TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO REQ.	NOTIFICATIONS INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
	EMERGENCY COORDINATOR				1	1				
	P) Daniel L. Mineck									
	1) Bobby R. York									
	2) David L. Wilson									
	3) John V. Vinquist									
	4) Rick L. Hannen									
	EMERGENCY RESPONSE & RECOVERY DIRECTOR				1	1				
	P) Dick McGaughy									
	1) Larry D. Root									
	2) Harold Rehrauer									
	Security Shift Supervisor (CAS)				1	1				
	Linn County EOC (sheriff)				15 min.					
	Benton County EOC (Sheriff)				15 min.					
	State EOC (ODS)				15 min.					

398-3911
or
Point to Point Radio
or
IWAS Phone

11-472-4777
or
11-472-2337
or
Point to Point Radio
or
IWAS Phone

11-515-281-3231
or
11-515-281-3561
or
Point to Point Radio
or
IWAS Phone

Communic r Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO REQ.	NOTIFICATIONS INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
_____	NRC Operations Center Bethesda, Maryland		NRC "HOTLINE" or (202) 951-0550 or (301) 427-4056 or HP Net - 22 or (301) 492-7000		1 hour					

Communicator Name_____ _____Date_____

Notification List No. 2

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
	Site Radiation Protection Coordinator				1	1				
	(P) Keith Young									
	(1) Bob Dye									
	(2) Ed Parsons									
	OSC Supervisor				1	1				
	(P) Ed Parsons									
	(P) Paul Serra									
	(1) Bob Dye									
	Health Physics Technicians				5	8				
	Kevin Konzem									
	Paul A. Louis									
	Kevin Coppes									
	Gerald G. Wilford									
	Eric Wienola									
	L. Sills									
	S. Hopper									
	J. Evans									
	M. Davison									
	J. Elbert									
	D. Black									
	A. Reese									
	R. Grafton									
	S. Funk									
	B. Sligh									
	D. Kubacka									
	Terry Matla (Trainee)									
	DeeAnn Anderson (Trainee)									
	Janiece Ford (Trainee)									
	Wesley Kadlec (Trainee)									
	Norman Nelson (Trainee)									
	Tony Bata (Trainee)									
	Mary Burns (Trainee)									
	L. Ganske (Trainee)									
	P. Schmidt (Trainee)									
	B. Nielsen (Trainee)									

Communic or Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Chemistry Technicians				1	2				
	Ralph M. Lewis									
	Craig Sealls									
	Anthony Funke									
	Don Rees									
	Radwaste Operators				1	1				
	James L. Klocke									
	Steven M. Eylers									
	M. Larson									
	C. Brown									
	Robert Schlueter (New Operator)									
	Marshall Nickelson (Trainee)									
	L. Schmidt (Trainee)									
	J. Jacobsen (Trainee)									
	G. Skala (Trainee)									
	Exposure Records Coordinator					1				
	Linda Haven									
	Radwaste Coordinator									
	Roger Stigers									
	Environmental H.P.									
	Don Johnson									
	Administrative									
	Jerald Davis									
	NRC Resident Inspector					1				
	Larry Clardy									
	Nick Chrissotimos		home/							
	G. E. Operations Engineer					INFORM				
	John Silva									
	Plant Chemist									
	Ralph Pohto									

Communic. Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	TSC Supervisor				1	1				
	(P) Bobby R. York									
	(1) David L. Wilson									
	(2) John V. Vinquist									
	(3) Rick L. Hannen									
	(4) Gary Van Middlesworth									
	(5) John D. Van Sickel									
	(6) Donald F. Vest									
	Control Room Coordinator				1	1				
	(P) Donald F. Teply									
	(1) C. R. Mick									
	Technical & Engineering Su									
	(P) John Vinquist									
	(1) Dave Wilson									
	(2) Rick Hannen									
	Security & Support Supervisor									
	(P) Dave Wilson									
	(1) Jim Sparano									
	(2) Jerry Davis									
	(3) Mike Sparks									
	Communicators				2	8				
	(P) Mike Chandler									
	(P) Ken Peveler									
	(P) Linus Drouhard									
	(P) Jeff Nelson									
	(P) Taj Mahammed									
	(1) Bill Rackle									
	(2) Bill Scholberg									
	(3) Gene Havlic									
	(4) Sam Ray									
	(5) John Johnson									
	(6) Bill Ellis									
	(7) Clare Bleau									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
	Shift Technical Advisors(STA)				2	2				
	Mike Teply									
	Wally Beck									
	John Bjorseth									
	Giorgos Anagnostopoulos									
	Paul Collingsworth									
	Dave Mankin									
	Rx. & Plant Perf. Engineers				1	1				
	Gary Van Middlesworth									
	Donald F. Vest									
	Nicholas Brown									
	Francis L. Brush									
	Mechanical Maintenance				1	4				
	James P. Goersch									
	William E. Seely									
	Donald L. Schott									
	James M. Meyerhoff									
	Ronald D. Shields									
	Daniel L. Coghlan									
	James Becker									
	David McGill									
	David A. Pladsen									
	Duane Long (Apprentice)									
	Stanley Jacobson (Apprentice)									
	C. Kress (Apprentice)									
	R. Comreid (Apprentice)									
	Electricians				1	2				
	Paul Abernathy									
	James Scott									
	Harold Rodenberg									
	Norman Thiessen									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Instrument Technicians				1	1				
	Paul J. Maternowski									
	Larry Gosnell									
	Michael Long									
	Tony E. Olsen									
	Allen R. Schmidt									
	Ernest C. Zaugg									
	Lowell J. Russell									
	Rob R. Stout									
	Daniel L. Thies									
	William A. McVicker									
	R. Craig Hunt (Apprentice)									
	Electricial Design					1				
	Clare Bleau									
	Mike Chandler									
	Sam Ray									
	Taj Mahammed									
	Giorgos Anagnostopoulous									
	Lila Grover									
	Mechanical Design					1				
	Bill Ellis									
	Bill Scholberg									
	Bill Rackle									
	Jim Loehrlein									
	Ken Peveler									
	Linus Drouhard									
	Jeff Nelson									
	Gene Havlic									
	John Johnson									
	Paul Collingsworth									
	Dave Mankin									
	Mike Teply									
	Monty Hintz									

Communicator Name_____ Date_____

Notification List No. 3

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Mechanical Supervisors					1				
	(P) Richard D. Rockhill									
	(1) George R. Fulford									
	Electricial Maintenance Supervisors					1				
	(P) Jerome C. Sweiger									
	(1) Larry L. Voss									
	Warehouse Personnel									
	(P) Robert LaPointe									
	(1) Russell L. Brown									
	(2) Eldon M. Marting									
	Security Supervisor									
	(P) James Sparano									
	(1) Michael Sparks									

Communicator Name_____ Date_____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO. REQ. IN 30 min.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Shift Supervising Engineers(SSE)									
	John DeVries									
	Douglas R. Gipson									
	Ronald E. Potts									
	Raymond Roberts									
	Raymond L. Zook									
	Shift Supervising Engineers "B"									
	Dwight Barton									
	Dean Robertson									
	Jack Mohr									
	Richard Fowler,									
	Gary Statton									
	Dwight Hartz									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Operators				2					
	John Adams									
	Richard L. Anderson									
	Russell Becker									
	Wayne L. Bentley									
	Lonnie D. Gross									
	Robert Hovey									
	Brian Hupke									
	Duane R. Johnson									
	Kevin J. Morgan									
	Wayne Render									
	Keith Reule									
	Steve Reynolds									
	Stephen Rohr									
	Joe Ruth									
	Frank Sauser									
	David M. Schussler									
	Allen J. Steen									
	Teryl Subbert									
	Kenneth Thomas									
	George R. Thullen									
	Frank S. VanEtten									
	Benjamin Westcot									
	Thomas A. Zimmerman									
	Paul Sullivan									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Training Group									
	Robert Anderson									
	Larry Morey									
	Bob Thorson									
	Dave Miller									
	Ed Harms									
	Alan Dalton									
	Don Hickman									
	Paul Roy									
	Ed Thomas									
	John Connon									
	Health Physics Support									
	Robert Decker									
	Parley Smith									
	Floyd Dickson									
	Chris Cummin									
	Alfred Ward Western									

Communicator Name_____ Date_____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ IN 30 MIN	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
	Security Guard Lieutenant									
	Rollie Cantrell									
	Daniel Kelley									
	Darrell Rickels									
	Richard Sanders									
	Larry Wille									
	Security Personnel									
	Howard D. Brown									
	Diane Engelhardt									
	Frederick Hadenfeldt									
	Brian C. Hall									
	Larry Joens									
	Ron Larsen									
	Larry W. McDonald									
	Robert Moriarity									
	Donald Reiner									
	Tom Stepanek									
	Melvin Theisen									
	Robert Wetherall									
	R. Uthoff									
	M. Meeks									
	K. Moore									
	R. Warren									
	F. Stein									
	D. Roggentein									
	Utility									
	Doreen Kelly		No phone							

Communicator Name _____ Date _____

Additional Resource

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ IN 30 MIN	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Quality Control									
	Robert A. McCracken									
	Mark A. Huting									
	Bruce C. Klotz									
	Donald Metcalf									
	Dennis L. Nowotny									
	James West									
	Joe Fata									
	Technical Engineer									
	David Varner									
	Staff Assistant									
	Lance Mooney									
	Clerical									
	Mary Bohnet									
	Pauletta Carbaugh									
	Sheryl Fetzer									
	Nancy S. Franck									
	Rita Fry									
	Stephanie M. Gilbertson									
	Lila Hancock									
	Linda Haven									
	Patricia Henkle									
	Ann Howard									
	Bonnie Kelsey									
	Paula Luxa									
	Rhonda Reamon									
	Elaine Sutton									
	Rae Jean Sweeney									
	Sharon L. Teufel									

Communicator Name _____ Date _____

TO: DISTRIBUTION

MANUAL Emergency Plan Implementing Procedures

Date June 1, 1982

Please remove: (1) Index and/or Revision Control Page(s) and (2) Procedure or Procedure Page(s) listed below and insert the revised material.

	INSTRUCTIONS			
	REMOVE		INSERT	
	Rev.	Date	Rev.	Date
Revision Control Sheet	5		6	6/1/82
Index	3	3/2/82	4	6/1/82
1.1	0	5/11/81	1	3/1/82
3.1	1	10/19/81	2	3/1/82
3.2	2	10/19/81	3	3/1/82
4.1 (Revision 1 never distributed)	0	5/11/81	2	5/13/82
4.5	----	-------	0	5/13/82
6.3	0	5/11/81	1	3/1/82
6.4	1	1/18/82	2	3/3/82

Subsequent to making the above changes, sign and date the notice below, detach it at the bottom line and return it to the addressee.

NCR-NRR ©

NOTICE OF RECEIPT OF REVISION NOTIFICATION

TO: DAEC SUPPORT SERVICES
P.O. Box 351, Cedar Rapids, Iowa 52406

This acknowledges receipt of revision notification to the Procedure(s) EPIP 1.1, 3.1, 3.2, 4.1, 4.5, 6.3, 6.4

dated 6/1/82 and updating of Procedure(s) in accordance with the notification instructions.

Signature: _____ Date: _____

EMERGENCY PLAN IMPLEMENTING PROCEDURES

REVISION CONTROL SHEET

Revision No. 6

Revision Date 6-1-82

Page/Proc	Date	Rev.	Page/Proc	Date	Rev.	Page/Proc	Date	Rev.
INDEX	6-1-82	4						
1.1	5/11/81	0						
1.2	10/12/81	1						
2.1	1/15/82	2						
2.2	2/1/82	3						
2.3	12/2/81	0						
3.1	3/1/82	2						
3.2	3/1/82	3						
3.3a	10/21/81	1						
3.3b	5/13/81	0						
4.1	5/13/82	2						
4.2	5/11/81	0						
4.3	10/19/81	1						
4.4	5/11/81	0						
4.5	5/13/82	0						
5.1	11/24/81	1						
5.2	11/24/81	1						
6.1	5/11/81	0						
6.2	5/11/81	0						
6.3	3/1/82	1						
6.4	3/3/82	2						

EMERGENCY PLAN IMPLEMENTING PROCEDURES

INDEX

1.0 PURPOSE

1.1 This procedure provides guidelines for determining and revising an Emergency Action Level (EAL) and provides aids to relate the required emergency response to plant conditions.

2.0 APPLICABILITY

2.1 This procedure shall be used by the Shift Supervising Engineer and the Emergency Coordinator for radiological emergencies at DAEC, as defined herein for each EAL. Other events not included in these EALs may be classified as an Unusual Event, Alert, or Site Area Emergency at the discretion of the Emergency Coordinator or the Shift Supervising Engineer.

3.0 RESPONSIBILITIES

3.1 Shift Supervising Engineer

3.1.1 Evaluate plant conditions to determine if an EAL has been reached.

3.1.2 Ensure that DAEC and corporate personnel and offsite support agencies are notified upon determination of an EAL.

3.1.3 Initiate actions to return the plant to a safe and stable condition.

3.2 Emergency Coordinator

3.2.1 Review the declared EAL and revise as required.

3.2.2 Ensure activation of the Emergency Response Organization as required.

3.2.3 Ensure that communications are established with offsite support agencies until relieved of this function by the EOF.

3.2.4 Deactivate the Emergency Response Organization when authorized by the Emergency Response and Recovery Director.

3.3 Responsibilities for other functions required at each EAL are described in more detain in other EPIPs and CPIPs.

4.0 INSTRUCTIONS

4.1 Emergency conditions are classified in an ascending order of severity as follows:

4.1.1 NOTIFICATION OF UNUSUAL EVENT (Condition Classification A)

This class of emergency conditions includes the least severe events requiring offsite notification. This emergency classification shall be declared whenever unusual events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. In general, no releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

4.1.2 ALERT (Condition Classification B)

The Alert emergency condition is the second class in increasing order of severity. This emergency classification shall be declared whenever events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Limited releases of radioactivity may occur.

4.1.3 SITE EMERGENCY (Condition Classification C)

The Site Emergency condition is the third emergency classification in increasing order of severity. This classification shall be delared whenever events are in progress or have occurred which involve actual or likely major failures of those plant functions required for protection of the public. Some significant releases of radioactivity are likely.

4.1.4 GENERAL EMERGENCY (Condition Classification D)

The General Emergency condition is the most severe emergency classification and requires immediate notification of the public. This classification shall be declared whenever events are in progress or have occurred which involve actual or imminent, substantial, core degradation or melting with potential for loss of containment integrity. Significant releases of radioactivity are likely.

4.2 When a suspected emergency condition occurs, the Shift Supervising Engineer shall make the initial analysis and determination of the EAL referrring to Attachment 1, "Emergency Action Level" and Attachment 2, "Emergency Action Level Classification Guidelines". The Emergency Coordinator, at his discretion, shall review the determination for concurrence or revision, either when notified of the condition, or upon arrival at the site.

NOTE

The instrumentation listed under "Possible Indications" in Attachment 2 may serve as possible indicators of an EAL; however, the indicated list should not be considered as all inclusive.

4.2.1 Attachment 1 provides a listing of the Emergency Action Levels and is formatted to show increasing degrees of severity.

4.2.2 Attachment 2, EAL Guidelines, are arranged in an index format according to type of event, plant condition, possible indications and Emergency Action Level codes.

4.2.3 To determine an EAL, the Shift Supervising Engineer shall:

a. Categorize the general type of event referring to Attachment 1 for quick reference, as appropriate.

b. Using Attachment 2, identify instrumentation or indicators to be used for interpretation of plant conditions.

c. Identify the specific plant condition

NOTE

Contact with the Operations Supervisor or his designee should be accomplished if a question exists as to proper classification of the plant condition.

d. Declare the EAL.

