

QEP 350-0
Revision 4
November 1983

ID/2S,2T

RECOMMENDATIONS FOR
OFF-SITE PROTECTIVE ACTIONS

350-0

Recommendations for Off-Site
Protective Actions

Rev. 4 11-15-83

350-T1

Recommended Protective Actions for
Gaseous Release

Rev. 4 11-15-83

350-T2

GSEP Guidelines for Protection Against
Ingestion of Contamination for the
Offsite Public

Rev. 1 04-01-81

8401050261 831228
PDR ADOCK 05000254
F PDR

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RECOMMENDED PROTECTIVE ACTIONS FOR GASEOUS RELEASE

QEP 350-T1
Revision 4
November 1983

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D.C.D.R.

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RECEIVED

Revision 4
November 1983

Actual Projected Doses (Rem)**
in Zonal Areas X, Y, & Z.

Containment
Radiation
Level (R/Hr)
When No
Projected Doses
Are Available

Recommended
Prot. Actions
(S - Shelter,
E - Evacuation,
P - Prepare for
Possible Action
I.O. - Info only)

NARS Form
Section 9

Accident Classification		Actual Projected Doses (Rem)** in Zonal Areas X, Y, & Z.						Containment Radiation Level (R/Hr) When No Projected Doses Are Available	Recommended Prot. Actions (S - Shelter, E - Evacuation, P - Prepare for Possible Action I.O. - Info only)			NARS Form Section 9
		Whole Body			Thyroid				X	Y	Z	
		X	Y	Z	X	Y	Z		X	Y	Z	
1. UNUSUAL EVENT	(1)	<0.5	M	M	<2.5	M	M	<200	-	I.O.		(1) 9.A
2. ALERT	(1)	Analysis Not Complete						<200		I.O.		(1) 9.A
	(2)	Analysis Not Complete						200 - 400	(P)	P)	P)	(2) 9.B
	(3)	<1.0	<0.5	M	<5.0	<2.5	M		(P)	P)	P)	(3) 9.B
3. SITE EMERGENCY	(1)	Analysis Not Complete						<400	(P)	P)	P)	(1) 9.B
	(2)	Analysis Not Complete						400 - 2000	(S)	P)	P)	(2) 9.C&D
	(3)	<1.0	<0.5	M	<5.0	<2.5	M		(P)	P)	P)	(3) 8.B
	(4)	>1.0	<1.0	M	>5.0	<5.0	M		(E*)	S*)	P)	(4) 9.C,H & F
	(5)	>1.0	>1.0	<1.0	>5.0	>5.0	<5.0		(E*)	E*)	S)	(5) 8.C,H,J & G
4. GENERAL	(1)	Analysis Not Complete						>0	(E)	S)	P)	(1) 9.C,D & F
EMERGENCY	(2)	<1.0	<0.5	M	<5.0	<2.5	M		(S)	S)	P)	(2) 9.C,D & F
	(3)	>1.0	<1.0	M	>5.0	<5.0	M		(E*)	S)	P)	(3) 9.C,H & F
	(4)	>1.0	>1.0	<1.0	>5.0	>5.0	<5.0		(E*)	E*)	S)	(4) 9.C,H,J & G
	(5)	>1.0	>1.0	>1.0	>5.0	>5.0	>5.0		(E*)	E*)	E*)	(5) 9.C,H,J & K

FOOT NOTES:

The symbol ())) represents the entire 0-2 mile area, and the 2-5 and 5-10 mile three downwind sectors.

R - Range (Miles); SB - Site Boundary; M - Minimal

* Evacuation, when noted, is the recommended protective action only when weather conditions permit and an evacuation time analysis confirms it as the preferred choice, otherwise sheltering is the protective action to recommend. If evacuation is recommended for Zonal areas Y and Z and if Zonal areas Y and Z are in Wisconsin or Iowa, then the recommendation for evacuation should extend only to the range at which the projected dose is 1 Rem WB or 5 Rem thyroid, whichever is the greater range. Sheltering is the protective action from this range out to 5 miles if the "range" is in Zone Y and out to 10 miles if it is in Zone Z.

