

EMERGENCY PLAN PROCEDURES INDEX REV. 13

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POWER AUTHORITY OF THE STATE OF NEW YORK

INDIAN POINT NO. 3 NUCLEAR POWER PLANT

P. O. BOX 215 BUCHANAN, N. Y. 10511

TELEPHONE: 914-739-8200



EMERGENCY PLAN PROCEDURES

PROCEDURE NO. IP- 1003

REV. 3

TITLE: OBTAINING METEOROLOGICAL DATA

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EFFECTIVE DATE 7-28-82

OBTAINING METEOROLOGICAL DATA1.0 INTENT

This procedure describes the available means to obtain meteorological data for IP-3.

2.0 DISCUSSION

Meteorological data is necessary in determining the impact of accidental or planned releases to the environment. There are several methods to obtain the required meteorological data at the IP-3 site. This procedure states the primary methods and subsequent backup methods to obtain meteorological data.

- 1) Control Room Digital Display of Meteorological Parameters.
- 2) Telephone Data line direct to towers using ASCII terminal in the Control Room. (The same information can be obtained by going to the tower locations directly: 122m or 10m)
- 3) Telephone Data line to MIDAS using the ASCII terminal in the Control Room.
- 4) 122m Meteorological Tower, existing instruments.
- 5) 122m Meteorological Tower, Portable Wind Instruments & Emergency Wind Set.

There are three meteorological towers and systems on the Indian Point site. |3

The primary tower is a 122 meter tower located on PASNY property south of the PASNY access road. Measurements for windspeed and wind direction are available at 3 levels (10m, 60m, 122m). Pasquill Category is determined from a delta temperature using the ground (10m) as the control level (60-10, 122-10). See Figure 1 for stability class conversion. For redundancy in determining the stability class, sigma theta, which is a measurement of atmospheric stability, is measured at the 122m level and converted to a Pasquill Category. (In the event there is a loss of electrical power, a backup diesel generator would supply power for the 122m tower systems.)

The primary backup meteorological tower is located on Con Ed property and records wind speed and wind direction at 10 meters. The Pasquill class is determined from sigma theta or by visual means using Figure 2. The data is sent to a Climatronics Data Acquisition System IMP/801 which is located in the MIDAS computer room of the EOF and includes a two pen Esterline Angus recorder and a Texas Instrument (TI) Silent 700 Electronic Data Terminal. |3

A 10m standby tower located on the roof of the EOF. Readout from this tower can be activated by throwing a switch on the Climatronics panel in the MIDAS computer room. |5

NOTE: The units for wind speed vary from method to method.
 1 m/sec = 2.2 mi/hr. 0.45 m/sec = 1 mi/hr

Therefore: If you have mi/hr multiply by .45 to get m/sec
 If you have m/sec multiply by 2.2 to get mi/hr

NOTE: All wind direction is interpreted as the direction from which the wind is blowing.

NOTE: The determination of the magnitude of release calculations require ground level (10m) meteorological data.

NOTE: All time is EST.

3.0 PROCEDURE

3.1 A panel containing a digital display of meteorological parameters is located in the Control Room. This data is transmitted from the 122m tower and has both ground (10m) and elevated (122m) meteorological parameters.

3.1.1 Windspeed is in m/sec and is read directly.

3.1.2 Wind direction is read directly.

3.1.2 Pasquill Category can be read directly.

IF THE DIGITAL DISPLAY PANEL IS NOT FUNCTIONING IN THE CONTROL ROOM

3.2 Use the Dec Writer ASCII computer terminal in the Control Room to telephone the primary or backup meteorological towers and obtain the meteorological parameter via a telephone data link.

NOTE: The same data is available by going to the tower locations directly: Both locations read out on TI Silent 700 terminals. (See examples 1 & 2 for printouts)

NOTE: Time is always EST.

a) Turn ASCII "on", 300 baud line.

b) Telephone:

i) (122m tower) if the Control Room displays are not working, chances are this line will not transmit data.

ii) (backup tower)

c) Listen for high pitched tone.

NOTE: If the telephone rings more than 4 times, the data link is not connected. Try the other telephone number.

- d) Place telephone hand piece in ASCII cradle with the mouth piece on right.
- e) Wait for red light to go on. It is located on the right hand side of the ASCII terminal.
- f) Push the "H" button on the terminal keyboard followed by a "RETURN". This will print a previous hours 15 minute average. (Up to six hours of fifteen minute averages can be retrieved by typing an "H" with a number from 1-6 following it (i.e. H5). The average at the end of the hourly summary will be that of the current hour).

NOTE: If you are at the tower locations using the TI Silent 700 terminals: Turn on, and begin with commands in (f).

- g) When it finishes printing, the link can be closed by hanging up the phone.
- h) Turn off ASCII terminal.

3.2.1 Ground level wind direction is read from the WD1 column. (Example 1 & 2)

3.2.2 Ground level windspeed is read from the WS1 column. (Example 1 & 2) This is in mi/hr. Multiply this number by 0.45 to obtain the m/sec windspeed.

3.2.3 Pasquill stability class:

- i) Primary tower , See example 1
Use the DT1 column, and use Figure 1 to transcribe this ground level (60-10) T value to a stability class letter. (Note: the last WD3 column is the 122m level stability as derived from sigma theta, and if used will be very conservative in assessing ground level concentrations.)
- ii) Backup tower , see example 2
Use the right most WD1 column to read the Pasquill category letter directly, or use Figure 2 and determine by visual means. (For this tower, Pasquill is determined from sigma theta)

Example (1) 122m tower (3 wind measurement levels)

HOURLY SUMMARY		13:28:35 12/18/81		352		CDM EDISON/PASNY		
CHANNEL NUMBER	00	01	02	03	04	05	06	07
CHANNEL NAME	WD1 DEV	WS1	WD2 DEV	WS2	WD3 DEV	WS3	DT1	DT3
13:15	10 32	8.9	7 27	7.6	350 11	9.6	-1.3	-1.2
13:30	27 17	4.9	22 14	8.3	12 9	8.9	-1.3	-1.6
13:45	25 14	6.1	26 10	10.4	21 6	11.1	-1.3	-1.3
13:00	21 27	7.4	26 6	11.9	20 6	12.6	-1.0	-1.1
13:15	15 15	6.8	12 9	11.1	17 7	11.7	-1.0	-1.2
AVERAGE	---	---	---	---	---	---	---	---

CHANNEL NUMBER	10	11	12	07-06
CHANNEL NAME	TMP	DPT	REL	DT2
13:15	32.5	27.1	.00	-1.3
13:30	32.4	26.6	.00	-1.4
13:45	32.1	27.1	.00	-1.4
13:00	31.4	25.5	.00	-1.3
13:15	31.6	25.0	.00	-1.5
AVERAGE	---	---	---	---

CHANNEL NUMBER	00	01	02
CHANNEL NAME	WD1	WS1	WD2
13:15	349	10	7.6
13:30	9	24	5.3
13:45	1	10	7.1
13:00	0	13	7.7
13:15	25	18	7.9
13:30	26	11	7.7
AVERAGE	250	12	7.6

WIND DIRECTION (GROUND LEVEL) →

WIND SPEED (mi/hr) (GROUND LEVEL) →

DT1 → (use Fig. 1 to transcribe to Pasquill stability Class)

UPPER LEVEL PASQUILL STABILITY CLASS →

Example (2) 10m backup tower

HOURLY SUMMARY		13:30:25 12/18/81		352		CDM EDISON/PASNY	
CHANNEL NUMBER	00	01	02	03	04	05	06
CHANNEL NAME	WD1	DEV	WS1	WD1	WD1	WD1	WD1
13:15	349	10	7.6	C	A	C	C
13:30	9	24	5.3	C	A	C	C
13:45	1	10	7.1	C	A	C	C
13:00	0	13	7.7	C	A	C	C
13:15	25	18	7.9	C	A	C	C
13:30	26	11	7.7	C	A	C	C
AVERAGE	250	12	7.6	C	A	C	C

WIND DIRECTION →

WIND SPEED (mi/hr) →

PASQUILL STABILITY CLASS →

NOTE: Scan the data to make sure it makes sense. (i.e. Pasquill classes are A-G, wind direction will not exceed 360° on the printouts)

FINAL METHOD TO OBTAIN METEOROLOGICAL
DATA WHILE LOCATED IN CONTROL ROOM

3.3 Use the Dec Writer ASCII computer terminal in the Control Room to telephone the MIDAS computer system which has up-to-date meteorological information.

a) Turn ASCII "on", 300 baud line

b) Telephone: _____ or _____

c) Listen for high pitched tone

NOTE: If the telephone rings more than 4 times, the data link is not connected. Try the other telephone numbers.

