 4 and 10)	- Elsinboro Fire House Delaware Avenue Elsinboro, NJ
Pennsville EOC (Maps 5 and 10)	- Townhall (Rear) Union Street Pennsville, NJ 08070
Quinton EOC (Maps 6 and 10)	- Quinton Fire House Main Street and Lake Avenue Quinton, NJ 08072
Mannington EOC (Maps 7 and 10))	- Mannington Fire Company 175 Woodstown Road Salem City, NJ 08079
Lower Alloways Creek EOC (Maps 8 and 10)	- Locust Island Road Hancocks Bridge, NJ 08038
Cumberland County EOC (Maps 9 and 10)	- Cumberland County Court House Broad and Fayette Street Bridgeton, NJ 08302
Stow Creek EOC (Map 10)	- Hopewell-Stow Creek Fire House Roadstown Road Hopewell, NJ 08525
Greenwich EOC (Maps 10 and 11)	- Greenwich Fire House County Road 623 Greenwich, NJ 08323

Forward Command Post (Maps 9 and 10)	- Shiloh Fire House Shiloh, New Jersey
BRP Headquarters (Map 2)	- 380 Scotch Road Trenton, NJ 08628

III. DELAWARE STATE AND COUNTY FACILITY LOCATIONS

State EOC (Map 17)	- Governor Bacon Health Center Delaware City, Del. 19706
Kent County EOC (Maps 12 and 13)	- County Court House South State Street and the Green Dover, Del. 19901
New Castle County EOC (Maps 11 and 16)	- Dept. of Public Safety 3601 North DuPont Highway New Castle, Del. 19720

IV. PUBLIC SERVICE ELECTRIC & GAS FACILITY LOCATIONS

EOF (Maps 3 and 10)	- PSE&G Salem Training Center 244 Chestnut Street Salem, NJ
Media Center (Maps 3 and 10)	- PSE&G Salem Training Center 244 Chestnut Street Salem, NJ

V. DECONTAMINATION CENTERS

New Jersey (Maps 3 and 10)	- Washington Fire House East Broadway Salem City, New Jersey
Delaware (Maps 12 and 18)	- Middletown National Guard Armory Middletown, Delaware

VI. RELOCATION CENTERS

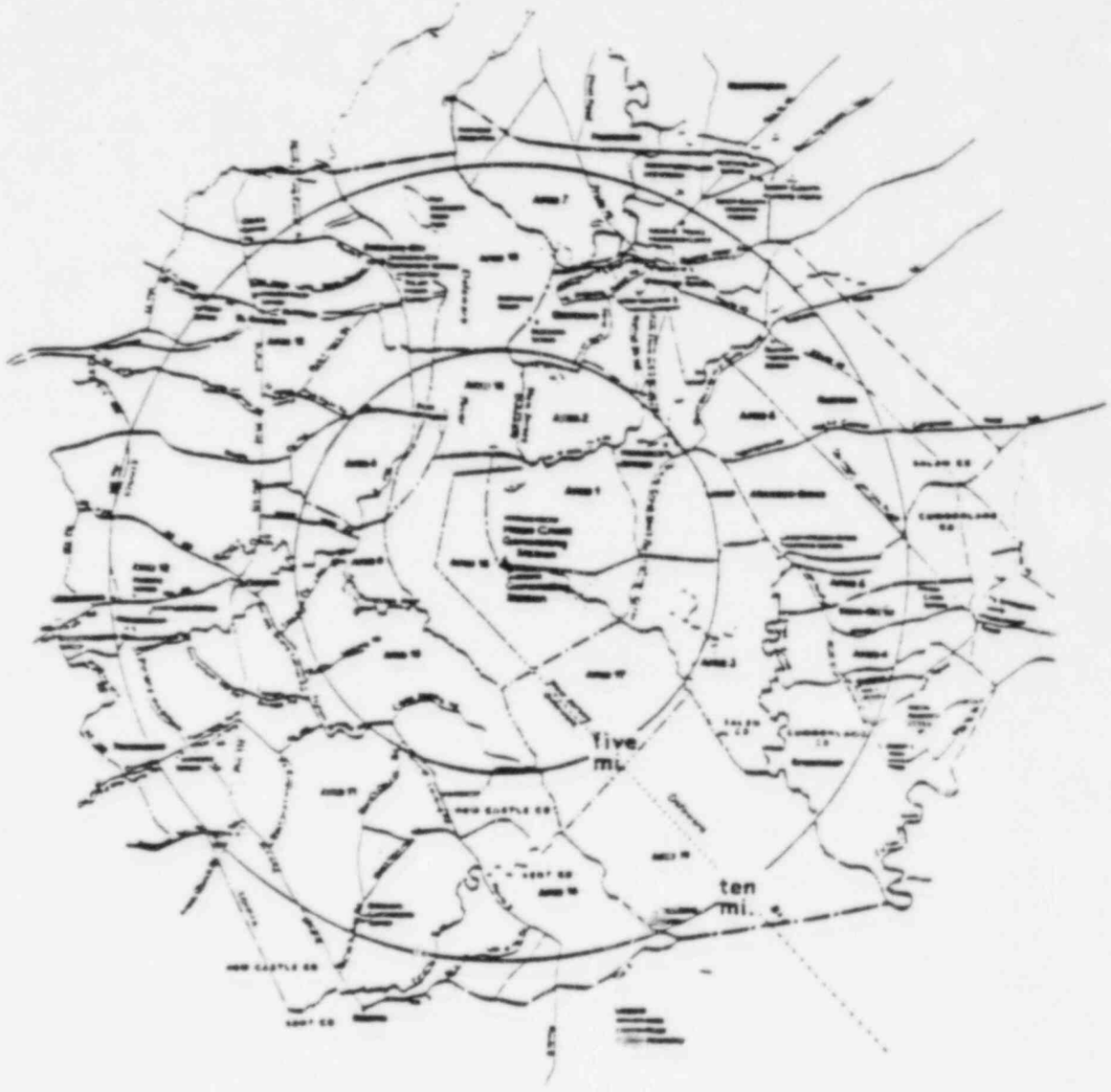
New Jersey (Maps 7 and 10)	- Voc - Tech High School Route 45 Mannington, New Jersey
Delaware (Maps 11 and 15)	- Mount Pleasant High School Washington St. Ext. & Marsh Road Wilmington, Delaware

VII. REGISTRATION/DECONTAMINATION CENTER

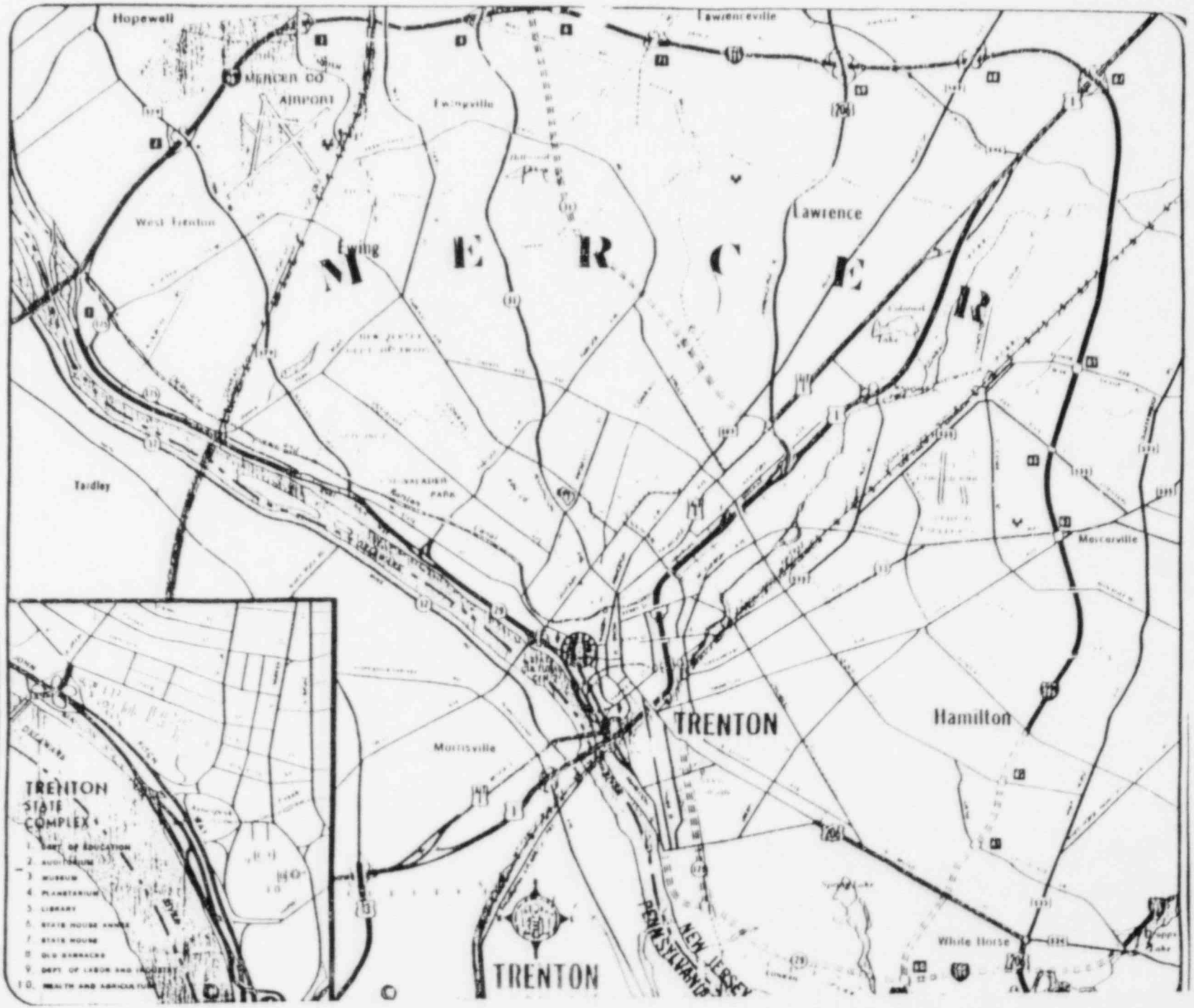
Delaware (Maps 11 and 16)	- William Penn High School Basin Road New Castle, Delaware

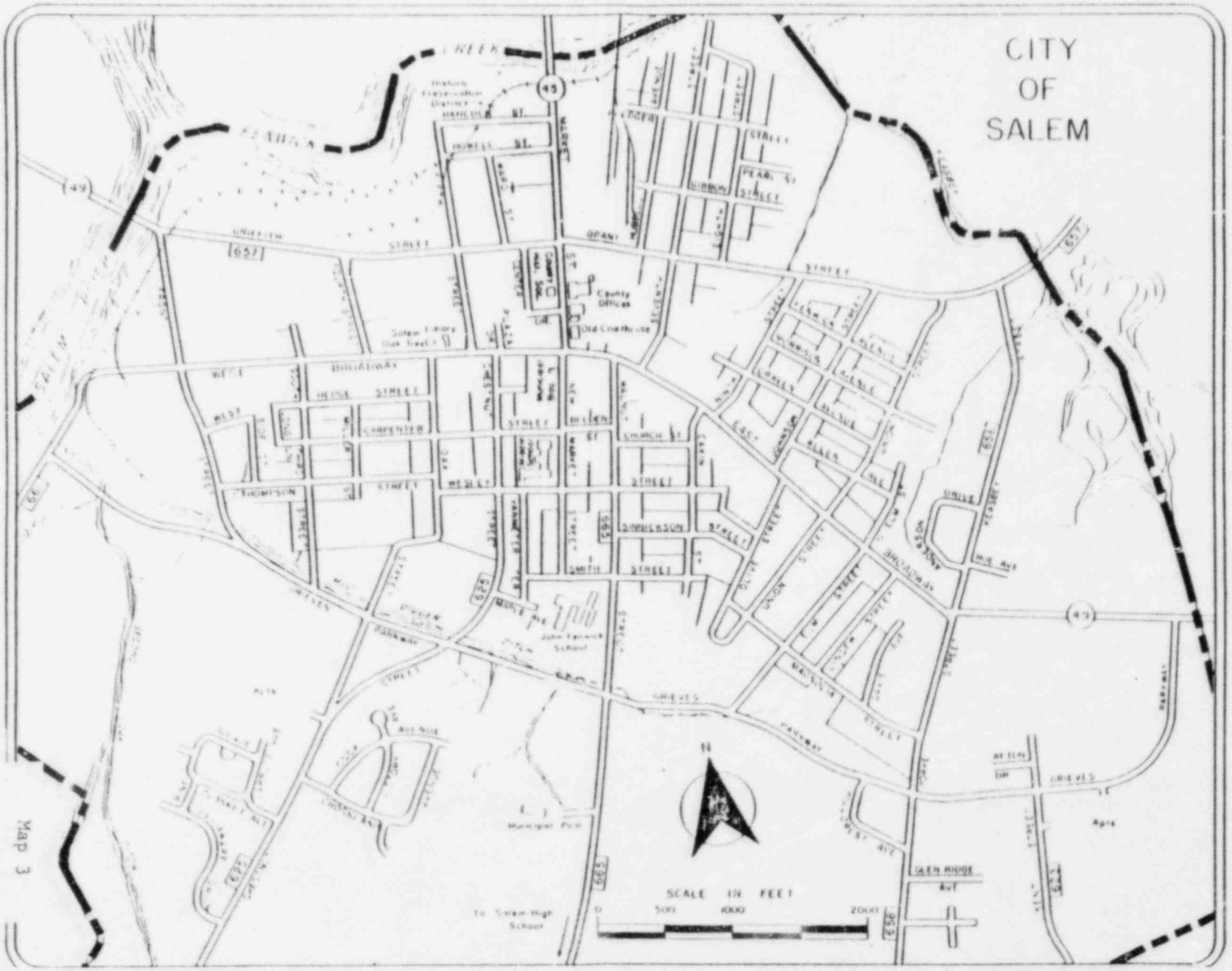
VIII. HOSPITALS

New Jersey (Maps 7 and 10)	- Salem County Memorial Hospital Route 45 Mannington, New Jersey
Delaware (Maps 11 and 14)	- Wilmington Medical Center 501 West 14 Street Wilmington, Delaware



Map 1

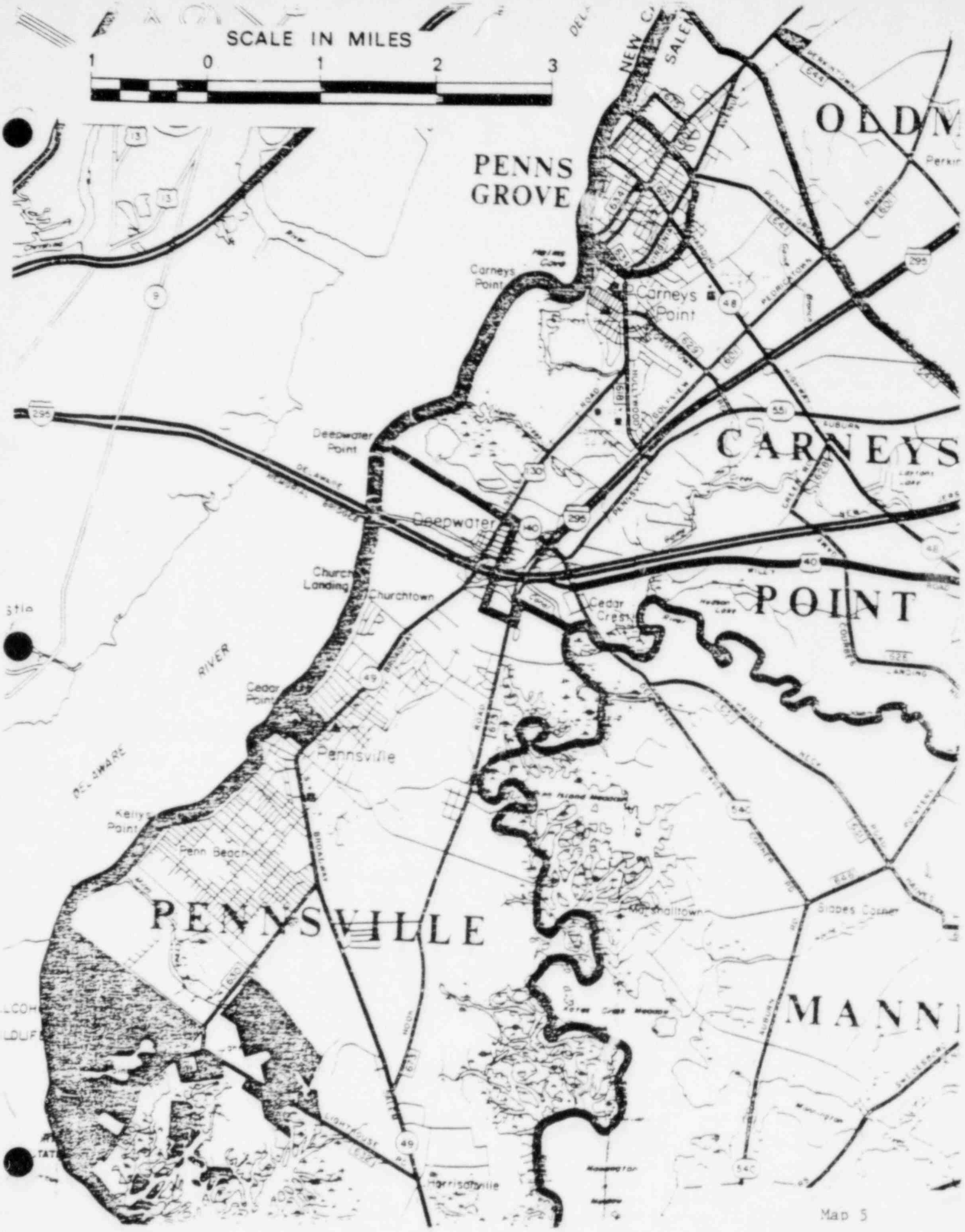

Hopewell
MERCER CO AIRPORT
Ewingville
Lawrenceville
West Trenton
Ewing
MERCER
Lawrence
Yardley
Morrisville
TRENTON
Hamilton
Mercerville
White Horse
TRENTON STATE COMPLEX
1. DEPT OF EDUCATION
2. AUDITORIUM
3. MUSEUM
4. PLANETARIUM
5. LIBRARY
6. STATE HOUSE ANNEX
7. STATE HOUSE
8. OLD BARRACKS
9. DEPT OF LABOR AND INDUSTRY
10. HEALTH AND ABRICULTURE
DELAWARE
PENNSYLVANIA
NEW JERSEY



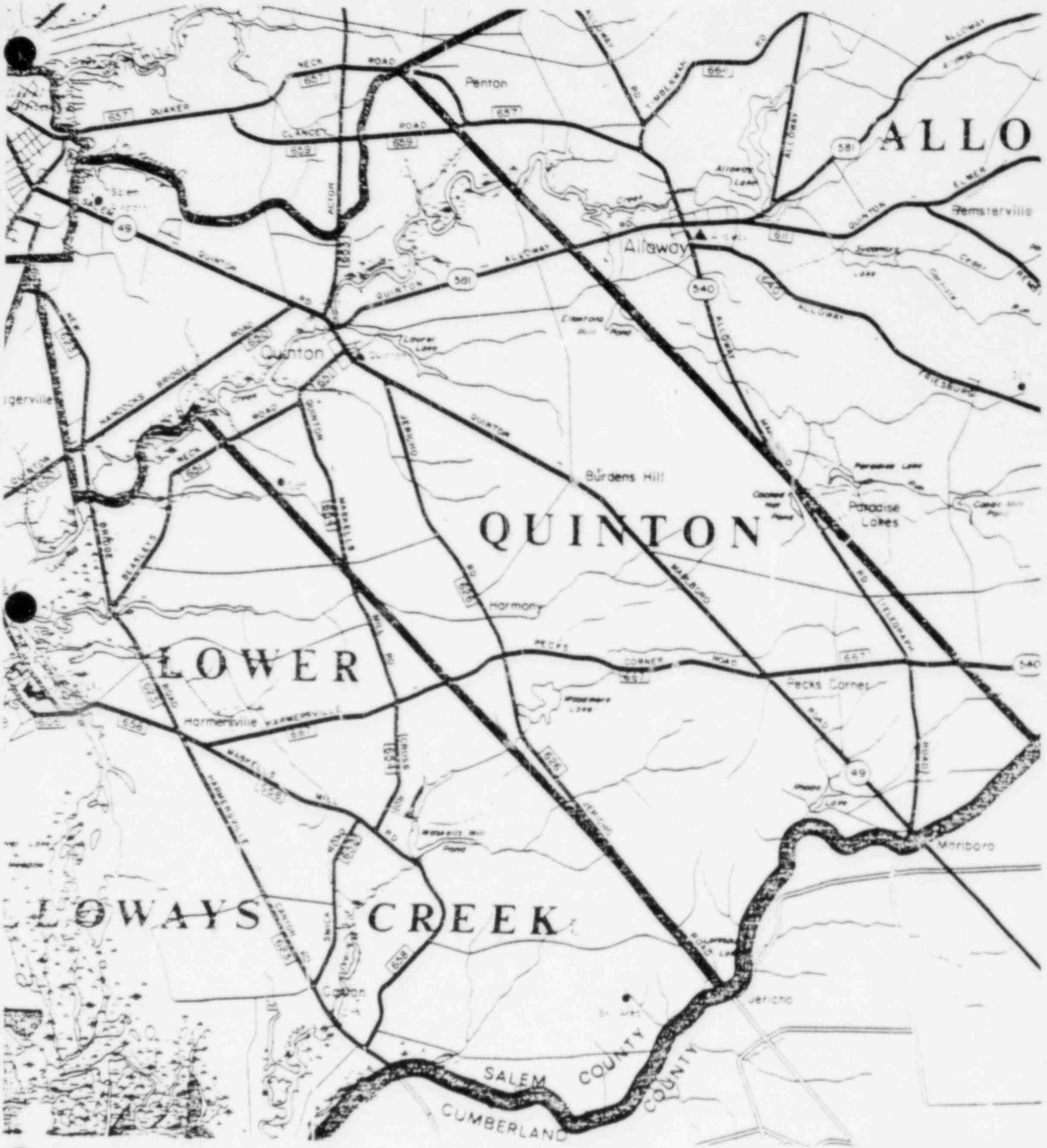
Map 3


SCALE IN MILES
1 0 1 2 3
SALEM
Oakwood Beach
Moores Corner
Elsinboro Point
Fort Elsborg
ELSINBORO
Hagerville
Quinton
Mill Creek Cove
RIVER
LOWER
Hancocks Bridge
Artificial Island
ALLOWAYS
Stony Point

Map 4


SCALE IN MILES
1 0 1 2 3
PENNS GROVE
Carneys Point
Carneys Point
CARNEYS
Deepwater Point
Deepwater
Churchtown
Landing
Churchtown
Cedar Creek
POINT
RIVER
Cedar Point
Pennsville
Kelly Point
Penn Beach
PENNSVILLE
Slapes Corner
Harrisonville

Map 5

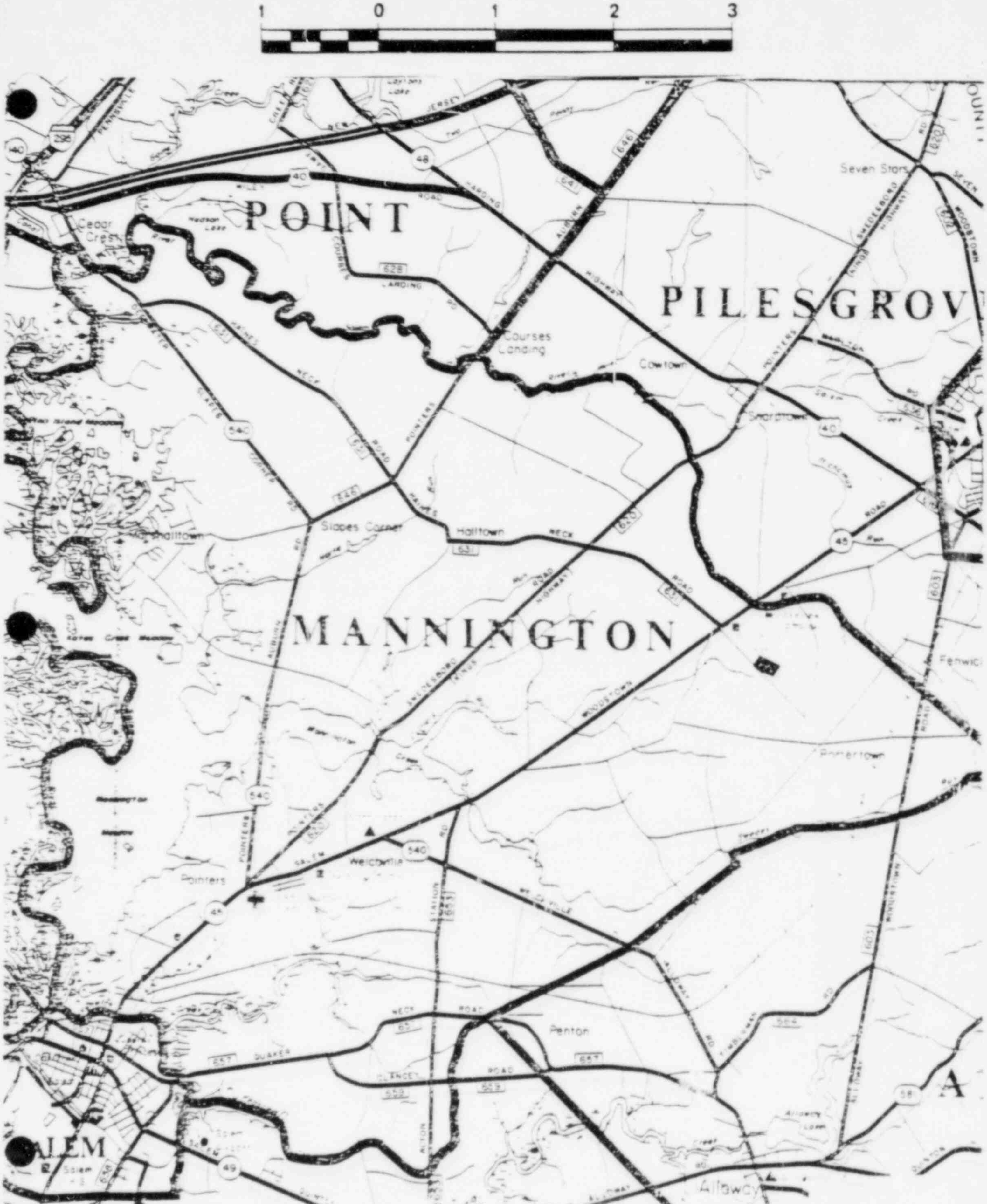


SCALE IN MILES

1 0 1 2 3

Map 6

SCALE IN MILES



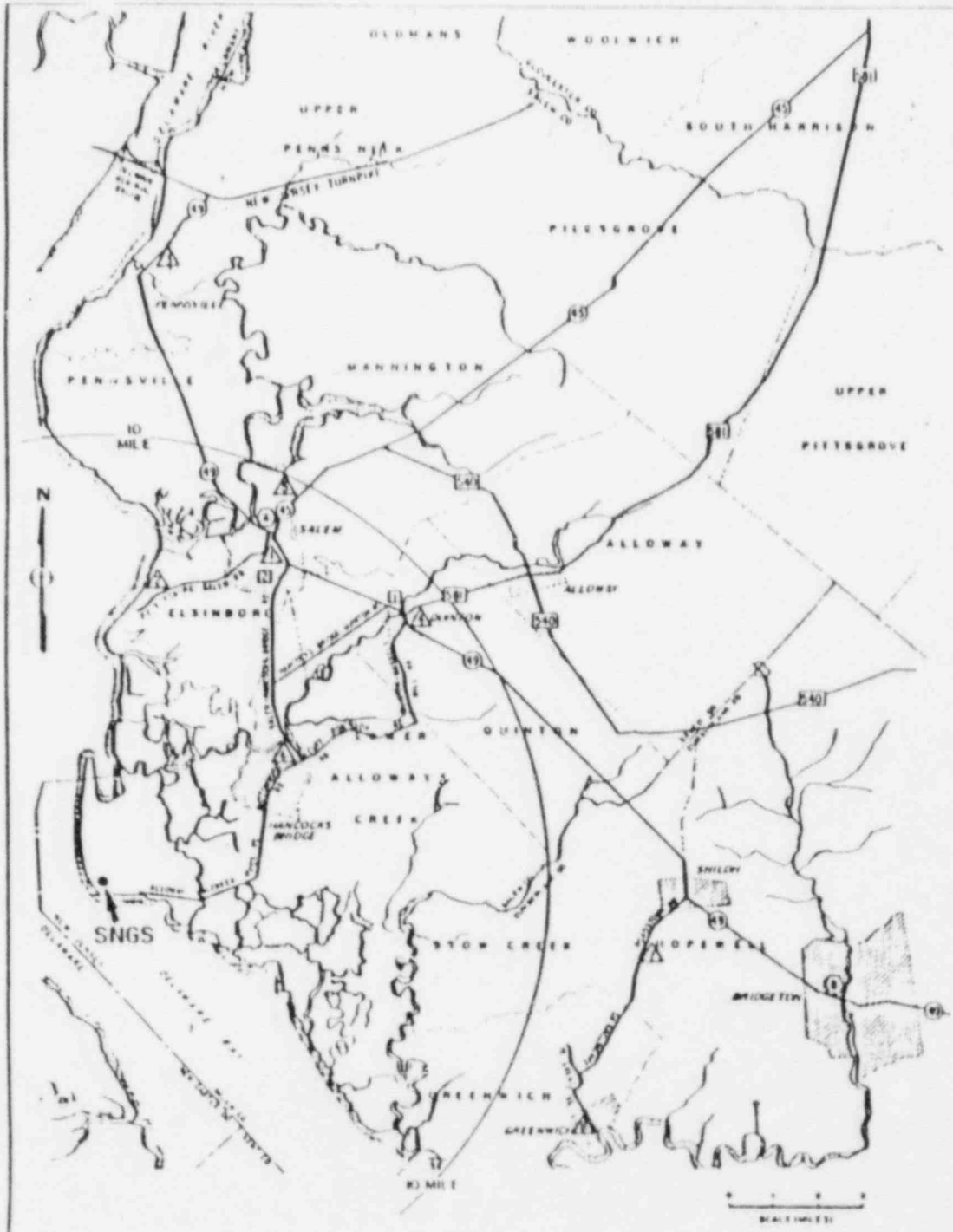
Map 7


SALEMBORO
Hagerville
Quinton
QUINT
Burdens
Harmony
LOWER
Hancocks Bridge
Harmersville
ALLOWAYS CREEK
Canton
Point
SALEM COUNTY
CUMBERLAND
Gum Tree Corner
SCALE IN MILES
1 0 1 2 3
DELAWARE BAY

Map 8


Friesburg
Paradise Lakes
Cohansey
Deerfield
Pecks Corner
Maribaro
Seeley
Seabrook
Shiloh
Roadstown
Bridgeton
Othello
SCALE IN MILES
1 0 1 2 3

