BEAVER VALLEY POWER STATION'S

1983

Annual Emergency Preparedness Exercise

FOREWARD

DUQUESNE LIGHT COMPANY

BEAVER VALLEY POWER STATION

1983 ANNUAL EMERGENCY PREPAREDNESS EXERCISE

FORWARD

This exercise package has been developed to provide the basis for the conduct of a simulated radiological accident at the Beaver Valley Power Station Unit 1 facility located in Beaver County, Pennsylvania, through which the capabilities and effectiveness of the Emergency Response Plans for the Duquesne Light Company, the States of Pennsylvania, Ohio and West Virginia and the associated local counties can be evaluated. This package is to be utilized by the exercise controllers and observers of the Federal, State and local agencies, as well as the utility, to initiate, control and evaluate the activities of the participants in the exercise.

The Duquesne Light Company approves this document as the standard for conduct in performance of the 1983 Annual Emergency Preparedness Exercise.

J. J. Carey
Vice President, Nuclear
Duquesne Light Company

SECTION I
INTRODUCTION

INTRODUCTION

In the interest of verifying that the health and safety of the general public in the Beaver, Columbiana and Hancock County areas are protected in the event of an accident at the Beaver Valley Power Station (BVPS), it is necessary for the Duquesne Light Company (DLC) to conduct a joint annual emergency preparedness exercise with the appropriate States and local agencies. The role of the Federal government at such an exercise is to evaluate the capabilities of the utility, States and local governments to provide the necessary protection for ensuring the health and safety of the public in the event of an accident at the BVPS Facility. In this respect, the Annual Exercise will be obvserved and critiqued by the Federal Emergency Management Agency (FEMA) at the State and local levels and the Nuclear Regulatory Commission (NRC) at the utility level.

The Annual Exercise, which is scheduled to be conducted on February 16, 1983, will include the mobilization of DLC, States and local personnel and resources, such that the capability to respond adequately to a simulated accident at the BVPS Facility can be verified. Exercise "players" will not have prior knowledge of the nature of the simulated incident or any parts thereof such as, radiological plume release information including times, content, size and weather pattern used. The exercise itself should allow those individuals and agencies who are assigned responsibilities in a radiological emergency to demonstrate whether they are adequately trained to perform according to current emergency preparedness plans and procedures.

This package has been developed to assist the exercise controllers and observers in the conduct and evaluation of the Annual Exercise. This package contains all of the information and data necessary to properly conduct the Annual Exercise in an efficient and coordinated manner, and is broken down as shown in the Table of Contents, page iii.

EXERCISE PARTICIPANTS

* DUQUESNE LIGHT COMPANY, BEAVER VALLEY POWER STATION
* BEAVER COUNTY EMERGENCY MANAGEMENT AGENCY
* HANCOCK COUNTY OFFICE OF EMERGENCY SERVICES
* COLUMBIANA COUNTY DISASTER SERVICES AGENCY
* PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY
* DEPARTMENT OF ENVIRONMENTAL RESOURCES/BUREAU OF RADIATION PROTECTION - PENNSYLVANIA
* OHIO DISASTER SERVICES AGENCY
* WEST VIRGINIA OFFICE OF EMERGENCY SERVICES

EXERCISE DATE AND TIME

In compliance with NUREG-0654/FEMA - REP-1, Rev. 1 and associated federal regulations governing continuing evaluation of radiological emergency response plans and preparedness for nuclear power plants, Duquesne Light Company will conduct a full scale, joint annual emergency preparedness exercise on Wednesday, February 16, 1983. In keeping with the criteria to start an exercise between midnight and 6:00 a.m. once every six years, this exercise has been developed to initiate response actions beginning at 5:30 a.m. on the morning of February 16, 1983. The exercise has been designed to test most of the major aspects of the stations emergency preparedness program (refer to the exercise objectives, Section II) throughout the course of the day. Anticipated response actions are expected to occupy the exercise participants time throughout the day on February 16, with the exercise termination point scheduled to occur at approximately 5:30 p.m.

The date and times associated with the conduct of this exercise have been jointly agreed upon by Duquesne Light Company, the states of Pennsylvania, Ohio and West Virginia, Beaver, Columbiana and Hancock Counties as well as the Nuclear Regulatory Commission and the Federal Emergency Management Agency.

CONTROLLERS AND LOCATIONS

Due to the inherent escalation of events and group involvement in the first few hours of the exercise, some of the controllers or observers will transfer to alternate locations as the response escalates. It has been tentatively broken down in the following manner, however, depending on the actual response actions of the participants and the amount of "free play" allowed by the controllers, some of these positions may alter during the conduct of the exercise.

1. Unusual Event Time Period

   a. Control Room

      ° Controllers

K. Grada	-	Operations Management
R. Varley	-	Roving
G. Reed	-	Dose Assessment
W. Mahan	-	Communications

      ° Observers

C. Wassel	-	Roving
F. Pavlechko	-	Roving
R. Caldwell	-	Management
*J. Brady	-	Roving

   b. Plant Locations

      ° Controller

T. Kuhar	-	Pri. Drains Transfer Tank

      ° Observer

	-	Station Vent Switchover

   c. Inplant Radcon

      ° Controller

D. Kochman	-	Rm-215-A Alarm Investigation

      ° Observer

K. Winter	-	Primary Auxiliary Building

   d. DLC Corporate News Center

      ° Controller

F. Skledar	-	Press Release

e. Offsite Locations

° Counties

*C. Wike	-	Columbiana
	-	Hancock
*F. Klauss	-	Beaver

° States

	-	Ohio
	-	West Virginia
	-	Pennsylvania

2. Alert Time Period

a. Control Room

° Controllers

K. Grada	-	Operations Management
G. Reed	-	Roving

° Observer

R. Caldwell	-	Management
*J. Brady	-	Communications

b. Plant Locations

° Controllers

T. Kuhar	-	Primary Drain Txfr Pump (8:02)
T. Kuhar	-	Cable Tray Mezz. (8:20)
	-	Elec. Cable Repair

° Observers

B. Zamule	-	OSC
	-	Cable Tray/Tagouts

c. Inplant Radcon

° Controller

D. Kochman	-	Isotopic Breakdown

° Observer

*K. Winter	-	Primary Auxiliary Building
P. Gianatusus	-	ROC

d. Chemistry

° Controller

J. Wenkhous - Pri. Coolant Sample

e. Technical Support Center

° Controllers

R. Varley - Management
W. Mahan - Communications/CATV
C. Wassel - Dose Assessment
R. Hruby - Engineering Assessment

° Field Controllers

*C. Roszkowski - Field Monitoring
M. Shaw - Field Monitoring
F. Straccia - Field Monitoring

° Observers

W. Wirth - Roving
J. Peters - Roving
F. Pavlechko - Roving
*J. Peevey - Dose Assessment
*G. Randolph - Engineering Assessment
*H. Stokes - Admin. and Ligistics

f. Security

° Controller

A. Middleton - Roving

° Observer

*C. Lopes - Roving (Fire Dept. Entrance)

g. DLC Corporate News Center

° Controller

F. Skledar - Press Release/CNC Activation

° Observer

*K. Schlecker - CNC Activation

h. Offsite Locations

° Counties

*C. Wike - Columbiana

- Hancock
*F. Klauss - Beaver

° States

- Ohio
- West Virginia
- Pennsylvania

3. Site Area Emergency Time Period

a. Control Room

° Controller

K. Grada - Operations Management

° Observer

R. Caldwell - Management
*J. Brady - Communications

b. Plant Locations

° Controllers

T. Kuhar - Annunciator Fuse Panels
- Cable Tray Mezz.

° Observers

B. Zamule - OSC
- Roving

c. Inplant Radcon

° Controller

D. Kochman - Isotopic Breakdown

° Observer

K. Winter - Pri. Auxiliary Building
P. Gianatusus - ROC

d. Chemistry

° Controller

J. Wenkhous - Pri. Coolant Sample

e. Technical Support Center

° Controllers

R. Varley	-	Management
W. Mahan	-	Communications/CATV
R. Hruby	-	Engineering Assessment

° Observers

*J. Peters	-	Roving
F. Pavlechko	-	Roving
*G. Randolph	-	Engineering Assessment
*H. Stokes	-	Admin. and Logistics

f. Emergency Operations Facility

° Controllers

G. Reed	-	Management
C. Wassel	-	Dose Assessment
W. Etzel	-	Engineering

° Field Controllers

*C. Roszkowski	-	Field Monitoring
M. Shaw	-	Field Monitoring
F. Straccia	-	Field Monitoring

° Observers

W. Wirth	-	Roving
*R. Leddick	-	Roving
*J. Peevey	-	Dose Assessment

g. Security

° Controller

A. Middleton	-	Roving

° Observer

*C. Lopes	-	Roving (Fire Dept. Exit)

h. DLC Corporate News Center

° Observer

*K. Schlecker	-	CNC Deactivation

i. DLC Emergency News Center

° Controller

F. Skledar	-	Press Releases/ENC Activation

j. Offsite Locations

° Counties

*C. Wike	-	Columbiana
	-	Hancock
*F. Klauss	-	Beaver

° States

	-	Ohio
	-	West Virginia
	-	Pennsylvania

4. General Emergency Time Period

a. Control Room

° Controller

K. Grada	-	Operations Management

° Observer

R. Caldwell	-	Management
*J. Brady	-	Communications

b. Plant Locations

° Controllers

T. Kuhar	-	PAB Entry
B. Haney	-	Medical Aspects
B. Bradley	-	Medical Aspects

NOTE: A volunteer individual to play the injured victim will be used.

° Observers

B. Zamule	-	OSC
	-	Roving

c. Inplant Radcon

° Controllers

D. Kochman	-	Inplant surveys
M. Burke	-	Inplant surveys

° Observers

K. Winter	-	Roving
P. Gianatusus	-	ROC

d. Chemistry

° Controllers

J. Wenkhous	-	PASS Analysis
G. Weikel	-	Roving

e. Technical Support Center

° Controllers

R. Varley	-	Management
W. Mahan	-	Communications/CATV
R. Hruby	-	Engineering Assessment

° Observers

*J. Peters	-	Roving
*G. Randolph	-	Engineering Assessment

f. Emergency Operations Facility

° Controllers

G. Reed	-	Management
C. Wassel	-	Dose Assessment
W. Etzel	-	Engineering

° Observers

F. Pavlechko	-	Roving
W. Wirth	-	Roving
*R. Leddick	-	Roving
*J. Peevey	-	Dose Assessment
*H. Stokes	-	Admin. and Logistics

° Field Controllers

*C. Roszkowski	-	Field Monitoring
M. Shaw	-	Field Monitoring
F. Straccia	-	Field Monitoring

° News Input Controller

W. Conover	-	National News Inquiry

g. Security

° Controller

A. Middleton	-	Roving

° Observer

*C. Lopes - Accountability/Access Control
*G. Gellrich - Evacuation/Ambulance Entrance

NOTE: A volunteer individual to play the role of a news media representative trying to get onto the site will be used.

*W. Conover - News Media Intruder
*G. Brown - News Media Intruder

h. DLC Emergency News Center

° Controller

F. Skledar - Management

° Observer

*K. Schlecker - Roving

i. Offsite Locations

° Counties

*C. Wike - Columbiana
- Hancock
*F. Klauss - Beaver

° States

- Ohio
- West Virginia
- Pennsylvania

OVERALL SCHEDULE OF EVENTS

* * * FEBRUARY 15, 1983 * * *

9:00 a.m. - Orientation for station personnel at the SAPS Visitor Center

2:00 p.m. - Exercise Controller and Observer Briefing at the SAPS Visitor Center (the NRC, States and FEMA may have representatives in attendance)

* * * FEBRUARY 16, 1983 * * *

5:00 a.m. - All Onsite Exercise Controllers and Observers identified in the Unusual Event Exercise Organization (see Section VIII organization charts) assemble in the conference room near the Unit 1 Control Room

5:30 a.m. - BVPS 1983 Annual Exercise commences (for detailed exercise sequence of events refer to Sections V and VI)

6:15 a.m. - Offsite EOC Observers should be in place

6:25 a.m. (approx.) - Declaration of an Unusual Event

6:30 a.m. - PID Controller should be in place at the DLC Corporate News Center

7:30 a.m. - All Onsite Exercise Controllers and Observers identified in the Alert Exercise Organization (see Section VIII organization charts) who were not previously involved at the Unusual Event Level, assemble in the Administration Building Conference Room

7:55 a.m. (approx.) - Escalation to an Alert

10:00 a.m. - All Onsite Exercise Controllers and Observers identified in the Site Area Emergency Exercise Organization (see Section VIII organization charts) who were not previously involved at the Alert Level, assemble in the Administration Building Conference Room

10:38 a.m. (approx.) - Escalation to a Site Area Emergency

12:30 p.m. - All Onsite Exercise Controllers and Observers identified in the General Emergency Exercise Organization (see Section VIII organization charts) who were not previously involved at the Site Area Emergency level, assemble in the Administration Building Conference Room

1:07 p.m. (approx.) - Escalation to a General Emergency

3:30 p.m. (approx.) - De-escalation to an Alert

5:30 p.m. (approx.) - BVPS 1983 Annual Exercise concludes

* * * FEBRUARY 17, 1983 * * *

10:00 a.m. - Station critique of the exercise is held at the SAPS Visitor Center (observed by the NRC)

1:00 p.m. - Columbiana County informal critique is held at the County EOC

2:00 p.m. - NRC critique of the exercise is held at the SAPS Visitor Center (for DLC Management)

* * * FEBRUARY 18, 1983 * * *

10:00 a.m. - Formal public critique of the exercise by DLC and FEMA is held at the Willows Motel

EXERCISE ABBREVIATIONS

BCEMA	Beaver County Emergency Management Agency
BVPS	Beaver Valley Power Station
CCDSA	Columbiana County Disaster Services Agency
CFR	Code of Federal Regulations
DBA	Design Basis Accident
DER/BRP	Department of Environmental Resources/Bureau of Radiation Protection (Pennsylvania)
DLC	Duquesne Light Company
DOE	Department of Energy (US)
EAL	Emergency Action Level
ENC	Emergency News Center
ENS	Emergency Notification System
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	Environmental Protection Agency
EPS	Emergency Planning Supervisor
EPZ	Emergency Planning Zone
ERC	Emergency Response Center
FEMA	Federal Emergency Management Agency
FSAR	Final Safety Analysis Report
HCOES	Hancock County Office of Emergency Services Agency
INPO	Institute of Nuclear Power Operations
LEARN	Law Enforcement Activity Radio Network
LCO	Limiting Condition for Operations
LOCA	Loss of Coolant Accident
LPZ	Low Population Zone
NRC	Nuclear Regulatory Commission (US)
NWS	National Weather Services
ODSA	Ohio Disaster Services Agency
ORC	Offsite Review Committee
OSC	Operations Support Center
OSC	Onsite Safety Committee

PAG	Protective Action Guides
PEMA	Pennsylvania Emergency Management Agency
ROC	Radiological Operations Center
SAPS	Shippingport Atomic Power Station
SPRING	Stationary Particulate, Iodine, Noble Gas Monitoring System
TSC	Technical Support Center
WVOES	West Virginia Office of Emergency Services
X/Q	Wind Dispersion Factor (Chi/Q)

DUQUESNE LIGHT COMPANY

BEAVER VALLEY POWER STATION

Exercise Objectives

DUQUESNE LIGHT COMPANY
Beaver Valley Power Station

1983 Annual Emergency Preparedness Exercise

SCOPE:

The 1983 exercise, scheduled for conduct on February 16, 1983 will simulate accident events culminating in a radiological accident and resultant offsite releases from the Beaver Valley Power Station, located in Beaver County the state of Pennsylvania. The exercise will involve events that test the effectiveness of the Stations Emergency Preparedness Program and the integrated capabilities of the utilities emergency organization and the state and local agencies in Pennsylvania, Ohio and West Virginia. The exercise will include the mobilization of state and local personnel and resources adequate to verify their capability to respond to an accident.

OBJECTIVES:

The exercise objectives are provided as separate sections, broken down into the objectives for the station and those of each state/local agency.

In order to establish the scope and boundaries of the 1983 BVPS emergency exercise scenario, a definitive set of objectives had to be developed. These objectives not only are used to ascertain the required input to the exercise sequence of events, but also to establish evaluation critique areas to be graded by the exercise controllers and observers during actual conduct of the exercise. The following objectives are to be used for this purpose.

NOTE: The objectives listed with an asterisk (*) to the right indicates that objective is used as both a scenario development objective and a controller/observer evaluation objective. The other listed objectives are strictly to be used as evaluation objectives to enhance the grading criteria.

A. Overall Onsite Objectives

1. Demonstrate the capability to carry out protracted emergency response activities through the identification and implementation of a shift turnover for all key BVPS emergency response organization members.

2. Demonstrate efficient and reliable communications/information flow from the station ERF's to offsite agencies.

3. Demonstrate the ability to provide adequate administrative and logistical support for non-Duquesne Light emergency support personnel.

4. Demonstrate the ability to mobilize corporate level support in response to the incident.

5. Demonstrate effective rumor control techniques.

6. Demonstrate the proper utilization of the BVPS ERF's and that adequate emergency response equipment exists.

7. Demonstrate the BVPS emergency organization's ability to make proper decisions related to emergency radiation exposure guidelines, and the capability to implement these decisions.

8. Demonstrate at all BVPS emergency facilities the ability to establish and maintain solid accident management command and control authority and maintain continuity of authority throughout the exercise.

9. Demonstrate the ability to formulate and make protective action recommendations to protect station personnel and the general public based on plant parameters and/or field monitoring information.

10. Demonstrate station re-entry and recovery capabilities with respect to immediate emergency re-entry needs and long term accident de-escalation aspects.

B. Operations Objectives

1. Demonstrate the control rooms ability to recognize operations symptoms indicative of degrading plant conditions. *

2. Demonstrate proficiency in evaluating parameters, properly categorizing the situation utilizing the station's emergency action level scheme, and making the requisite emergency classification. *

3. Demonstrate the operating shift's capability to assemble and dispatch emergency squads in response to in plant problems. *

4. Demonstrate the ability to properly escalate/de-escalate the emergency classification. *

5. Demonstrate efficient and effective notification/alerting procedures and methods.

6. Demonstrate the ability to augment the on-shift emergency organization to support emergency operations in a timely and effective manner.

7. Demonstrate effective communications/informational flow from the control room to supporting locations.

8. Demonstrate the capability to shift authorities and responsibilities from the on-shift emergency organization to the onsite and offsite emergency organizations upon their activation.

9. Demonstrate the ability of the Shift Technical Advisors to conduct accident assessment activities, and evaluate plant conditions/stability to support the overall accident management objectives.

C. Health Physics Objectives

1. Demonstrate the necessary radiological controls to remove a contaminated injured individual from the accident scene and to assist the medical team in minimizing the consequences of a contaminated individual. *

2. Demonstrate the ability to support the recovery of the plant. *

3. Demonstrate the capability to perform radiological monitoring activities and assessments, and to formulate offsite radiological dose projections. *

D. Chemistry Objectives

1. Demonstrate the use of the post accident sampling system (with currently existant limitations) to obtain samples in support of accident assessment activities. *

2. Demonstrate the ability to assess data obtained as a result of the sampling activities, and the ability to factor results into the overall assessment process.

3. Demonstrate utilization of the mobile radiological van in support of offsite environmental sampling activities.

E. Engineering Objectives

1. Demonstrate the ability to develop alternative systems or equipment alterations in response to accident affected plant systems or components and to formulate respective procedures to accompany these required modifications. *

2. Demonstrate the capability to ascertain and to requisition the necessary parts to perform corrective maintenance on damaged equipment.

3. Demonstrate utilization and coordination of non-Duquesne Light engineering support as outlined in current letters of agreement.

F. Licensing Objectives

1. Demonstrate the ability to develop, obtain approval for, and implement actions which dictate operation of the station outside defined safety boundaries or normal station technical specifications.

2. Demonstrate the ability to respond to NRC inquiries regarding safety violations. *

G. Security Objectives

1. Demonstrate the ability to perform personnel accountability utilizing the automated security system. *

2. Demonstrate timely and efficient means for allowing onsite access to local offsite supporting agencies. (Fire and ambulance support)

3. Demonstrate maintenance of site security throughout the exercise, and the ability to establish and control security access control points.

4. Demonstrate the ability to cope with non-authorized intrusions to security controlled areas by local media personnel. *

5. Demonstrate security escort capabilities.

H. Public Information Objectives

1. Demonstrate the timely release and distribution of news announcements.

2. Demonstrate coordination of news announcements with federal, State and County emergency response agencies.

3. Demonstrate prompt activation of the Emergency News Center.

4. Demonstrate the ability to conduct timely and informative media briefings at the Emergency News Center.

5. Demonstrate the ability to respond to outside news inquiries at locations other than the Emergency News Center and the reactive effort required to direct those inquiries to the proper source. *

STATE OF PENNSYLVANIA

AND

BEAVER COUNTY

EXERCISE OBJECTIVES

I. NOTIFICATION

A. Notification of Officials and Staff:

1. To test and evaluate the adequacy of the fixed nuclear facility incident notification and alert procedures in the following areas:

a. Notification by the Beaver Valley Power Station facility to three (3) states (Pennsylvania, Ohio, West Virginia) and appropriate county governments.

b. Notification by the Pennsylvania Emergency Management Agency (PEMA) to Bureau of Radiation Protection (BRP), risk county's emergency operations center, affected states, PEMA area EOC's selected State agencies, and the Federal Emergency Management Agency (FEMA). BRP notifies Federal Department of Energy (DOE).

c. Notification by the county's emergency management agency (EMA) to risk municipal EMA's and county emergency response staff personnel.

d. Notifcation municipal EMA's to municipal emergency response staff personnel.

e. Notification by PEMA area headquarters to support counties.

2. To test and evaluate the ability of key emergency response personnel at all levels to implement notification procedures for fixed nuclear facility incidents, to include continuing notification and coordination.

B. Public Alert/Notification and Information:

1. To evaluate the ability of State, county and municipal authorities to alert and notify the public of incidents within the plume exposure pathway emergency planning zone of the Beaver Valley Power Station, to include actual use of sirens, EBS announcements, route alerting, and other communications means available.

2. To evaluate the ability of appropriate State and county authorities to provide the public within the 10 mile EPZ of the plant periodic updates of emergency status.

II. EXTERNAL COMMUNICATIONS

A. To test and evaluate the adequacy of all planned communications systems among and between the participants.

B. To evaluate the need for and availability of communications circuits between and among the participants.

C. To review all primary communications circuits for back-up communications capability.

D. To determine the efficiency and effectiveness of communications circuits such as EBS and RACES.

E. To evaluate the availability and effectiveness of the communications interface with federal agencies and/or contiguous states.

III. EMERGENCY OPERATIONS CENTER (STATE/COUNTY/MUNICIPAL)

A. To test and evaluate the adequacy of the emergency operations centers with respect to space, comfort and function for managing responses to nuclear facility incidents.

B. To test and evaluate the adequacy, appropriateness, and effectiveness of the internal communications system within the EOC, to include maps and displays.

C. To evaluate the adequacy of staffing and competency of the staffs.

D. To test and evaluate the adequacy of control into the security of the EOC's.

IV. DIRECTION AND CONTROL

A. To evaluate the ability of key State, county and municipal emergency response personnel to initiate and coordinate timely and effective decisions with respect to fixed nuclear facility incidents.

B. To evaluate the capability of State, county and municipal emergency response agencies to identify and provide for resource requirements.

C. To evaluate the capability of State, county and municipal governments in coordinating (internally/externally) actions, needs and status of situations between organization for the purpose of acquiring support and evoking appropriate decisions.

D. To evaluate the level of support and participation provided by the responsible elected/appointed officials.

V. EMERGENCY PLANS

To evaluate the adequacy and capability of implementation of State, risk and support counties, and municipal emergency response plans.

VI. PUBLIC INFORMATION

To evaluate the adequacy of the interface of State, county and Beaver Valley facility public information systems with the news media, to include news media briefing rooms, rumor control measures, etc.

VII. ACCIDENT ASSESSMENT (Bureau of Radiation Protection)

To evaluate the effectiveness of state BRP nuclear facility accident assessment system, to include adequacy of equipment, personnel staffing and competency skills with respect to reporting, dose projection, field measurement, coordination, and communications.

VIII. PROTECTIVE MEASURES

To evaluate the capability of the State, county and municipal emergency response systems to make decisions and to implement sheltering or evacuation and to take actions to activate such support functions as reception centers, mass care/decontamination centers, decontamination stations, risk school district procedures, ambulance service, bus operations, and pickup points.

IX. RADIOLOGICAL EXPOSURE CONTROL

A. To evaluate the capability of State, county and municipal emergency response personnel to implement access control points and traffic control points.

B. To evaluate methods for distribution, issuance, administering and record keeping of potassium iodide (KI) to emergency workers.

C. To evaluate methods for distribution of dosimetry to emergency workers.

D. To evaluate methods and capability of State, county and municipal emergency personnel for keeping records of individual radiation exposure doses.

X. RE-ENTRY AND RECOVERY

To be evaluated as a separate exercise in CY 1984.

STATE OF OHIO

AND

COLUMBIANA COUNTY

Exercise Objectives

1. Demonstrate that personnel in Ohio can perform offsite dose projections and accident assessment, for both radioactive noble gases and radioiodine.

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

3. Demonstrate that onsite and offsite field monitoring teams 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 to the field radiological center and to the accident assessment center.

4. Demonstrate that adequate security of emergency facilities can be maintained.

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

6. Demonstrate that inter-state, intra-state, and state-federal communication and coordination between site and EOC's and between EOC's and EOF exist; that communication and coordination between State and County agencies exist and that communications systems for emergency workers are operable and adequate.

7. 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.

8. Demonstrate that public information is coordinated between site, State, County, and Federal officials; that there are accurate and timely press releases and briefings; that designated public information personnel are implementing their procedures.

9. Demonstrate that the designated State official is in command of the EOC; that officials designated in the plan are actually in charge of the overall coordination of the response; and that designated offsite officials are presented in the EOF.

10. Demonstrate that decisions are coordinated among State, County and Federal agencies and among those agencies and the site and corporate management.

11. Demonstrate the ability of the site, the EOF and each state to make decisions on both the taking and relaxing of protective actions.

12. Demonstrate the capability to sample soil & vegetation, transport samples and activate state lab.

13. Demonstrate that adequate security of emergency facilities can be maintained.

14. Demonstrate that adequate public alert/notification exists for proper instruction to the public for protective action recommendations.

15. Demonstrate that effective command and control can be accomplished for decision making on protective action, coordination with others in counties, the state, East Liverpool and operational forces.

16. Demonstrate that adequate communication exists to support emergency operations, to include communication with the plant, the state, East Liverpool and the Joint Public Information Center.

17. Demonstrate that adequate facilities and capabilities exist for the conduct of decontamination operations during an accident.

18. Demonstrate that adequate facilities and capabilities exist for the conduct of care operations, to include necessary space, supplies, personnel and procedures.