d) Place telephone hand piece in ASCII cradle with mouthpiece on the right.

e) Wait for red light to go on. It is located on the right hand side of the ASCII terminal.

f) Terminal Prompts _____ Operator Response

Please enter your ID	PASNY	"RET"
Please enter your password	MONK	"RET"
NUM, UNIT, NAME	3000309,,NRCMET	"RET"
Enter Start and End Dates (99 = Last 6 hours)	99,	"RET"
Or YYMMDDHHMM YYMMDDHHMM (Calendar)		
Or YYJJJHHMM YYJJJHHMM (Julian)		

NOTE: Time is EST

NOTE: An option of using calendar, Julian, or past six hours is user selectable. For emergency operation it is recommended that only "99" be used for expediency.

g) It will begin printing met data in 15 minute intervals (chapter 3).

h) NRCMET output headings are as follows:
 YYJJJHHMM - Year, Julian Date, hour, minute (EST)
 WDU, WDI, WDL - wind direction for upper (122M), intermediate (60M) and lower (10M) sensor heights (degrees).
 WSU, WSI, WSL - wind speed (meters/second) for 122, 60 and 10M.
 STU, STI, STL - standard deviation of the horizontal wind direction, 122, 60 and 10M.
 DTUL, STUI, STIL - temperature differential presented in °C/100M for UL (122-10M), UI (122-60M), and IL (60-10M).
 TAL - ambient temperature (°C) for 10 meters.
 TDL - dew point temperature (°C) for 10 meters.
 PCP - precipitation total (MM) at ground level.
 S - Pasquill stability indicator (A=1, B=2, C=3 ... G=7).

i) Message of NRCMET DONE - completes the program.

Example (3): MIDAS Meteorological printout.

CONSOLIDATED Edison CO OF NY / POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT NUCLEAR GENERATING STATION / ONSITE 122 METER TOWER
 LAT-COM 41.25999 LON-COM 73.95001 ELEV-BASE 116.
 WIND HTS-U:1-L 122.0 DT1-U DT1-L 122.0 DT2-U DT2-L 60.0 DT3-U DT3-L 60.0 TMP DP PCP
 122.0 60.0 10.0 122.0 10.0 122.0 60.0 60.0 10.0 10.0 10.0 1.0
 NOTE: LATITUDE AND LONGITUDE FOR INDIAN POINT SITE USES SUPERHEATER STACK AS THE
 REFERENCE POINT FOR CONTAINMENT
 LATEST CALIBRATION 9-20-81

YYJJJHHMM	WDU	WDI	WDL	WSU	WSI	WSL	ST	DT1-U	DT1-L	DT2-U	DT2-L	DT3-U	DT3-L	TMP	DP	PCP	S
813521215	34.	15.	15.	3.5	2.9	1.3	11 10 19	-1.0	-1.1	-1.0	-1.1	-1.0	-1.1	-32.8	88.6	0.0	4
813521230	41.	20.	14.	3.7	3.4	1.8	9 8 15	-1.0	-1.1	-1.0	-1.1	-1.0	-1.1	-32.9	88.6	0.0	4
813521245	50.	30.	19.	5.1	4.2	2.6	10 9 17	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-31.1	88.6	0.0	4
8135213 0	51.	29.	14.	5.1	4.3	2.5	11 10 14	-1.0	-1.2	-1.0	-1.2	-1.0	-1.2	-30.6	88.6	0.0	4
813521315	52.	28.	5.	4.4	4.4	2.5	9 8 14	-1.0	-1.2	-1.0	-1.2	-1.0	-1.2	-32.4	88.6	0.0	4

WIND DIRECTION
(GROUND LEVEL)

WIND SPEED (m/sec)
(GROUND LEVEL)

ST
(use Fig. 1 to
transcribe to
Stability Class)

LOWER LEVEL
STABILITY
CLASS

- 3.3.1 WDL columns is wind direction for ground level.
- 3.3.2 WSL is wind speed for ground level in m/sec.
- 3.3.3 The Pasquill stability class is determined by using the column DTIL and Figure 1 which will transcribe this ground level (60-10) T value to ground level stability class. (NOTE: the right most "S" column can be used to determine the stability class by converting the numbers to letters as follows 1 = A, 2 = B, 3 = C, 4 = D, 5 = E, 6 = F, 7 = G).

NOTE: If the primary tower is not transmitting data to MIDAS the backup tower will be used as a default and its data will print out.

- 3.4 At this point decisions must be made whether to send a member of the watchforce to the primary tower or to the EOF to access the backup tower data.
- a) Primary Tower: to read the TI Silent 700 terminal (3.2 and example 1) or section 3.5
 - b) EOF (MIDAS Room):
 - i. To read the TI Silent 700 terminal (3.2 and example 2)
 - ii. If no data is available, readout from 10m standby tower, located on the roof of the EOF, can be activated by throwing a switch on the Climatronics panel in the MIDAS computer room. The data can then be read from the TI Silent 700 terminal (3.2 and example 2)

IF THE CONTROL ROOM READOUTS AND THE BACKUP
TOWER SYSTEM ARE NOT FUNCTIONING

- 3.5 The Emergency Director directs a member of the Watch force to the Meteorological Trailer located at the base of the 122m tower. (The key to this trailer is located in the Control Room key locker.) If it is an electrical outage, (i.e. wind instruments still functioning) he will use the "Emergency Wind Set 10m Speed and Direction Kit. If the power is out and the meteorological instruments are not functioning, he will set up the portable wind system.

NOTE: Figure 3 is the instrument layout for the 122m tower.

- 3.5.1 Using the 10m winds and "Emergency Wind Set 10m Speed and Direction" kit.
- a) At the rear of the instrument console near the south wall of the trailer is an instrument line plugged into the rear of the panel marked "10 meter emergency winds". This cable is connected directly to the 10m level winds on the tower.
 - b) Unplug the connector and attach it to the "Emergency Wind Set 10m Speed and Direction" kit so marked. It is plugged into the connector labeled "F460" marked "in trailer".
 - c) Turn on kit power, select "F460" and check for a proper trace on chart paper. Write on trace paper start date and time. (trace will run at 1 inch/hr)
 - i) Wind speed is in m/sec.
 - ii) Wind direction is read directly from strip chart.
 - iii) Pasquill Category is determined by visual means. (Figure 2,)

3.5.2 If all other methods of obtaining meteorological data fail, the Portable Wind System must be used.

- a) Remove portable wind translators and arm from the east end of the trailer and mount it on the tripod in any open available area.
- b) Disconnect the battery cable from the "Emergency Wind Set 10m Speed and Direction" kit.
- c) Bring kit within reach of the portable instrument, plug the transmitters into the connector marked "WMI".
- d) The system must now be oriented. Using the siting compass (located in the trailer on the NE shelf), align the cross arm in an east-west direction with the direction sensor at the western end. (Site thru the compass mirror and site along the crossarm (E-W).

NOTE: Site the (E-W) crossarm along 102° or 282° for a true north alignment. (at this latitude we are 12° west of north)

- e) Turn on the Emergency Recorder and select WMI.
- f) Check to make sure that when the direction vane is pointed along the axis of the arm towards west, the recorder reads 270° . If not readjust the arm so that when the vane points west, the recorder reads 270° .

3.5.3 Wind speed is in m/sec.

3.5.4 Windspeed is read from the strip chart

3.5.5 Pasquill Category is determined by visual means (Figure 2,)

NOTE: This instrument should be left recording until another source of meteorological data is functioning. Lid should be closed for this continued usage.

4.0 OFFSITE METEOROLOGICAL MONITORING

4.1 Meteorological data for the surrounding area can be obtained by telephoning the following air stations. Information includes wind speed, wind direction, cloud cover and precipitation.

National Weather Service Stations:

<u>Site</u>	<u>Telephone No.</u>
Central Park, Manhattan, NY	
La Guardia Airport, Queens, NY	
J.F. Kennedy Airport, Queens, NY	
Newark Airport, Newark, NJ	
Dutchess County Airport, Poughkeepsie, NY	
Westchester County Airport, White Plains, NY	
MacArther Airport, Islip, NY	
Stewart Field, Newburgh, NT	
Sikorsky Mem. Field, Bridgeport, Conn.	
Teterboro Airport, Teterboro, NJ	
Allentown Airport, Allentown, PA	
WilkesBarre-Scranton Airport WilkesBarre, PA	
* Albany County Airport, Albany, NY	
* Atlantic City Airport, Atlantic City, NJ	

*Wind data for upper air are only available from Albany and Atlantic City stations.