4.3 The Emergency Response Organization shall be activated to the extent required for the declared EAL, in accordance with EPIP 1.2, "Notification of the Emergency Response Organization and Offsite Agencies." As a minimum, the following actions shall be taken:

4.3.1 The Shift Supervising Engineer shall initiate the notification process.

4.3.2 The Shift Supervising Engineer shall ensure timely notification of offsite authorities upon classification of the EAL. In accordance with 10 CFR 50 Appendix E, paragraph 3D, this notification should be conducted within 15 minutes.

4.3.3 Upon authorization of the Shift Supervising Engineer, the Secondary Alarm Station Operator shall notify offsite support agencies as specified in EPIP 1.2.

4.3.4 The Emergency Coordinator shall ensure that the Emergency Response Organization and emergency facilities are activated to the extent required by the EAL.

4.4 Reclassification of the EAL shall be performed by the Emergency Coordinator, with the concurrence of the Emergency Response and Recovery Director, as required.

4.4.1 The event may be reclassified to a more severe or less severe level, using the EAL Guidelines. Factors which should be included in the evaluation include actual or potential conditions such as the following:

a. Chain of events

b. Plant status

c. Operability of equipment

d. Meteorological conditions

e. Man-caused or natural events

f. Status of control over radiological releases.

4.4.2 The Emergency Coordinator should consult with the following personnel during such evaluations:

a. Site Radiation Protection Coordinator

b. Control Room Coordinator

c. Technical Support Center (TSC) Supervisor

d. Emergency Response and Recovery Director

4.4.3 The Emergency Coordinator shall ensure that offsite notification of reclassification to a more severe condition is conducted within 15 minutes, in accordance with EPIP 1.2.

NOTE

If the EOF has been activated, this responsibility shall be assumed by the Emergency Response and Recovery Director.

a. When the event is classified as more severe, contact shall be made with each organization or individual required by the new EAL.

b. When the event is classified as less severe, contact shall be made with each organization or individual required by the former EAL.

c. When the event, EAL, and Emergency Response Organization are deactivated, contact shall be made with each organization or individual required by the former EAL.

4.4.4 Reclassification of an event shall be documented in the Shift Supervising Engineer's log and the TSC Supervisor's log. The Emergency Operations Facility, if in operation, shall also document the reclassification, in accordance with CPIP 1.3, "Emergency Operations Facility Activation." The following types of information should be recorded:

a. Date of reclassification

b. Time of reclassification

c. New EAL designation

d. Brief summary of plant status and conditions for reclassification.

4.4.5 Notifications shall be documented as required by EPIP 1.2.

4.5 Natural or man-caused events shall be considered for determination or reclassification of EALs.

4.5.1 The EAL Guidelines include specific types of events which may require declaration of or revision to an EAL. Such events include:

a. Weather conditions such as storms, tornadoes, high winds, blizzards, etc.

b. Geological or seismic events such as earthquakes, tremors, etc.

c. Non-radiological accidents, such as fires, airplane crashes, explosions, etc.

d. Attacks or assaults

4.5.2 Other events not included in these EALs may be classified as an Unusual Event, Alert or Site Area Emergency at the discretion of the Chief Engineer or the Shift Supervising Engineer.

a. The primary consideration for activation shall be to protect the health and safety of site personnel and the public.

b. Determination of an EAL or activation of the Emergency Response Organization for such emergencies shall be noted in the Shift Supervising Engineer's log.

4.6 Downgrading the Emergency Action Level.

4.6.1 The EALs may be downgraded in conjunction with EPIP 5.1, "Deactivation of the Emergency Response Organization" by the Emergency Response and Recovery Director when the conditions which constitute the EALs have been brought under control and no longer pose a threat to the health and safety of plant personnel or the public. The emergency condition shall be considered under control when the plant is in a stable state, necessary plant operating equipment is functioning properly and there is no potential for uncontrolled radiological releases.

5.0 REFERENCES

1. Duane Arnold Energy Center Emergency Plan
2. NUREG 0654, Rev. 1.

6.0 ATTACHMENTS

1. Emergency Action Level Classification Guidelines
2. Emergency Action Levels

Reviewed by: _____ Date 4/2/82
Operations Committee Chairman

Approved by: _____ Date 4/1/82
Operations Supervisor

Approved by: _____ Date 5-27-82
Chief Engineer

ATTACHMENT 1

EMERGENCY ACTION LEVELS

See Attached Sheets

EMERGENCY ACTION LEVEL

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
LOCA	1. Reactor Coolant System leak rate greater than either the unidentified (5 gpm) or combined Tech Spec limits (25 gpm), but less than 50 gpm.	1. Reactor Coolant System leak rate greater than 50 gpm but within makeup capacity; RPV level being maintained.	1. LOCA greater than makeup capacity.	1. LOCA, with failure of ECCS to perform, leading to core degradation or melt in minutes or hours. Loss of containment integrity may be imminent 2. LOCA, containment performance is unsuccessful affecting longer term success of the ECCS. Could lead to core degradation or melt in several hours without containment boundary.

EMERGENCY ACTION LEVEL

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Main Steam Line Break Outside Primary Containment		2.Main steam line break with MSIV malfunction causing leakage.	2.Main Steam line break without isolation.	
Environmental Releases (Related to 10CFR20)	2.Airborne effluents greater than Technical Specification limits as reported by Health Physics.	3.Airborne effluents greater than 10 times Technical Specification instantaneous limits (an instantaneous rate which, if continued over 2 hours, would result in about 1 mr at the Site Boundary under average meteorological conditions) as reported by Health Physics.		
	3.Liquid Discharge Effluents greater than 10CFR20 Appendix B limits as reported by Health Physics.	4.Liquid Discharge Effluents greater than 10 times 10CFR20 Appendix B limits as reported by Health Physics.		

EMERGENCY ACTION LEVEL

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Environmental Releases (Related to EPA PAGs)			3. Dose rates are projected at the site boundary under adverse meteorology greater than 50 mr/hr whole body or 250 mr/hr thyroid for 1/2 hour. or Containment Radiation Monitor > _____ or These dose rates are measured in the environs. or EPA PAGs are projected to be exceeded outside the site boundary.	3. Dose rates greater than 1 Rem/hr whole body or 5 Rem/hr thyroid are projected (based on other plant parameters) at the site boundary under actual meteorological conditions. or Containment Radiation Monitor > _____ or These dose rates are measured in the environs.

EMERGENCY ACTION LEVEL

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Environmental Releases (Related to EPA PAGs) (Continued)			4. Dose Rates are projected at the site boundary under adverse meteorology greater than 500 mr/hr whole body or 2500 mr/hr thyroid for 2 minutes. or These dose rates are measured in the environs or EPA PAGs are projected to be exceeded outside the site boundary.	4. Other plant conditions exist, from whatever source, that make release of large amounts of radioactivity in a short time period possible.

EMERGENCY ACTION LEVEL

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Degraded Fuel Integrity	4. Reactor coolant activity greater than Technical Specification limits of 1.2 uci/ gm of dose equivalent 1-131 which requires shutdown. 5. Air Ejector monitor acitivity greater tahn 500,000 uci/sec or an increase of 100,000 uci/sec within a 30 minute time period.	5. Reactor coolant activity greater than 300 uci/gm of dose equivalent 1-131. 6. Air Ejector monitor activity greater than 5 ci/sec corresponding to 16 isotopes decayed 30 minutes.	5. Degraded core with possible loss of coolable geometry.	
Loss of 2 of 3 Fission Product Barriers				5. Loss of 2 of the following 3 fission product barriers with potential loss of 3rd barrier: RCS Integrity - see C-1 Clad Failure - see B-5 Containment Integrity - see A-12

EMERGENCY ACTION LEVEL

CONDITION CLASSIFICATION (NOTE C)	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
System/Equipment Failure or Malfunction	6.Stuck open safety or relief valve. 7.Any ECCS actuation that results in water being discharged to the Reactor Vessel that is either unexpected or is required to recover and maintain RPV water level. 8.Loss of fire suppression function requiring shutdown by Technical Specifications.	7.Complete loss of any function needed for plant cold shutdown.	6.Complete loss of any function needed for plant hot shutdown.	6.Shutdown occurs but requisite decay heat removal systems (e.g., RHR) or non-safety systems heat removal means are rendered unavailable. Core degradation or melt occur in about ten hours with subsequent containment failure.
	9.Turbine rotating component failure causing rapid plant shutdown.	8.Turbine failure causing casing penetration.		

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
System/Equipment Failure or Malfunction (Loss of Safety System or Feature requiring shutdown in accordance with Technical Specifications)	10. Loss of HPCI and either ADS or RCIC Loss of ADS logic or loss of more than 1 ADS valve Total Loss of any of the following Core Spray LPCI RHR SW ESW SBLC Standby Gas Treatment Loss of Containment Spray capability Loss of both H2 and O2 Analyzers Loss of both Emergency Diesel Generators 11. Any combination of Safety Systems failures that require shutdown by Technical Specifications.			

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
System/Equipment Failure or Malfunctions (Loss of Containment Integrity)	12.Loss of primary containment integrity 13.Loss of secondary containment integrity			
System/Equipment Failure or Malfunction (Loss of Power)	14.Loss of off-site power 15.Loss of on-site power capability	9. Tota Loss of all AC Power 10.Total Loss of 125v DC Power.	7.Total Loss of AC Power; restoration not possible within 15 minutes 8.Total loss of 125 v DC Power; restoration not possible within 15 minutes	
System/Equipment Failure or Malfunction (RPS failure)		11.Failure of RPS to initiate and complete a reactor shutdown.	9.Transient Requiring Operation of Shutdown Systems with Failure to Scram (continued power generation, but no core damage immediately evident).	7.Transient (e.g., loss of offsite power) plus failure of requisite core shutdown systems (e.g., scram or standby liquid control system). Could lead to core melt in several hours with containment failure likely. More severe consequences if pump trip does not function.

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Natural Occurrences	16. Earthquake of sufficient magnitude to actuate the Seismic Monitoring System.	12. Earthquake greater than OBE.	10. Earthquake greater than DBE with plant not in cold shutdown.	
	17. Cedar River level greater than 753'.	13. Cedar River level greater than 757'.	11. Cedar River level greater than 767' or loss of flood protection for safety related structures with plant not in cold shutdown.	
	18. Cedar River flow less than 200 CFS.	14. Cedar River flow less than 50 CFS.	12. Cedar River flow less than 13 CFS with plant not in cold shutdown.	
			13. Winds greater than 100 mph with plant not in cold shutdown.	
	19. Tornado on site	15. Tornado strikes facility causing damage.	14. Tornado which damages safety related structures and compromises the functions of safety systems	

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Other Hazards Experienced or Projected	20. Unusual aircraft activity over facility or crash on site	16. Aircraft crash or missile impact which causes facility damage.	15. Aircraft crash or missile impact which damages safety related systems or structures with plant not in cold shutdown.	
		17. Explosion onsite which causes facility damage affecting plant operation.	16. Explosion onsite which damages safety related structures with plant not in cold shutdown.	
	21. Train derailment onsite			
	22. Near or onsite explosion			
	23. Onsite release of toxic or flammable gases.	18. Uncontrolled entry of toxic or flammable gases into the facility environs.	17. Uncontrolled entry of toxic or flammable gases into critical plant areas where lack of access to the area constitutes a safety problem. Plant not in cold shutdown condition	

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Release or Loss of Control of Radioactive Materials within the Plant		19. Any uncontrolled increase in radiation levels or airborne contamination levels greater than 1000 times normal.		
		20. Fuel handling accident that results in fuel damage with the release of radio-activity to the Reactor Building. (Secondary Containment)	18. Major damage to spent fuel in the Reactor Building. (Secondary Containment).	
			19. Uncontrolled decrease in Fuel Pool water level below fuel level.	

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Events Affecting Operational Control	24. Indications or alarms on process or effluent parameters not functional in the Control Room which require plant shutdown 25. Significant loss of assessment or communications capability. 26. Other plant conditions exist that warrant increased awareness or require plant shutdown under Technical Specifications or involve other than normal controlled shutdown.	21. Loss of all safety related alarm and annuncation capability; restoration not possible with 15 minutes. 22. Other plant conditions exist that warrant precautionary activation of TSC and placing EOF and other key emergency personnel on standby.	20. Loss of all safety related alarm and annuncation capability coincident with plant transient. 21. Other plant conditions exist that warrant activation of emergency centers and monitoring teams or a precautionary notification to the public near the site.	
Control Room Habitability		23. Evacuation of the Control Room required for any reason. Shutdown outside Control Room initiated.	22. Evacuation of the Control Room required for any reason. Shutdown outside Control Room not implemented within 15 minutes.	

EMERGENCY ACTION LEVEL

CONDITION CLASSIFICATION	UNUSUAL EVENT (A)	ALERT (B)	SITE EMERGENCY (C)	GENERAL EMERGENCY (D)
Situations Requiring Off-Site Assistance	27. Transportation of contaminated injured individual to the hospital			
	28. Security threat attempted sabotage, or unauthorized forceable entry.	24. Confirmed on-going Security compromise.	23. Imminent loss of physical control of the plant.	8. Loss of physical control of the plant
	29. Fire within the secured area that cannot be extinguished within 10 minutes by the Fire Brigade	25. Fire not extinguished in 10 minutes in an area that could affect safety related equipment	24. Fire compromising the functions of safety systems	

ATTACHMENT 2

EMERGENCY ACTION LEVEL CLASSIFICATION GUIDELINES

See Attached Sheets

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
LOCA	Reactor Coolant System leak rate greater than either the unidentified (5 gpm) or combined Tech Spec limits (25 gpm), but less than 50 gpm.	Sump Pump timers on 1C21 resulting in one or more of the following alarms on 1C04 "Drywell Floor Drain Sump hi Leak" "Drywell Equipment Drain Sump hi Leak" and/or One or more of the following alarms on 1C04 "Drywell Floor Drain Sump hi hi level" "Drywell Equipment Drain Sump hi hi level" "Drywell Equipment Drain Sump hi Temp" and Flow rate calculation from FIQ 3707 on 1C19 vs time is greater than 5 gpm or The flow rate calculation from FIQ 3708 on 1C19 vs time added to flow rate calculation from FIQ 3707 on 1C19 is greater than 25 gpm. Other possible indications Drywell Temperature increase as indicated on TR 4383 A, B, & C on 1C29 Drywell Cooler Temperature increase as indicated on TR 5713 A & B on 1C25	A1			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
LOCA(cont.)	Reactor Coolant System leak rate greater than 50 gpm but within makeup capacity: RPV level being maintained	Drywell Floor Drain Sump pumps and/or Drywell Equipment Drain Sump pumps run excessively and Flow Rate Calculations on the Drywell Floor Drain Sump and Drywell Equipment Drain sump indicates total flow in excess of 50 gpm. and RPV level being maintained as indicated on LI-4559, 4560, 4561, and LR-4559/4560 on 1C05. Other Possible Indications Unexplained Drywell pressure increase as indicated by: a) "Primary Containment Hi/Lo Press" alarm 1C05 b) Computer points B103 and B104 or Unexplained Containment Air Temperature increase as indicated by: a) TR 4383A,B and C on 1C29 b) TR 5713A and B on 1C25		B1		

