INDIANA & MICHIGAN ELECTRIC COMPANY DONALD C. COOK NUCLEAR PLANT

PROCEDURE COVER SHEET

Procedure No. PMP 2080 EPP. 006

Revision No. 3

TITLE INITIAL DOSE ASSESSMENTS (GASEOUS)

SCOPE OF REVISION

Revision 1: Complete revision to simplify dose calculation

technique.

Revision 2: Revised curves, corrected errors in procedures,

and added Waste Gas Decay Release curve. Incorporated

Temporary Changes 1 & 2.

Revision 3: Deleted 1200 meter site boundary dose calculation,

consider site boundary 610 meter for all calculations

and added SRO review of dose calculation.

	SIGNA	TURES		
	ORIGINAL	Rev. 1	REV. 2	Rev. 3
PREPARED BY	and Worker	Arland Bear	Maken	- KKBake-
QUALITY ASSURANCE REVIEW	Statel	Ather	EM Gattle	Both
INTERFACING DEPARTMENT HEAD CONCURRENCE	(N.A.	N.A.	NA	Voland Began
DEPARTMENT HEAD APPROVAL	N.A.	N.A.	NA	NA
PLANT NUCLEAR SAFETY COMMITTEE	RS Leid	Balume	- Blimms	A. Clastins
PLANT MANAGER APPROVAL	Blower	- 800 Chille	WHent	withing
DATE OF ISSUE	3-31-81	10-27-81	4-27-8	2 8-27-83

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INDIANA & MICHIGAN ELECTRIC COMPANY DONALD C. COOK NUCLEAR PLANT

INITIAL DOSE ASSESSMENTS (GASEOUS)

1.0 OBJECTIVES

This procedure provides the Shift Supervisor/On-Site Emergency Coordinator (SS/OSEC) with a method to initially assess potential off-site dose effects of unplanned radioactive gaseous releases.

2.0 RESPONSIBILITIES

- 2.1 Upon a projected or actual unplanned radioactive gaseous release, and prior to activation of the Technical Support Center, it is the SS/OSEC's responsibility to make off-site dose projections. The SS/OSEC shall also verify the projected values by organizing a Radiation Monitoring Team and sending them to appropriate off-site areas.
- 2.2 Technical Support Center (TSC) personnel shall assume the responsibilities of 2.1 upon TSC activation.

This procedure is applicable prior to activation of the Technical Support Center whenever there is a significant projected or unplanned release of gaseous radioactivity.

3.0 APPLICABILITY

This procedure is applicable prior to activation of the Technical Support Center whenever there is a significant projected or unplanned release of gaseous radioactivity.

4.0 INSTRUCTIONS

- 4.1 Obtain data necessary to make off-site dose projections.
 - 4.1.1 R-15, R-26, and/or R-33 radiation monitor readings.
 - 4.1.1.1 If R-26 is off-scale high, obtain a radiation reading at 6" from the unit vent sample line.
 - 4.1.1.2 If R-15 or R-33 is off-scale high, obtain a radiation reading at 6" from the GSLO or SJAE exhaust line.
 - 4.1.2 Appropriate vent flow rate (Unit Vent, GSLO, or SJAE).
 - 4.1.3 Wind direction and velocity.

4.1.4 Determine PASCALL Category as per the table below:

ΔT=(T@180ft. - T@30ft.)°C PASCALL CATEGORY

< - .9
-.9 to - .8
-.8 to - .7
-.7 to - .2
-.2 to + .7
+.7 to +1.8
> +1.8

- 4.2 If meteorological instrumentation is inoperable use Exhibit G to estimate wind speed and PASCALL Category. Obtain wind direction from the Visitors Center or State Police.
- 4.3 Select appropriate graph (s) to use and fill in data blanks
 - 4.3.1 R-26 On-Scale; Exhibit A
 - 4.3.2 R-26 Off-Scale; Exhibit B
 - 4.3.3 R-33 On-Scale; Exhibit C
 - 4.3.4 R-15 On-Scale; Exhibit D
 - 4.3.5 R-15, R-33 Off-Scale; Exhibit E
 - 4.3.6 Waste Gas Decay Tank Release; Exhibit F
 - NOTE: R-15 On-Scale will always result in less than 1 mR/hr off-site. With steam generator tube ruptures, readings would be expected also on R-33. The dose associated with the release from a steam generator tube rupture will be the sum of the doses calculated from R-15 and R-33.
 - NOTE: The ability to predict dose rate in the event of a steam generator tube rupture is dependent upon the release being via R-33 and R-15. If releases are being made via the safeties or steam generator PORV's because of the loss of condenser vacuum or equipment failure, there is no quick method to calculate dose rate. Dose rate should then be measured at the site boundary as soon as possible by dispatching a monitoring team to monitor downwind at the site boundary.
- 4.4 Complete the appropriate graph(s) to estimate off-site dose rate as follows:
 - 4.4.1 Draw a straight line connecting the data points on scales (1) and (2).
 - 4.4.2 Draw a straight line connecting the intersection of scale (3), from step 4.4.1, with the data point on scale (4).
 - 4.4.3 Connect the intersection of scale (5), from step 4.4.2, with the data point on scale (6).
 - 4.4.4 Read the 610 meter site boundary dose rate from the intersection of scale (7), caused by Step 4.4.3.