4.2 Forecasts can be obtained by calling ACCU-Weather Forecast Service. Ask for the N.Y.C. Meteorologist. Inform them you work for PASNY (we have a contract with them) and request the forecast for this area.

4.3 For remotely accessed tower data at adjacent Bowline Point:

Telephone Number
300 Baud Line
Half Duplex
Type in upper case only

a) Dial . When a high pitch tone is heard insert phone into ASCII acoustic coupler. A complete link is verified by the indicator light on the terminal.

b) Sign on Procedure:

The system will ask for the password. Type ORU and then depress the space bar. System response will be "ORANGE-ROCKLAND UTILITIES---". When the word "READY" appears, hourly data can be accessed.

For the past hour type H space EU and press the "RETURN" key. Data will automatically printout. Sensor heights are in meters. B-100=Bowline Tower 100 meter level. A "READY" message appears after the data is printed.

If data from a previous hour, (up to 12 hours), is required type hhEU and the "RETURN" key, where hh is the hour of interest.

After all inquiries are complete press down on the "CNTL" key and type z to disconnect from the system.

FIGURE 1

T CONVERSION TO STABILITY CLASS

<u>Stability Class</u>	<u>GROUND LEVEL (60m-10m)</u>	<u>T Temperature in °F</u>
A		-1.74
B		-1.74 to -1.56
C		-1.56 to -1.37
D		-1.37 to -0.46
E		-0.46 to +1.37
F		+1.37 to +3.66
G		+3.66

FIGURE 2

Estimation of Pasquill Category

A stability classification (Pasquill) was developed to differentiate the dispersive capacities of the atmosphere. The vertical temperature difference of the atmosphere ranges from very unstable (Category A) to extremely stable (Category G) conditions. Alphabetic characters (A,B,C,D,E,F, or G) are used to define the prevailing thermal structure. A listing of the categories is as follows:

<u>PASQUILL CATEGORY</u>	<u>STATE OF THE ATMOSPHERE</u>
A	Extremely unstable
B	Moderately unstable
C	Slightly unstable
D	Neutral
E	Slightly stable
F	Moderately stable
G	Extremely stable

The appropriate Pasquill category is derived from vertical temperature measurements. However, in the absence of specific onsite temperature measurements, stability categories can be estimated by visual techniques. A methodology for determining the Pasquill category from observations of cloud cover, wind speed and time of day, (solar radiation) is illustrated in the following table.

<u>Surface Windspeed (m/s)</u>	<u>DAYTIME</u>			<u>NIGHTTIME</u>	
	<u>Clear Sky</u>	<u>Partly Cloudy</u>	<u>Over-cast</u>	<u>Partly cloudy to Overcast</u>	<u>Clear sky partly cloudy</u>
0-2	A	A-B	B	E-F	G
2-3	A-B	B	C	E	F
4-5	B	B-C	C	D	E
6	C	C-D	D	D	D
6	C	D	D	D	D

General Definitions

- Daytime is considered as one hour after sunrise to one hour before sunset.
- Clear sky - less than 20 percent of cloud cover
 - Partly cloudy - 20 to 80 percent of cloud cover
 - Overcast - 80 to 100 percent of cloud cover

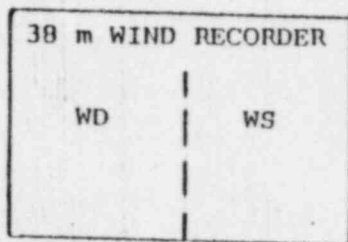
NOTE: This procedure should be used only in the event of onsite instrument failure.

NOTE: If there is a doubt concerning which category is applicable, select the alphabetic character furthest from A. This decision will be more conservative in assessing ground level concentrations.

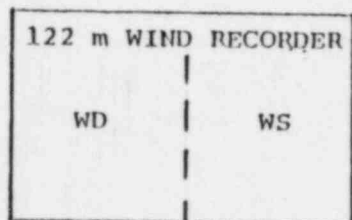
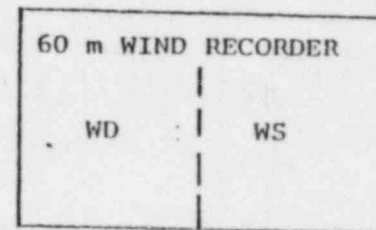
INSTRUMENT
LAYOUT

122 m Meteorological Tower

PWR Supply	10 m WS	10 m WD	38 m WD	Δ T For Pasquill	Precip.	
------------	---------	---------	---------	------------------	---------	--

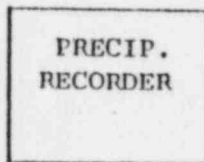


PWR Supply	60 m WS	60 m WD	122 m WS	122 m WD	Modem Control#2	
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TEMPERATURE RECORDER

- #1. 10 m Temp.
- #2. 60 - 10 m Δ T
- #3. 122 - 10 m Δ T
- #5. 10 m Dew Point



PWR Supply	Temp. Translator	T Translator	Dew Point	Modem CR#3	
------------	------------------	--------------	-----------	------------	--

Wind Speed is recorded in mi/hr.
(.45 x mi/hr = m/sec.)

FIGURE 3

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT NO. 3 NUCLEAR POWER PLANT

P. O. BOX 215 BUCHANAN, N. Y. 10511

TELEPHONE: 914-739-8200



EMERGENCY PLAN PROCEDURES

PROCEDURE NO. IP- 1004

REV. 2

TITLE: MIDAS COMPUTER SYSTEM - DOSE ASSESSMENT MODELS

WRITTEN BY: David W. Bell
REVIEWED BY: [Signature]
PORC REVIEW W. Hamilton DATE 7/21/82
APPROVED BY: John Brown DATE 7/21
EFFECTIVE DATE 7-28-82

MIDAS COMPUTER SYSTEM: DOSE ASSESSMENT MODELS1.0 DISCUSSION

The MIDAS Computer System has 2 computer models available to assess the real time values of radiological releases. Both are available for use during emergency conditions.

The Class A Model, a Gaussian straight line plume simulator, provides relative concentration output within a few minutes. The Class B Model produces refined estimates of the transport and diffusion of particulates incorporating terrain, time and space variations within 5 minutes.

2.0 PROCEDURE

2.1 These programs can be accessed and run remotely by using an ASCII Terminal, 300 Baud line with an acoustic coupler.

2.1.1 Telephone numbers to remotely access the MIDAS System Are:

2.1.2 Enter Your ID, type PASNY

2.1.3 Enter Your Password, type MONK

2.2. Class A Model (Gaussian Model)

<u>Prompt from Machine</u>		<u>Operator Response</u>
NUM, UNIT, Name	3000309 ,, NRCRRC	"RET"
Enter Unit (U2 or U3)	U3	"RET"
Enter Start and End Dates (99=Last 6 hours) or YYMMDDHHMM YYMMDDHHMM or YYJJJHHMM YYJJJHHMM	99,	"RET"

The system will now calculate a Class A Gaussian model at downwind distances of 3218, 8047 and 16093 meters (2,5 and 10 miles) for the time requested. All distances are in meters, X/Q has dimensions of sec/m³.

Message of NRCRRC DONE - completes program.

2.3 Class B Model (Potential Flow)

<u>Prompt from Machine</u>		<u>Operator Response</u>
NUM, UNIT, NAME	3000309 ,, NRCCLB	"RET"
Enter Unit #2 or #3	U3	"RET"
Enter Start Date - YYMMDDHHMM or (YR=99 is current time)	YYMMDDHHMM	"RET"
Enter Type of Release (GRND, ELEV)	or 99	"RET"
	GRND or ELEV	"RET"

The system will now print out data representing the spatial increments of the plume. At the completion of the first table, the screen message will state - "TYPE C TO CONTINUE TO PRINT". Type C and carriage return ("RET"). The second table will permit a plot of the plume segments (trapezoids) to be made from output using an x-y coordinate system.

Message of NRCCLB DONE completes program.

POWER AUTHORITY OF THE STATE OF NEW YORK

INDIAN POINT NO. 3 NUCLEAR POWER PLANT

P. O. BOX 215 BUCHANAN, N. Y. 10511

TELEPHONE: 914-739-8200



EMERGENCY PLAN PROCEDURES

PROCEDURE NO. IP- 1021

REV. 5

TITLE: RADIOLOGICAL MEDICAL EMERGENCY

WRITTEN BY: David D. Beel
REVIEWED BY: [Signature]
PORC REVIEW [Signature] DATE 7/24/82
APPROVED BY: John P. Burns DATE 7/22/82
EFFECTIVE DATE 7/22/82

RADIOLOGICAL MEDICAL EMERGENCY1. INTENT

To describe the procedure to be followed when an individual is injured and contaminated.