Map 9



LOCATION OF EMERGENCY OPERATION CENTERS

SALEM COUNTY

(A) SALEM COUNTY EOC
94 MARKET ST
SALEM CITY, N J

SALEM CITY
MUNICIPAL BUILDING
1 NEW MARKET ST
SALEM CITY, N J

ELSINBORO
ELSINBORO FIRE HOUSE
DE LAARE AVE
ELSINBORO, N J

PENNSVILLE
TOWNHALL
UNION ST
PENNSVILLE, N J

QUINTON
QUINTON FIRE HOUSE
MAIN ST & LAKE AVE
QUINTON, N J

MANNINGTON
MANNINGTON FIRE CO
375 WOODSTOWN RD
SALEM CITY, N J

LOWER ALLOWAYS CREEK
LOCUST ISLAND RD
HANCOCKS BRIDGE, N J

CUMBERLAND COUNTY

(B) CUMBERLAND COUNTY COURT HOUSE
BROAD & FAYETTE ST
BRIDGETON, N J

STOW CREEK
HOPEWELL STOW CREEK FIRE CO
ROADSTOWN RD

GREENWICH
GREENWICH FIRE HOUSE
COUNTY RD 623
GREENWICH, N J

PSE & G OFF-SITE FACILITIES

[1] EMERGENCY OPERATIONS FACILITY
SALEM QUINTON ROAD
QUINTON, NEW JERSEY

[2] EMERGENCY NEWS CENTER
AMERICAN LEGION HOME
NEW MARKET STREET
SALEM NEW JERSEY

LEGEND

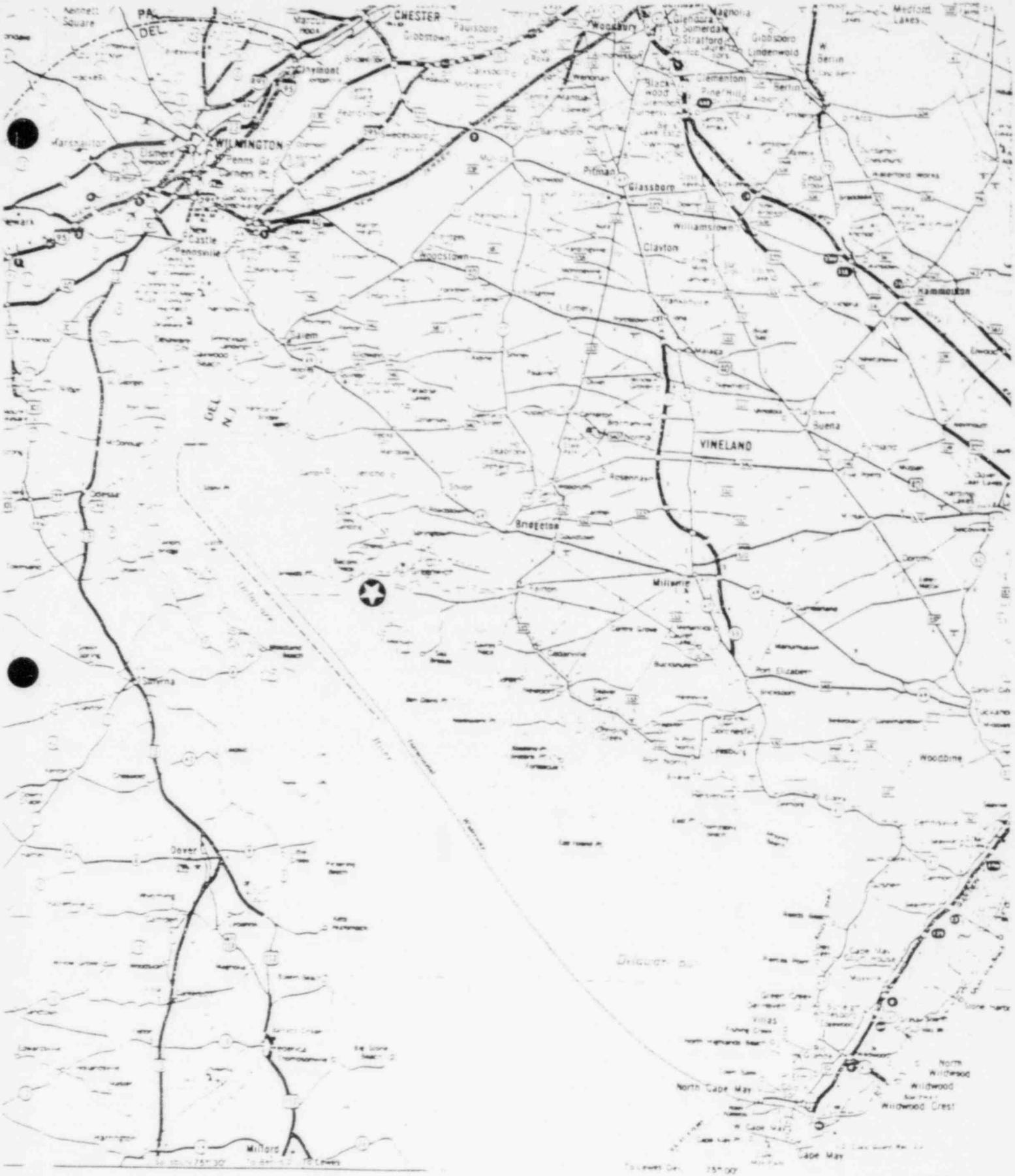
○ COUNTY EMERGENCY OPERATIONS CENTER

△ MUNICIPAL EMERGENCY OPERATIONS CENTER

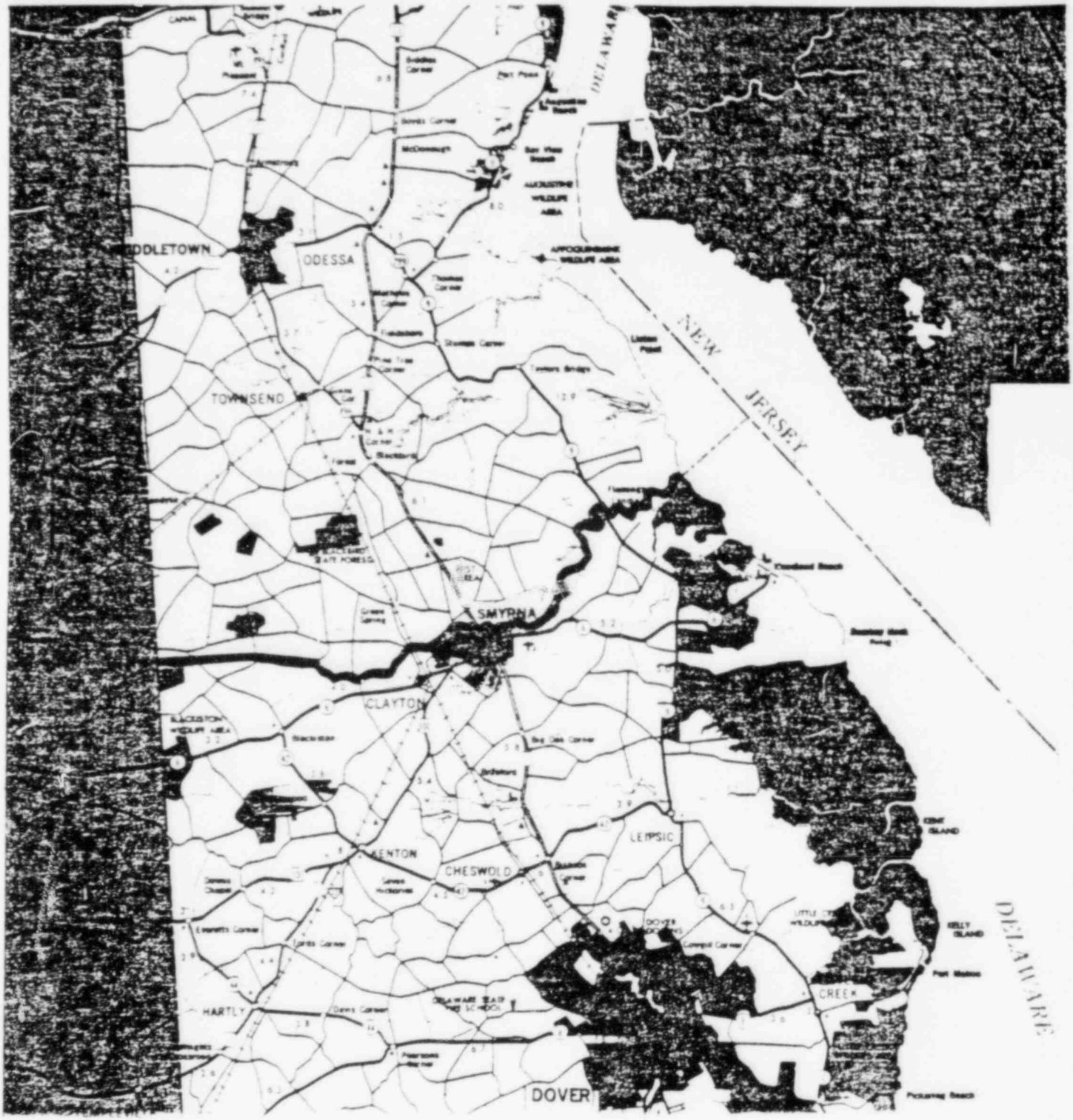
[ ] PSE&G FACILITY

SALEM NUCLEAR GENERATING STATION
EMERGENCY FACILITIES

Map 10


PA
DEL
CHESTER
WILMINGTON
Glassboro
Williamstown
Clayton
VINELAND
Bridgeton
Millville
Dover
Milford
North Cape May
Cape May
Wildwood
Wildwood Crest
North Wildwood
Woodbine

Map 11

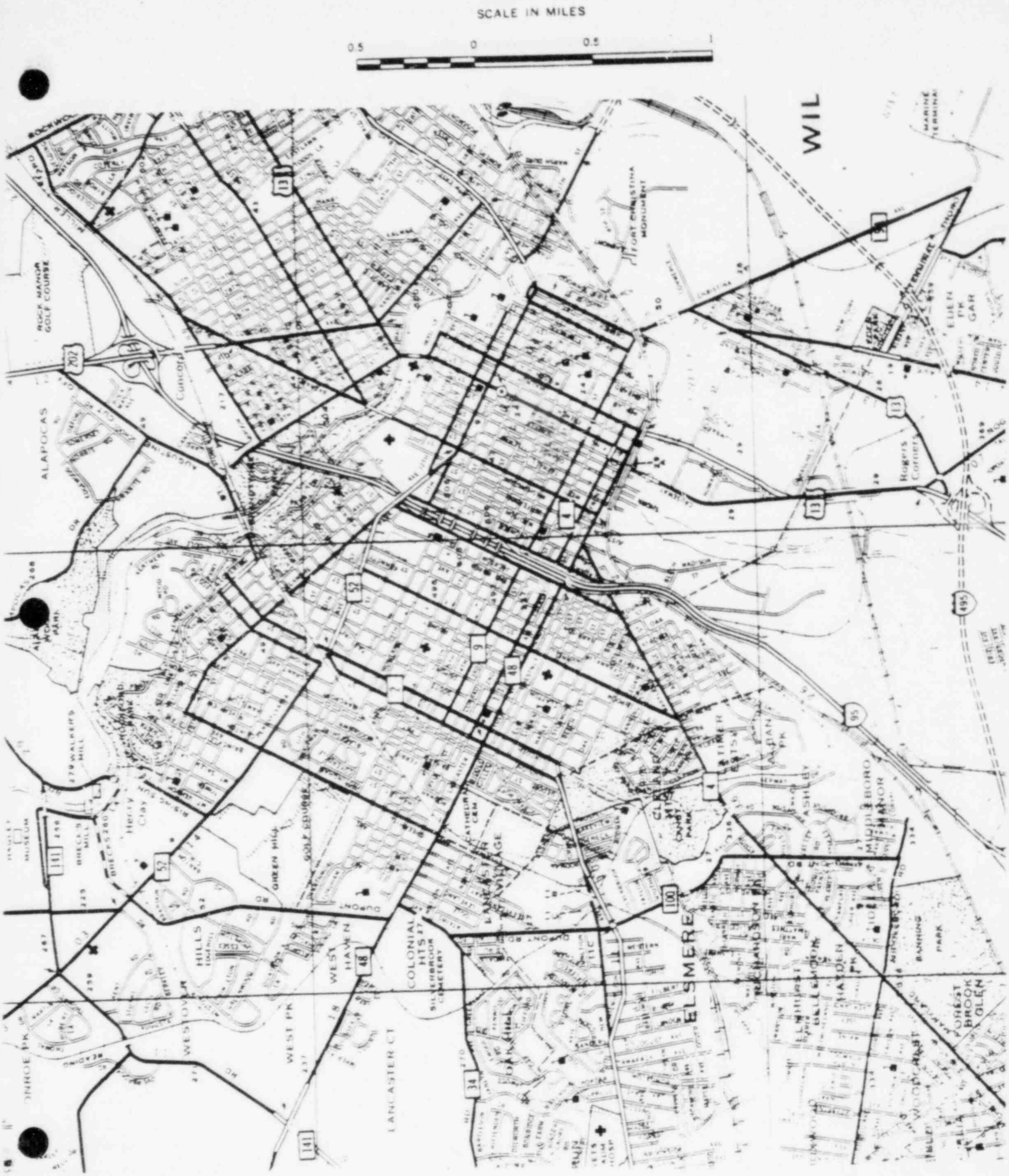


SCALE IN MILES

0 5 10

Map 12

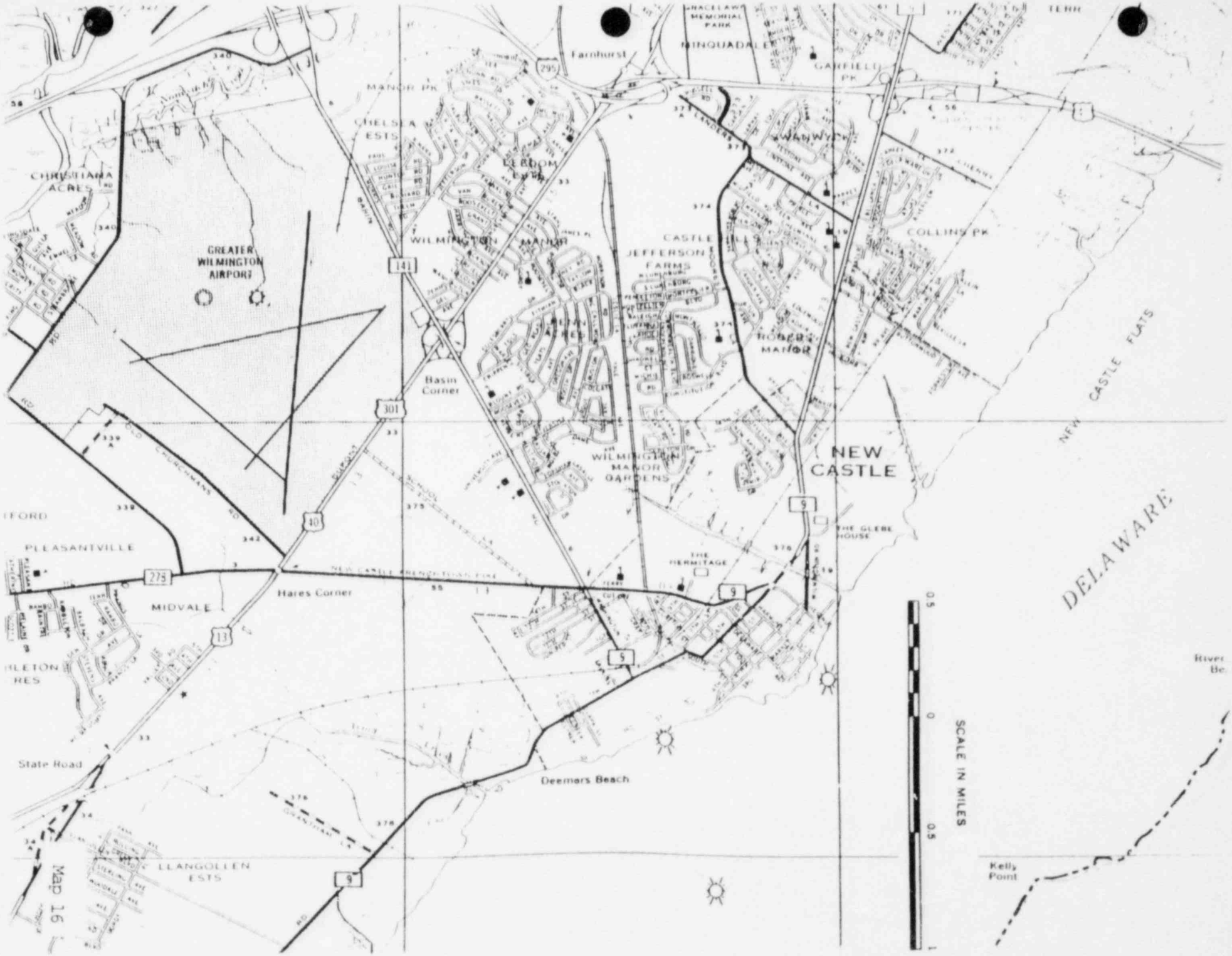
Map 13


SCALE IN MILES
0.5
0
0.5
1
WIL
MARINE TERMINAL
ROCK MANOR GOLF COURSE
ALAPOCAS
FORT CHRISTINA MONUMENT
EDEN PK GAR
Rogers Corners
HAGLEY MUSEUM
Henry Clay
WESTOVER HILLS
WEST PK
WEST HAVEN
COLONIAL HTS
SILVERBROOK CEMETERY
LANCASTER CT
ELSMERE
RICHARDSON PK
ELMHURST
BELLEMOOR
HADEN PK
ALBAN PK
ASHBY
MIDDLEBORO MANOR
WOODCREST
FOREST BROOK GLEN
BANNING PARK
GOLF COURSE
GREEN HILL
DUPONT RD
202
13
52
141
48
34
100
4
9
2
95
495

Map 14


SCALE IN MILES
0.5
0
0.5
1
Oldmans Point
Grubbs Landing
BELLEFONTE
ARDENTOWN
ARDEN
ARDENCROFT
RADNOR GREEN
OVERLOOK COLONY
BROOKVIEW
RIVERSIDE
DELAIRE
BELLEVUE
Bellevue Lake
VILLA MONTEREY
LINDAMERE
GORDON HTS
GRAYLYN CREST
SHIPLEY
CONCORD PIKE
Blue Ball
ROCK MANOR GOLF COURSE
PENN ROSE
CLIFTON PARK MANOR
Talleyville
Concord
WILMONT

Map 15

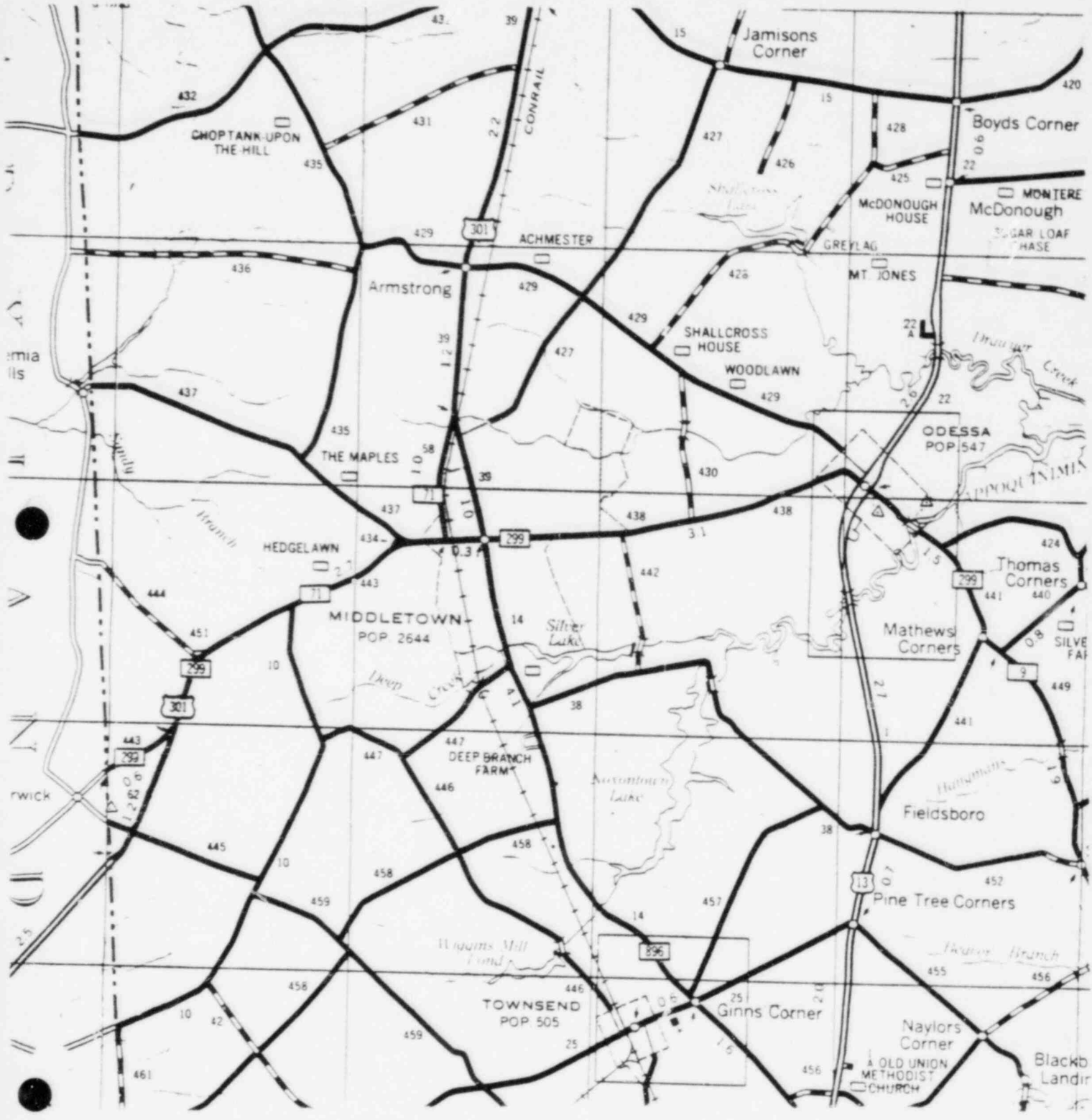

Farmhurst
MANOR PK
CHELSEA ESTS
LEBOOM
CHRISTIANA ACRES
GREATER WILMINGTON AIRPORT
WILMINGTON MANOR
CASTLE HILL
JEFFERSON FARMS
COLLINS PK
ROBERTS MANOR
Basin Corner
WILMINGTON MANOR GARDENS
NEW CASTLE
NEW CASTLE FLATS
DELAWARE
THE GLEBE HOUSE
THE HERMITAGE
PLEASANTVILLE
MIDVALE
Hares Corner
State Road
Deemers Beach
LLANGOLLEN ESTS
Kelly Point
SCALE IN MILES
0.5
0
0.5
1
141
301
40
13
9
275
795

Map 16


SCALE IN MILES
1 0 1 2 3 4
LLANGOLLEN ESTS
WINDS
BEAVER BROOK
BAY VIEW MANOR
CONRAIL
DELAWARE
Point
KILLCOHOOK NATIONAL WILDLIFE REFUGE
FORT MOTT STATE PARK
Bear
Tybouts Corner
GLENDALE
Red Lion
Red Lion Creek
Hamburg Cove
Pea Patch Island
Reybold
Reybold Cove
Wrangle Hill
FORT DELAWARE STATE PARK
STARL HOUSE
MARLDALE
DELAWARE CITY
POP. 2024
Dragon Creek
HIGGINS HOUSE
CANAL
Reedy Point
St. Georges
DELAWARE
IDALIA
NELSON HOUSE
ASHTON HOUSE
AUGUSTINE WILDLIFE AREA
Elsinboro Point

Map 17

SCALE IN MILES



Map 18

PARTICIPATING STATE, COUNTY, MUNICIPAL, AND OFFSITE AGENCIES FOR THE 1982 FEMA/NRC OBSERVED SGS EXERCISE

I. NEW JERSEY, STATE PARTICIPANTS

Governor's Office - representative
NJSP, Office of Emergency Management - Deputy Director, Civilian Duty Officer, Assistant Supervisor

NJSP, Field Operations Section - Supervisor, Troop Commander, personnel to man access control points and Forward Command Post
NJSP, Communications Bureau - personnel
Department of Environmental Protection - Commissioner, Press Secretary
- Division of Water Resources - Director, Field Monitoring personnel
- Division of Parks and Forestry - Emergency Coordinator, field personnel
- Division of Fish, Game and Wildlife - Division Director, field personnel
- Division of Hazard Management - personnel
- Division of Environmental Quality - Director
  - DEQ Bureaus:
    - Bureau of Radiation Protection - Headquarters personnel, field teams, personnel to State EOC and Forward Command Post
    - Bureau of Emergency Response Coordination
    - Bureau of Environmental Laboratories - Field Assessment personnel
    - Bureau of Air Pollution control
    - Bureau of Pesticide Control
    - Bureau of Solid Waste

Department of Health - EOC representative
Department of Agriculture - EOC representative
New Jersey Department of Defense - Emergency Coordinator
New Jersey Department of Transportation - EOC representative
New Jersey Transit Corporation - Director, Division of Bus Contract Management
Department of Corrections - EOC representative
Department of Human Services - Emergency Coordinator
New Jersey Department of Energy - Emergency Services Coordinator
New Jersey State Department of Education - EOC representative
New Jersey State Department of Higher Education - EOC representative

II. NEW JERSEY, COUNTY PARTICIPANTS

Salem County

County OEM Executive Division:
- Board of Freeholders or designated representative
- Emergency Management Coordinator
- Deputy EMC

County OEM Operations Division -
- Radio Officer
- Transportation Officer
- Medical Officer (incl. Health Officer)
- Emergency Information Officer
- Fire Coordinator
- RADEF Officer
- Dispatcher
- County Engineer
- Supervisor Road Department
- Sheriff's Department

County OEM Support Division -
- American Red Cross
- Salvation Army

Cumberland County

County OEM Executive Disivion -
- Board of Chosen Freeholders, Director
- Clerk to the Board
- County Solicitor
- Public Relations Officer
- County Emergency Management Coordinator (EMC)
- Deputy EMC

County OEM Operations Divison -
- Operations Officer
- Fire Coordinator
- Chief Dispatcher
- County Fire Police Superintendent
- County Engineer
- Supervisor Road Department
- Traffic Safety Coordinator
- Public Health Coordinator
- Sheriff's Department

County OEM Support Divison -
- American Red Cross
- Senior Agriculture Agent
- Superintendent of Schools
- CETA Director
- County Representative of the Health Systems Agency
- Welfare Director
- Salvation Army
- Public Utilities Commission

V. NEW JERSEY, MUNICIPAL PARTICIPANTS

Lower Alloways Creek Township
- Mayor/Deputy Mayor/Committeemen
- Director of Public Safety
- EMC/Deputy EMC
- Police Department
- Fire Department & Rescue Squad
- Transportation Officer

Elsinboro Township
- Mayor/Deputy Mayor/ComMitteemen
- EMC/Deputy EMC
- Fire Company

Pennsville Township
- Mayor/Deputy Mayor/Committeemen
- EMC/Deputy EMC
- Police Department
- Fire and Rescue Company No. 1
- Fire Company No. 2
- Transportation Officer

Salem City
- Mayor/Councilmen
- EMC/Deputy EMC
- Director of Public Safety
- Police Department
- Fire Department
- Ambulance Squad

Quinton Township
- Mayor/Deputy Mayor/Committeemen
- EMC/Deputy EMC
- Fire and Rescue Company
- Ambulance Company

Mannington
- Mayor/Committeemen
- EMC
- Fire Company

Stow Creek
- Mayor
- EMC
- Fire Company
- Constable

Greenwich
- Mayor
- EMC
- Fire Company
- Constable

III. DELAWARE, STATE PARTICIPANTS

Governor's Office - representative
Division of Emergency Planning and Operations - Director, Deputy Director, Staff
Division of Public Health - Director, personnel, Office of Radiation Control and Safety Program Director, field monitoring teams, Bureau of Environmental Health Chief
Division of Social Services - Disaster Coordinator, Director of Social Services, personnel
Division of Environmental Control - Director, Manager of Technical Services, Wilmington Laboratory Supervisor, Dover Laboratory Supervisor, field personnel, Field Operations Supervisor
Division of Parks and Recreation - Director, State Park Section Managers and Park Superintendents
Division of Fish and Wildlife - Director, Operations Supervisor, personnel
Delaware Marine Police - Boating Administrator, Northern Supervisor, personnel
Department of Agriculture - Division of Production and Promotion Director, field monitoring personnel
Delaware State Police - Staff Officer, Director, Superintendent, Deputy Superintendent, personnel
Department of Transportation:
Division of Highways - Director, Disaster Planning Coordinator, staff
Delaware Transportation Authority - Director, Assistant Director, personnel
Delaware National Guard - Adjutant General, personnel
Civil Air Patrol - Dover Air Force Base Liaison Officer, Mission Coordinator
Department of Public Instruction - Nuclear Disaster Planning Officer
State Fire School - Director, Senior Instructor

IV. DELAWARE, COUNTY PARTICIPANTS

New Castle County
- County Executive
- Department of Public Safety - Director
- County Police Department - Chief of Police, personnel
- Department of Public Works - Director
- Department of Parks and Recreation - Directior
- Fire Companies - District Fire Chiefs, Fire Company personnel
- Paid Ambulance Service - Chief

Kent County
- County EPO Director/Planner
- President of Levy Court
- Fire Companies - District Fire Chief, Fire Company personnel

V. PRIVATE AGENCIES

American Red Cross - EOC representative
Conrail - Trainmaster
Salvation Army - EOC representative

VI. FEDERAL AGENCIES

U.S. Coast Guard - Atlantic City Station personnel
Federal Aviation Administration - JFK personnel

GUIDELINES FOR CONDUCT OF 1982 FEMA/NRC OBSERVED SGS RADIOLOGICAL EMERGENCY EXERCISE

I. PURPOSE:

This document provides guidance for the conduct of the 1982 FEMA observed radiological emergency exercise. It shall be used by all participating Federal, State, County, and participating municipal agencies. It provides specific methods for demonstrating emergency response capability, conducting the exercise, and evaluating results.

II. CONCEPT OF OPERATIONS AND CONTROL OF THE EXERCISE

The licensee, the State of New Jersey, and the State of Delaware will supply official referees and/or observers for each location where an emergency response is being demonstrated for the exercise. Prior to the exercise, the referees and observers will be provided with the appropriate locations, maps, time periods, guidelines, and an observer evaluation checklist for their exercise assignments (See Section I, Parts A-G).

The exercise initiating events will be controlled by the lead referee at the Salem Generating Station (SGS). Hypothesized initiating events will consist of three types of information: (1) information and data provided to control room personnel by the lead referee or his designee, (2) information provided to SGS personnel concerning environmental (e.g. area, air, primary coolant, surfaces) and plant systems radioactivity, (3) onsite and offsite dose rate data (simulated gamma and iodine dose rate measurements) provided to the site, State, and Federal (if they participate) monitoring teams by referees and (3) referee/observer supplied "problems" for offsite participants (such as a

disabled vehicle or a farmer who must return to his farm after an evacuation). The lead referee has the authority to determine the time sequence of these initiating events to ensure an orderly and logical flow of exercise events. All other actions during the exercise will occur through a free play response as the licensee, State, County, and municipal participants respond to the initiating events.

As the initiating events are provided to the station staff they will determine the nature of the emergency and cause the implementation of the appropriate station emergency plan procedures. These procedures are expected to include a determination of the emergency classification in accordance with NUREG-0654, FEMA-REP-1, Rev.1. After the emergency classification has been determined, the appropriate Federal, State, County, and municipal authorities will be notified in accordance with the station emergency plan procedures.