NOTE: Although the site boundary is 1200 meters from the plant

for wind directions (from) 250° - 305°, for protective action recommendation purposes the site boundary is always

considered to be 610 meters.

NOTE:

The dose will occur where the wind is blowing toward. To convert Wind Direction (from) to towards, Exhibit H of this procedure may be used.

4.5 Classify the condition as follows:

Site Boundary Dose Rate

Classification

≥ 2 mR/hr

Alert

≥ 50 mR/hr

Site Emergency

≥ 250 mR/hr

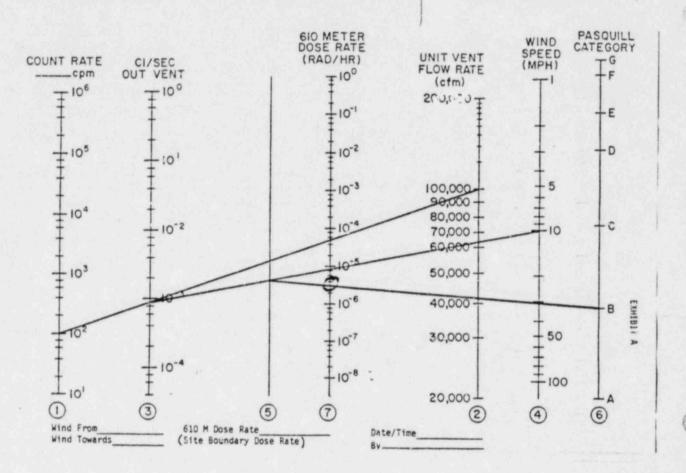
General Emergency

NOTE: For wind directions over (toward) the lake consider the site boundary dose rate to be the same as the 610 meter dose rate.

- 4.6 When the projected dose rate is ≥ 250 mR/hr, the SS should recommend to local authorities immediate sheltering within a 2 mile radius of the plant and for 5 miles downwind in the affected sector(s). For wind directions over the take, evacuation is appropriate.
- 4.7 Return to PMP 2080 EPP.001 as applicable.