2. DISCUSSION

This procedure is to be used as guidance when an individual is injured and contaminated at IP-3. In all such instances, it should be the guiding rule that required medical attention must take precedence over decontamination whenever the injured's life is considered to be endangered. In such instances, the prompt treatment of the injury must take first consideration, however, when contamination does occur, radiological hazards cannot be ignored and should be dealt with as is feasible while the medical condition is being treated.

Rescue teams should make every attempt to stabilize the patient. If the patient is stabilized and there is no threat to life, the patient should be decontaminated (to the level normally allowed for release, with maximum of 200 cpm above background) prior to transporting to a hospital. If the patient is not stabilized or his medical condition warrants immediate transportation to the hospital, initial attempts must be made at decon, or at a minimum to remove the contaminated protective clothing and/or wrap him in a blanket to minimize the spread of contamination.

NOTE: The transportation of a contaminated injured individual to the hospital requires notification as per the Emergency Plan classification, Notification of Unusual Event. Reportable as per IP-1030, i.e. within 15 minutes after the departure of the patient from the site to the offsite hospital.

NOTE: Applicable telephone numbers are found on the last page of this procedure.

3.0 PROCEDURE

3.1 AN EMPLOYEE ARRIVING AT THE SCENE OF THE ACCIDENT WILL:

- a) Immediately render lifesaving aid to the best of his ability to the injured individual.
- b) Notify (or cause to be notified) the Control Room.
- c) The patient should not be moved until a first aider arrives, unless conditions in the area jeopardize the patient's life.
- d) The time the patient is left alone should be minimized until the first aider(s) arrive.

3.2 THE CONTROL ROOM OPERATOR WILL:

- a) Page and have report to the accident scene:
 - 1. Nurse (Normal Work Hours)
 - 2. First Aider
 - 3. H.P. Technician
 - 4. Shift Supervisor
 - 5. NPO Rover
- b) Call IP-3 security:
 - i) Give the location of the accident.
 - ii) Request that they stand-by to escort ambulance to closest access point to patient and be on stand-by to bring protective clothing package to ambulance workers (found in the Security Emergency Locker).
- c) Call the Radiological & Environmental Services Superintendent to advise of the situation.

3.3 AT THE ACCIDENT SCENE:

- a) The Nurse/First Aider will render life saving aid, making every effort to stabilize the patient.
- b) The Health Physics Technician will:
 - i) Immediately establish the safety of the area and assist the Nurse/First Aider.
 - ii) Respond with the Decontamination kit and continue with its use until arriving at the hospital (if required).
- c) All non-essential personnel in the immediate area should be instructed to leave.
- d) The Shift Supervisor should be in frequent contact with the Control Room, and coordinate the Medical Emergency Response from the accident scene.

3.4 THE PATIENT'S CONDITION WILL DETERMINE ONE OF THE FOLLOWING:

- a) The need to transport directly to the hospital with initial attempts at decon. 15
- b) The need to decontaminate at the Unit 3 decon room. 15

3.5 IF AND WHEN TRANSPORTATION TO THE HOSPITAL IS REQUIRED. The Control Room shall:

- a) Call the Verplanck Ambulance
- b) Call Peekskill Hospital to alert them of the ambulance arrival of a contaminated or possibly contaminated individual.
- c) Call Security:
 - i) Notify IP-3 Security of the ambulance's need for access.
 - ii) Instruct security to direct the ambulance to the closest vehicle access to the injured individual.
 - iii) Instruct security to bring protective clothing packages for ambulance attendants use (found in Security Emergency Locker)
- d) Make the required notification under the Emergency Action Level Notification of Unusual Event, within 15 minutes after the Ambulance leaves the site.
- e) After being advised by Security that the patient has left for the hospital, again call the Peekskill Hospital to advise them of the patients condition upon departure from the site.
- f) A Medical Representative should be notified as to the patients condition and need to transport to the hospital. (If the patients life is at risk transport 1st and make notification to the Medical Representative 2nd)

3.6 In addition, in any case where transportation to the hospital is required for an injured-contaminated individual:

- a) The IP-3 staff shall bring the patient to the ambulance.
- b) Ambulance attendants should be provided with protective clothing & dosimetry.
- c) Ambulance driver should not touch patient and should be given dosimetry. Protective clothing is not required.
- d) An H.P. Technician will accompany the injured to the hospital with a dosimeter charger and dosimeters for Ambulance and hospital personnel. The Decon kit should be used in transport to the hospital if warranted. He will remain with the patient surveying and monitoring as required. He will monitor the Hospital Room before and after the patient's arrival, and advise hospital personnel of the necessary H.P precautions.

3.7 The Control Room is to be notified by Security as soon as the patient has left for the hospital.

- 3.8 If the decision is made to transport the patient to a facility other than the Peekskill Community Hospital, the Medical Support Staff and Radiological and Environmental Services Superintendent will decide the mode of transportation to be used, and will make the necessary arrangements.
- 3.9 General Instructions on pages 5-9 are provided for the following personnel
- a. Control Room
 - b. Nurse
 - c. First Aid
 - d. Health Physics
 - e. Security

RESPONSIBILITY OF CONTROL ROOM

GENERAL INSTRUCTIONS

1. Page Nurse First Aider, H.P., N.P.O. Rover & S.S. to accident scene.
2. Call RESS to advise of situation.
3. If necessary, arrange for the Unit 3 - Unit 1 transportation routes to be open (IP-1022).
4. Call Ambulance and Hospital advising them of patients possible contaminated condition. (Call hospital again upon departure of ambulance to advise of patient's updated condition)
5. Call Security and advise them of the ambulance's arrival, and have Security direct the ambulance to the closest vehicle access to the patient. Have Security bring protective clothing package to ambulance attendants.
6. Call Medical Representative for IP-3 to notify of the transport of a contaminated individual off-site.
7. Make required, Emergency Plan Notifications under Notification of Unusual Event.

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RESPONSIBILITY OF NURSE

GENERAL INSTRUCTIONS

1. Respond to the Control Room's call to report to the accident scene or decontamination room with emergency bag.
2. Put on protective clothing and dosimetry which are necessary for Controlled Area entry.
3. In the event of mass casualties, initiate Triage procedure.
4. Evaluate the patients condition and:
 - a) Render emergency care as necessary.
 - b) Request emergency transport if needed.
5. Provide gross decontamination.
6. Remove the patient to the Decontamination Room Unit 3.
7. In the Decontamination Room, evaluate the patients condition so that you can describe findings to a consulting physician.
8. Contact consulting physician.
9. Start medical decontamination procedure, utilizing H.P. for continuous monitoring of contaminated areas.
10. If considered necessary; collect all urine, stool, vomitus, etc. and label.
11. If necessary; draw 1 tube blood for CBC (lavender top) mixing well, 1 full clot tube (red top) for chemistries, being careful to obtain from non-contaminated area. Specimens should be drawn prior to starting any I.V. fluids.
12. Start I.V. if medically indicated.
13. When the patient is stabilized and decontaminated as much as possible, decontaminate self and prepare to go with the patient to the hospital, maintaining life support as required.
14. Provide medical report form - radiation casualty and accompany patient to the hospital, retain duplicate copies.

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RESPONSIBILITY OF THE FIRST AID TEAM

GENERAL INSTRUCTIONS

1. Respond to call of Control Room to designated location with a first aid kit (and stretcher).
2. Obtain emergency equipment and Anti-C clothing from the emergency cabinet in the Control Room or from the normal supply at the Control Point. Don coveralls before entering the Controlled Area.
3. Render immediate care under Health Physics direction. (Move victim from highly contaminated area - or away from source only when it is definite that this will not create any further injury).
4. If necessary move the victim to the Unit 3 Decon Room or the Unit 1 Decontamination Room.
5. Assist in decontamination of the victim.
6. Decontaminate self, if necessary.
7. Assist with the delivery of victim to ambulance.
8. Assist transfer of victim from ambulance to hospital.
9. Assist Hospital Radiation Casualty team as needed.