Upon notification of the hypothesized emergency at SGS the States, Counties, and the New Jersey municipalities will complete their initial notifications and activation of emergency facilities in accordance with their emergency plans and procedures.

The hypothesized emergency will continue to develop based on data and information provided to the control room personnel by the lead referee. As the situation develops, follow up information will be forwarded to the New Jersey and Delaware State EOCs and the New Jersey Bureau of Radiation Protection. The Bureau of Radiation Protection and and the Delaware Division of Emergency Planning and Operations will analyze the information and recommend protective actions as they would in a real emergency. Where information would normally be

confirmed via an independent source (such as National Weather Service for weather data) the confirmation data will be obtained. If the confirmation data conflicts with the hypothesized data provided by the site, the hypothesized data will be utilized for accident assessment purposes. If any inconsistencies are noted in the initiating events, they should be questioned by the State accident assessment team as they would be in a real emergency.

Certain inconsistencies (such as plume width, release duration, technical reason for the simulated release, etc.) may be intentional and required to provide an exercise basis which tests the capabilities of the licensee, the States, the Counties, and the New Jersey municipalities to the maximum extent feasible in a limited time frame. If an inconsistency is known or determined to be intentional, then the accident assessment group will note the inconsistency and ignore it. The lead referee shall have the authority to resolve or explain any inconsistencies or problems that may occur during the exercise.

With the exception of the aforementioned cited and potential inconsistencies and the closeout of the emergency (which are discussed later), the internal operations of the licensee, State, County, and municipal command centers shall be identical with their intended operation in a real emergency.

III. GENERAL GUIDANCE FOR THE CONDUCT OF THE EXERCISE

Participants shall avoid taking any actions during the exercise which would actually reduce plant or public safety. The potential for creating a real radiological emergency or endangering the public shall be specifically avoided.

1. Simulating Emergency Actions

Since the exercises are intended to provide demonstration of actual abilities as closely as is reasonably possible, the participants should act as they would during a real emergency. All actual actions shall be taken where possible. Simulation will be utilized only when it is not feasible to perform the actual action.

When orders are given to others during drills and exercises, the order should contain the word "Simulate" as the first word, if that is what is meant. For example, the order to put out a fire that is being hypothesized would state "simulate discharging the fire extinguisher." Where such actions are being taken, it is suggested that participants inform any observers in the area of what action would be actually taken had the emergency been real. Emergency workers will process through decontamination centers.

Actual evacuation of a segment of the general public for exercise purposes is undesirable due to the unnecessary public hazard created and great public inconvenience of such action. No actual evacuations of the public are planned. However, a number of volunteers sufficient to test one New Jersey congregate care shelter and one Delaware registration center will be utilized to demonstrate evacuation and decontamination of the public.

2. Avoiding Violation of Laws

Intentional violation of laws is not justifiable during any exercise. To implement this guideline, the following actions must be taken prior to conduct of all exercises:

a. All observers and potential drill participants must be specifically informed of the need to avoid intentional violation of all Federal, State and local laws, regulations, ordinances, statutes, and other legal restrictions. The orders of all police, sheriffs, or other authorities should be followed as would normally be the case.

b. Drill participants shall not direct illegal actions be taken by other drill participants or members of the general public.

c. Drill participants shall not intentionally take illegal actions when being called out to participate in an exercise. Specifically, local traffic laws such as speed laws shall be observed.

d. Agencies shall inform their participants of any laws, regulations, statutes, etc., that may likely apply during conduct of drills.

3. Avoiding Personal and Property Endangerment

Participants and observers shall be instructed to avoid endangering property (public or private), other personnel responding to the exercise, members of the general public, animals, and the environment.

4. Action to Minimize Public Inconvenience

It is not the intent, nor is it desirable or feasible to effectively train or test the public response during the conduct of radiological emergency exercises. Public inconvenience is to be minimized.

The actions of Federal, State, County and municipal agencies, and nuclear power plant operators receive continuous public notice and scrutiny, therefore the

conduct of an exercise could arouse public concern that an actual emergency is occurring. In order to minimize public inconvenience and concern, the following actions are being included in the FEMA exercise plans:

a. A few days prior to the exercise, the public within the affected area will be informed of the impending conduct of a radiological emergency exercise. Press releases from Public Service Electric & Gas (PSE&G) will be used to accomplish this. Prior to the exercise the public shall be informed of the following as a minimum:

(1) the purpose of the exercise and that it is a routine periodic function not intended to inconvenience the public unnecessarily

(2) the exercise requires no public action or involvement

(3) the exercise will be conducted at a preselected time during a specifically stated time period

(4) the siren system will be activated

b. During the exercise press releases will be provided by PSE&G, New Jersey, and Delaware stating that an exercise is in progress

c. Agencies should make every effort to prevent the public from being misinformed about the nature of the exercise. Therefore it is important to inform members of the public that an exercise is in progress and that their involvement is not required, whenever direct public contact occurs in the field. In addition, it is important to preface, interject, and conclude conversations that can be overheard

by the public with the words, "This is an exercise, repeat, this is an exercise" or similar statements. Conversations that can be monitored by the public include those on telephones, radios, loudspeakers, telegraphs, etc.

5. Maintaining Emergency Readiness

During the performance of an exercise the ability to recognize a real emergency, terminate the exercise, and respond to the new situation must be maintained. Therefore, the exercise scenario and actions of participants shall not include any actions which seriously degrade the condition of systems, equipment or supplies, or affect the detection, assessment, or response capability to radiological or other emergencies.

If a local emergency occurs during an exercise requiring the local agency to terminate its participation in the exercise the agency should notify the State and County Emergency Operations Center of the situation and terminate its participation. The State shall then inform all other agencies involved in the exercise of the situation. All messages about real events shall be clearly identified as such. For example precede a real message with "This is NOT, repeat, NOT an exercise message."

IV. EMERGENCY RESPONSE IMPLEMENTATION AND OPERATIONS

1. Initial Notification

Initial notification shall be performed in accordance with the procedures of the radiological emergency plans.

2. Activation of Facilities

Activation of State, County, and New Jersey municipal EOCs and manning of the EOCs by emergency response personnel shall occur in accordance with the emergency plans.

3. Activation of the EOF

PSE&G personnel will activate the EOF. Activation and operation of the EOF will be in accordance with the emergency plan procedures. Normal travel times to the EOF by its staff may be compressed and staffing will be permitted 1/2 hour after the decision to activate.

4. Public Notification

The first request to the Emergency Broadcast System will be the test message of the Salem Radiological Emergency Broadcast System which will be broadcasted to the public. The text of this message is as follows:

> This is a TEST of the Salem Radiological Emergency Broadcast System. This system has been developed by New Jersey and Delaware emergency managment organizations, in conjunction with the radio stations in the area, to keep the public informed in the event of an emergency at the Salem Nuclear Generating Station. Had this been an actual emergency, you would have been instructed where to tune your radio dial for further information. This has been only a test.

All messages during the exercise shall be prepared and forwarded to the Emergency Broadcast System gateway station (WDEL) in accordance with standard procedures. Except for the test message, all exercise EBS messages shall be prefaced by explicit instructions not to broadcast, but to log the message content and time of receipt.

The procedures for route alerting will be demonstrated by activation of the siren system in consonance with the broadcast of the EBS message. Notification verification will be demonstrated in New Jersey by utilizing a sample route in each county.

5. Public Information

Press releases to the media shall be made in accordance with the respective emergency plans, via the normal press release methods. The press releases shall contain all necessary information on the current status of the exercise.

6. Communications

Communications between the exercise participants shall occur in accordance with the procedures of the emergency response plan. There will not be a simulation of communication equipment failures. However, should any primary communication path become inoperative or prove inadequate, backup means of communication will be utilized as appropriate.

V. MOBILIZATION OF EMERGENCY WORKERS

It is the responsibility of all emergency response agencies to ensure that their resources are actually deployed in adequate numbers to provide a

reasonable test of their notification, mobilization, command, coordination, and communications capability. Except as noted below, all State, County, and municipal agencies shall have total authority in determining the degree of mobilization and deployment of their resources, consistent with this intent. The decision to demonstrate or to actually deploy resources may be made at the time of the exercise.

When the use of an agency's resources is simulated it is the responsibility of the agency to ensure that all steps necessary to utilize the resources are demonstrated. For example, for an agency to demonstrate the activation of additional personnel it is necessary to locate the required call list and to have the calls either completed or simulated. Then a realistic estimate of the mobilization time must be made and forwarded to the agencies which need to know this time estimate. Use of a resource may be demonstrated only after the estimated mobilization time has elapsed. In addition, when a resource is demonstrated the command and control must also be demonstrated. It is desirable to carry out all demonstrations to the greatest extent possible, thus determining the need for additional resources such as those used for command, control, dose record maintenance, etc.

Total counts of emergency workers deployed and those that are hypothesized to have been deployed shall be maintained. Information regarding which personnel movements are real and which are hypothesized shall be readily available at all times.

The following provides a minimum list of personnel and resources that will be deployed by the States and local governments to demonstrate the capabilities of

their resources. Also provided are specific demonstration objectives for hypothesized emergency responses.

1. Access Control

New Jersey will deploy all the necessary personnel required to man 5 access control points required by the exercise and Delaware will deploy personnel for 3 access control points. Road blocks will not be set up on the road but the necessary equipment will be deployed along the road side. The road access control points will be secured after the ability to assemble them has been demonstrated. The decision to secure access control points, return the personnel to normal duties, and hypothesize the continuation of these secured control points will be made at the State EOC when desired. Rotation of access control personnel will be by personnel who would be assumed to be available from off duty sections. For training, the access control personnel will report to decontamination centers after they are secured from their access control duties.

2. Public Notification Verification

Notification verification will be demonstrated by New Jersey police and fire companies driving a sample route in a slow manner as during a real emergency. At the completion of the notification verification the units involved will either be secured by checking out through decontamination centers or will be assigned further exercise duties.

3. Decontamination Center

New Jersey and Delaware will each set up one decontamination center. During the exercise the center will be used principally for emergency workers to check out through after they have completed their exercise participation. At the decontamination center, any actions which may damage property (such as parking vehicles on grass) will be avoided. All necessary equipment will be assembled at the decontamination center and its use will be demonstrated. Detailed demonstration actions will be implemented at the center by the decontamination center leader.

4. Congregate Care Shelter/Registration Centers

One New Jersey congregate care/decontamination center and one Delaware registration, decontamination, and relocation center will be opened and staffed in accordance with the emergency plans. Supplies required for long term mass care (cots, blankets, food, etc.) need not be acquired or brought to the shelter. However, the shelter and registration personnel should obtain estimates on how many evacuees would be arriving had the exercise been a real emergency. The shelter and registration personnel should then make the necessary estimates of supplies required for the potential evaucuees. Sources for the required supplies should then be located, and the means for transportation of the supplies should be determined.

5. Monitoring Teams

The State of New Jersey will field approximately 5 radiological monitoring teams and the State of Delaware will field approximately 2 teams. At least 5 of the New Jersey State teams and at least 2 of the Delaware teams will be supplied with a referee. The referees will provide simulated field data which will be used to determine local dose rate readings. These teams however, will be equipped with the necessary equipment which would enable them to determine actual area gamma dose rates and airborne radioiodine concentrations.

The New Jersey teams without referees will be equipped with equipment which would enable them to determine area gamma dose rates or iodine measurements. For the exercise, they will be provided hypothesized field data by which they will be able to determine the local dose rate.

Data for the environmental samples and TLDs will be supplied by a referee at the appropriate time.

The monitoring teams will not be suited up in anti-contamination clothing, but will have such equipment at their disposal.

The taking of ingestion pathway zone samples will be demonstrated by both States. It will be demonstrated that the samples can be sent to the appropriate laboratories as they would in a real emergency. Analysis of the samples will not be performed. Hypothetical data for some samples will be provided as an offsite initiating event in order to demonstrate that the

results of sample analyses could be used to determine ingestion protective action recommendations.

6. Volunteer organizations

The members of volunteer organizations, e.g. firemen and rescue squads, have responsibilities such as work that take precedence over their participation in an exercise. Therefore, these volunteer organizations will participate in their emergency responsibilities on an as-available-basis. Because the exercise plume will impact specific areas, volunteer personnel in the affected zone will have advance knowledge of their special role in this exercise, in order to maximize their participation.

VI. REENTRY AND RECOVERY

Time will be compressed in the scenario to allow reentry and recovery procedures to be exercised. The referees at each emergency facility and field location will make an announcement at a designated time that the scenario is stopped for fifteen minutes. The referee will then instruct the participants to complete on-going responses within fifteen minutes, after which time, the exercise will resume and scenario time will be clock time plus 24 hours. Exercise participants will then demonstrate reentry and recovery responses until the closeout of the exercise.

VII. CLOSEOUT OF THE EXERCISE

Closeout of the exercise will be accomplished by the following actions:

1. Emergency workers will be secured as soon as possible after they have demonstrated their capabilities. The decision to secure them will be made at their controlling EOC, with concurrence from the State EOC, if applicable. Emergency workers shall be directed to check out through decontamination centers. Emergency worker radiological exposure records will be completed for each emergency worker in accordance with the standard operating procedures. Evacuee radiation dose records will be completed for 15 random volunteers. The completed dose record forms shall be clearly marked "For Demonstration Only" and shall be forwarded to the responsible State agency for review.

2. The emergency workers decontamination center and the congregate care shelter/registration center will be secured as soon as all emergency workers and volunteers have checked out through these centers.

3. Participation of nonessential State, County, and New Jersey municipal EOC personnel will be ended as soon as their emergency response has been essentially completed. Reducing EOC staff to those responsible for long term planning and recovery shall have the concurrence of the State EOC director or his designee.

4. The remaining staff will close out the exercise by developing a course of action for the next 24 hours. This course of action shall be a coordinated effort between each State and the licensee. It shall include:

   a. Any further ingestion zone samples that need to be taken, shall be identified. Locations to be sampled shall be identified.

Personnel requirements to conduct the necessary sampling and to transport the samples to the laboratories shall be identified. These requirements shall be matched against personnel availability.

b. Twenty-four hour personnel rotation schedules shall be developed. These schedules will include requirements and manning capabilities for access control, decontamination, record keeping and EOC staffing.

c. Twenty-four hour ingestion pathway control requirements such as food interdiction shall be planned. This planning shall include comparisons of personnel requirements with available personnel.

d. Crime prevention measures in the evacuated areas shall be planned.

5. When the States, the Counties, the New Jersey Municipalities, and the licensee are satisfied that they could have implemented the necessary long term protective, parallel, and other actions required by the plan, the participants shall reach a joint conclusion to terminate the exercise. A final press release shall be issued signifying the termination of the exercise.

1982 FEMA/NRC Observed SGS Exercise
Actual and Simulated Offsite Events Matrix

Event	Actual	Simulated
1. Notification of Federal, County, Municipal, and Private Agencies	X	
2. Activation of State, County, Municipal EOCs	X	
3. Accident Assessment	X	
4. Field Monitoring	X	
5. Access Control		
State personnel	X	X
County personnel	X	X
6. EBS Test Message	X	
7. EBS Messages Prepared But Not Transmitted to the Public	X	
8. Public Notification	X	
9. Emergency Worker Decontamination Center Activation (one in each State)	X	
10. Evacuee Congregate Care Shelter, Relocation, and Registration Center Activation County (one in each State)	X	
11. Monitoring and Decontamination of Evacuees and Emergency Workers	X	
12. Personnel Dose Record Keeping	X	
13. Personnel Dosimetry Issuance	X	X
14. Evacuation of Volunteers	X	
15. Handling of Contaminated Injured Offsite Personnel	X	
16. Ingestion Pathway Sampling	X	

Actual and Simulated Offsite Events

Event	Actual	Simulated
17. Ingestion Pathway Samples Analyses		X
18. Traffic Control, Law Enforcement and Crime Prevention, Public Health and Sanitation, Fire Control and Rescue		X
19. Reentry and Recovery		X

NOTE: Yellow - Referees
Blue - Observers (Do Not Talk to "Players" Directly)

OBSERVER LIST FOR THE 1982 FEMA/NRC OBSERVED SGS EXERCISE

Facility	Location	Observers	Functional Area	Individual Assigned
I - PSE&G Observer List				
1. Emergency Operations Facility (EOF)	Salem, NJ	8	Operations Dose Assessment	(Names of individuals assigned will be provided at the pre-exercise briefings)
2. News Center	Salem, NJ	1	Operations	
3. Control room	SGS	3		
TSC		4		
OSC		1		
Investigative Team		1		
Survey Teams		3		
4. Control Point		2		
5. Sampling Team		1		
6. Accountability		1		
II - State of New Jersey Observer List				
1. State EOC	West Trenton, NJ	1	Operations	
		1	Dose Assessment	
		1	Communications	
		1	Public information	
2. BRP Headquarters	Trenton, NJ	1	Dose Assessment	
3. NJSP Forward Command Post	To be provided	1	Operations	
4. State Field Monitoring Teams		5	Mobile teams	
5. Salem County Memorial Hospital	Mannington, NJ	1	Handling offsite contaminated injured person	
6. Decontamination Center	Salem City, NJ	1	Decontamination	
7. Congregate Care Shelter	Mannington, NJ	1	Registration/Decontamination	

Facility	Location	Observers	Functional Area	Individual Assigned
III - NJ County Observer List				
1. Salem County EOC	Salem City NJ	1 1	Operations Communications	
2. Cumberland County EOC	Bridgeton, NJ	1 1	Operations Communications	
IV - NJ Municipal Observer List				
1. Salem City EOC	Salem City, NJ	1	Operations	
2. Elsinboro EOC	Elsinboro, NJ	1	Operations	
3. Pennsville EOC	Pennsville, NJ	1	Operations	
4. Quinton EOC	Quinton, NJ	1	Operations	
5. Mannington EOC	Salem City, NJ	1	Operations	
6. Lower Alloways Creek EOC	Hancocks Bridge, NJ	1	Operations	
7. Stowe Creek EOC	Hopewell, NJ	1	Operations	
8. Greenwich EOC	Greenwich, NJ	1	Operations	
V - State of Delaware Observer List				
1. State EOC	Delaware City, DE	1 1 1	Operations Dose Assessment Public Information	
2. State Field Monitoring Teams		2	Mobile teams	
3. Decontamination Center	Middletown, DE	1	Decontamination	
4. Registration/Decontamination Center	Dover, DE	1	Decontamination/ Registration	
5. Wilmington Medical Center	Wilmington, DE	1	Handling of [illegible] te contamina[illegible] injured person	
6. Relocation Center	Middletown, D	1	Operations	
7. Radio Station WDEL	Wilmington, DE	1	Control Room	

Facility	Location	Observers	Functional Area	Individual Assigned
VI - Delaware County Observer List				
1. Kent County EOC	Dover, DE	1 1	Operations Communications	
2. New Castle County EOC	New Castle, DE	1 1	Operations Communications	

SALEM GENERATING SALEM
1982 NRC/FEMA OBSERVED EXERCISE
10:30 A.M. BRIEFING, OCTOBER 12, 1982 AT SECOND SUN

I. EXERCISE SCENARIO BRIEFING

A. General Information

1. Observer/Referee limited interaction with participants
2. Lunch provisions
3. Security provisions, name tags
4. Caution against pre-deployment of personnel
5. Use of plans and procedures during the exercise

B. Review the following parts of Section I:

Part A, Schedule
Part B, Objectives (highlighted portions)
Part C, References (briefly)
Part D, Locations and Maps (briefly)
Part E, Participants (briefly)
Part F, Guidelines (highlighted portions)
Part G, Observer List
Critique Checklists

II. COMMENTS BY STATE AND FEDERAL AGENCIES

NRC Region I
FEMA/RAC Region II
FEMA/RAC Region III
NJ-OEM
DE-DEPO

III. QUESTION AND ANSWER PERIOD

IV. CLOSING REMARKS TO PARTICIPANTS

V. CONTROLLED SCENARIO BRIEFING FOR OBSERVERS, REFEREES, NRC, FEMA

A. Review the controlled section of the scenario (Section II)

1. Summary of Initiating Events and Expected Time Sequence (Part 1)

2. Detailed Initiating Events (Part 2)

3. Methods for providing scenario data for:

- Control Room, TSC, EOF
- Field Monitoring Teams
- Decontamination Facilities (off-site)
- Ingestion Pathway Sampling

4. Coordination between referees

5. Participation at scheduled critique meetings

6. Telephone numbers for emergency use

B. Question and Answer Period

PARTICIPANTS BRIEFING

I. WELCOME AND INTRODUCTION

II. EXERCISE SCENARIO BRIEFING

A. Discuss:

- distribution of controlled and uncontrolled scenario
- joint PSE&G, NJ, DE development of the scenario
- the role of the consultants in scenario preparation and exercise support

B. Review the following parts of Section I:

Part A, Schedule
Part B, Objectives (highlighted portions)
Part C, References (briefly)
Part D, Locations and Maps (briefly)
Part E, Participants (briefly)
Part F, Guidelines (highlighted portions)
Part G, Observer List
Critique Checklists

C. Discuss in general the type of material included in the controlled section and the methods used by referees to provide data to the exercise participants.

D. Additional Information

1. Observer/Referee limited interaction with participants
2. Lunch provisions
3. Security provisions, name tags
4. Caution against pre-deployment of personnel
5. Use of plans and procedures during the exercise

III. QUESTION AND ANSWER PERIOD

IV. CLOSING REMARKS

OBSERVER CHECKLISTS

TABLE OF CONTENTS

A. NOTIFICATIONS/COMMUNICATIONS

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Were incoming and outgoing notifications/communications logged? Accurately? With significant detail? _____

2. Were call lists completed accurately and in a timely manner? _____

3. Were notification/communication procedures followed? _____

4. Were the notifications and message contents verified if required? _____

5. Did the messages contain a statement identifying the communication as an exercise message? _____

6. Were sufficient forms available? _____

7. Were the forms useable and effective? _____

8. Were all primary communication circuits available and operational? If not were back-up communications used? _____

9. Were personnel familiar with the communication equipment and its intended use? _____

10. Were communications equipment adequate to ensure that the flow of information was timely and efficient? _____

11. Were there sufficient communications personnel to manage all of the circuits? If not, identify specific problems. _____

_____

12. Were communications effectively passed to and from appropriate personnel? If not, identify problem. _____

_____

13. Was the communications traffic in and out of the facility coordinated and controlled? _____

_____

14. On the average, how long did it take to provide an incoming or outgoing message to the appropriate person after receipt of the communication message? _____

_____

_____

15. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

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B. ACTIVATION/OPERATIONS

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Was activation for the emergency performed efficiently and in a timely manner? (State time of notification and time of activation)

_____

_____

2. Did all personnel know their roles and responsibility? _____

_____

3. Were personnel familiar with the relevant procedures and were the procedures followed? _____

_____

4. Were procedures consulted when necessary or when conditions changed?

_____

_____

5. Was there any confusion or lack of understanding on the part of the participants concerning the event to which they were responding?

_____

_____

6. Are frequent briefings held to review available data and the emergency situation? _____

_____

7. Did participants consult with each other to arrive at decisions and recommendations? _____

_____

8. Was data flow between facilities accurate, timely, and complete?

_____

_____

9. Was there an effective mechanism for resolving "difference of opinion" concerning technical issues and actions to be taken? _____

_____

10. Did participating personnel become so overwhelmed with procedural requirements that they were distracted from exercising their role in the assessment and resolution of the emergency event? _____

_____

11. Were all the material, maps, displays, and equipment required for emergency activation and operations available and utilized effectively?

_____

12. Was all the equipment functional? _____

_____

13. Did personnel check to ensure that all equipment was available and functional early in the activation sequence? _____

_____

14. If equipment was either unavailable or not functional, was this fact reported to the appropriate personnel? _____

_____

15. What provisions were made to accommodate missing or inoperative equipment? _____

_____

16. If there was a transfer of responsibility for the facility or activities, was it accomplished efficiently, effectively, and in a timely manner? _____

_____

17. If a transfer of responsibility occurred, were all personnel aware that such a transfer had occurred? _____

_____

18. Was information obtained during the course of emergency operations transmitted efficiently. _____

_____

_____

19. Were security measures adequate for the facility? _____

_____

20. If protective actions decisions were made, was the implementation accomplished according to procedures in a timely manner? _____

21. Were all required personnel in attendance? _____

22. Was the facility adequate in size and layout? _____

23. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

C. COMMAND AND CONTROL

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Was the person designated for command function clearly identifiable and did everyone in the emergency facility know who that person was?

2. Did the person in command activate the facility in a timely and efficient manner?

3. Was the person in command familiar with the plan and procedures?

4. Did the person in command use the relevant procedures?

5. Were procedures consulted when necessary or when conditions changed?

6. Were command responsibilities delegated properly when necessary?

7. Was the person in command knowledgeable regarding the status of the emergency throughout the emergency levels?

8. Was the person in command knowledgeable regarding actions taken throughout the emergency?

9 Did the person in command hold frequent, effective, and accurate briefings?

10. Were appropriate decisions arrived at in a timely manner? _____

_____

11. Did the person in command consult with the appropriate personnel in order to arrive at decisions or resolve differences? _____

_____

12. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

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D. DOSE ASSESSMENT

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Was data logged appropriately? _____

2. Were maps and displays utilized effectively? _____

3. Was an estimation of release duration and exposure duration arrived at in a logical manner (if applicable)? _____

4. Were the appropriate diffusion factors (Xu/Q) used for an elevated and/or ground level release? _____

5. Were data passed between facilities effectively and accurately? _____

6. If meteorological conditions changed, were the data used? _____

7. Was a comparison made between calculated dose projections and measured values from the monitoring teams? _____

8. Were dose calculations and the determination of protective action recommendations performed efficiently and in a timely manner? _____

9. Were the results of dose calculations and protective action recommendations transmitted to appropriate channels in an efficient and timely manner? _____

10. Was the Emergency Director or the EOC Director receptive to emergency personnel recommendations? _____

11. When laboratory results of ingestion pathway samples are provided, are correct protective action recommendations made? _____

_____

12. Do the dose assessment personnel understand the procedures? _____

_____

13. Were the teams deployed effectively to define the plume? _____

_____

14. Did the information used by dose assessment personnel come from correct sources? _____

_____

15. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

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E. FIELD MONITORING

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Were radio communications verified prior to deployment? _____

2. Were the teams deployed in a timely manner? _____

3. Were all radiation monitoring instrumentation op-checked according to procedures prior to deployment? _____

4. Did field monitoring personnel use their instruments properly? _____

5. Were pocket dosimeters checked periodically during the field assignment?

6. Was information relayed accurately and efficiently to designated personnel? _____

7. In transit, was the survey meter used to take readings? _____

8. If samples were taken, were sampling procedures followed? _____

9. If radio was not used for communications, did the team report their status periodically by telephone? _____

10. Did monitoring teams use "good" health physics procedures to avoid contamination? _____

11. Did the field monitoring team members understand the procedures? _____

12. Did the team know how they would be relieved from monitoring assignment?

13. If additional equipment is required to replace equipment that malfunctions in the field or to supplement supplies, do the teams know how to obtain it?

14. Does the field team have the required instrumentation to measure radioiodine?

15. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

F. RADIATION EXPOSURE CONTROL

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Were personnel briefed on dose rates, wind direction, and specifics regarding radioactivity released? _____

2. Were personnel briefed on the length of time they should remain in assignment areas? _____

3. Were dose record forms filled out and provided to personnel? _____

4. Were a pocket dosimeter and TLD issued and was the pocket dosimeter checked for initial reading? _____

5. Were adequate dosimeters and dose record forms available? _____

6. Were protective clothing available? _____

7. If necessary, were KI supplies obtained and issued? _____

8. Were personnel briefed on decontamination locations and when to exit the area based on pocket dosimeter readings? _____

9. Were personnel instructed how to exit radiation areas?

10. If transportation of a contaminated/injured person was demonstrated, were proper health physics procedures followed by ambulance personnel and hospital personnel? _____

11. If necessary, were personnel emergency dose limits authorized by the designated authorities? _____

_____

12. Did the mechanism exist to send TLD badges to the processing facility and did the personnel responsible know the procedures? _____

_____

13. Were dosimeters logged in and final dose readings recorded? _____

_____

14. Was access control maintained where necessary? _____

_____

15. Were personnel familiar with the procedures for their assignment? _____

_____

16. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

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G. DECONTAMINATION/RELOCATION/REGISTRATION

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Was the facility activated efficiently and in a timely manner? _____

2. Was there adequate staffing? _____

3. Were there adequate supplies and equipment? _____

4. Was the facility size adequate? _____

5. Was record keeping adequate? _____

6. Were procedures followed to process evacuees/emergency workers? _____

7. Did processing proceed in an efficient manner? _____

8. Were communications between facilities adequate and was necessary information provided? _____

9. Was access control to the facility implemented and adequate? _____

10. Was traffic control to the facility implemented and adequate? _____

11. If problems or difficulties were presented, did the personnel know how to solve them? _____

12. For decontamination facilities; was the facility arranged according to "good" health physics criteria? _____

13. For decontamination facilities; were procedures followed to determine the need for decontamination? _____
To properly decontaminate personnel? _____
To dispose of contaminated material? _____

14. For decontamination facilities, was monitoring equipment operationally checked and then used properly? _____

15. Was the first aid station manned by qualified personnel? _____

16. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

H. PUBLIC AND MEDIA INFORMATION

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Were press releases prepared on a frequent and timely basis? _____

2. Were press releases coordinated by all release agencies to ensure uniformity of information? _____

3. Was there a designated media spokesperson who had access to all necessary information? _____

4. Was security maintained at the news center? _____

5. Did the press releases provide adequate and appropriate information?

6. Were the press releases reviewed and authorized by designated personnel prior to their release to the media? _____

7. If technical information was required, was that information obtained from the appropriate personnel? _____

8. Were the displays adequate to provide technical details of plant conditions? _____

9. Was the news center facility adequate in size and layout? _____

10. Were press briefings held frequently and on a timely basis? _____

11. Did the media spokesperson present material effectively? _____

12. Were questions by the media handled properly by the media spokesperson?

13. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

I. PUBLIC NOTIFICATION

Name: _____ Date: _____ Facility: _____

Location: _____ Team Leader: _____

1. Was the EBS activation performed according to SOPs? _____

2. Did the state agencies coordinate EBS activation? _____

3. Were the appropriate messages selected for EBS transmission? _____

4. When protective actions were recommended, were the appropriate areas selected? _____

5. Was EBS activation timely? _____

6. Was the prompt notification system activated in sequence with EBS messages? _____

7. Were EBS messages timely? _____

8. Were the prompt notification system sirens effective? _____

9. If route alerting was implemented, was it accomplished efficiently and in a timely manner? _____

10. Were provisions made for the feedback of information regarding the functioning/non-functioning of sirens/EBS? _____

10. OVERALL PERFORMANCE EVALUATION:

Provide your overall evaluation of the efficiency and effectiveness with which assigned tasks were performed. Your assessment should include a designation of the following categories: Outstanding performance, Acceptable Performance or Substandard Performance. Please be specific with regard to Substandard Performance and indicate the basis for your evaluation. Specify whether additional training, equipment, or procedures are required to improve the emergency response.

General Time Line - SGS Exercise - Rev. 1

(For Referees and Observers only)

0800 The failure of resin bed retention element is the trigger for the in-plant area radiation levels that lead to an Alert Emergency condition and associated State and Federal notifications. Some resin fines from the failure make their way past the particulate filter and cause injury to the seals of a reactor coolant pump.

Next a single seal failure of a reactor coolant pump causes a low level noble gas release to the environment. This requires on and off site monitoring, as well as manning of the TSC.