** Projected actual doses are based on the actual or most likely release point and the existing site meteorological conditions. The Zones X, Y, and Z are: X - SB < R < 2 miles; Y - 2 < R < 5 miles; Z - 5 < R < 10 miles.

STATION PROCEDURE REVISION COVER SHEET

ID/1X

Revision Description This revisionupdates the procedure
by providing the new
WCC Region III office
phone number.QEP
Chapter530-2
ProcedureD. Jessen
Originator10
Revision

This procedure is required to be implemented prior to _____

Date

because of _____

DRAFT REVIEW

Tech. Staff Supervisor

Date

Department Head

Date

Originator

Date

11-10-83FINAL APPROVAL

Dept. Head

11-10-83

Date

Tech. Staff Supervisor

Date

Asst. Supt.

Date

AUTHORIZATION

Station Superintendent

Effective Date

INSTRUCTIONS FOR REVISION INSERTIONREMOVEQEP 530-0 Rev. 16QEP 530-2 Rev. 9INSERTQEP 530-0 Rev. 17QEP 530-2 Rev. 10REVISION RECEIPT FORMPlease sign and date below, and return this sheet to the Officer Supervisor -
Quad Cities Station. Your Station Procedure copy number is 38.

Signature

Date

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EXERCISES AND DRILLS

<u>530-0</u> Exercises and Drills	Rev. 17	11-15-83
<u>530-1</u> Emergency Exercise	Rev. 1	12-16-80
<u>530-2</u> Emergency Drills	Rev. 10	11-15-83
<u>530-3</u> Off-Shift Augmentation Drill	Rev. 3	08-17-83
<u>530-S1</u> Monthly NARS (ESDA) Drill Quad-Cities Station	Rev. 5	02-07-83
<u>530-S2</u> Monthly Test of the NRC Health Physics Network	Rev. 1	01-05-82
<u>530-S3</u> Monthly Test of the NRC Emergency Notification System	Rev. 3	03-31-83

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EMERGENCY DRILLS

QEP 530-2
Revision 10
November 1983

ID/30

A. PURPOSE

The purpose of this procedure is to list the required drills and their frequencies and to test specific facets of the Generating Station Emergency Plans.

B. REFERENCES

1. GSEP, Section 8.3.2.
2. GSEP, Section 7.2.
3. QEP 440-1, Emergency Communication Facilities.

C. PREREQUISITES

1. None.

D. PRECAUTIONS

1. None.

E. LIMITATIONS AND ACTIONS

1. The communications drill is rated satisfactory if the initiating party is able to transmit and receive acknowledgement for a brief exercise message to each of the agencies, designated in the site specific annex within 15 minutes of the simulated declaration. (Simulated declaration will be established immediately prior to picking up the NARS phone to initiate the drill.) The drill can be rated satisfactory even if NARS fails and backup systems are used to complete notification; however, corrective actions are required in event of NARS failure. The drill is rated unsatisfactory if the required transmission and acknowledgement is not completed within 15 minutes.
2. If communications equipment fails to operate properly, contact Illinois ESDA; phone (217) 782-7860 and the Corporate Command Center immediately following the drill. If the drill is rated unsatisfactory, immediately notify the Production Nuclear Duty Person during normal business hours, or the Production Nuclear Duty Person through the System Power Dispatcher during other hours in addition to initiating action to have the system repaired. An additional drill will be conducted immediately upon completion of equipment repairs any time a drill is rated unsatisfactory.
3. If the NRC health physics network fails, notify the NRC Region III office at (312)-790-5500.

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4. If the NRC Emergency Notification System phone fails, notify the NRC Operations Center at (202) 951-0550.