RESPONSIBILITY OF HEALTH PHYSICS PERSONNEL

GENERAL INSTRUCTIONS

1. Specify Anti-C Clothing and monitoring equipment for team members. As a minimum, all personnel responding to a First Aid call in the Controlled Area, shall don coveralls before entering.
2. Respond to scene with proper survey instruments.
3. Direct all non-injured to safe area.
4. Measure and evaluate fields.
5. Identify contaminated areas on victim and mark them.
6. Direct initial decontaminated procedures.
7. Restrict access to area as necessary.
8. Discuss with the RESS, or Shift Supervisor or Medical Representative the route to Decontamination Area, either on or offsite. Use IP-1022 for specific requirements, to transport to IP-2 Decon Room.
9. Accompany the injured to Decontamination Room and remain with him including his transportation and decontamination at the hospital or until relieved by another H.P.
10. Respond with Decontamination Kit and continue using this kit while in transit to the hospital.
11. Follow procedures as outlined for First Aid Team.
12. The H.P. will be responsible to advise Medical personnel as long as any radiation hazard exists to rescue personnel. The H.P. will monitor and advise of allowable working time, exposure limits and shielding.
13. Accompany the patient to hospital providing dosimeters for the drivers (the ambulance driver should remain behind the wheel and not come in contact with the patient. (Dosimeter charger should be brought). Provide dosimeters for hospital personnel.
14. Survey hospital room before and after victim is treated. Assure all unnecessary major hospital equipment out of room. (The Power Authority is responsible for all contaminated equipment replacement).
15. Inventory and bag all hospital equipment for future pick up and disposal.

SECURITY RESPONSIBILITY

GENERAL INSTRUCTIONS:

1. Direct the ambulance to closest vehicle access point to injured.
2. Bring protective clothing package for ambulance attendents use.
3. Notify the Control Room when the ambulance leaves the site.

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FIRST AID SUPPLIES

Locations of First Aid lockers and/or kits:

- a) 33' elevation First Aid Room
- b) Security Building
- c) S.S. Office
- d) H.P. Control Point
- e) Outside Nuclear NPO Office

Locations of Stretchers:

- a) Outside H.P. Control Point
- b) Decon Room
- c) 33' Elevation First Aid Room
- d) Outside Nuclear NPO Office

Locations of oxygen:

- a) S.S. Office
- b) Security Building (Security Shift Coordinators offices)
- c) Security Vehicle
- d) H.P. Control Point
- e) Outside Nuclear NPO Office

Resuscitator:

- a) In the Safety & Security Supervisors possession

Medical Response Kit:

- a) In the Safety & Security Supervisors possession

MEDICAL TRANSPORTATION

Verplanck Ambulance

HOSPITAL

Peekskill Hospital

Ask for Emergency Room &
Head Nurse

Brookhaven Nation
Laboratory

Request Medical Consultation

MEDICAL SUPPORT

Patricia Russell, R.N.
Nurse, IP-3

Indian Point No. 3

W:
H:
Beeper

MEDICAL REPRESENTATIVES

Dr. Donald Kent
Life Extn. Institute

1185 Avenue of the Americas
New York, New York 10036

W:
H:
Beeper

Dr. Wm. Farrell
Life Extension Institute

W:
H:

Dr. Jack Bratton
Life Extn. Institute

W:
H:

Joseph R. Perrotta
Radiological and Environmental Services Supt.

W:
H:

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EMERGENCY PLAN PROCEDURES

PROCEDURE NO. IP- 1040

REV. 4

TITLE: HABITABILITY OF THE EMERGENCY FACILITIES

WRITTEN BY: David W. Bell
REVIEWED BY: [Signature]
PORC REVIEW [Signature] DATE 7/20/82
APPROVED BY: John Bros DATE 7/20/82
EFFECTIVE DATE 7-24-82

HABITABILITY OF THE EMERGENCY FACILITIES1.0 INTENT

To describe the necessary checks to determine if the radiological conditions of the Emergency Operations Facility (EOF), the Technical Support Center (TSC) and Operations Support Center (OSC) are such that a move to their alternates is required.

2.0 PROCEDURE FOR THE EOF:

- 2.1 The Emergency Director, or the Radiological Assistant Team Leader upon arrival at the EOF, will immediately call the Unit No. 3 Control Room to confer with the Shift Supervisor on whether or not the EOF has been involved in the plume since the start of the emergency, and if so, for how long.
- 2.2 Interrogate the Meteorological system at the EOF to determine if the meteorological conditions have prevailed for the past hour.
- 2.3 Follow guidance in section 3.0.
- 2.4 The EOF will be considered tenable after careful consideration of the following:
 - 2.4.1 Radiation fields inside and outside the EOF.
 - 2.4.2 Meteorological Conditions at the time
 - a) Plume direction
 - b) Atmospheric Stability
 - c) Weather forecast obtained from the National Weather Service at
- 2.5 If the decision is made to relocate to the Alternate Emergency Operation Facility (AEOF), the Emergency Director will notify the Control Room and request that the Plant Operations Manager assume Emergency Director control and communication activities. When the AEOF has been established and can resume those responsibilities, the Emergency Director at the AEOF will notify the Control Room and will again assume control and communication activities.

3.0 PROCEDURE FOR THE EOF, TSC, AND OSC

- 3.1 The Emergency Locker should be unlocked.
- 3.2 If the emergency is one where radiological conditions are expected, the radiation monitoring equipment should be put in use immediately.
- 3.3 An initial survey should be made for beta and gamma fields, and results recorded in the log book.
- 3.4 If at the EOF perform beta and gamma surveys outside the building. Record readings in log book.

- 3.5 After the initial survey, an H.P. technician may be contacted (through the OSC) to discuss and/or set up further monitoring equipment.
- 3.6 The results of the radiation surveys are to be analyzed, and an evaluation of potential radiation hazard is to be made by Radiological Assessment personnel, Health Physics personnel or the Facility supervisor.
- 3.7 Check Radiological conditions frequently and record all readings in log book.
- 3.8 Monitoring for personnel should be in accordance with IP-1041.

4.0 HABITABILITY GUIDANCE

Various factors and conditions must be considered when deciding on the Habitability of the Operation Facilities and Centers. Whole body, beta and iodine doses must be measured and evaluated along with the accident conditions and circumstances.

The basic factor to consider is whether or not the accident is under control: is the radiological release terminated? or will stop it shortly? or, is the release expected to continue for hours or days? The duration of expected release, along with advantages and disadvantages of moving, must be considered. The following is offered as general guidance:

4.1 Whole Body and Beta Doses

Fields	Considerations	Maximum acceptable total dose for a 10 hr. release	
		WB	B *
10 mR/hr	move if feasible	100 mR	300 mR
100 mR/hr	move if at all possible	1000mR	3000mR
500 mR/hr	move	5000 mR	15000 mR

*B = 3 x WB rather than 6 x WB
because the lens of the eye has
been factored into the calculation.

4.2 Iodine Doses

From the Iodine sample taken the concentration of I-131 can be determined and from this the dose of I-131 is determined.

$$\text{Dose} = \text{Concentration} \times 1.5 \times 10^6 \times \text{hr breathed} = \text{Rem thyroid}$$

If the dose is 1 R or greater distribution of KI should be considered.
If the dose is 5 25R KI should be given.

If doses are greater than 25R give KI and re-evaluate the dose to the thyroid on that basis. Then make the determination of whether or not to evacuate the facility or center and relocate.

- 4.3 The Radiological Assessment Team should be consulted for recommendations and dose projections prior to any relocation of the Operation Facilities.

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EMERGENCY PLAN PROCEDURES

PROCEDURE NO. IP- 1041

REV. 4

TITLE: PERSONNEL MONITORING OF EOF, TSC AND OSC PERSONNEL

WRITTEN BY: David O Bell
REVIEWED BY: [Signature]
PORC REVIEW [Signature] DATE 7/20/82
APPROVED BY: John L. Burns DATE 7/29/82
EFFECTIVE DATE 7-29-82

IP-1041

PERSONNEL MONITORING FOR EOF, TSC, AND OSC PERSONNEL1.0 INTENT

To describe the procedure to be used for personnel monitoring of the support forces located in the Emergency Operations Facility or AEOF, Technical Support Center and the Operations Support Center.

2.0 DISCUSSION

In the event of a radiological release at Indian Point it becomes necessary to staff the Emergency Operation Facility, Technical Support Center and the Operations Support Center.

Technical Support Center, Operations Support Center and Emergency Operation Facility personnel shall be monitored as follows:

3.0 PROCEDURE

3.1 Periodic gamma and beta field measurements shall be made (RO-2, E-530 or equivalent). These measurements are to be logged in the Emergency Log Book (See IP-1040, "Habitability of the Emergency Facility" for habitability criteria).

3.2 Background radiation levels will be monitored at the Emergency Operations Facility, the Technical Support Center, and the Operation Support Center by means of a dosimeter and film badge at each location.

The dosimeters and film badges should be taped to an inside wall at each facility at average eye level.

At the Emergency Operations Facility, two sets of dosimeters and film badges will be used; one set on the main floor and one set in the balcony area.

3.3 A control point and frisker station should be set up in order to control contamination.

3.4 An exposure record system shall be set up in a Personnel Log Book. This book shall also be used as a "sign in" and "sign out" record of Technical Support Center, Operations Support Center and Emergency Operations Facility personnel.