0900 The noble gas release increase is the trigger for the site boundary radiation level conditions that lead to a Site Emergency condition. This leads to EOF manning as well as the State manning the EOC and sending out State field monitoring teams.

A radioiodine release has started (charcoal bed malfunction) which complicates the situation and lays the groundwork for conditions which require taking a vent sample. This release causes the Utility and State to perform long term vegetation and milk sampling.

1000 to 1100 The leaking reactor coolant pump has a failure of its two other seals which leads to a small break LOCA. High containment pressure, or low coolant pressure (from the seal failure) causes Safety Injection which causes a Reactor Trip. The noble gas and iodine releases begin to taper off because of letdown isolation, and slow depressurization of the primary coolant system.

GENERAL TIME LINE - SGS EXERCISE REV I

A transient(thermal+pressure)occurs immediately after the Reactor Trip. This transient causes further fuel failure, which leads to the condition which suggest that a primary coolant sample is needed to evaluate the situation.

1100 The combination of failed fuel (monitor offscale) and the small break LOCA trigger the conditions which lead to a General Emergency being declared (due to reactor plant conditions rather than the usual high dose rates off site). The fact that the inner door of the elevation 100 air lock into containment is broken, and the history of the outer door seal problem lays the groundwork for the probability of a failure of the third boundary. Initial Condition

1300 Reduction in coolant pressure greatly reduces the potential for another radioeffluent release.

1400 Reactor plant pressure reduction gradually terminates the coolant leak. The conditions for deescalation of the emergency class will soon be evident. At this time a 15 min recess will occur in the drill operations to give the players a chance to react to the data concerning the recovery phase of this exercise.

1600 Exercise termination.

SUMMARY OF OFFSITE INITIATING EVENTS

During the exercise, offsite initiating events ("problems") will be supplied by referee/observers to the participants in the State, County, and municipal emergency operations centers and emergency facilities. The referee assigned to each emergency operations center and facility has the authority to determine when and if an offsite initiating event will be supplied to a participant. Each detailed event contains prerequisites for its use. These messages, if provided by the referee, will be given to the communications officer, the EOC operations officer or participants at the emergency facilities. The following is a description of some typical offsite initiating events.

I The following offsite initiating events may be supplied during the Site Area Emergency:

- An agency requires additional personnel to drive vehicles.
- Vehicles have become inoperable due to mechanical failure or lack of fuel
- Dosimeters and TLD's are required for emergency workers
- Decontamination Centers require supplies at the assembly area
- Congregate Care Shelter requests additional personnel

II The following offsite initiating events may be supplied during the general emergency before the release:

- Van or bus breaks down during evacuation
- Child in school in the shelter area requires emergency medical attention
- Road impediment on an evacuation route
- Need for additional County or State vehicles to evacuate population who are without transportation or require special vehicles
- Heavy rescue equipment and personnel required
- Fire outside the EPZ
- Assistance required to prevent unauthorized entry past access control point
- Car on fire on the evacuation route
- Medical attention required for persons on the evacuation route and within the evacuation area

III The following offsite initiating events may be supplied during the general emergency after the release has ended:

- Requirement for additional personnel for sampling teams
- Congregate Care Shelters, relocation centers and decontamination centers require additional personnel, supplies, and equipment
- Traffic congestion in relocation area
- Sampling team requires additional supplies
- Congregate Care Shelter and relocation center require food and supplies

Rev. 1

Specific Time Line

0800 Resin Bed Retention Element fails (resin out into CVCS)(Refer to Diagram #1

Area Monitor near (filter) 2R-26 1000 x normal, after 15 minutes (Alarm: Section B-13)

Later 2R-42B 1000 x normal, 2R-25 normal

Letdown Filter ΔP (only at el. 100' Aux. Bldg. **Local gauge only - no strip chart**) (>50 psi)
#21 WHUT in service **due to maintenance on line to CVCS holdup tanks.**

~0830 Declare ALERT [on 1000 x normal](I-O, Part 1, P. 2, Item #5) as per 2R-26

Primary Coolant leak rate into containment at ~2 GPM

0830 R-4 (up 5 minutes later) 2R-4 100 x normal (Charging Pump)
R-42 B (up 5 to 15 minutes later) (activity in adjacent pipe)

0835 #1 seal leakoff goes to 0 (hi/low alarm in CR) High Standpipe Alarm(fail #2 seal of #22 pump)(data on CR board)

Slight increase in #22 RC pump vibration.

0840 RCDT pumps to #21 WHUT 9first 100 gal) (Aux. Alarm Misc. A-42)
(WHU tanks are permanently connected to the floor drain system)
Gas will escape at Elv. 84 and elv.64)

0845 Low Level release of Noble Gas out vent starts

2R-41C trends up to 5.5E4 c/m (Warning Alarm)

0850 Portable CAM- High Airborne Aux bldg data from HP (telphone CAM data to CR)

Second 100 gallons of RC drain tank pumps to Aux Bldg (R-42 Alarm) 2R-41B increase to 5E4 c/m. If and when an operator is sent to trip the breaker on the Reactor Coolant Drain Tank Pump, his ID access card will not allow him to open the security door into the area. When a security guard arrives the the proper key for the security door the guard breaks off the key in the lock. Access will not be allowed to the area until 1030 hours.

Reactor Coolant Drain Tank Pump on continuously.

Rev. 1

Specific Time Line (2)

0900 | 2R-41C 1.4E6 c/m for 2 minutes | In High Alarm

Trend 2R-41A and B

0915 Partial failure of Charcoal Beds - (radioiodine release starts) - as indicated by 2R-41B continued increase.

2R-41C at $9x10^7$ c/m

2R-31 increasing - trend up

0930 #2 seal on the Reactor Coolant Pump #22 fails. Containment sump cycles very often (Aux. Alarm A-42).

1000 to 1030 | Site | 50 mR/hr γ for ½ hour [I-O, Part 1, P. 1, Item #3C(1)] on offsite dose projection

200 mR/hr thyroid projected dose reinforces the Site category.

1030 RC drain tank pumps continuously to Aux. Bldg. (A-42 Alarm) due to the failure of #3 seal. The conditions for a small break LOCA now exist.

2R-41B increase

#22 RC Pump. Containment pressure alarm 0.3 psig. Leak rate $\tilde{=}$ ±00 g/m.

Containment Pressure & Humidity increasing. Mismatch of letdown and charging flows.

Rx coolant Pump vibration increases slowly.

Rev. 1

Specific Time Line (3)

1030 Reactor Trip due to Safety Injection on High Containment pressure (4.0 psig), or low coolant pressure due to seal failure.

Letdown isolation occurs.

Containment Pressure trends up slowly and humidity is increasing.

Offsite dose starts to decrease because of both letdown isolation and isolation coolant drain tank pump.

RC Pump water starts to drop into Containment.

1045 2R-21 20 R/hr, + R-2 & 7, 10A all off scale (failed fuel).

#22 Rx Coolant Pump vibration offscale high (both sets) (>5 mil) (RR Alarm).

2R-12A & B - rapid rise, 2R-11A follows

1100 General due to LOCA and Failed Fuel. The potential for loss of containment is due to the fact that the inner door to the el. 100 air lock is broken and the outer door has a history of problems with its seals (Containment pressure trends up to ~10 psig at ~1130 hours).

2R-41C = offscale

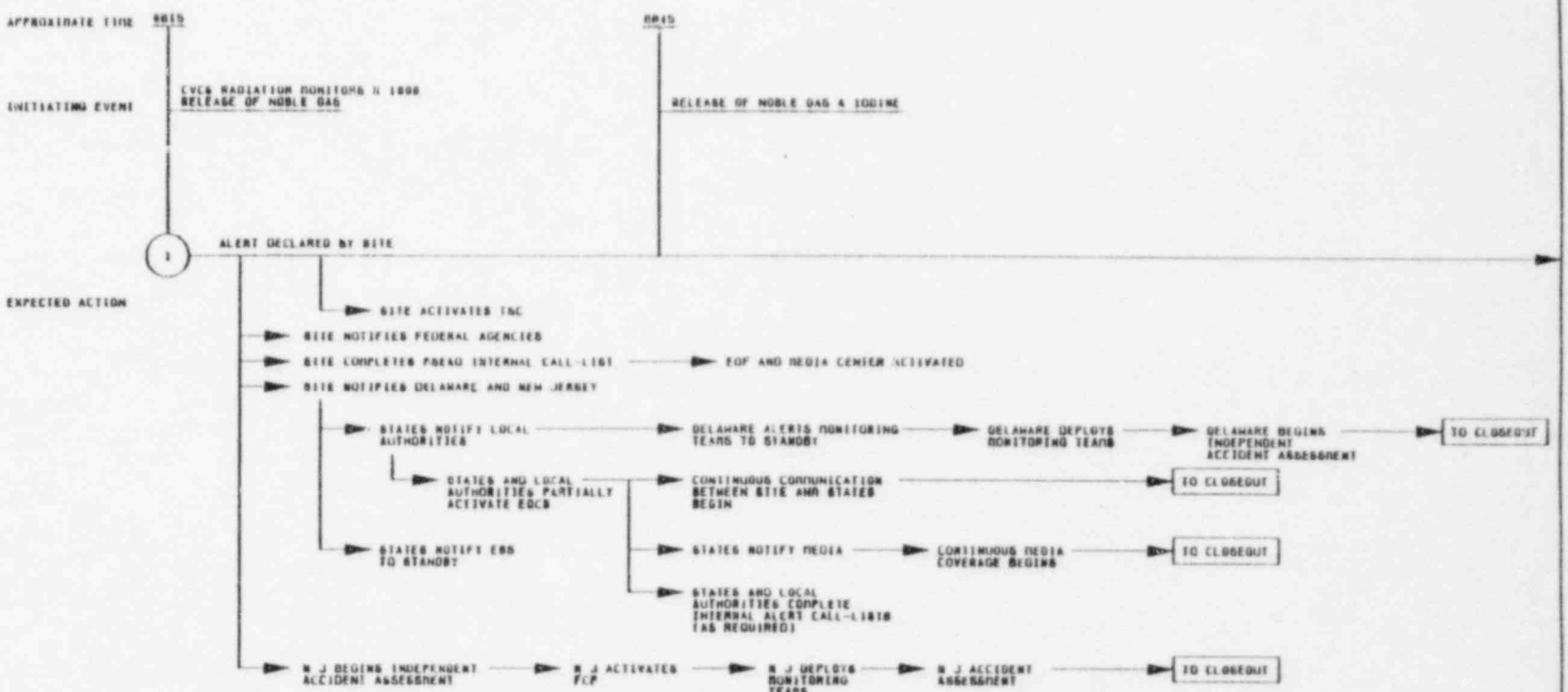
2R-41B = off scale

2R-43 = 7.8 mR/hr

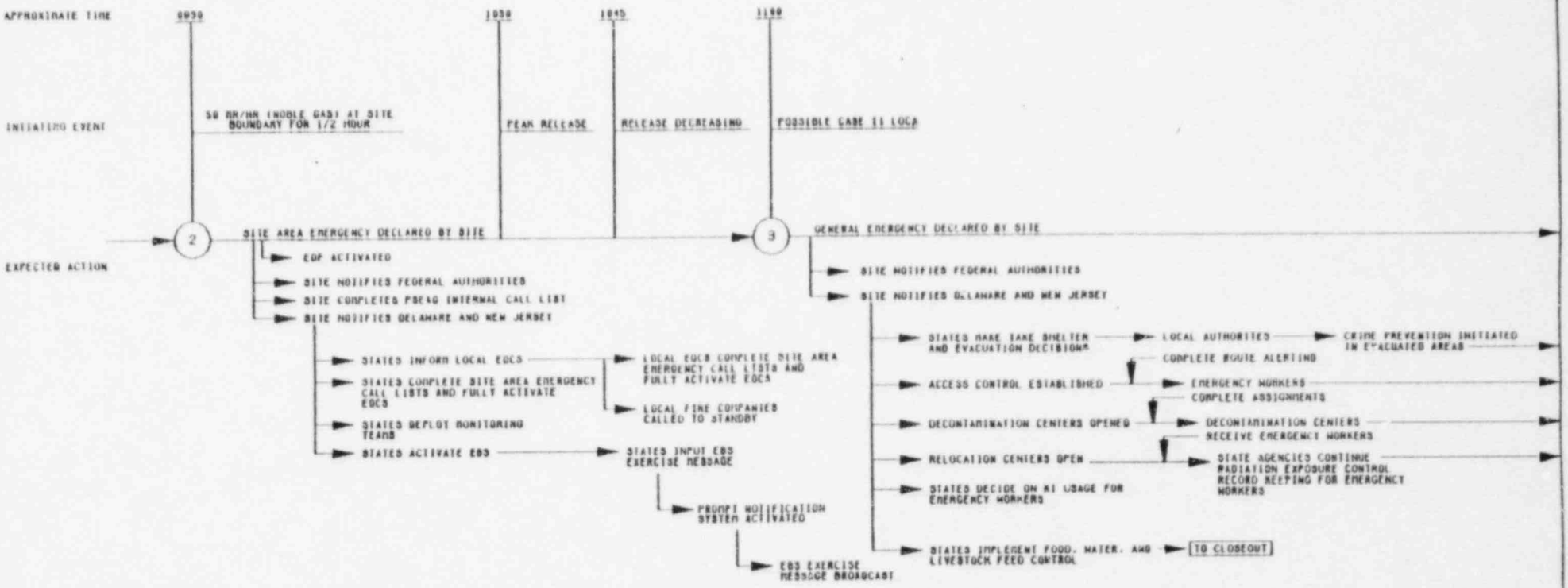
1130 Containment pressure starts to decrease due to startup of chillers.

1300 (Deescalation) Pressure reduction greatly reduces leak due to depressurization.

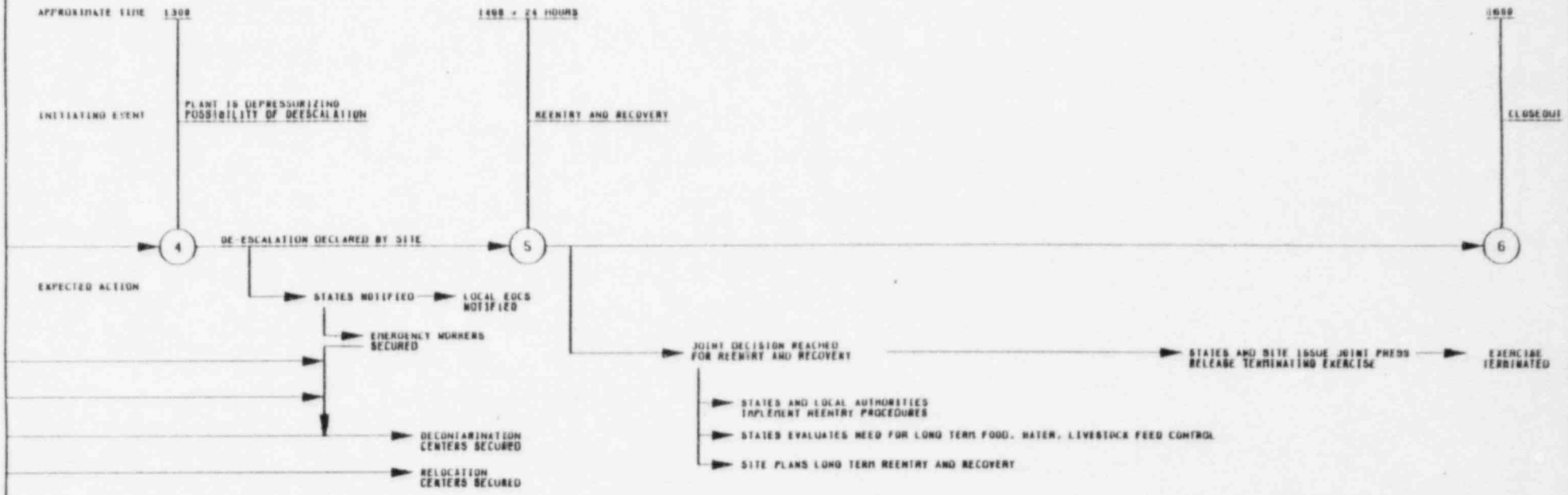
1400 Exercise termination - start recovery operation - use data for 24 hours later.



1982 SGS EXERCISE
EXPECTED ACTION FLOW DIAGRAM
PAGE 1 OF 3



1982 EGS EXERCISE
EXPECTED ACTION FLOW DIAGRAM
PAGE 2 OF 3



1982 SGS EXERCISE
EXPECTED ACTION FLOW DIAGRAM
PAGE 8 OF 8

NEW JERSEY
DETAILED INITIATING EVENTS

1. Bureau of Radiation Protection's monitoring team car inoperable on Route 295 junction Route 48. Request car with radio equipment to transport team to monitoring locations.

   Prerequisite: BRP Monitoring teams displayed

2. Cumberland County Public Health Coordinator requests transportation to County EOC, car is stalled on Route 77 near Carlis Corner.

   Prerequisite: Notification of report to EOC

3. New Jersey Department of Corrections EOC representative requests transportation to State EOC, car is inoperable on Rte 29 and Lee Avenue.

   Prerequisite: Notification to report to EOC

4. Salem County EOC request information from fire departments regarding the number of persons on file who indicated they would need transportation in an emergency.

   Prerequisite: Site Area emergency

5. Quinton Police report a call from the Quinton Township school superintendent's office. They reported that a bus with 40 students and two teachers are on a nature hike somewhere near Laurel Lake. Parents have heard about the emergency at Salem Generating Station and are very worried. Request State Police helicopter to search area to locate and warn them.

   Prerequisite: EBS broadcast

6. Request for State Police to fly helicopter over Stow Creek to notify public to listen to EBS. Siren inoperable and fire department engaged in a working fire and cannot estimate when they would be available.

   Prerequisite: EBS broadcast

7. Salem City schools request Salem City EOC to advise them whether to evacuate as a precaution.

   Prerequisite: Site Area emergency

8. Salem Airport request Quinton EOC to advise them whether to suspend flights in and out of the airport. If not, are there air lanes that aircraft should avoid.

   Prerequisite: Site Area emergency

9. Request Marine Police search for and notify a group of scientist from Rutgers University reported on a research expedition near Mill Creek Cove.

   Prerequisite: Site Area Emergency

10. Request that Division of Parks and Forestry close the Mad Horse Creek Wildlife area to the public.

    Prerequisite: Site Area Emergency

11. Request Department of Transportation provide trucks to transport potassium iodide from warehouse in Cranbury.

    Prerequisite: Site Area emergency

12. Request New Jersey Transit provide 2 buses to transport State Police personnel assigned to assist in access and traffic control in Salem County.

    Prerequisite: Access control ordered

13. Request Department of Transportation provide 10 flashing arrow boards for use on Harding Highway junction roads leading south.

    Prerequisite: Access control ordered

14. Request Department of Transportation provide 50 barricades for use in access control on Route 77 junction roads leading west.

    Prerequisite: Access control ordered.

15. Road repair crew reported on Route 667 near Jericho Road. Equipment partially blocking the roadway is immovable.

    Prerequisite: Access control ordered

16. Request NJSP provide traffic control on Route 40.

    Prerequisite: Protective Actions recommendations ordered

17. Request Division of Parks and Forestry assist National Refuge and Fort Mott park personnel in notifying the public to take shelter.

    Prerequisite: Protective Actions recommendations ordered

18. Child is severely injured at Salem City Middle School. Child has concussion and multiple fractures requiring immediate transportation to hospital. Helicopter advised due to road congestion because of evacuation.

    Prerequisite: Protective Actions in progress

19. Salem County Road Department request dosimeters for drivers taking barriers into the area.

    Prerequisite: Protective actions recommendations ordered

20. Elsinboro requires additional personnel for access control operations.

    Prerequisite: General emergency

21. Lower Alloways Creek requires additional personnel for access control operations.

    Prerequisite: General emergency

22. Quinton requires additional personnel for access control operations.

    Prerequisite: General emergency

23. Mannington requires additional dosimeters and dose record forms for emergency workers.

    Prerequisite: General emergency

24. Elsinboro requires 5 buses to evacuate people who do not have transportation.

    Prerequisite: General emergency - evacuation ordered

25. Request for 5 ambulances to evacuate a boarding home for non-ambulatory persons in Elsinboro.

    Prerequisite: General emergency - evacuation ordered

26. Golf player on Quinton golf course is suffering from an apparent heart attack. Ambulance is requested.

    Prerequisite: General Emergency - Protective actions ordered

27. Anchor Hocking in Salem City has called reporting that employees who live in Elsinboro want to go home to be with their families. What information can be provided to these employees.

    Prerequisite: General emergency - protective actions ordered

28. Bureau of Radiation Protection request Department of Health provide medical recommendations for emergency workers.

    Prerequisite: General emergency

29. Need personnel for traffic control at congregate care center.

    Prerequisite: Center activated

30. Request 2 nurses from Department of Human Services for the congregate care center.

    Prerequisite: Center activated

31. Request for additional personnel to assist in record keeping at the decon center.

    Prerequisite: Decon center activated

32. Request additional personnel to assist in processing evacuees at the shelter.

    Prerequisite: Center activated

33. Radio call from head boat - reported sinking with 60 people aboard located somewhere east of Liston Pt.

34. Helicopter locates boat. Listing heavily. Position 39° 25' lat. 75° 30' long.

35. Bureau of Radition Protection request State Police transport samples from the Forward Command Post to West Trenton.

    Prerequisite: Sampling initiated

36. Request Department of Human Services provide public health personnel at congregate care center.

    Prerequisite:Center activated

37. Request that Department of Defense put on standby 20 guardsmen to assist reentry procedures if necessary.

    Prerequisite: De-esclation

38. Estimated # of people on roads _____ Estimated # of people in congregate care center _____.

    Prerequisite: De-escalation

39. Farmer in Elsinboro wants to return to his farm to feed his animals. Can he do so?

    Prerequisite: De-escalation

40. Elsinboro requires information to coordinate traffic control operations.

    Prerequisite: Reentry

41. Pennsville request 5 police officers to assist in law enformcement operations.

    Prerequisite: Reentry

42. Salem police report 15 to 20 persons looting a tavern on _____. Request State Police assistance in transporting these people to appropriate lock-up.

    Prerequisite: Reentry

43. Evacuated boaters want to return to marinas - proposed course is upriver to Penn Beach from Cohansey Cove.

    Prerequisite: Reentry

44. Request county identify locations of roadside produce stands, farms, dairy and livestock concerns.

    Prerequisite: Reentry

45. Request New Jersey Transit provide 5 buses for reentry operations.

    Prerequisite: Reentry

46. Request Department of Defense helicopter transportation to bring additional sampling teams to Fort Elfsborg.

    Prerequisite: Reentry

47. Request Department of Defense provide forces to man access control as a relief for State Police.

    Prerequisite: Reentry

48. Request Department of Agriculture locate sources of feed for the farms in the ingestion zone.

    Prerequisite: Reentry

49. Request Department of Agriculture make an evaluation of the effects upon the ingestion zone (i.e. need for stored feed and interdiction of farm produce.

    Prerequisite: Reentry

50. BEL (Bureau of Environmental Laboratories) request DOH provide them with technicians to prepare samples at their lab in West Trenton.

    Prerequisite: Reentry

51. Request Division of Water Resources begin to sample wells surrounding the generating station.

52. Request BEL examine shellfish and fin fish samples collected by Department of Health

    Prerequisite: Reentry

53. BERC request mobile laboratory be sent to Salem County to reduce transit time of samples.

    Prerequisite: Reentry

54. Request NJSP provide transportation for milk samples taken in ingestion zone.

    Prerequisite: Reentry

55. Request mobile food canteens for emergency workers.

    Prerequsite: Reentry

Congregate Care Shelter/Decontamination Center
Offsite Initiating Events

The following problems may be provided at the discretion of the referee to Congregate Care Shelter/decontamination center personnel.

1. Several newsmen and reporters, with lights, cameras and microphones, have arrived at the congregate care shelter. They want to get all possible information from the official in charge, to film in the shelter and to interview evacuees.

What response is appropriate? Who will deal with these people? Do they have access credentials? Can they interview evacuees? Film in the Shelter?

2. An evacuee, after monitoring and two showers is found to be still contaminated.

What action is required? Who is in charge of carrying it out? If medical treatment is required who will transport the patient and to what medical facility will the patient be taken? Were extra clothes available? Where could you get them?

3. A family of 9 arrives at the congregate care shelter in a vehicle with Pennsylvania plates. None of the evacuees know them and they show no contamination.

What do you do? Do you assign them to the shelter? If not, why not?

4. You are asked to provide barricades for traffic control.

To whom will you go to get them? Who will haul them?

Decontamination Centers
Offsite Initiating Events

The referee will provide the following information to the radiological monitors for some of the emergency workers and "evacuees" being processed through the centers.

A.	Background reading (CDV 700)	- 15 cpm
	Surface reading (CDV 700) clothing, skin, hands, hair	- 200 cpm and above
B.	Background reading (CDV 700)	- 15 cpm
	Thyroid reading (CDV 700 window closed)	- above 15 cpm

In order to fully demonstrate radiological monitoring and decontamination capabilities the referee will provide data to the monitors which indicates that a few volunteers hypothesized to be contaminated, after processing through decontamination procedures, would require additional decontamination.

DELAWARE
DETAILED INITIATING EVENTS

1. Dept. of Agriculture staff request transportation to State EOC. Their car is stalled on Route 13 junction 301S.

   Prerequisite: Notification to report to EOC

2. Field monitoring team car inoperable on Route 72 junction 301S. Require DSP car with radio equipment to transport team to monitoring locations.

   Prerequisite: DPH and DEC deployed teams

3. DSP request access restricted to DPR parks and recreation areas.

   Prerequisite: Site Area Emergency

4. Request DOT provide transportation of potassium iodide supplies from Dept. of Public Safety Building in Greater Wilmington to the New Castle Police Department headquarters. NCCPD Middletown Office does not have enough supplies for anticipated need.

   Prerequisite: Site Area Emergency

5. Schools request information as to whether to evacuate as a precaution.

   Prerequisite: Site Area Emergency

6. Calls to State EOC inquiring whether classes should be cancelled at Delaware State College. What is the policy for the duration of the emergency.

   Prerequisite: Site Area Emergency

7. Request DOT provide 4 flashing arrow boards to Kent County police.

   Prerequisite: Site Area Emergency

8. DSP requested to support USCG with route alerting along the Delaware River, provide DSP helicopter with PA system.

   Prerequisite: EBS broadcast

9. Request DFW locate party of 6 research scientists reported to be on Reedy Island. Evacuation assistance required, their boat has returned to the marina and the pilot cannot be located.

   Prerequisite: EBS broadcast

10. Request marine police search for and notify a group of scientists in canoes reported to be somewhere inside Augustine Wildlife area.

    Prerequisite: EBS broadcast

11. DSP request DFW provide personnel to assist game wardens and marine police in Collins Beach to alert fishermen.

    Prerequisite: EBS broadcast

12. Kent police report a call from Dover High School superintendent's office. They report that a bus with 40 students and two teachers are on a nature hike somewhere in the Silver Run Wildlife area. Parents have heard about the emergency at Salem Generating Station and are very worried. Request helicopter to search area to locate and warn them.

    Prerequisite: EBS broadcast

13. Siren failure reported at Woodland Beach request Fire Department to do route alerting.

    Prerequisite: EBS broadcast

14. Request DOT provide 100 barricades for use in access control, deliver to New Castle police headquarters.

    Prerequisite: Site Area Emergency

15. County request fire departments provide list of persons who indicated thay need transportation on the card enclosed in the public information booklet. Could the fire companies handle their evacuation or is assistance necessary?

    Prerequisite: Site Area Emergency

16. DSP request Dela. Marine Police support access control operations by restricting access of watercraft to Appoquinimink River. Establish and maintain access control point.

    Prerequisite: Access Control Implementation

17. DSP request DPR man highway access control point 7A, intersection Thomas Corners Road and Route 13.

    Prerequisite: Access Control Implementation

18. Road repair crew was working near Biddles Corner on Route 13. One lane partially blocked for 500 feet due to heavy equipment left by the crew blocking the roadway.

Prerequisite: Access control implementation

19. Request Transportation Authority provide a bus to evacuate children stranded at unlicensed day care center in Port Penn.

    Prerequisite: Protective actions ordered

20. Insufficient bus drivers available to evacuate Fran Val School. Can the State arrange for more buse drivers?

    Prerequisite: Protective actions ordered

21. Request 5 ambulances to evacuate a boarding home for non-ambulatory persons in Port Penn.

    Prerequisite: Protective actions ordered

22. Request 10 buses to evacuate people without autos in Port Penn.

    Prerequisite: Protective actions ordered

23. Need additional personnel to assist in processing evacuees at registration center.

    Prerequisite: Protective actions ordered

24. New Castle needs additional dosimeters and dose record forms for emergency workers.

    Prerequisite: Protective actions ordered

25. ARC request Dept. of Public Instruction provide 5 of their personnel to assist at the relocation center.

    Prerequisite: Relocation Center activated

26. Request for additional personnel to assist in record keeping at the decon center.

    Prerequisite: Decon Center activated

27. Request for additional personnel for traffic control at registration center.

    Prerequisite: Center activated

28. Road Department request dosmeters for drivers taking barrier's into the area.

    Prerequisite: Access control implemented

29. Access control reports 2 buses carrying 50 people and cars carrying 60 people are still enroute to the registration center. Shelter manager reports 150 people have been processed in the registration center and 25 more are waiting to be processed.

    Prerequisite: De-escalation

30. Heart attack victim reported in Ginns Corner in the Townsend Elementary School requiring medical attention.

    Prerequisite: De-escalation

31. Kent PD report call from motorist on CB Channel 9 reporting a tank truck overturned on junction of Route 9 and 317. Report indicates tanker is leaking. Request assistance.

    Prerequisite: Reentry

32. Kent PD report motorist states that tank truck's number is 1043. Request State Police block off Route 9.

    Prerequisite: Preceding event

33. Kent PD arrival at accident confirms tanker is leaking. Closng Route 9 awaiting arrival of State forces.

    Prerequisite: Preceding event

34. Field personnel have investigated and report that the fuel tank was leaking not the contents of the main tank. Request tanker to offload contents as a precaution.

    Prerequisite: Preceding event

35. DEPO request DOH provide medical recommendation for emergency workers.

    Prerequisite: De-escalation

36. County police request ETA of State police to help man access control points.

    Prerequisite: Reentry

37. Request DSP stop milk tank trucks from leaving ingestion zone in NW sector.

    Prerequisite: Reentry

38. Request DSP assist DOH in enforcing order to close eating establishments in the affected area.

Prerequisite: Reentry

39. Request DOD helicopter to transport additional sampling teams to Port Penn area.

    Prerequisite: Reentry

40. Request county identify locations of roadside produce stands, farms, dairy and livestock feed concerns.

    Prerequisite: Reentry

41. Program Director ORCS of the DPH activates IPAG.

    Prerequisite: Reentry

42. University of Delaware boats not available to transit to the sampling sites. Need one additional boat for DFW Fin Fish and Shellfish Sampling Group.

    Prerequisite: IPAG activated

43. DEC request vehicles for transportation of water samples to Civil Air Patrol Building. Location of team to be provided by DPH.

    Prerequisite: Reentry

44. Request DEC Dover Laboratory examine shell and fin fish samples collected by DFW. ETA one half hour.

    Prerequisite: Reentry

45. DPH request DSP provide transportation of milk samples. Location of samples to be provided by Program Director of the Office of Institutional and General Sanitation.

    Prerequisite: Reentry

46. Request DPH sample wells. Report locations to be sampled to the State EOC advisory group.

    Prerequisite: Reentry

47. Request DOA make an evaluation of the effects upon the ingestion zone (i.e. use of stored feed, interdiction of food crops).