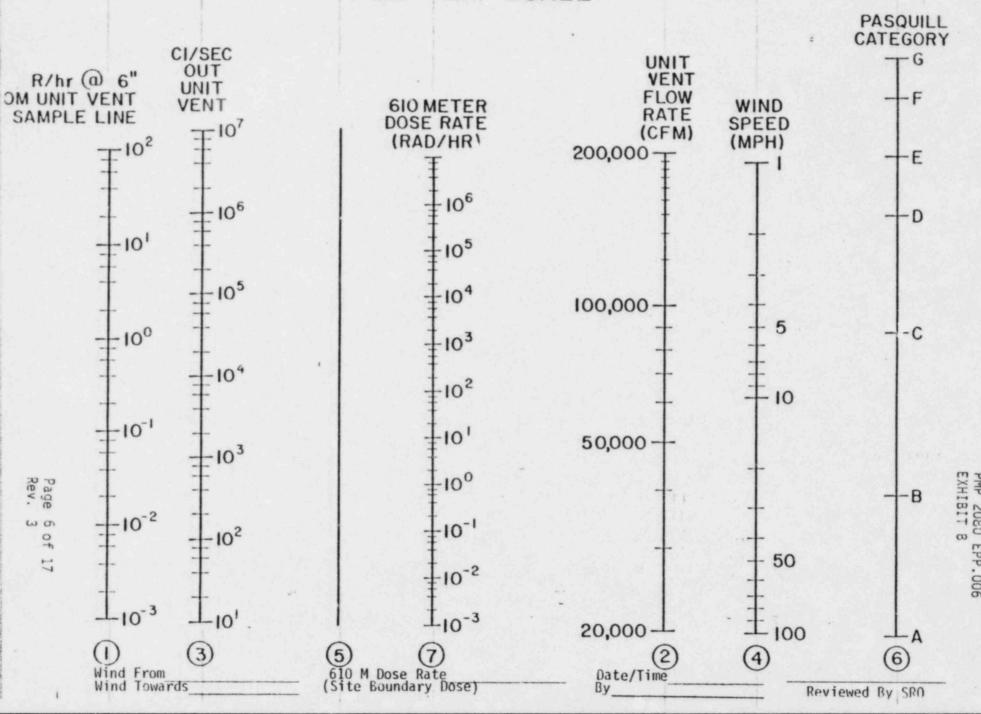
R-26-ON SCALE

R-26-ON SCALE

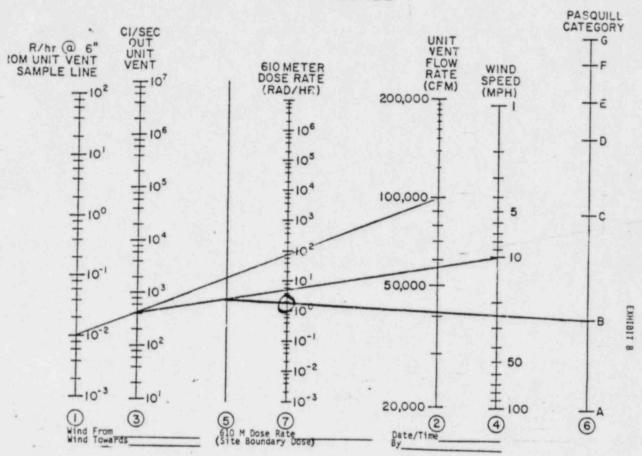


- *4.4.1 Draw a straight line connecting the data points on scales (1) and (2).
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*Corresponds with Procedure Instructions



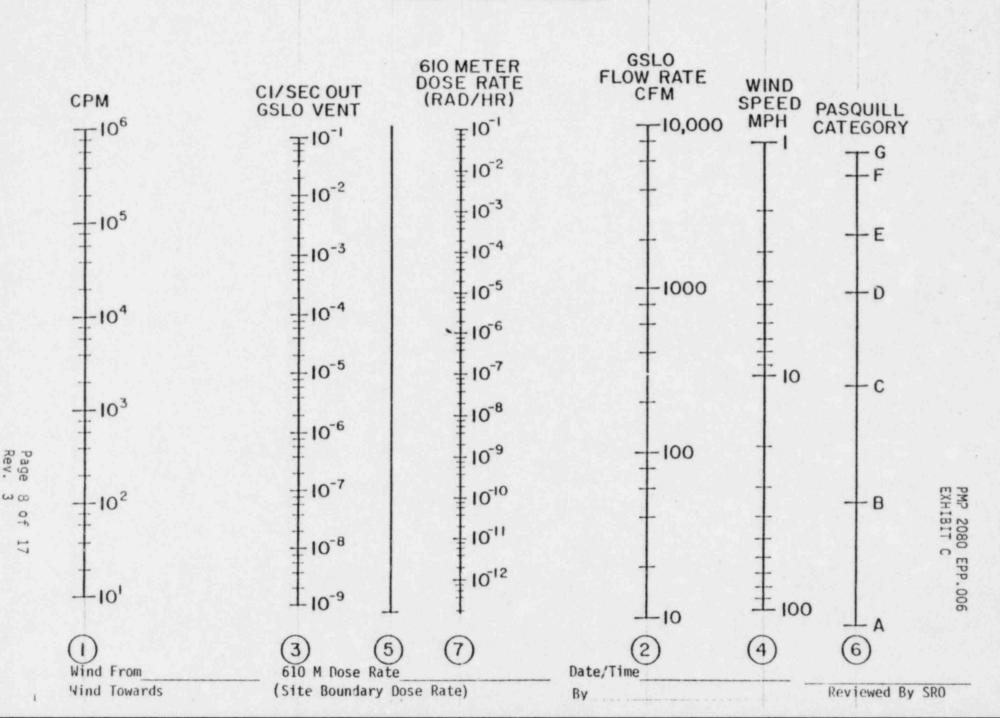




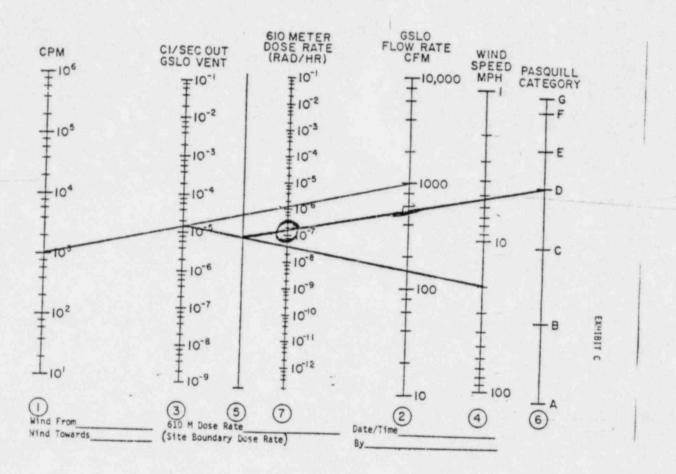
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- *4.4.3 Connect the intersection of scale (5), from step 4.4.2, with the data point on scale (6).
- *4.4.4 Read the 610 meter (site boundary) dose rate from the intersection of scale (7), caused by step 4.4.3.