19. Demonstrate that facilities and capabilities exist for the operation of assembly areas.

20. Demonstrate the capability to conduct re-entry and recovery operations.

21. Demonstrate effective coordination of public information operations through participation at the Joint Public Information Center.

STATE OF WEST VIRGINIA

AND

HANCOCK COUNTY

Exercise Objectives

HANCOCK COUNTY
West Virginia
Exercise Objectives

I. NOTIFICATION

A. Notification of Officials and Staff

1. To test and evaluate the adequacy of the fixed nuclear facility incident notification and alert procedures in the following areas:

a. Notification by the Beaver Valley Power Station facility to Hancock County.

b. Notification of the Hancock County of Emergency Services to risk municipalities and county emergency response staff personnel.

2. To test and evaluate the ability of any emergency response staff personnel at all levels to implement notification procedures for fixed nuclear facility incidents, to include continuing notification and coordination.

B. Public Alert/Notification and Information:

1. To evaluate the ability of County authorities to alert and notify the public of incidents within the plume exposure pathway emergency planning zone, to include actual use of sirens, EBS Announcements, route alerting, and other communications means available.

2. To evaluate the ability of County authorities to provide the public within the 10 mile EPZ of the plant periodic update of emergency status.

3. To evaluate that an adequate public alert/notification exits for proper instruction to the public for protective action recommendations.

II. EXTERNAL COMMUNICATIONS

A. To test and evaluate the adequacy of all planned communications systems between the participants.

B. To review all Primary Communications circuits for back-up communications capability.

C. To determine the efficiency and effectiveness of EBS and RACES.

D. To evaluate the availability and effectiveness of communications interface with Federal agencies and/or continguous states.

E. To test and evaluate that interstate, intrastate, and state-federal communications and coordination between site and EOC and between EOC and EOF exists; that communication and coordination between State and County agencies exist and that communication by items for emergency workers are operable and adequate.

F. Evaluate the ability to communicate with station personnel as needed.

G. Evaluate the adequacy of communications to support emergency operations to include communications with the plant, the State, municipalities within the 10 mile EPZ and the Joint Public Information Center.

III. EMERGENCY OPERATIONS CENTER

A. To test and evaluate the adequacy of the Hancock County Emergency Operations Center with respect to space, comfort, and function for managing responses to nuclear facility incidents.

B. To test and evaluate the adequacy, appropriateness, and effectiveness of the internal communications systems within the EOC, to include maps and displays.

C. To test and evaluate the internal message flow, 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.

D. To evaluate the adequacy and competency of the Hancock County Emergency Response Staff.

E. To test and evaluate the adequacy of control and security into the EOC.

IV. DIRECTION AND CONTROL

A. To evaluate the ability of key County emergency response personnel to initiate and coordinate timely and effective decisions.

B. To evaluate the capability of County emergency response agencies to identify and provide for resource requirements.

C. To evaluate the capability of County government in coordinating activities (both internal and external), needs and status of situations between organizations for the purpose of acquiring support.

D. To evaluate the level of support and participation provided by the responsible elected officials.

E. To evaluate that effective command and control can be accomplished for decision making on protective actions, coordination with other counties, the State and operational groups.

V. EMERGENCY PLANS

To evaluate the adequacy and capability of implementation of County emergency response plans.

VI. PUBLIC INFORMATION

A. To evaluate the adequacy of the interface of State, County and Beaver Valley facility public information systems with the news media to include news media briefing rooms, rumor control measures; etc.

B. To evaluate that public information is coordinated between site, State, County and Federal Officials; that there are timely and accurate press releases and briefings; and that designated public information personnel are implementing their procedures.

VII. PROTECTIVE MEASURES

To evaluate the capability of the State and County emergency response systems to make decisions and to implement sheltering or evacuation and to take actions to activate such support functions as assembly areas, reception centers, mass care/decontamination centers, decontamination stations, risk school district procedures, amublance service, bus operations and pickup points.

VIII. RADIOLOGICAL EXPOSURE CONTROL

A. To evaluate the capability of State, County and municipal emergency response personnel to implement access control points and traffic control points.

B. To evaluate methods for distribution, issuance, administering and record keeping of potassium iodide (KI) to emergency workers.

C. To evaluate methods for distribution of dosimetry to emergency workers.

D. To evaluate the methods and capability of county emergency personnel for keeping records of individual radiation exposure doses.

State of West Virginia

Exercise Objectives

I. NOTIFICATION

A. Notification of Officials and Staff:

1. To test and evaluate the adequacy of the fixed nuclear facility incident notification and alert procedures in the following areas:

a. Notification by Hancock County Emergency Services to West Virginia State Office of Emergency Services (WVOES).

b. Notification by the Pennsylvania Emergency Management Agency (PEMA) to WVOES.

2. To test and evaluate the ability of key emergency response personnel at the State level to implement notification procedures for fixed nuclear facility incidents, to include continuing notification and coordination.

B. Public Alert/Notification and Information:

1. To evaluate the ability of State authorities in assisting Hancock County Office of Emergency Services in alerting and notifying the public of incidents within the plume exposure pathway EPZ.

2. To evaluate the ability of State authorities in assisting Hancock County Office of Emergency Services in providing the public within the 10 mile EPZ of the plant periodic updates of emergency status.

3. Evaluate capability of coordinating actions with other States.

II. EXTERNAL COMMUNICATIONS

A. To test and evaluate the adequacy of all planned communications systems among and between the participants.

B. To evaluate the need for and availability of communications circuits between and among the participants.

C. To review all primary communications circuits for back-up communications capability.

D. To determine the efficiency and effectiveness of communications circuits such as RACES.

E. To evaluate the availability and effectiveness of the communications interface with federal agencies and/or contiguous states.

III. EMERGENCY OPERATIONS CENTER

A. To test and evaluate the adequacy of the emergency operations centers with respect to space, comfort and function for managing responses to nuclear facility incidents.

B. To test and evaluate the adequacy, appropriateness and effectiveness of the internal communications systems within the EOC, to include maps and displays.

C. To evaluate the adequacy and competency of the staff.

D. To test and evaluate the adequacy of control and security of the EOC.

IV. DIRECTION AND CONTROL

A. To evaluate the ability of key State emergency response personnel to initiate and coordinate timely and effective decisions with respect to fixed nuclear facility incidents.

B. To evaluate the capability of State emergency response agencies to identify and provide for resource requirements.

C. To evaluate the capability of State government in coordinating (internally/externally) actions, needs and status of situations between organizations for the purpose of acquiring support and evoking appropriate decisions.

V. EMERGENCY PLANS

To evaluate the adequacy and capability of implementation of State emergency response plans.

VI. PUBLIC INFORMATION

A. To evaluate the adequacy of the interface of State, county and BVPS facility public information systems with the news media to include news media briefing rooms, rumor control measures, etc.

B. To coordinate the release of press information.

VII. ACCIDENT ASSESSMENT

To evaluate the effectiveness of the State nuclear facility accident assessment system, to include adequacy of equipment, personnel staffing and competency skills with respect to reporting, dose projections, field measurement, coordination and communications.

VIII. PROTECTIVE MEASURES

A. To evaluate the capability of the State emergency response system to assist Hancock County Office of Emergency Services in making decisions and implementing sheltering or evacuation and to take support actions for the county's requirements in implementing these decisions.

B. To evaluate the capability of coordinating such actions with other States.

IX. RADIOLOGICAL EXPOSURE CONTROL

A. To evaluate the capability of the State emergency response personnel in assisting Hancock County Office of Emergency Services to-implement access control points and traffic control points.

B. To evaluate methods for distribution, issuance, administering and record keeping of potassium iodide (KI) to emergency workers.

C. To evaluate methods for distribution of dosimetry to emergency workers.

D. To evaluate the methods and capability of State emergency personnel for keeping records of individual radiation exposure doses.

X. RE-ENTRY AND RECOVERY

Will not be played in this exercise.

SECTION III

PRECAUTIONS & LIMITATIONS

PRECAUTIONS AND LIMITATIONS

This section provides information for all Exercise Controllers and Observers related to the rules and guidelines to be followed throughout the conduct of this exercise. Prior to initiation of the exercise, a pre-exercise briefing will be held to review the entire exercise process with all the Exercise Controllers and Observers identified in the Introduction Section of this package.

A. Should, at any time during the course of the conduct of this exercise, an actual emergency situation arise, all activities and communications related to the exercise will be suspended. It will be the responsibility of any Exercise Controller or Observer that becomes aware of an actual emergency to suspend exercise response in his/her immediate area and to inform the Lead Exercise Controller of the situation. Upon notification of an actual emergency, the Lead Exercise Controller will notify all other Controllers/Observers to suspend all exercise activities.

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

C. Pressurization of fire hoses, discharging of fire extinguishers, or initiation of any fire suppression systems, is not to occur in response to any simulated fires during this exercise.

D. Manipulation of any plant operating systems, valves, breakers or controls in response to this exercise are only to be simulated. There is to be no alteration of any plant operating equipment, systems or circuits during the response to this exercise.

E. All telephone communications, radio transmissions and public address announcements related to the exercise must begin and end with the statement, "This is an exercise (or drill)." Should a Controller or Observer witness an exercise participant not observing this practice, it is the Controllers/Observers responsibility to remind the individual of the need to follow this procedure.

F. Any motor vehicle response to this exercise, whether it be ambulance, fire fighting equipment, police/security vehicles or field monitoring teams, should observe all normal motor vehicle operating laws including posted speed limits, stop lights/signs, one way streets, etc.

G. Should any onsite security actions be required in response to this exercise, exercise participants are to cooperate as directed, and security representatives are to be prudent and tolerant in their actions.

H. Exercise participants are to inject as much realism into the exercise as is consistent with its safe performance, however, caution must be used to prevent overreaction.

I. Care must be taken to assure that any non-participating individuals who may observe exercise activities or overhear exercise communications are not misled into believing that an actual emergency exists. Any Exercise Controller or Observer who is aware of an individual or group of individuals in the immediate vicinity who may have become alarmed or confused about the situation, should approach that individual or group and explain the nature of the exercise and its intent.

SECTION IV

EVENTS SUMMARY

EVENTS SUMMARY

Any emergency exercise must have a significant effort put forth in research and development to ensure that the events depicted are as realistically possible as can be simulated through the use of cue cards, signs, etc. For discussion purposes,these events can generally be broken down into two categories:

1. Human Error, and

2. Equipment Malfunction.

The first, human error, is the easiest and more flexible of the two categories to identify in a scenario, however, no one likes to assume that they will make mistakes, especially of the magnitude to cause significant plant damage or offsite consequences. This does not, however, preclude using this means to provide input into the scenario, since the possibility for human error does exist based on the amount of human judgement involved in implementing emergency response actions for off-normal plant events.

The second category, equipment malfunction, is much harder to incorporate into a scenario, especially where it is needed to cause plant damage that creates a problem to the offsite environment. This is true because of the tremendous effort placed on equipment reliability and redundancy during design, fabrication and installation of systems at nuclear power facilities. The Safety Analysis Report, written for all nuclear facilities, including the Beaver Valley Power Station, analyzes the capabilities of plant systems to maintain control over radioactive material within the plant during all types of off-normal plant incidents. Thus, in order to incorporate equipment related problems into the scenario, some unrealistic assumptions must be made.

Additionally, the public's perception of the exercise scenario often times leads them to believe that these events may very well be probable. However, it should be known that if the events in the exercise scenario presented within were at all possible, an unanswered safety question would exist and actions would be taken to rectify the situation.

Thus, in order to achieve a sequence of events that will lead to a significant plant problem, the exercise scenario must contain an incredible plant situation, and unlikely series of equipment failures, or an improbable operator error combined with equipment failures. For this scenario in particular, the following assumptions have been made in order to force the participants into an unusually high level of response activities that may never normally be required.

JUSTIFICATION AND BASIS FOR EVENTS

As is indicated in the written summary (Part B of this Section), the flow of events occurs mainly in response to two in-plant situations. One is derived mainly from excessive leakage of water from the Reactor Coolant System and the other is due to electrical shorts in the plant's power distribution system. Based on these concepts, the following Emergency Action Levels (EAL's) were used to upgrade the Emergency Classification from Unusual Event to a General Emergency.

- Unusual Event

  1. Any Non-isolatable Pressure Boundary Leakage
  2. Unidentified Leakage > 1 gpm
  3. Identified Leakage > 10 gpm
  4. Controlled Leakage > 28 gpm at RCS Pressure 2230 ± 20 PSIG
  5. (See also RCS/Secondary Leakage)

- Alert

  1. Leakage Exceeds 50 gpm

NOTE

There are no instruments which directly measure RCS leakage. RSC Leakage is determined by a leak rate surveillance procedure. The instruments listed below may be indicators that a significant leak exists.

RM-LRM-215A	Containment Particulate Monitor
RM-1RM-215B	Containment Gas Monitor
RM-1RM-201	Containment Low Range Area Monitor
RM-1RM-202	Containment High Range Area Monitor
TI-RC-463	Pressurizer Pwr. Relief Disch. Temperature
TI-RC-465/467/469	Pressurizer Safety Relief Disch. Temperature
LI-RC-470	Pressurizer Relief Tank Level
LI-RC-460/462	Pressurizer Level
PI-LM-100	Containment Total Pressure
TI-LM-100	Containment Temperature
A4-25	"Pressurizer Power Relief Disch. Temp. High"
A4-26/27/28	"Pressurizer Safety Relief Disch. Temp. High"
A1-58	"Containment Pressure High"
A1-60/66	"Containment Pressure High High"
A4-3	"Pressurizer Control Level Low"
A3-96	"React Flange Leakoff Temp. High"

- Site Area Emergency

→ 1. Loss of All Annunciators > 15 Minutes with Plant Not in Cold S/D

2. Uncontrolled Transient Occurs While Annunciators are Inoperative

- General Emergency

1. LOCA

→ a. Loss of Coolant Accident with failure of ECCS.

b. Loss of Coolant Accident with subsequent failure of heat removal systems; likely failure of containment.

c. Loss of Coolant Accident with fuel failure and propable imminent failure of containment.

Of course, the final plant condition, which leads to the General Emergency, also creates (through assumptions and simulation) a significant radiological problem that requires offsite protective action responses. Knowing this type of information, as well as having an understanding of the concepts involved in the application of this scenario, including any misnomers, is important to the overall outcome of the exercise because of the attitude generated when the exercise is being conducted and observed.

First, it is important to realize (especially for the plant participants and observers) that the scenario is not there to test the Operators knowledge of the plant. It definitely should be as realistic and as comprehensive as possible, however, no scenario can provide the detailed information or exact time sequence that will actually occur during a similar plant event, unless the exercise is run using a Control Room simulator. Even then, much of the data and observations must come from in-plant locations other than the Control Room, where again cue cards or signs must be used and thus the simulation is far from realistic. What the scenario should do is to provide enough impetus to test not only the Operators, but also the rest of the response organizations on their knowledge of the Emergency Plans, Implementing and/or Standard Operating Procedures, and how each must interface with the other.

Second, it should be understood that many varied conditions must be assumed initially in order to provide answers to expected Operator or Engineering responses that will occur following each event in the scenario. This is important, since their attitude during the exercise can effect the attitude and perception of the overall response organization - onsite as well as offsite. In order words, if they are given an exact or detailed summary of why their suggestion won't work to mitigate the event, they will react as if the situation is more realistic and armed with this new information attack the problem more eagerly. This eagerness and willingness to respond attitude has proven in the past to be transferred to the offsite participants. On the other hand, if they are given a "no, this won't work" answer, they get disgruntled and disgusted with the scenario, won't know where to look next and won't care since they'll expect the same answer, and this definitely has a

detrimental transfer effect on how communications flow and how the interface with offsite agencies occurs. For this reason, a comprehensive set of initial plant conditions have been developed and no matter how unrealistic it appears to be in the beginning of the exercise, this will soon be forgotten once they are into the exercise and each of these in turn plays an active role in providing input into Operator and Engineering response actions.

Several of the initial plant conditions place design safety systems in a "not presently available" category, one of which (for example) would change the outcome of the exercise events drastically. This is the condition concerning the floating ring seals of the Reactor Coolant Pumps. In the scenario, a failure of a Reactor Coolant Pump seal is the source of the loss of coolant accident which creates serious offsite consequences. In reality, the floating ring seals are in place and if a Reactor Coolant Pump seal should fail, they would limit the loss of coolant to approximately 75 gpm rather than the 300 gpm assumed during this exercise scenario.

The last aspect which should be addressed is the significant electrical problems that are assumed to occur during this exercise. These normally would not be a problem for the following reasons:

1. Construction or maintenance personnel would not be permitted to perform major repairs or conduct circuit testing evolutions when the plant is in an Alert emergency (unless it was directly related to the cause of the Alert).

2. A voltage surge through the plant's power distribution system is highly unlikely and the possibility of it tripping open breakers on several different panels is even more unlikely.

3. The electrical systems at Beaver Valley were designed with alternate power systems, each with independence, redundancy, capacity, and testability to ensure that the capability exists for performing the functions required for engineered safety features (i.e., Reactor Coolant Pump, Charging Pump operation, etc.).

However, to instill some realism into the exercise response Key Exercise Controllers (licensed or. plant or an engineer) will prompt specific actions and provide explanatory comments beyond the scope of the cue cards. This will be limited, however, and will remain within the bounds of the scenario and shall not inhibit or preclude the free play to be demonstrated by the participants in the exercise.

WRITTEN SUMMARY

Note: The following is a synopsis or summary of the detailed sequence of events listed in Sections V and VI of this package.

The Beaver Valley Power Station Unit 1 has been operating at 100% power with only minor equipment problems identified and operationally addressed through surveillance activities. During the midnight shift, however, Operations personnel discover leakage from the Reactor Coolant System in excess of Technical Specification limits. Later in the shift, a Containment Air Radiation Monitor alarm is received. An Unusual Event is declared at approximately 6:25 in the morning.

The Operating shift crew take steps to investigate and respond to the situation, as well as to notify station personnel, Station Management, the Nuclear Regulatory Commission, and State and local authorities. Additional minor events occur in the plant, however, they do not warrant escalation of the emergency.

Plant conditions begin changing, indicating a Reactor Coolant System leak rate of greater than 50 gpm. Upon verification, the emergency is escalated to an Alert classification at approximately 7:55 that same morning.

The Operators take actions to respond to the abnormal plant condition and notify Duquesne Light personnel, the NRC, and offsite authorities. The Technical Support Center at the plant is activated. Other emergency response personnel go on standby. Partial activation of the local Emergency Operations Centers occur.

The Shift Supervisor directs activities to begin shutting the plant down. (Note that this action as well as many of the others is only simulated.) Shortly thereafter, an electrical fire breaks out in the plants cable tray mezzanine during electrical modification testing. The onsite Fire Brigade is activated and offsite assistance from the Shippingport Fire Department is requested.

The plant is brought down to a hot standby (Mode 3) condition and, with the assistance of the local Fire Department, the fire is extinguished. A fire watch is stationed and assessment and corrective actions for the situation begin.

A short while later during the electrical corrective actions, a voltage transient occurs causing breakers to trip open and a loss of power to all Control Room annunciators.

Fifteen minutes later, power still has not been regained to the Control Room annunciators and a Site Area Emergency is declared at approximately 10:38. Offsite notifications are made by the Technical Support Center. The Duquesne Light Emergency Operations

Facility and Emergency News Center are activated. The State Emergency Operations Centers are activated.

Actions are taken onsite to repair plant systems necessary to ensure that control of the plant can be maintained. Necessary repair actions are completed to return the Control Room annunciators to service. However, a short while later, Charging System operation is lost causing severe damage to a Reactor Coolant Pump seal. The seal fails causing a major loss of coolant accident and a General Emergency is declared at approximately 1:07. Offsite notifications are made by the Emergency Operations Facility.

Over a period of time, plant conditions worsen and core degradation cuases a release of radioactive material to the environment. Offsite authorities are notified and public protective actions are recommended. The early warning system sirens and Emergency Broadcast System are utilized to notify the public.

Plant personnel enter the Primary Auxiliary Building in an attempt to isolate the source of the leak when one individual falls, injuring himself in a contaminated environment. The plant first aid personnel respond, while notifications are made offsite for ambulance support and to prepare the Beaver County Medical Center for receipt of a contaminated injured victim.

Plant security restricts access to the site to non-essential personnel and provides entrance assistance to emergency response personnel from the utility, local support agencies, the State and Federal governments, and requested support organizations. Two personnel are apprehended in an attempt to make an unauthorized entry.

Due to the (simulated) long duration of the event, a turnover between onsite response personnel occurs to provide a rest period for those initial responders who directed the early phases of the emergency response effort.

Plant personnel later succeed in isolating the leak in the Primary Auxiliary Building and begin stabilizing plant conditions on long term recirculation cooling. After a period of time, the radiological aspects appear to be under control and the emergency is de-escalated to an Alert at approximately 3:30 in the afternoon (per simulated time this is 14 hours and 40 minutes into the event).

Efforts continue to stabilize and improve plant conditions and over a period of time, the event is de-escalated from an emergency condition to a recovery operation.

Following requisite reentry and recovery activities, the plant is returned to a pre-emergency status and the event response is terminated. (The time is now approximately 5:30 in the afternoon or 16 hours and 40 minutes into the simulated event time chronology.)

SECTION V

ONSITE SEQUENCE OF EVENTS

INITIAL PLANT CONDITIONS

A significant difficulty to overcome in any exercise scenario is preventing the exercise participants from resolving simulated problems prior to allowing the response from organizations both onsite and offsite from occurring. To alleviate this situation to some extent is the purpose for developing comprehensive initial plant conditions. To set the stage for the 1983 Beaver Valley Emergency Exercise, the following initial plant conditions will be used:

- Plant operating at 100% power for the last six months.
- Both containment vacuum pumps are operating due to abnormal air leakage to containment placing the plant in an action statement of the plant Tech Specs (T.S. 3.6.5.2).
- No Steam Generator tube leaks exist.
- Reactor Vessel head vent and Pressurizer vent are still out of service due to NRC ongoing review of procedures.
- Primary Coolant activity of < 100/$\bar{E}$ uci/gm and 1 uci/gm I-131 identified earlier in the 00-0800 Operations shift.
- Only one Charging Pump is operable placing the plant in an action statement of the plant Tech Specs (T. S. 3.1.2.4 for the past 24 hours) with CH-P-1B inoperable due to a broken speed increaser and CH-P-1C inoperable due to a rotor change out.
- One Primary Drain Transfer Pump not operable with identified leakage into the Primary Drains Transfer Tank (DG-TK-2) at 9.8 gpm.
- One Main Filter Bank of the Reactor Building and Suppl. Leak Collection System is inoperable due to problems with the filter sprinkler system placing the plant in an action statement of the plant Tech Specs (T.S. 3.7.14.2 for the past 24 hours).
- Containment air monitors RM-1RM-215A and B are operating.
- Both Boron Recovery System degasification recirc. pumps and systems are in service.
- All three Pressurizer Power Operated Relief Valves (PORV's) are isolated due to:

  -- Broken limitorque casing on MOV-RC-535.

  -- Excess valve stem leakoff on PCV-RC-456 and excess closing time.

  -- MOV-RC-537 is jammed into its seat.

INITIAL PLANT CONDITIONS (cont'd.)

placing the plant into an action statement of the plant Tech Specs (T.S. 3.4.11).

- Pressurizer Spray valve PCV-RC-455A is on its backseat due to excessive valve stem leakoff.
- All 3 Reactor Coolant Pumps are operating without the floating ring seals which were removed during the last refueling and are scheduled to be replaced at next refueling.
- The Special Particulate, Iodine and Noble Gas (SPING) monitoring system may not be used pending completion of NRC review of procedures.
- Construction personnel are performing electrical modifications in the plants cable tray mezzanine.

NOTE: The sequence of events incorporates a cue numbering system as follows:

CC - Cue Card -- A 3" by 5" card with single initiating event instructions or data.

CS - Cue Sign -- An 8 1/2" by 11" or larger sheet of paper indicating conditions in that area of the plant or piece of equipment.

CIS - Cue Information Sheet -- An 8 1/2" by 11" sheet of paper in a format for relaying specified and changing plant operating parameters.

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
5:30 a.m.	-00/50	Plant is simulated to have been operating at 100% power. The 00-08 Operating Shift noted a 9.8 gpm leak into the primary Drains Transfer Tank DG-TK-2, source not identified except as valve stem leakoff. NOTE: The actual Operating Shift personnel will not be participating in the exercise due to plant operation safety concerns, however additional operations personnel will be present to perform the actions necessary to respond to the simulated plant conditions and will be briefed on the initial conditions at this time.	CIS-1 CS-1
5:50	-00/30	The reactor containment sump level alarm is received from LAH-DA-200. The sump pump flow integrator FTO-DA-102 indicates an 11 gpm leak rate and is being pumped into the High Level Waste Tank which is currently at 94 inches.	CC-1 CS-2
6:20	00/00	A Hi alarm is received from RM-1RM-215A Containment Air monitor reading $3X10^4$ cpm above background. RM-1GW-108A and B of the Gaseous Waste Process Vent System indicates increased activity levels.	CC-2
6:25	00/05	Upon verification, the Plant Operators should use procedure EPP/I-1 to classify the situation as an Unusual Event based on exceeding Tech Spec leakage limits.	
6:27	00/07	The Operators take action to identify the source of the leakage and to notify Station Personnel, Station Management, the NRC, and offsite authorities per EPP/I-2.	
6:45	00/25	Radcon personnel should be directed to investigate the RM-215-A alarm. NOTE: At 7:00, the actual Operating Shift crew will begin a shift change with oncoming Operations personnel. No major scenario events should occur or otherwise interface with this normal shift change operation.	CC-3

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
7:10	00/50	Annunciator window A3-121 alarms on Abnormal Primary Drain Transfer tank level. DG-P-2B (Primary Drain Transfer Pump) has tripped and cannot be restarted. DG-TK-2 pressure is oscillating at 65 psig.	CC-4 CS-3
7:15	00/55	The Aux. Bldg. Southwest Sump (Well Sump) Level Alarm is received in the Control Room. Operations personnel take actions such as reducing the degassifier pressure to get below the Primary Drains Transfer Tank relief valve set point in order to stop this release. Investigation indicates the initial source of water was from valve PCV-CH-145 leak off into DG-TK-2 at approximately 9.5 gpm.	CC-5 CS-4
7:16	00/56	RM-VS-102 alarms and initiates an automatic safety features switchover of the Station Vent path to the filtered flow path. Operators should verify this and Radcon personnel should calculate initial dose projections for the event.	CC-6 CS-5
		Meteorological information at this time is as follows: Wind Speed 2.6 mph Wind Direction 90° 150'-35' Temperature -.8°F Precipitation None	CC-7
7:20	01/00	Operators should review the emergency action levels in EPP/I-1 and determine that escalation of the emergency is not required. NOTE: Exercise controllers shall ensure that escalation to an Alert does not occur at this point.	
7:30	01/10	Due to radiation levels in the Primary Auxiliary Building this area becomes a local limited evacuation area with access controlled to essential personnel only.	CS-6
7:50	01/30	Plant conditions begin changing, including makeup frequency and charging flow with a steady Reactor Coolant System (RCS) tempera-	CIS-2

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		ture, and slowly increasing radiation levels as seen on RM-1RM-215A and B, the Containment Gas and Particulate Monitors. The Operators should perform a RCS leak rate surveillance using the RCS Water Inventory Balance procedure, OST 1.6.2.	CC-8
7:55	01/35	Based on the indicated plant conditions that a primary leak rate of > 50 gpm exists, the plant operators escalate to an Alert emergency classification.	
7:57	01/37	The Operators take action to assess and control the plant per the Abnormal Operating Procedures, AH Chapter 53B Excessive Plant Leakage. Additional actions are taken per EPP/I-2 to notify Station Personnel, Station Management, the NRC and offsite authorities. Plant assessment activities increase and Technical Support Center (TSC) activation begins at this time. NOTE: Field monitoring teams may be dispatched to verify that not significant radiation releases have occurred.	
7:59	01/39	The Shift Supervisor directs the plant to be shut down to Mode 3, until the primary leak can be properly investigated and resolved. NOTE: If notifications are made to the Load Dispatcher, they should be annotated with "This is a drill" both before and after the message information.	
8:00	01/40	Radcon begins to develop the isotopic breakdown for the release source term. Chemistry personnel may sample and analyze the primary coolant for deviation in chemistry specifications. NOTE: The Post Accident Sampling System should not be used for this sample.	CC-9
8:02	01/42	Operations personnel succeed in restarting DG-P-2B which terminates the release from the Primary Drain Transfer Tank to the Aux. Bldg. Southwest Sump.	CC-10

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		NOTE: Radiation levels in the Auxiliary Building begin decreasing.	
8:10*	01/50	The Public Information Department activates the Corporate News Center.	
8:20	02/00	Construction workers performing electrical modifications in the plant Cable Tray Mezzanine re-energize a circuit that inadvertently shorts and creates severe flares and arcs. No one is injured however the breaker trip was not fast enough and an electrical fire ensues in the cable Tray Mezzanine. The 1C Reactor Coolant Pump trips.	CC-11 CC-11a CC-12
8:25	02/05	The Control Room is informed of the event and steps are taken to activate the onsite Fire Brigade.	
8:30	02/10	Upon arrival at the Cable Tray Mezzanine, the Fire Brigade Chief assesses the situation and reports to the Control Room that offsite assistance is required.	CC-13
8:31	02/11	Operations personnel discover several burned and damaged cables in a tray that was in the vicinity of the fire. The TSC engineering staff is requested to identify the components powered by these cables and to evaluate potential losses of functions.	CC-14 CC-14a
8:32	02/12	The Control Room contacts the Beaver County Communications Center to request local Fire Department response.	
8:35	02/15	The TSC is fully activated and performing engineering assessment and offsite dose projection activities.	
		NOTE: No excessive offsite dose rates are possible at this time and recommendations for protective actions should be that none are required.	