F. PROCEDURE

1. Emergency drills, as described in GSEP, Section 8.3.2, GSEP, Section 7.2., and this procedure shall be conducted at a frequency as listed in the below table:

DRILL	DESCRIPTION	FREQUENCY
1. Communications Systems	QEP 530-2 step F.2	ANNUAL
a. Microwave/radio communications	GSEP 7.2.2	ANNUAL
b. NRC communications	GSEP 7.2.4	ANNUAL
c. Station communications	GSEP 7.2.2	ANNUAL
d. N.A.R.S.	QEP 530-2 step F.3 GSEP 7.2.1	MONTHLY
e. NRC health physics network	GSEP 7.2.4 QEP 530-2 step F.7	MONTHLY
f. NRC Emergency Notification System	GSEP 7.2.4 QEP 530-2 step F.8	MONTHLY
2. Environmental Monitoring Drill	QEP 530-2 step F.4 GSEP 8.3.2.3	ANNUAL
3. Medical Emergency Drill	QEP 530-2, step F.5 GSEP 8.3.2.5	ANNUAL
4. Health Physics Drill	QEP 530-2, step F.6 GSEP 8.3.2.4	SEMI-ANNUAL

- a. To be able to efficiently follow-up on drill recommendations, an AIR will be written on the drill recommendations.
2. Communications drill.
 - a. To verify communications procedures and communications equipment that would be required in the event of a major accident, the capability to communicate on the microwave/radio communications, NRC communications, station communications and the N.A.R.S communications systems will be tested during the annual communications drill.

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b. Conduct of test.

Standard messages will be transmitted from key locations to verify that information transmitted in the nuclear accident report and environmental assessment formats can be accurately transmitted and readily understood. Each message will be independent and will not relate to other messages. The communicators who ultimately receive the messages will be requested to return the completed message forms so that a comparative evaluation can be made.

c. Critique.

The communications drill checklist will be used as a guide while the drill is in progress. A verbal critique of communications procedures will be conducted immediately following the drill. A written critique will be provided for records.

d. Standard.

The drill is rated satisfactory if:

- (1) The Exercise Nuclear Accident Report message is accurately received by the CCC, State EOC's and REAC, and local EOC's within 15 minutes from the simulated declaration of an emergency.
- (2) The environmental assessment messages are accurately received by Illinois REAC.
- (3) Federal Emergency Response agencies are contacted by any facility.
- (4) Communications by either primary or backup means is established from:
 - (a) the control room to CCC, SPS, TSC, EOF, EOC and REAC;
 - (b) TSC to EOF and CCC;
 - (c) EOF to TSC, EOC, CCC, SPS and REAC;
 - (d) CCC to TSC, EOF, EOC and REAC;
 - (e) Field assessment teams to EOF, TSC or CCC.

The drill is rated unsatisfactory if any of the above standards are not achieved. Corrective action is required if any primary or backup system fails to operate properly.

3. N.A.R.S. Communications System.

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- a. The dedicated Nuclear Accident Reporting System (NARS) communications is the primary communication system to be tested. If NARS does not enable understandable communication, available backup system, to include dial phone, will be employed to contact designated agencies to demonstrate communications procedures to be used in the event of NARS failure. Each station will initiate a monthly communications drill to verify the capability to notify designated company, state and local agencies if a general emergency was declared. Initiation capabilities from the EOF, TSC and Control Room will be demonstrated periodically.
- b. Conduct of test.

The drill will be conducted in the following manner using QEP 530-S1.

- (1) Establish and record declaration time.
- (2) Activate NARS:
 - (a) Remove handset.
 - (b) Dial required code (23).
 - (c) Confirm stations on line.

NOTE

The hand set button must be pressed when transmitting.

- (3) Transmit message test: "THIS IS A TEST. THIS IS (NAME OF FACILITY). STAND BY FOR NOTIFICATION DRILL. THE SIMULATED DECLARATION TIME IS (DECLARATION TIME). THE CURRENT TIME IS (CURRENT TIME). STAND BY TO ACKNOWLEDGE RECEIPT OF THIS EXERCISE MESSAGE BY STATING YOUR AGENCY AND INITIALS."
- (4) Call roll of activities (site specific annex) and record initials of acknowledging individual.
- (5) Upon completion of acknowledgements, inquire if anyone has not been called and close the conference call.
- (6) Contact agencies not acknowledging the drill by backup communications means.
- (7) Record times of all acknowledgements.
- (8) Initiate corrective actions if required.