    Prerequisite: Reentry

48. DOA requested to locate sources of feed for farmers in the ingestion zone.

Prerequisite: Reentry

49. DPH request DOT to coordinate with DOA for transportation of alternate feed supplies for livestock taken off pasture. DOA requires 5 trucks.

Prerequisite: Reentry

50. Farmers in the evacuated area want to return to their farms to feed their animals. Can they do so?

Prerequisite: Reentry

51. Request DOA collect samples from roadside stands.

Prerequisite: Reentry

52. Request mobile food canteens for emergency workers.

Prerequisite: Reentry

53. New Castle PD request 5 State Police to assist in law enforcement operations.

Prerequisite: Reentry

54. Evacuated boaters request information about when they can return to their marinas. Course downriver from Deemers Beach to Bay View Beach.

Prerequisite: Reentry

55. Request DOD put on standby 20 guardsmen for possible assistance in reentry procedures.

Prerequisite: Reentry

56. DSP request 10 national guardsmen report 4 hours from now to assist in traffic control reentry operations.

Prerequisite: Reentry

57. DPR assistance in law enforcement and crime prevention requested in Delaware State Park.

Prerequisite: Reentry

58. New Castle County PD report 15 to 20 persons are looting an appliance store in Odessa. Request State Police assistance in transporting these people to appropriate lock-up.

Prerequisite: Reentry

59. Request DSP fly medical helicopter to transport accident victim from scene of traffic accident on junction of Route 13 and 896. Victim has extensive burns.

    Prerequisite: Reentry

60. Request Transportation Authority provide 5 buses for reentry procedure.

    Prerequisite: Reentry

61. Request DSP assist in law enforcement and crime prevention in Middletown.

    Prerequisite: Reentry

62. County requests traffic control assistance on roads leading to Port Penn.

    Prerequisite: Reentry

63. Marine Police reports a motor boat with 12 people aboard is stalled off waters near Cedar Swamp. Require rescue.

    Prerequisite: Reentry

64. Val Fran Training Home has evacuated to Brandywine High School. Request information on when they can return.

    Prerequisite: Reentry

65. DEPO requests DART provide buses to assist transporting residents back to their homes. Coordinate with ARC to determine number of people needing transportation.

    Prerequisite: Reentry

66. Relocation Center provides the following information: 29 people do not have cars to return home.

    Prerequisite: Reentry

67. Registration Center requested to prepare equipment inventory and note deficiencies in order to have the emergency stores replenished.

    Prerequisite: Reentry

Decontamination Centers
Offsite Initiating Events

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B.	Background reading (CDV 700)	- 15 cpm
	Thyroid reading (CDV 700 window closed)	- above 15 cpm

In order to fully demonstrate radiological monitoring and decontamination capabilities the referee will provide data to the monitors which indicates that a few volunteers hypothesized to be contaminated, after processing through decontamination procedures, would require additional decontamination.

Registration/Decontamination Center
Offsite Initiating Events

The following problems may be provided at the discretion of the referee to Registration/decontamination center personnel.

1. Several newsmen and reporters, with lights, cameras and microphones, have arrived at the center. They want to get all possible information from the official in charge, to film in the center and to interview evacuees.

What response is appropriate? Who will deal with these people? Do they have access credentials? Can they interview evacuees? Film in the center?

2. An evacuee, after monitoring and two showers is found to be still contaminated.

What action is required? Who is in charge of carrying it out? If medical treatment is required who will transport the patient and to what medical facility will the patient be taken? Were extra clothes available? Where could you get them?

3. A family of 9 arrives at the center in a vehicle with Pennsylvania plates. None of the evacuees know them and they show no contamination.

What do you do? Do you assign them to the relocation center? If not, why not?

4. You are asked to provide barricades for traffic control.

To whom will you go to get them? Who will haul them?

2.1 TABLE OF CONTENTS

DATA SHEETS

MET DATA - REV. 1

Time	Wind Direction (Toward)	Wind Speed	Differential Temperature
0800	354°	3 MPH	ΔT = -0.75 °C/100 meters
0830	0.0°	3 MPH	ΔT = -.7 °C/100 meters
0900	348°	3 MPH	ΔT = -.65 °C/100 meters
0930	346°	3 MPH	ΔT = -.60 °C/100 meters
1000	356°	3 MPH	ΔT = -.65 °C/100 meters
1030	350°	3 MPH	ΔT = -.60 °C/100 meters
1100	2°	3 MPH	ΔT = -.7 °C/100 meters
1130	0°	3 MPH	ΔT = -.75 °C/100 meters
1200	358°	3 MPH	ΔT = -.80 °C/100 meters
1230	354°	3 MPH	ΔT = -.85 °C/100 meters
1300	350°	3 MPH	ΔT = -.9 °C/100 meters
1330	348°	3 MPH	ΔT = -1.0 °C/100 meters
1400	346°	3 MPH	ΔT = -1.2 °C/100 meters

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PROCESS MONITOR	BKGR CPM	0800	0815	0830	0845	0900	0915	0930	0945	1000	1015	1030	1045	1100	1115	1130	1145	1200	1215	1230
2-R1B CR122*	40	42	43	41	39	37	38	40	42	43	41	37	39	38	40	38	39	37	43	42
2-R11A RX28*	3000	3100	3200	3100	2900	2800	3000	3100	3200	4250	5500	6200	7900	8400	9100	284	2.5E4	3E4	4E4	5E4
2-R12A RX28*	4000	4100	3900	4000	4200	3800	3900	4400	4200	3800	3600	4100	3.5E4	5E4	6E4	6.5E4	7.5E4	9E4	1E5	1.1E5
2-R12B RX28*	350	360	365	370	375	380	390	395	405	408	415	510	9E4	1.5E5	1.5E5	1.5E5	1.6E5	1.6E5	1.6E5	1.6E5
2-R15 IB100*	50	50	52	51	49	52	48	51	49	54	52	48	46	50	51	49	55	45	47	53
2-R16Vent 192*	200	220	210	215	5.6E4	1.5E5	1.7E5	2.6E5	3.7E5	5.3E5	7.6E5	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale
2-R41A RX100*	50	52	55	60	65	75	90	100	110	120	130	140	150	155	165	170	175	180	180	185
2-R41B RX100*	50	50	48	52	3.0E4	2.7E5	1.6E5	2.5E5	3.6E5	5.2E5	2.4E5	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale
2-R41C RX100*	50	50	50	50	5.5E4	1.4E5	1.5E5	1.7E5	2.1E5	3.0E5	4.1E5	5.5E5	5.4E5	5.3E5	5.1E5	5.0E5	4.8E5	4.6E5	4.5E5	4.5E5
2-R11AUX 84*	2.5E4	1E5	1.2E5	1.3E5	1.4E5	1.5E5	1.8E5	2.0E5	2.3E5	4.2E5	7.4E5	9E5	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale
R43 IB Roof	mR/hr	0.1	0.1	0.1	0.1	2.2	2.4	2.7	3.5	4.4	6.6	8.8	8.3	7.8	7.3	6.8	6.4	6.0	5.6	5.2
ARM	mR/hr																			
2R1A CR	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.8	0.1	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1
2R2 RX30*	2.5	2.5	2.4	10	250	750	1100	2300	4500	6500	8000	1E4	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale
2R4 AUX 84	0.3	30	36	39	42	45	54	60	69	126	220	270	300	305	300	290	305	295	300	305
2R5 FHB130*	0.8	0.8	0.2	0.8	0.9	0.8	0.2	0.6	0.2	0.9	0.9	0.8	0.7	0.6	0.7	0.8	0.9	1.0	0.9	0.8
2R7 RX100*	2.4	2.5	2.5	8	75	625	1000	2200	4000	6000	7500	9500	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale
2R9 FHB130*	2	2.0	1.9	1.8	1.9	2.0	2.1	2.2	1.9	2.1	2.3	1.8	2.0	2.1	1.9	1.8	2.0	2.2	2.4	1.9
2R10A RX100*	0.5	0.6	0.7	2	60	525	950	1900	3800	5900	7200	9000	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale
2R10B RX130*	1.0	1.1	1.0	0.9	55	500	900	1700	4000	6000	7000	8500	off scale							
01 2R24A AUX84*	30	300	360	390	420	450	540	600	690	1260	2200	2700	3000	3050	3000	2950	3000	2950	3050	3000
01 2R24B AUX84*	0.2	20	24	26	28	30	36	40	46	84	143	180	200	205	200	195	200	195	205	200
2R25 AUX84*	11	100	120	130	140	150	180	200	230	420	740	900	1000	1010	1005	1000	995	995	1000	1005
2R26 AUX100*	4.5	4.5E3	4.1E4	2.7E4	1.1E5	1.5E5	1.5E5	1.4E5	1.5E5	1.5E5	1.4E5	1.5E5	1.5E5	1.5E5	1.5E5	1.4E5	1.5E5	1.5E5	1.5E5	1.5E5
2R27 AUX64*	0.2	0.7	0.6	0.8	0.2	0.7	0.6	0.8	0.2	0.9	0.7	0.5	0.6	0.8	0.7	0.8	0.7	0.6	0.8	0.7
2R28 AUX100*	0.1	0.1	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1
2R29 FHB84*	1.0	1.0	1.1	1.2	1.1	1.0	0.9	0.8	0.9	0.5	1.0	1.1	1.2	1.1	1.2	1.1	1.0	0.8	0.9	1.0
01 2R30 AUX100*	0.1	0.1	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1
2R32A FHB130*	0.8	0.8	0.2	0.8	0.9	0.8	0.2	0.6	0.2	0.9	0.8	0.8	0.7	0.6	0.7	0.8	0.9	1.0	0.9	0.8
01 2R33 AUX100	1.1	381	2.7E4	5.1E4	7.3E4	1E5	1E5	9.3E4	1.1E5	1E5	9.3E4	1.1E5	1E5	1E5	1E5	9.5E4	1E5	1E5	1E5	1E5
2R34 AUX100*	1.0	1.0	0.9	1.0	0.8	0.9	1.0	1.1	1.2	1.1	1.2	1.1	1.0	0.9	0.9	0.9	0.8	0.9	1.0	1.1
01 2R38 AUX122*	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.4	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1
2R40 CP100*	0.1	0.2	0.1	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.3	0.2
.01 2R42A AUX64*	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.3	0.2	0.3	0.4	0.3
.01 2R42B AUX64*	0.3	0.4	300	1200	2.5E4	4.1E4	4.2E4	4.1E4	4.2E4	4E4	4.1E4	4.2E4	4E4	4.1E4	4E4	3.9E4	4E4	3.9E4	4.1E4	4.0E4
.01 2R42C AUX64*	0.4	0.5	0.4	0.3	0.4	0.5	0.6	0.2	0.6	0.1	0.4	0.3	0.2	0.3	0.4	0.5	0.4	0.3	0.4	0.5
.01 2R42D AUX64*	1.5	1.5	1.6	1.5	1.4	1.3	1.3	1.3	1.4	1.1	1.6	1.7	1.5	1.3	1.5	1.7	1.6	1.5	1.4	1.3
R6A AUX110*	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.6	1.1	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
2R21 CONT	0.1 R/hr	0.2	0.2	0.3	0.2	0.8	1.9	3.2	4.5	6.0	7	12	20	21	20	19	20	18	19	20

*Note R43 reads out in U-1 Control Room when used

and R6A read out etc.

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PROCESS MONITOR		BKGR CPM	1245	1300	1315	1330	1345	1400	1415		1445	1500	1515	1530	1545	1600	1400 + 24 hrs
2-R1B CP	122°	40	41	40	44	42	38	36	39	41	40	39	41	43	32	40	40
2-R11A RI	78°	3000	5.5E4	5.6E4	3.7E4	3.6E4	3E4	2.8E4	2.6E4	2.1E4	1.7E4	9000	7000	6100	4200	3650	3100
2- A	78°	4000	1.2E5	1.2E5	1E5	9E4	7E4	5E4	4E4	3E4	2E4	1E4	8000	6000	5500	5200	4000
2-R12B	78°	350	1.6E5	1.6E5	1.6E5	1.7E5	1.7E5	1.7E5	1.7E5	1.7E5	1.7E5	1.7E5	1.7E5	1.7E5	1.7E5	1.7E5	350
2-R15 TB	100°	50	51	50	48	46	50	54	52	50	52	48	52	48	51	50	50
2-R16 Vent	192°	200	4.5E6	4.4E6	4.3E6	4.2E6	4.1E6	4.0E6	3.9E6	3.8E6	3.7E6	3.5E6	3.4E6	3.4E6	3.3E6	3.2E6	225
2-R41A RX	100°	50	185	190	190	190	190	190	195	195	195	195	195	195	195	195	50
2-R41B RX	100°	50	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	50
2-R41C RX	100°	50	4.1E6	4.2E6	4.1E6	4E6	3.9E6	3.8E6	3.7E6	1.6E6	3.5E6	3.4E6	3.3E5	3.3E6	3.2E6	3.1E6	50
2-R31AUX	84°	2.5E4	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	off scale	485
R41 TO	Roof	mR/hr	4.9	4.6	4.3	4.0	3.7	3.5	3.2	3.0	2.8	2.6	2.4	2.3	2.2	2.0	0.1
ARM		mR/hr															
2R1A	122°	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.3	0.2	0.1	0.1	0.2
2R2	130°	2.5	off scale	9E4	7.5E4	6.2E4	4.8E4	3E4	1.5E4	8000	2000	1150	750	340	14	6.5	2.5
2R4	AUX 84°	0.3	295	300	305	300	290	295	290	300	310	305	300	295	305	300	0.3
2R5	FHB 130°	0.8	0.7	0.6	0.7	0.8	0.8	0.8	0.7	0.7	0.6	0.8	0.9	0.8	0.7	0.8	0.8
2R7	100°	2.4	off scale	8.5E4	7E4	5.8E4	1.2E4	2.2E4	1.1E4	7500	1600	1050	700	320	12	5.5	2.4
2R9	FH 130°	2.0	1.7	1.8	2.0	2.2	2.1	1.9	2.1	1.8	2.2	2.0	2.1	1.9	2.0	2.0	2.0
2R10A	100	0.5	off scale	9E4	7.1E4	6.1E4	1.1E4	2E4	1E4	6000	1500	750	400	125	92	85	0.5
2R10B	130	1.0	8E5	7E4	6E4	5E4	3E4	2E4	1E4	5000	1300	700	360	100	90	80	1.0
2R11	84°	30	3025	3000	2975	3000	2975	3000	3025	3010	2990	2995	3010	3005	3000	3000	30
2R12	84°	0.2	195	190	200	195	200	210	205	200	195	200	205	210	205	200	0.2
2R13	84°	11	1000	1005	1010	1005	1000	995	990	980	990	1000	1010	1015	1005	1000	11.0
2R26	100°	4.5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	1.5E5	484
2R27	84°	0.7	0.6	0.8	0.7	0.6	0.5	0.6	0.7	0.8	0.9	0.8	0.7	0.7	0.7	0.7	0.5
2R28	100°	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1
2R29	FHB84°	1.0	1.1	0.9	0.8	0.9	1.0	1.1	1.0	0.9	0.8	0.9	1.0	1.1	1.0	1.0	
2R30	AUX100°	0.1	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.1	0.1
2R32A	FHB130°	0.8	0.2	0.6	0.2	0.8	0.8	0.8	0.7	0.7	0.6	0.8	0.9	0.8	0.7	0.8	0.8
2R33	AUX100°	1.1	1E5	1E5	1E5	1E5	1E5	1E5	1E5	1E5	1E5	1E5	1E5	1.0E5	1.0E5	1.0E5	2.7E4
2R34	AUX100°	1.0	1.0	1.1	1.0	1.2	1.1	1.0	0.9	1.0	1.1	1.2	1.1	1.0	0.9	1.0	1.0
2R39	AUX122°	0.1	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.1	0.1
2R40	CP100°	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1
2R42A	AUX64°	0.2	0.2	0.1	0.2	0.3	0.2	0.3	0.4	0.3	0.2	0.1	0.2	0.1	0.2	0.2	0.2
2R42B	AUX64°	0.3	4E4	3E4	2E4	1E4	8500	6500	2300	1300	1000	925	750	325	60	0.4	0.3
2R42C	AUX64°	0.4	0.6	0.5	0.4	0.3	0.2	0.3	0.4	0.5	0.4	0.3	0.2	0.3	0.4	0.4	0.4
2R42D	AUX64°	1.5	1.2	1.3	1.4	1.5	1.6	1.7	1.5	1.3	1.4	1.6	1.5	1.7	1.6	1.5	1.5
86A	AUX110°	0.2	1.5	1.5	1.4	1.5	1.6	1.5	1.4	1.5	1.6	1.5	1.5	1.5	1.5	1.5	0.2
2R21	CONT	0.1 R/hr	20	21	20	19	18	16	14	11	9.0	6.0	3.0	1.5	0.7	0.3	0.1

*Note R41 reads out in U-1 Control Room when used

and 86A read out etc.

CRT READOUTS

TIME _____

PROCESS MONITOR	DESCRIPTION	ALARM	NOW	WAS	RANGE	UNITS	WARNING SET PT	ALARM SET PT	NORMAL BKGR.
2-R1B CR	CR Intake Duct 122'				1-1E6	CPM	6.5E2	1.0E3	40
2-R11A RX	Containment Particulate 78'				1-1E6	CPM	2.9E4	4.3E4	3000
2-R12A RX	Containment NG Low Range 78'				1-1E6	CPM	2.89E4	4.33E4	4000
2-R12B RX	Containment Iodine Low Range 78'				1-1E6	CPM	8.0E4	1.2E5	350
2-R15 TB	Condenser Air Ejector 100'				1-1E6	CPM	3.5E4	5.3E4	50
2-R16	Plant Vent Duct 192'				1-1E6	CPM	1.0E4	3.4E5	200
2-R41A RX	Plant Vent Particulate 100'				1-1E6	CPM	9.4E4	1.3E5	50
2-R41B RX	Plant Vent Iodine Sampler 100'				1-1E6	CPM	5.55E4	8.33E4	50
2-R41B C/M/M	Plant Vent Iodine Sampler 100'				1-1E6	CPM	5.55E4	8.33E4	50
2-R41C RX	Plant Vent NG 100'				1-1E6	CPM	1.1E4	3.67E5	50
2-R31 AUX	Fail Fuel Letdown 84'				1-1E6	CPM	3.29E5	6.58E5	2.5E4

Alarms: N=Normal W=Warning H=High Alarm

SGS DRILL

Time _____

Point No.		DESCRIPTION - Radiation Area Monitors	ALARM NOW	ALARM WAS	RANGE	UNITS	WARNING SET PT.	ALARM SET PT.	NORMAL BKGR.
2-ARM 1A	CR	Control Room on Panel 2RP1, 122"			0.1-1E4	mR/hr	1E0	2E0	0.2
2-ARM 2	RX	Cont.N.E.Dome Wall 130'			0.1-1E4	mR/hr	7E0	1.5E1	2.5
2-ARM 4	AUX	Charging Pump Rm. 84'			0.1-1E4	mR/hr	7E0	1.5E1	0.3
2-ARM 5	FHB	East Wall, center of spent fuel pit 130'			0.1-1E4	mR/hr	7E0	1.1E1	0.8
2-ARM 7	RX	Incore seal table 100'			0.1-1E4	mR/hr	7E0	1.5E1	2.4
2-ARM 9	FHB	Fuel Storage Area 130'			0.1-1E4	mR/hr	7E0	1.1E1	2
2-ARM 10A	RX	Personnel Hatch 100'			0.1-1E4	mR/hr	7E0	1.5E1	0.5
2-ARM 10B	RX	Personnel Hatch 130'			0.1-1E4	mR/hr	7E0	1.5E1	1
2-ARM 21	CT	Top of Stairway 130'			10-1E7	R/hr	1E2	1E3	0.1
2-ARM 24A	AUX	Seal Water Injection filter 84'			0.1-1E6	mR/hr	1E2	1.0E4	30
2-ARM 24B	AUX	Seal Water Injection filter 84'			0.1-1E6	mR/hr	1E2	1.0E4	0.2
2-ARM 25	AUX	Seal Water Filter 84'			0.1-1E6	mR/hr	1E2	1.0E4	11
2-ARM 26	AUX	Reactor Coolant filter 100'			0.1-1E6	mR/hr	1E2	1.0E4	4.5
2-ARM 27	AUX	Liquid Waste Filter 64'			0.1-1E6	mR/hr	1E2	1.0E4	0.7
2-ARM 28	AUX	Spent Fuel pit filter 100'			0.1-1E6	mR/hr	1E2	1.0E4	0.1
2-ARM 29	FHB	Spent Fuel SKM filter 84'			0.1-1E6	mR/hr	1E2	1.0E4	1.0
2-ARM 30	AUX	Refueling water purifier filter 100'			0.1-1E6	mR/hr	1E2	1.0E4	0.1
2-ARM 32A	FHB	Fuel handling crane 130'			0.1-1E6	mR/hr	7E0	1.5E1	0.8
2-ARM 33	AUX	Ion Exchange filter 100'			0.1-1E6	mR/hr	1E3	1.0E4	1.1
2-ARM 34	AUX	Mechanical Penetration Area 100'			0.1-1E6	mR/hr	1E2	1.0E3	1.0
2-ARM 35	AUX	Steam Generator Blowdown filter, 122'			0.1-1E6	CPM	1.82E4	1.49E5	500
2-ARM 40	CP	Condensate filter 100'			0.1-1E6	mR/hr	1.5E0	2.0E0	0.1
2-ARM 42A	AUX	21 Waste Decay Tank 64'			0.1-1E6	mR/hr	2.5E4	4.0E4	0.2
2-ARM 42B	AUX	22 WasteDecay Tank 64'			0.1-1E6	mR/hr	2.5E4	4.0E4	0.3
2-ARM 42C	AUX	23 Waste Decay Tank 64'			0.1-1E6	mR/hr	2.5E4	4.0E4	0.4
2-ARM 42D	AUX	24 Waste Decay Tank 64'			0.1-1E6	mR/hr	2.5E4	4.0E4	0.5
Liquid Monitors									
2R19A	AUX	South mech.Pen. 78'			1-1E6		5.4E3	2.6E4	100
2R19B	AUX	South mech.Pen. 78'			1-1E6		5.4E3	2.6E4	100
2R19C	AUX	South mech.Pen. 78'			1-1E6		5.4E3	2.6E4	100
2R19D	AUX	South mech.Pen. 78'			1-1E6		5.4E3	2.6E4	100

ALARM N=Normal W=Warning H=High Alarm

SGS Emergency Exercise — Primary Coolant Activity and R-6 Dose Rate Data — Rev 1

Time	I-131 uCi/cc	I-132 uCi/cc	I-133 uCi/cc	I-135 uCi/cc	I-131 equiv. uCi/cc	R-6 mR/hr	NG-tot uCi/cc	Kr-83m uCi/cc	Kr-85 uCi/cc	Kr-85m uCi/cc	Kr-87 uCi/cc	Kr-88 uCi/cc	Xe-131m uCi/cc	Xe-133 uCi/cc	Xe-133m uCi/cc	Xe-135 uCi/cc	Xe-138 uCi/cc	Gross uCi/cc
08:00	5	.835	3.7	1.9	6.3048	.2	15	.105	1.065	.375	.42	.84	.0525	10.605	.18	.795	.45	26.323
08:30	10	1.67	7.4	3.8	12.610	.2	20	.14	1.42	.5	.56	1.12	.07	14.14	.24	1.06	.6	42.72
09:00	190	31.73	140.6	72.2	239.58	1.7616	491	3.437	34.861	12.275	13.748	27.496	1.7185	347.14	5.892	26.023	14.73	921.85
09:30	190	31.73	140.6	72.2	239.58	1.7616	491	3.437	34.861	12.275	13.748	27.496	1.7185	347.14	5.892	26.023	14.73	921.85
10:00	254	42.418	187.96	96.52	320.29	2.3550	655	4.585	46.505	16.375	18.34	36.68	2.2925	463.09	7.86	34.715	19.65	1231.0
10:30	380	63.46	281.2	144.4	479.17	3.5233	983	6.881	69.793	24.575	27.524	55.048	3.4405	694.98	11.796	52.099	29.49	1844.7
11:00	379.32	54.588	276.44	137.14	476.17	3.5013	936.73	5.7131	69.793	22.714	20.936	48.648	3.4363	693.08	11.721	52.017	8.6716	1784.2
11:30	378.64	46.956	271.76	130.24	473.27	3.4799	915.19	4.7434	69.792	20.994	15.924	42.992	3.4321	691.18	11.646	51.935	2.5499	1742.8
12:00	377.96	40.391	267.16	123.69	470.45	3.4592	900.14	3.9384	69.792	19.404	12.113	37.993	3.4279	689.29	11.572	51.852	.74980	1709.3
12:30	377.28	34.744	262.64	117.47	467.71	3.4391	888.11	3.2699	69.792	17.935	9.2134	33.576	3.4237	687.41	11.498	51.771	.22048	1680.2
13:00	376.61	29.887	258.20	111.56	465.05	3.4195	877.89	2.7149	69.792	16.576	7.0080	29.672	3.4195	685.53	11.425	51.689	.06483	1654.1
13:30	375.93	25.708	253.83	105.95	462.46	3.4004	868.97	2.2541	69.791	15.321	5.3306	26.222	3.4153	683.65	11.352	51.607	.01906	1630.4
14:00	375.26	22.114	249.53	100.62	459.93	3.3818	861.06	1.8715	69.791	14.161	4.0546	23.173	3.4111	681.78	11.280	51.526	.00561	1608.6
14:30	374.59	19.023	245.31	95.563	457.46	3.3637	853.98	1.5539	69.791	13.088	3.0841	20.479	3.4070	679.92	11.208	51.444	.00165	1588.5
15:00	373.92	16.363	241.15	90.757	455.05	3.3460	847.58	1.2902	69.791	12.097	2.3459	18.098	3.4028	678.06	11.137	51.363	4.8E-4	1569.8
15:30	373.25	14.075	237.07	86.193	452.70	3.3286	841.77	1.0712	69.790	11.181	1.7844	15.994	3.3986	676.20	11.066	51.282	1.4E-4	1552.4
16:00	372.58	12.107	233.06	81.858	450.39	3.3117	836.45	.88938	69.790	10.334	1.3572	14.134	3.3945	674.35	10.995	51.201	4.2E-5	1536.1
								Activity 24 hrs. later										
16:00	341.83	.00878	102.71	6.8770	373.53	2.7466	720.07	1.2E-4	69.778	.23378	2.7E-6	.03084	3.2008	591.28	8.0910	47.459	1.E-30	1168.3

SGS **Vent Sample** AIR CONCENTRATION (based on source term) Rev. 1

IODINE -

Time	I-131 uCi/cc	I-132 uCi/cc	I-133 uCi/cc	I-134 uCi/cc	I-135 uCi/cc	I-tot uCi/cc
08:00	NA	NA	NA	NA	NA	NA
08:15	2.E-10	3.E-10	4.E-10	5.E-10	4.E-10	1.8E-9
08:30	2.E-10	3.E-10	4.E-10	5.E-10	4.E-10	1.9E-9
08:45	6.3E-7	8.9E-7	1.3E-6	1.4E-6	1.1E-6	5.3E-6
09:00	1.6E-5	2.3E-5	3.2E-5	3.6E-5	2.8E-5	1.3E-4
09:15	1.7E-5	2.4E-5	3.4E-5	3.8E-5	3.0E-5	1.4E-4
09:30	1.9E-5	2.7E-5	3.8E-5	4.2E-5	3.4E-5	1.6E-4
09:45	2.5E-5	3.5E-5	.00005	5.6E-5	4.4E-5	2.1E-4
10:00	3.2E-5	4.5E-5	6.4E-5	7.2E-5	5.6E-5	2.7E-4
10:15	4.8E-5	6.8E-5	9.6E-5	1.1E-4	8.5E-5	4.0E-4
10:30	6.4E-5	9.0E-5	1.3E-4	1.4E-4	1.1E-4	5.4E-4
10:45	5.7E-5	7.5E-5	1.1E-4	1.0E-4	9.8E-5	4.5E-4
11:00	5.3E-5	6.4E-5	1.0E-4	8.0E-5	8.9E-5	3.9E-4
11:15	4.7E-5	5.3E-5	9.2E-5	5.8E-5	7.7E-5	3.3E-4
11:30	4.3E-5	4.5E-5	8.3E-5	4.3E-5	6.9E-5	2.8E-4
11:45	3.8E-5	3.7E-5	7.3E-5	3.1E-5	5.9E-5	2.4E-4
12:00	3.4E-5	3.1E-5	6.5E-5	2.3E-5	5.2E-5	2.0E-4
12:15	3.2E-5	2.7E-5	6.1E-5	1.8E-5	4.7E-5	1.8E-4
12:30	.00003	2.3E-5	5.6E-5	1.4E-5	4.3E-5	1.7E-4
12:45	2.6E-5	1.9E-5	4.9E-5	9.7E-6	3.7E-5	1.4E-4
13:00	2.3E-5	1.5E-5	4.3E-5	7.0E-6	3.2E-5	1.2E-4
13:15	2.1E-5	1.3E-5	3.9E-5	5.3E-6	2.8E-5	1.1E-4
13:30	1.7E-5	9.8E-6	3.1E-5	3.5E-6	2.2E-5	8.4E-5
13:45	1.7E-5	9.1E-6	3.1E-5	2.9E-6	2.2E-5	8.1E-5
14:00	1.7E-5	8.5E-6	3.1E-5	2.3E-6	2.1E-5	7.9E-5
14:15	1.3E-5	6.0E-6	2.3E-5	1.5E-6	1.6E-5	5.9E-5
14:30	1.3E-5	5.6E-6	2.3E-5	1.2E-6	1.5E-5	5.8E-5
14:45	1.3E-5	5.2E-6	2.3E-5	9.9E-7	1.5E-5	5.7E-5
15:00	1.1E-5	4.1E-6	1.9E-5	6.8E-7	1.2E-5	4.7E-5
15:15	8.5E-6	2.9E-6	1.5E-5	4.3E-7	9.3E-6	3.6E-5
15:30	8.5E-6	2.7E-6	1.5E-5	3.5E-7	9.1E-6	3.5E-5
15:45	8.5E-6	2.5E-6	1.4E-5	2.9E-7	8.9E-6	3.5E-5
16:00	6.4E-6	1.8E-6	1.1E-5	1.6E-7	6.5E-6	2.6E-5
16:15	4.3E-6	1.1E-6	7.2E-6	9.9E-8	4.3E-6	1.7E-5
16:30	4.3E-6	1.0E-6	7.2E-6	8.1E-8	4.2E-6	1.7E-5

SGS **Vent Sample** Air Concentration (based on source term)

Noble Gas - Whole body dose rates.