3.5 Personnel who leave the protected areas of the Technical Support Center, Operations Support Center and Emergency Operations Facility shall be issued dosimetry from the Emergency Locker Stock and shall "log out" and "log in" on the Personnel Log Book.

3.6 Environmental Monitoring Teams shall obtain their own dosimeter and film badge from the stock in the emergency vehicles.

3.7 All dosimetry records will be appropriately logged in the PASNY exposure record system.

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EMERGENCY PLAN PROCEDURES

PROCEDURE NO. TP- 1080

REV. 3

TITLE: CONTINGENCY PLAN OF EMERGENCY DRILLS

WRITTEN BY: David W. Bell
REVIEWED BY: [Signature]
PORC REVIEW [Signature] DATE 7/21/82
APPROVED BY: John C. Burns DATE 7/21
EFFECTIVE DATE July 29, 1982

CONDUCT OF EMERGENCY DRILLS

1.0 INTENT

To describe the required drills for the IP-3 site as well as establishing a procedure for the conduct and evaluation of the drill. This procedure also outlines the management controls used to ensure that corrective actions are implemented.

2.0 DISCUSSION

This procedure acts as the guiding document for explanations of exercises and drills, the scheduling of drills, development of drill scenarios, assignment of drill referees, critiquing of drills and the reporting of drill results. Site personnel and drill participants should follow other applicable procedures within the Emergency Plan Procedure Document according to the nature and classification of the simulated emergency. Personnel involved directly but not limited to this procedure are the Chief Referee, Plant Manager and/or Superintendent of Power and the Emergency Plan Coordinator.

3.0 GENERAL DESCRIPTION OF EXERCISES AND DRILLS

This is to provide guidance in preparing scenarios for exercises or drills. In this context, an "exercise" is a large-scale experience which directly involves offsite agencies and a "drill" is an experience normally confined to plant personnel but may include offsite agencies.

It is permitted to combine several drills into one exercise.

3.1 Mobilization Exercise

The purpose of the annual mobilization exercise, as described in NUREG-0654, is to test the full scale response capabilities of State, Local and Federal agencies. The plant is directly involved and is drilled on its response to the simulated emergency situation.

As it exists now, New York State will gear up and fully participate in one mobilization exercise per year rather than gear up and participate in 6 each year, one for each nuclear facility site. Therefore once every 6 years Indian Point 3 will have the State participate in a full scale mobilization exercise. The Counties will participate in one mobilization exercise per year for the Indian Point Site.

The exercise should be in the Site Area or General Emergency classification, and scenarios should be varied to test all agencies and all phases of the Emergency Plans and response. At least one exercise every 6 years should be started between 6:00 a.m. and midnight, and another between midnight and 6:00 a.m. Some exercises should be conducted in adverse weather conditions, and some should be unannounced.

Observers must include qualified State and Federal personnel. They shall also participate in the critique which follows the exercise.

3.2 Drills

3.2.1 Annual Radiological Drill

The basic criteria for this drill includes most of the factors listed under 3.1 above. However, the purpose is to test and instruct site personnel. The drill may be a simulation of any classification however, an Alert with activation of the TSC, OSC and EOF are recommended at a minimum. Participation of Con Edison personnel may be called for. The scenario may include one or more of the drills listed below. Operations should not be interrupted.

The NRC must be notified to participate. Other Local, State and Federal agencies should be invited to participate but are not required.

3.2.2 Quarterly Fire Drill

At quarterly intervals (as per Tech Specs), the Fire Brigade training should include an activation drill.

3.2.3 Annual Medical Emergency Drill

The scenario will involve a simulation of a contaminated individual who has suffered injuries serious enough to require hospital treatment. First-aid, decontamination, transportation to the hospital and response of hospital staff will be included. Power Authority, Con Edison, Verplanck Ambulance Co., and Peekskill Hospital personnel may be involved.

3.2.4 Annual Environmental Monitoring Drill

The purpose of this drill is to test the response capabilities of IP-3 and the State. The scenario should provide a simulated release which will require collection and monitoring of all sample media: air, water, soil, and vegetation at onsite and offsite locations. Communications and recordkeeping will also be included. The Con Edison NEM teams shall participate. If the State has engaged in a drill at another utility site during the previous 12 months, it isn't required to participate. Indian Point has on-going environmental monitoring programs as per Tech Specs, all of which include the above requirements. New York State also has on-going programs which may in certain instances act as drill experience.

3.2.6 Semiannual Health Physics Drill

The onsite monitoring teams the NEM teams and the State are tested with this drill. The scenario will include simulation of elevated levels of radioactivity in air and water and of elevated levels of radiation in the environs. The plume exposure pathway is emphasized. The State is also only required to participate at one site during a year.

3.2.7 Annual Inplant Liquid Sampling Drill

This drill should test the capabilities of the Chemistry teams to use the post-accident sampling system. Analysis should be carried out under simulated emergency conditions.

3.2.8 Communications Drill

3.2.8.1 Monthly

This drill is to test the communications between the IP-3 site and Government agencies in the plume exposure pathway. A Notification of Unusual Event may be simulated or the communications check of the Hot Line and NAWAS will simulate this drill.

3.2.8.2 Quarterly

This is a test of communications in the ingestion pathway area. Agencies contacted include the monthly test plus the States of New Jersey, Pennsylvania and Connecticut and the NRC. IP-3 shall test the communications system between IP-3 and N.Y.S, the counties and the NRC quarterly. It in-turn is the responsibility of N.Y.S. to continue this communications drill by calling the surrounding states within 50 mile ingestion pathway.

3.2.8.3 Annually

This drill is to test the communications among IP-3, IP-3 EOF and the State and Local Emergency Operations Centers.

4.0 PLANNING

- 4.1 Scenarios shall be approved for the following drill categories by the indicated individuals.

<u>Category</u>	<u>Power Authority Drills</u>
Fire	Security & Safety Supervisor
Medical	Representative of Con Ed Medical Department with input from the Assistant to the Radiological & Environmental Services Superintendent. (ARESS)
Radiological	Asst. to Rad. & Env. Services Supt. with input from the Superintendent of Power, New York State Personnel input for full scale drills or exercises.

- 4.2 The Chief Referee will be appointed by the Supt. of Power sufficiently in advance of the drill so that he will be able to review the scenario. The Chief Referee and ARESS shall appoint referees and discuss their duties with them. The emergency drill assignment sheet (Attachment (1)) shall be used as an aid.
- 4.3 Offsite agencies should be contacted at least one month in advance of the Annual Radiological Emergency Drill and invited to participate in the drill.
- 4.4 Emergency Directors and Support Personnel will normally be appointed by the Supt. of Power on a rotational basis to facilitate training. The emergency drill assignment sheet shall be used to identify the participants for each job function and then it shall be given to the chief referee. (It is recommended that ED's are also rotated as referees to aid in their training process and allow them to see how each job function relates to the overall handling of the Emergency.) This assignment sheet can then be made part of the drill scenario-critique package which will be filed.

5.0 CONDUCT OF THE ANNUAL RADIOLOGICAL DRILLS

- 5.1 All personnel at the site shall participate in emergency drill unless exempted by the Resident Manager or Supt. of Power.
- 5.2 Referees shall be responsible for providing the appropriate timing and data for the drill scenario to the drill participants. Referees shall be identified by arm bands and shall be considered invisible by the drill participants.
- 5.3 Referees shall familiarize themselves with the duties and action requirements of the personnel they are monitoring. The following shall be used as guidelines.

5.3.1 Control Room

The referee shall observe the action of all personnel assigned to the Control Room and all personnel who report to the Control Room for assignment. In addition special attention will be given to the following.

- a) Use of map and overlays
- b) Notifications to onsite personnel and offsite agencies
- c) Request for the call-in of off duty personnel
- d) Operations handling of accident conditions
- e) Instructions given to Search and Rescue, Repair and Corrective Action Teams and H.P. Tech's by the Shift Supervisor (SS), as applicable.

- f) Does the SS handle the emergency by directing people or by trying to do the work himself?
- g) Are the time frames of actions by the SS reasonable enough?
- h) Actions of personnel in the Control Room.
- i) Communications with the EOF.
- j) Communications with the TSC.
- k) Actions of the STA.

5.3.2 Control Point

It is to be noted that all normal practices such as sign out and use of the hand and foot monitor and the portal monitor are to be accomplished unless the H.P. Technician gives other directions because of radiological conditions. The referee will pay special attention to the above along with the following.