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
LOCA (Continued)	LOCA greater than makeup capacity	ECCS systems and other available makeup capacity unable to maintain/recover RPV water level as indicated on LI 4539, 4540 on 1C05 and LI 4565, LR 4566 on 1C03. Other indications to consider Increasing Drywell Pressure as indicated by: a) PR 4384 and 4385 on 1C29 b) 1C05 alarms "Primary Containment hi/lo Pressure" "Primary Containment hi Pressure Trip" Increasing Drywell Temperatures as indicated by: a) TR4383 A, B, C on 1C29 b) TR 5713 A, B on 1C25			C1	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
LOCA (Continued)	LOCA, with failure of ECCS to perform. Loss of containment integrity projected.	RPV level decreasing and less than -111.5" as indicated on LI-4559, 4560, 4561 and LR-4559/4560 on 1C05 and RPV pressure decreasing and less than 450 psig as indicated on or RPV level less than +45" as indicated on LI4565 and LR-4566 and Drywell pressure projected to exceed 62 psig or Drywell temperature projected to exceed 281°F as indicated by: a) Drywell pressure >10 psig for more than 30 minutes without Containment Spray capability. b) TR-4383 A, B and C on 1C29 c) TR-5713 A, B and C on 1C25 ECCS Conditions (See next page for explanation)				D1

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
LOCA (Continued)	LOCA, with failure of ECCS to perform. Loss of containment integrity projected (Continued)	ECCS Conditions HPCI (May not be operating due to Rx press) FI 2309 indicating flow on 1C03 CV 2313 indicates open on 1C03 RCIC (May not be operating due to Rx press) FI 2509 indicating flow on 1C04 CV 2513 indicates open on 1C04 ADS (May be necessary) Following alarms on 1C03 "ADS Lo Water Level Confirmed" "ADS Core Spray or RHR Pump Running" "ADS Drywell Press Signal Sealed in" "ADS Timers Initiated" after 120 seconds "ADS Relays energized" alarm on 1C03 with 4 relief valves opening to reduce Rx pressure to allow Core Spray/LPCI injection. Core Spray (RPV pressure <450 psig) FI 2110 and FI 2130 on 1C03 indicate flow CV 2118 and CV 2133 indicate open on 1C03 LPCI (RPV pressure <450 psig) FI 1971 A/B on 1C03 indicate flow CV 2002 or 1905 indicates open on 1C03				

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
LOCA (Continued)	LOCA, containment performance is unsuccessful	Drywell pressure projected to exceed 62 psig or Drywell temperature projected to exceed 231°F as indicated by: a) Drywell pressure > 10psig for more than 30 minutes without Containment Spary capability b) TR-4383 A,B and C on 1C29 c) TR-5713 A and B on 1C25 and RPV level decreasing and less than -111.5" as indicated on LI-4559, 4560, 4561 and LR-4559/4560 on 1C05 and RPV pressure decreasing and less than 450 psig as indicated on and Potential exists for loss of ECCS due to a) Torus level decreasing as indicated on or b) Torus water temperature increasing and greater than 170°F as indicated on				D2
Main Steam Line Break Outside Containment	Main steam line break with MSIV malfunction causing leakage.	Group I isolation caused by Steam tunnel hi temperature or Turbine building hi temperature or Main Steam Line hi Flow and/or (see next page)		B2		

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Main Steam Line Break Outside Containment (Continued)	Main steam line break with MSIV malfunction causing leakage. (Continued)	Radiation levels do not decrease back to near normal following isolation as indicated on: Turbine Bldg ARM's on 1C11 Main Steam rad levels on RR 4116 on 1C02 Rx bldg stack rad monitors RM 7613, 7614 and 7615 on 1C182 A, B and C and/or Steam tunnel temperatures or turbine bldg temperatures do not decrease after isolation. Possible Indicators Main Steam Line flow may still exist on FI 4408, 4409, 4410, or 4411 on 1C05 after isolation.				
	Main Steam line break without isolation.	Group I isolation caused by Steam Tunnel hi Temperature alarm 1C05 and/or Turbine Bldg hi Temperature alarm 1C05 and/or Main Steam Line hi Flow alarm 1C05 and The 2 MSIV's on one or more steam lines fail to close. Main Steam Line Flow will remain high as indicated on FI 4408, 4409, 4410 or 4411 on 1C05 for affected steam lines. Other Possible Indications and Information The Steam Tunnel and/or Turbine Bldg Temperatures will remain hi following attempted isolation. (see next page)			C2	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Main Steam Line Break Outside Containment (Continued)	Main Steam line break without isolation (Continued)	Rx vessel pressure will decrease rapidly as indicated by PI 4563, 4564, 4565, PR 4563, 4564 and PR 4542 on 1C05. RX vessel level may be hard to maintain; radiation levels and releases may require a higher emergency level.				
Environmental Releases (Related to 10CFR20)	Airborne effluents greater than Technical Specification limits.	As reported by Radiation Protection Department based upon the results of analyses conducted. Airborne Effluent Release Indicators Stack Rad Monitor - Panel 1C10, RI 4116A,B Reactor Building Vent. Exh. Panel 1C23 Annunciator Turbine Building Roof Vent Exh. Local Monitor	A2			
	Airborne effluents greater than 10 times Technical Specification instantaneous limits.	As reported by Radiation Protection Department based upon the results of analyses conducted. Airborne Effluent Release Indicators Stack Rad Monitor - Panel 1C10 R1 4116 A,B Reactor Building Vent. Exh. Panel 1C23 Annunciator Turbine Building Roof Vent. Exh. Local Monitor		B3		

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Environmental Releases (Related to 10CFR20) (Continued)	Liquid Discharge Effluents greater than 10CFR20 Appendix B limits.	As reported by Radiation Protection Department based upon the results of analyses conducted. Liquid Effluent Release Indicators Liquid Process Rad Monitors - Panel 1C10** (Alarm Hi) Radiation Rate Meters* 1997 - RHR Service Water - (Hi Alarm) 3972 - Radwaste - (Hi Alarm) 4767 - Service Water - (Hi Alarm) Radiation Recorders* 4820 - Reactor Building Closed Cooling Water	A3			
	Liquid Discharge Effluents greater than 10 times the 10CFR20 Appendix B limits.	As reported by Radiation Protection Department based upon the results of analyses conducted. Liquid Effluent Release Indicators Liquid Process Rad Monitors - Panel 1C10** (Alarm Hi) Radiation Rate Meters* 1997 - RHR Service Water - (Hi Alarm) 3972 - Radwaste - (Hi Alarm) 4767 - Service Water - (Hi Alarm) Radiation Recorders* 4820 - Reactor Building Closed Cooling Water		B4		

* These meters and recorders indicate the existence of a possible problem. Actual conditions are determined by sample analysis.

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Environmental Releases (Related to EPA PAGs)	Dose rates are projected at the site boundary under adverse meteorology greater than 50 mr/hr whole body or 250 mr/hr thyroid for 1/2 hour. or These dose rates are measured in the environs. or EPA PAGs are projected to be exceeded outside the site boundary.	Projected dose rates of 50 mr/hr whole body or 250 mr/hr thyroid as determined by implementation of EPIP 3.3, "Dose Projections" or These dose rates are measured at the site boundary following implementation of EPIP 3.1, "On-Site Radiological Monitoring" or Drywell Radiation is > _____ R/hr as indicated on Containment Rad Monitors 4379A&B 1C29 Airborne Effluent Release Indications Standby Gas Flow Indicators - Panel 1C24 F1/Annunciator Offgas Stack Rad Monitors - Panel 1C10, Monitors 4116A,B Reactor Building Stack Monitors - Panel 1C23, Monitors 182A,B,C Turbine Building Vent			C3	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Environmental Releases (Related to EPA PAGs) (Continued)	Dose Rates are projected at the site boundary under adverse meteorology greater than 500 mr/hr whole body or 2500 mr/hr thyroid for 2 minutes. or These dose rates are measured in the environs. or EPA PAGs are projected to be exceeded outside the site boundary.	Projected dose rates of 500 mr/hr whole body or 2500 mr/hr thyroid as determined by implementation of EPIP 3.3, "Dose Projections" or These dose rates are measured at the site boundary following implementation of EPIP 3.1, "On-Site Radiological Monitoring" or Drywell Radiation is > _____ R/hr as indicated on Containment Rad Monitors 4379A&B 1C29 Airborne Effluent Release Indicators Standby Gas Flow Indicators - Panel 1C24 F1/Annunciator Offgas Stack Rad Monitors - Panel 1C10, Monitor 4116A,B Reactor Building Stack Monitors - Panel 1C23, Monitors 182A,B,C Turbine Building Vent -			C4	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Environmental Releases (Related to EPA PAGs) (Continued)	Dose rates greater than 1 Rem/hr whole body or 5 Rem/hr thyroid are projected (based on other plant parameters) at the site boundary under actual meteorological conditions. or These dose rates are measured in the environs.	Projected dose rates of 1 R/hr whole body or 5 R/hr thyroid as determined by implementation of EPIP 3.3, "Dose Projections" or These dose rates are measured at the site boundary following implementation of EPIP 3.1, "On-Site Radiological Monitoring" or Drywell Radiation is > ____ R/hr as indicated on Containment Rad Monitors 4379A&B 1C29 Airborne Effluent Release Indicators Standby Gas Flow Indicators - Panel 1C24 F1/Annunciator Offgas Stack Rad Monitors - Panel 1C10, Monitor 4116A,B Reactor Building Stack Monitors - Panel 1C23, Monitors 182A,B,C Turbine Building Vent -				D3
	Other plant conditions exist, from whatever source, that make release of large amounts of radioactivity in a short time period possible.	Emergency Coordinator judgment				D4

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Degraded Fuel Integrity	Reactor coolant activity greater than Technical Specification limit of 1.2 uci/gm of dose equivalent which requires shutdown.	Reactor Coolant chemistry sample results as reported by the Radiation Protection Department based upon analyses conducted in accordance with applicable CPs. Other Possible Indications Increasing Reactor Coolant conductivity as indicated on Recorder 2738, 2737 1C04 Increasing radiation levels as indicated on: a) MSL Radiation Monitors b) Off Gas Pretreatment Radiation Monitor 4104 1C10 MSL Hi Rad alarm 1C05	A4			
	Air Ejector monitor activity greater than 500,000 uci/sec or an increase of 100,000 uci/sec within a 30 minute time period.	Indicated air ejector activity rate > _____ cpm as indicated on Offgas Pre-treatment Rad Monitor 4104 1C10. or Indicated air ejector activity rate increase of _____ cpm within 30 minutes as indicated on Offgas Pre-treatment Rad Monitor 4104 1C10. Other possible Indications Increasing radiation levels as indicated on: a) MSL Radiation Monitors b) Offgas Post-treatment Rad Monitors 4101A&B 1C10 c) Stack Rad Monitor, RI 4116A & B 1C10 MSL Hi Rad alarm 1C05	A5			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Degraded Fuel Integrity (Continued)	Reactor coolant activity greater than 300 uci/gm of dose equivalent I-131	Reactor Coolant chemistry sample results as reported by the Radiation Protection Department based upon analyses conducted in accordance with applicable CPs. Other Possible Indications Increasing Reactor Coolant conductivity as indicated on Recorder 2738, 2737 1C04 Increasing radiation levels as indicated on: a) MSL Radiation Monitors b) Off Gas Pretreatment Radiation Monitor 4104 1C10 MSL Hi Rad alarm 1C05		B5		
	Air Ejector monitor activity greater than 5 ci/sec corresponding to 16 isotopes decayed 30 minutes.	Indicated air ejector activity rate > _____ cpm as indicated on Offgas Pre-treatment Rad Monitor 4104 1C10. Other possible Indications Increasing radiation levels as indicated on: a) MSL Radiation Monitors b) Offgas Post-treatment Rad Monitors 4101A&B 1C10 c) Stack Rad Monitors RI 4116 A&B 1C10 MSL Hi Rad alarm 1C05		B6		
	Degraded core with possible loss of coolable geometry.	Degraded Fuel Clad Integrity - see B-5 AND LOCA - see C-1 or Drywell radiation > _____ R/hr as indicated on Containment Rad Monitors 4379A&B 1C29.			C5	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Loss of 2 of 3 Fission Product Barriers	Any 2 of the following 3 conditions with the potential for the third: 1) LOCA greater than makeup capacity 2) Degraded fuel integrity 3) Loss of primary containment integrity	LOCA - see C-1 Fuel Integrity - see B-5 Containment Integrity - see A-12				D5
System/ Equipment Failure or Malfunction	Stuck open safety or relief valve	"ADS Safety Valve Leaking" alarm 1C03 High relief valve discharge pipe temperature or high safey valve tail pipe temperatures as indicated on TR 4400A,B,C and D 1C21. White press lite off 1C21 for one or more of the respective valves. Other Possible Indications Increasing Torus water temperature as indicated on TR4386A/B 1C29. Increasing Torus water level as indicated on LR4384 and 4385 1C29. Increasing Drywe l pressure as indicated on Increasing Drywell temperature as indicated on TR4383 A,B, and C 1C29 or TR 5713A and B 1C25. "Primary Containment Hi/Lo Press" alarm 1C05. "Primary Containment Hi Press Trip alarm 1C29. Generator load decrease as indicated on WR1100 1C31 and Gen Megawatts 1C08. Main Steam Line flow decrease on FI4408, 4409, 4410, 4411 and FR4450A 1C05.	A6			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (Continued)	Any ECCS actuation that results in water being discharged to the Reactor Vessel that is either unexpected or is required to recover and maintain RPV water level.	HPCI Initiation 1005 alarm "HPCI Auto Initiation" on 1003 FIC 2309 indicates flow. CV 2313 indicates open. Possible response on Neutron Monitoring. or RCIC Initiation 1005 alarm "RCIC Auto Initiation" on 1004 FIC 2509 indicates flow. CV 2513 indicates open. Possible response on Neutron Monitoring. or LPCI Initiation (injection possible only if Rx press is less than 450 psig) on 1003 "ADS Core Spray or LPCI pump running" alarm. FI 1971 A/B indicates flow. CV 2002 or CV 1906 indicates open. or Core Spray Initiation (injection possible only if Rx press is less than 450 psig) on 1003 "ADS Core Spray or LPCI pump running" alarm. FI 2110 or FI 2130 indicates flow. CV 2118 or CV 2138 indicates open.	A7			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (Continued)	Loss of a fire suppression function requiring shutdown by Technical Specifications.	Loss of both the Electric and Diesel Fire Pumps as indicated by AND Inability to provide a backup water source within 24 hours.	A8			
	Complete loss of any function needed for plant cold shutdown.	Shift Supervising Engineer judgment.		B7		
	Complete loss of any function needed for plant hot shutdown.	Shift Supervising Engineer judgment.			C6	
	Turbine rotating component failure causing rapid plant shutdown.	Turbine Trip when >30% power due to high vibration as indicated on or annunciated on	A9			
	Turbine failure causing casing penetration.	Turbine Trip when >30% power due to high vibration as indicated on or annunciated on AND Possible condenser vacuum decrease as indicated on		B8		