Time	NG-tot uCi/cc	Kr-85 uCi/cc	Kr-85m uCi/cc	Kr-87 uCi/cc	Kr-88 uCi/cc	Xe-133 uCi/cc	Xe-133m uCi/cc	Xe-135 uCi/cc	Xe-135m uCi/cc
08:00	1.3E-6	1.9E-9	8.2E-8	1.6E-7	2.3E-7	5.8E-7	1.4E-8	1.2E-7	6.5E-8
08:15	1.5E-6	2.3E-9	9.8E-8	1.9E-7	2.8E-7	7.0E-7	1.6E-8	1.4E-7	7.8E-8
08:30	1.8E-6	2.8E-9	1.2E-7	2.3E-7	3.3E-7	8.4E-7	2.0E-8	1.7E-7	9.3E-8
08:45	.00165	2.5E-6	1.1E-4	2.1E-4	3.1E-4	7.7E-4	1.8E-5	1.5E-4	8.5E-5
09:00	.04131	6.3E-5	.00271	.00529	.00768	.01917	4.5E-4	.00383	.00214
09:15	.04555	7.0E-5	.00298	.00583	.00847	.02114	5.0E-4	.00423	.00236
09:30	.04952	7.6E-5	.00324	.00634	.00921	.02298	5.4E-4	.00460	.00257
09:45	.06303	9.6E-5	.00413	.00807	.01172	.02925	6.9E-4	.00585	.00326
10:00	.08263	1.3E-4	.00541	.01058	.01537	.03834	9.0E-4	.00767	.00428
10:15	.12394	1.9E-4	.00812	.01586	.02305	.05751	.00135	.01150	.00642
10:30	.16525	2.5E-4	.01082	.02115	.03074	.07668	.00180	.01534	.00856
10:45	.16155	2.6E-4	.01078	.01922	.02989	.07932	.00186	.01570	.00467
11:00	.15757	2.7E-4	.01059	.01702	.02868	.08083	.00189	.01576	.00251
11:15	.15307	2.7E-4	.01027	.01502	.02709	.08143	.00190	.01561	.00133
11:30	.14857	2.7E-4	.00992	.01313	.02555	.08156	.00190	.01545	7.0E-4
11:45	.1438	2.7E-4	.00952	.01143	.02401	.08125	.00190	.01510	3.7E-4
12:00	.13904	2.7E-4	.00909	.00990	.02239	.08050	.00188	.01474	1.9E-4
12:15	.13639	2.7E-4	.00880	.00869	.02114	.08088	.00188	.01459	1.0E-4
12:30	.134	2.7E-4	.00851	.00762	.01997	.08120	.00189	.01434	5.4E-5
12:45	.12924	2.7E-4	.00808	.00655	.01861	.08000	.00185	.01396	2.8E-5
13:00	.12632	2.7E-4	.00774	.00571	.01743	.07971	.00184	.01364	1.5E-5
13:15	.12341	2.7E-4	.00743	.00496	.01629	.07935	.00183	.01333	7.7E-6
13:30	.1205	2.6E-4	.00711	.00430	.01518	.07881	.00181	.01301	4.0E-6
13:45	.11732	2.6E-4	.00677	.00372	.01420	.07802	.00177	.01267	2.1E-6
14:00	.11441	2.6E-4	.00646	.00321	.01327	.07723	.00177	.01224	1.1E-6
14:15	.11149	2.6E-4	.00615	.00278	.01226	.07637	.00175	.01193	5.7E-7
14:30	.10832	2.5E-4	.00584	.00239	.01137	.07517	.00171	.01159	3.0E-7
14:45	.10567	2.5E-4	.00556	.00206	.01057	.07429	.00169	.01120	1.6E-7
15:00	.10302	2.5E-4	.00528	.00178	.00986	.07335	.00167	.01092	8.1E-8
15:15	.10037	2.4E-4	.00502	.00154	.00914	.07227	.00164	.01054	4.2E-8
15:30	.09772	2.4E-4	.00476	.00132	.00847	.07114	.00161	.01016	2.2E-8
15:45	.09507	2.4E-4	.00451	.00113	.00784	.06997	.00158	.00979	1.1E-8
16:00	.09269	2.3E-4	.00427	9.7E-4	.00727	.06887	.00156	.00955	5.8E-9
16:15	.09031	2.3E-4	.00405	8.4E-4	.00673	.06773	.00153	.00921	3.0E-9
16:30	.08766	2.3E-4	.00382	7.2E-4	.00621	.06636	.00149	.00885	1.6E-9

Rev. 1

SGS Auxiliary Building Area Radiation Data

Noble Gas - Whole Body Dose Rates

Time	(mR/hour) Dose Rate
0800	.03
0815	.05
0830	.08
0845	175
0900	4350
0915	4000
0930	5220
0945	6640
1000	8720
1015	13080
1030	17440
1045	16500
1100	14536
1115	14540
1130	13578
1145	12620
1200	11720
1215	11040
1230	10420
1245	9600
1300	9000
1315	8400
1330	8000
1345	7350
1400	7200
1415	6400
1430	6000
1445	5800
1500	5200
1515	5000
1530	4800
1545	4000
1600	4000
1615	3800
1630	3550
1630 + 24 hours	.16

Note: 1.25% efficiency assumed for SAM-II detector. 40 cubic foot air sample assumed.

Time	NNE-S1		N-S1		NNW-S1		N-S2		N-S3		NNE-S3		NNW-S2	
	N.G. Mr/HR	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM
08:00	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
08:15	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
08:30	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
08:45	5	99	10	198	6	119	3.5	72	1	25	<.1	<MDA	.5	13
09:00	120	2512	237	5024	140	3014	85	1806	2.4	53	.2	3	1.2	27
09:15	130	2669	265	5338	160	3140	95	1884	60	1570	4	94	30	785
09:30	140	2983	285	5966	170	3611	100	2167	80	1633	4.5	100	40	848
09:45	180	3925	360	7850	215	4710	130	2826	90	1884	5	107	45	911
10:00	240	5024	475	10048	285	5966	170	3611	110	2198	6.3	122	55	1099
10:15	355	7536	710	15072	425	9106	255	5495	120	3140	6.8	182	60	1570
10:30	475	10048	950	20096	570	12089	340	7222	200	4867	11	257	100	2418
10:45	465	8949	930	17898	560	10676	335	6280	240	5338	15	276	120	2669
11:00	450	8321	905	16642	545	10048	330	5966	220	4867	14	261	110	2449
11:15	440	7379	880	14758	530	8792	320	5338	200	4396	11	239	100	2198
11:30	425	6751	855	13502	515	8164	310	4867	190	4082	10	217	95	2041
11:45	410	5966	825	11932	495	7222	300	4396	175	3768	9.4	204	87	1884
12:00	400	5338	800	10676	480	6280	290	3768	160	3454	9	179	82	1664
12:15	390	5024	785	10048	470	5966	280	3611	150	3140	8.4	160	77	1507
12:30	385	4710	770	9420	460	5652	275	3454	140	2826	7.8	151	73	1382
12:45	370	4082	740	8164	445	4867	265	2920	135	2512	7.3	141	69	1287
13:00	360	3611	725	7222	435	4396	260	2638	125	2198	6.9	119	63	1099
13:15	355	3297	710	6594	425	3925	255	2355	120	1947	6.3	110	58	973
13:30	345	2669	690	5338	415	3140	250	1884	110	1884	6	104	55	942
13:45	340	2669	675	5338	405	3140	245	1884	100	1570	5.9	85	51	754
14:00	330	2669	660	5338	395	3140	235	1884	95	1444	5.4	75	48	722
14:15	320	2041	640	4082	385	2449	230	1476	90	1382	5	79	45	722
14:30	310	2041	625	4082	375	2449	225	1476	85	1256	4.8	72	42	565
14:45	305	2041	610	4082	365	2449	220	1476	80	1193	4.5	66	40	534
15:00	295	1727	590	3454	355	2072	215	1240	75	1130	4.3	66	37	534
15:15	290	1335	580	2669	350	1601	210	958	70	942	4	57	35	471
15:30	280	1335	560	2669	335	1601	200	958	65	816	3.7	47	33	408
15:45	270	1335	545	2669	325	1601	195	958	60	785	3.4	44	30	377
16:00	265	1005	530	2010	320	1209	190	722	60	754	3.3	41	28	377
16:15	260	675	520	1350	310	816	185	487	55	628	3	35	26	283
16:30	250	675	505	1350	300	816	180	487	50	440	2.8	28	24	188

Note: MDA of 15-10 uCi/cm I-131 assumed

New Jersey Side: SGS Plant Monitoring Teams

Note: 1.25% efficiency assumed for SAM-II detector. 40 cubic foot air sample assumed.

Time	NNE-5		N-7		NNE-7		NNE-8		NNE-10b		N-10		NNE-20		N-20	
	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM
10:00	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:15	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:30	.3	6	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:45	.3	7	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:00	.3	8	1.4	44	.1	4	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:15	.3	12	1.7	50	.2	5	1.2	38	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:30	.4	14	1.7	53	.2	5	1.3	44	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:45	.7	22	2.3	72	.2	7	1.4	47	.1	3	<.1	<MDA	<.1	<MDA	<.1	<MDA
12:00	1	29	3	94	.3	9	1.8	63	.1	3	<.1	<MDA	<.1	<MDA	<.1	<MDA
12:15	.9	26	4.5	138	.4	14	2.4	79	.1	4	.6	22	.5	20	.2	6
12:30	.9	24	6	188	.6	19	3.5	113	.2	6	.6	24	.5	22	.5	21
12:45	.8	21	5.7	166	.6	17	4.7	163	.3	9	.7	26	.6	24	.5	23
13:00	.7	19	5.3	154	.5	15	4.4	141	.4	13	.9	35	.8	31	.7	25
13:15	.7	18	4.9	138	.5	14	4.1	132	.4	11	1.2	44	1	38	.9	35
13:30	.7	16	4.5	119	.5	12	4	113	.3	10	1.7	66	1.5	57	1.4	50
13:45	.6	15	4.1	110	.4	11	3.6	104	.3	9	2.3	88	2	79	1.8	75
14:00	.6	14	3.8	97	.4	10	3.4	94	.3	8	2.2	79	2	72	2	72
14:15	.5	12	3.5	91	.4	9	3.2	85	.3	7	2	72	1.8	69	1.8	69
14:30	.5	11	3.5	85	.4	8	3	79	.2	6	1.9	66	1.7	60	1.7	60
14:45	.5	10	3.2	75	.3	8	2.8	72	.2	6	1.8	60	1.6	>3	1.6	53
15:00	.4	8	3	66	.3	7	2.6	63	.2	6	1.6	53	1.5	47	1.5	47
15:15	.4	8	2.8	60	.3	6	2.4	60	.2	5	1.5	47	1.3	41	1.3	41
15:30	.4	8	2.6	49	.3	5	2.2	53	.2	4	1.4	44	1.2	41	1.2	41
15:45	.4	6	2.4	49	.2	5	2.1	44	.2	4	1.3	41	1.2	38	1.2	38
16:00	.3	6	2.3	47	.2	5	2	41	.2	3	1.2	35	1	28	1	28
16:15	.3	6	2.1	36	.2	4	1.8	41	.1	<MDA	1.2	31	1	28	1	28
16:30	.3	5	2	35	.2	3	1.7	31	.1	<MDA	1.1	28	.9	25	.9	25

Note: MDA of 1E-10 uCi/cc of I-131 is assumed.

SGS Annual Emergency Exercise: Offsite Monitoring Data Rev. 1

Delaware Side: SGS Plant Monitoring Team Data

Note: 1.25% efficiency assumed for SAM-II detector.
40 cubic foot air sample assumed.

Time	NNW-5 N.G. mR/hr	NNW-5 SAM-II CPM	NNW-7 N.G. mR/hr	NNW-7 SAM-II CPM	NNW-10 N.G. mR/hr	NNW-10 SAM-II CPM	NNW-20 N.G. mR/hr	NNW-20 SAM-II CPM
10:00	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:15	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:30	.3	8	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:45	.3	8	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:00	.3	9	1.4	44	<.1	<MDA	<.1	<MDA
11:15	.4	12	1.7	50	<.1	<MDA	<.1	<MDA
11:30	.5	15	1.7	53	<.1	<MDA	<.1	<MDA
11:45	.9	23	2.3	72	.8	29	<.1	<MDA
12:00	1.2	30	3	94	.9	31	<.1	<MDA
12:15	1	27	4.5	138	1	31	<.1	<MDA
12:30	1	25	6	188	1.3	47	<.1	<MDA
12:45	.9	22	5.7	166	1.7	57	<.1	<MDA
13:00	.8	20	5.3	154	2.5	86	<.1	<MDA
13:15	.8	18	4.9	138	3.3	116	<.1	<MDA
13:30	.7	16	4.5	119	3.1	104	<.1	3
13:45	.6	15	4.1	110	2.9	97	.1	6
14:00	.6	14	3.8	97	2.7	85	.2	6
14:15	.6	12	3.5	91	2.5	77	.1	6
14:30	.5	11	3.5	85	2.3	69	.1	5
14:45	.5	10	3.2	75	2.2	63	.1	4
15:00	.5	8	3	66	2	57	.1	3
15:15	.4	8	2.8	60	1.9	53	<.1	<MDA
15:30	.4	8	2.6	49	1.8	47	<.1	<MDA
15:45	.4	6	2.4	49	1.7	42	<.1	<MDA
16:00	.4	6	2.3	47	1.6	38	<.1	<MDA
16:15	.3	6	2.1	36	1.5	31	<.1	<MDA
16:30	.3	5	2	35	1.4	31	<.1	<MDA

Note: MDA of 1E-10 uCi/cc of I-131 is assumed.

New Jersey State Monitoring Team Data

Note: 1.7% efficiency assumed for SAM-II detector. 60 cubic foot air sample assumed.

Time	NNE-5		N-7		NNE-7		NNE-8		NNE-10b		N-10		NNE-20		N-20	
	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM	N.G. mR/hr	SAM-II CPM
10:00	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:15	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:30	.3	13	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:45	.3	15	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:00	.3	3	1.4	90	.1	9	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:15	.3	15	1.7	103	.2	10	1.2	77	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:30	.4	17	1.7	109	.2	11	1.3	90	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:45	.7	24	2.3	147	.2	15	1.4	96	.1	6	<.1	<MDA	<.1	<MDA	<.1	<MDA
12:00	1	29	3	192	.3	19	1.8	128	.1	6	<.1	<MDA	<.1	<MDA	<.1	<MDA
12:15	.9	44	4.5	282	.4	28	2.4	160	.1	9	.6	45	.5	42	.2	13
12:30	.9	59	6	385	.6	38	3.5	231	.2	12	.6	48	.5	45	.5	43
12:45	.8	53	5.7	340	.6	34	4.7	333	.3	19	.7	53	.6	48	.5	46
13:00	.7	49	5.3	314	.5	31	4.6	288	.4	26	.9	71	.8	64	.7	51
13:15	.7	42	4.9	282	.5	28	4.1	269	.4	22	1.2	90	1	77	.9	71
13:30	.7	38	4.5	244	.5	24	4	231	.3	21	1.7	135	1.5	115	1.4	103
13:45	.6	36	4.1	224	.4	22	3.6	212	.3	19	2.3	179	2	160	1.8	154
14:00	.6	32	3.8	199	.4	20	3.4	192	.3	17	2.2	160	2	147	2	147
14:15	.5	30	3.5	186	.4	19	3.2	173	.3	15	2	147	1.8	141	1.8	141
14:30	.5	28	3.5	173	.4	17	3	160	.2	13	1.9	135	1.7	122	1.7	122
14:45	.5	24	3.2	154	.3	15	2.8	147	.2	12	1.8	122	1.6	109	1.6	109
15:00	.4	22	3	135	.3	13	2.6	128	.2	12	1.6	109	1.5	96	1.5	96
15:15	.4	20	2.8	122	.3	12	2.4	122	.2	10	1.5	96	1.3	83	1.3	83
15:30	.4	16	2.6	99	.3	10	2.2	109	.2	9	1.4	90	1.2	83	1.2	83
15:45	.4	16	2.4	99	.2	10	2.1	90	.2	8	1.3	83	1.2	77	1.2	77
16:00	.3	16	2.3	96	.2	10	2	83	.2	6	1.2	71	1	58	1	58
16:15	.3	12	2.1	74	.2	7	1.8	83	.1	<MDA	1.2	64	1	58	1	58
16:30	.3	12	2	71	.2	7	1.7	64	.1	<MDA	1.1	58	.9	51	.9	51

Note: MDA of 1E-10 uCi/cc I-131 assumed.

Delaware State Monitoring Team Data

Note: 3% efficiency assumed for SAM-II detector. 30 cubic foot air sample assumed.

Time	NNW-5 N.G. mR/hr	NNW-5 SAM-II CPM	NNW-7 N.G. mR/hr	NNW-7 SAM-II CPM	NNW-10 N.G. mR/hr	NNW-10 SAM-II CPM	NNW-20 N.G. mR/hr	NNW-20 SAM-II CPM
10:00	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:15	<.1	<MDA	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:30	.3	14	<.1	<MDA	<.1	<MDA	<.1	<MDA
10:45	.3	15	<.1	<MDA	<.1	<MDA	<.1	<MDA
11:00	.3	17	1.4	79	<.1	<MDA	<.1	<MDA
11:15	.4	22	1.7	91	<.1	<MDA	<.1	<MDA
11:30	.5	27	1.7	96	<.1	<MDA	<.1	<MDA
11:45	.9	41	2.3	130	.8	52	<.1	<MDA
12:00	1.2	55	3	170	.9	57	<.1	<MDA
12:15	1	49	4.5	249	1	57	<.1	<MDA
12:30	1	45	6	340	1.3	85	<.1	<MDA
12:45	.9	40	5.7	300	1.7	102	<.1	<MDA
13:00	.8	36	5.3	277	2.5	156	<.1	<MDA
13:15	.8	33	4.9	249	3.3	209	<.1	<MDA
13:30	.7	29	4.5	215	3.1	187	<.1	6
13:45	.6	27	4.1	198	2.9	175	.1	11
14:00	.6	25	3.8	175	2.7	153	.2	11
14:15	.6	22	3.5	164	2.5	139	.1	10
14:30	.5	20	3.5	153	2.3	125	.1	8
14:45	.5	18	3.2	136	2.2	113	.1	7
15:00	.5	15	3	119	2	102	.1	6
15:15	.4	15	2.8	108	1.9	96	<.1	<MDA
15:30	.4	15	2.6	88	1.8	85	<.1	<MDA
15:45	.4	11	2.4	88	1.7	76	<.1	<MDA
16:00	.4	11	2.3	85	1.6	68	<.1	<MDA
16:15	.3	11	2.1	65	1.5	55	<.1	<MDA
16:30	.3	10	2	62	1.4	55	<.1	<MDA

Note: MDA of 1E-10 uCi/cc of I-131 is assumed.

Source Term: Integrated Curies Released During Drill

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15 min. period ending	N.G. Ci/sec	N.G. conc. uCi/cc	N.G. Ci/15 minutes	Total N.G. Ci	I-131 Ci/sec	I-131 conc. uCi/cc	I-131 Ci/15 minutes	Total I-131 Ci
08:45	.0624	.00165	28.111	28.111	2.4E-5	6.3E-7	.02142	.02142
09:00	1.56	.04131	730.08	758.19	6.0E-4	1.6E-5	.5355	.55692
09:15	1.72	.04555	1476	2234.2	6.6E-4	1.7E-5	.5922	1.1491
09:30	1.87	.04952	1615.5	3849.7	7.1E-4	1.9E-5	.6363	1.7854
09:45	2.38	.06303	1912.5	5762.2	9.6E-4	2.5E-5	.8604	2.6458
10:00	3.12	.08263	2475	8237.2	.0012	3.2E-5	1.08	3.7258
10:15	4.68	.12394	3510	11747.	.0018	4.8E-5	1.62	5.3458
10:30	6.24	.16525	4914	16661.	.00242	6.4E-5	2.178	7.5238
10:45	6.1	.16155	5553	22214.	.00217	5.7E-5	1.953	9.4768
11:00	5.95	.15757	5422.5	27637.	.00201	5.3E-5	1.809	11.286
11:15	5.78	.15307	5278.5	32915.	.00177	4.7E-5	1.593	12.879
11:30	5.61	.14857	5125.5	38041.	.00161	4.3E-5	1.449	14.328
11:45	5.43	.14380	4968	43009.	.00145	3.8E-5	1.305	15.633
12:00	5.25	.13904	4806	47815.	.00128	3.4E-5	1.152	16.785
12:15	5.15	.13639	4680	52495.	.0012	3.2E-5	1.08	17.865
12:30	5.06	.13400	4594.5	57089.	.00112	3.0E-5	1.008	18.873
12:45	4.88	.12924	4473	61562.	9.6E-4	2.6E-5	.8676	19.740
13:00	4.77	.12632	4342.5	65905.	8.8E-4	2.3E-5	.7947	20.535
13:15	4.66	.12341	4243.5	70148.	8.0E-4	2.1E-5	.7227	21.258
13:30	4.55	.12050	4144.5	74293.	6.4E-4	1.7E-5	.5778	21.836
13:45	4.43	.11732	4041	78334.	6.4E-4	1.7E-5	.5778	22.413
14:00	4.32	.11441	3937.5	82271.	6.4E-4	1.7E-5	.5778	22.991
14:15	4.21	.11149	3838.5	86110.	4.8E-4	1.3E-5	.4338	23.425
14:30	4.09	.10832	3735	89845.	4.8E-4	1.3E-5	.4338	23.859
14:45	3.99	.10567	3636	93481.	4.8E-4	1.3E-5	.4338	24.293
15:00	3.89	.10302	3546	97027.	4.0E-4	1.1E-5	.3618	24.654
15:15	3.79	.10037	3456	100483	3.2E-4	8.5E-6	.2889	24.943
15:30	3.69	.09772	3366	103849	3.2E-4	8.5E-6	.2889	25.232
15:45	3.59	.09507	3276	107125	3.2E-4	8.5E-6	.2889	25.521
16:00	3.5	.09269	3190.5	110315	2.4E-4	6.4E-6	.2169	25.738
16:15	3.41	.09031	3109.5	113425	1.6E-4	4.3E-6	.1449	25.883
16:30	3.31	.08766	3024	116449	1.6E-4	4.3E-6	.1449	26.028

SALEM EMERGENCY MONITORING STATIONS IN

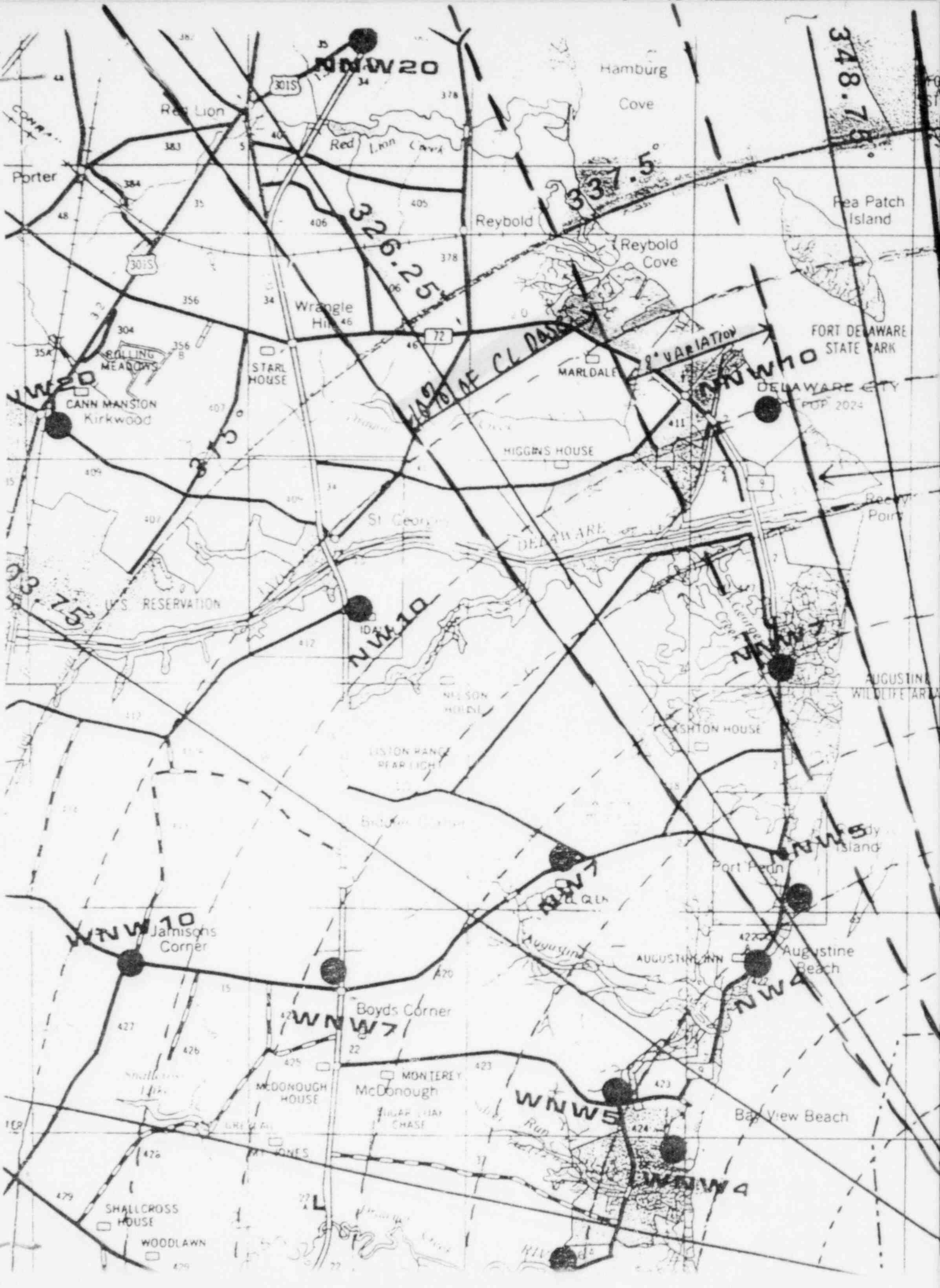
DOWNWIND PLUME

SITE LOCATIONS Station Number	Distance	Location	Plume Location
N-S1	420'	N. on inner access road	CL
N-S2	750'	N. security road inside fence	CL
N-S3	1500'	N. Hope Creek Unit I Turbine Bldg. (center of east side on ground)	CL
NNW-S1	600'	NNW, inside security fence, 500' from NW corner of fence	CL
NNW-S2	2400'	NNW, SE corner of Hope Creek Material Test Lab	CL
NNE-S1	400'	NNE, NW corner SNGS Unit 2 Turbine Bldg. (on ground)	10%
NNE-S3	2075'	NNE, SE corner of Hope Creek Change House	10%

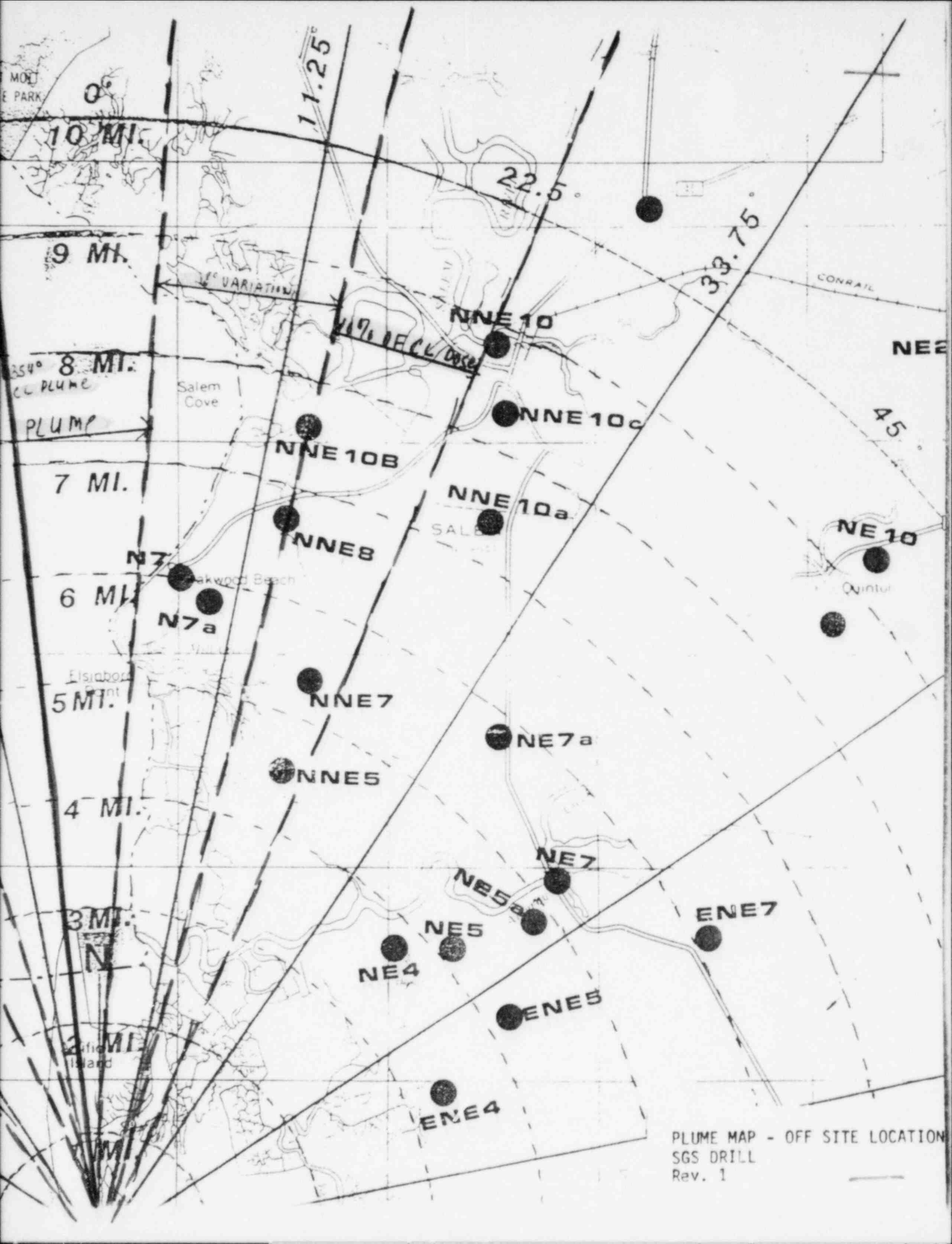
SALEM EMERGENCY MONITORING STATIONS IN

DOWNWIND PLUME

OFFSITE LOCATIONS Station Number	Distance	Location	Plume Location
N7	5.8 miles	Ft. Elfsborg, across from Golf Course	CL
N10	9.6 miles	Ft. Mott, Ft. Mott Rd. S end	CL
N20	10.5 miles	Rt. 49 0.2 mi. S of Hook Rd, Richmonds Dairy	CL
NNE5	4.4 miles	Farm	10%
NNE7	5.8 miles	Ft. Elfsborg & Amwellbury Rd.	10%
NNE8	6.7 miles	Ft. Elfsborg & Salem Country Club Road	CL
NNE10b	7.6 miles	Sinnickson Landing	10%
NNE20	10.3 miles	Salem County Hospital	CL
NNW5	4.2 miles	Port Penn Sewage Plant	10%
NNW7	5.9 miles	Rt. 9 at Wooden Bridge	CL
NNW10	8.1 miles	Del. City, Ofc. of Emergency Planning	CL
NNW20	12.3 miles	Rt. 13, Rt. 301 fork	10%