*Corresponds with Procedure Instructions

R33-ON SCALE



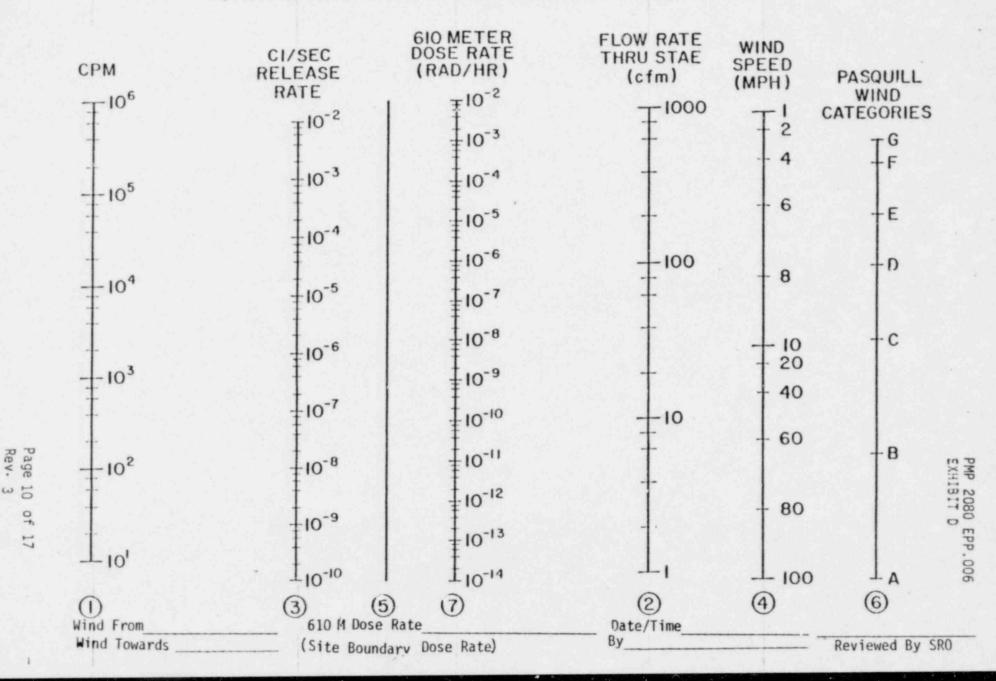
R33-ON SCALE



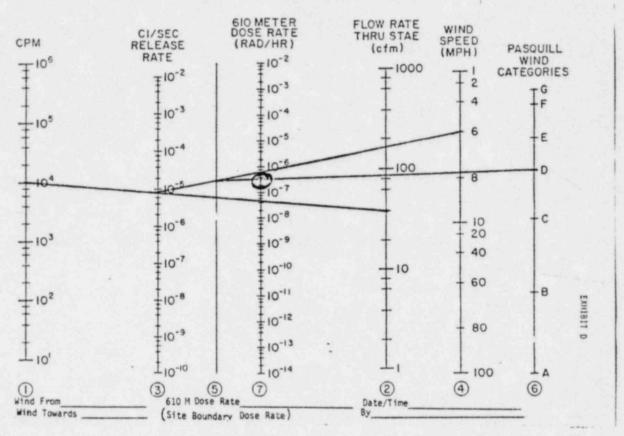
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- *4.4.4 Read the 610 meter (site boundary) dose rate from the intersection of scale (7), caused by step 4.4.3.

*Corresponds with Procedure Instructions

RIS-ON SCALE (FLOW RANGES BETWEEN ICFM-1,000 CFM)