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (Continued)	Shutdown occurs but requisite decay heat removal system (e.g., RHR) or non-safety systems heat removal means are rendered unavailable. Core degradation or melt occur in about ten hours with subsequent containment failure.	Group I isolation with total loss of RHR sysem and/or Total loss of RHRSW system and/or Total loss of ESW system and/or Total loss of RWS system and/or Any combination of the above systems that prevent decay heat removal.				D6
System/ Equipment Failure or Malfunction (Loss of safety systems or features requiring shutdown in accordance with Technical Specifications	Loss of HPCI and either ADS or RCIC Loss of ADS logic or loss of more than 1 ADS valve Total Loss of any of the following Core Spray LPCI RHRSW ESW SBLC Standby Gas Treatment Loss of Containment Spray capability Loss of both H2 and O2 Analyzers Loss of both Emergency Diesel Generators	Failure to satisfactorily complete surveillance testing in accordance with the applicable STP OR Visual observation Other Possible Indications SBLC - Loss of Squib Valve continuity as indicated by: a) Loss of indicating lites 1C05. b) "Continuity Loss to Squib Valve" alarm 1C05. SBGT - Charcoal bed temperature > 255°, 310° 1C24 Diesel Generators - "Diesel Generator Trouble" alarms 1C08. Diesel Generator Auto-Start Failure alarms 1C08. Local alarms at Diesel Generators 1C93 and 1C94	All			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (Loss of safety ered systems or features requiring) shutdown in accordance with Technical Specifications (Continued)	Any combination of safety system failures that require shutdown by Technical Specification.	As specified on the applicable Technical Specification Limiting Conditions for Operations (LCO) statements.	All			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunctions (Loss of Containment Integrity)	Loss of primary containment integrity	Both valves in one or more vent or purge lines to the drywell are open and are required to be closed. or Any Auto isolation valve that is failed in the non isolated condition. or Both doors in the Drywell air lock are not sealed/closed (at least one door must be closed and sealed). or One or more blind flanges and/or manways not closed. and/or 1C35 Alarms "Drywell Torus low P" "Standby P Air Compressor Running" and/or 1C05 Alarms "Containment hi H_2 and O_2 Content A and/or Power Failure" "Containment hi H_2 and O_2 Content B and/or Power Failure" and/or AR 4381/4382 on 1C09 indicating increasing O_2 concentration and/or Torus level < ___ or > ___ or on LR 4384, 4385 and 1C29. Other items to consider; see next page	A12			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunctions (Loss of Containment Integrity) (Continued)	Loss of primary containment integrity (continued)	Other Items to Consider "Primary Containment Hi/Lo Press" alarm 1C05 Drywell and Torus pressure as indicated on: Drywell temperature as indicated on: a) TR 4383A,B and C 1C29 b) TR 5713A and B 1C25				
	Loss of secondary containment integrity	Both doors in any airlock not closed or Both SBGT systems inoperable or Any automatic isolation valve failed in the non isolated position. or Failure to satisfactorily complete surveillance testing in accordance with the applicable STPs.	A13			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (Loss of Power)	Loss of offsite power	Loss of Startup Transformer 1A3 and/or 1A4 transfer to standby transformer Startup transformer OCB 5550 open as indicated on 1C08 or Loss of Standby Transformer 1C08 alarm "Standby Transformer Lockout Trip" Standby Transformer OCB 8490 open as indicated on 1C08 or 1A1 and 1A2 power available lights are off on 1C08 and 1A1 and 1A2 voltmeters on 1C08 reading zero volts. and Both Diesel Generators running and supplying 1A3 and 1A4. and/or Bkrs J & M (8490 and 5550) indicate open or no power available. Emergency Diesel Generator(s) operating 1C08 Sub-station breaker position - Panel 1C08	A14			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (Loss of Power) (Continued)	Loss of onsite power capability	Failure of both diesel generators to complete surveillance testing in accordance with the applicable STP. or Observation or Failure to start when required or Loss of one or more of the following Busses 1A3, 1A4, 1B3 or 1B4 as indicated by: a) Power supply lites on 1C08 are not lit b) Voltage for Bus is zero c) 1C08 alarms "4KV Bus 1A3 Loss of Voltage" "4KV Bus 1A4 Loss of Voltage" "CB EL 757-6LC Trans 1X31 4KV Bkr 1A303 Trip" "CB EL 757-6LC Trans 1X41 4KV Bkr 1A403 Trip" d) Bkr 1A303 open e) Bkr 1A403 open	A15			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (Loss of Power) (Continued)	Total Loss of all AC Power, restoration from Control Room not possible.	1A3 and 1A4 Power indicating lights on 1C08 not on and 1A3 and 1A4 Volt meters reading zero on 1C08 and "Diesel Generator 1G31 Start Failure" alarm 1C08 and "Diesel Generator 1G2 Start Failure" alarm 1C08 and/or The following Bkrs indicate open on 1C08 152-301 152-401 152-301 152-311 152-411 152-402 and/or J Bkr (8490) to Standby trans. M Bkr (5550) to Startup trans.		B9		
	Total Loss of AC Power, restoration not possible within 15 minutes.	Same as above for > 15 minutes.			C7	
	Total Loss of 125v DC Power	Loss of RCIC indicating lights and Loss of all Control Room Annunciators and Loss of ability to open and close 4160V and 480V breakers from Control Room		B10		
	Total Loss of 125v DC Power; restoration not possible within 15 minutes	Same as above for > 15 minutes			C8	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (RPS Failure)	Failure of RPS to initiate and complete a reactor shutdown.	Both of the following alarms on 1C05 "Trip System 'A' Rx Auto Scram" and "Trip System 'B' Rx Auto Scram" and APRM/IRM is not down scale after short period of time. RPV pressure on PE 4563, 4564, 4565 on 1C05 remains steady. Other Indications All rods not fully inserted as indicated on green "fill in" lites on 1C05 and CRD position ind.		B11		
	Transient Requiring Operation of Shutdown Systems with Failure to Scram (continued power generation, but no core damage immediately evident).	Both of the following alarms on 1C05 "Trip System 'A' Rx Auto Scram" and "Trip System 'B' Rx Auto Scram" and No control rod motion (red fullout lites remain on, no new green lites on) on 1C05 Other indications No decrease as indicated on: a) APRMs on 1C05 b) Steam flow and Feed flow on 1C05 c) Generator output on 1C08 1C05 alarms indicate shutdown should have occurred.			C9	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
System/ Equipment Failure or Malfunction (RPS Failure) (Continued)	Transient (e.g., loss of offsite power) plus failure of requisite core shutdown systems (e.g., scram or standby liquid control system). Could lead to core melt in several hours with containment failure likely. More severe consequences if pump trip does not function.	Same as preceding, plus: Inability to initiate SBLC				D7
Natural Occurrences	Earthquake of sufficient magnitude to actuate the Seismic Monitoring System.	Seismic Alarm - Panel 1C35 (0.01g) Green V Light	A16			
	Earthquake greater than OBE.	Seismic Alarm - Panel 1C35 (.06g) Yellow Light		B12		
	Earthquake greater than DBE with plant not in cold shutdown.	Seismic Alarm - Panel 1C35 (.12g) Red Light			C10	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Natural Occurrences (Continued)	Cedar River level greater than 753'.	Intake Structure Level Recorder - Panel 1C102 Computer generated river level printout Computer Point M010	A17			
	Cedar River level greater than 757'.	Intake Structure Level Recorder - Panel 1C102 Computer generated river level printout Computer Point M010		B13		
	Cedar River level greater than 767' or loss of flood protection for safety related structures with plant not in cold shutdown.	Visual Observation			C11	
	Cedar River flow less than 200 CFS.	Cedar Rapids City Water Dept. report	A18			
	Cedar River flow less than 50 CFS.	Cedar Rapids City Water Dept. report		B14		

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Natural Occurrences (Continued)	Cedar River flow less than 13 CFS with plant not in cold shutdown.	Cedar Rapids City Water Dept. report			C12	
	Winds greater than 100 mph with plant not in cold shutdown.	Meteorological Instrumentation - Panel 1C21			C13	
	Tornado on site.	Visual observation.	A19			
	Tornado strikes facility causing damage.	Visual observation and associated system alarms		B15		

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Natural Occurrences (Continued)	Tornado which damages safety related structures and compromises the functions of safety systems	Visual observation and associated system alarms			C14	
Other Hazards Experienced or Projected	Unusual aircraft activity over facility or crash on site	Communications from Security	A20			
	Aircraft crash or missile impact which causes facility damage.	Communications from Security Visual Observation and Associated System Alarms		B16		
	Aircraft crash or missile impact which damages safety related systems or structures with plant not in cold shutdown.	Communications from Security Visual Observation and Associated System Alarms			C15	
	Train derailment onsite	Communications from Security	A21			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Other Hazards Experienced or Projected (Continued)	Near or onsite explosion	Communications from Security Visual Observation	A22			
	Explosion onsite which causes facility damage affecting plant operation.	Communications from Security Visual Observation and Associated System Alarms		B17		
	Explosion onsite which damages safety related systems or structures with plant not in cold shutdown.	Communications from Security Visual Observation and Associated System Alarms			C16	
	Onsite release of toxic or flammable gases.	Portable Detectors Possible Odors. Visual Observation	A23			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Other Hazards Experienced or Projected (Continued)	Uncontrolled entry of toxic or flammable gases into the facility environs.	Portable Detectors Possible Odors. Visual Observation		B18		
	Uncontrolled entry of toxic or flammable gases into critical plant areas where lack of access to the area constitutes a safety problem. Plant not in cold shutdown condition.	Portable Detectors Possible Odors. Visual Observation			C17	
Release or Loss of Control of Radioactive Materials within the Plant	Any uncontrolled increase in radiation levels or airborne contamination levels greater than 1000 times normal	As reported by the Radiation Protection Department based upon the results of surveys and analyses conducted in accordance with applicable RPPs. Other Possible Indicators ARM indicators CAM recorders		B19		

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Release or Loss of Control of Radioactive Materials within the Plant (Continued)	Fuel handling accident that results in fuel damage with the release of radioactivity to the Rx Bldg. (Secondary Containment)	Visual observation and As reported by the Radiation Protection Department based upon the results of surveys and analyses conducted in accordance with applicable RPPs. Other Possible Indicators ARM indicators CAM recorders		B20		
	Major damage to spent fuel in Rx Bldg. (Secondary Containment)	Visual observation and As reported by the Radiation Protection Department based upon the results of surveys and analyses conducted in accordance with applicable RPPs. Other Possible Indicators ARM indicators CAM recorders			C18	
	Uncontrolled decrease in Fuel Pool water level below fuel level.	Water level indicator - Panel 1C66 37 ft. 6 in. minimum level Fuel Pool Cooling Cleanup Filter Trouble Annunciator Panel 1C04			C19	

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Events Affecting Operational Control	Indications or Alarms on Process or Effluent Parameters in the Control Room which require plant shutdown.	System Alarm/Recorder	A24			
	Loss of all safety related alarm and annunciation capability; restoration not possible within 15 minutes.	Loss of Visual or Loss of Visual and audible alarm system		B21		
	Loss of all safety related alarm and annunciation capability coincident with plant transient.	Loss of Visual alarm system or Loss of Visual and audible alarm system			C20	
	Significant loss of assessment or communications capability.	Shift Supervising Engineer judgment.	A25			
	Other plant conditions exist that warrant increased awareness or require plant shutdown under Technical Specification or involve other than normal controlled shutdown.		A26			

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Events Effecting Operational Control (Continued)	Other plant conditions exist that warrant precautionary activation of TSC and placing EOF and other key emergency personnel on standby.	Emergency Coordinator judgment		B22		
	Other plant conditions exist that warrant activation of emergency centers and monitoring teams or a precautionary notification to the public near the site.	Emergency Coordinator judgment			C21	
Control Room Habitability	Evacuation of the Control Room required for any reason. Shutdown outside Control Room initiated.	Control Room evacuated and action initiated in accordance with Operating Procedures		B23		
	Evacuation of the Control Room required for any reason. Shutdown outside Control Room not implemented within 15 minutes.	Failure of System Components to Function from Remote Shutdown Panel			C22	
Situations Requiring Off-Site Assistance	Transportation of contaminated injured individual to the hospital	Communication from Health Physics	A27			
	Security threat, attempted sabatage, or unauthorized forceable entry	Communication from Security	A28			
	Confirmed on-going security compromise	Communication from Security or Operations		B24		

EVENT TYPE	PLANT CONDITIONS	Note: The instrumentation listed in this column may serve as a possible indication, but they are not necessarily sufficient cause to determine an EAL.	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Situations Requiring Off-Site Assistance (Continued)	Imminent loss of physical control of the plant	Communication from Security or Operations			C23	
	Loss of physical control of the plant	Communication from Security				D8
	Fire within the secured area that cannot be extinguished within 10 minutes by the Fire Brigade	Communications from Fire Brigade	A29			
	Fire not extinguished in 10 minutes in an area that could affect safety related equipment	Communication from Fire Brigade		B25		
	Fire compromising the functions of safety systems	Communication from Fire Brigade Associated System and Alarms - Panel 1C40 Observation			C24	

1.0 PURPOSE

This procedure provides instructions for performing onsite radiological monitoring during an emergency at DAEC including determination of habitable areas and identification of the extent of radiological effects of the emergency.

2.0 APPLICABILITY

This procedure applies to specific actions to be taken by radiological monitoring personnel while conducting onsite radiation and airborne activity surveys during an emergency. On-site surveys are expected to be performed for any event classified as an ALERT or greater, but may be performed for an event classified as a NOTIFICATION OF UNUSUAL EVENT.

3.0 RESPONSIBILITIES

3.1 Site Radiation Protection Coordinator

3.1.1 Inform the OSC Supervisor of the need to prepare and dispatch radiological monitoring/surveying teams to onsite locations (areas within the site exclusion boundary) both within plant buildings and to affected site environs.

3.1.2 Coordinate activities and evaluate the results of radiological monitoring team surveys.

3.1.3 Advise the Emergency Coordinator of onsite radiological conditions and recommend protective measures including evacuation of the plant in part or in whole, if necessary.

3.1.4 Identify the need for additional onsite monitoring personnel.

3.1.5 Authorize changes to DAEC administrative exposure limits.

3.2 Emergency Coordinator

3.2.1 Initially provide protective action recommendations.

3.2.2 Obtain the services of outside agencies to assist in radiological monitoring, as necessary.

3.2.3 Authorize emergency exposure limits.

4.0 INSTRUCTIONS

4.1 Notification and Mobilization of Radiological Monitoring Personnel

4.1.1 Upon activation of the DAEC Emergency Plan, onsite personnel will be notified as outlined in EPIP 1.2, "Notification of the Emergency Response Organization and Offsite Support Agencies".

4.1.2 Radiological monitoring personnel will report to the Operations Support Center (OSC). Refer to EPIP 2.1, "Activation and Operation of Operational Support Center".

4.2 Assignment of Personnel to Onsite Radiological Monitoring

4.2.1 Personnel arriving at the OSC shall remove tags in sequence according to qualification, report to the OSC Supervisor and begin implementing their specific duties. Refer to EPIP 2.1, "Activation and Operation of Operational Support Center".

4.2.2 Other emergency response personnel, not assigned OSC tag board duties, shall report to their emergency response stations or to the OSC Supervisor and inform him that they are prepared to assist as needed.

4.3 Initial Actions Following Activation of the DAEC Emergency Plan

4.3.1 The habitability of the Control Room and TSC shall be initially determined from Area Radiation Monitoring Instrumentation (ARM). Follow-up sampling/surveying should be performed to verify habitability. The habitability of the OSC and Contractor Change House shall be determed as follows:

a. Onsite monitoring/surveying tag duties will accomplish the following:

Obtain Health Physics monitoring equipment (located in the Emergency Response Team lockers) required to perform surveys in and around the general assembly areas.

Designate personnel to perform habitability surveys of OSC and contractor change house.

b. The following surveys shall be performed:

Area radiation levels. Refer to RPP 7.1, "Radiation Surveys".

Surface contamination levels. Refer to RPP 7.3, "Radioactive Contamination Surveys".