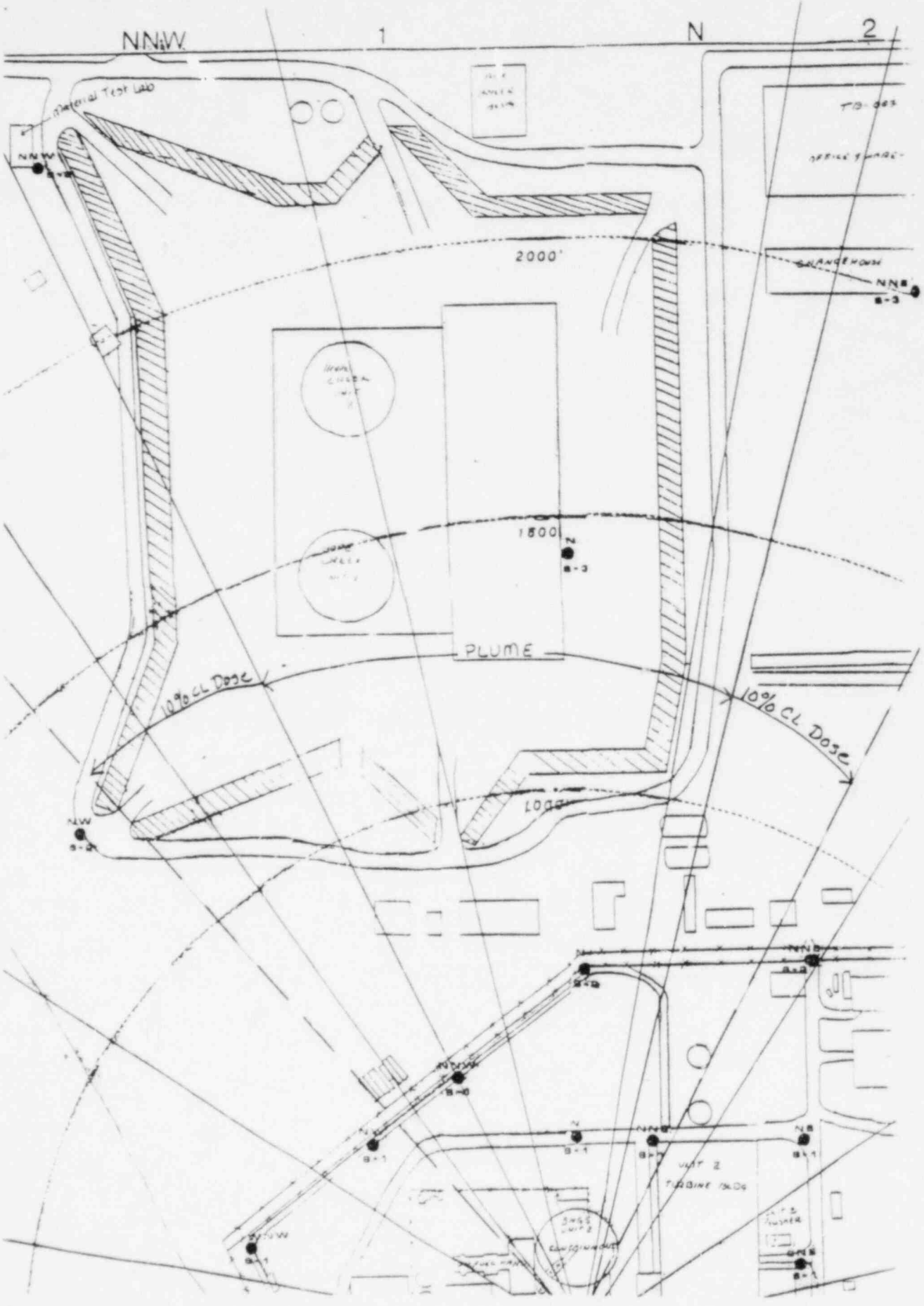


NNW20
Hamburg
Cove
348.75°
Red Lion
Red Lion Creek
Porter
337.5°
326.25
Reybold
Pea Patch
Island
Reybold
Cove
Wrangle
Hill
FORT DELAWARE
STATE PARK
BOLLING
MEADOWS
STARL
HOUSE
MARLDALE
8° VARIATION
NNW10
WNW20
CANN MANSION
Kirkwood
DELAWARE CITY
POP 2024
HIGGINS HOUSE
315
St Georges
DELAWARE
U.S. RESERVATION
NW10
NNW7
AUGUSTINE
WILDLIFE AREA
NELSON
HOUSE
ASHTON HOUSE
LISTON RANGE
REAR LIGHT
NNW5
Island
Port Penn
NW7
WNW10
Jamisons
Corner
AUGUSTINE INN
Augustine
Beach
NW4
Boyds Corner
WNW7
MONTEREY
MCDONOUGH
HOUSE
McDonough
WNW5
Bay View Beach
WNW4
SHALLCROSS
HOUSE
WOODLAWN



PLUME MAP - OFF SITE LOCATION
SGS DRILL
Rev. 1

PLUME MAP - ON SITE LOCATIONS - SGS DRILL REV. 1



SGS AUXILIARY BUILDING AIR CONCENTRATION (Based on Source term) Rev. 1

Iodine - CAM Readings*

Time	I-131 µCi/cc	I-132 µCi/cc	I-133 µCi/cc	I-134 µCi/cc	I-135 µCi/cc	I-tot µCi/cc	CAM CPM	Alarm Status
08:00	NA	NA	NA	NA	NA	NA	150	Normal
08:15	4E-10	6E-10	8E-10	1E-9	8E-10	3.6E-9	200	Normal
08:30	4E-10	6E-10	8E-10	1E-9	8E-10	3.8E-9	178	Normal
08:45	1.3E-6	1.7E-6	2.6E-6	2.8E-6	2.2E-6	1.1E-5	>1E6	O/S HI
09:00	3.2E-5	4.6E-5	6.4E-5	7.2E-5	5.6E-5	2.6E-4	>1E6	O/S HI
09:15	3.4E-5	4.8E-5	6.8E-5	7.6E-5	6E-5	2.8E-4	>1E6	O/S HI
09:30	3.8E-5	5.4E-5	7.6E-5	8.2E-5	6.8E-5	3.2E-4	>1E6	O/S HI
09:45	5.0E-5	7.0E-5	1E-4	1.1E-4	8.8E-5	4.2E-4	>1E6	O/S HI
10:00	6.4E-5	9.0E-5	1.3E-4	1.4E-4	1.2E-4	5.4E-4	>1E6	O/S HI
10:15	9.6E-5	1.4E-4	1.9E-4	2.2E-4	1.7E-4	8.0E-4	>1E6	O/S HI
10:30	1.3E-4	1.8E-4	2.6E-4	2.8E-4	2.2E-4	1.1E-3	>1E6	O/S HI
10:45	1.1E-4	1.5E-4	2.2E-4	2E-4	1.9E-4	9.0E-4	>1E6	O/S HI
11:00	1.1E-4	1.4E-4	2.0E-4	1.6E-4	1.9E-4	7.8E-4	>1E6	O/S HI
11:15	9.4E-5	1.1E-4	1.8E-4	1.2E-4	1.5E-4	6.6E-4	>1E6	O/S HI
11:30	8.6E-5	9.0E-5	1.6E-4	8.6E-5	1.4E-4	5.6E-4	>1E6	O/S HI
11:45	7.6E-5	7.4E-5	1.4E-4	6.2E-5	1.2E-4	4.8E-4	>1E6	O/S HI
12:00	6.8E-5	6.2E-5	1.3E-4	4.6E-5	1.0E-4	4.0E-4	>1E6	O/S HI
12:15	6.4E-5	5.4E-5	1.2E-4	3.6E-5	9.4E-5	3.6E-4	>1E6	O/S HI
12:30	6E-5	4.6E-5	1.1E-4	2.8E-5	8.6E-5	3.4E-4	>1E6	O/S HI
12:45	5.2E-5	3.8E-5	9.8E-5	1.9E-5	7.4E-5	2.8E-4	>1E6	O/S HI
13:00	4.6E-5	3.0E-5	8.6E-5	1.4E-5	6.4E-5	2.4E-4	>1E6	O/S HI
13:15	4.2E-5	2.6E-5	7.8E-5	1.1E-5	5.6E-5	2.2E-4	>1E6	O/S HI
13:30	3.4E-5	2.0E-5	6.2E-5	7.0E-6	4.4E-5	1.7E-4	>1E6	O/S HI
13:45	3.4E-5	1.8E-5	6.2E-5	5.8E-6	4.4E-5	1.6E-4	>1E6	O/S HI
14:00	3.4E-5	1.7E-5	6.2E-5	4.6E-6	4.2E-5	1.5E-4	>1E6	O/S HI
14:15	2.6E-5	1.2E-5	4.6E-5	3.0E-6	3.2E-5	1.1E-4	>1E6	O/S HI
14:30	2.6E-5	1.1E-5	4.6E-5	2.4E-6	3.0E-5	1.1E-4	>1E6	O/S HI
14:45	2.6E-5	1.1E-5	4.6E-5	2.0E-6	3.0E-5	1.1E-4	>1E6	O/S HI
15:00	2.2E-5	8.2E-6	3.8E-5	1.4E-6	2.4E-5	9.4E-5	>1E6	O/S HI
15:15	1.7E-5	5.8E-6	3.0E-5	8.6E-7	1.8E-5	7.2E-5	>1E6	O/S HI
15:30	1.7E-5	5.4E-6	3.0E-5	7.0E-7	1.8E-5	7.0E-5	>1E6	O/S HI
15:45	1.7E-5	5.0E-6	2.8E-5	5.8E-7	1.7E-5	7.0E-5	>1E6	O/S HI
16:00	1.3E-5	3.6E-6	2.2E-5	3.6E-7	1.3E-5	5.2E-5	>1E6	O/S HI
16:15	8.6E-6	2.2E-6	1.4E-5	2.0E-7	8.6E-6	3.4E-5	>1E6	O/S HI
16:30	8.6E-6	2.0E-6	1.4E-5	1.6E-7	8.4E-6	3.4E-5	>1E6	O/S HI

*Note: If particulate filter is GeLi counted, assume 10% of halogens listed above; and Cs-137 = 20% of I-131; and Kr-88 = Rb-88, as well as 0.01% of Xe-133, concentrations.

SGS AUXILIARY BUILDING AIR CONCENTRATION (Based on source term) Rev. 1

Noble Gas - Whole Body Dose Rates

Time	NG-tot µCi/cc	Kr-85 µCi/cc	Kr-85m µCi/cc	Kr-87 µCi/cc	Kr-88 µCi/cc	Xe-133 µCi/cc	Xe-133m µCi/cc	Xe-135 µCi/cc	Xe-135m µCi/cc
08:00	2.6E-6	3.8E-9	1.6E-7	3.2E-7	4.3E-7	1.2E-6	2.8E-8	2.4E-7	1.3E-7
08:15	3.0E-6	4.6E-9	1.9E-7	3.8E-7	5.6E-7	1.4E-6	3.2E-8	2.8E-7	1.5E-7
08:30	3.6E-6	5.6E-9	2.4E-7	4.6E-7	6.6E-7	1.6E-6	4.0E-8	3.4E-7	1.9E-7
08:45	3.4E-3	5.0E-6	2.2E-4	4.2E-4	6.2E-4	1.5E-3	3.6E-5	3.0E-4	1.7E-4
09:00	0.08	1.2E-4	5.4E-3	.01	.01	.04	9.0E-4	.006	.004
09:15	0.10	1.4E-4	.005	.01	.02	.04	1E-3	.008	.005
09:30	0.10	1.6E-4	.006	.01	.02	.04	1.1E-3	.010	.005
09:45	0.12	1.9E-4	.008	.01	.02	.06	1.4E-3	.012	.006
10:00	0.16	2.6E-4	.01	.02	.03	.08	1.8E-3	.016	.008
10:15	0.24	3.8E-4	.02	.03	.04	.12	.002	.02	.012
10:30	0.32	5.0E-4	.02	.04	.06	.16	.003	.03	.018
10:450	0.32	5.2E-4	.02	.04	.06	.16	.003	.03	.010
11:00	0.32	5.4E-4	.02	.03	.06	.16	.003	.03	.010
11:15	0.30	5.4E-4	.02	.03	.06	.16	.003	.03	.003
11:30	0.30	5.4E-4	.02	.02	.05	.16	.003	.03	1.4E-3
11:45	0.28	5.4E-4	.02	.02	.05	.16	.003	.03	7.4E-4
12:00	0.28	5.4E-4	.02	.02	.04	.16	.003	.03	3.8E-4
12:15	0.28	5.4E-4	.02	.02	.04	.16	.003	.03	2E-4
12:30	0.26	5.4E-4	.02	.02	.04	.16	.003	.03	1.1E-4
12:45	0.26	5.4E-4	.02	.01	.04	.16	.003	.03	5.6E-5
13:00	0.26	5.4E-4	.01	.01	.03	.16	.003	.03	3.0E-5
13:15	0.24	5.4E-4	.01	.01	.03	.16	.003	.03	1.5E-5
13:30	0.24	5.2E-4	.01	.01	.03	.16	.003	.03	8E-6
13:45	0.24	5.2E-4	.01	.01	.03	.16	.003	.03	4.6E-6
14:00	0.22	5.2E-4	.01	.01	.03	.16	.003	.02	2.2E-6
14:15	0.22	5.2E-4	.01	.01	.02	.16	.003	.02	1.1E-6
14:30	0.22	5.0E-4	.01	.004	.02	.16	.003	.02	6E-7
14:45	.022	5.0E-4	.01	.004	.02	.15	.003	.02	3.2E-7
15:00	0.20	5.0E-4	.01	.003	.02	.15	.003	.02	1.6E-7
15:15	0.20	4.8E-4	.01	.003	.02	.14	.003	.02	8.4E-8
15:30	0.20	4.8E-4	.01	.003	.02	.14	.003	.02	4.4E-8
15:45	0.20	4.8E-4	.01	.003	.01	.13	.003	.02	2.2E-8
16:00	0.20	4.6E-4	.01	1.9E-3	.01	.13	.003	.02	1.1E-8
16:15	0.20	4.6E-4	.01	1.6E-3	.01	.13	.003	.02	6E-9
16:30	0.18	4.6E-4	.01	1.4E-3	.01	.13	.003	.02	3.2E-9

SALEM EXERCISE REV 1

INITIAL CONDITIONS

AFFECTED UNIT(II)

1) 80% power conditions 4 weeks after start up from refueling.

2) No technical specifications action statements in effect except for el 100 inner penetration door seal breakage during the past shift

3) #22 Charging pump inservice.

4) All RMS channels inservice except for 2R31 which has been out of service for 24 hours.

5) RCS history indicates leakage over past three weeks, RCS specific activity is now 27 ~~u~~Ci/ml (15 min gross) (I-131 eq is 6.3 uCi/gr)
Note: This data is available because of a 20% power reduction 4 hours ago which required the chemist to take a reactor coolant sample. (0600 sample). Coolant data is available for the past 2 weeks.

6) Identified valve packing leak of 2 GPM.

UNAFFECTED UNIT (I)

1) 100% power equilibrium conditions 4 weeks prior to refueling

2) No technical specifications action statements in effect

3) #13 charging pump inservice

4) All RMS channels inservice

5) Fuel in intact

METEOROLOGICAL CONDITIONS

A. Wind speed 3 miles/hour

B. Wind direction variable from the S.

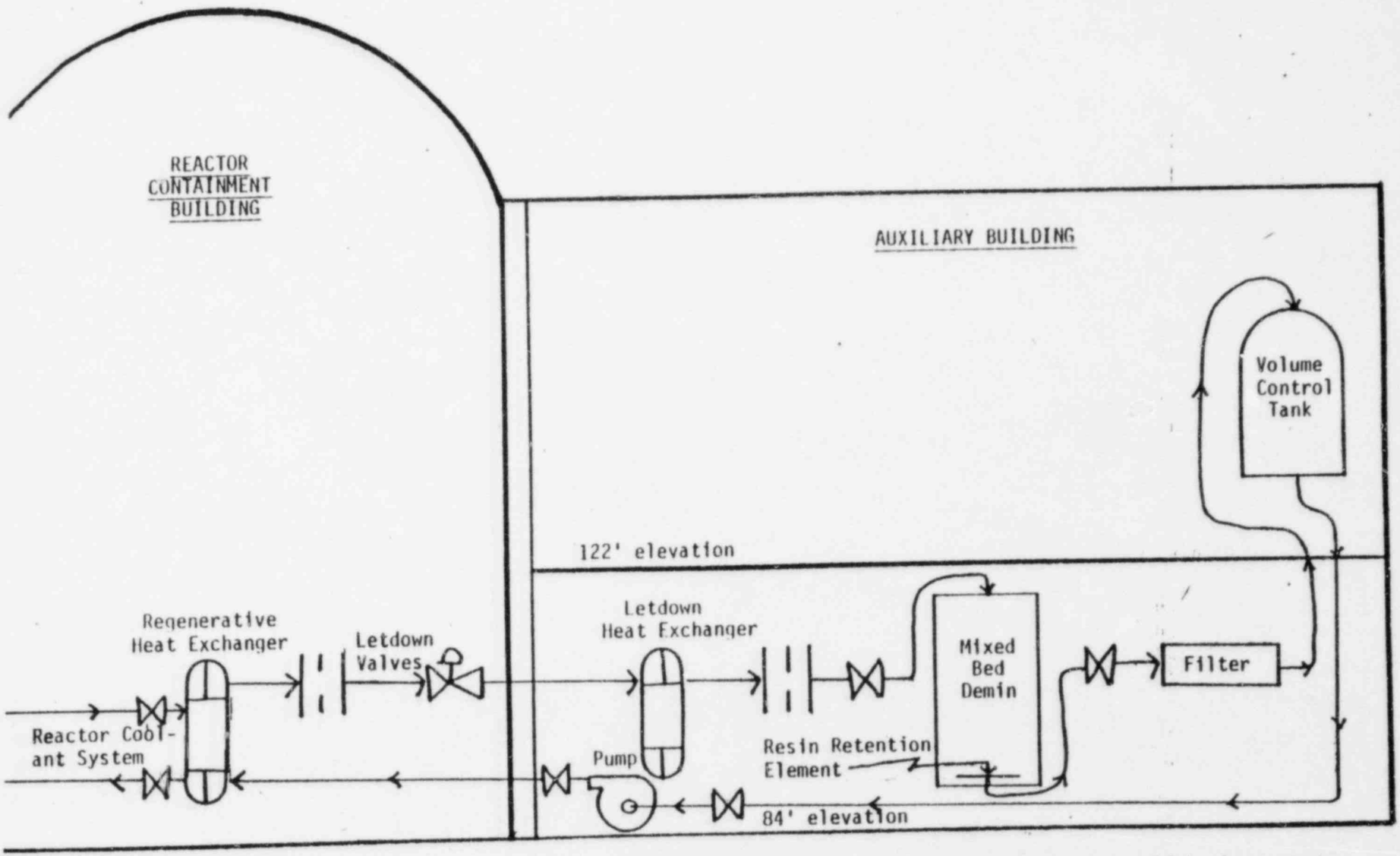
C. Stability Class $\Delta T = -0.75°$ c/100 meters

DIAGRAM #1 - RESIN RETENTION ELEMENT FAILURE

SGS UNIT 2

EMERGENCY EXERCISE

Rev. 1



SGS UNIT 2

DIAGRAM #2 - REACTOR COOLANT PUMP SEAL LEAK

EMERGENCY EXERCISE

Rev. 1

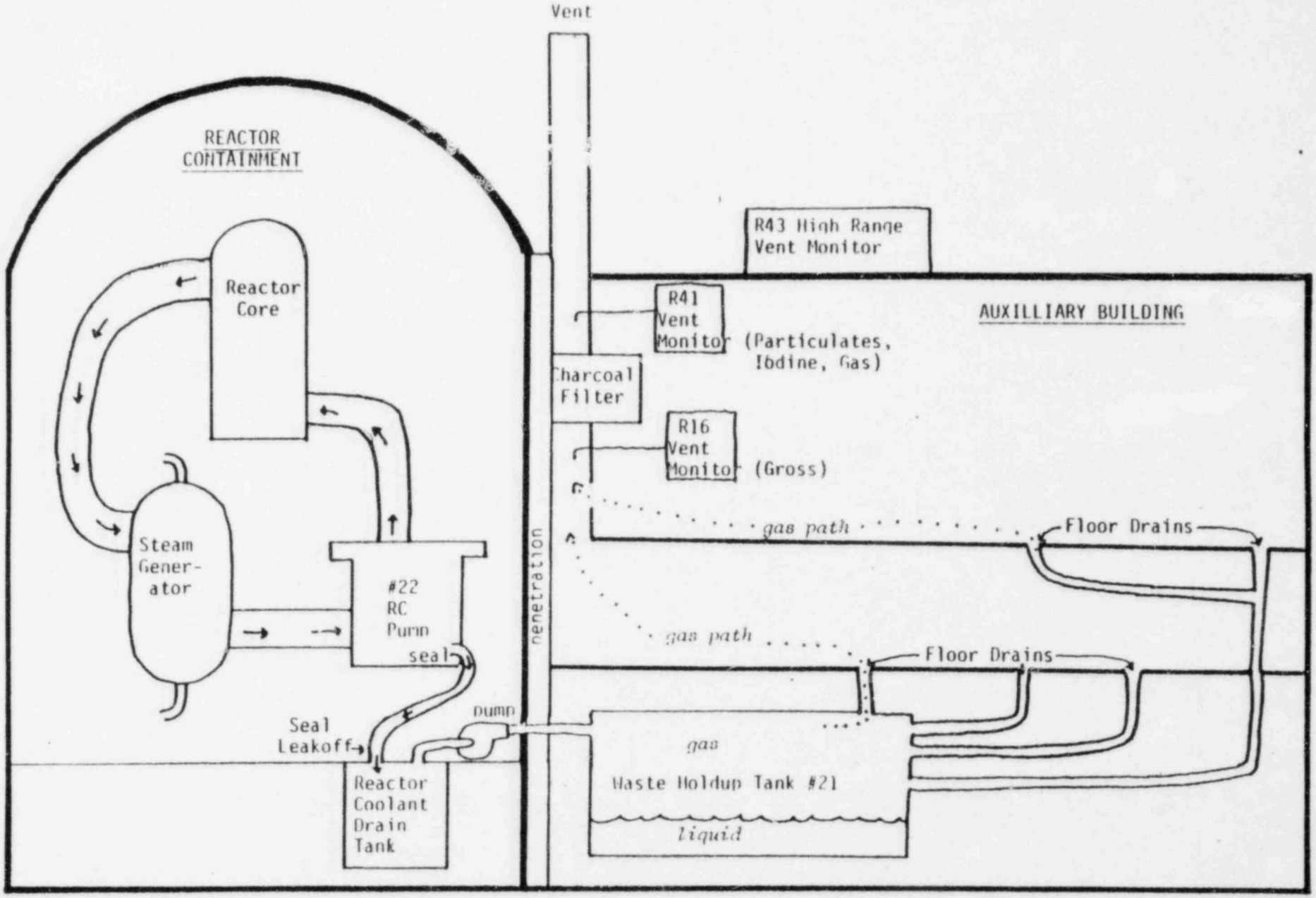


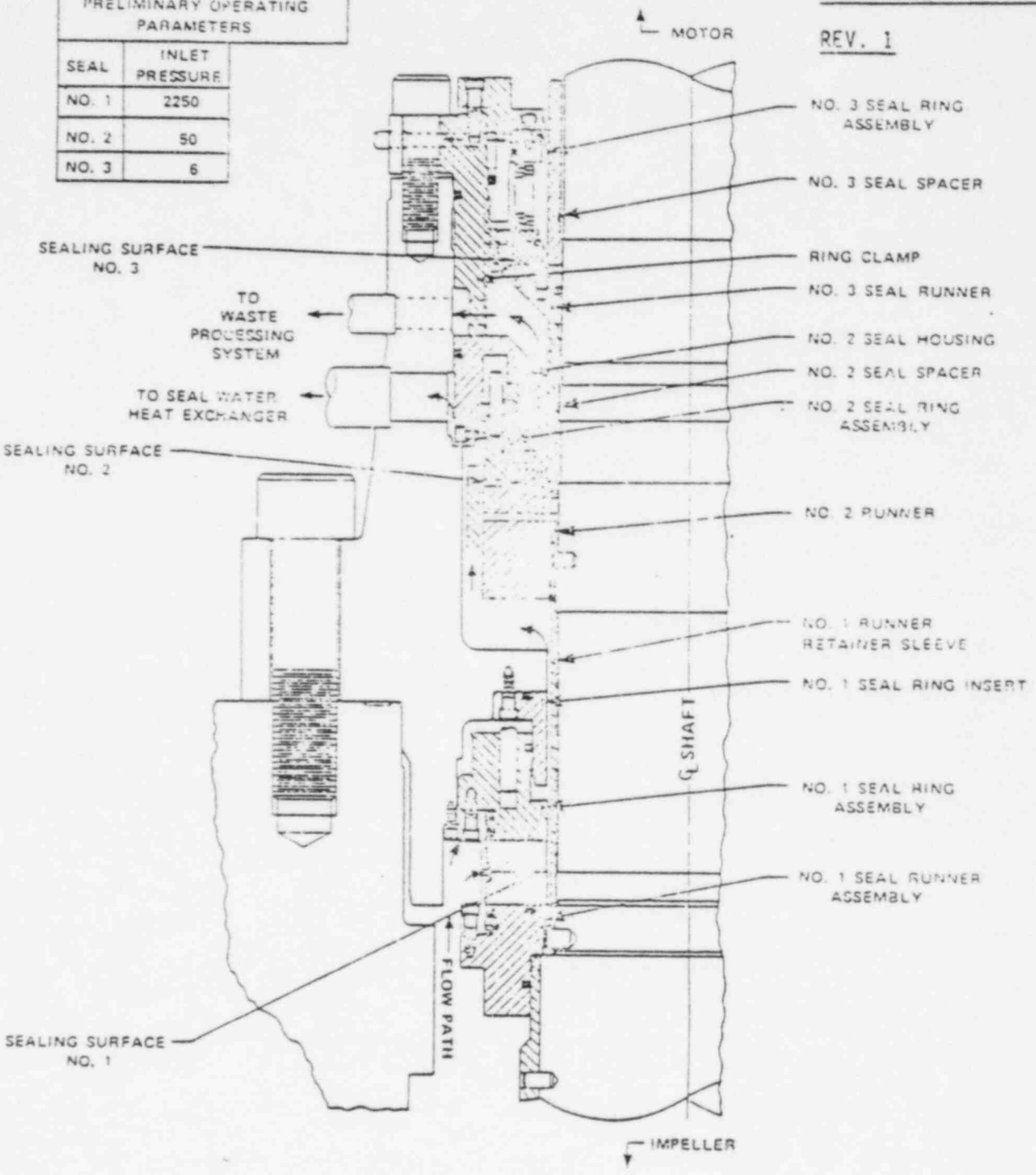
DIAGRAM #3

REACTOR COOLANT PUMP SEAL

SGS DRILL

REV. 1

PRELIMINARY OPERATING PARAMETERS	
SEAL	INLET PRESSURE
NO. 1	2250
NO. 2	50
NO. 3	6



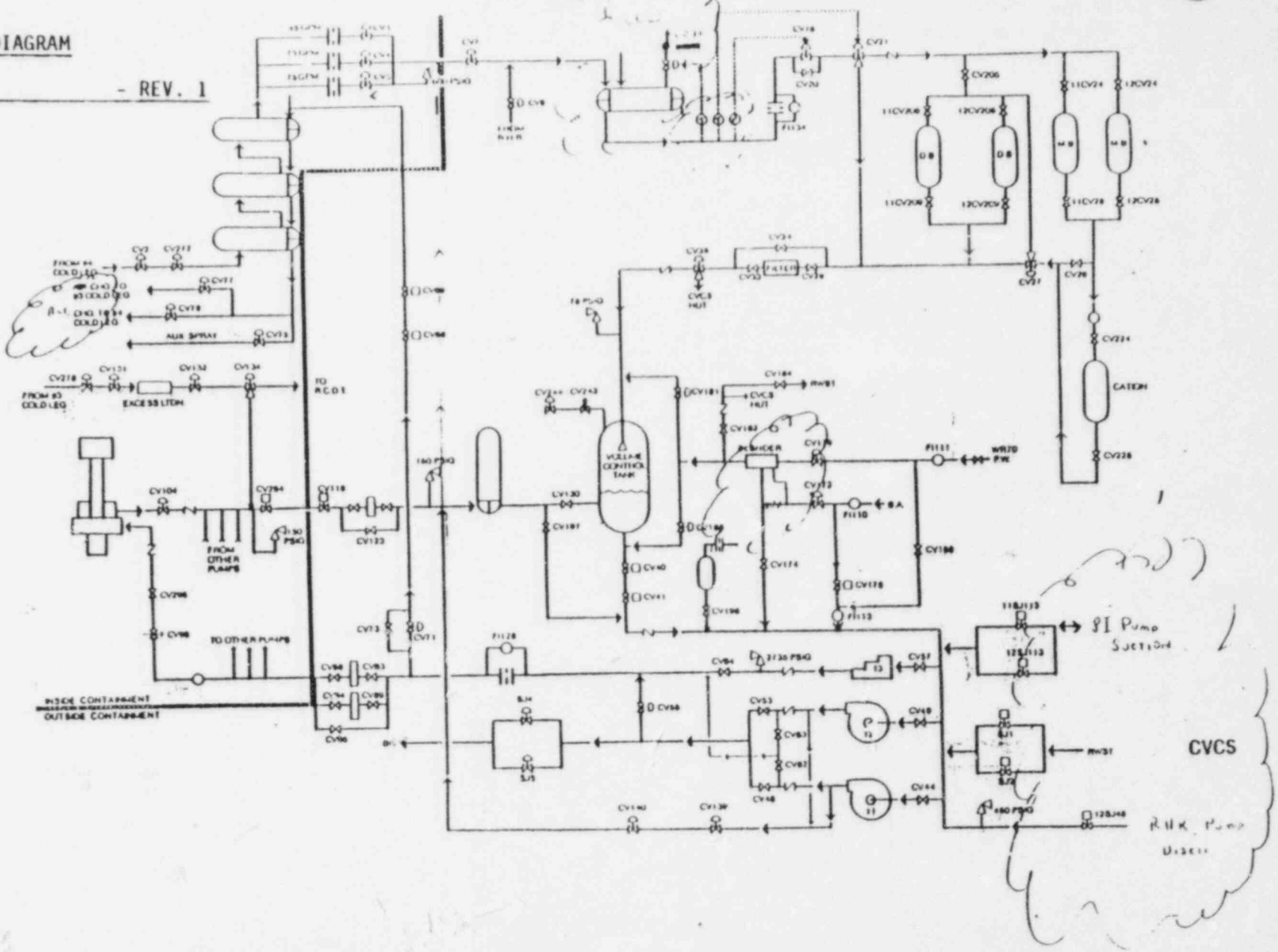
RCP Typical Shaft Seal Arrangement

DIAGRAM

CVCS FLOW DIAGRAM

SGS DRILL - REV. 1

DRAFT



SNGS OPERATIONAL STATUS BOARD - EMERGENCY

DATE/TIME OF UPDATE: _____ / 0800 (2400 HRS)

UNIT NO. 2

I. PRIMARY COOLANT SYSTEM

a.	Th - LOOP 1	595 °F
b.	Th - LOOP 2	596 °F
c.	Th - LOOP 3	594 °F
d.	Th - LOOP 4	596 °F
e.	T_{AVG} (AUCTIONEERED)	571 °F
f.	PRZ PRESS.	2235 PSIG
g.	PZR LEVEL (HOT)	59 %
h.	SUBCOOLING MARGINS	
	ΔP	- PSIG
	ΔT	- °F
i.	RCS FLOW	
	[X] FORCED [ ] NATURAL	
j.	RCP'S IN SERVICE (CIRCLE)	
	1 2 3 ⊕	
k.	RCS BORON	400 PPM
l.	NEUTRON FLUX 80% power	- CPS

II. SECONDARY COOLANT SYSTEM

a.	NO. 1 S.G. LEVEL (WIDE)	52 %
b.	NO. 2 S.G. LEVEL (WIDE)	52 %
c.	NO. 3 S.G. LEVEL (WIDE)	52 %
d.	NO. 4 S.G. LEVEL (WIDE)	52 %
e.	NO. 1 S.G. PRESS.	830 PSIG
f.	NO. 2 S.G. PRESS.	830 PSIG
g.	NO. 3 S.G. PRESS.	830 PSIG
h.	NO. 4 S.G. PRESS.	830 PSIG
i.	NO. 1 S.G. FEED FLOW	80 %
j.	NO. 2 S.G. FEED FLOW	.80 %
k.	NO. 3 S.G. FEED FLOW	80 %
l.	NO. 4 S.G. FEED FLOW	80 %

III. CONTAINMENT INTEGRITY

a.	CONT. PRESSURE	0 PSIG
b.	CONT. TEMP (AVG)	100 °F
c.	CONT. DEW POINT	60 °F
d.	CONT. H_2 CONCEN.	0
e.	CONT. ISOLATION STATUS	
	[ ] φA [ ] φB	

IV. SAFETY INJECTION SYSTEM - not on

a.	CENTRIFICAL CHRG. PUMP FLOW	_____ GPM
b.	S.I. PUMP FLOW	_____ GPM
c.	RHR PUMP FLOW	_____ GPM
d.	R.W.S.T. LEVEL	_____ FEET
e.	S.I. ACTUATION	
	[ ] YES _____ (2400 HRS) [ ] NO _____	

V. C.V.C.S.

a.	LETDOWN FLOW	75 GPM
b.	CHARGING FLOW	87 GPM

VI. SIGNIFICANT PLANT EVENTS

ITEM	TIME

Figure 3

Rev.