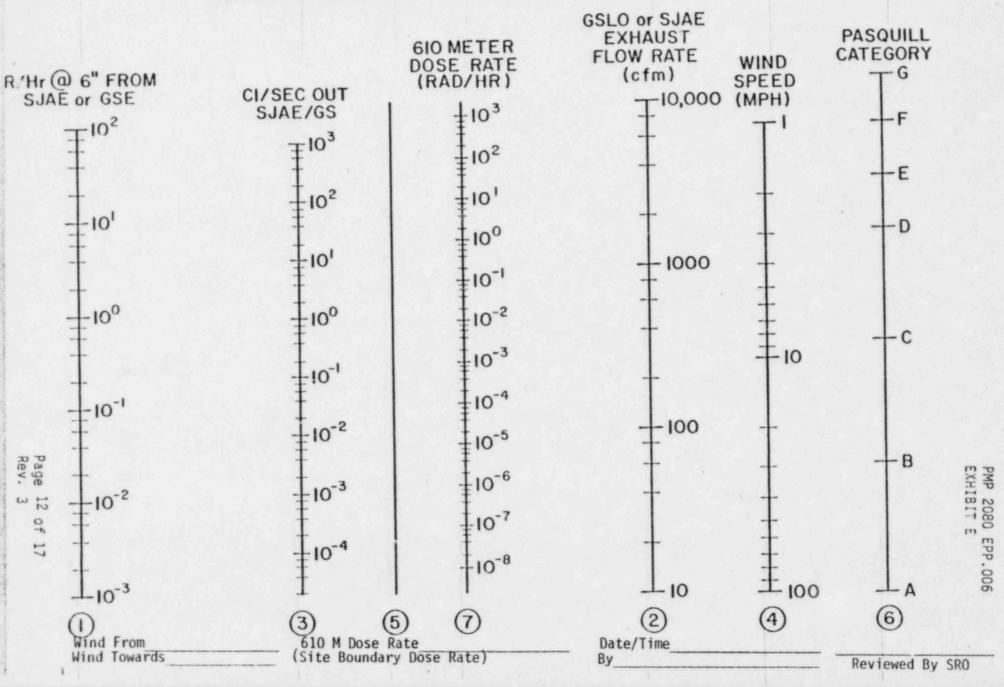




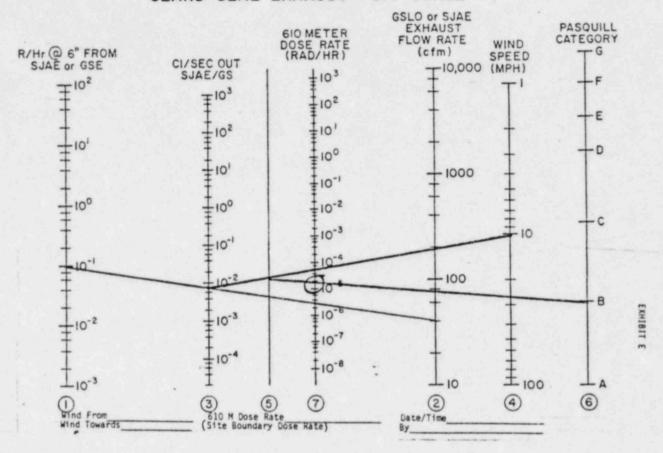
- *4.4.1 Draw a straight line connecting the data points on scales (1) and (2).
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- *4.4.4 Read the 610 meter (site boundary) dose rate from the intersection of scale (7), caused by step 4.4.3.