Airborne activity levels. Refer to RPP 7.4, "Airborne Radioactivity Surveys".

c. Habitability of key assembly areas (OSC, TSC, Control Room, Change House) shall be based on the results of radiological surveys to determine exposure received from direct sources, or radiological hazards caused from surface contamination or airborne contamination in the form of particulate or gaseous releases. Personnel stay times in these key areas may be adjusted based upon direction from the Site Radiation Protection Coordinator, in concurrence with the Emergency Coordinator.

General DAEC administrative guidelines are as follows:

Direct exposure - 300 mRem/day.

Airborne contamination - 2 MPC (maximum permissible concentration) hours per day.

At 10% MPC, either a time keeper should be assigned, or respirators used in affected areas. Time keeping is recommended over respirator use unless the MPC limit is being approached, to facilitate communications.

Specific survey guidelines are as follows:

12 mr/hr based on a 24 hour/day occupancy.

1000 dpm/100 cm^2 of smearable beta-gamma contamination on floor surfaces (contamination 1000 dpm/100 cm^2 requires shoe covers.)

Higher levels of smearable beta-gamma contamination that may result in the area becoming airborne may require relocation or respiratory protection.

Unidentified particulate airborne activity less than 1×10^{-9} uci/cc can be considered safe for occupancy.

When sufficient personnel and time are available, another air sample shall be taken to determine isotopic composition of particulate filters and iodine cartridges in accordance with the limits of 10 CFR 20, Appendix B, Table I.

4.4 Onsite Radiation Surveys

4.4.1 The Site Radiation Protection Coordinator shall direct the OSC Supervisor to prepare and dispatch monitoring teams to initiate surveys within plant buildings and any other onsite areas affected by the emergency to facilitate access to areas for rescue and emergency repair work. This shall be determined by the type, extent, and severity of the emergency.

NOTE: The Site Radiation Protection Coordinator shall obtain authorization from the Emergency Coordinator prior to initiating surveys.

4.4.2 The Site Radiation Protection Coordinator shall determine plant radiological status by evaluating remote radiation instrumentation as indicated in the Control Room or TSC. Details describing this instrumentation, the areas which they monitor, and potential hazards involved in access to the various areas are covered in detail in RPP 7.2, "Operation and Use of Area Radiation Monitors" and Post-Accident Sampling System Procedure. If access to these areas is required, refer to EPIP 4.3, "Rescue and Emergency Repair Work" for detailed procedures to be followed.

4.4.3 In-Plant Radiation Surveys (areas within plant buildings) shall be conducted as follows:

a. The Site Radiation Protection Coordinator shall consult with the Shift Supervising Engineer and the Emergency Coordinator to determine the areas where surveys are needed and priorities for conducting the surveys.

b. The OSC Supervisor shall ensure that survey teams are prepared for entry.

c. The Site Radiation Protection Coordinator shall obtain authorization from the Emergency Coordinator prior to sending survey teams into plant areas. The TSC shall also notify the Control Room that the survey teams will be entering the affected plant areas.

d. The survey team(s) shall then proceed to the areas and initiate surveys. Communications shall be continuously maintained between the OSC, TSC, Control Room and the survey team(s) using the operations two-way hand-held radios.

NOTE:

If difficulty is experienced with communications equipment, team members should use any other means available according to the following priority:

Preferred method - Operations radio.

Alternate method - Plant paging system.

Second alternate method - Plant telephone system.

CAUTION:

Each team member is responsible for:

Periodically checking direct reading pocket dosimeters to monitor total dose received.

Observing established radiation exposure limits (refer to RPP 2.1, "Personnel Exposure Limits") unless authorized by the Emergency Coordinator to exceed these limits. Under no circumstances shall personnel exceed the emergency radiation doses as stated in RPP 13.1, "Radiation Emergencies", without approval of the Emergency Coordinator.

Insuring that respiratory equipment is fitted and functioning properly. Refer to RPP 8.1.

e. Radiation survey team(s) shall obtain survey data and promptly report the results as well as other pertinent observations to the Site Radiation Protection Coordinator and OSC Supervisor.

f. Upon completion of the survey, team members shall return to the OSC, observing all control point requirements, and report to the OSC Supervisor for further instructions.

g. The OSC Supervisor shall notify the site Radiation Protection Coordinator and Emergency Coordinator that survey teams have left the plant area. The Site Radiation Protection Coordinator shall inform the Control Room.

4.4.4 Site Boundary Radiation Monitoring (areas outside plant buildings but within restricted area)

a. The Site Radiation Protection Coordinator shall review the plant status based on plant conditions and radiation monitors to determine if a release of radioactive materials to the environment has occurred.

b. The Site Radiation Protection Coordinator shall consult with the Emergency Coordinator to determine if a release has or is likely to occur and whether monitoring teams should be dispatched.

c. The Site Radiation Protection Coordinator shall determine the downwind airborne activity as well as estimated dose rates the monitoring teams are likely to encounter. Refer to EPIP 3.3, "Dose Projections".

d. The Site Radiation Protection Coordinator shall advise the OSC Supervisor of this information and the OSC Supervisor will then issue specific instructions to the site survey teams and dispatch the survey teams to the affected area.

e. Team members shall proceed to the specified site area. Care shall be exercised to avoid the activity release path enroute by utilizing the portable survey instruments. The DAEC Operations Radio System shall serve as the primary mode of communications.

f. Radiation monitoring teams shall obtain survey data and report results as well as other pertinent observations promptly to the Site Radiation Protection Coordinator.

Sample media from either (or both) of the Environs Monitoring Systems should be collected and returned for analysis, if possible.

g. Upon completion of the survey, the team shall return to the OSC, observing all control point requirements. The Team Leader shall report results of the survey to the Site Radiation Protection Coordinator and await further instructions.

4.5 Recording of Emergency Monitoring Data

4.5.1 All pertinent radiological data shall be recorded in the Emergency Monitoring Log which is maintained under the direction of the Site Radiation Protection Coordinator.

4.5.2 Entries shall include the following information, as applicable:

a. Radiation levels in mR/hr or R/hr. Refer to RPP 7.1, "Radiation Surveys".

b. Airborne activity concentrations in uCi/cc. Refer to RPP 7.4, "Airborne Radioactivity Surveys".

c. Surface contamination in dpm/100 cm^2. Refer to RPP 7.3, "Radioactive Contamination Surveys".

d. Location of survey.

e. Date and time of survey.

f. Identification of the monitoring team members.

g. Initials of the individuals recording the data.

h. Readings of pocket dosimeters worn during the survey by team members.

i. Pertinent observations by monitoring team mebmers including physical hazards.

4.5.3 The Emergency Monitoring Logs and any other pertinent notes shall be provided to the OSC Supervisor upon returning to the OSC. This information shall then be forwarded to the Site Radiation Protection Coordinator.

5.0 REFERENCES

5.1 Duane Arnold Energy Center Emergency Plan

5.2 Corporate Emergency Response Plan

5.3 Radiation Protection Procedures (RPP 2.1, 7.1, 7.2, 7.3, 7.4, 8.1, 12.1, 13.1)

6.0 ATTACHMENTS

1 Emergency Monitoring Log

APPROVED BY: _____ 5-27-82
Chief Engineer

REVIEWED BY: _____ 4/1/82
Chairman, Operations Committee

APPROVED BY: _____
Radiation Protection Engineer

ATTACHMENT 1

EMERGENCY MONITORING LOG

DATE	TIME	LOCATION	RADIATION LEVELS OPEN WINDOW mR/hr	RADIATION LEVELS CLOSED WINDOW mR/hr	AIRBORNE ACTIVITY CONC. (uCi/cc)	SURFACE CONTAMINATION LEVELS (dpm/100cm^2)	MONITOR TEAM POCKET DOSIMETER READINGS	MONITOR TEAM MEMBERS	REMARKS (INCLUDE OBSERVATIONS MADE BY EVACUATED OR MONITORING PERSONNEL)	DATA RECORDER

Survey Instruments Used _____ Serial No. _____

1.0 PURPOSE

This procedure provides instructions for performing offsite radiological monitoring of the environs during an emergency.

2.0 APPLICABILITY

This procedure applies to offsite radiological monitoring personnel during a potential or actual release of radioactive materials to offsite locations. Off-site surveys are expected to be performed for any event classified as a SITE or GENERAL Emergency but may be performed during events classified lower.

3.0 RESPONSIBILITIES

3.1 Site Radiation Protection Coordinator

3.1.1 Fulfill responsibilities of the Radiological Assessment Coordinator until the EOF is manned.

3.1.2 Instruct and direct the OSC Supervisor to prepare and dispatch the radiological monitoring teams to offsite locations.

3.1.3 Coordinate with the Radiological Assessment Coordinator to determine the need for followup offsite monitoring.

3.2 Emergency Coordinator

3.2.1 Authorize offsite radiological monitoring activities.

3.2.2 Initially provide protective action recommendations until the EOF is manned.

3.3 Radiological Assessment Coordinator

3.3.1 Direct and coordinate offsite Radiological Monitoring Teams.

3.3.2 Evaulate data from monitoring teams.

3.3.3 Provide recommendations to protect the population-at-risk.

3.3.4 Provide followup instructions for monitoring teams to continue surveillance activities, as necessary.

3.3.5 Perform dose assessment calculations.

3.4 Off-site Monitoring Teams

3.4.1 Perform surveys at locations specified by the EOF, TSC or OSC. Provide information to the EOF, TSC, or OSC as requested.

3.4.2 Periodically check dosimeters and evaluate exposure.

3.4.3 Document surveys and maintain a log of events.

3.4.4 Take actions as necessary to reduce personal exposure

4.0 INSTRUCTIONS

4.1 Notification and Mobilization of Radiological Monitoring Personnel

4.1.1 Upon activation of the DAEC Emergency Plan, radiological monitoring personnel will be notified as outlined in EPIP 1.2, "Notification of the Emergency Response Organization and Offsite Support Agencies".

4.1.2 Radiological monitoring personnel will report to the Operational Support Center (OSC).

4.2 Assignment of Personnel to Offsite Radiological Monitoring Teams

4.2.1 Personnel arriving at the OSC shall remove tags in sequence according to qualifications, report to the OSC Supervisor and begin implementing their specific duties. Refer to EPIP 2.1, "Activation and Operation of Operational Support Center".

4.2.2 Other emergency response personnel, not assigned OSC tagboard duties, shall report to their emergency response stations or to the OSC Supervisor and inform him that they are prepared to assist as needed.

4.3 Initial Actions Following Activation of the DAEC Emergency Plan

4.3.1 The Site Radiation Protection Coordinator shall report to the TSC. He will evaluate the plant radiological conditions and determine if a release to the environment has occurred or could occur.

4.3.2 The Site Radiation Protection Coordinator shall estimate the downwind airborne activity and perform dose assessment calculations. Refer to EPIP 3.3, "Dose Projections". The OSC Supervisor shall be informed of projected airborne activities and dose assessments.

4.3.3 The OSC Supervisor will prepare to dispatch monitoring teams to downwind locations. The teams should be briefed on wind speed, wind direction and the location of the projected maximum airborne activity concentrations as soon as the information is available.

4.3.4 Each team shall arrange for transporation and ensure that the vehicle is fueled and functioning. Keys for vehicles and gas pumps are available at the Security Control Point. Team members shall source check portable instrumentation prior to leaving the OSC.

4.3.5 Each team shall establish communications with the TSC, OSC, or the EOF, as appropriate. The Radiological Assessment Coordinator will assume control of the off-site monitoring teams when available. The DAEC Security/Radiological Radio System will serve as the primary means of communications.

4.3.6 Each team shall ensure that all supplies required by the tag board assignment are loaded into the vehicle. TLD's and dosimeters shall be worn.

4.3.7 The Site Radiation Protection Coordinator or the OSC Supervisor shall notify the Security Shift Supervisor that offsite monitoring teams may be leaving the site.

4.3.8 The Site Radiation Protection Coordinator shall obtain authorization from the Emergency Coordinator prior to initiating offsite monitoring.

4.4 Offsite Surveys

4.4.1 Team members shall proceed to offsite locations as directed by the OSC, TSC, or EOF, as appropriate. Survey instrumentation shall be used to determine if the team enters the plume. Attachment 1 or a similiar map should be used to plan the travel route to the assigned location. Report arrival at the location to the TSC, OSC, or EOF, as appropriate.

4.4.2 Precautions for off-site team members

4.4.2.1 Periodically check pocket dosimeters. Record dosimeter readings and time on Attachment 2.

4.4.2.2 Do not exceed established radiation exposure limits (ie: 300 mRem/day) unless authorized by the Emergency Coordinator.

4.4.2.3 Perform a radition and contamination survey on the vehicle after exiting the plume.

4.4.2.4 Prior to entering the plume, don protective clothing and respiratory protective devices.

4.4.2.5 When taking low volume air samples, leave the vehicle running. Take dose rates on the radiator and air cleaner. Minimize exposure to potentially high dose rate components.

4.4.2.6 Mark data and sample locations on the map. Project dose lines and plume path if possible.

4.4.2.7 Labels similiar to Attachment 3 shall be utilized to identify samples and sample locations.

4.4.2.8 If the vehicle becomes heavily contaminated, it may be necessary to leave the vehicle to obtain accurate survey data.

4.4.2.9 Dose rates on the vehicle may require that the vehicle be abandoned. Notify the EOF of the condition and receive instruction on actions to be taken.

4.4.2.10 Take actions as necessary to minimize the contamination of survey equipment.

4.4.3 Determining Presence of the Plume

4.4.3.1 Observe survey instrumentation; increasing count rates or dose rates will indicate the presence of the plume.

4.4.3.2 Take open and closed window surveys. For the E-140, put hand over the window for closed window surveys.

4.4.3.2.1 A high open/closed window ratio indicates that the team is in the plume.

4.4.3.2.2 A low open/closed window ratio indicates that the plume is overhead or is approaching the team.

4.4.3.3 Record surveys in accordance with section 4.5. Report dose rate information and location of the plume to the EOF via radio.

4.4.4 Air Sampling (Low Volume Samples)

4.4.4.1 Load the air sampler with appropriate filters. Use Silver Zeolite cartridges when obtaining low volume air samples.

4.4.4.2 Perform a radiation survey on the radiator.

4.4.4.3 Raise the hood on the vehicle. Leave the vehicle running.

4.4.4.4 Connect the air sampler to the battery. Ensure red lead goes to the positive terminal.

4.4.4.5 Turn the air sampler "ON". Take precautions to prevent contamination of the sample. The sampler should be held approximately waist high.

4.4.4.6 Obtain a 1, 5 or 10 cubic foot air sample. If dose rates are low, obtain a 10 cubic foot sample. If dose rates are high, obtain a 1 cubic foot sample.

4.4.4.7 Record date and time on, sample location, sampler flow rate, date and time off and technicians name on a label similiar to Attachment 3.

4.4.4.8 Remove the sample from the sampler. Take precautions to prevent contamination of the sample. Put sample in a plastic bag with the label attached. Seal the bag. Position the sample in the truck to minimize exposure.

4.4.4.9 Notify the TSC, OSC or EOF of completion of air sample and current radiological information. Request further directions.

4.4.4.10 When background permits, evaluate the silver zeolite cartridge with a portable survey meter. Determine the air activity using either an E-140 or an open window RO-2. Compare instrument readings and volume to values on Attachment 4. Report approximate airborne activity to the EOF, OSC or TSC.

4.4.4.11 Deliver samples as directed by the EOF.

4.5 Documentation of Radiological Monitoring Data

4.5.1 Radiological monitoring data gathered at the offsite areas shall be recorded in the Emergency Monitoring Log (Attachment 2).