* Exact time may vary dependent on time of notification or other factors.

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
8:40	02/20	The Control Room Operators complete the plant shutdown. The plant is now in Mode 3.	CIS-3
8:50	02/30	The fire at this point is being contained. Station Electricians are requested to begin preparation to splice the 1C Reactor Coolant Pump Cable to permit depressurization. NOTE: The 1A Reactor Coolant Pump on the - Charging Pump through the Chemical and Volume Control System could provide pressurizer spray flow for depressurization, however, 1C Reactor Coolant Pump is a preferred method providing better flow. Also, if an attempt is made through the use of the Pressurizer PORV PCV-RC-456 to depressurize, this valve will fail to open. Use of the other two PORV's is already restricted (see initial plant conditions).	CC-15 CC-16
9:15	02/55	With the assistance of the local Fire Department, the fire is extinguished and cleanup efforts are initiated. A fire watch is stationed until such time that the proper electrical configuration is restored. Station emergency repair team personnel work on installation of a 4160 Kv cable link to restore the 1C Reactor Coolant Pump. NOTE: Clearance tags should be prepared for this and a Exercise Observer should evaluate the Tagout Procedure, however, no tags should actually be hung and no equipment should be tampered with. All repair actions should be simulated.	CC-17
9:30	03/10	Plant conditions and indications are again assessed by the Plant Operators and TSC personnel.	CIS-4
9:35	03/15	TSC Engineering personnel identify one of the cables as that belonging to the 1A Charging Pump (minor insulation damage). The Shift Supervisor requests the TSC to evaluate the amount of time it would take	CC-18

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		to reach Accumulator injection should the 1A Charging Pump trip with the present 50 gpm leak. He also requests that a method be developed to install a temporary backup pump for the Charging System or alternate electrical feed to Charging Pump 1A, and procedures for system operation.	CC-19
During	Anytime	The Public Information Department prepares news releases concerning the accident conditions at Beaver Valley.	
9:55	03/35	Assessment of the primary coolant leak and Charging Pump operation continue. The NRC and offsite authorities continue to receive updates on plant conditions from the Control Room and TSC.	
10:05	03/45	The repair team members at the Cable Tray Mezzanine complete the temporary restoration of the electrical cabling system and are ready to re-energize circuits as soon as repair tags are removed.	CC-20
10:20	04/00	Approval is received to remove the repair tags and re-energize the circuit. Repair team personnel complete the tag removal expeditiously.	
10:23	04/03	The previously damaged Cable Tray Mezzanine circuits are re-energized, however, a voltage transient occurs causing a current surge through the electrical busses. Several breakers in the 125 VDC and 120 VAC power supply trip open, an alarm for loss of Vital Buss 2 occurs and all Control Room annunciators are lost.	CC-21 CC-21a
10:25	04/05	The damaged Cable Tray Mezzanine circuits are opened and again tagged. Plant Operators are dispatched to the switch boards to re-close affected breakers.	
10:27	04/07	All breakers are successfully reclosed, however, Reactor Coolant Pump (RCP) 1A has lost thermal barrier cooling water and Control Room annunicators have not returned. Additionally, operators become aware of a faint odor of the electrical	CC-22 CIS-5

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		arcing at the Annunciator breakers. A repair repair team should be dispatched to investigate.	
10:38	04/18	Through investigation, it is discovered that the power supply cables from Vital Buss 2 to the plant annunciators has shorted and must be repaired. The Emergency Director in the TSC declares a Site Area Emergency due to the annunciators being lost for more than 15 minutes.	CC-23
10:40*	04/20	Offsite notifications are made by the TSC and actions taken per EPP/I-4. The Emergency Operations Facility (EOF) initial activation begins and the Public Information Department activates the local Emergency News Center.	
10:45	04/25	The affected cables are located and carefully jumpered to return the plant annunciators to service. NOTE: Exercise controllers shall ensure that jumpers are not actually installed during demonstration of this activity.	CC-24
11:00	04/40	Attempts are made to acquire the necessary parts to return the 1B Charging Pump to service, since the speed increaser parts that are required are not available on site. Once the EOF is activated, the Emergency Director requests EOF assistance in acquiring these parts. NOTE: If notifications are made to offsite manufacturers or suppliers, they should be simulated or annotated with "This is a drill" both before and after the message information.	CC-25
11:30	05/10	Offsite agencies are updated by the TSC.	
11:40	05/20	The EOF is fully activated.	
12:00 p.m.	05/40	The NRC and offsite authorities continue to receive updates from the Control Room and EOF.	

* Exact time may vary dependent on time of notification or other factors.

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
12:20	06/00	The TSC engineers complete a design draft of a temporary backup system to the Charging System. They request Nuclear Engineering Department approval and acquisition of needed material for installation. Procedures continue to be developed for its operation.	
12:30	06/10	The NRC and offsite authorities receive plant status updates from the TSC and EOF respectively.	
12:40	06/20	Relatively minor plant condition changes have occurred over the past hour. NOTE: With the plant annunciators back and conditions fairly controlled, the EOF Director may elect to de-escalate to an Alert. They should be allowed to do so if they so desire, however, Exercise Controllers should keep EOF personnel on station to support the latter portions of the scenario when conditions require further escalation.	CIS-6
1:00	06/40	Charging Pump 1A trips, severe degradation is indicated at the 1A RCP seal, and several additional plant parameters begin changing, indicating a loss of coolant accident. NOTE: The 1A Charging Pump trips, due to a fault or short in its electrical circuitry, causing a rapid rise in current rate which is picked up by relay #50, motor electrical protection trip.	CC-26 CIS-7
1:05	06/45	Based on the indicated plant conditions, the Operators identify the problem as a major loss of coolant accident from the 1A RCP seal. They immediately inform the TSC and EOF. They also inform the NRC over the ENS circuit and trip the 1A Reactor Coolant Pump.	

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		NOTE: Reactor Coolant System Loop isolation valves exist, however, the emergency operating procedures state and the Plant Operators are trained to not use these valves. Should they take action to shut the "A" Reactor Coolant Loop isolation valves, the electric motor operator on valve MOV-RC-590 fails to operate properly and the valve remains open.	
1:06*	06/46	Reactor Coolant System pressure drops to 1845 psi activating the engineered safety features systems for automatic safety injection.	CIS-8
		NOTE: Safety Injection Flow will not occur due to the inoperability of the charging pumps. One pump will be regained at 1:29. During this time, Accumulator Injection will not occur unless the operators attempt to depressurize the plant by cooling down the Primary System. This can be done by drawing steam from the Steam Generators through the Atmospheric Dump valves. Accumulator injection would then occur at approximately 650 psi RCS pressure.	CC-27
1:07	06/47	Based on the information from the Control Room, the EOF Director declares a General Emergency. Offsite authorities are notified.	
1:08	06/48	Pressurizer level and RCS pressure continue to drop rapidly.	CIS-9
1:09	06/49	Pressurizer level fluctuates and increases while surge line temperature decreases indicating possible bubble formation in the reactor vessel head.	CIS-10
1:10	06/50	Technical personnel (Engineers) are dispatched to the State and local Emergency Operations Centers (EOC's) to provide	

* Exact time may vary dependent on Operator action and controller judgment.

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		technical understanding of plant condition reports. NOTE: This may occur earlier at the Site Area Emergency level if offsite authorities request them.	
1:15	08/55 Note: Jump in exercise time.	The reactor plant has reached saturated conditions.	CC-28 CIS-11
1:16	08/56	Containment Area Radiation Monitors indicate increased activity levels inside containment.	CC-29
1:17	08/57	Reactor Containment Building pressure reaches 10 psi activating the engineered safety features systems for automatic Containment Spray.	CIS-12
1:20	09/00	The NRC and offsite authorities are updated on plant conditions by the TSC and EOF.	
1:25	10/35 Note: Jump in exercise time.	Indications are received that core degradation is possible. Low RWST level initiates a safety injection transfer to the recirculation mode. NOTE: Chemistry personnel should sample the primary coolant using the Post Accident Sampling System (PASS) some time during the next few sequence of events.	CC-30 CIS-13
1:28	10/38	The NRC and offsite authorities are updated on plant conditions.	
1:29	10/39	The 1A Charging Pump is successfully re-started.	CC-31
1:30	10/40	Radiation levels in the Primary Auxiliary Building (PAB) begin increasing rapidly. Sump alarms are received on the north and south sumps. RM-217B, location 9, shows increased activity. Also VS-102B alarms and realigns the ventilation to the Reactor Building and Supplemental Leak Collection System. An Operator	CC-32 CIS-14

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		and Radcon Technician suit up, don respirators and enter the PAB to investigate the situation.	CS-7
1:40	10/50	Offsite dose projections are stepped up by the EOF. Field monitoring activities are initiated. An onsite evacuation is ordered, including accountability of personnel in the protected area. Security restricts access to the site.	
1:45	10/55	VS-107B alarms on station ventilation discharge requiring offsite dose projections.	CC-33
1:50	11/00	From the PAB, the Operator reports leaks from the Boron Injection Tank (BIT) inlet isolation valve and inlet flange totaling approximately 20 gpm. Water from the leaks is reading well above normal radiation levels due to it being water recirculated from the containment sump. NOTE: Requests should be made to gain authorization for exceeding emergency exposure limits for personnel working in the PAB.	CC-34
1:55	11/05	Sam Donaldson of the national news network calls the EOF and requests an update on activities and what Duquesne Light plans to do. NOTE: The EOF should not answer any of his questions, but politely refer him to the Public Information Department.	CC-35
1:56	11/06	Plant parameters continue to be assessed by the Control Room Operators.	CIS-15
2:00	11/10	The NRC and offsite authorities are updated on plant conditions. Offsite protective actions are recommended. NOTE: Initial offsite protective action recommendations may be to shelter personnel in a 2 mile radius and 5 mile downwind distance from the plant.	
2:05	11/15	A second report comes in from the PAB, this time from the Radcon Technician stating that during an attempt to decrease	

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		the leak from the BIT inlet valve, the Operator had slipped and broken his leg. Assistance is needed to remove him from the area.	
2:06	11/16	The Shift Supervisor requests an Emergency Squad from the Operations Support Center (OSC) to respond to the injured victim. The Beaver County Communications Center is called to provide ambulance service and notification is made to Beaver County Medical Center to prepare for receipt of a contaminated injured individual.	CS-8
2:07	11/17	Parts are received on site for repair of the 1B Charging Pump.	CC-36
2:15*	11/25	The EOF Director provides recommendations for protective actions to the offsite authorities. Doses of .1 Rem whole body and 5 Rem thyroid are projected out to 7 miles from the site into the State of Ohio. NOTE: Protective action recommendations at this point may be to evacuate personnel in a 2 mile radius and 5 mile downwind distance from the plant and shelter from 5 out to 10 miles downwind of the plant.	
2:26	11/36	Plant parameters continue to be assessed by the Control Room Operators.	CIS-16
2:28	11/38	Isotopic results from VS-112 are available for evaluation.	CC-37
2:29	11/39	Attempts to isolate the source of the release succeed in reducing the BIT leakage down to 2 gpm.	CC-38
2:30	11/40	The NRC and offsite authorities are updated on plant conditions. The EOF Director makes offsite protective action recommendations.	

* Exact time may vary dependent on personnel response and controller judgment.

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
		NOTE: The EOF Director should maintain the previous offsite protective action recommendations until field monitoring readings verify that radiation levels offsite are below protective action guide valves.	
Afternoon	Anytime	Simulated members of the news media attempt to penetrate the site security access control.	
2:40	11/50	The engineering approach has been approved by the EOF and TSC staff for installation of additional Charging System components. Location of desired material has been completed with the assistance of the Institute of Nuclear Power Operations (INPO) and is on its way.	
2:45	11/55	Due to personnel in the TSC and EOF being on duty for nearly ten hours, a shift change of key management positions in these two facilities occurs.	
2:52	12/02	The Plant Operators are able to initiate long term recirculation on the Reactor Coolant System.	CIS-17
3:00	12/10	The NRC and offsite authorities continue to be updated on plant conditions. The EOF Director continues making recommendations for offsite protective actions based on incoming data from the plant and field monitoring teams. NOTE: Based on field monitoring readings and plant conditions, all requirements for offsite protective actions are relaxed, however personnel should not be permitted to enter the evacuated areas until reentry operations permit it.	
3:10*	12/20	Chemistry personnel report post accident sample results from PASS.	CC-39

* Exact time may vary depending on personnel response, see note at 1:25.

Approx. Time of Day	Planned Exercised Time Hours/Minutes	Onsite Sequence of Events	Cue No.'s
3:15	14/25 Note: Jump in exercise time.	Plant conditions appear to be improving on long term recirculation with Radiological aspects under surveillance. NOTE: At this point, Exercise Controllers should lead exercise participants toward de-escalation of the emergency.	CC-40 CIS-18
3:30	14/40	The NRC and offsite authorities are updated on plant conditions and that the emergency is being de-escalated to an Alert.	
3:45	14/55	Efforts continue to stabilize and improve plant conditions. Additional radwaste processing and storage facilities are acquired to provide for necessary Radwaste control. Engineering evaluations are made on how these systems can be utilized and how they should be physically installed.	CC-41
4:00	15/10	The NRC and offsite authorities are updated on plant conditions.	
4:15	15/25	Plant conditions appear to be stable with continued cooldown, control of radiological releases and in-plant radiation levels decreasing.	CIS-19
4:25	15/35	The emergency condition is closed out and reentry efforts begin under the formation of a Recovery Organization.	
4:30	15/40	The NRC and offsite authorities are updated on plant conditions. Certain factions of both the offsite and onsite organizations are disbanded as conditions permit.	
5:00	16/10	All initial onsite reentry measures are completed and full-scale recovery efforts commence.	
5:30	16/40	All basic recovery efforts are discussed or simulated. The exercise is then terminated.	

SECTION VI

OFFSITE SEQUENCE OF EVENTS

Approx. Time of Day	Planned Exercise Time Hours/Minutes	Offsite Sequence of Events
6:20	T=0	Reactor coolant leakage in excess of Plant Technical Specifications initiates the declaration of an Unusual Event by the Beaver Valley Power Station Control Room Staff.
6:25	00/05 - 00/35	Beaver Valley Control Room notifies the Beaver Co. Communications Center, PEMA, Columbiana Co. Sheriff's Office, the Communications Dispatcher at Hancock Co. and the NRC of an Unusual Event at BVPS. The NRC is notified via the "Red Phone" while all other notifications are completed over the BVPS Emergency Communications System. NOTE: Due to the nature of the Unusual Event, these calls are made in a timely manner. Beaver Co. communicator logs the message on the Initial Notification Form and then contacts the BCEMA coordinator or his designee. PEMA - Communicator logs call - Notifies BRP of the Unusual Event at BVPS. PEMA notifies NVOES and ODSA. BRP makes follow-up verification call to BVPS. Hancock County communications dispatcher receives Initial Notification and logs on form. Notifies designated County officials and the Mayor of Chester. Hancock Co. also receives follow-up verification call to BVPS. Columbiana County Sheriff's dispatcher at Columbiana Co. jail receives call the logs message. Notifies CCDSA Coordinator and relays message. Verification call is made and instructions to dispatcher are given. ODSA and East Liverpool Police are notified.
6:25	00/05 - 00/35	ODSA - No action will be taken by ODSA at this level.

Approx. Time of Day	Planned Exercise Time Hours/Minutes	Offsite Sequence of Events
		NRC - logs call and remains in stand-by mode. NOTE: Unusual Event notification to the NRC done in a timely manner, within one hour.
7:55	01/35	Based on the indicated plant conditions that a primary leak rate of greater than 50 gpm exists, the plant operators escalate to an Alert.
7:57	01/35 - 02/07	BVPS Control Room notifies BCEMS, BRP, CCDSA, HCOES and NRC the situation has escalated to an Alert. BCEMA Communicator logs message and relays info to Coordinator. Verification call is made and selected key personnel designated by the emergency management coordinator report to the EOC. The Beaver Co. Public Information Officer is notified and remains on stand-by. RACES is notified, alert health care, prisons and other public or private institutions inside the risk area. BRP - logs message, performs call back and notifies PEMA. BRP alerts monitoring teams. PEMA notifies BCEMA, ODSA, WVOES, PEMA western office and designated State and Federal agencies. Hancock Co. dispatcher receives call and logs message. Verification call is made and State EOC contacted. The Hancock Co. EOC is activated as are designated elected officials and government agencies.
7:57	01/37 - 02/07	Columbiana Co. dispatcher logs call and relays info. Verification call is made. Adjacent counties as well as State Officials are contacted. Columbiana Co. requests Communications Officer, EOC Controller and East Liverpool representative come to EOC. Security is also requested. The Highway Patrol, local school boards, municipalities and the EOC staff are activated.

Approx. Time of Day	Planned Exercise Time Hours/Minutes	Offsite Sequence of Events
		ODSA - will notify the Governor's Office, Ohio Dept. of Health, Ohio EPA and ODSA staff. The above (except Governor) will man the assessment room of State EOC. ODSA field monitoring teams and communications team (van) will be dispatched to county. Ohio's EOF rep and PIO for Public Information Center will be in route at the Alert stage. Any future notifications should be made to EOC. NOTE: Duquesne Light Company's Public Information Dept. will provide timely new releases for the Unusual Event and Alert. NRC - Updated via "Red Phone" from this point on the line will be continually manned and assessment will be constant.
8:32	02/12	The BVPS Emergency Organization contacts the Beaver Co. Communications Center to request offsite fire support. The Communications Center contacts the Shippingport Volunteer Fire Dept. and reports assistance is needed at BVPS.
8:47	02/27	Offsite fire support arrives and is met by Security and Radcon. Fire support personnel are issued proper dosimetry and escorted to the Cable Vault.
9:15	02/55	The Fire is extinguished and clean up efforts are initiated. State and County EOC's are becoming staffed and operable, communications among emergency organizations are established and tested. EOC support personnel are brought to stand-by. Appropriate notifications are made to jails, hospitals, schools, nursing homes and day care centers.
9:55	03/35	Assessment of plant conditions onsite continue. The NRC and offsite authorities continue to receive updates on plant conditions from the TSC.

Approx. Time of Day	Planned Exercise Time Hours/Minutes	Offsite Sequence of Events
10:35	04/18	As a result of electrical malfunctions experienced during recovery from the electrical fire, power to the Control Room Plant Annunciator System has been lost for greater than 15 minutes necessitating the declaration of a Site Area Emergency. Offsite notifications are made and the Public Information Center (PIC) is activated. Public Information Staffs are mobilized, rumor control and future EBS announcements are coordinated.
10:40	04/18 - 04/43	BCEMA - Mobilize monitoring teams and activate transportation pick-up points. Distribute dosimetry and KI to emergency workers. Activate decontamination stations and decon centers, distribute survey meters and forms. RACES network opens and reception centers and mass care centers are placed on stand-by status within the county. BRP-PEMA - BRP dispatches monitoring team and continues assessment. PEMA - coordinates with Facility, Governor's office and county PIO's for news release. Dosimetry and KI along with report forms are issued to emergency workers. Coordinates with the risk counties and specifies the time to sound the sirens. BRP instructs to remove farm animals from pasture feed. State EOC fully activated. HCOES - Continued monitoring and assessment actions and coordinates public warning actions with State and PEMA. Issues dosimetry and report forms to emergency workers. CCDSA - Continues appropriate call-out procedures and notification to appropriate agencies. PIO Officer is added to PIC. CCDSA EOC is fully activated. Assembly areas and care centers are activated.

Approx. Time of Day	Planned Exercise Time Hours/Minutes	Offsite Sequence of Events
		ODSA - Ohio EOC will be fully activated and request for utility liaison will be made. State EOF liaison will be in route. NOTE: Updates from Public Information Center will be provided on a timely basis.
11:30 12:00	05/10 05/40	Offsite agencies and NRC updated periodically. State and county assessment actions and monitoring continue.
12:40	06/20	BVPS Emergency Organization may elect to de-escalate to an Alert due to stabilizing conditions. If this occurs, Controllers/ Monitors should keep EOC personnel to support later portions when conditions require further escalation.
1:07	06/47	A rapidly occurring loss of coolant accident results in the declaration of a General Emergency being issued by the BVPS Emergency Organization. NRC and offsite agencies are notified. NOTE: Jump in exercise time from 06/50 to 08/50. During this period the following has occurred. BCEMA - County reception and mass care centers activated. Full use of RACES network - to the maximum extent possible. Receives instructions from PEMA concerning any protective actions.
1:07*	06/50 - 08/55 Time Jump	PEMA - Supplies direct informational support to West Virginia, Ohio, and risk counties concerning protective actions. Arrival of Federal Response Teams. Status of supplies for mass care centers are checked.

* The jumps in the scenario are allocated to facilitate onsite accident events to occur in a realistic manner, offsite actions should not be altered by these time jumps.

Approx. Time of Day	Planned Exercise Time Hours/Minutes	Offsite Sequence of Events
		HCOES and CCDSA - Following the direction of State agencies, continue offsite monitoring and assessment actions and activate response organizations.
1:20*	9/00 - 10/35	NOTE: Time jump in exercise. During this period many generic actions will be occurring. Some of these include: Assessing requirements for special population areas. Support resource needs are assessed, and any unmet needs at the county level are reported to the State EOC's. Traffic and access control points established at predetermined points. Agriculture and Water Sampling. Constant update from the BVPS Emergency Organization to the NRC and offsite agencies.
1:40	10/50	Offsite monitoring is stepped up by all states in response to updated information that an onsite evacuation has been ordered.
2:06	11/16	The Beaver County Communications Center is called to provide ambulance support at the Beaver Valley Power Station. Notification is made by Communications Center to local ambulance service that there is need for an ambulance at BVPS.
2:15	11/25	Ambulance arrives at site and escorted by Security and Radcon to injured person.

* The jumps in the scenario are allocated to facilitate onsite accident events to occur in a realistic manner, offsite actions should not be altered by these time jumps.

Approx. Time of Day	Planned Exercise Time Hours/Minutes	Offsite Sequence of Events
		Beaver County Medical Center is notified and informed to prepare for receipt of a contaminated/injured individual. Rad Tech accompanies ambulance to hospital. NOTE: Public Information Center conducts press briefings and issues media statements as appropriate.
2:30	11/40	The Emergency/Recovery manager in the EOF makes offsite protective actions recommendations. NRC and offsite agencies are notified. PEMA - Because of unstable plant conditions an evacuation is recommended. Traffic and access control points are established, EBS messages are released. BCEMA - Under the cognizance of PEMA activates public/alert notification system and commence appropriate EBS announcements. Schools, prisons, etc., are notified to evacuate. ODSA-CCDSA - Message is verified and alert system is activated. Readings by offsite monitoring teams combined with BVPS recommendations lead to ODSA evacuation recommendation. Traffic control and access control points are established and radiation monitoring is increased.
3:00	12/10	NRC and offsite authorities continue to be updated based on continued plant assessment and field monitoring. Offsite protective actions are still recommended. EBS messages indicate appropriate actions to be taken in Pennsylvania, Ohio and West Virginia.
3:15	12/20 - 14/25	NOTE: Jump in exercise time.
3:30	14/40	NRC and offsite agencies authorities are updated on plant conditins and that the emergency is being de-escalated to an Alert.

Approx. Time of Day	Planned Exercise Time Hours/Minutes	Offsite Sequence of Events
		Rad monitoring continues in all states.
4:25	15/35	The emergency condition is closed out and reentry efforts begin on site. NRC and offsite authorities are updated on plant conditions. Certain factions of offsite organizations are disbanded as conditions permit. Pennsylvania and West Virginia will end participation in the exercise at this point. ODSA-CCDSA - Recovery/Reentry Technical Advisory Group is formed under the direction of the Ohio Department of Health. Recommendations of this group go to the Governor who then recommends to the Board of Commissioners for the final decision.
5:30	16/40	All basic recovery efforts are discussed or simulated. The exercise is then terminated.

SECTION VII

PROMPTING MATERIAL

PROMPTING MATERIAL

The use of the prompting material provided in this section is predicated on the need to incorporate into this exercise the latitude to allow as much "free play" and "undirected response" on the part of the exercise participants, consistent with the ability to stage an emergency situation on the scale necessary to satisfy the objectives of all agencies involved. To this extent, the use of Cue Cards, Cue Signs and Cue Information Sheets, has been adopted to provide the necessary vital information to the exercise participants, minimizing the questions and answer interactions between Exercise Controllers and the exercise participants.