- a) No one is wearing Anti-C clothing when leaving.
- b) All alarms from monitoring equipment or computer card terminal are acknowledged.
- c) All personnel are signed out of the Controlled Area.
- d) Does anyone remain at the badge rack to provide dosimetry for those persons entering the controlled area subsequent to the (simulated) accident?

5.3.3 Assembly Area

Observe the following for assembly area personnel:

- a) Do they seek out their area accountability officer, generally stay together as a group and remain orderly?
- b) Time of assembly and completed accountability.

5.3.4 Emergency Operation Facility

This is the command post for the emergency and it should seem so to the referee. Look for the following things:

- a) The ED is in command of the EOF.
- b) Any extra personnel, spectators and those awaiting orders, are quietly standing out of the way.

- c) The ED has assigned personnel to various functions i.e. Communications, Radiological Assessment. If he has too few people, does he request assistance from the OSC?
- d) Has the ED selected a Plant Operations Manager?
- e) The H.P. or Support Personnel are performing duties in an efficient manner and reporting results to the ED.
- f) Instrumentation deployed in the EOF is placed in a non-interfering position.
- g) How problems with the radio and telephone are handled.
- h) Using time as criteria, release rates and thyroid and whole body exposures to the offsite population are calculated quickly after the receipt of data from the Control Room or the Offsite Monitoring Team(s).
- i) The time frame of updates to offsite agencies and the reporting of exposure data and changes to site meteorological conditions, to those same agencies.
- j) The ED assigns, where possible, the duty of making routine calls to someone else thereby leaving himself free to command the action.
- k) Assessment Teams methods to make protective actions to offsite populations.
- l) Does the ED terminate the Emergency by notifying or having notified the CR, TSC, OSC & Offsite Agencies.

5.3.5 Off-Site Monitoring Teams

The referees (assign 2) shall observe the following items.

- a) Received KI dose from ED if necessary.
- b) Operational check performed on survey instruments, sample counter and sample pump before leaving the EOF parking lot.
- c) Equipment check off performed.
- d) Assignment of badges and dosimeters before leaving the EOF parking lot.
- e) Charcoal cartridge respirator made available before leaving EOF lot.

- f) Survey instrument made ready to take field readings.
- g) Radio check out by communicating to EOF before leaving.
- h) Beta & gamma field surveys performed on the way to sample point.
- i) Sampling and field surveys performed at sample location.
- j) Instrument calibration performed and samples counted.
- k) Work performed in a professional manner.

5.3.6 On-Site Monitoring Team

On-site monitoring teams will normally be assigned field survey work along the perimeter of the site. Check on the following items:

- a) Where do they receive their instructions?
- b) They have a dosimeter and film badge.
- c) They have a charcoal filter respirator.
- d) What type of survey instruments do they have?
- e) Do they pick up a Con Edison Portable radio at the CGH?
- f) Do they perform a radio check?
- g) Field readings taken along the route to the designated area.
- h) Work performed in a professional manner.

5.3.7 Command Guard House (s)

This location is the Security Command Post and instructions are received from the ED on evacuation routes etc. From this vantage point the conduct of the Security Forces as well as the individuals evacuating to the Service Center may be observed.

- a) Are all security personnel accounted for?
- b) Does security direct people to the nearest assembly area for accountability?
- c) Are access & egress roads blocked off?

- 5.3.8 Technical Support Center
 - a) The area maintained as a controlled area.
 - b) Are personnel rosters maintained?
 - c) Are communications initiated (CR-STA, EOF, Westinghouse, etc.)
 - d) Are H.P. surveys performed and by who?

- 5.3.9 Operations Support Center
 - a) How is it staffed?
 - b) What & how many teams are brought to the OSC?
 - c) Are phones continuously manned?

- 5.3.10 Watch HP & Chemist
 - a) Do they report to the CR when the Evacuation Alarm Sounds.
 - b) Do they receive instructions from the SS or SRO?
 - c) Are accurate protective measures taken if an entry into the controlled area is required?
 - d) Who are survey results reported to? (CR and/or EOF)

6.0 FOLLOWUP

6.1 Critique

6.1.1 After the completion of the Radiological Emergency, or Medical drill, and before the end of the next normal working day, the Chief Referee shall hold a critique, where all referees shall discuss their observations and any noted shortcomings and present their recommendations to improve performance and emergency preparedness.

6.2 Drill Report

6.2.1 Following the critique, the Chief Referee shall prepare a drill report and submit it to the Supt. of Power.

6.2.2 The drill report shall include as a minimum, the following:

- a) The drill scenario;
- b) The drill assignment sheet;
- c) An overview of the drill and emergency preparedness;

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- d) A listing of each noted shortcoming and associated recommended corrective action;
- e) Proposed Emergency Plan Corrective Action Reports (EPCAR), Attachment (2), for each noted deficiency.

NOTE: The Chief Referee may request assistance from Asst. to Rad. and Env. Services Supt. in preparing the drill report and associated EPCAR's.

6.3 Review

- 6.3.1 Following the submittal of the drill report, the Supt. of Power shall review its contents and associated proposed EPCAR's.
- 6.3.2 The Supt. of Power shall determine the final recommended corrective actions to be taken, assign action addressees and completion dates and present the drill report to the Plant Operating Review Committee (PORC).
- 6.3.3 PORC shall review the drill report. The review of the EPCAR's and assignment of action addressees shall be incorporated into the PORC meeting minutes.
- 6.3.4 The drill report shall then be forwarded to the Asst. to Rad. & Env. Services Supt. for filing. Additionally, a status list shall be prepared and maintained for the purpose of following the final corrective actions and close-out of each EPCAR.

6.4 Close-out

- 6.4.1 The action addressee for each EPCAR will resolve the problem, indicate on the EPCAR the final corrective action taken, sign and date it and forward it to the Rad. & Env. Services Supt.
- 6.4.2 The Asst. to the Rad. & Env. Services Supt. shall inform PORC of the close out of each EPCAR, indicating the final corrective action taken, and file each EPCAR.
- 6.4.3 In the event that an action addressee can not complete the final corrective actions by the date specified on the EPCAR, a formal request for an extension shall be presented to the Supt. of Power. The request shall include the circumstances or reasons that necessitate the extension and as estimated completion date.
- 6.4.4 The Supt. of Power, upon receipt of an extension request, shall review its justification and, either approve or reject the request.

- 6.4.5 For approved extensions, the Supt. of Power shall assign a revised completion date, and inform the action addressee of the extension. Furthermore, the Asst. to the Rad. & Env. Services Supt. shall be directed to update the EPCAR Status List and file the request for extension. For rejected extensions, the action addressee shall be informed and the request forwarded to the Asst. to the Rad. & Env. Services Supt. for filing.
- 6.4.6 The Supt. of Power shall inform PORC of approved extensions, which shall be included in the committee's meeting minutes.

Emergency Drill Assignment Sheet

Attachment (1)

Date

JOB FUNCTION	DRILL PARTICIPANT	REFEREE
1. Chief Referee		
2. WF Unit 1&2 (Contr. Rm.)		
3. SS Unit 3 (Contr. Rm.)		
4. Command Guard House		
5. Assembly Areas & LAC		
6. TSC		
7. OSC		
8. On-Site Monitoring Team		
9. Repair and Corrective Action Team		
10. Watch Chemistry Tech.		
11. Watch H.P. Tech.		
12. First Aiders		
13. Ambulance		
14. Fire Dept.		
15. EOF:		
a) Emergency Director		
b) RATL & Team		
c) Communications		
17. Mobile Truck #1		
18. Mobile Truck #2		
19. _____		

Attachment (2)

EMERGENCY PLAN CORRECTIVE ACTION REPORT NO. _____

Prepared By: _____ Date: _____
Name Affiliation

Approved: _____
Supt. of Power

Action Addressee: _____ Reviewed: _____
Name Affiliation PORC Date

ITEM DEFICIENCY- _____

DESCRIPTION and/or CAUSE- _____

RECOMMENDED CORRECTIVE ACTION- _____

CORRECTIVE ACTION TO BE COMPLETED BY _____
DATE

RESOLUTION- _____

Signature: _____
Date: _____

Please return completed form to: _____

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT NO. 3 NUCLEAR POWER PLANT

P. O. BOX 215 BUCHANAN, N. Y. 10511

TELEPHONE: 914-739-8200



EMERGENCY PLAN PROCEDURES

PROCEDURE NO. IP- 1085

REV. 2

TITLE: EMERGENCY RESPONSE TRAINING

WRITTEN BY: David W. Beel
REVIEWED BY: [Signature]
PORC REVIEW W. Hasulin DATE 7/21/82
APPROVED BY: John Burns DATE 7/81
EFFECTIVE DATE July 29, 1982

IP-1085

EMERGENCY RESPONSE TRAININGI.0 OBJECTIVE

To provide guidelines for the training of Power Authority employees in their specific responsibilities in Emergency Response at IP-3.