4.5.2 Entries shall include the following information, as applicable:

a. Radiation levels in mR/hr or R/hr. Refer to RPP 7.1, "Radiation Surveys".

b. Airborne activity concentrations in μCi/cc. Refer to RPP 7.4, "Airborne Radioactivity Surveys".

c. Surface contamination in dpm/100cm^2. Refer to RPP 7.3, "Radioactivity Contamination Surveys".

d. Location of survey.

e. Date and time of survey.

f. Identification of the monitoring team members.

g. Initials of the individual recording the data.

h. Readings of pocket dosimeters worn during the survey by team members.

i. Pertinent observations by monitoring team members including physical hazards.

4.5.3 The Emergency Monitoring Logs and any other pertinent notes shall be provided to the OSC Supervisor upon returning to the plant. This information shall then be forwarded to the Site Radiation Protection Coordinator.

5.0 REFERENCES

5.1 Duane Arnold Energy Center Emergency Plan

5.2 Corporate Emergency Response Plan

5.3 Radiation Protection Procedures (RPP 2.1, 7.1, 7.2, 7.3, 7.4, 8.1, 13.1, 13.7)

6.0 ATTACHMENTS

1. Area Map
2. Emergency Monitoring Log
3. Sample Label
4. Air activity Chart for open window measurements at contact with a Silver Zeolite cartridge.

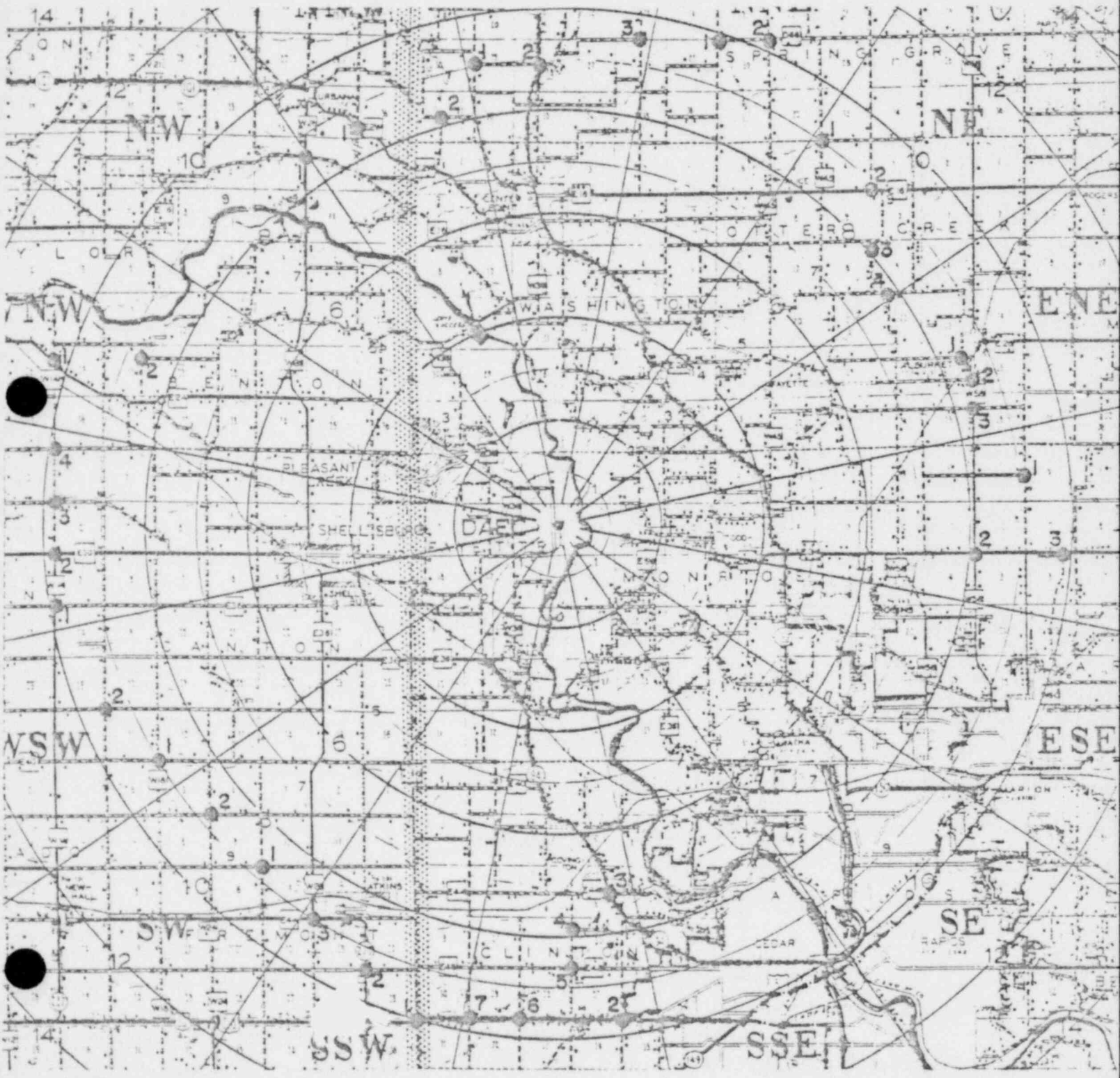
APPROVED BY: _____ 5-27-82
Chief Engineer

REVIEWED BY: _____ 4/1/82
Chairman, Operations Committee

APPROVED BY: _____ for
Radiation Protection Engineer

ATTACHMENT 1

AREA MAP



ATTACHMENT 2

EMERGENCY MONITORING LOG

DATE	TIME	LOCATION	RADIATION LEVELS OPEN WINDOW mR/hr	RADIATION LEVELS CLOSED WINDOW mR/hr	AIRBORNE ACTIVITY CONC. (uCi/cc)	SURFACE CONTAMINATION LEVELS (dpm/100cm^2)	MONITOR TEAM POCKET DOSIMETER READINGS	MONITOR TEAM MEMBERS	REMARKS (INCLUDE OBSERVATIONS MADE BY EVACUATED OR MONITORING PERSONNEL)	DATA RECORDER

Survey Instruments Used Serial No.

ATTACHMENT 3

AIR SAMPLE

SAMPLE LOCATION_____

DATE/TIME ON_____/_____

DATE/TIME OFF_____/_____

SAMPLE FLOW RATE_____CFM

SAMPLE COLLECTED BY_____

ATTACHMENT 4

Air Activity Chart for open window measurements at contact with a Silver Zeolite Cartridge. (Ci/m^3 or uCi/cc)

E-140 or RO-2

COUNT RATE (CPM)	1ft^3	5ft^3	1uft^3	COUNT RATE (CPM)	1ft^3	5ft^3	10ft^3	COUNT RATE (CPM)	1ft^3	5ft^3	10ft^3
100	3.18E-8	6.36E-9	3.18E-9	5700	1.81E-6	3.63E-7	1.81E-7	23K	7.32E-6	1.46E-6	7.32E-7
200	6.36E-8	1.27E-8	6.36E-9	5800	1.85E-6	3.69E-7	1.85E-7	24K	7.64E-6	1.53E-6	7.64E-7
300	9.54E-8	1.91E-8	9.54E-9	5900	1.88E-6	3.75E-7	1.88E-7	25K	7.95E-6	1.59E-6	7.95E-7
400	1.27E-7	2.54E-8	1.27E-8	6000	1.91E-6	3.82E-7	1.91E-7	26K	8.27E-6	1.65E-6	8.27E-7
500	1.59E-7	3.18E-8	1.59E-8	6100	1.94E-6	3.88E-7	1.94E-7	27K	8.59E-6	1.72E-6	8.59E-7
600	1.90E-7	3.82E-8	1.90E-8	6200	1.97E-6	3.94E-7	1.97E-7	28K	8.91E-6	1.78E-6	8.91E-7
700	2.22E-7	4.45E-8	2.23E-8	6300	2.00E-6	4.00E-7	2.00E-7	29K	9.23E-6	1.85E-6	9.23E-7
800	2.54E-7	5.09E-8	2.55E-8	6400	2.04E-6	4.07E-7	2.04E-7	30K	9.54E-6	1.91E-6	9.54E-7
900	2.86E-7	5.72E-8	2.86E-8	6500	2.07E-6	4.14E-7	2.07E-7	31K	9.86E-6	1.97E-6	9.86E-7
1000	3.18E-7	6.36E-8	3.18E-8	6600	2.10E-6	4.20E-7	2.10E-7	32K	1.01E-5	2.04E-6	1.02E-6
1100	3.49E-7	6.99E-8	3.50E-8	6700	2.13E-6	4.26E-7	2.13E-7	33K	1.05E-5	2.10E-6	1.05E-6
1200	3.81E-7	7.64E-8	3.82E-8	6800	2.16E-6	4.33E-7	2.16E-7	34K	1.08E-5	2.16E-6	1.08E-6
1300	4.13E-7	8.27E-8	4.14E-8	6900	2.20E-6	4.39E-7	2.20E-7	35K	1.11E-5	2.23E-6	1.11E-6
1400	4.45E-7	8.91E-8	4.45E-8	7000	2.23E-6	4.45E-7	2.23E-7	36K	1.15E-5	2.29E-6	1.15E-6
1500	4.77E-7	9.54E-8	4.77E-8	7100	2.26E-6	4.52E-7	2.26E-7	37K	1.18E-5	2.35E-6	1.18E-6
1600	5.09E-7	1.02E-7	5.09E-8	7200	2.29E-6	4.58E-7	2.29E-7	38K	1.21E-5	2.41E-6	1.21E-6
1700	5.40E-7	1.08E-7	5.41E-8	7300	2.32E-6	4.64E-7	2.32E-7	39K	1.24E-5	2.48E-6	1.24E-6
1800	5.73E-7	1.15E-7	5.73E-8	7400	2.35E-6	4.71E-7	2.35E-7	40K	1.27E-5	2.54E-6	1.27E-6
1900	6.04E-7	1.21E-7	6.04E-8	7500	2.39E-6	4.77E-7	2.39E-7	41K	1.30E-5	2.61E-6	1.30E-6
2000	6.36E-7	1.27E-7	6.36E-8	7600	2.41E-6	4.84E-7	2.42E-7	42K	1.34E-5	2.67E-6	1.34E-6
2100	6.68E-7	1.34E-7	6.68E-8	7700	2.45E-6	4.90E-7	2.45E-7	43K	1.38E-5	2.74E-6	1.37E-6
2200	6.99E-7	1.39E-7	6.99E-8	7800	2.48E-6	4.96E-7	2.48E-7	44K	1.40E-5	2.80E-6	1.40E-6
2300	7.31E-7	1.46E-7	7.32E-8	7900	2.51E-6	5.03E-7	2.51E-7	45K	1.43E-5	2.86E-6	1.43E-6
2400	7.63E-7	1.52E-7	7.64E-8	8000	2.55E-6	5.09E-7	2.55E-7	46K	1.46E-5	2.93E-6	1.46E-6
2500	7.95E-7	1.59E-7	7.95E-8	8100	2.58E-6	5.15E-7	2.58E-7	47K	1.50E-5	2.99E-6	1.50E-6
2600	8.27E-7	1.65E-7	8.27E-8	8200	2.61E-6	5.22E-7	2.61E-7	48K	1.53E-5	3.05E-6	1.53E-6
2700	8.58E-7	1.72E-7	8.59E-8	8300	2.64E-6	5.28E-7	2.64E-7	49K	1.56E-5	3.12E-6	1.56E-6
2800	8.90E-7	1.78E-7	8.91E-8	8400	2.67E-6	5.34E-7	2.67E-7	50K	1.59E-5	3.18E-6	1.59E-6
2900	9.22E-7	1.85E-7	9.23E-8	8500	2.70E-6	5.40E-7	2.70E-7	51K	1.62E-5	3.25E-6	1.62E-6
3000	9.54E-7	1.91E-7	9.54E-8	8600	2.74E-6	5.47E-7	2.74E-7	52K	1.65E-5	3.31E-6	1.65E-6
3100	9.86E-7	1.97E-7	9.86E-8	8700	2.77E-6	5.54E-7	2.77E-7	53K	1.69E-5	3.37E-6	1.69E-6
3200	1.01E-6	2.04E-7	1.02E-7	8800	2.80E-6	5.60E-7	2.80E-7	54K	1.72E-5	3.43E-6	1.72E-6
3300	1.04E-6	2.10E-7	1.05E-7	8900	2.83E-6	5.66E-7	2.83E-7	55K	1.75E-5	3.49E-6	1.75E-6
3400	1.08E-6	2.16E-7	1.08E-7	9000	2.86E-6	5.73E-7	2.86E-7	56K	1.78E-5	3.56E-6	1.78E-6
3500	1.11E-6	2.23E-7	1.11E-7	9100	2.89E-6	5.79E-7	2.90E-7	57K	1.81E-5	3.63E-6	1.81E-6
3600	1.14E-6	2.29E-7	1.15E-7	9200	2.92E-6	5.85E-7	2.93E-7	58K	1.85E-5	3.69E-6	1.85E-6
3700	1.17E-6	2.35E-7	1.18E-7	9300	2.96E-6	5.92E-7	2.96E-7	59K	1.88E-5	3.75E-6	1.88E-6
3800	1.20E-6	2.42E-7	1.21E-7	9400	2.99E-6	5.98E-7	2.99E-7	60K	1.91E-5	3.82E-6	1.91E-6
3900	1.24E-6	2.48E-7	1.24E-7	9500	3.02E-6	6.04E-7	3.02E-7	61K	1.94E-5	3.88E-6	1.94E-6
4000	1.27E-6	2.54E-7	1.27E-7	9600	3.05E-6	6.11E-7	3.05E-7	62K	1.97E-5	3.94E-6	1.97E-6
4100	1.30E-6	2.61E-7	1.30E-7	9700	3.08E-6	6.17E-7	3.09E-7	63K	2.00E-5	4.01E-6	2.00E-6
4200	1.33E-6	2.67E-7	1.34E-7	9800	3.12E-6	6.24E-7	3.12E-7	64K	2.04E-5	4.07E-6	2.04E-6
4300	1.36E-6	2.74E-7	1.37E-7	9900	3.15E-6	6.3.E-7	3.15E-7	65K	2.07E-5	4.14E-6	2.07E-6
4400	1.40E-6	2.79E-7	1.40E-7	10K	3.18E-6	6.36E-7	3.18E-7	66K	2.10E-5	4.20E-6	2.10E-6
4500	1.43E-6	2.86E-7	1.43E-7	11K	3.50E-6	6.99E-7	3.50E-7	67K	2.13E-5	4.26E-6	2.13E-6
4600	1.46E-6	2.93E-7	1.46E-7	12K	3.82E-6	7.64E-7	3.82E-7	68K	2.16E-5	4.33E-6	2.16E-6
4700	1.50E-6	2.99E-7	1.49E-7	13K	4.14E-6	8.27E-7	4.14E-7	69K	2.20E-5	4.39E-6	2.20E-6
4800	1.52E-6	3.05E-7	1.53E-7	14K	4.45E-6	8.91E-7	4.45E-7	70K	2.23E-5	4.45E-6	2.23E-6
4900	1.56E-6	3.12E-7	1.56E-7	15K	4.77E-6	9.54E-7	4.77E-7	8mR/hr	2.55E-5	5.10E-6	2.55E-6
5000	1.59E-6	3.18E-7	1.59E-7	16K	5.09E-6	1.02E-6	5.09E-7	10mR/hr	3.18E-5	6.36E-6	3.18E-6
5100	1.62E-6	3.25E-7	1.62E-7	17K	5.41E-6	1.08E-6	5.41E-7	12mR/hr	3.82E-5	7.64E-6	3.82E-6
5200	1.65E-6	3.31E-7	1.65E-7	18K	5.73E-6	1.15E-6	5.73E-7	15mR/hr	4.77E-5	9.54E-6	4.77E-6
5300	1.69E-6	3.37E-7	1.69E-7	19K	6.04E-6	1.21E-6	6.04E-7	20mR/hr	6.36E-5	1.27E-5	6.36E-6
5400	1.72E-6	3.44E-7	1.72E-7	20K	6.36E-6	1.27E-6	6.36E-7	25mR/hr	7.95E-5	1.59E-5	7.95E-6
5500	1.75E-6	3.50E-7	1.75E-7	21K	6.68E-6	1.34E-6	6.68E-7	30mR/hr	9.54E-5	1.91E-5	9.54E-6
5600	1.78E-6	3.56E-7	1.78E-7	22K	6.99E-6	1.40E-6	6.99E-7	50mR/hr	1.59E-4	3.18E-5	1.59E-5

use RO-2 readings

1.0 PURPOSE

This procedure provides instructions for evacuation to a safe assembly area and for accountability of personnel at the DAEC in the event of an emergency.