CC - Cue Card - A 3" x 5" card with single event initiating instructions or data.

CS - Cue Sign - An 8½" x 11" or larger sheet of paper, posted to indicate conditions in a particular area of the plant or on a piece of equipment.

CIS - Cue Information Sheet - An 8½" x 11" or larger sheet of paper, handed to an exercise participant to reflect a sequence of changing plant parameters over a given period of time.

When disseminating the prompting material, each Exercise Controller should follow the written exercise scenario to ensure that the material being provided is given at the appropriate time in relation to the other exercise events.

CUE CARDS

Number	Time	Location	To	Message
CC-1	5:50 (-00/30)	Control Room	Reactor Operator	A1-49, Containment Sump Level High and A6-25, Primary Water Supply Pressure Low, Alarms have just occurred.
CC-2	6:20 (00/00)	Control Room	Reactor Operator	A4-71, Radiation Monitoring High (RM-1RM-215A) Alarm has just occurred. Monitor reading is 3×10^4 cpm above background.
CC-3	6:45 (00/25)	Primary Auxiliary Building	Radcon Personnel	A spurious alarm is indicated.
CC-4	7:10 (00/50)	Control Room	Reactor Operator	A3-121, Primary Drain Transfer Tank 2 Level High-Low and A3-105, Primary Drain Transfer Tank 2 Pump Thermal overload, alarms have just occurred.
CC-5	7:15 (00/55)	Control Room	Reactor Operator	A11-21, Auxiliary Building Southwest Sump (well Sump) Level High Alarm has just occurred.
CC-6	7:16 (00/56)	Control Room	Reactor Operator	A4-71, Radiation Monitoring High (RM-VS-102B) A4-72, Radiation Monitoring High-High (RM-VS-102B), Alarms have just occurred.
CC-7	7:16 (00/56)	Control Room	Reactor Operator	Meteorological Information: Wind Speed 26 mph Wind Direction 90° 150'-35' Temperature -0.8°F Precipitation None
CC-8	7:50 (01/30)	Control Room	Plant Operators	For prompting purposes only, a Water Inventory Balance should be performed.

CUE CARDS

Number	Time	Location	To	Message
CC-9	8:00 (01/40)	Chem Lab	Radcon Personnel	For prompting purposes only, Radcon personnel should develop an Isotopic breakdown for the release source term.
CC-10	8:02 (01/42)	Primary Auxiliary Building	Auxiliary Operator	DG-P-2B has been restarted terminating the release from the Primary Drain Transfer Tank.
CC-11	8:20 (02/00)	Cable Tray Mezzanine	Construction Workers	Inform Control Room of severe flares and arcs which have occurred in the Cable Tray Mezzanine due to the circuit re-energization.
CC-11a	8:20 (02/00)	Control Room	Reactor Operator	All-67, Cable Tray Mezzanine Fire, and A3-120, Reactor Coolant Pump 1C flow low alarms have just occurred.
CC-12	8:20 (02/00)	Control Room	Reactor Operator	All-75, Cable Tray mezzanine CO_2 Discharge Alarm has just occurred.
CC-13	8:30 (02/10)	Cable Tray Mezzanine	Fire Brigade Chief	Offsite Assistance is required to put out fire.
CC-14	8:31 (02/11)	Cable Tray Mezzanine	A.O. in Fire Brigade	Inform Control Room of burned and damaged cables in nearby tray.
CC-14a	8:31 (02/11)	Control Room	Shift Supervisor	For prompting purposes only, request the TSC engineering staff to identify the components powered by cables in the affected tray and to evaluate potential loss of functions.
CC-15	8:50 (02/30)	Cable Tray Mezzanine	Fire Brigade Chief	The fire is being contained.

CUE CARDS

Number	Time	Location	To	Message
CC-16	8:50 (02/30)	Control Room	Operations Support Center	Begin preparations to splice the 1C Reactor Coolant Pump Cable to allow for plant Depressurization.
CC-17	9:15 (02/55)	Cable Tray Mezzanine	Fire Brigade Chief	Local Fire Department has assisted in extinguishing fire. The area is now clear to permit emergency repair team access.
CC-18	9:35 (03/15)	Technical Support Center	TSC Engineers	For prompting purposes only one damaged cable belongs to the 1A Charging Pump (minor insulation damage).
CC-19	9:35 (03/15)	Control Room	Shift Supervisor	For prompting purposes only, request the TSC personnel to evaluate the time to reach accumulator injection should the 1A Charging Pump trip with a 50 gpm leak. Also, request the TSC to develop a method to install a temporary backup pump for the Charging System.
CC-20	10:05 (03/45)	Cable Tray Mezzanine	Electrical Repair Team	You have completed temporary restoration of the Electrical Cabling System. Make a request to remove repair tags and re-energize the affected circuits.
CC-21	10:25 (04/05)	Cable Tray Mezzanine	Electrical Repair Team	For prompting purposes only, you have just re-energized the previously damaged circuits. Indications are that the circuit is still damaged, because the breaker trips open.
CC-21a	10:23 (04/03)	Control Room	Reactor Operator	A1-11, Vital Bus II trouble and A1-19, Vital Bus II Battery Operation alarms have just occurred. All annunciators go dark.
CC-22	10:27 (04/07)	Electrical Busses	Plant Operators	All affected are successfully reclosed, however, a faint odor of electrical arcing is apparent at the Annunciator breakers.

CUE CARDS

Number	Time	Location	To	Message
CC-23	10:38 (04/18)	Plant Annunciator Breaker Panel	Electrical Repair Team	Power supply cables from Vital Buss 2 to the plant Annunciators have shorted out.
CC-24	10:45 (04/25)	Plant Annunciator Breaker Panel	Electrical Repair Team	The Annunciator power supply cables are jumpered out, all plant Annunciators return to service.
CC-25	11:00 (04/40)	Control Room	Shift Supervisor	For prompting purposes only, request the TSC to determine if in fact the parts needed to repair the 1B Charging Pump are not onsite and if not, where they can be located.
CC-26	1:00 (06/40)	Control Room	Reactor Operator	Charging Pump 1A has just tripped and will not restart.
CC-27	1:06 (06/46)	Control Room	Shift Supervisor	For scenario purposes only, depressurizing the plant by drawing steam off the Steam Generators through the Atmospheric Dumps will not be permitted.
CC-28	1:15 (08/55)	All	All	For scenario purposes, a two hour time jump has just occurred. During this period, the loss of coolant accident has not been stopped and the plant has reached saturated conditions.
CC-29	1:16 (08/56)	Control Room	Reactor Operator	Containment Area Radiation Monitors indicate increased activity levels.

CUE CARDS

Number	Time	Location	To	Message
CC-30	1:25 (10/35)	All	All	For scenario purposes, a one hour and 30 minute time jump has occurred. During this time period, Containment Spray has pumped down the RWST and placed safety injection in the recirculation mode. It has also been identified that protracted emergency organization operation will be necessary. For purposes of this exercise to demonstrate a shift change in organization capabilities, the following key management positions should identify their reliefs who may be currently in the facilities. These positions should be released from the exercise activities to return at 2:45 pm for relief turnover. They are: Emergency Director TSC Technical Support Coordinator TSC EA & DP Coordinators TSC Radiological Controls Coordinator TSC Emergency/Recovery Manager EOF Support Services Manager EOF Offsite Agency Liaison EOF Engineering manager EOF
CC-31	1:29 (10/39)	Control Room	Reactor Operator	1A Charging Pump is successfully restarted.
CC-32	1:30 (10/40)	Control Room	Reactor Operator	Primary Auxiliary Building Radiation levels are rapidly increasing.
CC-33	1:45 (10/55)	Control Room	Reactor Operator	VS-107B Station Ventilation Discharge Alarm has just occurred.

CUE CARDS

Number	Time	Location	To	Message
CC-34	1:50 (11/00)	Primary Auxiliary Building	Reactor Operator	Leakage from Boron Injection tank Inlet Isolation valve and inlet flange totals approximately 20 gpm. Above normal radiation levels are observed in water from the leaks.
CC-35	1:55 (11/05)	Exercise Controller	Emergency Operations Facility	This is Sam Donaldson of the National News Network. I have a few questions to ask you. First, what has precipiated the event. What are the present plant conditions and what are you planning to do to protect the public?
CC-36	2:07 (11/17)	Security	Security Guard	Delivery van with repair parts for the 1B Charging Pump have just arrived.
CC-37	2:28 (11/38)	Chem Lab	Chemistry Coordinator	VS-112 Isotopic results are ready for evaluation.
CC-38	2:29 (11/39)	Primary Auxiliary Building	Reactor Operator	Boron Injection Tank leakage has been reduced down to approximately 2 gpm after several attempts to isolate the source of the release.
CC-39	3:10 (12/20)	Chem Lab	Chemistry Coordinator	Post accident sample results from pass are reported.
CC-40	3:15 (14/25)	All	All	For scenario purposes, a two hour time jump has just occurred. During this period, plant conditions improve on long-term recirculations.
CC-41	3:45 (14/55)	Emergency Operations Facility	Emergency/ Recovery Manager	For prompting purposes only, radwaste processing and storage facilities should be assumed to have been required. Engineering evaluations should be made on how radwaste facilities can be used and how they should be physically installed.

CUE SIGNS

Number	Location	Message
CS-1	Primary Auxiliary Building Elev. 714'	Valve stem leakoff is draining into DG-TK-2.
CS-2	Containment Sump Integrator	FTO-DA-102 indicates 11 gpm.
CS-3	Primary Drains Transfer Tank	DG-TK-2 pressure is oscillating around 65 psig.
CS-4	Control Room	PCV-CH-145 leakoff into DG-TK-2 is 9.5 gpm.
CS-5	Control Room	Normal Station Ventilation has switched to the main filter banks thru the Reactor Building and Supplemental Leak Collection System.
CS-6	Primary Auxiliary Building	General Area Radiation levels are 100 times normal.
CS-7	Primary Auxiliary Building	General Area Radiation levels are 1000 times normal.
CS-8	Primary Auxiliary Building	Victim is conscious. Has a broken left leg between the knee and foot. Has a contusion on left shoulder. Radiation levels of 24,000 cpm on the left leg and 13,000 cpm around the contusion.

CUE INFORMATION SHEETS

Number	Time	Message
CIS-1	5:30 (00/50)	Plant is operating at 100% power, normal temperatures and pressures.
CIS-2	7:50 (01/30)	A3-58, Charing Pump Discharge Flow High-Low A6-25, Primary Water Supply Pressure Low A4-4, Pressurizer Control Low Level Deviation. A1-49, Containment Sump Level High.
CIS-3	8:40 (02/20)	Plant is shutdown, operating in Mode 3, hot standby conditions.
CIS-4	9:30 (03/10)	Plant in hot standby conditions, 1C Reactor Coolant Pump inoperable.
CIS-5	10:27 (04/07)	Control Room annunciators are still dark. Valves TV-CC-105E1 and TV-CC-107A and 107E2 remain closed.
CIS-6	12:40 (06/20)	Plant in hot standby, annunciators operating, conditions relatively stable.
CIS-7	1:00 (06/40)	A3-49, Charging Pump Auto Start-Stop, A3-50, Charging Pump Discharge Pressure Low, A3-58, Charging Pump Discharge Flow High-Low, A3-78, Reactor Coolant Pump Seal Injection Flow Low, A3-115, Regenerative Heat Exchanger Letdown Outlet Temperature High, A4-35, Pressurizer Control Heater Group Auto Trip, A3-86, Reactor Coolant Pump No. 1 Seal Leakoff Temperature High, A3-91, Non-Regenerative Heat Exchanger Discharge Temperature High, A3-55, Volume Control Tank Discharge Temperature High, A1-49, Containment Sump Level High, A1-35/43, Containment Air Partial Pressure High-Low CH I/II, A1-36/44, Containment Air Partial Pressure High-High CH I/II,

CUE INFORMATION SHEETS

Number	Time	Message
CIS-7 CONTINUED	1:00 (06/40)	A4-3, Pressurizer Control Level Low, A4-12, Pressurizer Control Low Pressure Deviation, A4-18, Pressurizer Pressure Low, A4-23, Pressurizer 2/3 Pressure Relief Block A3-79, Reactor Coolant. Pump Seal Leakoff Flow Low, A3-88, Reactor Coolant Pump No. 1 Seal Differentail Pressure Low, and A3-103, Reactor Coolant Pump 1A Seal Vent Pot Level Low Alarms have just occurred
CIS-8	1:06 (06/46)	A5-31, Pressurizer Pressure Low-Reactor Trip and Safety Injection, A4-21, Pressurizer Low Pressure-Safety Injection Setpoint, A3-49, Charging Pump Auto Start-Stop, A1-61, Boron Injection Tank Recirculation Flow Low, A1-70, Boron Injection Tank Temperature Low, A1-80, Safety Injection Pump Auto Start-Stop, A1-82, River Water Pump Auto Start-Stop, A6-128, Auxiliary Feed Pump Auto Start-Stop, A7-37, Steam Generator Feed Pump Auto Stop, A6-20, Refueling Water Storage Tank Below Normal Level, Alarms have just occurred. Reactor Coolant System Pressure 1845 psi.
CIS-9	1:08 (06/48)	Pressurizer Level and RSC pressure dropping rapidly.
CIS-10	1:09 (06/49)	Pressurizer level fluctuates, then increases. Surge line temperature decreases.
CIS-11	1:15 (08/55)	A4-43, Reactor Core Margin to Saturation Low or Processor Failure. A4-44, Reactor Core Margin to Saturation Low-Low.

CUE INFORMATION SHEETS

Number	Time	Message
CIS-12	1:17 (08/57)	A1-35/43, Containment Air Partial Pressure High-Low CHI/II, A1-36/44, Containment Air Partial Pressure High-High CHI/II, A1-58, Containment Pressure High (1/3), A1-60, Containment Pressure Intermediate High-High (1/3), A1-66, Containment Pressure High-High (1/4), A1-72, Containment Isolation Phase B, A1-81/89, Inside Recirculation Spray Pump 1A/B Auto Start-Stop, A1-88, Spray Actuation, A1-109/117, Quench Pump 1A/B Auto Start-Stop, and A1-121, Outside Recirculation Spray Pump Auto Start-Stop, Alarms have just occurred.
CIS-13	1:25 (10/35)	A6-22/30, Refueling Water Storage Tank Level Low CH 1/2, A1-26 1/4 Refuel Water Storage Tank Level Low A1-25 2/4 Rust Lo Level & SI Auto XFER SI INJ to Recirc Initiated.
CIS-14	1:30 (10/40)	A11-30, Auxiliary Building, South Sump Level High, A4-71, Radiation Monitoring High, A4-72, Radiation Monitoring High-High (RM-VS-102B), and A11-22, Auxiliary Building North Sump Level High, Alarms have just occurred.
CIS-15	1:56 (11/06)	High primary coolant activity levels, recirculation continues, RCS pressure steadily increasing.

CUE INFORMATION SHEETS

Number	Time	Message
CIS-16	2:26 (11/36)	Primary coolant activity levels above normal, recirculation continues, RCS pressure steady.
CIS-17	2:52 (12/02)	Long term recirculation initiated, cooldown in progress.
CIS-18	3:15 (14/25)	Primary coolant activity levels near normal, long term recirculation operating properly.
CIS-19	4:15 (15/25)	In-plant radiation levels decreasing, control of radiological releases maintained, plant conditions stable with cooldown in progress.

DOSE ASSESSMENT DATA

NOTE:

The dose assessment information contained in this package was developed based on existing dose assessment procedures, since the development effort, new procedures have been put into effect at the station. The effects of the new procedure on the dose assessment information is presently being evaluated and will be adjusted accordingly, prior to the exercise.

BEAVER VALLEY POWER STATION
FEBRUARY 1983 ANNUAL EMERGENCY PREPAREDNESS EXERCISE
POST ACCIDENT SAMPLE DATA SHEET
RCS ISOTOPIC ANALYSIS
TIME - 1330-1430

Noble Gases	Activity(uCi/cc)	Iodine	Activity(uC/cc)	Particulate	Activity(uCi/cc)	Tritium	Activity(uCi/cc)
Kr-85	84.3	I-131	81.2	Br-84	0.7	H-3	161.0
Kr-85m	40.3	I-132	23.9	Sr-89	0.2		
Kr-87	21.4	I-133	102.2	Sr-90	0.1		
Kr-88	71.8	I-134	9.7	Y-90	0.8		
Rb-88	71.8		216.0	Y-91	0.8		
Xe-131m	40.3			Y-91m	0.1		
Xe-133	5778.7			Sr-91	0.1		
Xe-135m	21.4			Zr-95	0.2		
Xe-135	160.0			Mo-99	38.3		
Xe-138	9.0			Ru-103	0.2		
	6299.0			Ru-106	0.1		
				Te-129	0.8		
				Co-60	0.1		
				Fe-59	0.1		
				Co-58	0.5		
				Te-132	11.0		
				Cs-134	2.6		
				Cs-136	0.5		
				Cs-137	10.5		
				Ba-140	0.2		
				La-140	0.2		
				Pr-143	0.2		
				Ce-144	0.2		
				Mn-54	0.1		
				Cr-51	0.1		
					68.0		

BEAVER VALLEY POWER STATION
FEBRUARY 1983 ANNUAL EMERGENCY PREPAREDNESS EXERCISE
POST ACCIDENT SAMPLE DATA SHEET
EFFLUENT ISOTOPIC ANALYSIS
TIME 1400-1430

Noble Gases	Activity(uCi/cc)	Iodine	Activity(uC/cc)	Particulate	Activity(uCi/cc)
Kr-85	6.6E-3	I-131	9.6E-4	Br-84	1.0E-9
Kr-85m	3.1E-3	I-132	2.8E-4	Sr-89	2.9E-10
Kr-87	1.6E-3	I-133	1.0E-3	Sr-90	1.4E-10
Kr-88	5.6E-3	I-134	1.1E-4	Y-90	1.4E-10
Rb-88	5.6E-3	Total	2.3E-3	Y-91	1.2E-9
Xe-131m	3.1E-3			Y-91m	1.4E-10
Xe-133	4.5E-1			Sr-91	1.4E-10
Xe-135m	1.6E-3			Zr-95	2.8E-10
Xe-135	1.2E-2			Mo-99	5.6E-8
Xe-138	7.0E-4			Ru-103	2.8E-10
				Ru-106	1.4E-10
Total	4.9E-2			Te-129	1.2E-9
				Co-60	1.4E-10
				Fe-59	1.4E-10
				Co-58	7.3E-10
				Te-132	1.6E-8
				Cs-134	3.8E-9
				Cs-136	7.3E-10
				Cs-137	1.6E-8
				Ba-140	2.8E-10
				La-140	2.8E-10
				Pr-143	2.8E-10
				Ce-144	2.8E-10
				Mn-54	1.4E-10
				Cr-51	1.4E-10
				Total	1.0E-7

Noble Gas Source Term:

4.94E-1 uCi/cc x 1.7E7 cc/Sec x 1.0 Ci/1.0E6 uCi = 8.4 Ci/Sec

Iodine Source Term:

2.3E-3 uCi/cc x 1.7E7 cc/Sec x 1.0 Ci/1.0E6 uCi = 4.0E-2 Ci/Sec

Particulate Source Term:

1.0E-7 uCi/cc x 1.7E7 cc/SEC x 1.0 Ci/1.0E6 uCi = 1.7E-6

BEAVER VALLEY POWER STATION
FEBRUARY 1983 ANNUAL EMERGENCY PREPAREDNESS EXERCISE
RADIATON MONITORING SYSTEM DATA SHEET

Time	CW-108	CW-110	VS 217A(9)	VS217B(9)	VS-102B	VS-107A	VS-107B	VS-112(LR)	VS-112(HR)
0620	1.0E6	1.1E2							
0715			7.0E4	1.8E4	6.4E3	-	1.6E3	-	-
1330			5.5E5	3.4E5	1.2E5	5.0E2	9.9E4	1.3E3	-
1345			Off Scale	Off Scale	Off Scale	1.6E5	Off Scale	4.3E5	1.2E2
1400			Off Scale	Off Scale	Off Scale	2.6E5	Off Scale	7.0E5	1.9E2
1415			Off Scale	Off Scale	Off Scale	2.6E5	Off Scale	7.0E5	1.9E2

BEAVER VALLEY POWER STATION
FEBRUARY 1983 ANNUAL EMERGENCY PREPAREDNESS EXERCISE
METEOROLOGICAL DATA SHEET

Time	Wind Speed 35'	Wind Direction 35'	Wind Direction 500'	T 150'-35'	T 500'-35'	Stability Class 150'-35'	Stability Class 500'-35'
0530	3.6	15	280	-1.3	-3.5	ABC	D
0545	3.2	20	275	-1.3	-3.8	ABC	D
0600	2.7	10	290	-1.2	-2.7	ABC	D
0615	2.8	15	285	-1.1	-2.1	ABC	D
0630	3.8	25	275	-1.1	-2.4	ABC	D
0645	2.5	10	290	-0.9	-1.7	D	D
0700	2.4	20	300	-0.8	-1.3	D	E
0715	2.6	15	305	-0.8	-1.5	D	D
0730	2.0	30	300	-0.7	-0.8	D	E
0745	1.8	40	310	-0.5	-0.9	D	E
0800	2.0	45	305	-0.4	-1.0	D	E
1300	3.6	105	155	0.8	2.5	E	E
1315	3.8	110	160	0.8	3.7	E	E
1345	4.0	105	155	0.9	4.1	E	F
1400	4.6	120	150	1.1	4.6	FG	F
1415	4.2	125	145	1.3	5.1	FG	F
1430	4.0	120	155	1.4	4.7	FG	F
1445	4.0	105	160	1.4	5.6	FG	F
1500	4.2	115	170	1.5	5.7	FG	F
1515	4.4	105	175	1.5	5.2	FG	F
1545	4.6	110	165	1.6	6.2	FG	F
1600	4.2	105	170	1.5	6.1	FG	F

BEAVER VALLEY POWER STATION
FEBRUARY 1983 ANNUAL EMERGENCY PREPAREDNESS EXERCISE
POST RELEASE SAMPLE DATA SHEET
EFFLUENT ISOTOPIC ANALYSIS
TIME 0715-0745

Noble Gases	Activity(uCi/cc)	Iodine	Activity(uCi/cc)	Particulate	Activity(uCi/cc)
Kr-83m	2.2E-8	I-130	4.2E-10	Cr-51	5.3E-14
Kr-85m	1.2E-7	I-131	6.0E-8	Mn-54	9.2E-14
Kr-85	2.5E-7	I-132	1.0E-8	Fe-55	4.7E-14
Kr-87	6.5E-8	I-133	7.4E-8	Fe-59	2.8E-14
Kr-88	2.2E-8	I-134	6.9E-9	Co-58	4.6E-13
Kr-89	5.1E-9	I-135	2.8E-8	Co-60	5.9E-13
		Total	1.7E-7	Br-83	9.9E-14
Xe-131m	1.3E-7			Sr-89	1.0E-14
Xe-133m	2.4E-7			Y-91	5.9E-14
Xe-133	2.0E-5			Mo-99	1.2E-11
Xe-135m	1.3E-8			Tc-99m	8.3E-12
Xe-135	3.8E-7			Te-127m	8.1E-15
Xe-137	1.0E-9			Te-127	1.9E-14
Xe-138	3.5E-9			Te-129m	4.2E-14
Total	2.2E-5			Te-129	3.3E-14
				Te-131m	6.4E-14
				Te-132	7.0E-13
				Cs-134	6.7E-14
				Total	2.4E-11

Noble Gas Source Term:

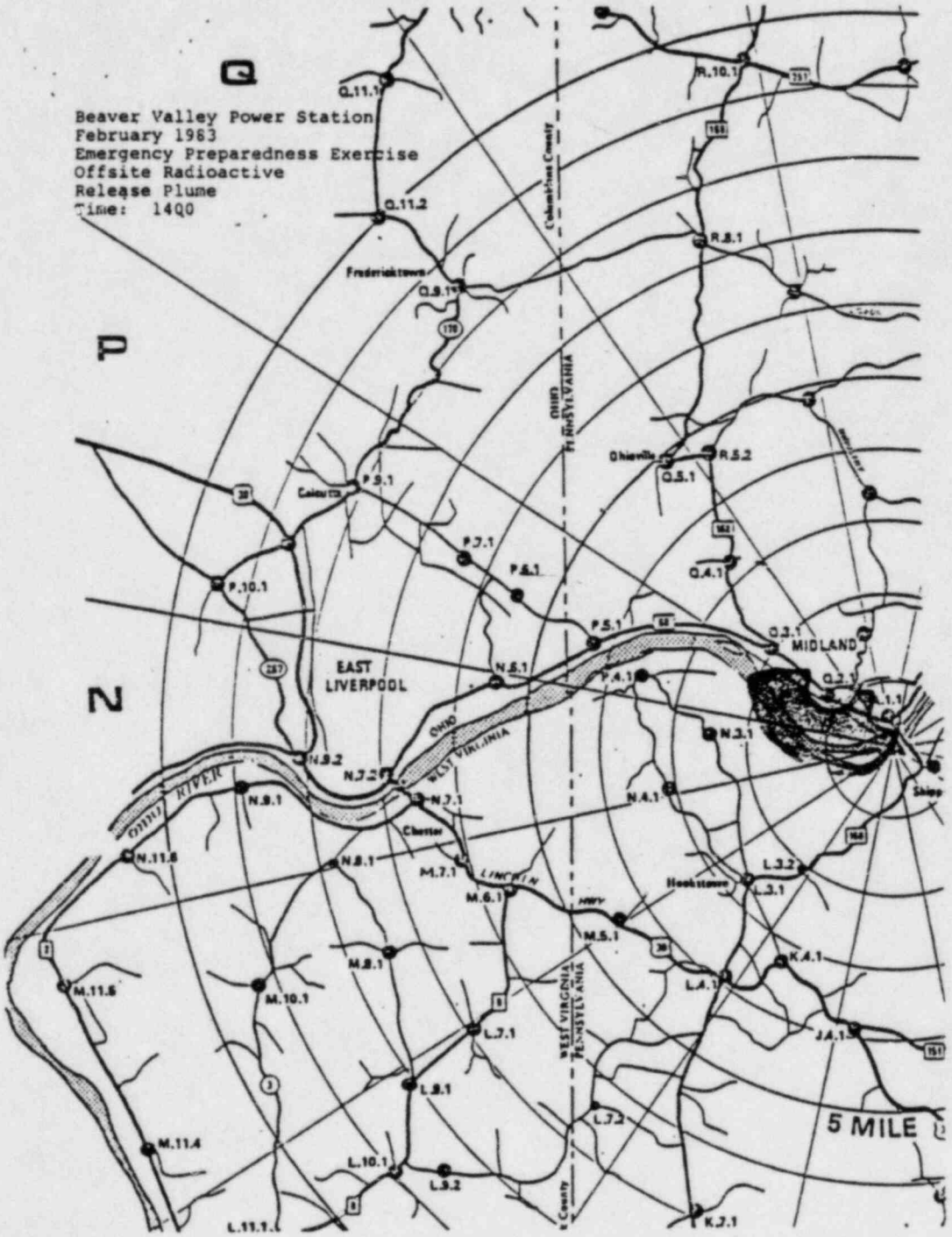
2.2E-5 uCi/cc x 1.7E7 cc/Sec x 1.0Ci / 1E6 uCi = 3.8E-4 Ci/Sec