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c. Agencies to be notified:

Illinois Emergency Services & Disaster Agency
Illinois Department of Nuclear Safety*
Rock Island Communications
Rock Island E.S.D.A.*
Scott County Sheriff, Davenport, Iowa
Corporate Command Center*
System Power Supply
Clinton County EOC
Iowa Office of Disaster Services
Whiteside County EOC*
Whiteside County Sheriff

NOTE

Extensions with an asterisk are not manned 24 hours a day. Successful communications with all other agencies constitutes a successful test, if during other than normal working hours.

4. Environmental Monitoring Drill. -

- a. Field monitoring teams will be selected to operate under the direction of a Rad/Chem Director or an Environs Director from the station. Two teams will be utilized unless otherwise specified. A situation will be portrayed to indicate a simulated release based on actual meteorological conditions at the time of the drill. The teams will conduct sampling of water, grass or other vegetation, soil, and air and conduct actual field monitoring of samples. The controller accompanying each team will provide simulated readings to indicate the level of radiation expected from the plume at that location. Teams will record and report findings to the Environs Director in the EOC using radio or backup communications. Samples will be transported to and analyzed in the station laboratory facilities. Procedures used in analysis will be evaluated.

The corporate Environmental Center will be activated and its personnel will be required to process and analyze the simulated field readings and laboratory findings. Communications between field personnel, the Environs Director, and the environmental center will be tested. A controller will judge the performance of corporate personnel to support field activities and reach the appropriate recommendation for protective action.

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NOV 15 1983

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b. Responsibilities.

The CECo. General Office will schedule, direct, and evaluate the drill. Environmental Center participants will be selected by the General Office from a list of qualified personnel. The Generating Station will:

- (1) Provide two qualified individuals to act as controllers and to assist in preparing the drill.
- (2) Provide a list of personnel designated as qualified to perform duties of Rad/Chem Director, Environs Director, and Environs Group field team member. Provide selected personnel that are reasonably available to participate in the drill.
- (3) Provide communication, protective, sample gathering and transportation equipment to conduct the drill.
- (4) Provide LOF and laboratory facilities to conduct the drill.

c. Critique.

A verbal critique will be conducted at the conclusion of the drill by the control team from the General Office and the station.

Following the verbal critique, the control team will meet to provide comments for the written critique to the General Office representative. The written critique will be provided to the station after review at the General Office.

5. Medical Emergency Drill.

- a. Commonwealth Edison employs the Radiation Management Corporation (RMC) to provide procedures, training and drills for onsite and off-site organizations dealing with emergency medical treatment. RMC will conduct the training and supervise medical and decontamination aspects of the drill. CECo will supervise GSEP related notification aspects of the drill. The drill will normally be conducted on the day following the training sessions. Victims simulated to be contaminated and injured will be used as controllers. The drill will include treatment and decontamination of the victims from the time the accident is reported until the hospital has decontaminated and treated the simulated patients. The drill will be followed by a critique.

b. Responsibilities.

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NOV 15 1983

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The CECo General Office will:

- (1) Prepare a general schedule for the drill.
- (2) Provide backup assistance in concluding local scheduling when needed.
- (3) Provide an observer to control and evaluate portions of the exercise outside of RMC's area of expertise.
- (4) Provide written and oral critique comments.

The Generating Station will:

- (1) Arrange exact dates of drill with RMC, CECo. General Office, and off-site support agencies.
- (2) Assign personnel to participate in on-site training.
- (3) Assign personnel to participate as victims under RMC direction.
- (4) Participate in the drill.