2.0 APPLICABILITY

This procedure applies to DAEC, IELP, Contractor, and Visitor personnel within the site boundary in the event of a site evacuation. Requirements delineated in this procedure shall be implemented for the occurrence of an event which may result in an emergency condition classified as an Alert, Site Emergency or General Emergency (Evacuation may also be used for non-emergency accountability).

NOTE:

A Plant Evacuation is defined as evacuation of personnel from selected buildings or facilities at the DAEC, where the evacuated personnel are reassembled at locations on the site.

A Site Evacuation is defined as evacuation of some or all personnel from the DAEC site to an offsite location.

3.0 RESPONSIBILITIES

3.1 Shift Supervising Engineer:

- Initiate the Site Evacuation Alarm for any event classified as an ALERT or greater. The evacuation alarm may also be sounded for other events, at the discretion of the SSE.
- Ensure onsite personnel are notified by an audible evacuation signal and that appropriate announcements are made on the plant paging system.
- Account for all on duty shift operating personnel.

3.2 Emergency Coordinator

- Ensure that non-essential personnel are evacuated from the site for a Site or General Emergency.

3.3 Security Shift Supervisor

- Ensure all personnel are accounted for.
- Control access to and from the site during evacuation.
- Coordinate Access Points at the Control Room (CR), Technical Support Center (TSC), Contractor Change House, and Security Control Point as appropriate.

3.4 Operations Support Center Supervisor

- Organize and control evacuated personnel at the OSC and Contractor Change House.
- Assist in accounting for personnel assigned to the OSC and the Contractor Change House.

4.0 INSTRUCTIONS

4.1 Plant Evacuation

4.1.1 The Shift Supervising Engineer (SSE) shall sound the evacuation alarm for any event classified as an Alert or greater. At the discretion of the SSE, the evacuation alarm may also be sounded for other events, such as:

a) an Unusual Event which warrants evacuation.

b) other occurrences which require the evacuation of any part of the plant. (Note that, for accountability purposes, evacuation of any area of the plant requires evacuation of the entire plant).

4.1.2 The SSE, based on his knowledge of the nature and location of the problem, shall consider safe evacuation routes for personnel in the plant so that they may avoid hazardous areas while evacuating. The evacuation announcement (see 4.1.3 below) shall provide such information as necessary.

NOTE:

Such evaucation routes may require use of doors which are normally sealed and alarmed, and which are not normally available for routine entrance or exit. Use of such doors for emergency evacuation will, of course, sound these alarms. Security personnel should recognize that such alarms may be expected during an evacuation.

4.1.3 Upon completion of the tone alarm, the SSE shall announce the evacuation and provide further instructions on the paging system.

a. The announcement over the paging system should be as follows:

ATTENTION ALL PERSONNEL:

An ALERT/SITE/GENERAL emergency has been declared. All personnel onsite shall evacuate to their designated evacuation centers. (Provide additional specific instructions, as required.)

4.1.4 Repeat the tone alarm and paging instructions.

4.1.5 All onsite personnel shall proceed without delay to the following predesignated assembly areas, (see Attachment 1).Note that it is each employee's responsibility to heed any instructions given over the paging system regarding safe evacuation routes, and to act accordingly.

a. Predesignated personnel shall report to the TSC as per EPIP 2.2, "Activation and Operation of the Technical Support Center."

b. All other IELP/DAEC personnel except the on-shift operating crew and security personnel shall report to the OSC as per EPIP 2.1, "Activation and Operation of the OSC." The on-shift operating crew will report to the Control Room and security personnel will begin implementing their assigned duties. See "Security Shift Supervisors Checklist", Attachment 7 of EPIP 2.1.

c. Contractors shall report to the Contractor Change House.

d. Visitors shall be escorted to the Security Control Point. Upon the visitors' exit from the Protected Area, the escorts shall then proceed to their assigned area.

e. Personnel onsite but outside of the Protected Area will report to the Security Control Point.

4.1.6 Personnel who evacuated the reactor building by way of alarmed doors shall report immediately (prior to reporting to their designated area) to the OSC to be monitored, since they will have bypassed the portal monitor at Access Control. They shall also report to the Central Alarm Station (ext. 241) the location of the alarmed door by which they evacuated. They shall then report to their designated assembly area for accountability purposes.

4.1.7 In the event that the OSC and Contractor Change House are not habitable, personnel assigned to those areas shall be redirected to the Offsite Relocation and Assembly Area (ORAA).

4.1.8 If the TSC is not habitable, personnel designated by the Emergency Coordinator shall report to the Control Room.

Moved from 4.2.2 in Rev 1

4.2 Monitoring

4.2.1 Initiate radiation surveys and airborne sampling as directed by the Site Radiation Protection Coordinator to determine habitability of the OSC and Contractor Change House per EPIP 3.1, "Onsite Radiological Monitoring."

NOTE

Radiation surveys and airborne radiation sampling of the TSC and Control Room will be conducted based upon an evaluation of instrument readings monitoring the general area and atmosphere in those locations. Follow-up sampling/surveying should be performed to verify habitability.

4.2.2 Radiation monitoring of evacuated personnel will be performed per RPP 5.2, "Controlled Area Methodology".

4.2.3 In the event of a radiological release, personnel to be released offsite will be surveyed for radiological contamination prior to being released from company property. This monitoring will be accomplished at the Controlled Access Point.

NOTE

If designated areas are not habitable, personnel radiological surveying will be accomplished at the offsite assembly area.

4.3 Accountability

4.3.1 Personnel accountability shall be performed to identify missing personnel as soon as possible after implementation of EPIP 4.1, "Site Evacuation". Accountability should be accomplished within 30 minutes after the evacuation alarm has been sounded. Accountability shall be reported to the Security Shift Supervisor, as follows:

a. The Shift Supervising Engineer shall ensure shift operating crew personnel are accounted for and report to the Security Shift Supervisor.

b. The TSC Supervisor shall ensure personnel in the TSC are accounted for and report to the Security Shift Supervisor.

c. The OSC Supervisor shall assist the Security Shift Supervisor in accounting for personnel in the OSC and the Contractor Change House. Other personnel may be designated to assist in accountability, as necessary.

d. Accountability of personnel shall be verified and/or cross checked by the Security Shift Supervisor using the Badge Board located at the Security Control Point and the Emergency Assignment Board located in the hall near the Security Control Point.

e. Results of the accountability survey shall be reported by the Security Shift Supervisor to the OSC Supervisor and the Security & Support Supervisor.

f. The Security & Support Supervisor shall advise the Emergency Coordinator of the results.

4.3.2 In the event missing personnel are identified, initiate rescue efforts in accordance with EPIP 4.3, "Rescue and Emergency Repair Work."

4.3.3 If the evacuation was conducted due to a local radiation emergency, once accountability has been established, the Emergency Coordinator may release personnel to return to their normal work areas with the exception of the affected local areas.

4.4 Security Access Controls

4.4.1 Shift security personnel shall make a tour of the property as authorized by the Emergency Coordinator, including buildings outside the Protected Area.

a. Non-IELP personnel found on company property will be escorted to the Security Control Point, surveyed for contamination and, if not contaminated, released from the site and escorted off company property.

b. If contaminated, decontamination shall be as described in EPIP 4.2, "First Aid, Decontamination and Medical Support."

4.4.2 The Emergency Coordinator through the Security Shift Supervisor will coordinate access to the site with local law enforcement agencies.

a. Local law enforcement agencies will establish access control points at predetermined locations to prevent unauthorized access to the site.

b. The Security Shift supervisor will coordinate with the local law enforcement agencies, as required, to authorize personnel access to the site.

4.4.3 Shift security personnel shall set up access control points at the TSC, Control Room, Contractor Change House, and the locker room in the OSC as appropriate. Access to and egress from these locations will be controlled by Security Personnel in order to maintain accountability until personnel are released to return to work or sent offsite.

NOTE

Access control points may be deleted at the discretion of the Emergency Coordinator.

4.5 Evacuation Beyond the Site Boundary (Site Evacuation)

4.5.1 Evacuation of the site property for nonessential personnel may be required based upon:

a. Severity of the event - Nonessential personnel shall be evacuated for a Site or General Emergency unless radiological environmental conditions prohibit.

b. Habitability of assembly areas.

4.5.2 Evacuation of personnel from the site property will be authorized by the Emergency Coordinator.

4.5.3 If evacuation is required and authorized, it shall be directed by the OSC Supervisor and coordinated with the Security Shift Supervisor.

4.5.4 Evacuation from the site property shall be to the Offsite Relocation and Assembly Area (ORAA) at the Palo School Gymnasium facility unless otherwise directed by the Emergency Coordinator.

a. If the radiological release rate and meteorological conditions are such that evacuation to the Palo facility is inappropriate, an alternate location shall be selected by the Emergency Coordinator based upon input from the Site Radiation Protection Coordinator. A page system announcement will be made notifying evacuees of the alternate offsite assembly area.

b. Activities at the ORAA shall be in accordance with Attachment 3, "Operating Procedures for the ORAA".

c. In the event that decontamination of personnel, equipment or vehicles is required, such efforts will be coordinated by the Site Radiation Protection Coordinator and conducted by Health Physics personnel as directed by the OSC Supervisor.

4.5.5 Evacuation from the site property shall be by the routes shown in Attachment 2, using personal transportation.

a. The south route from the plant will normally be used for site evacuation unless inclement weather, high traffic density or radiological conditions dictate use of the northern route.

b. Security personnel will provide traffic control onsite.

c. Accountability of personnel during evacuation shall be maintained.

4.5.6 An accountability check should be performed once personnel have arrived at the alternate assembly location. Personnel may then be released, or requested to stay, as necessary.

4.5.7 The ORAA will also be used, if necessary, as a staging area for assembling, briefing, and equiping personnel who are assigned to reenter the site following an incident.

5.0 REFERENCES

1. Duane Arnold Energy Center Emergency Plan
2. Iowa Electric Light and Power Company Corporate Emergency Response Plan
3. Radiation Protection Procedures

6.0 ATTACHMENTS

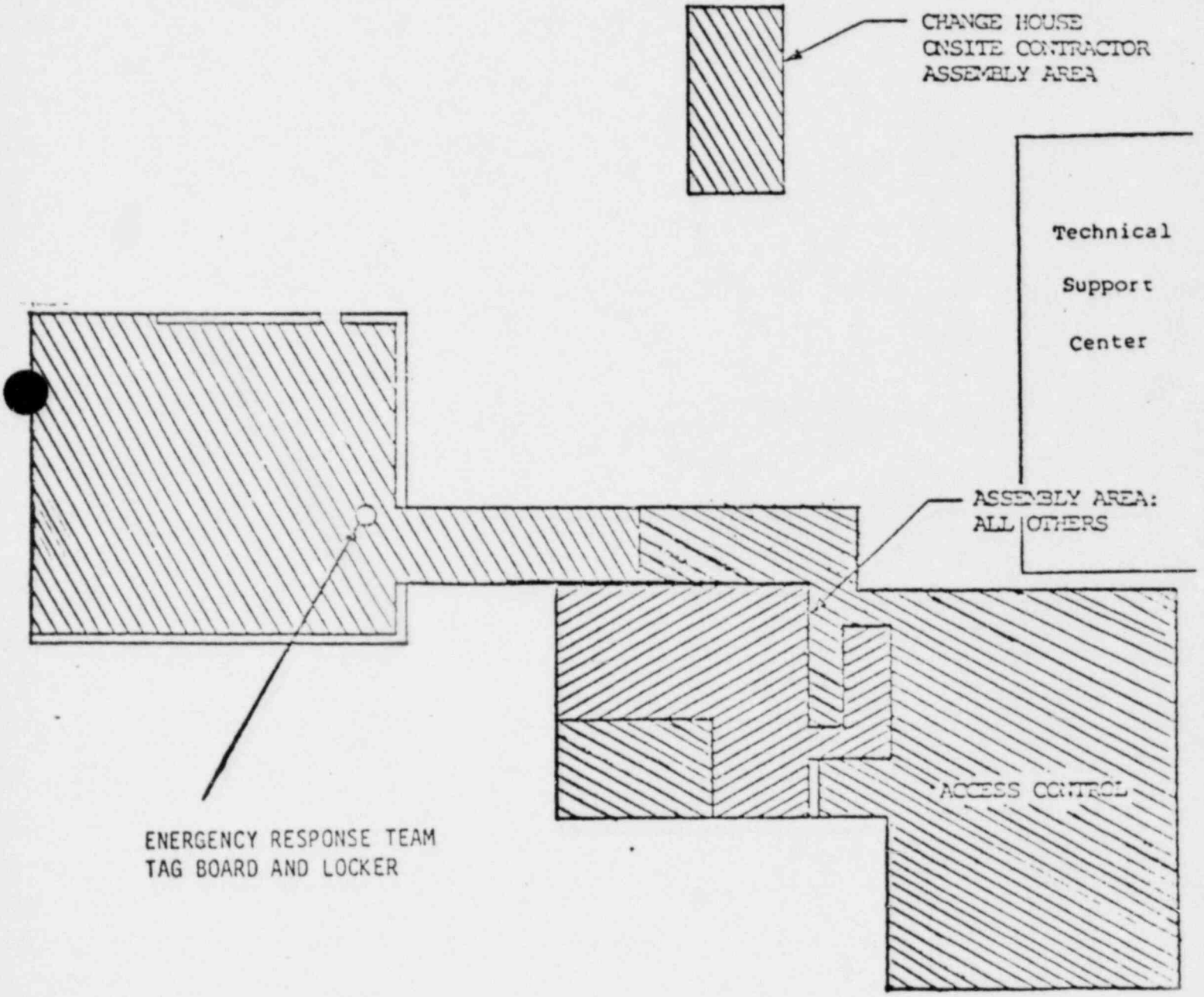
1. Onsite Assembly Locations
2. Site Evacuation Routes
3. Operating Procedures for the Offsite Relocation and Assembly Area