^{*}Corresponds with Procedure Instructions

STEAM JET AIR EJECTOR GLAND SEAL EXHAUST - OFF SCALE



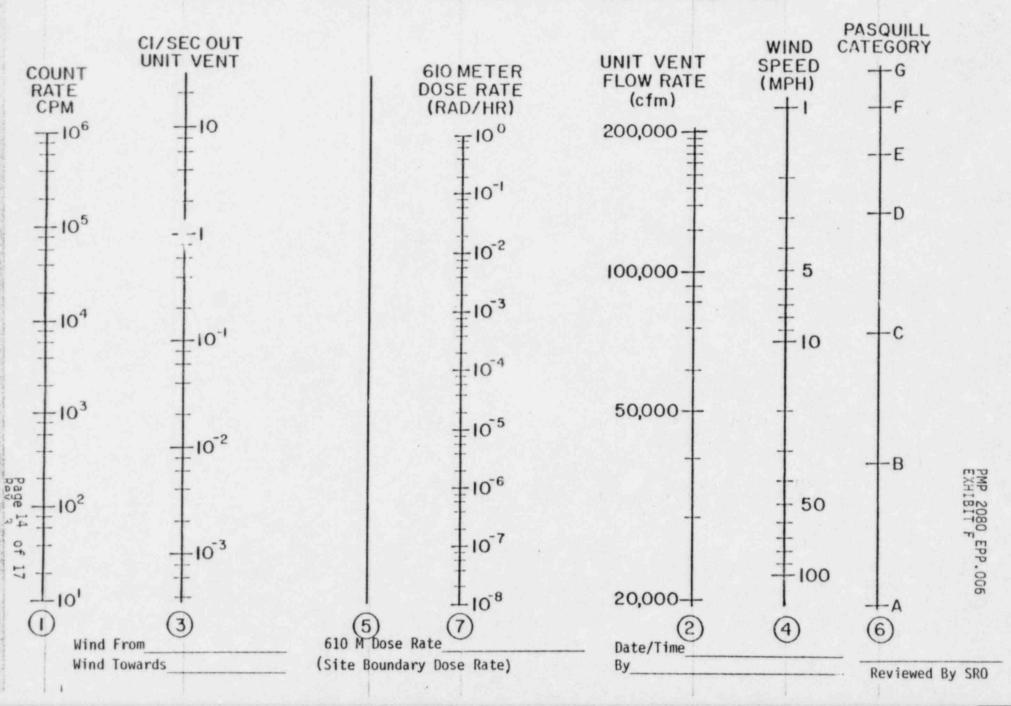
STEAM JET AIR EJECTOR GLAND SEAL EXHAUST - OFF SCALE



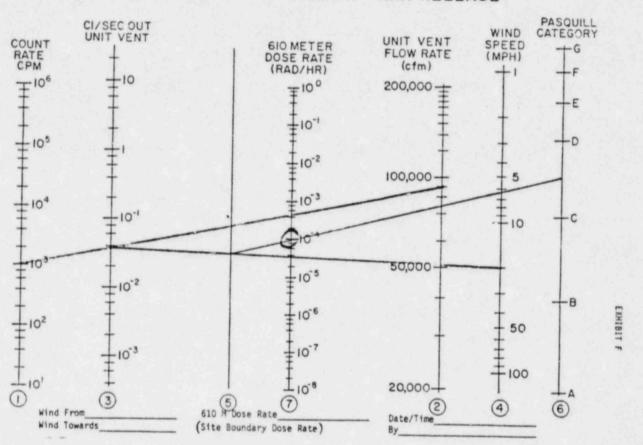
- *4.4.1 Draw a straight line connecting the data points on scales (1) and (2).
- *4.4.2 Draw a straight line connecting the intersection of scale (3), from step 4.4.1, with the data point on scale (4).
- *4.4.3 Connect the intersection of scale (5), from step 4.4.2, with the data point on scale (6).
- *4.4.4 Read the 610 meter (site boundary) dose rate from the intersection of scale (7), caused by step 4.4.3.

^{*}Corresponds with Procedure Instructions

R-26-WASTE GAS DECAY TANK RELEASE



R-26-WASTE GAS DECAY TANK RELEASE



- *4.4.1 Draw a straight line connecting the data points on scales (1) and (2).
- *4.4.2 Draw a straight line connecting the intersection of scale (3), from step 4.4.1, with the data point on scale (4).
- *4.4.3 Connect the intersection of scale (5), from step 4.4.2, with the data point on scale (6).
- *4.4.4 Read the 610 meter (site boundary) dose rate from the intersection of scale (7), caused by step 4.4.3.

*Corresponds with Procedure Instructions

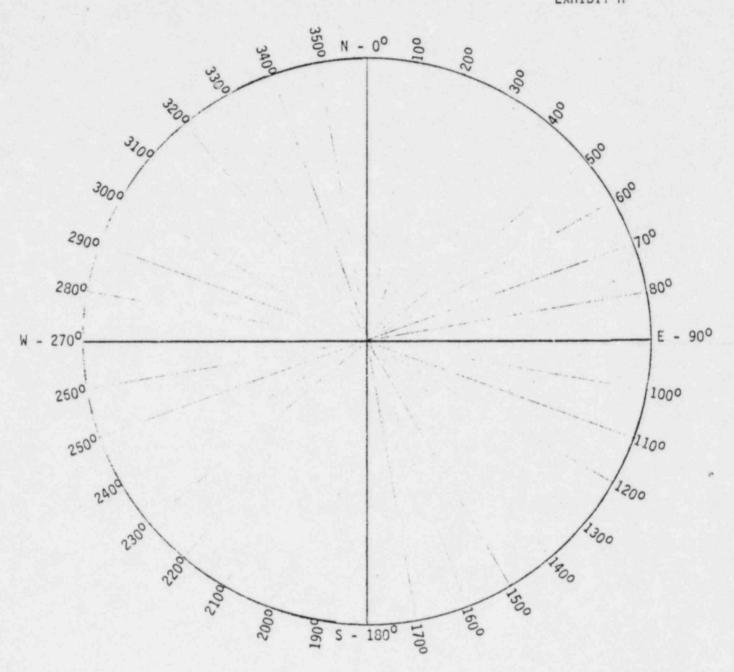
If the meteorological tower instrumentation is inoperable, atmospheric conditions may be estimated using the tables below:

WIND SPEED MPH

Wind Speed (mph)	Observed Effects on Land
≦ 1	Calm, smoke rises vertically
1 - 3	Direction of wind shown by smoke drift
4 - 7	Wind felt on face, leaves rustle
8 - 12	Leaves and small twigs in constant motion
13 - 18	Raises dust, loose paper; small branches are moved
19 - 24	Small trees with leaves begin to sway
25 - 31	Large branches in motion
32 - 38	Whole trees in motion; inconvenience felt walking against wind
39 - 46	Breaks twigs off trees; generally impedes walking
47 - 54	Slight damage begins to occur
55 - 63	Trees uprooted
≥ 64	Widespread damage

PASCALL Category

	Sunny Day	Cloudy Day	Cloudy Night	Clear Night
Wind ≤ 10 mph	В	С	E	F
Wind ≥ 10 mph	С	D	D	D



INSTRUCTIONS

- 1. Obtain wind direction from Unit 1 Control Room Indicator (QR-24 or QR-25). This is the direction the wind is blowing "FROM".
- 2. Find this direction on the chart above.
- From this point, follow a straight line through the center of the circle to the opposite side. This is the direction the wind is blowing "TO" and the direction the plume will be over.

INDIANA & MICHIGAN ELECTRIC COMPANY DONALD C. COOK NUCLEAR PLANT

PROCEDURE COVER SHEET

Procedure No.pmp 2080.EPP.008

Revision No. 2

TITLE INITIATING MANNING OF EMERGENCY RESPONSE FACILITIES AND CALLING OFF-DUTY PLANT PERSONNEL

SCOPE OF REVISION

- Revision 1 Added Graphical Phone Tree. Clarified assembly and call in, activate call list on TSC manning not Nuclear Emergency Alarm.
- Revision 2 Changed procedure title, revised and updated procedure body and Exhibit A. Incorporated Temporary Change Sheet 1.