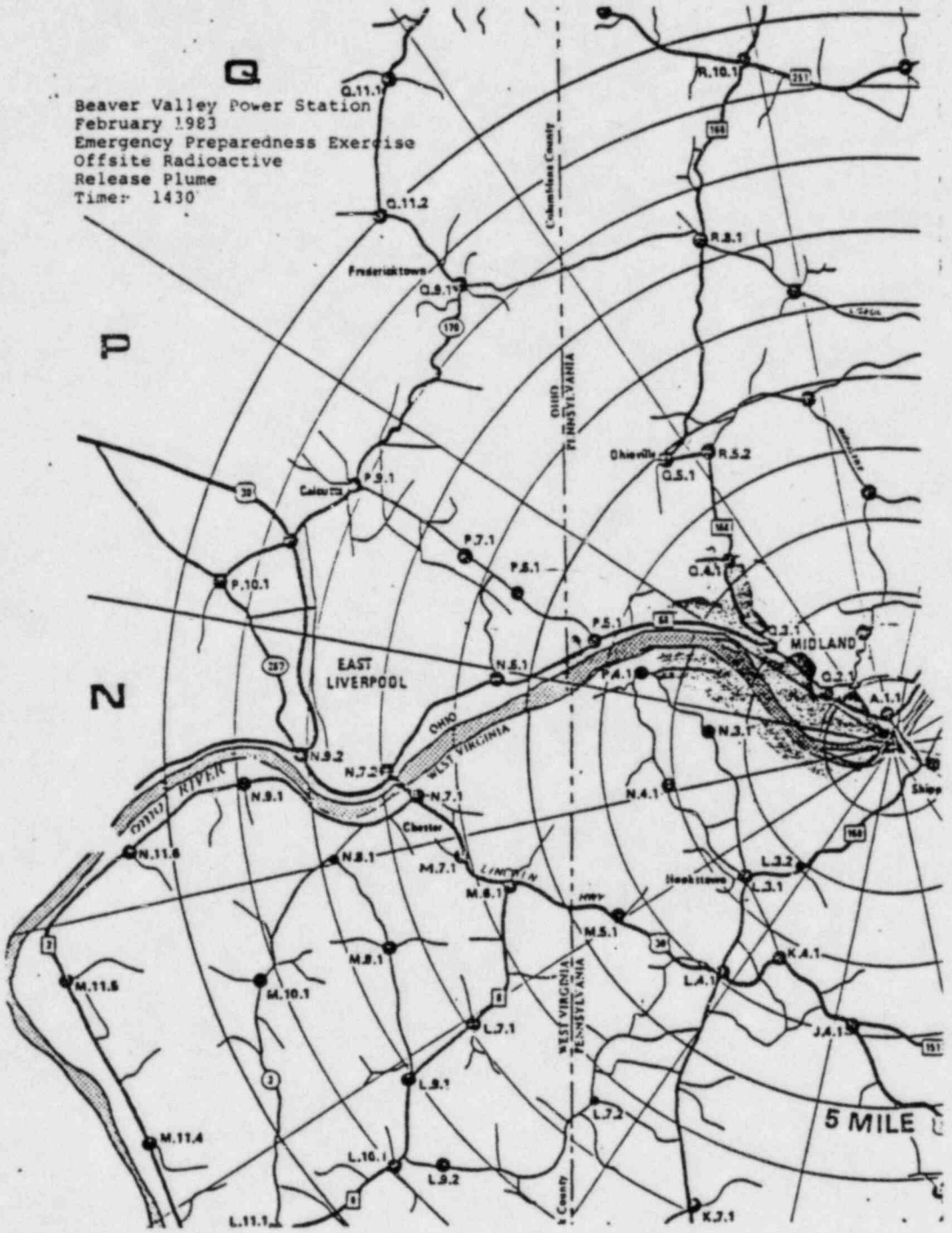
Duquesne Light Company

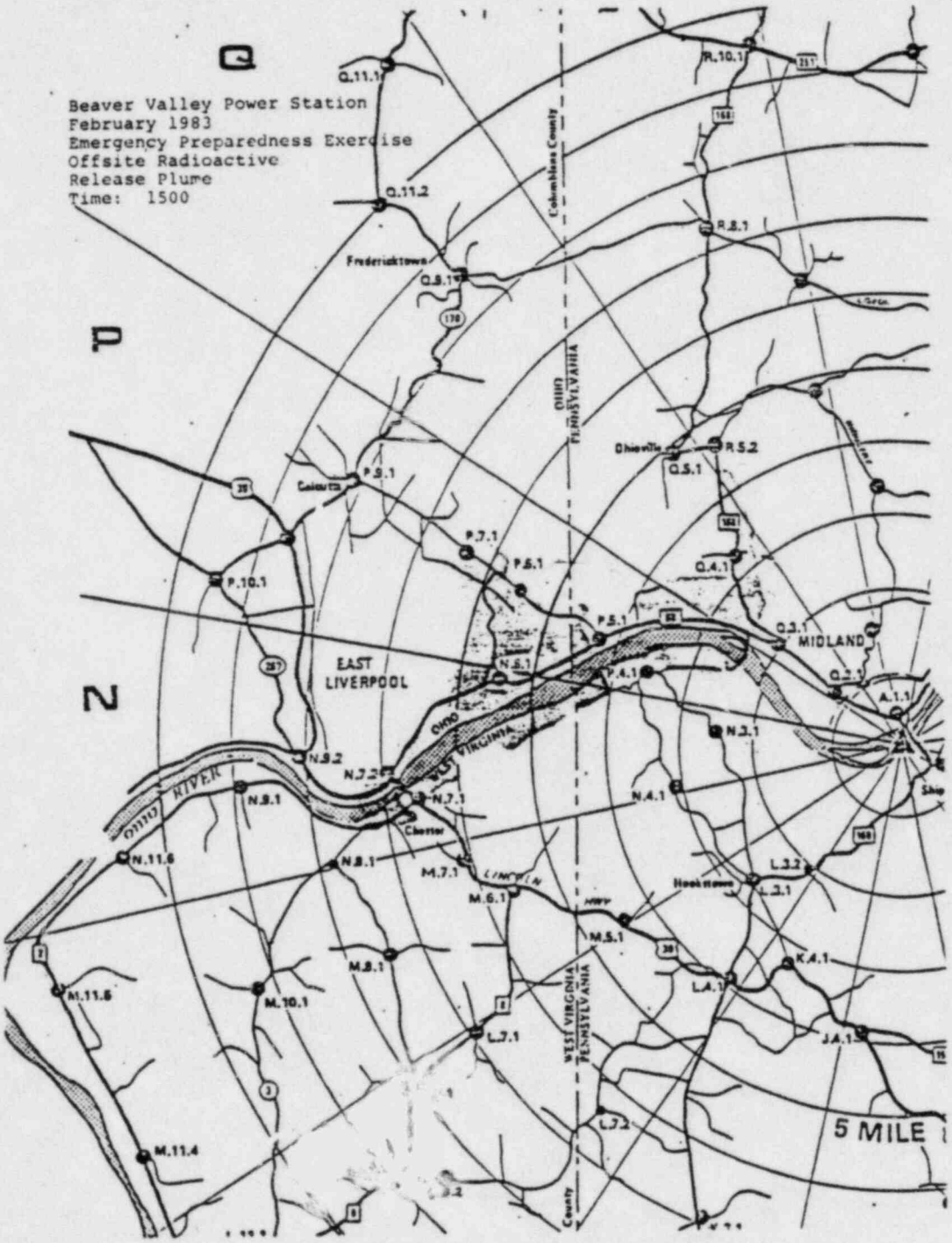
BVPS 1983
Annual Emergency Exercise

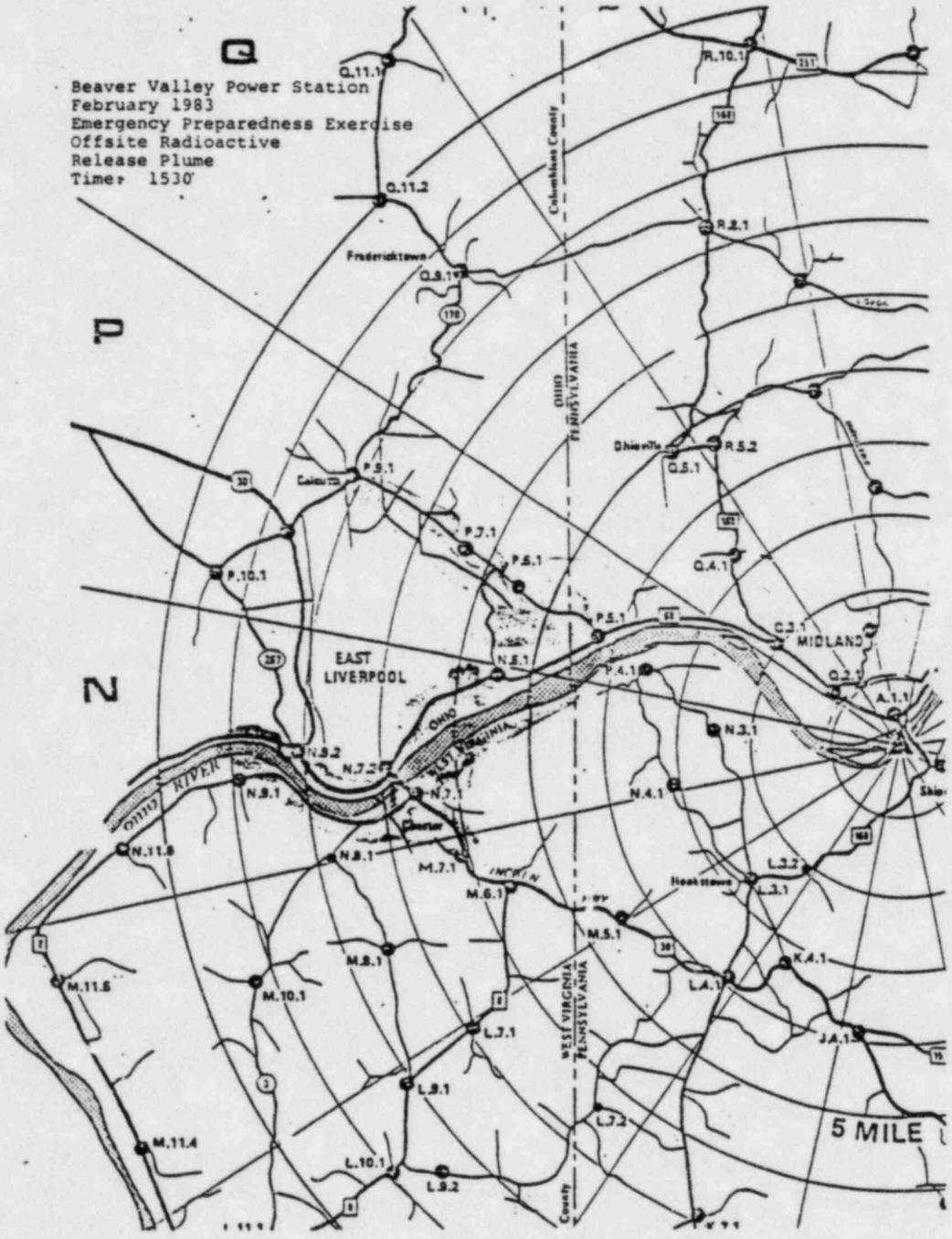
BEAVER VALLEY POWER STATION 1983 EMERGENCY PREPAREDNESS EXERCISE
OFF-SITE RADIOLOGICAL MONITORING TEAM DATA SHEET

Monitoring Location	Time	Noble Gas Q(Ci/sec)	Iodine Q(Ci/sec)	Particulate Q (Ci/sec)	X/Q	Whole Body (mR/Hr)	Iodine Conc. (uCi/cc)	Particulate Conc. (uCi/cc)	Charcoal Net(CPM)	Ag Zeolite Net(CPM)	Particulate Net(CPM)
A1.1	1400	8.4	4.0 E-2	1.7 E-6	3.7 E-4	28936	1.5 E-5	6.3 E-10	11111	23006	
Q2.1	1400	5.2	2.7 E-2	1.0 E-6	1.0 E-4	5054	2.8 E-6	1.0 E-10	2074	42944	
Q2.1	1430	8.4	4.0 E-2	1.7 E-6	1.0 E-4	7718	4.0 E-6	1.7 E-10	5185	61349	
Q3.1	1430	8.4	4.0 E-2	1.7 E-6	5.0 E-4	3858	2.0 E-6	8.5 E-10	1481	30674	
Q4.1	1430	5.2	2.7 E-2	1.0 E-6	2.8 E-5	1372	7.8 E-7	2.8 E-11	577	11963	
P4.1	1430	5.2	2.7 E-2	1.0 E-6	2.4 E-5	1144	6.6 E-7	2.4 E-11	488	10122	
P5.1	1430	1.6 E-2	8.8 E-5	3.3 E-9	1.9 E-5	3	6.9 E-9			105	
Q4.1	1500	8.4	4.0 E-2	1.7 E-6	2.0 E-5	1582	8.2 E-7	3.4 E-11	607	12576	
P4.1	1500	8.4	4.0 E-2	1.7 E-6	1.7 E-5	1312	6.8 E-7	2.9 E-11	503	10429	
p5.1	1500	8.4	4.0 E-2	1.7 E-6	1.3 E-5	1042	5.2 E-7	2.2 E-11	385	7975	
N6.1	1500	5.2	2.7 E-2	1.0 E-6	9.0 E-6	432	3.4 E-7	9.0 E-12	177	3680	
P6.1	1500	5.2	2.7 E-2	1.0 E-6	9.0 E-6	432	2.4 E-7	9.0 E-12	177	3680	
P7.1	1500	1.6 E-2	8.8 E-5	3.3 E-9	8.0 E-6	1	7.0 E-10				
N7.1	1500	1.6 E-2	8.8 E-5	3.3 E-9	7.5 E-6	1	6.6 E-10				
N7.2	1500	1.6 E-2	8.8 E-5	3.3 E-9	7.0 E-6	1	6.2 E-10				
P5.1	1530	8.4	4.0 E-2	1.7E-6	1.4 E-5	1080	9.6 E-7	2.4 E-11	711	14723	
Q5.1	1530	8.4	4.0 E-2	1.7 E-6	1.2 E-5	926	8.8 E-7	2.0 E-11	651	13496	
R5.2	1530	8.4	4.0 E-2	1.7 E-6	1.2 E-5	968	5.0 E-7	2.1 E-11	370	7668	
N6.1	1530	8.4	4.0 E-2	1.7 E-6	9.5 E-6	733	3.8 E-7		281	5828	
P6.1	1530	8.4	4.0 E-2	1.7 E-6	9.5 E-6	733	3.8 E-7		281	5828	
P7.1	1530	5.2	2.7 E-2	1.0 E-6	8.0 E-6	385	2.2 E-7		162	3374	
N7.1	1530	5.2	2.7 E-2	1.0 E-6	8.0 E-6	385	2.2 E-7		162	3374	
M7.1	1530	5.2	2.7 E-2	1.0 E-6	9.0 E-6	433	2.5 E-7		185	3834	
N7.2	1530	5.2	2.7 E-2	1.0 E-6	7.5 E-6	361	2.0 E-7		148	3067	
P9.1	1530	1.6 E-2	8.8 E-5	3.3 E09	6.5 E-6	1	5.7 E-10				
N9.1	1530	1.6 E-2	8.8 E-5	3.3 E-9	5.5 E-6	1	4.8 E-10				
N9.7	1530	1.6 E-2	8.8 E-5	3.3 E-9	6.5 E-6	1	5.7 E-10				

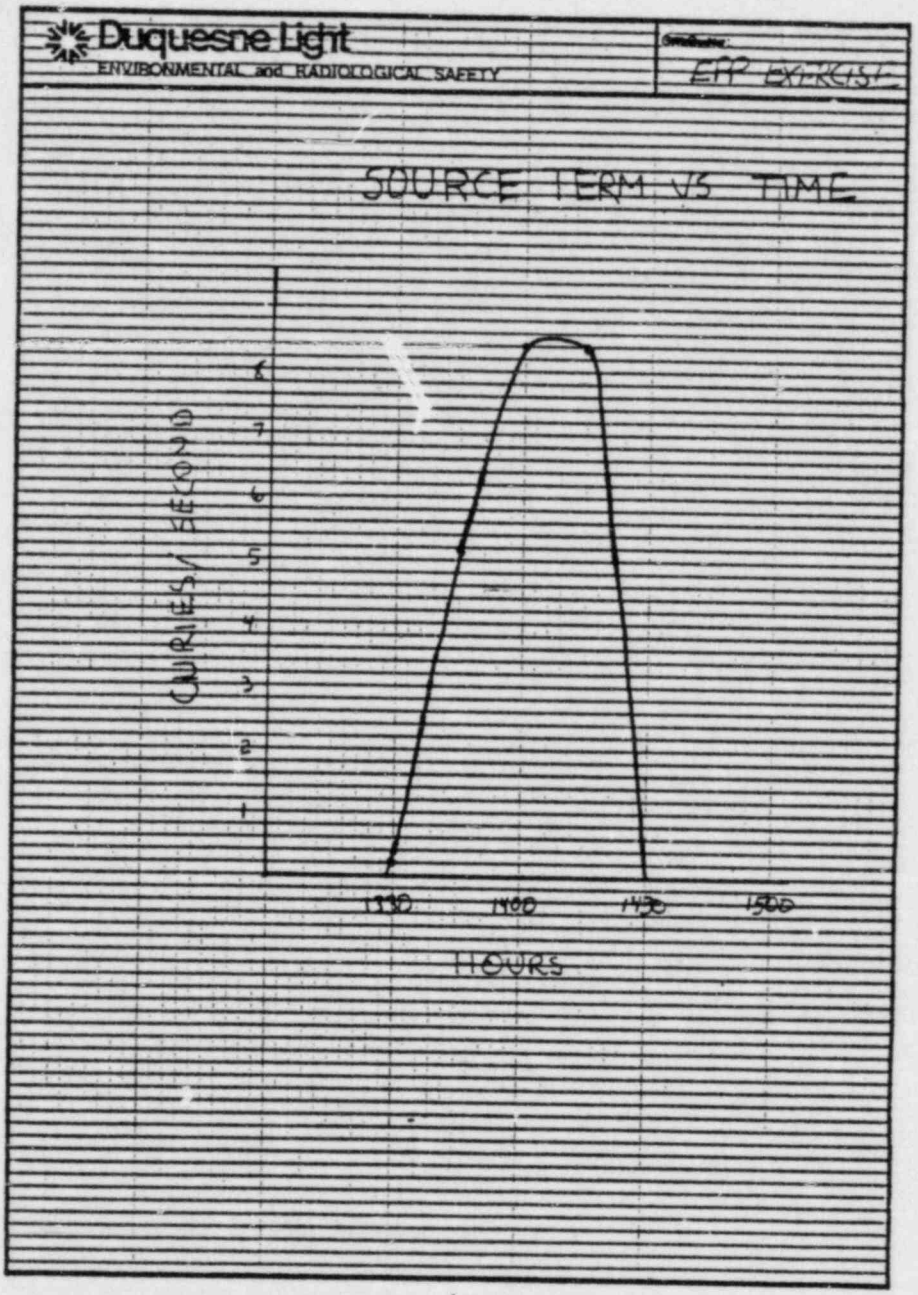

Q
P
N
Beaver Valley Power Station
February 1983
Emergency Preparedness Exercise
Offsite Radioactive
Release Plume
Time: 1400
EAST LIVERPOOL
MIDLAND
Fredericktown
Calcutta
Chester
Hookstown
OHIO
WEST VIRGINIA
PENNSYLVANIA
OHIO RIVER
Columbiana County
5 MILE


Beaver Valley Power Station
February 1983
Emergency Preparedness Exercise
Offsite Radioactive
Release Plume
Time: 1430
EAST LIVERPOOL
MIDLAND
Chester
Hookstown
Frederictown
Chicville
OHIO
WEST VIRGINIA
PENNSYLVANIA
OHIO RIVER
LINCOLN HWY
5 MILE


Q
P
N
Beaver Valley Power Station
February 1983
Emergency Preparedness Exercise
Offsite Radioactive
Release Plume
Time: 1500
EAST
LIVERPOOL
MIDLAND
Chester
Hookstown
Columbiana County
OHIO
PENNSYLVANIA
WEST VIRGINIA
PENNSYLVANIA
5 MILE



Duquesne Light Company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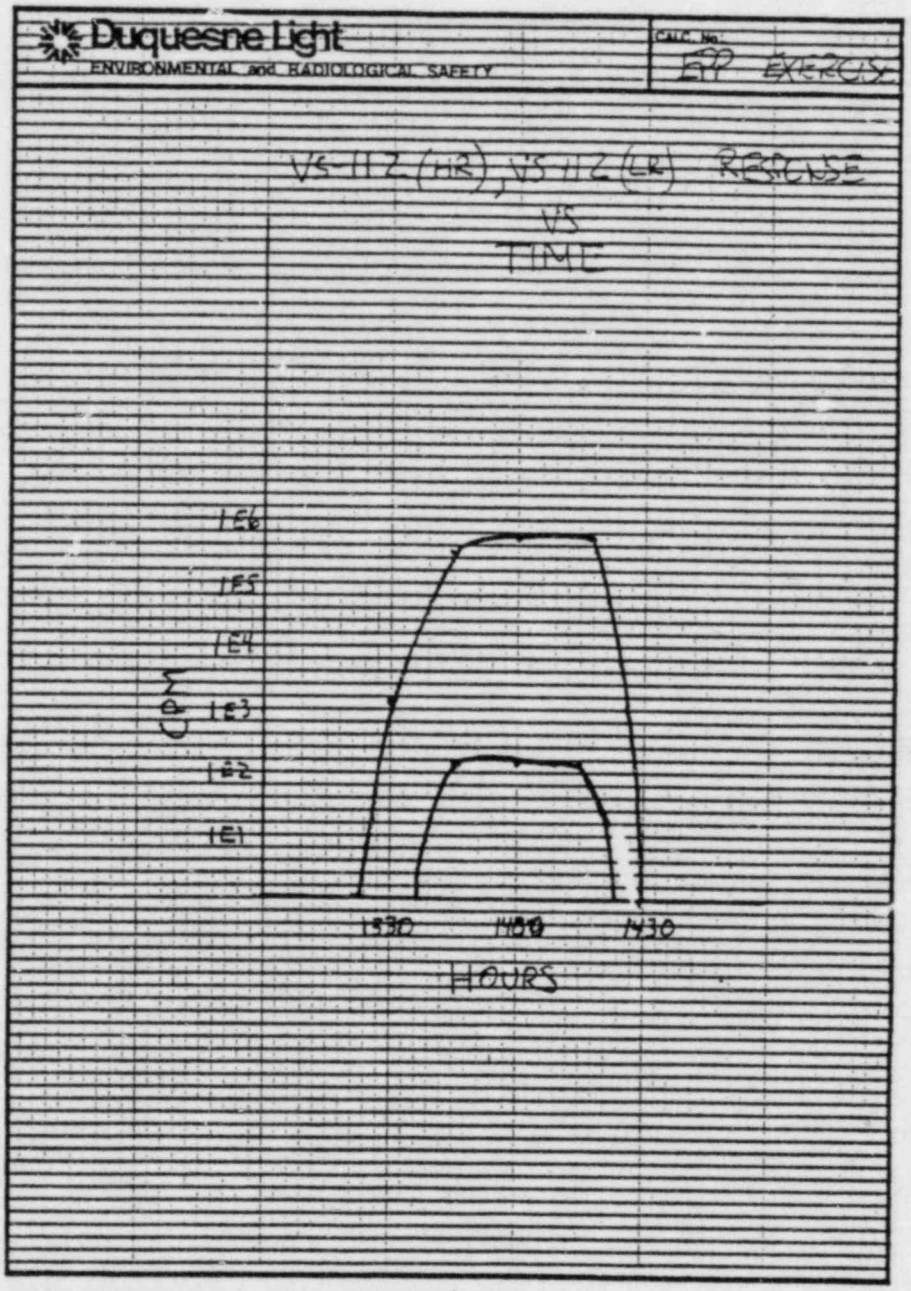
EPP EXERCISE
SOURCE TERM VS TIME
CURIES/SECOND
8
7
6
5
4
3
2
1
1330
1400
1430
1500
HOURS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CALC. No.
EP EXERCISE
VS-112 (HR), VS-112 (LR) RESPONSE
VS
TIME
1E6
1E5
1E4
1E3
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1330
1400
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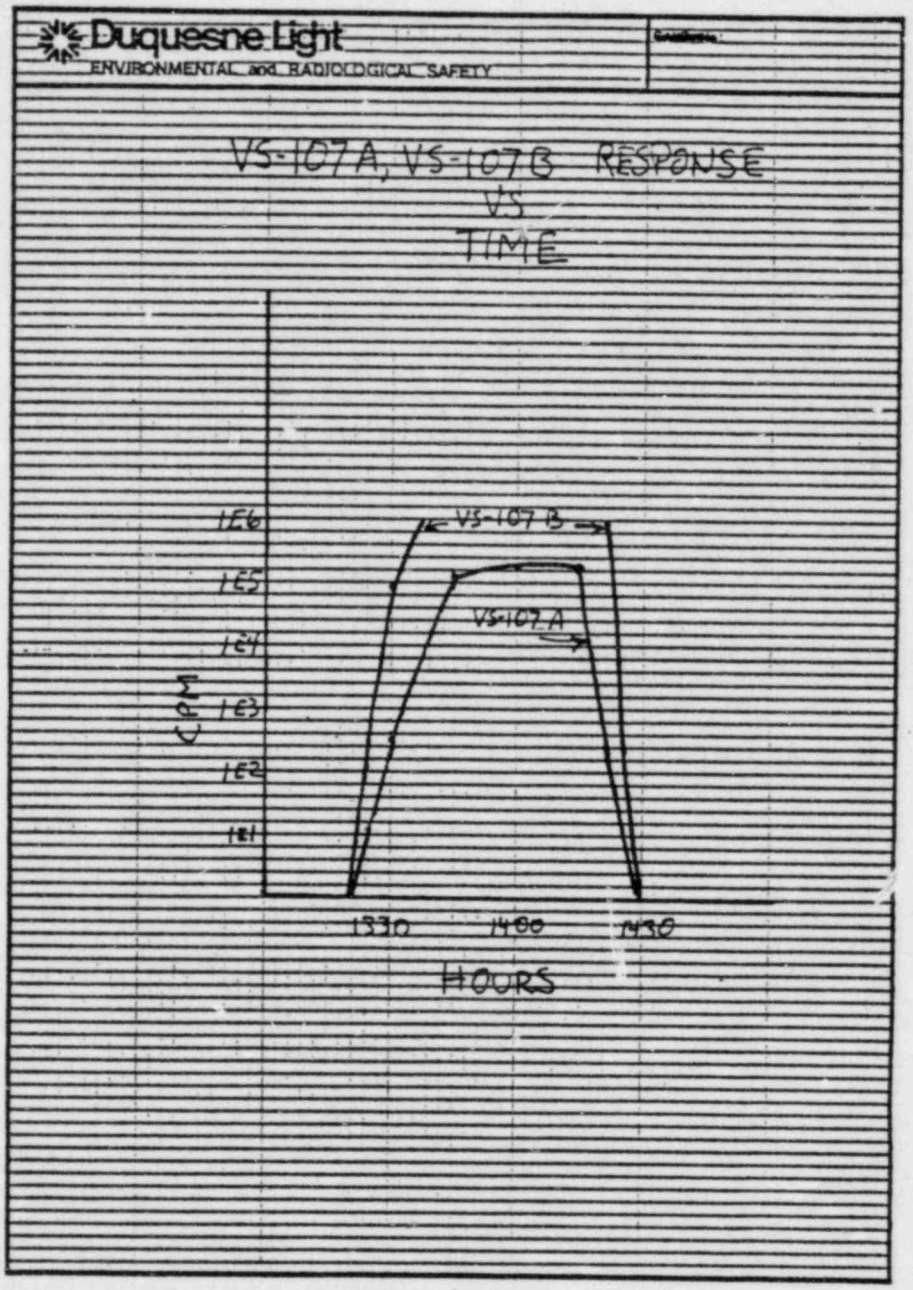
HOURS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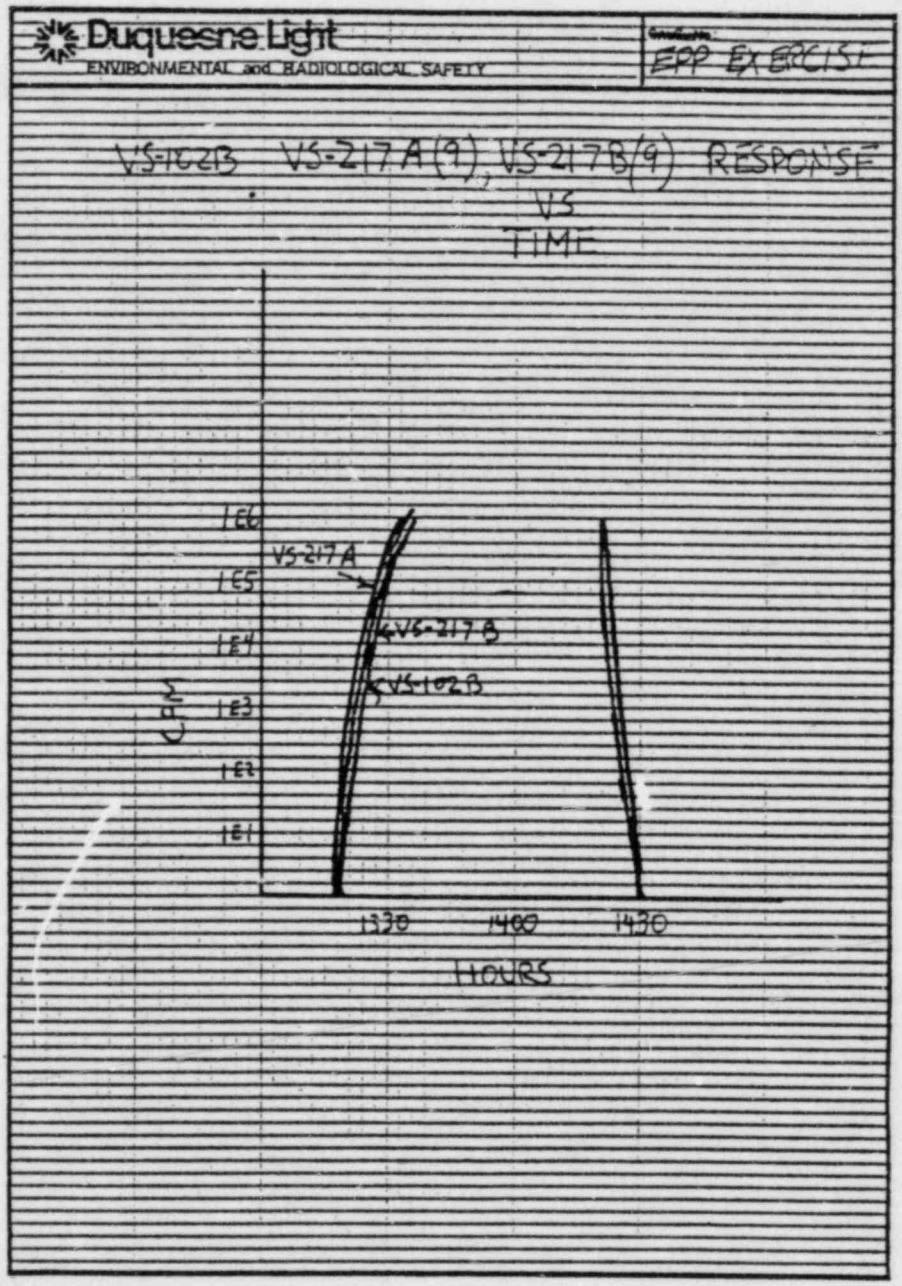
VS-107A, VS-107B RESPONSE
VS
TIME
1E6
1E5
1E4
1E3
1E2
1E1
VS-107B
VS-107A
1330
1400
1430
HOURS