2.0 DISCUSSION

- 2.1 In order to ensure that site personnel assigned specific emergency response duties respond in the most efficient manner, specific emergency response training is required.
- 2.2 To facilitate this training, section 3.0 of this document has been developed for general guidance as to the content and structure of Emergency Response Training. Lesson plans are maintained by the Emergency Preparedness Analyst. These lesson plans are consistent with the content of the Emergency Plan and Procedures.
- 2.3 In addition to the lesson plans, various sections of Emergency Response Training require Facility tours and practical demonstrations and "hands-on" experience where applicable.
- 2.4 Instructor selection is accomplished by the Radiological and Environmental Services Department. Instructor qualifications are reviewed by the Radiological and Environmental Services Department. Instructors will be members of the plant staff familiar with Emergency Planning or contractors suitably prepared to conduct Emergency Plan training.
- 2.5 Emergency response training shall be accomplished annually, within + 3 months.
- 2.6 When changes to the Emergency Procedures are made, they are routed to the controlled copy holders of the Emergency Plan Procedures document. If significant changes to the Plan or Procedures are made, re-training will be conducted for those personnel the plan or procedure changes would impact on. If necessary, re-training would be a formal classroom session, a facility tour, or accomplished by a procedure routing sign-off method.
- 2.7 The Emergency Plan Coordinator maintains documentation on attendance for Emergency Response Training. Training Attendance sheet ITP-15.3, will be used for attendance verification. The "Scope of Training" section shall be filled out in accordance with lesson plan wording. The Training Coordinator maintains training attendance records and associated results for each individual's training file. The Training Coordinator is responsible for maintaining all documentation regarding General Employee, and first aid training. A minimum of 90% of IP-3 key emergency response personnel shall maintain current training qualifications in assigned emergency responsibilities. These key personnel are listed in Appendix A, Roster III.
- 2.8 Written tests are administered to personnel who are assigned specific Emergency Response responsibilities. A passing grade is considered to be 70% and above.

2.9 All Emergency Plan related training, accomplished by Con Edison for their personnel, that relates in any manner to the Power Authority Emergency Plan, can be audited in accordance with MOU #28.

3.0 PROCEDURE

The purpose of Emergency Response training is to accomplish specialized individual and team training in methods/techniques for emergency response/recovery steps in order to respond to an accident at the IP-3 Nuclear Power Plant. All personnel who may be required to perform emergency duties in any of the following areas will be trained in those emergency plan responsibilities that are not a part of their normal duties. Various lesson plans and presentations have been formulated.

The following list is a break down by job and which topics should be covered during their training for that job.

3.1 Emergency Directors

3.1.1. Topics:

- A. Emergency Director Responsibilities
- B. Dose Calculations
- C. Set-up, Operation and Concept of an Emergency Operation Facility
- D. Off Site Monitoring
- E. Computer Systems
- F. Accountability
- G. General Organization
- H. Communications Equipment
- I. Technical Support Center
- J. Operations Support Center
- K. Administrative Support

3.1.2. Overviews Topics:

- A. Security
- B. Health Physics Responsibilities
- C. Chemistry Responsibilities
- D. Control Room
- E. RO and SRO Responsibilities

3.2 Plant Operation Manager

3.2.1. Topics:

- A. Plant Operation Manager Responsibilities
- B. RO and SRO Responsibilities
- C. Control Room
- D. All topics for Emergency Directors

3.3 Radiological Assessment Team

3.3.1 Topics:

- A. Radiation Assessment Team Leader Responsibilities
- B. Dose Calculations
- C. Operations Support Center
- D. Technical Support Center

- E. Health Physics Responsibilities
- F. Chemistry Responsibilities
- G. Communication Equipment
- H. General Organization
- I. Computer Systems
- J. Set-up, Operation and Concept of an EOF
- K. Off-Site Monitoring

- 3.3.2. Overview Topics:
 - A. Accountability
 - B. Control Support
 - C. Administrative Support

3.4 Emergency Operation Facility Communicators

- 3.4.1 Topics:
 - A. Communication Equipment
 - B. Set-up, Operation and Concept of an EOF
 - C. General Organization

3.5 Technical Support Center Personnel

- 3.5.1. Topics:
 - A. Technical Support Center
 - B. Technical Support Center Manager
 - C. Communication Equipment
 - D. General Organization
 - E. Radiation Monitoring Equipment

3.6 Operations Support Center Personnel

- 3.6.1 Topics:
 - A. Operations Support Center
 - B. Operations Support Center Supervisor
 - C. Communication Equipment
 - D. General Organization
 - E. Accountability
 - F. Radiation Monitoring Equipment
 - G. Administrative Support
 - H. Repair & Corrective Actions

- 3.6.2 Overview Topics
 - A. Health Physics Responsibilities
 - B. Health Physics Team Leader
 - C. Chemistry Responsibilities
 - D. Chemistry Team Leader

3.7 Shift Supervisors

- 3.7.1 Topics:
 - A. Dose Calculations
 - B. Emergency Director Responsibilities
 - C. Operations Support Center
 - D. Technical Support Center
 - E. Communication Equipment
 - F. General Organization
 - G. Accountability
 - H. Computer Systems

- I. Set-up, Operation and Concept of an EOF
- J. Off-Site Monitoring
- K. Control Room
- L. RO & SRO Responsibilities
- M. Radiation Monitoring Equipment
- N. Administrative Equipment

- 3.7.2 Overview Topics:
- A. Security
 - B. Health physics Responsibilities
 - C. Chemistry Responsibilities

3.8 Accountability Officers

- 3.8.1 Topics:
- A. Accountability
 - B. General Organization

3.9 Security

- 3.9.1 Topics:
- A. Security
 - B. Communication Equipment
 - C. General Organization

- 3.9.2 Note: Security Shift Coordinators will receive in addition to the above topics
- A. Accountability

3.10 Health Physics Technicians

- 3.10.1 Topics:
- A. Operations Support Center
 - B. Health Physics Responsibilities
 - C. Communication Equipment
 - D. General Organization
 - E. Off-Site Monitoring

- 3.10.2 Note: Health Physics supervisors will receive in addition to the above topics
- A. Health Physics Team Leader
 - B. OSC Supervisor

3.11 Chemistry Technicians

- 3.11.1 Topics:
- A. Operations Support Center
 - B. Chemistry Responsibilities
 - C. Communication Equipment
 - D. General Organization
 - E. Post Accident Sampling

- 3.11.2 Note: Chemistry Supervisors will receive in addition to the above topics
- A. Chemistry Team Leader
 - B. OSC Supervisor

3.12 Senior Reactor Operators and Reactor Operators

- 3.12.1 Topics:
- A. Dose Calculation
 - B. Emergency Director Responsibilities
 - C. Communication Equipment
 - D. General Organization
 - E. Computer Systems
 - F. Control Room
 - G. RO & SRO Responsibilities
 - H. Radiation Monitoring Equipment
- 3.12.2 Overview Topics:
- A. Security
 - B. Health Physics Responsibilities
 - C. Chemistry Responsibilities
 - D. Off-Site Monitoring

3.13 Shift Technical Advisor

- 3.13.1 Topics:
- A. Technical Support Center
 - B. Technical Support Center Manager
 - C. General Organization
 - D. Control Room

3.14 Nuclear Plant Operators

- 3.14.1 Topics:
- A. Operations Support Center
 - B. Communication Equipment
 - C. General Organization
 - D. Control Room
 - E. Radiation Monitoring Equipment

3.15 Emergency Operation Facility Technical Assistants

- 3.15.1 Topics:
- A. Set-up, Operation and Concept of an EOF
 - B. Communications Equipment
 - C. General Organization

3.16 Administrative Support

- 3.16.1 Topics:
- A. Operations Support Center
 - B. General Organization
 - C. Administrative Support

3.17 General Employee

3.17.1 Topics:

- A. Film on Emergency Plan, Site Assembly Procedures and Site Alarms

3.18 Medical Emergency Training

3.18.1 Topics:

- A. On-Site; Conducted as per consultant training program.
- B. Offsite; Conducted as per consultant training program.
 - 1. Hospital Personnel
 - 2. Ambulance Personnel

3.19 Fire Response

- 3.19.1 Verplanck Fire; Conducted by Safety & Security Department

3.20 First Aid

- 3.20.1 First Aid training will be performed equivalent to Red Cross Multimedia standards. Provisions will be made to have at least one member of the watch trained in first aid.

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