	SIGNA	ATURES		
	ORIGINAL	Rev. 1	REV. 2	Rev. 3
PREPARED BY	T. Duffy R. Keith	K. Baker	P.C. Craig	
QUALITY ASSURANCE REVIEW	J. Stietzel	J. Stietzel	Malan	
INTERFACING DEPARTMENT HEAD CONCURRENCE	NA	NA	Mand Began	
DEPARTMENT HEAD APPROVAL	NA.	NA.	NA	
PLANT NUCLEAR SAFETY COMMITTEE	R. Keith	A. 21ind	Aslind	
PLANT MANAGER APPROVAL	B. Svensson	E. Townley	William	
DATE OF ISSUE	03-31-81	04-29-82	8-27-82	

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Page 1 of 1 EXHIBIT C	Revision 2, 08-27-82

INDIANA & MICHIGAN ELECTRIC COMPANY DONALD C. COOK NUCLEAR PLANT

INITIATING MANNING OF EMERGENCY RESPONSE FACILITIES AND CALLING OFF-DUTY PLANT PERSONNEL

1.0 OBJECTIVES

The objective of this procedure is to provide the information that is necessary to summon plant personnel during emergency conditions to staff the Emergency Response Facilities.

2.0 RESPONSIBILITIES

- 2.1 The Shift Supervisor (SS)/On-Site Emergency Coordinator (OSEC) is responsible for initiating the actions required to staff the Emergency Response Facilities and to provide the required information to the parties called. Individual Department Heads are responsible for maintaining the call lists current.
- 2.2 Exhibit A* will be verified correct at least quarterly by the Operations Department. Where Exhibit A* requires initiation of Section or Departmental call lists the applicable Department Head is responsible for maintaining these lists current.

NOTE:

TO PROVIDE RAPID NOTIFICATION OF DEPARTMENTAL PERSONNEL, DEPARTMENT SUPERVISORS MAY ESTABLISH DEPARTMENTAL CALL TREES OR DELEGATE NOTIFICATION TO OTHER DEPARTMENTAL PERSONNEL.

3.0 APPLICABILITY

- 3.1 This procedure applies to any plant emergency event which requires plant personnel notification for purposes of staffing Emergency Response Facilities.
- 3.2 The procedure may be implemented anytime the SS/OSEC determines that it is necessary that on-site emergency personnel resources be augmented by off-duty plant personnel.
- 3.3 The TSC and OSA will be activiated for any event classified as an alert or higher.

*Exhibit A included in in-plant copies of procedures only.

4.0 INSTRUCTIONS

4.1 Normal Working Hours

- 4.1.1 During normal working hours if the S.S./OSEC desires to activate the TSC and Operations Staging Area (OSA), a public address (P.A.) announcement will be made stating "Activate the TSC". Any special reporting routes will be identified in conjunction with the P.A. announcement. Assigned personnel will report to the TSC and OSA upon hearing the P.A. announcement. If sufficient personnel do not report directly to the TSC or OSA, they will be contacted via telephone by personnel in the TSC and OSA.
- 4.1.2 For site or general emergencies, personnel are to report directly to their assigned Emergency Plan duties upon hearing the Nuclear Emergency Alarm (NEA) unless the P.A. announcement following the NEA restricts their route to their assigned station. Then they should report to the OSA and request guidance as to a safe route.

4.2 Off-Duty Hours

- 4.2.1 During off-duty hours, the S.S./OSEC will initiate calling of off-duty plant personnel to staff the Emergency Response Facilities by activating the Emergency Call List (Exhibit A*) and provide any specific reporting restrictions by completing the Off-Duty Notification Information Sheet (Exhibit B).
- 4.2.2 When notified, others will accomplish their assigned portion of Exhibit C. Personnel contacted should report directly to their assigned locations unless directed otherwise.
- 4.2.3 Security should set up for immediate processing of arriving off-duty personnel and establish an Assembly Area for reporting at the I-94 Guard House, if directed.
- 4.2.4 If additional staffing is required they will be contacted by phone by the responsible department.

SHIFT SUPERVISOR CALL-OUT LIST

Perform the following:

- 1. Contact the Security Shift Supervisor on ext. or via the page.
 - State We have initiated the Emergency Plan, please initiate the appropriate Emergency Plan Call-Out List (Exhibit A Page 2 of 5).
- Contact the NRC via the NRC Red Phone. (Continuous contact will be required.) Provide Information on Exhibit B.
- 3. Contact the Operations Superintendent . . . K. R. Baker -

or

Assistant Operations Superintendent . . H. M. Chadwell -

or

Production Supervisor Unit 1 D. R. Campbell -

or

Production Supervisor Unit 2 C. E. Murphy -

State - We have initiated the Emergency Plan, please initiate the Operations Department Call-Out List. Provide information on Exhibit B.