Duquesne Light
ENVIRONMENTAL and RADIOLOGICAL SAFETY
EPP EXERCISE
VS-102B VS-217A(9), VS-217B(9) RESPONSE
VS
TIME
1E6
1E5
1E4
1E3
1E2
1E1
Σ
VS-217A
VS-217B
VS-102B
1330
1400
1430
HOURS

SECTION VIII

CONTROLLER PACKAGE

EXERCISE CONTROLLER/OBSERVER CONDUCT

A. Each controller/observer should be familiar with the following:

1. The basic objectives of the exercise.

2. The assumptions and precautions being taken.

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

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

5. The purpose and importance of the evaluation checklists and chronological record sheets.

B. A summary and description of the controller's/observers's assigned location, including an onsite exercise organization chart, exercise evaluation checklist, and chronological record sheet is provided within this packet.

C. Controllers/observers are assigned to various locations and are to be at their initial locations as indicated in Section I "Overall Schedule of Events."

D. If controllers are to provide information via "cue cards," (e.g., initiating events, instrument readings, monitoring results, etc.) to the exercise participants, the information must be provided exactly as and when prescribed. Failure to provide information appropriately may invalidate the results of the exercise.

E. Controllers/observers shall maintain an accurate chronological record of activities for the locations observed. The record should show the actual start and stop time, brief description of the event or occurrence with the result or action taken, and pertinent comments or suggestions.

F. Controllers/observers should offer no information, advice or assistance to the exercise participants. Any such requests should be respectfully declined. Controllers shall only interpose themselves if the participants are taking an action that will cause the exercise to go far afield of the anticipated time schedule and/or outcome.

Examples or problems requiring such interpositions may include: an engineering calculation/projection that is so grossly inaccurate that an action level other than the one postulated for the scenario would be instituted, or an activity is taking so much longer than predicted that the exercise scenario is in danger of not progressing as postulated, etc.

EXERCISE CONTROLLER/OBSERVER CONDUCT (CONT'D.)

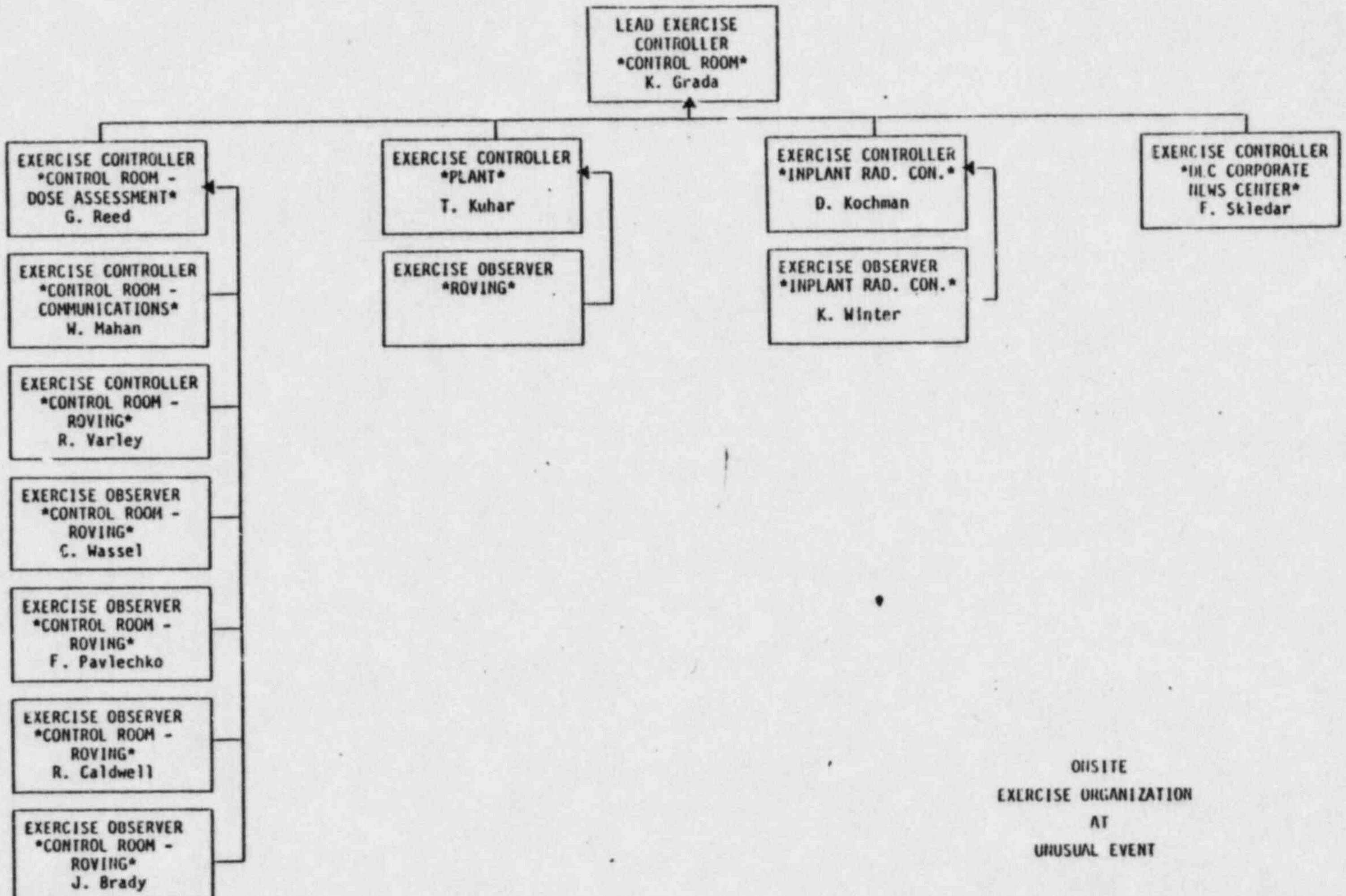
Notes have been placed in the body of the scenario that direct the controller to be aware of these types of situations.

A lead exercise controller has been designated for the On-site Exercise Organization. Those controllers responsible for "Cue Cards" or "Cue Signs" should coordinate their action times closely with the Lead Controller. Provisions will be available for necessary communications with this designated individual should scenario variations warrant.

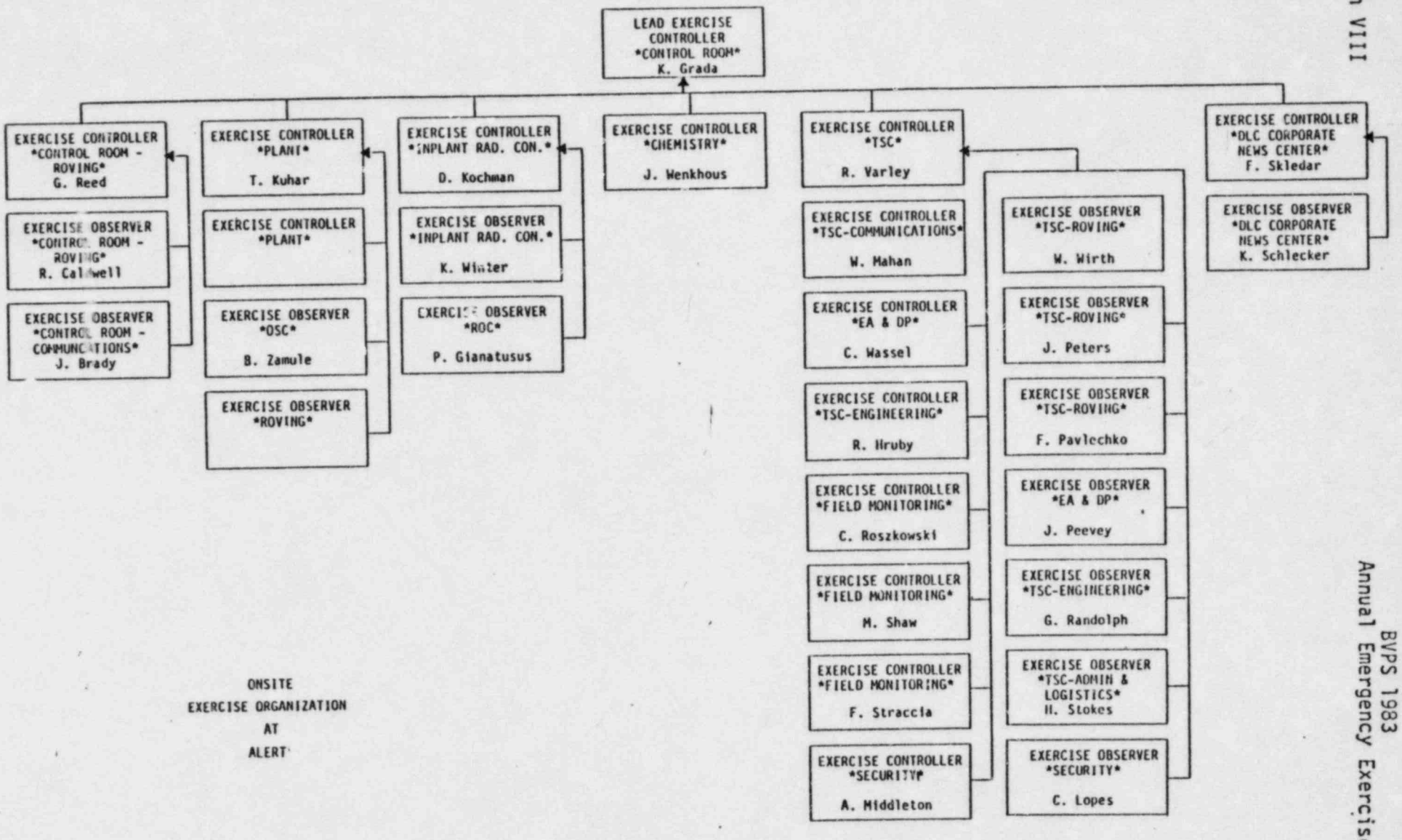
G. The controller/observer must remain congizant of all the events and circumstances at their assigned locations. These should include but not be limited to: Participants' actions and reactions, communications methods and record keeping, chain of command, equipment performance and the overall ability to interface with other emergency facilities.

H. Controllers/observers should record all times (both start and finish), actions and comments or suggestions, as complete and precise as possible, in a chronological order on the Chronological Record Sheet.

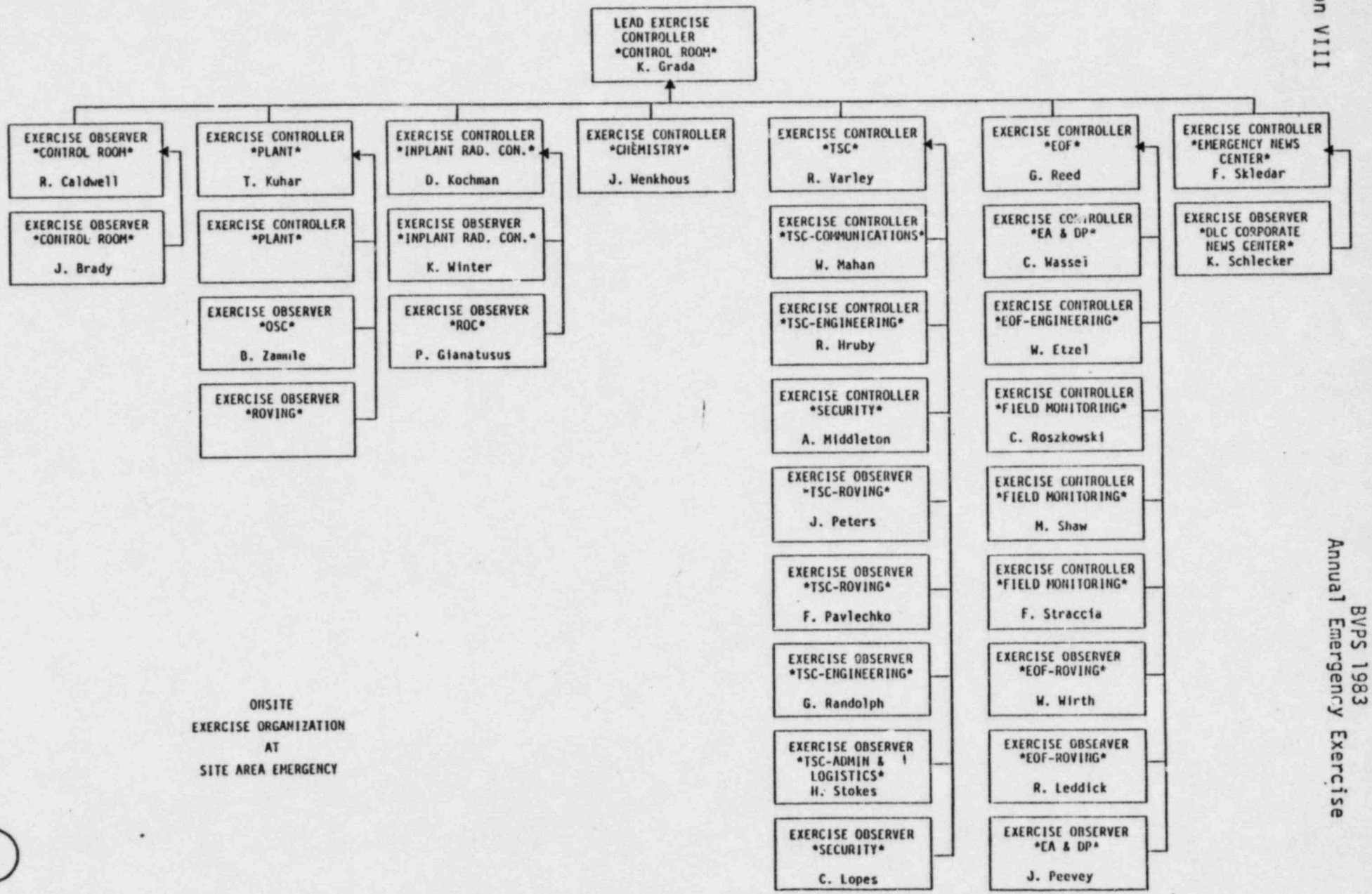
I. Significant items both major deficiencies and strong performance points, should be highlighted upon occurence and condensed for presentation in the subsequent critique.



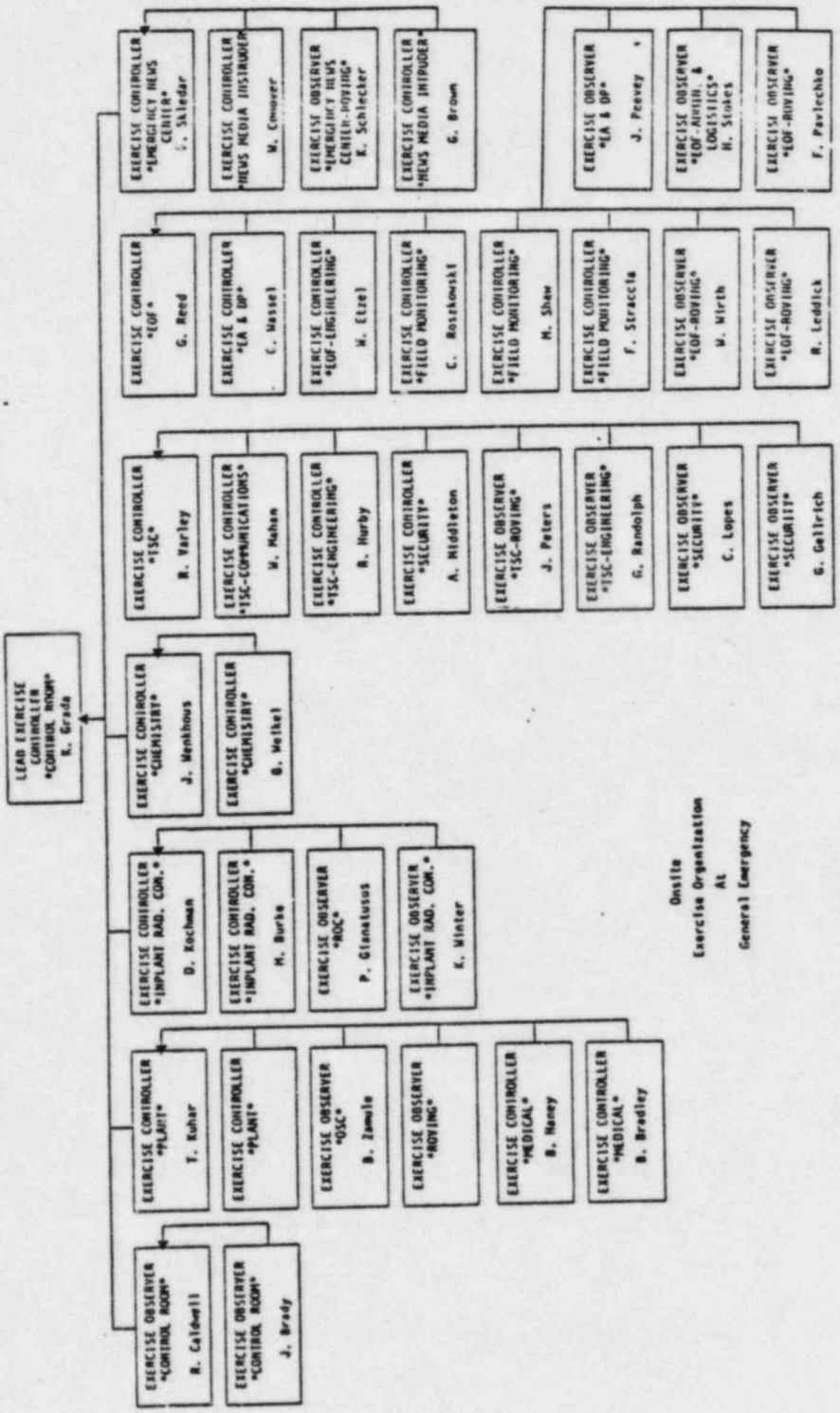
ONSITE
EXERCISE ORGANIZATION
AT
UNUSUAL EVENT



ONSITE
EXERCISE ORGANIZATION
AT
ALERT



ONSITE
EXERCISE ORGANIZATION
AT
SITE AREA EMERGENCY


LEAD EXERCISE CONTROLLER "CONTROL ROOM" K. Grada
EXERCISE CONTROLLER "EMERGENCY NEWS CENTER" J. Skledar
EXERCISE CONTROLLER "NEWS MEDIA INTRUDER" W. Conover
EXERCISE OBSERVER "EMERGENCY NEWS CENTER-ROVING" K. Schlecker
EXERCISE CONTROLLER "NEWS MEDIA INTRUDER" G. Brown
EXERCISE OBSERVER "EA & DP" J. Peevey
EXERCISE OBSERVER "EOF-ADMIN. & LOGISTICS" H. Stokes
EXERCISE OBSERVER "EOF-ROVING" F. Pavlechko
EXERCISE CONTROLLER "EOF" G. Reed
EXERCISE CONTROLLER "EA & DP" C. Vassel
EXERCISE CONTROLLER "EOF-ENGINEERING" W. Etzel
EXERCISE CONTROLLER "FIELD MONITORING" C. Rosakowski
EXERCISE CONTROLLER "FIELD MONITORING" M. Shaw
EXERCISE CONTROLLER "FIELD MONITORING" F. Straccia
EXERCISE OBSERVER "EOF-ROVING" W. Wirth
EXERCISE OBSERVER "EOF-ROVING" R. Leddick
EXERCISE CONTROLLER "TSC" R. Varley
EXERCISE CONTROLLER "TSC-COMMUNICATIONS" W. Mahan
EXERCISE CONTROLLER "TSC-ENGINEERING" R. Hurby
EXERCISE CONTROLLER "SECURITY" A. Middleton
EXERCISE OBSERVER "TSC-ROVING" J. Peters
EXERCISE OBSERVER "TSC-ENGINEERING" G. Randolph
EXERCISE OBSERVER "SECURITY" C. Lopes
EXERCISE OBSERVER "SECURITY" G. Gallrich
EXERCISE CONTROLLER "CHEMISTRY" J. Wenkhous
EXERCISE CONTROLLER "CHEMISTRY" G. Wolkel
EXERCISE CONTROLLER "IMPLANT RAD. COM." D. Kochman
EXERCISE CONTROLLER "IMPLANT RAD. COM." M. Burke
EXERCISE OBSERVER "ROC" P. Gianatsous
EXERCISE OBSERVER "IMPLANT RAD. COM." K. Winter
EXERCISE CONTROLLER "PLANT" T. Kuhar
EXERCISE CONTROLLER "PLANT"
EXERCISE OBSERVER "OSC" B. Zamolo
EXERCISE OBSERVER "ROVING"
EXERCISE CONTROLLER "MEDICAL" B. Haney
EXERCISE CONTROLLER "MEDICAL" B. Bradley
EXERCISE OBSERVER "CONTROL ROOM" R. Caldwell
EXERCISE OBSERVER "CONTROL ROOM" J. Brady
Onsite
Exercise Organization
At
General Emergency

EXERCISE EVALUATION CRITERIA

To ensure validity of the evaluation, all exercise controllers/observers must utilize the same grading criteria. The following grading standards should be utilized:

A. Recording Times of Actions

1. For calculating elapsed times, evaluators will be given the actual time the exercise is initiated. This will be T = 0 on all reports. All elapsed time calculations will be based on this time regardless of when the separate evaluated activities are initiated.

2. An emergency center will be deemed to be in service when its personnel accountability check is completed and reported or when the center has sufficient manpower present to carry out its mission. (NOTE: A formal announcement should be made.)