Radiation Management Corporation will:

- (1) Conduct a training program.
- (2) Control the medical portion of the drill.
- (3) Evaluate the drill with qualified medical and health physics controllers.
- (5) Conduct an oral and written critique.

c. Corrective actions.

Deficiencies in team or individual actions during the drill will be corrected by instruction during the critique. Deficiencies in equipment or physical arrangements discovered during the exercise will be evaluated by RMC, CECo., and off-site support agencies and resolved following the written report.

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6. Health Physics Drill.

- a. One team of Rad/Chem Technicians will be selected to perform direct monitoring and sample collecting functions. Controllers will provide the initial situation and meter readings to simulate elevated radiation levels. The team will report elevated measurements in accordance with station procedures. Airborne and liquid samples collected will be analyzed in accordance with station procedures. Results of the analysis will be recorded. At least once each year the drill will include obtaining and analyzing an actual liquid sample from the plant. The controller will specify collection of a sample that is required to be analyzed for normal plant operations whenever possible. Results of the analysis will be processed in accordance with normal procedures.

- b. Responsibilities.

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The GECCO General Office will:

NOV 15 1983

- (1) Schedule, direct and evaluate the drill.

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The Generating Station will:

- (1) Provide a technically qualified individual to act as a controller and to assist in planning the drill.
- (2) Provide a list of qualified technicians. Provide selected personnel to participate in the drill.
- (3) Provide equipment and facilities to conduct the drill.

- c. Critique.

A verbal critique will be conducted at the conclusion of the drill by the controllers from the General Office and the station. Following the verbal critique, the control team will discuss comments for the written critique. The written critique will be provided to the station after review at the General Office.

7. NRC health physics network.

- a. The NRC health physics network provides dedicated communications between the Station and NRC headquarters in Bethesda, Maryland, and Glen Ellyn, Illinois.
- b. Phones are located in the Rad-Chem Supervisor's office, the on-site NRC office, and the emergency operations facility.
- c. Conduct of test. The drill will be conducted in the following manner using QEP 530-S2:
 - (1) Choose one of the three phones available. Each phone must be tested once every three months, on a rotating basis, testing one phone per month.

- (2) Pick up the receiver and dial 22. This number should reach NRC headquarters in Bethesda, Maryland. Pick up the receiver and dial 23. This number should reach Region III headquarters in Glen Ellyn, Illinois.

NOTE

No dial tone or ringing will be heard.

- (3) The test message should be:

This is a test. This is the Quad-Cities Nuclear Power Station. Please verify that communications have been established by stating your initials.

- (4) Should a test be unsuccessful, the NRC shall be notified and one of the other HP network phones shall be tested to verify that communication is possible. NRC Region III should be notified so that appropriate corrective actions may be taken.

8. NRC Emergency Notification System (red phone).

- a. The NRC Emergency Notification System provides dedicated communications between the station and the NRC Operations Center in Bethesda, Maryland.
- b. Phones are located in the on-site NRC office, the Emergency Operations Facility, the Technical Support Center, and the station Control Room.
- c. Conduct of test. The drill will be conducted in the following manner using QEP 530-S3:

- (1) All phones must be tested each month.
- (2) Pick up the receiver and wait. The phone should automatically reach NRC headquarters in Bethesda, Maryland.
- (3) The test message should consist of:

This is (NAME) from the Quad-Cities Nuclear Power Station. I'm calling from our (FACILITY NAME) to test the Emergency Notification System. Please acknowledge the receipt of this message by stating your initials.

- (4) Record the initials of the call receiver on QEP 530-S3.
- (5) Should a test be unsuccessful, the NRC Operations Center shall be notified so that appropriate corrective actions may be taken. The Operations Center number is (202) 951-0530.

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G. CHECKLISTS

1. QEP 530-S1, Monthly NARS Drill Quad-Cities Station.
2. QEP 530-S2, Monthly Test of the NRC Health Physics Network.
3. QEP 530-S3, Monthly Test of NRC Emergency Notification System.

H. TECHNICAL SPECIFICATION REFERENCES

1. None.

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