4. Contact the Plant Manager W. G. Smith, Jr. -

or

Assistant Plant Manager Operations . . . B. A. Svensson -

or

Assistant Plant Manager Maintenance . . . E. L. Townley -

State - We have initiated the Emergency Plan, please initiate the Managers Call List and report to the TSC. Provide information on Exhibit B.

SECURITY SHIFT SUPERVISOR CALL LIST

Α.	Contact the Central Alarm Station (CAS), Second Alarm Station (SAS), and Guard Island and instruct them to initiate the appropriate Emergency Plan Drill Call List (Exhibit A, page 3, 4, and 5 respectively).
В.	Contact the following in the order listed:
1.	Maintenance Superintendent - R. L. Dudding
	or
	Maintenance Production Supervisor - F. W. Wenman
	or
	Maintenance QCIC - D. G. Wizner
	State - We have initiated the Emergency Plan, please initiate the Maintenance Department Call-Out for staffing the OSA and report to the OSA.
2.	Technical Superintendent - E. A. Smarrella
	or
	Performance Engineer - A. A. Blind
	or
	Performance Engineer - R. L. Simms
	State - We have initiated the Emergency Plan, please report to the TSC.
3.	Training Supervisor - D. D. Nelson
	or
	Training Instructor - J. D. Dickson
	or
	Training Instructor - W. A. Nichols
	State - We have initiated the Emergency Plan, please initiate the Training Department Call-Out List.
4.	Assistant Plant Manager Oper B. A. Svensson
	or
	Assistant Plant Manager Maint E. L. Townley
	State - We have initiated the Emergency Plan, please notify the other Assistant Plant Manager and report to the Plant.

CENTRAL ALARM STATION CALL-OUT LIST

Call	the following in the order listed:
1.	R. L. Simms
	R. Hennen
	A. Verteramo
	T. Anderson
	State - We have initiated the Emergency Plan, please report to the TSC.
2.	C&I Supervisor - D. Duncan
	C&I Foreman - C. Miles
	C&I Foreman - D. Sammons
	State - We have initiated the Emergency Plan, please contact two C&I Technicians to report to the Plant and report to the TSC.
3.	V. D. Vanderburg
	E. A. Abshagen
	T. A. Kriesel
	State - We have initiated the Emergency Plan, please report to the TSC.
٠.	PET (Electrical)
	A. Blind
	W. Pauls
	D. Sudkamp
	R. Hannigan
	State - We have initiated the Emergency Plan, please report to the TSC.

SECONDARY ALARM STATION CALL-OUT LIST

Call the following in the order listed:

1.	Duty Maintenance Foreman - Obtain name and number from Maintenance Depts. Weekly Callout list.
	or
	Maintenance Production Supervisor - F. Wenman
	State - We have initiated the Emergency Plan, please contact 2 electrician and 1 mechanic to report to the Plant.
2.	A. Tetzlaf
	W. Stoner
	A. Might
	J. Piotrowski
	C. Wilson
	State - We have initiated the Emergency Plan, please report to the TSC.
3.	Chemical Superintendent - J. Wojcik
	Chemical Foreman - R. Looker
	Chemical Foreman - W. Lentz
	Chemical Foreman - J. Ersland
	State - We have initiated the Emergency Plan, please initiate the Chemical Section Call-Out and report to the TSC.
4.	Contact 2 of the following:
	R. Krieger
	R. Hennen
	W. Gillette
	G. Haganiers
	그 이 경험 경험을 받았다. 이 이 사는 사람이 되었다면 하는 사람들이 하는 사람들이 되었다.
	State - We have initiated the Emergency Plan, please report to the TSC.

GUARD ISLAND

EMERGENCY PLAN DRILL CALL-OUT LIST

Call	the following in the order listed:
1.	R. P. Foreman:
	J. Hoss
	D. Schroeder
	J. Fryer
	State - We have initiated the Emergency Plan, please initiate the R.P. Emergency Plan Call-Out List.
2.	Dose Assessment:
	D. Palmer
	W. Ketchum
	M. Glissman
	State - We have initiated the Emergency Plan, please report for dose assessment duties.
3.	J. Fryer
	D. Schroeder
	State - We have initiated the Emergency Plan, please report to the Plant.
4.	PET (Mech.)
	M. Lester
	W. Golden
	C. Flis
	K. Chapman
	C. Wilson
	J. Piotrowski
	State - We have initiated the Emergency Plan, please report to the TSC.

OFF-DUTY NOTIFICATION INFORMATION SHEET

nfo	ermation given to responding personnel:
	Emergency was declared at
	(Classification) (Time)
	(Nature of incident and status of plant)
	A release to the environment has not occurred; has occurred; is occurring; may occur
	occurring, may occur
	Projected Dose Rates at or near the site boundary are
	Report to: Security Control Center ; I-94 Guard House ;
	Report to: Security Control Center; I-94 Guard House; Stevensville Substation; Operations Staging Area; Technical Support Center ; via