3. Controllers/observers shall use the Chronological Events Summary during the course of the exercise to take notes on the time and events and shall be the primary evaluation record. It is intended to be used to compliment the evaluation forms upon completion of the exercise. The form calls for the actual and elapsed times, the initial discoveries, the resultant activity, and evaluator comments.

B. Evaluation Standards

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

1. "5" = Excellent - Personnel and equipment always functioned without error the first time, every time. There were no problems encountered and all personnel and equipment functioned at a level much greater than could reasonably by anticipated.

2. "4" = Good - Personnel and equipment generally performed better than expected. Any errors or problems were minor and easily correctable.

3. "3" = Satisfactory - Personnel and equipment performed according to expectations, with few minor exceptions. Any errors noted were not severe and could be corrected without undue labor or expense.

EXERCISE EVALUATION CRITERIA (CONT'D.)

4. "2" = Poor - Personnel and equipment generally performed below expectations and there were several significant deficiencies noted. The area's ability to carry out its functions was diminished.

5. "1" = Failure - Personnel and equipment consistently failed to perform as required and there were serious deficiencies noted which severely impaired the ability of the area to carry out its functions.

6. "N" = Not Observed - Through no fault of the exercise.

Categories for Evaluation

A number of areas have been designated for monitor evaluation. These areas will be further definded in the various location packets. Each controller/observer will be required to rate pertinent actions in the following areas:

A. Activation and Response

B. Communications/Dissemination of Information

C. Procedures

D. Direction and Control

E. Material and Equipment

F. Protective Measures

G. Access Control

H. Summary

EXERCISE EVALUATION CRITERIA FOR PLANT CONTROL ROOM

Location:

Beaver Valley Power Station
Reactor Auxiliary Building

Functions:

1. Perform immediate actions for the safe and proper operation of the plant.

2. Assess information available from valid indications and initially classify the situation.

3. Provide initial notifications and maintain information flow to emergency support centers, when they are established.

4. Perform offsite dose projection and provide directions for offsite monitoring until the TSC/EOF is activated.

5. Make recommendations to offsite agencies regarding protective and other actions.

6. Perform supplementary actions to regain control of the plant.

Personnel and Duties:

1. Nuclear Shift Supervisor - NSS - As senior licensed operator on shift, performs all functions in accordance with approved administrative procedures. During an emergency, the NSS assumes the role of the Emergency Director until properly relieved by the designated Emergency Director.

2. Nuclear Shift Operating Foreman - NSOF - Performs the duties of the Operations Coordinator during the initial stages of an emergency.

3. Nuclear Shift Supervisor Administrative Assistant - During the initial stages of an emergency serves as the Communications and Records Coordinator.

4. Radcon Technician - Initial dose projections will be calculated during the early stages of an accident.

5. Other Personnel

   a. Nuclear Control Operators (2)

EXERCISE EVALUATION CRITERIA FOR PLANT CONTROL ROOM (CONT'D.)

b. Nuclear Operators (2)

c. Shift Technical Advisor

d. Chemistry Technician

CONTROL ROOM EVALUATION

	Area Evaluated	Monitors Rating					
A.	**Activation and Response**						
1.	Was activation/initiation efficient and organized?	5	4	3	2	1	N
2.	Were personnel familiar with their responsibilities and did they respond in a timely manner?	5	4	3	2	1	N
3.	Was the person in charge clearly identifiable?	5	4	3	2	1	N
4.	Was the transfer of responsibilities accomplished efficiently and effectively?	5	4	3	2	1	N
5.	Were all persons made aware when transfers were completed?	5	4	3	2	1	N
B.	**Communications/Dissemination of Information**						
1.	Were all required and specified communication circuits operable?	5	4	3	2	1	N
2.	Were personnel familiar with communications available and the intended use of each?	5	4	3	2	1	N
3.	Were communications adequate?	5	4	3	2	1	N
4.	Were there sufficient personnel to conduct communications tasks?	5	4	3	2	1	N
5.	Was incoming information effectively and efficiently distributed to appropriate personnel?	5	4	3	2	1	N
6.	Were periodic update announcements made via Page Party or face-to-face?	5	4	3	2	1	N
7.	Did communicators keep accurate logs?	5	4	3	2	1	N
8.	Were the status boards kept updated?	5	4	3	2	1	N
9.	Did persons in charge spend an inordinate amount of time on communications, such that their attention was diverted from the incident?	5	4	3	2	1	N
10.	Were offsite personnel kept informed of activities/plant status?	5	4	3	2	1	N

Area Evaluated	Monitors Rating
11. Were logs used effectively by personnel to review past events to trend data?	5 4 3 2 1 N
12. Were appropriate communications techniques (no abbreviations, phonetic alphabet, sign-on, sign-off, etc.) followed?	5 4 3 2 1 N
13. Was there a two-way exchange of information such that the personnel observed understood the changing situation and were able to perform their tasks in the context of the changing situation and to effectively contribute to overall assessment and mitigation?	5 4 3 2 1 N
C. Procedures	
1. Were personnel generally familiar with the relevent procedures?	5 4 3 2 1 N
2. Were procedures followed?	5 4 3 2 1 N
3. Were personnel so overwhelmed with procedural requirements that they were distracted from the appropriate response? (No=5 Yes=1)	5 4 3 2 1 N
4. Were the procedures appropriate?	5 4 3 2 1 N
5. What was your overall assessment of the level of competency and state of training of the personnel observed? (NOTE: If a shortcoming or exceptional performance was observed, provide specific details in the Chronological Event - Summary Sheet.)	5 4 3 2 1 N
D. Direction and Control	
1. Was the information flow from the plant to senior management, timely, complete and accurate?	5 4 3 2 1 N
2. Did the Emergency Director become too deeply involved in a specific activity to the exclusion of other activities?	5 4 3 2 1 N
3. Could the response be categorized as a team effort or a group of individual efforts? (Team = 5 Individual = 1)	5 4 3 2 1 N
4. Was there an effective mechanism for resolving differences of opinions regarding technical issues or actions to be taken?	5 4 3 2 1 N

Area Evaluated	Monitors Rating					
5. Was there excessive noise and loitering in response facilities? (No=5 Yes=1)	5	4	3	2	1	N
E. Material and Equipment						
1. Was all of the required materials and equipment available?	5	4	3	2	1	N
2. Was the equipment functional?	5	4	3	2	1	N
3. Did personnel check to ensure that all equipment was available and functional early in the activation process?	5	4	3	2	1	N
4. If equipment was inoperative or failed in use, were appropriate actions taken to resolve deficiency (e.g., spares or backups, etc.)?	5	4	3	2	1	N
5. Were there any situations where the lack of equipment of materials, or inoperative equipment, or a lack of ability to operate the equipment, prevent personnel from performing assigned tasks? (If so, please detail)	5	4	3	2	1	N
6. Were there any situations in which additional equipment or materials, or different types of equipment could have made the activity more effective?	5	4	3	2	1	N
7. Could the area support the personnel assigned to it?	5	4	3	2	1	N
8. Were there resource materials readily available to assess the emergency situation and to plan corrective actions (maps, reference books, copies of emergency plans and procedures)?	5	4	3	2	1	N
F. Protective Measures						
1. Were appropriate protective measures implemented for plant personnel?	5	4	3	2	1	N
2. Were appropriate contamination controls observed?	5	4	3	2	1	N
3. Were all in-plant activities conducted with regard to personnel safety, consistent with the need to complete the activity?	5	4	3	2	1	N

Area Evaluated	Monitors Rating
4. Was the normal radiological controls program appropriately modified to contend with the emergency radiological conditions?	5 4 3 2 1 N

G. Access Control

1. Was an appropriate security posture established against unauthorized personnel?	5 4 3 2 1 N
2. Were incoming support personnel (fire-fighers, ambulances, others) provided appropriate access in a timely manner?	5 4 3 2 1 N
3. Was there an identification system developed and used that effectively identified authorized personnel and their duties?	5 4 3 2 1 N

H. Summary

1. Describe any problems noted by the area being evaluated, a brief description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the problem.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors, and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR INTERIM TECHNICAL SUPPORT CENTER (TSC)

Location:

Beaver Valley Power Station
Basement of the Administration Building

Function:

1. Provide plant management and technical support to the plant operations personnel during emergency conditions.

2. Relieve the reactor operators of peripheral duties and communications not directly related to reactor system manipulations.

3. Prevent congestion in the control room.

4. Perform EOF functions for the Alert Emergency Class and for the Site Area and General Emergency Class until the EOF is functional.

Personnel and Duties:

1. Emergency Director - Responsible for the command and control of all accident mitigation actions on site.

2. Radiological Controls Coordinator - Responsible for onsite radiological controls and personnel monitoring.

3. Environmental Assessment and Dose Projection Coordinator - Responsible for dose projections and offsite monitoring along with radiological assessment, sample coordination and the interface with DER/BRP.

4. Operations Coordinator - Acts as management representative in the Control Room. All directives pertaining to operation of the plant, from management will go to the NSS via the Operations Coordinator.

5. Communications and Records Coordinator - Coordinates all communications and maintain records.

6. Other personnel:

   a. Chemistry Coordinator

   b. Security Coordinator

   c. Operations Support Center Coordinator

   d. Technical Support Coordinator

e. Maintenance Coordinator

f. Assistant to Emergency Director

TECHNICAL SUPPORT CENTER EVALUATION

	Area Evaluated	Monitors Rating					
A.	**Activation and Response**						
1.	Was the activation/initiation efficient and organized?	5	4	3	2	1	N
2.	Were personnel familiar with their responsibilities and respond in a timely manner?	5	4	3	2	1	N
3.	Was the person in charge clearly identifiable?	5	4	3	2	1	N
4.	Were the transfers of responsibilities accomplished efficiently and effectively?	5	4	3	2	-1	N
5.	Were all participants made aware the transfers had occurred? (NOTE: A formal announcement should be made.)	5	4	3	2	1	N
B.	**Communications/Dissemination of Information**						
1.	Were all required and specified communications circuits operable?	5	4	3	2	1	N
2.	Were all personnel familiar with communications available and the intended use of each?	5	4	3	2	1	N
3.	Were communications adequate?	5	4	3	2	1	N
4.	Were there sufficient personnel to conduct communications tasks?	5	4	3	2	1	N
5.	Was incoming information effectively and efficiently distributed to appropriate personnel?	5	4	3	2	1	N
6.	Were periodic update announcements made via Page Party or face-to-face?	5	4	3	2	1	N
7.	Did communicators keep accurate logs?	5	4	3	2	1	N
8.	Were the status boards kept updated?	5	4	3	2	1	N
9.	Did persons in charge spend an inordinate amount of time on communications, such that their attention was diverted from the incident?	5	4	3	2	1	N
10.	Were there periodic reports from the various response facilities to the TSC?	5	4	3	2	1	N

	Area Evaluated	Monitors Rating					
11.	Were private and dedicated lines used as effectively as possible?	5	4	3	2	1	N
12.	Were logs used effectively by personnel to review past events and to trend data?	5	4	3	2	1	N
13.	Was information provided to the Emergency News Center in a timely manner?	5	4	3	2	1	N
14.	Were appropriate communication techniques (no abbreviations, phonetic alphabet, sign-on sign-off, etc.) followed?	5	4	3	2	1	N
15.	Was there a two-way exchange of information such that the personnel observed understood the changing situation and were able to perform their tasks in the context of the changing situation and to effectively contribute to overall assessment and mitigation?	5	4	3	2	1	N
C.	Procedures						
1.	Were personnel generally familiar with the relevant procedures?	5	4	3	2	1	N
2.	Were procedures followed?	5	4	3	2	1	N
3.	Were procedures and tech specs compatible?	5	4	3	2	1	N
4.	Were personnel so overwhelmed with procedural requirements that they were distracted from the appropriate response? (No=5 Yes=1)	5	4	3	2	1	N
5.	Were the procedures appropriate?	5	4	3	2	1	N
6.	Was the overall level of competency and training satisfactory? (NOTE: Shortcomings or exceptional performance should be detailed in the Chronological Events Summary.)	5	4	3	2	1	N
D.	Direction and Control						
1.	Was the information flow from the plant to senior management, timely, complete and adequate?	5	4	3	2	1	N
2.	Did the individual emergency supervisors keep the Emergency Director apprised of significant events within their sphere of concern?	5	4	3	2	1	N

	Area Evaluated	Monitors Rating					
3.	Did the Emergeny Director effectively delegate responsibilities to the individual coordinators?	5	4	3	2	1	N
4.	Did the Emergency Director become too deeply involved in a specific activity to the exclusion of other activities?	5	4	3	2	1	N
5.	Could the response be categorized as a team effort or a group of individual efforts? (Team = 5 Individuals = 1)	5	4	3	2	1	N
6.	Were interfaces with outside technical groups effective?	5	4	3	2	1	N
7.	Was there an effective mechanism for resolving differences of opinion regarding technical issues and actions to be taken?	5	4	3	2	1	N
8.	Was there excessive noise and loitering in the response facility? (No=5 Yes=1)	5	4	3	2	1	N
E.	Material and Equipment						
1.	Was all of the required material and equipment available?	5	4	3	2	1	N
2.	Was the equipment functional?	5	4	3	2	1	N
3.	Did the personnel check to ensure that all equipment was available and functional early in the activation process?	5	4	3	2	1	N
4.	If equipment was inoperative or failed in use, were appropriate actions taken to resolve deficiency (spare and back-ups, etc.)	5	4	3	2	1	N
5.	Were there any situations in which the lack of equipment and materials, or inoperative equipment, or a lack of ability to operate the equipment prevent personnel from performing assigned tasks? (if so, please detail) (No = 5 Yes = 1)	5	4	3	2	1	N
6.	Were there are situations in which additional equipment or materials, or different types of equipment could have made the activity more effective? (No = 5 Yes = 1)	5	4	3	2	1	N
7.	Could the area support the personnel assigned to it?	5	4	3	2	1	N

Area Evaluated	Monitors Rating
8. Were there resource materials readily available to assess the emergency situation and to plan corrective actions - maps, reference books, copies of emergency plans and procedures?	5 4 3 2 1 N
F. Protective Measures	
1. Were appropriate protective measures implemented for plant personnel?	5 4 3 2 1 N
2. Were appropriate contamination controls observed?	5 4 3 2 1 N
3. Were TSC personnel kept apprised of in-plant radiological conditions?	5 4 3 2 1 N
4. Were all in-plant activities conducted with regard to personnel safety, consistent with the need to complete the activity?	5 4 3 2 1 N
5. Was the normal radiological controls program appropriately modified to contend with the emergency radiological conditions?	5 4 3 2 1 N
G. Access Control	
1. Was an appropriate security posture established against unauthorized personnel?	5 4 3 2 1 N
2. Was there an identification system developed and used that effectively identified authorized personnel and their duties?	5 4 3 2 1 N

H. Summary

1. Describe any problems noted by area being evaluated, a description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the deficiency.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors, and NRC personnel (if applicable) that want to attend. Location and times will be provided.

EXERCISE EVALUATION CRITERIA FOR OPERATIONAL SUPPORT CENTER (OSC)

Location:

Beaver Valley Power Station
Process Instrument and Rod Position Instrument Area below Control Room

Function:

1. Provide a location where plant logistic support can be coordinated during an emergency.

2. Restrict Control Room access to those support personnel specifically requested by the Shift Supervisor.

Personnel and Duties:

1. Operational Support Center Supervisor - Responsible for the activation and operation of the OSC.

2. Other personnel:

   a. Radcon Operations Center - if unstable conditions exist in the service building.

OPERATIONAL SUPPORT CENTER EVALUATION

	Area Evaluated	Monitors Rating
A.	**Activation and Response**	
	1. Was the activation/initiation efficient and organized?	5 4 3 2 1 N
	2. Were personnel familiar with their responsibilities and respond in a timely manner?	5 4 3 2 1 N
	3. Was the person in charge clearly identifiable?	
B.	**Communications/Dissemination of Information**	
	1. Were all required and specified communications circuits operable?	5 4 3 2 1 N
	2. Were personnel familiar with communications available and the intended use of each?	5 4 3 2 1 N
	3. Were communications adequate?	5 4 3 2 1 N
	4. Were there sufficient personnel to conduct communications tasks?	5 4 3 2 1 N
	5. Was incoming information effectively and efficiently distributed to appropriate personnel?	5 4 3 2 1 N
	6. Were periodic updates made by the Supervisor?	5 4 3 2 1 N
	7. Were accurate logs kept?	5 4 3 2 1 N
	8. Were the status boards kept updated?	5 4 3 2 1 N
	9. Did persons in charge spend an inordinate amount of time on communications, such that their attention was diverted form the incident? (No = 5 Yes = 1)	5 4 3 2 1 N
	10. Was the correct private lines used and did non-emergency communications interfere with emergency transmissions? (No = 5 Yes = 1)	5 4 3 2 1 N
	11. Were logs used effectively by personnel to review past events and to trend data?	5 4 3 2 1 N
	12. Were appropriate communications techniques (no abbreviations, phonetic alphabet, sign-on, sign-off, etc.) followed?	5 4 3 2 1 N

Area Evaluated	Monitors Rating
C. Procedures	
1. Were personnel generally familiar with the relevant procedures?	5 4 3 2 1 N
2. Were procedures followed:	5 4 3 2 1 N
3. Were personnel so overwhelmed with procedural requirements that they were distracted from the appropriate response? (No = 5 Yes = 1)	5 4 3 2 1 N
4. Were the procedures appropriate?	5 4 3 2 1 N
5. Was the overall level of competency and state of training adequate? (NOTE: Any shortcomings or exceptional performance observed should be detailed in the Event Summary Sheets.)	5 4 3 2 1 N
D. Direction and Control	
1. Was the information flow from the plant to the facilities, timely, complete and accurate?	5 4 3 2 1 N
2. Could the response be categorized as a team effort or a group of individual efforts? (Team = 5 Individual = 1)	5 4 3 2 1 N
3. Was there an effective mechanism for resolving differences of opinion regarding technical issues and actions to be taken.	5 4 3 2 1 N
4. Was there excessive noise and loitering in the response facility? (No = 5 Yes = 1)	5 4 3 2 1 N
E. Material and Equipment	
1. Was all of the required material and equipment available?	5 4 3 2 1 N
2. Was the equipment functional?	5 4 3 2 1 N
3. Did personnel check to ensure that all equipment was available and functional early in the activation process?	5 4 3 2 1 N
4. If equipment was inoperable or failed in use, were appropriate actions taken to resolve the deficiency (spares or back-up equipment)?	5 4 3 2 1 N

Area Evaluated	Monitors Rating
5. Were there any situations in which the lack of equipment and materials, or inoperative equipment, or a lack of ability to operate the equipment, prevent personnel from pre-assigned tasks. (No = 5 Yes = 1) If so, please detail.	5 4 3 2 1 N
6. Were there any situations in which additional equipment or materials, or different types of equipment could have made the activity more effective? If so, please detail. (No = 5 Yes = 1)	5 4 3 2 1 N
7. Could the area support the personnel assigned to it?	5 4 3 2 - 1 N
8. Were there resource materials readily available to access the emergency situation and to plan corrective actions - maps, reference books, copies of the emergency plans and procedures?	5 4 3 2 1 N
F. Protective Measures	
1. Were appropriate protective measures implemented for plant personnel?	5 4 3 2 1 N
2. Did personnel properly wear protective clothing, dosimetry, respirators?	5 4 3 2 1 N
3. Were appropriate contaminations controls observed?	5 4 3 2 1 N
4. Were OSC personnel kept apprised of in-plant radiological conditions?	5 4 3 2 1 N
5. Were all in-plant activities conducted with regard to personnel safety, consistent with the need to complete the activity?	5 4 3 2 1 N
6. Was the normal radiological controls program appropriately modified to contend with the emergency radiological conditions?	5 4 3 2 1 N
G. Access Control	
1. Was an appropriate security posture established against unauthorized personnel?	5 4 3 2 1 N

Area Evaluated	Monitors Rating
2. Was there an identifiable system developed and used that effectively identified authorized personnel and their duties?	5 4 3 2 1 N

H. Summary

1. Describe any problems noted by the area being evaluated, a description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the deficiency.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors, and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR INTERIM EMERGENCY OPERATIONS FACILITY (EOF)

Location:

Beaver Valley Power Station
Basement of the Administration Building

Functions:

1. Management of overall licensee emergency response.
2. Coordination of radiological and environmental assessment.
3. Determination of recommended public protective actions.
4. Coordination of emergency response activities with Federal, State, and local agencies.

Personnel and Duties:

1. Emergency/Recovery Manager - Responsible for the overall activation and operation of the EOF and for recommending offsite protective actions.
2. Offsite Agency Liaison - Responsible for acting as a liaison with the Nuclear Regulatory Commission concerning Operating License commitments and serving as a liaison between the utility and the representatives of the state and local governments in the EOF.
3. Engineering Manager - Responsible for directing the engineering efforts related to the emergency response and for short-term modifications to plant systems to mitigate the accident.
4. Support Services Manager - Acts as a liaison with outside groups in providing transportation, food, manpower, equipment, supplies and other logistical support for emergency personnel.
5. Other personnel:
   a. Assistant to Emergency/Recovery Manager
   b. Environmental Assessment and Dose Projection Coordinator
   c. Technical Spokesperson
   d. Public Information Manager

EMERGENCY OPERATIONS FACILITY EVALUATION

	Area Evaluated	Monitors Rating					
A.	**Activation and Response**						
1.	Was the activation efficient and organized?	5	4	3	2	1	N
2.	Were personnel familiar with their responsibilities and respond in a timely manner?	5	4	3	2	1	N
3.	Was person in charge clearly identifiable?	5	4	3	2	1	N
4.	Were the transfers of responsibilities from the TSC accomplished efficiently and effectively?	5	4	3	2	1	N
5.	Were all personnel made aware transfers had occurred?	5	4	3	2	1	N
B.	**Communications/Dissemination of Information**						
1.	Were all required and specified communication circuits operable?	5	4	3	2	1	N
2.	Were personnel familiar with communications available and the intended use of each?	5	4	3	2	1	N
3.	Were communications adequate?	5	4	3	2	1	N
4.	Were the sufficient personnel to conduct communications tasks?	5	4	3	2	1	N
5.	Was incoming information effectively and efficiently distributed to appropriate personnel?	5	4	3	2	1	N
6.	Were periodic updates provided by the facility director?	5	4	3	2	1	N
7.	Did personnel keep accurate logs?	5	4	3	2	1	N
8.	Were the status boards kept updated?	5	4	3	2	1	N
9.	Did persons in charge spend an inordinate amount of time on communications, such that their attention was diverted from the incident? (No = 5 Yes = 1)	5	4	3	2	1	N
10.	Were there periodic reports from the various response facilities to the EOF?	5	4	3	2	1	N

Area Evaluated	Monitors Rating					
11. Were offsite personnel kept informed of activities/plant status?	5	4	3	2	1	N
12. Were the private lines used as intended and did non-emergency communications interfere with emergency transmissions?	5	4	3	2	1	N
13. Were logs and status boards used effectively by personnel to review past events and to trend data?	5	4	3	2	1	N
14. Was information provided to the Emergency News Center in a timely manner?	5	4	3	2	1	N
15. Were appropriate communications techniques (no abbreviations, phonetic alphabet, sign-on sign-off, etc.) followed?	5	4	3	2	1	N
C. Procedures						
1. Were personnel generally familiar with the relevant procedures?	5	4	3	2	1	N
2. Were procedures followed?	5	4	3	2	1	N
3. Were personnel so overwhelmed with procedural requirements that they were distracted from the appropriate response? (No = 5 Yes = 1)	5	4	3	2	1	N
4. Were the procedures appropriate?	5	4	3	2	1	N
5. Was the overall level of competency and state of training adequate? (NOTE: Shortcommings and exceptional performance observed should be noted in detail in the Event Summary Sheet.)	5	4	3	2	1	N
D. Direction and Control						
1. Was the information flow from the plant to senior management, timely, complete and accurate?	5	4	3	2	1	N
2. Was adequate and timely guidance provided by the senior management?	5	4	3	2	1	N
3. Did the emergency supervisors keep the Emergency/Recovery Manager apprised of significant events within their sphere of concern?	5	4	3	2	1	N

	Area Evaluated	Monitors Rating					
4.	Did the Emergency/Recovery Manager effectively delegate responsibilities to the individual coordinators?	5	4	3	2	1	N
5.	Did the Emergency/Recovery Manager become too deeply involved in a specific activity to the exclusion of other activities? (No = 5 Yes = 1)	5	4	3	2	1	N
6.	Could the response be categorized as a team effort or a group of individual efforts? (Team = 5 Individual = 1)	5	4	3	2	1	N
7.	Were interfaces with outside technical groups effective?	5	4	3	2	1	N
8.	Was there an effective mechanism for resolving differences of opinion regarding technical issues and actions to be taken?	5	4	3	2	1	N
9.	Was there excessive noise and loitering in the EOF?	5	4	3	2	1	N
E.	Material and Equipment						
1.	Was all the required material and equipment available? If not, please detail.	5	4	3	2	1	N
2.	Was the equipment functional?	5	4	3	2	1	N
3.	Did personnel check to ensure that all equipment was available and functional early in the activation process?	5	4	3	2	1	N
4.	If the equipment was inoperative or failed in use, were appropriate actions taken to resolve the deficiency (e.g., spare and back-up equipment)?	5	4	3	2	1	N
5.	Were there any situations in which additional equipment or materials, or different types of equipment could have made the activity more effective? If so, please detail. (No = 5 Yes = 1)	5	4	3	2	1	N
6.	Were there any situations in which the lack of equipment or materials, or inoperative equipment, or a lack of ability to operate the equipment, prevented personnel from performing assigned tasks?	5	4	3	2	1	N

Area Evaluated	Monitors Rating					
7. Could the area support the personnel assigned to it?	5	4	3	2	1	N
8. Were there resource materials readily available to assess the emergency situation and to plan corrective actions - maps, reference books, copies of emergency plans and procedures?	5	4	3	2	1	N

F. Access Control

1. Was an appropriate security posture established against unauthorized personnel?	5	4	3	2	1	N
2. Was there an identification system developed and used that effectively identified authorized personnel and their duties?	5	4	3	2	1	N

G. Summary

1. Describe any problems noted by the area being evaluated, a description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the deficiency?

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors, and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR ENVIRONMENTAL ASSESSMENT AND DOSE PROJECTIONS ROOM

Location:

Beaver Valley Power Station
Basement of the Administration Building

Functions:

1. Assess environmental conditions.
2. Coordinate radiological monitoring activities.
3. Recommend implementation of offsite emergency actions.