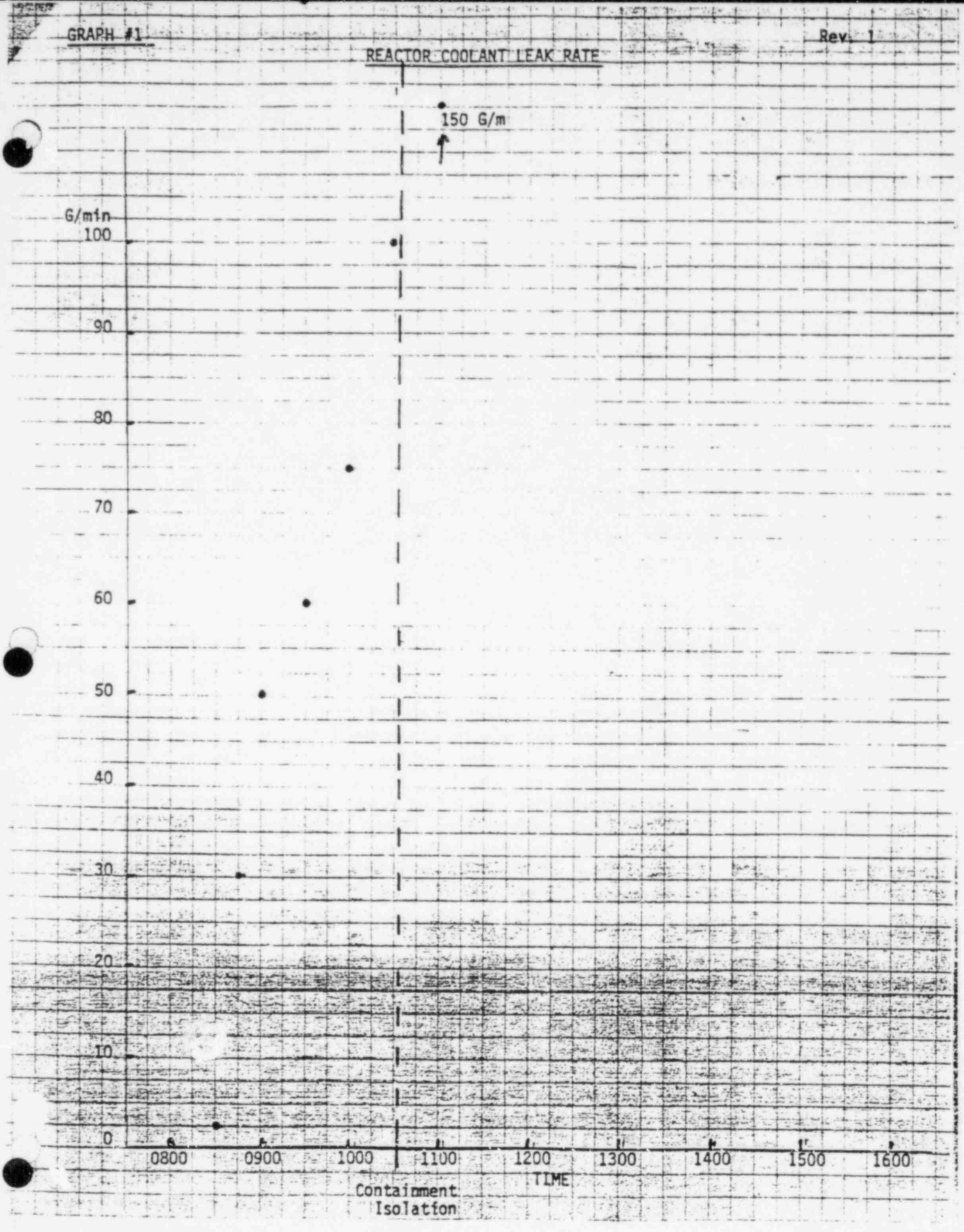
I-131 CONCENTRATION IN COW'S MILK FOLLOWING AN INCIDENT

Iodine source term: 9.0375E-04 Ci/sec Duration of release: 8 hrs

Distance in kilometers	Distance in miles	Concentration in soil uCi/m^2	Concentration in grass uCi/kg	Concentration in milk uCi/l
1.61	1	1.62E+00	2.26E+00	6.79E-02
3.22	2	4.82E-01	6.73E-01	2.02E-02
4.83	3	2.37E-01	3.31E-01	9.93E-03
6.44	4	1.43E-01	2.00E-01	6.00E-03
8.05	5	9.69E-02	1.35E-01	4.06E-03
9.65	6	7.04E-02	9.83E-02	2.95E-03
11.26	7	5.38E-02	7.51E-02	2.25E-03
12.87	8	4.26E-02	5.94E-02	1.78E-03
14.48	9	3.46E-02	4.84E-02	1.45E-03
16.09	10	2.88E-02	4.02E-02	1.21E-03
17.70	11	2.44E-02	3.40E-02	1.02E-03
19.31	12	2.09E-02	2.92E-02	8.77E-04
20.92	13	1.82E-02	2.54E-02	7.62E-04
22.53	14	1.60E-02	2.23E-02	6.70E-04
24.13	15	1.42E-02	1.98E-02	5.93E-04
25.74	16	1.27E-02	1.77E-02	5.30E-04
27.35	17	1.14E-02	1.59E-02	4.77E-04
28.96	18	1.03E-02	1.44E-02	4.31E-04
30.57	19	9.36E-03	1.31E-02	3.92E-04
32.18	20	8.56E-03	1.20E-02	3.59E-04
33.79	21	7.86E-03	1.10E-02	3.29E-04
35.40	22	7.24E-03	1.01E-02	3.04E-04
37.01	23	6.70E-03	9.36E-03	2.81E-04
38.62	24	6.22E-03	8.69E-03	2.61E-04
40.22	25	5.79E-03	8.09E-03	2.43E-04
41.83	26	5.41E-03	7.55E-03	2.27E-04
43.44	27	5.06E-03	7.07E-03	2.12E-04
45.05	28	4.75E-03	6.63E-03	1.99E-04
46.66	29	4.47E-03	6.24E-03	1.87E-04
48.27	30	4.21E-03	5.88E-03	1.76E-04
49.88	31	3.97E-03	5.55E-03	1.67E-04
51.49	32	3.76E-03	5.25E-03	1.58E-04
53.10	33	3.56E-03	4.98E-03	1.49E-04
54.71	34	3.38E-03	4.72E-03	1.42E-04
56.32	35	3.21E-03	4.49E-03	1.35E-04
57.92	36	3.06E-03	4.27E-03	1.28E-04
59.53	37	2.92E-03	4.07E-03	1.22E-04
61.14	38	2.78E-03	3.89E-03	1.17E-04
62.75	39	2.66E-03	3.71E-03	1.11E-04
64.36	40	2.54E-03	3.55E-03	1.07E-04
65.97	41	2.44E-03	3.40E-03	1.02E-04
67.58	42	2.34E-03	3.26E-03	9.79E-05
69.19	43	2.24E-03	3.13E-03	9.39E-05
70.80	44	2.15E-03	3.01E-03	9.02E-05
72.41	45	2.07E-03	2.89E-03	8.67E-05
74.01	46	1.99E-03	2.78E-03	8.35E-05
75.62	47	1.92E-03	2.68E-03	8.04E-05
77.23	48	1.85E-03	2.58E-03	7.75E-05
78.84	49	1.78E-03	2.49E-03	7.47E-05
80.45	50	1.72E-03	2.40E-03	7.21E-05

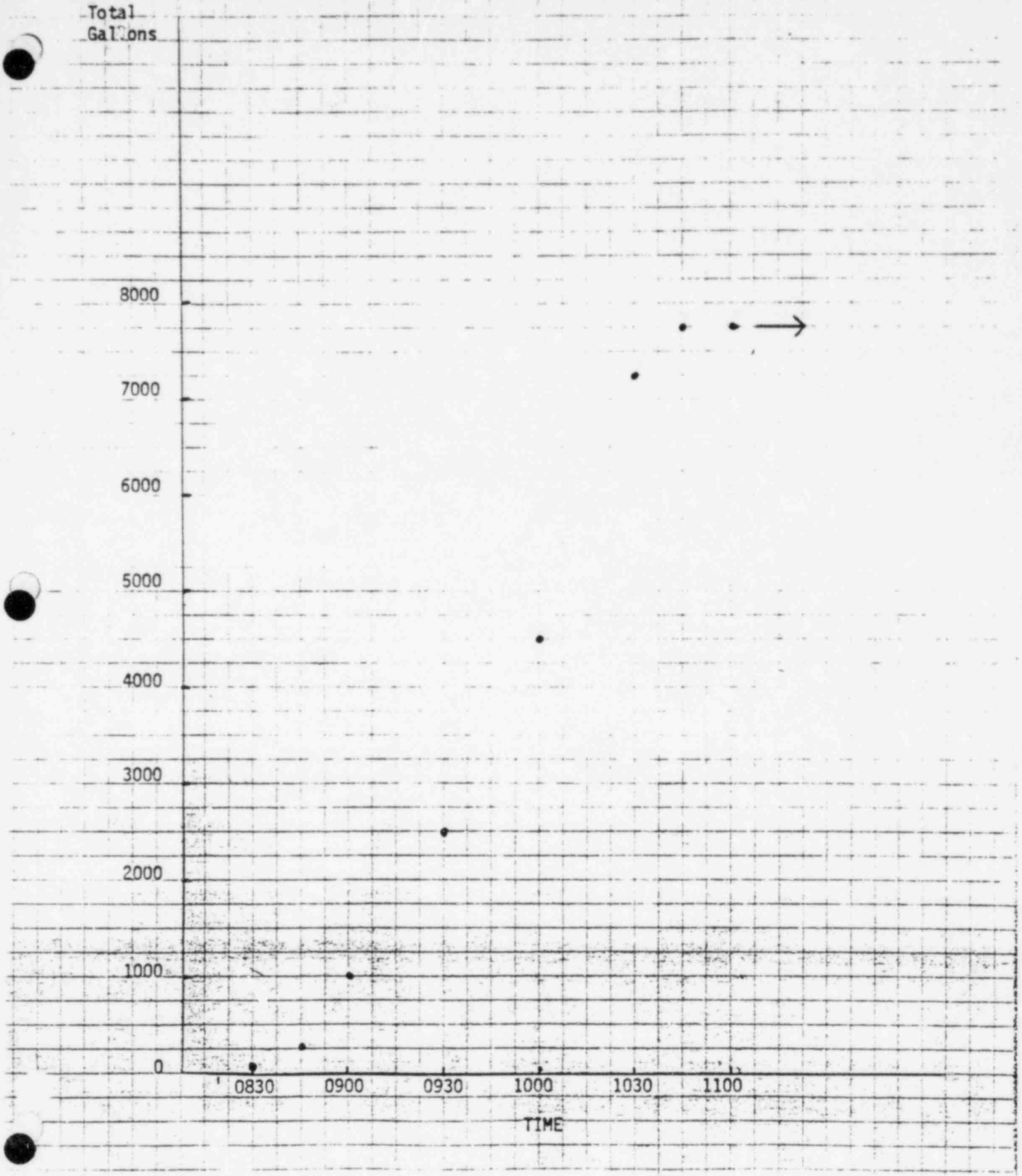
GRAPH #1

Rev. 1

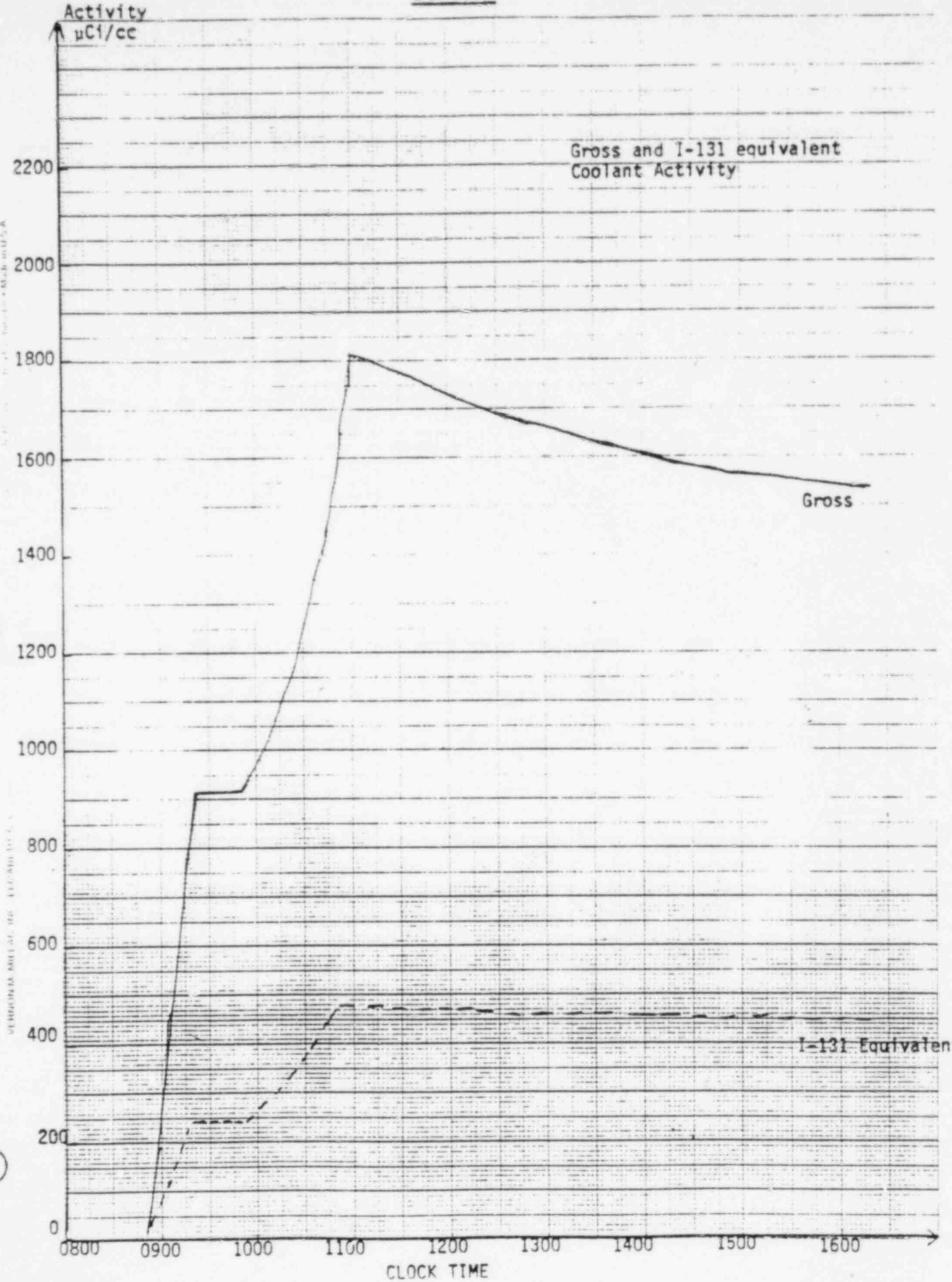

REACTOR COOLANT LEAK RATE
150 G/m
G/min
100
90
80
70
60
50
40
30
20
10
0
0800
0900
1000
1100
1200
1300
1400
1500
1600
TIME
Containment
Isolation

GRAPH #2

Gallons of Primary Coolant in Aux. Bldg.



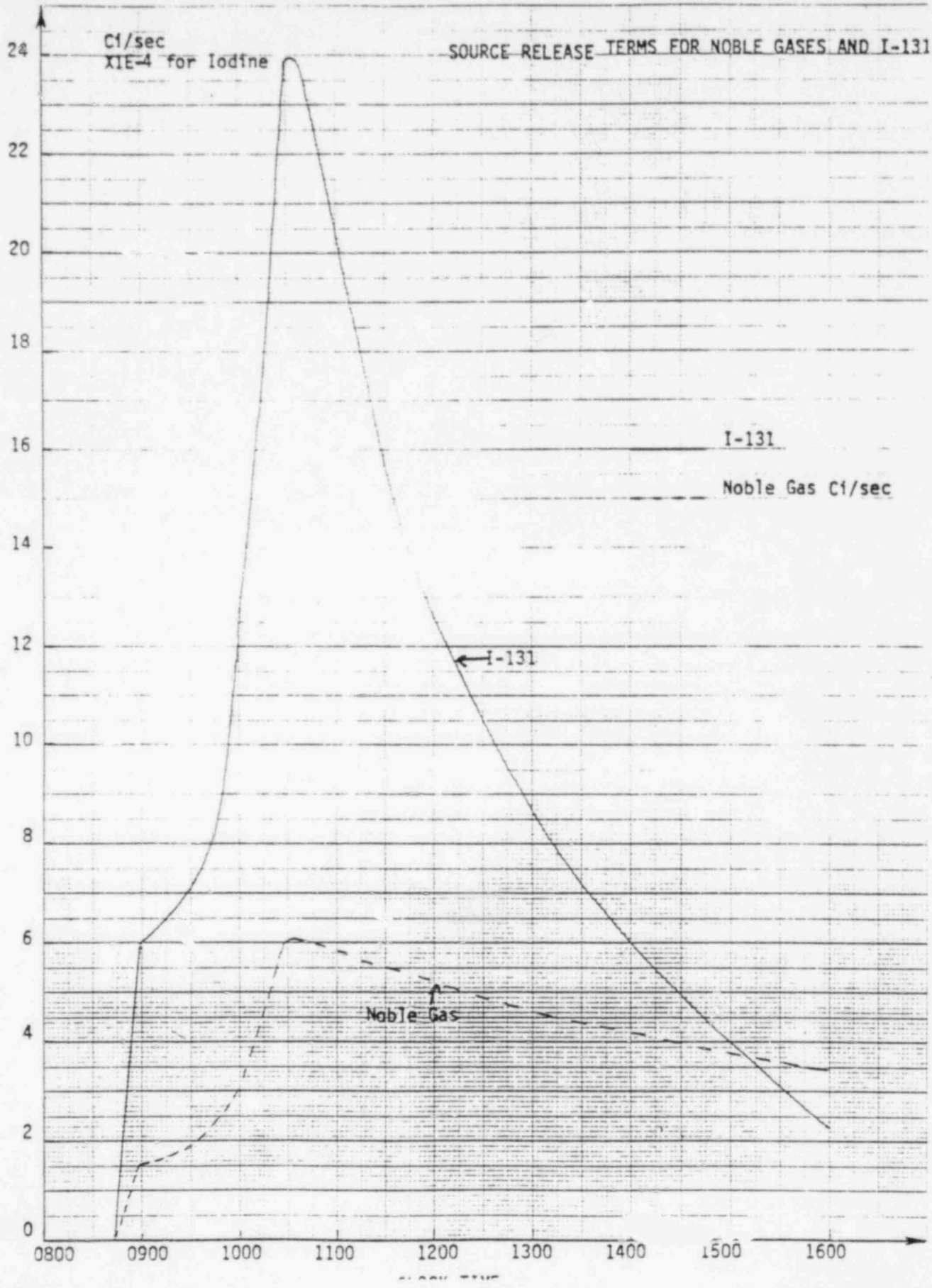
GRAPH #3


Activity
µCi/cc
Gross and I-131 equivalent
Coolant Activity
Gross
I-131 Equivalent
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0800
0900
1000
1100
1200
1300
1400
1500
1600
CLOCK TIME

SGS Drill

GRAPH #4

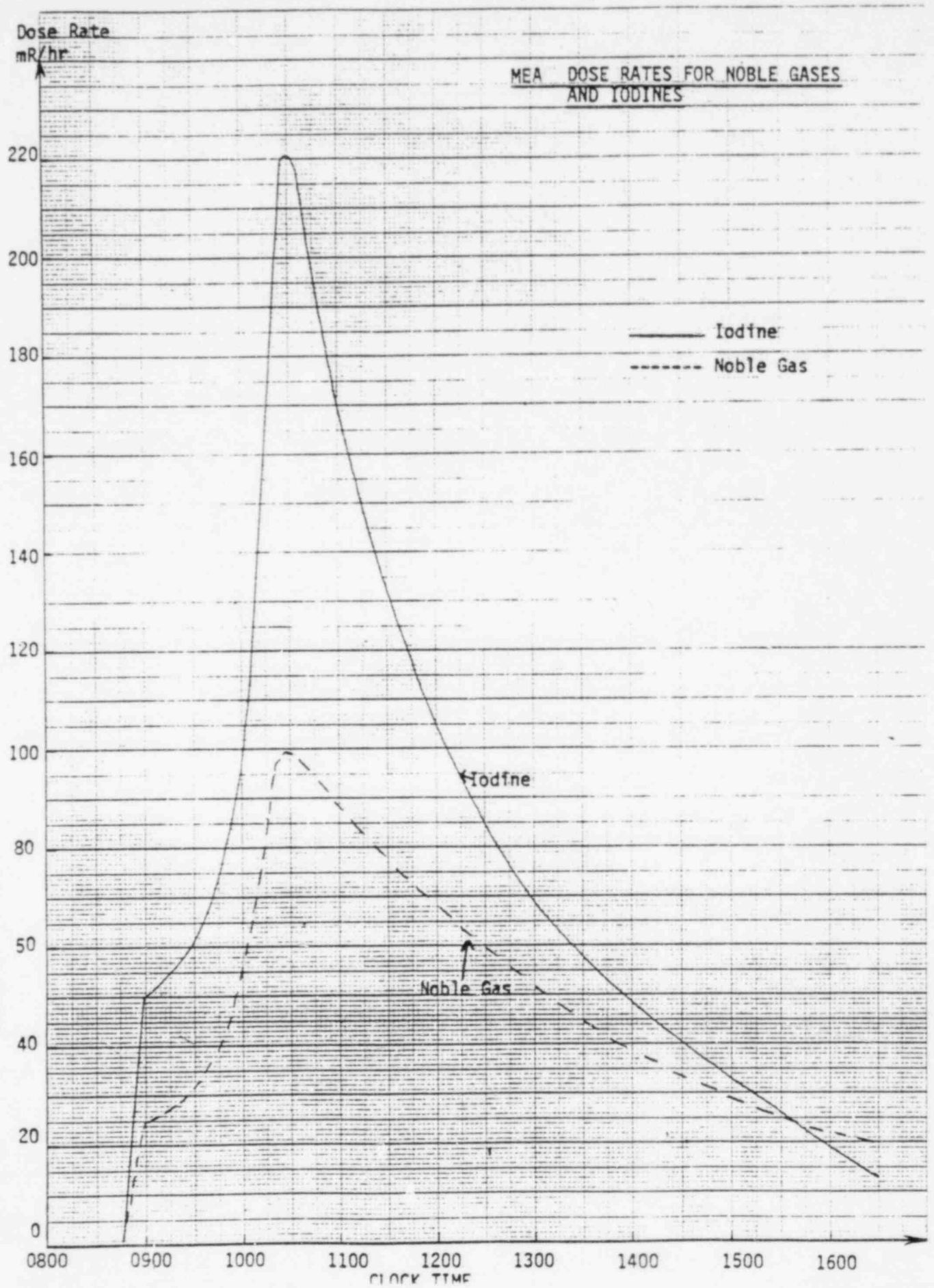
(Rev.1)



GRAPH #5

SGS DRILL

(REV. 1)



SGS 1982 Annual Emergency Exercise: Onsite Integrated Dose Rev. 1

Time	NNE-S1		N-S1		NNW-S1		N-S2		N-S3		NNE-S3		NNW-S2	
	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	1	2	3	4	2	3	1	2	0	1	0	0	0	0
09:00	31	56	62	111	37	67	22	40	1	2	0	0	0	1
09:15	64	112	128	225	77	134	46	80	16	35	1	2	8	13
09:30	99	176	199	352	119	210	71	126	36	70	2	4	18	36
09:45	144	259	289	519	173	311	103	186	58	110	3	6	29	55
10:00	204	366	408	733	244	438	146	263	86	157	5	9	43	78
10:15	293	527	586	1054	350	632	210	380	116	224	7	13	58	112
10:30	411	741	823	1482	493	889	295	534	166	327	9	18	83	163
10:45	528	931	1056	1861	633	1115	378	667	226	440	13	24	113	220
11:00	640	1106	1282	2213	769	1328	461	793	281	543	17	30	140	272
11:15	750	1261	1502	2523	902	1512	541	905	331	636	19	35	165	318
11:30	856	1403	1716	2806	1030	1683	618	1007	378	721	22	39	189	361
11:45	959	1527	1922	3055	1154	1834	693	1099	422	800	24	44	211	400
12:00	1059	1638	2122	3276	1274	1964	766	1177	462	871	27	47	231	434
12:15	1156	1742	2318	3484	1392	2088	836	1252	500	936	29	51	251	466
12:30	1253	1839	2511	3678	1507	2204	905	1323	535	995	31	54	269	494
12:45	1345	1923	2696	3846	1618	2304	971	1383	568	1046	32	57	286	521
13:00	1435	1997	2877	3994	1727	2394	1036	1437	600	1091	34	59	302	543
13:15	1524	2064	3054	4128	1833	2474	1100	1485	630	1131	36	61	318	563
13:30	1610	2118	3227	4237	1937	2538	1162	1523	657	1169	37	63	330	582
13:45	1695	2172	3396	4345	2038	2602	1223	1562	682	1201	39	65	343	597
14:00	1778	2226	3561	4452	2137	2665	1282	1600	706	1230	40	67	355	612
14:15	1858	2267	3721	4574	2233	2714	1340	1629	728	1258	41	68	366	624
14:30	1935	2308	3877	4616	2327	2767	1396	1659	750	1287	42	70	377	638
14:45	2011	2349	4029	4697	2418	2812	1451	1688	770	1307	44	71	387	648
15:00	2085	2383	4177	4766	2507	2853	1505	1711	788	1329	45	72	396	659
15:15	2158	2409	4322	4819	2594	2885	1557	1732	806	1348	46	73	405	668
15:30	2228	2436	4462	4872	2678	2917	1607	1751	822	1364	47	74	413	676
15:45	2295	2462	4598	4924	2759	2948	1656	1770	837	1379	47	75	420	684
16:00	2361	2482	4731	4964	2839	2972	1704	1784	852	1394	48	76	427	691
16:15	2426	2495	4861	4990	2917	2988	1750	1793	866	1407	49	77	434	697
16:30	2489	2508	4987	5016	2992	3004	1795	1802	878	1415	50	77	440	700

New Jersey Side

Time	NNE-5 N.G. mR	NNE-5 I-tot mrem	N-7 N.G. mR	N-7 I-tot mrem	NNE-7 N.G. mR	NNE-7 I-tot mrem	NNE-8 N.G. mR	NNE-8 I-tot mrem	NNE-10b N.G. mR	NNE-10b I-tot mrem	N-10 N.G. mR	N-10 I-tot mrem	NNE-20 N.G. mR	NNE-20 I-tot mrem	N-20 N.G. mR	N-20 I-tot mrem
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	1	1	2	0	0	0	1	0	0	0	0	0	0	0	0
11:30	0	1	1	3	0	0	1	2	0	0	0	0	0	0	0	0
11:45	1	1	2	5	0	0	1	3	0	0	0	0	0	0	0	0
12:00	1	2	3	7	0	1	1	4	0	0	0	0	0	0	0	0
12:15	1	3	4	9	0	1	2	6	0	0	0	0	0	0	0	0
12:30	1	3	5	13	1	1	3	8	0	0	0	1	0	1	0	1
12:45	1	4	7	17	1	2	4	11	0	1	0	1	0	1	0	1
13:00	2	4	8	20	1	2	5	14	0	1	1	2	1	2	0	2
13:15	2	4	9	23	1	2	6	17	0	1	1	3	1	3	1	2
13:30	2	5	10	25	1	3	7	19	0	1	1	4	1	4	1	3
13:45	2	5	11	27	1	3	8	21	1	1	2	6	2	6	2	5
14:00	2	5	12	29	1	3	9	22	1	2	3	8	2	7	2	6
14:15	2	5	13	31	1	3	10	25	1	2	3	9	3	8	2	8
14:30	3	6	14	33	1	3	11	26	1	2	4	11	3	10	3	9
14:45	3	6	15	34	2	3	11	28	1	2	4	12	4	11	3	10
15:00	3	6	16	36	2	4	12	29	1	2	4	13	4	12	4	11
15:15	3	6	16	37	2	4	12	30	1	2	5	14	4	12	4	12
15:30	3	6	17	38	2	4	13	31	1	2	5	15	5	13	4	12
15:45	3	6	17	39	2	4	14	33	1	2	5	15	5	14	5	13
16:00	3	6	18	40	2	4	14	33	1	2	6	16	5	14	5	14
16:15	3	7	19	40	2	4	14	34	1	2	6	17	5	15	5	14
16:30	3	7	19	41	2	4	15	34	1	2	6	17	6	15	5	15

SGS 1982 Annual Emergency Exercise: Offsite Integrated Dose

Delaware Side

	NNW-5		NNW-7		NNW-10		NNW-20	
Time	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem	N.G. mR	I-tot mrem
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	1	0	1	0	0	0	0
11:15	0	1	1	2	0	0	0	0
11:30	0	1	1	3	0	0	0	0
11:45	1	2	2	5	0	1	0	0
12:00	1	2	3	7	0	1	0	0
12:15	1	3	4	9	1	2	0	0
12:30	1	3	5	13	1	3	0	0
12:45	2	4	7	17	1	4	0	0
13:00	2	4	8	20	2	6	0	0
13:15	2	5	9	23	3	8	0	0
13:30	2	5	10	25	4	10	0	0
13:45	2	5	11	27	4	12	0	0
14:00	3	5	12	29	5	14	0	0
14:15	3	6	13	31	6	15	0	0
14:30	3	6	14	33	6	17	0	1
14:45	3	6	15	34	7	18	0	1
15:00	3	6	16	36	7	19	0	1
15:15	3	6	16	37	8	20	0	1
15:30	3	7	17	38	8	21	0	1
15:45	3	7	17	39	9	22	0	1
16:00	4	7	18	40	9	23	0	1
16:15	4	7	19	40	9	23	0	1
16:30	4	7	19	41	10	24	0	1