Personnel and Duties:

1. Environmental Assessment and Dose Projections Coordinator - Responsible for performing offsite dose calculations and providing the Emergency Director with technical advice concerning radiological assessment and recommendations for offsite protective actions.
2. Other personnel:
   a. Field team communicator
   b. Assistant EA and DP Coordinator
   c. Status board keepers and communicators

EOF DOSE ASSESSMENT ROOM EVALUATION

Area Evaluated	Monitors Rating
A. Activations and Response	
1. Was activation efficient and organized?	5 4 3 2 1 N
2. Were personnel familiar with their responsibilities and respond in a timely manner?	5 4 3 2 1 N
3. Was person in charge clearly identifiable?	5 4 3 2 1 N
4. Was the transfer of responsibilities from the CR accomplished efficiently and effectively?	5 4 3 2 1 N
B. Communications/Dissemination of Information	
1. Were all required and specified communication circuits operable?	5 4 3 2 1 N
2. Were communications adequate?	5 4 3 2 1 N
3. Was incoming information effectively and efficiently distributed to appropriate personnel?	5 4 3 2 1 N
4. Were accurate logs kept, and were the status boards kept updated?	5 4 3 2 1 N
5. Were offsite personnel kept informed of activities/plant status?	5 4 3 2 1 N
6. Were appropriate communication techniques (no abbreviations, phonetic alphabet, etc.) followed?	5 4 3 2 1 N
7. Was there a two-way exchange of information such that the personnel observed understood the changing situation and were able to perform their tasks in the context of the changing situation and to effectively contribute to overall assessment and mitigation.	5 4 3 2 1 N
C. Procedures	
1. Were personnel generally familiar with the relevant procedures?	5 4 3 2 1 N
2. Were procedures followed?	5 4 3 2 1 N

Area Evaluated	Monitors Rating
3. Were personnel so overwhelmed with procedural requirements that they were distracted from the appropriate response? (No = 5 Yes = 1)	5 4 3 2 1 N
4. Were the procedures appropriate?	5 4 3 2 1 N
5. Was the overall level of competency and state of training adequate. (NOTE: Any shortcomings of exceptional performance should be detailed in the Event Summary Sheet.)	5 4 3 2 1 N
D. Direction and Control	
1. Was adequate and timely guidance provided by the senior management?	5 4 3 2 1 N
2. Could the response be categorized as a team effort or a group of individual efforts? (Team = 5 Individual = 1)	5 4 3 2 1 N
3. Was there excessive noise and loitering in the response facility?	5 4 3 2 1 N
E. Material and Equipment	
1. Was all the required material and equipment available?	5 4 3 2 1 N
2. Was the equipment functional?	5 4 3 2 1 N
3. Did personnel check to ensure that all equipment was available and functional early in the activation process?	5 4 3 2 1 N
4. If equipment was inoperable or failed in use, were appropriate actions taken to resolve the deficiency?	5 4 3 2 1 N
5. Were there any situations where the lack of equipment and materials, or inoperable equipment, or a lack of ability to operate the equipment, prevented the personnel from performing assigned tasks? If so, please detail. (No = 5 Yes = 1)	5 4 3 2 1 N
6. Were there any situations in which additional equipment or materials, or different types of equipment could have made the activity more effective? If so, please detail. (No = 5 Yes = 1)	5 4 3 2 1 N

Area Evaluated	Monitors Rating					
7. Could the area support the personnel assigned to it?	5	4	3	2	1	N
8. Were there resource materials readily available to assess the emergency situation and to plan corrective actions - maps, reference books, copies of emergency plans and procedures?	5	4	3	2	1	N
F. Protective Measures						
1. Did personnel properly wear protective clothing, dosimetry, respirators?	5	4	3	2	1	N
2. Were field monitoring teams periodically reminded to check their TLD's?	5	4	3	2	1	N
3. Were appropriate contamination controls observed?	5	4	3	2	1	N
4. Was the normal radiological controls program appropriately modified to contend with the emergency radiological conditions?	5	4	3	2	1	N
G. Access Control						
1. Was an appropriate security posture established against unauthorized personnel?	5	4	3	2	1	N
2. Was there an identification system developed and used that effectively identified authorized personnel and their duties?	5	4	3	2	1	N

H. Summary

1. Describe any problems noted by the area being evaluated, a description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the deficiency.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors, and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR EMERGENCY NEWS CENTER

Location:

Duquesne Light Company - PID Headquarters
Pittsburgh, PA

Willows Motel
Industry, PA

Functions:

1. Serves as focal point for all public information activities.
2. All media communications by Duquesne Light Company personnel, including press conferences, will be coordinated through the Emergency News Center.

Personnel and Duties:

1. Public Information Staff - Providing timely and accurate information to the public via the news media.

BVPS 1983
Annual Emergency Exercise

Area Evaluated	Monitors Rating
A. Activation and Response	
1. Was the activation efficient and organized?	5 4 3 2 1 N
2. Were personnel familiar with their responsibilities and respond in a timely manner?	5 4 3 2 1 N
3. Was the person in charge clearly identified?	5 4 3 2 1 N
B. Communications/Disseminations of Information	
1. Were all required and specified communications circuits operable?	5 4 3 2 1 N
2. Were personnel familiar with communications available and the intended use of each?	5 4 3 2 1 N
3. Were communications adequate?	5 4 3 2 1 N
4. Was information provided to the News Center in a timely manner?	5 4 3 2 1 N
5. Were appropriate communication techniques followed? (No abbreviations, phonetic alphabet, etc.)	5 4 3 2 1 N
C. Direction and Control	
1. Could the response be categorized as a team effort or a group of individual efforts?	5 4 3 2 1 N
2. Was there excessive noise and loitering in the News Center?	5 4 3 2 1 N
3. Were the press briefings conducted in an organized and professional manner?	5 4 3 2 1 N

D. Summary

1. Describe any problems noted by the area being evaluated, a description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the deficiency.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR BEAVER COUNTY EMERGENCY OPERATIONS CENTER

Location:

East End Avenue
Beaver, PA

Function:

1. Direction and control of the emergency response for Beaver County.

EXERCISE EVALUATION CRITERIA FOR HANCOCK COUNTY EMERGENCY OPERATIONS CENTER

Location:

Hancock County Courthouse
New Cumberland, WV

Function:

1. Direction and control of the emergency response for Hancock County.

EXERCISE EVALUATION CRITERIA FOR COLUMBIANA COUNTY EMERGENCY OPERATIONS CENTER

Location:

CCDSA Building Richardson Avenue
Negley, OH

Function:

Direction and control of the emergency response for Columbiana County.

BVPS 1983
Annual Emergency Exercise

Area Evaluated	Monitors Rating
A. Activation and Response	
1. Was activation efficient and organized?	5 4 3 2 1 N
2. Were personnel familiar with their responsibilities and respond in a timely manner?	5 4 3 2 1 N
3. Was person in charge clearly identifiable?	5 4 3 2 1 N
4. Was initial and subsequent notifications completed in a timely and professional manner?	5 4 3 2 1 N
B. Communications/Dissemination of Information	
1. Were all required and specified communication circuits operable?	5 4 3 2 1 N
2. Were personnel familiar with communications available and the intended use of each?	5 4 3 2 1 N
3. Were communications adequate?	5 4 3 2 1 N
4. Was incoming information effectively and efficiently distributed to appropriate personnel?	5 4 3 2 1 N
5. Were accurate logs kept, and status boards kept updated?	5 4 3 2 1 N
6. Were the offsite personnel kept informed of activities/plant status?	5 4 3 2 1 N
7. Were appropriate communication techniques followed? (No abbreviations, phonetic alphabet, etc.)	5 4 3 2 1 N
8. Were state and federal communication lines available? Did information flow readily?	5 4 3 2 1 N
C. Procedures	
1. Were personnel generally familiar with the relevant procedures?	5 4 3 2 1 N
2. Were procedures followed?	5 4 3 2 1 N
3. Were personnel so overwhelmed with procedural requirements that they were distracted from the appropriate response?	5 4 3 2 1 N

Area Evaluated	Monitors Rating					
4. Were the procedures appropriate?	5	4	3	2	1	N
5. Was the overall level of competency and state of training adequate? (NOTE: Any shortcomings or exceptional performance should be detailed ini the Event Summary Sheet.)	5	4	3	2	1	N
D. Direction and Control						
1. Was the information from the plant to the EOC's timely, complete, and accurate?	5	4	3	2	1	N
2. Could the response be categorized as a team effort or a group of individual efforts?	5	4	3	2	1	N
3. Was there an effective mechanism for resolving differences of opinion regarding technical issues and actions to be taken?	5	4	3	2	1	N
4. Was there excessive noise and loitering in the EOC?	5	4	3	2	1	N
E. Material and Equipment						
1. Was all the required material and equipment available?	5	4	3	2	1	N
2. Was the equipment functional?	5	4	3	2	1	N
3. Did personnel check to ensure that all equipment was available and functional early in the activation process?	5	4	3	2	1	N
4. If equipment was inoperable or failed in use, were appropriate actions taken to resolve the deficiency? (e.g., back-ups, spare equipment)	5	4	3	2	1	N
5. Were there any situations in which the lack of equipment and materials, or inoperative equipment, or a lack of ability to operate the equipment, prevent personnel from performing assigned tasks?	5	4	3	2	1	N
6. Could the area support the personnel assigned to it?	5	4	3	2	1	N
7. Were resource materials readily available to aid in the response actions? (e.g., maps, reference books, copies of emergency plans and procedures, etc.)	5	4	3	2	1	N

Area Evaluated	Monitors Rating

F. Protective Measures

1. Was sheltering/evacuation implemented when warranted? 5 4 3 2 1 N

2. Did dose assessment information coincide with those from the site? 5 4 3 2 1 N

3. Were the EOC's fully aware of what areas were affected by the accident? 5 4 3 2 1 N

G. Summary

1. Describe any problems noted in the EOC, a description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the deficiency.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors, and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR FIELD MONITORING TEAMS EVALUATION

	Area Evaluated	Monitors Rating					
A.	**Activation and Response**						
	1. Was activation efficient and organized?	5	4	3	2	1	N
	2. Were personnel familiar with their responsibilities and respond in a timely manner?	5	4	3	2	1	N
	3. Did one team member assume the role as the team leader?	5	4	3	2	1	N
B.	**Communications/Dissemination of Information**						
	1. Were all communication circuits operable?	5	4	3	2	1	N
	2. Were communications adequate?	5	4	3	2	1	N
	3. Were accurate logs kept?	5	4	3	2	1	N
	4. Were teams kept informed of activities/plant status?	5	4	3	2	1	N
	5. Were appropriate communications techniques followed? (No abbreviations, phonetic alphabet "This is a drill," etc.)	5	4	3	2	1	N
	6. Was there a two-way exchange of information such that the personnel observed understood the changing situation and were able to perform their tasks in the context of the changing situation?	5	4	3	2	1	N
C.	**Procedures**						
	1. Were personnel generally familiar with the relevant procedures?	5	4	3	2	1	N
	2. Were procedures followed?	5	4	3	2	1	N
	3. Were the procedures appropriate?	5	4	3	2	1	N
	4. Was the overall level of competency and state of training adequate? (NOTE: Any shortcomings or exceptional performance should be detailed in the Events Summary Sheet.)	5	4	3	2	1	N

Area Evaluated	Monitors Rating
D. Direction and Control	
1. Was adequate and timely guidance provided by senior management?	5 4 3 2 1 N
2. Were the teams reminded to periodically check their TLD's?	5 4 3 2 1 N
E. Material and Equipment	
1. Was all of the required material and equipment available?	5 4 3 2 1 N
2. Was the equipment functional?	5 4 3 2 -1 N
3. Did the personnel check to ensure that all equipment was available and functional early in the activation process? (NOTE: This includes establishing radio contact.)	5 4 3 2 1 N
4. If equipment was inoperable or failed in use, were appropriate actions taken to resolve the deficiency? (e.g., back-ups or spares)	5 4 3 2 1 N
F. Protective Measures	
1. Did personnel properly wear protective clothing, dosimetry, respirators?	5 4 3 2 1 N
2. Were appropriate contaminations controls observed?	5 4 3 2 1 N
3. Was the normal radiological controls program appropriately modified to contend with the emergency radiological conditions?	5 4 3 2 1 N

G. Summary

1. Describe any problems noted with the field monitoring teams, a description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the deficiency.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors, and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR RADCON OPERATIONS CENTER

Location:

Beaver Valley Power Station
Radcon Foreman's Office - Turbine Building

Functions:

1. Central location for coordinating the activities of Radcon technicians within the plant.

Personnel and Duties:

1. Radcon Foreman - Receives direction from the Radcon Coordinator located in the TSC. Is the liaison between the Rad Techs and the TSC.

2. Radcon Technicians - Activated as needed. Rad Techs provide support for input radiation monitoring as well as for emergency squad surveys and accompanying offsite support vehicles and personnel.

RADCON OPERATORS CENTER

	Area Evaluated	Monitors Rating
A.	**Activation and Response**	
1.	Was activation/initiation efficient and organized?	5 4 3 2 1 N
2.	Were personnel familiar with their responsibilities and did they respond in a timely manner?	5 4 3 2 1 N
3.	Was person in charge clearly identifiable?	5 4 3 2 1 N
B.	**Communications/Dissemination of Information**	
1.	Were all required and specified communication circuits operable?	5 4 3 2 1 N
2.	Were personnel familiar with communications available and the intended use of each?	5 4 3 2 1 N
3.	Were communications adequate?	5 4 3 2 1 N
4.	Were there sufficient personnel to conduct communication tasks?	5 4 3 2 1 N
5.	Were periodic updates made?	5 4 3 2 1 N
6.	Were logs used effectively by personnel to review past events and to trend data?	5 4 3 2 1 N
7.	Were appropriate communications techniques followed? (i.e., no abbreviations)	5 4 3 2 1 N
C.	**Procedures**	
1.	Were personnel generally familiar with the relevant procedures?	5 4 3 2 1 N
2.	Were procedures followed?	5 4 3 2 1 N
3.	Were the procedures and the tech specs in agreement?	5 4 3 2 1 N
4.	Were the procedures appropriate?	5 4 3 2 1 N

Area Evaluated	Monitors Rating
5. What was your overall assessment of the level of competency and state of training of the personnel observed? (NOTE: If a shortcoming or exceptional performance was observed, provide specific details in the Chronological Event Summary Sheet)	5 4 3 2 1 N
D. Direction and Control	
1. Was information flow from the plant to senior management, timely, complete, and accurate?	5 4 3 2 1 N
2. Could the response be categorized as a team effort as opposed to a group of individual efforts?	5 4 3 2 1 N
3. Was there excessive noise and loitering in the facilities?	5 4 3 2 1 N
E. Material and Equipment	
1. Was all of the required material and equipment available?	5 4 3 2 1 N
2. Was the equipment functional?	5 4 3 2 1 N
3. Did personnel check to ensure that all equipment was available and functional early in the activation process?	5 4 3 2 1 N
4. If equipment was inoperable in use, were appropriate actions taken to resolve the deficiency?	5 4 3 2 1 N
5. Could the area support the personnel assigned to it?	5 4 3 2 1 N
6. Was there resources readily available to assess the emergency situation and to plan corrective actions?	5 4 3 2 1 N
F. Protective Measures	
1. Did personnel properly wear protective clothing, dosimetry, respirators?	5 4 3 2 1 N
2. Were appropriate contamination controls observed?	5 4 3 2 1 N
3. Were areas properly surveyed before personnel entered?	5 4 3 2 1 N

Area Evaluated	Monitors Rating
4. Were all in-plant activities conducted with regard to personnel safety, consistent with the need to complete the activity?	5 4 3 2 1 N
5. Was the normal radiological controls program appropriately modified to contend with the emergency radiological conditions?	5 4 3 2 1 N

G. Access Control

1. Were incoming support personnel (firefighters, ambulances, etc.) provided appropriate escort.	5 4 3 2 1 N

H. Summary

1. Describe any problems noted in the area being evaluated, a brief description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the problem.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors, and NRC personnel that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR CHEMISTRY

Location:

Beaver Valley Power Station
Control Room/ROC

Function:

1. Responsible for conducting all in-plant sampling as requested by the Emergency Director.

2. Also responsible for all chemical analysis done on and offsite, including environmental samples.

Personnel and Duties:

1. Chemistry Coordinator

2. Chemistry Technicians

CHEMISTRY

Area Evaluated	Monitors Rating
A. Activation and Response	
1. Was activation/initiation efficient and organized?	5 4 3 2 1 N
2. Were personnel familiar with their responsibilities and did they respond in a timely manner?	5 4 3 2 1 N
3. Was the person in charge clearly identifible?	5 4 3 2 1 N
B. Communications/Dissemination of Information	
1. Were all required and specified communication circuits operable?	5 4 3 2 1 N
2. Were personnel familiar with communications available and the intended use of each?	5 4 3 2 1 N
3. Were communications adequate?	5 4 3 2 1 N
4. Were there sufficient personnel to conduct communications tasks?	5 4 3 2 1 N
5. Was incoming information effectively and efficiently distributed to appropriate personnel?	5 4 3 2 1 N
6. Did communicators keep accurate logs?	5 4 3 2 1 N
7. Were logs used effectively by personnel to review past events to trend data?	5 4 3 2 1 N
8. Were appropriate communications techniques (no abbreviations, phonetic alphabet, sign-on sign-off, etc.) followed?	5 4 3 2 1 N
C. Procedures	
1. Were personnel generally familiar with the relevant procedures?	5 4 3 2 1 N
2. Were procedures followed?	5 4 3 2 1 N
3. Were the procedures appropriate?	5 4 3 2 1 N

Area Evaluated	Monitors Rating					
4. What was your overall assessment of the level of competency and state of training of the personnel observed? (NOTE: If shortcomings or exceptional performance was observed, provide specific details in the Chronological Event Summary Sheet.)	5	4	3	2	1	N
D. Direction and Control						
1. Could the response be categorized as a team effort or a group of individual efforts? (Team = 5 Individual = 1)	5	4	3	2	1	N
2. Was there an effective mechanism for resolving differences of opinions regarding technical issues or actions to be taken?	5	4	3	2	1	N
3. Was there excessive noise and loitering in response facilities? (No = 5 Yes = 1)	5	4	3	2	1	N
E. Material and Equipment						
1. Was all of the required material and equipment available?	5	4	3	2	1	N
2. Was the equipment functional?	5	4	3	2	1	N
3. Did personnel check to ensure that all equipment was available and functional early in the activation process?	5	4	3	2	1	N
4. Were there any situations in which additional equipment or materials, or different types of equipment could have made the activity more effective? (If so, please detail.)	5	4	3	2	1	N
5. Could the area support the personnel assigned to it?	5	4	3	2	1	N
F. Protective Measures						
1. Were appropriate protective measures implemented for plant personnel?	5	4	3	2	1	N
2. Were appropriate contamination controls observed?	5	4	3	2	1	N
3. Were all in-plant activities conducted with regard to personnel safety, consistent with the need to complete the activity?	5	4	3	2	1	N

Area Evaluated	Monitors Rating
4. Was the normal radiological controls program appropriately modified to contend with the emergency radiological conditions?	5 4 3 2 1 N

G. Summary

1. Describe any problems noted by the area being evaluated, a brief description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the problems?

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE EVALUATION CRITERIA FOR SECURITY

Location:

Beaver Valley Power Staton
Guardhouse/Various

Functions:

1. Maintain an appropriate plant security posture and institute appropriate contingency measures as necessary.

2. For unit and site evacuations; receive accountability reports from personnel assembly areas; determine the identity of unaccounted personnel, advise the Emergency Director of the status of personnel accountability, and maintain accountability of personnel remaining behind during an emergency.

3. Expeditiously provide for station access for emergency response personnel who do not have current security badging at the Beaver Valley Power.

Personnel and Duties:

1. Security Coordinator

2. Security Representative (TSC)

3. Guards

SECURITY

	Area Evaluated	Monitors Rating					
A.	**Activation and Response**						
1.	Was activation/initiation efficient and organized?	5	4	3	2	1	N
2.	Were personnel familiar with their responsibilities and did they respond in a timely manner?	5	4	3	2	1	N
3.	Was the person in charge clearly identifible?	5	4	3	2	1	N
4.	Was the transfer of responsibilities accomplished efficiently and effectively?	5	4	3	2	1	N
5.	Were all persons made aware when transfers were completed?	5	4	3	2	1	N
B.	**Communications/Dissemination of Information**						
1.	Were all required and specified communication circuits operable?	5	4	3	2	1	N
2.	Were personnel familiar with communications available and the intended use of each?	5	4	3	2	1	N
3.	Were communications adequate?	5	4	3	2	1	N
4.	Were there sufficient personnel to conduct communications tasks?	5	4	3	2	1	N
5.	Was incoming information effectively and efficiently distributed to appropriate personnel?	5	4	3	2	1	N
6.	Were periodic update announcements made via face-to-face?	5	4	3	2	1	N
7.	Did communicators keep accurate logs?	5	4	3	2	1	N
8.	Were the status boards kept updated?	5	4	3	2	1	N
9.	Did persons in charge spend an inordinate amount of time on communications, such that their attention was diverted from the incident?	5	4	3	2	1	N
10.	Were logs used effectively by personnel to review past events to trend data?	5	4	3	2	1	N
11.	Were appropriate communications techniques (no abbreviations, phonetic alphabet, sign-on sign-off, etc.) followed?	5	4	3	2	1	N

	Area Evaluated	Monitors Rating
12.	Was there a two-way exchange of information such that the personnel observed understood the changing situation and were able to perform their tasks in the context of the changing situation and to effectively contribute to overall assessment and mitigation?	5 4 3 2 1 N
C.	**Procedures**	
1.	Were personnel generally familiar with the relevant procedures?	5 4 3 2 1 N
2.	Were procedures followed?	5 4 3 2 1 N
3.	Were the procedures appropriate?	5 4 3 2 1 N
4.	What was your overall assessment of the level of competency and state of training of the personnel observed? (NOTE: If a shortcoming or exceptional performance was observed, provide specific details in the Chronological Event - Summary Sheet)	5 4 3 2 1 N
D.	**Direction and Control**	
1.	Was the information flow from the plant to senior management, timely, complete, and accurate?	5 4 3 2 1 N
2.	Could the response be categorized as a team effort or a group of individual efforts? (Team = 5 Individual = 1)	5 4 3 2 1 N
3.	Was there excessive noise and loitering in response facilities? (No = 5 Yes = 1)	5 4 3 2 1 N
E.	**Material and Equipment**	
1.	Was all of the required material and equipment available?	5 4 3 2 1 N
2.	Was the equipment functional?	5 4 3 2 1 N
3.	Did personnel check to ensure that all equipment was available and functional early in the activation process?	5 4 3 2 1 N
4.	If equipment was inoperative or failed in use, were appropriate actions taken to resolve deficiency (e.g., spares or back-ups, etc.)?	5 4 3 2 1 N

Area Evaluated	Monitors Rating
5. Were there any situations where the lack of equipment and materials, or inoperative equipment, or a lack of ability to operate the equipment, prevent personnel from performing assigned tasks? (If so, please detail.)	5 4 3 2 1 N
6. Could the area support the personnel assigned?	5 4 3 2 1 N

F. Protective Measures

1. Were appropriate protective measures implemented for plant personnel?	5 4 3 2 1 N
2. Were all in-plant activities conducted with regard to personnel safety, consistent with the need to complete the activity?	5 4 3 2 -1 N

G. Access Control

1. Was an appropriate security posture established against unauthorize personnel?	5 4 3 2 1 N
2. Were incoming support personnel (firefighters, ambulances, others) provided appropriate access in a timely manner?	5 4 3 2 1 N
3. Was there an identification systems developed and used that effectively identified authorized personnel and their duties?	5 4 3 2 1 N

H. Summary

1. Describe any problems noted by the area being evaluated, a brief description of the problem, its outcome or effect, and any recommended corrective courses of action to mitigate or correct the problems.

2. Completely fill out the evaluation form, sign it, and promptly return it as directed.

3. Critiques of the exercise will be held for all participants, monitors and NRC personnel (if applicable) that want to attend. Locations and times will be provided.

EXERCISE CHRONOLOGICAL RECORD SHEET

Time (Start/Stop)	Event	Actions Taken

PERTINENT COMMENTS OR SUGGESTIONS ON THE ABOVE

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SECTION IX

CRITIQUE AGENDA

CRITIQUE AGENDA

In order to ensure that planning programs are upgraded or problem items addressed, the Nuclear Regulatory Commission and Federal Emergency Management Agency require that a critique be held following each emergency drill or exercise. The critique is a review session normally held in a meeting style format for both the exercise participants and observers. The critique provides a forum for the comments and views of the individuals involved to be openly aired in the form of constructive criticism and suggestions for improvement.

Because of the full-scale nature of this exercise and since it will be viewed by Federal observers, there will be a Federal critique and public meeting held upon its completion. The exact dates and time for these meetings and critiques are as indicated in Section I of this package. The actual agenda and material covered in the critique will remain open to the individuals that lead them, however, the following is a guideline agenda for the station's critique of the exercise.

Subject: 1983 Beaver Valley Power Station Full-Scale Annual Emergency Exercise Critique.

Objective: To allow for discussion and comment on the general outcome of the exercise and to identify action items for necessary improvements.

Topics:

- Introduction - To be given by critique chairperson.
- Overview of Outcome (Exercise grade) - Should not exceed 15 minutes for any one area, be it Operations, TSC, EOF, onsite RadCon, etc. (or the utility, NRC or FEMA at a joint critique).
- Specific problems (Facilities and equipment, communications, personnel response, etc.) - Should not exceed one-half hour for any one area.
- Scenario problems (too short, too long, not enough info.) - Should be brief and to the point.
- Summary - To be provided by chairperson.

Note: At all critiques, ensure that the notes and materials used by the exercise controllers/observers are collected by a requisite representative of either the utility, Federal, State or local agencies. These should be used not only for documentation purposes, but also to assist in the preparation of formal written critiques and scenarios following the open meetings.

REFERENCES

REFERENCES

* Beaver Valley Power Station, Emergency Preparedness Plan and Implementing Procedures.

* Beaver Valley Power Station, Operating Manual -

  • Emergency Operating Procedures

    E-1, Loss of Reactor Coolant
    E-14, High Reactor Coolant Activity
    E-15, High Activity, Radiation Monitoring

  • Abnormal Operating Procedures

    AOP-10, Malfunction of Chemical and Volume Control
    AOP-13, Loss of Containment Integrity
    AOP-19, Loss of 120V AC Vital Bus 2

  • Operating Surveillance Test Procedures

    OST-1.6.2, Reactor Coolant System Water Inventory Balance
    OST-1.6.4, Measurement of Controlled Leakage

* Duquesne Light Company, Public Information Department - Emergency Preparedness Plan.

* Beaver County Radiological Emergency Response Plan for Incidents at the Beaver Valley Power Station and Shippingport Atomic Power Station.

* Commonwealth of Pennsylvania Disaster Operations Plan, Annex E, "Fixed Nuclear Facility Incidents."

* Pennsylvania Emergency Management Agency Standard Operating Procedures, State Emergency Operations Center.

* West Virginia Radiological Plan for a Fixed Nuclear Facility prepared by West Virginia Office of Emergency Services.

* Hancock County Office of Emergency Services - Beaver Valley Site Emergency Response Plan.

* Columbiana County Emergency Plan - Beaver Valley Site Emergency Response Plan.

* State of Ohio Nuclear Power Plant Emergency Response Plan prepared by The Adjutant General's Department Disaster Services Agency.