Approved by: _____ Date 5-27-82
Chief Engineer

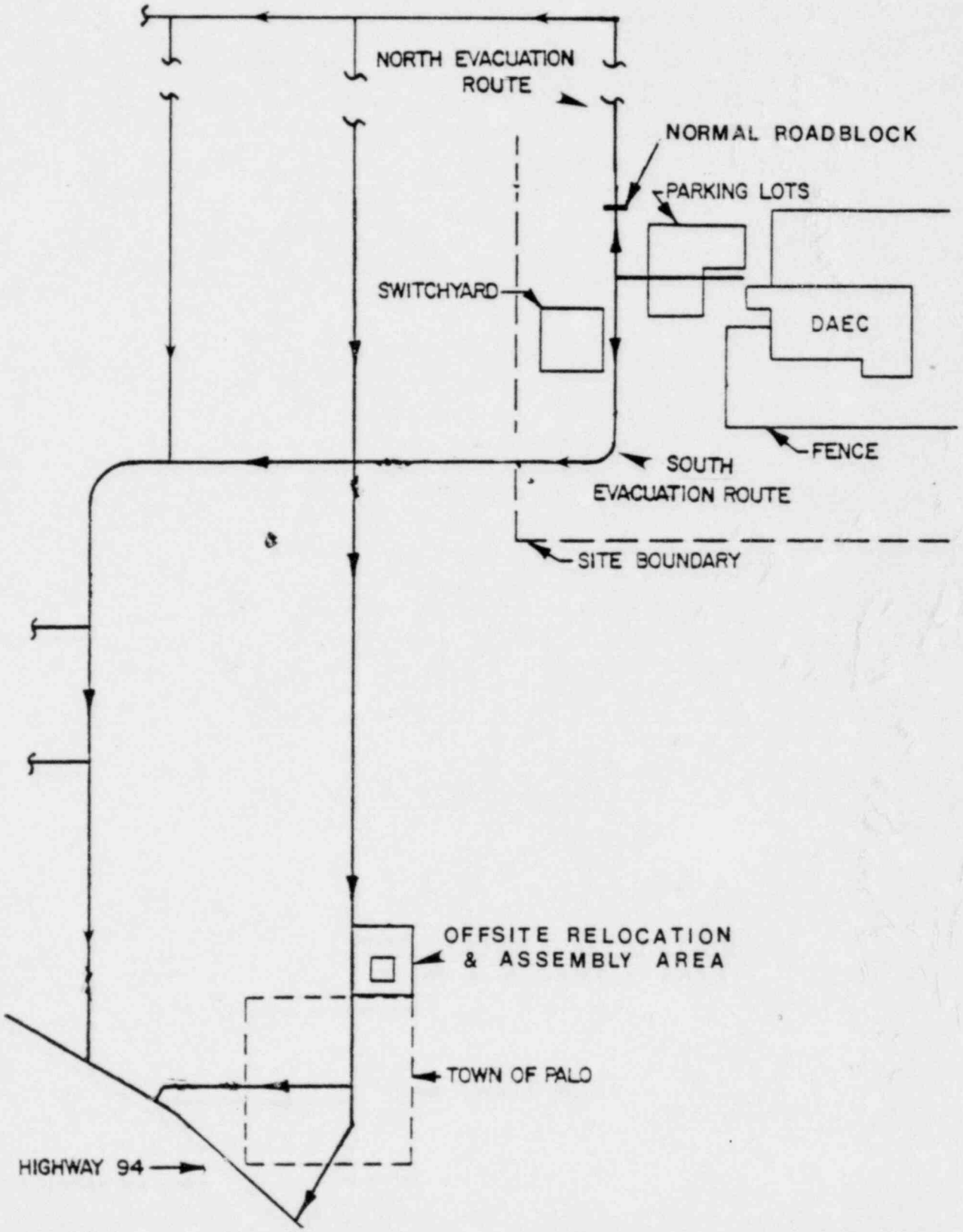
Reviewed by: _____ Date 5/24/82
Operations Committee Chairman

Approved by: _____ Date 5/19/82.
Operations Supervisor

ATTACHMENT 1
ONSITE ASSEMBLY LOCATIONS



ATTACHMENT 2
SITE EVACUATION ROUTES



ATTACHMENT 3

OPERATING PROCEDURES FOR THE OFFSITE RELOCATION AND ASSEMBLY AREA

The Offsite Relocation and Assembly Area (ORAA) is a facility which will be used to relocate and reassemble people from the DAEC in case of a radiological emergency which requires evacuation. The ORAA is located at the former gymnasium in Palo, about 2 1/2 miles southwest of the plant. The building and about six acres of land around it will be used as required for personnel and vehicle assembly, monitoring and accountability.

The building floor plan is shown in Figure 1. Both the building and the land are normally used by the public for various purposes, however, during a site emergency, these uses would be temporarily superceeded by DAEC for use as the ORAA.

The ORAA will be staffed by a senior management representative designated by the Emergency Coordinator. This representative will be assisted by one or more Health Physics technicians designated by the Radiation Protection Coordinator.

Evacuating vehicles will approach the ORAA from the north. A security guard or other traffic control officer(s) will be stationed at the north end of the ORAA lot to direct vehicles into the ORAA, and to prevent unauthorized vehicles from outside from going north on the county road toward the plant.

A check point/monitoring station will be set up at the northwest corner of the ORAA property. At this station, a security guard will check in and record the names of personnel from the plant. Vehicles will be monitored and directed to clean or contamined parking areas as appropriate. Contaminated vehicles will be held in the contaminated parking area until the contamination has decayed to levels acceptable for release.

People will be directed into the gymnasium through the door on the NE corner. They will be monitored at the door (outside if weather permits, inside in case of inclement weather). Those found to be clean will be directed to the clean area on the south side of the gymnasium. Those showing contamination will be handled as follows:

1. If contamination is on the clothing, the contaminated clothing will be removed (to the extent modesty and temperature permit) bagged and tagged with the owner's name. If the person is then found to be clean he will be directed to the clean waiting area.

2. If remaining clothing, or the individual himself, is found to be contaminated, he will be decontaminated to the extent possible using paper towels, waterless hand cleaner, etc. and provided with clean temporary clothing (e.g., coveralls). When adequately decontamined, he will be directed to the clean waiting area.

ATTACHMENT 3 (Continued)

3. Personnel will be decontaminated only to the extent necessary to facilitate their transport to the offsite decontamination facility, if further decontamination is needed.

4. After decontamination, personnel will be released to go home or to return to their assigned duties, as directed by the Emergency Coordinator or his designated representative.

Dosimeters will be collected from all evacuated personnel, and exchanged for those who will return to the plant.

Copies of the"Personal Statement Concerning Incident" form (Attachment 5, EPIP 2.1) will be distributed to all evacuated personnel, if appropriate, and the completed copies collected before the personnel are released.

Kitchen facilities are available at the ORAA to feed personnel who may need to remain there for extended periods.

WSI guards will maintain security at the ORAA as requested by the senior management representative. The Security Shift Supervisor will ensure that the designated personnel have evacuated the plant and are accounted for at the ORAA prior to being released or reassigned to duties at the plant.

The following supplies will be maintained at the ORAA for use during an emergency:

Magenta and yellow rope or ribbon
Radiation signs

Large plastic bags
Masking tape
Barrels/trash cans
R/S stickers, tape

Self reading dosimeter and chargers

Public address system
Ballpoint pens
Felt pens
Flashlites
Kimwipes
Tablets/clipboards
Notebooks
Forms - "Personnel Statement Concerning Incident"
Survey Forms
Rolls Visqueen
First aid supplies
KI tablets
Waterless skin cleanser
Washcloths & towels
Spare clean clothes (paper or cloth coveralls)
Swipe Papers

1.0 PURPOSE

1.1 This procedure provides guidance for recommending and supervising administration of potassium iodide (KI).

2.0 APPLICABILITY

2.1 This procedure applies to onsite emergency workers whose estimated total absorbed dose to the thyroid, from inhaling airborne radioiodine, could exceed 10 rems.

3.0 RESPONSIBILITIES

3.1 Site Radiation Protection Coordinator

3.1.1 Verify that personnel who may require administration of KI have completed Attachment 4, "Medical Questionnaire: Iodine Sensitivity".

3.1.2 Make recommendations to the Emergency Coordinator for administration of KI.

3.1.3 Supervise the administration of KI.

3.2 Emergency Coordinator

3.2.1 Authorize the use of KI when deemed appropriate.

4.0 INSTRUCTIONS

4.1 Prerequisites

4.1.1 During the course of General Employee Training (GET), all onsite personnel shall complete Attachment 4, "Medical Questionnaire: Iodine Sensitivity."

a) These questionnaires shall be reviewed by the Radiation Protection Engineer and, if the response is satisfactory, approved.

b) The IELP radiologist should be consulted regarding any questionable responses indicated on the questionnaire.

Note

The steps in paragraph 4.1.1 above may not always be possible prior to administration of KI. In such cases, these steps should be taken as soon as possible afterwards.

4.1.2 An adequate supply of KI shall be stored in the First Aid Facility located in the Operational Support Center. In addition, each off-site monitoring team will be provided with a bottle of KI tablets.

a) KI has an approved shelf-life with the expiration date listed on each bottle.

b) To ensure that the KI supply is valid, these dates will be inspected during the inventory of the first aid room, the emergency cabinets and the bottles replaced as necessary.

4.2 Criteria for the administration of KI: The Site Radiation Protection Coordinator shall administer the distribution of KI in the following manner.

4.2.1 If there is reason to believe that an individual's absorbed dose to the thyroid, from the inhalation of radioiodine, might exceed 10 rems, the individual should be immediately considered for a dose regimen of KI.

Note

Doses to the thyroid, from the inhalation of radioiodine, can be estimated using Attachment 2, "Occupational Dose from Inhalation of Iodine-131".

4.2.2 The Site Radiation Protection Coordinator shall review the employees "Medical Questionnaire - Iodine Sensitivity" for each prospective KI recepient, where possible, and obtain the approval of the Emergency Coordinator prior to administering KI. Iodine questionnaires are maintained in the employees "Personnel Exposure Record" file folders.

4.2.3 Distribute KI to appropriate onsite personnel.

a) A copy of Attachment 1, "The Food and Drug Administration Approved Package Insert," shall accompany each bottle of KI issued. Dosage schedules and other pertinent information are outlined on the package insert and should be followed closely.

b) Prior to taking KI, plant personnel should read the Food and Drug Administration approved package insert (see Attachment 1).

c) Personnel shall be issued only one tablet initially.

4.2.4 The issuing party shall complete Attachment 3, "Potassium Iodide Issue Report" for each person issued a tablet of KI. A copy of this report shall be routed to the Site Radiation Protection Coordinator.

4.3 Follow up Actions: The following actions should be taken to ensure proper treatment.

4.3.1 Those plant personnel who begin therapy shall be referred to the Medical Director for continuation of the 10-day course of KI unless their thyroid dose is determined not to have exceeded 10 rem. Continuation of the KI, after the first tablet, is normally not necessary unless the persons dose exceeded 10 rem.

4.3.2 If exposure of 10 rem or greater has occurred, a licensed radiologist should be consulted as soon as possible.

5.0 REFERENCES

5.1 Duane Arnold Energy Center Emergency Plan

5.2 Iowa Electric Light and Power Company Corporate Emergency Response Plan

6.0 ATTACHMENTS

1. The Food and Drug Administration Approved Package Insert
2. Projected Cumulative Doses to the Thyroid
3. Potassium Iodide (KI) Issue Report
4. Medical Questionnaire: Iodine Sensitivity

APPROVED BY: D L Mineck DATE 5-21-82
Chief Engineer

REVIEWED BY: B R York DATE 5/21/82
Operations Committee Chairman

APPROVED BY: Keith Young DATE 5/14/82
Radiation Protection Engineer

ATTACHMENT 1

THE FOOD AND DRUG ADMINISTRATION APPROVED PACKAGE INSERT

Patient Package Insert For

THYRO-BLOCK™

(POTASSIUM IODIDE)
(pronounced poe-TASS-e-um EYE-oh-dyed)
(abbreviated: KI)
TABLETS and SOLUTION: U.S.P.

TAKE POTASSIUM IODIDE ONLY WHEN PUBLIC HEALTH OFFICIALS TELL YOU. IN A RADIATION EMERGENCY, RADIOACTIVE IODINE COULD BE RELEASED INTO THE AIR. POTASSIUM IODIDE (A FORM OF IODINE) CAN HELP PROTECT YOU.

IF YOU ARE TOLD TO TAKE THIS MEDICINE, TAKE IT ONE TIME EVERY 24 HOURS. DO NOT TAKE IT MORE OFTEN. MORE WILL NOT HELP YOU AND MAY INCREASE THE RISK OF SIDE EFFECTS. *DO NOT TAKE THIS DRUG IF YOU KNOW YOU ARE ALLERGIC TO IODIDE.* (SEE SIDE EFFECTS BELOW.)

INDICATIONS

THYROID BLOCKING IN A RADIATION EMERGENCY ONLY.

DIRECTIONS FOR USE

Use only as directed by State or local public health authorities in the event of a radiation emergency.

DOSE

Tablets:
ADULTS AND CHILDREN 1 YEAR OF AGE OR OLDER: One (1) tablet once a day. Crush for small children.
BABIES UNDER 1 YEAR OF AGE: One-half (1/2) tablet once a day. Crush first.

Solution:
ADULTS AND CHILDREN 1 YEAR OF AGE OR OLDER: Add 6 drops to one-half glass of liquid and drink each day.
BABIES UNDER 1 YEAR OF AGE: Add 3 drops to a small amount of liquid once a day.

For all dosage forms: Take for 10 days unless directed otherwise by State or local public health authorities.

Store at controlled room temperature between 15° and 30°C (59° to 86°F). Keep container tightly closed and protect from light. Do not use the solution if it appears brownish in the nozzle of the bottle.

WARNING

Potassium iodide should not be used by people allergic to iodide. Keep out of the reach of children. In case of overdose or allergic reaction, contact a physician or the public health authority.

DESCRIPTION

Each THYRO-BLOCK™ TABLET contains 130 mg of potassium iodide.

Each drop of THYRO-BLOCK™ SOLUTION contains 21 mg of potassium iodide.

HOW POTASSIUM IODIDE WORKS

Certain forms of iodine help your thyroid gland work right. Most people get the iodine they need from foods, like iodized salt or fish. The thyroid can "store" or hold only a certain amount of iodine.

In a radiation emergency, radioactive iodine may be released in the air. This material may be breathed or swallowed. It may enter the thyroid gland and damage it. The damage would probably not show itself for years. Children are most likely to have thyroid damage.

If you take potassium iodide, it will fill-up your thyroid gland. This reduces the chance that harmful radioactive iodine will enter the thyroid gland.

WHO SHOULD NOT TAKE POTASSIUM IODIDE

The only people who should not take potassium iodide are people who know they are allergic to iodide. You may take potassium iodide even if you are taking medicines for a thyroid problem (for example, a thyroid hormone or antithyroid drug). Pregnant and nursing women and babies and children may also take this drug.

HOW AND WHEN TO TAKE POTASSIUM IODIDE

Potassium Iodide should be taken as soon as possible after public health officials tell you. You should take one dose every 24 hours. More will not help you because the thyroid can "hold" only limited amounts of iodine. Larger doses will increase the risk of side effects. You will probably be told not to take the drug for more than 10 days.

SIDE EFFECTS

Usually, side effects of potassium iodide happen when people take higher doses for a long time. You should be careful not to take more than the recommended dose or take it for longer than you are told. Side effects are unlikely because of the low dose and the short time you will be taking the drug.

Possible side effects include skin rashes, swelling of the salivary glands, and "iodism" (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and sometimes stomach upset and diarrhea).

A few people have an allergic reaction with more serious symptoms. These could be fever and joint pains, or swelling of parts of the face and body and at times severe shortness of breath requiring immediate medical attention.

Taking iodide may rarely cause overactivity of the thyroid gland, underactivity of the thyroid gland, or enlargement of the thyroid gland (goiter).

WHAT TO DO IF SIDE EFFECTS OCCUR

If the side effects are severe or if you have an allergic reaction, stop taking potassium iodide. Then, if possible, call a doctor or public health authority for instructions.

HOW SUPPLIED

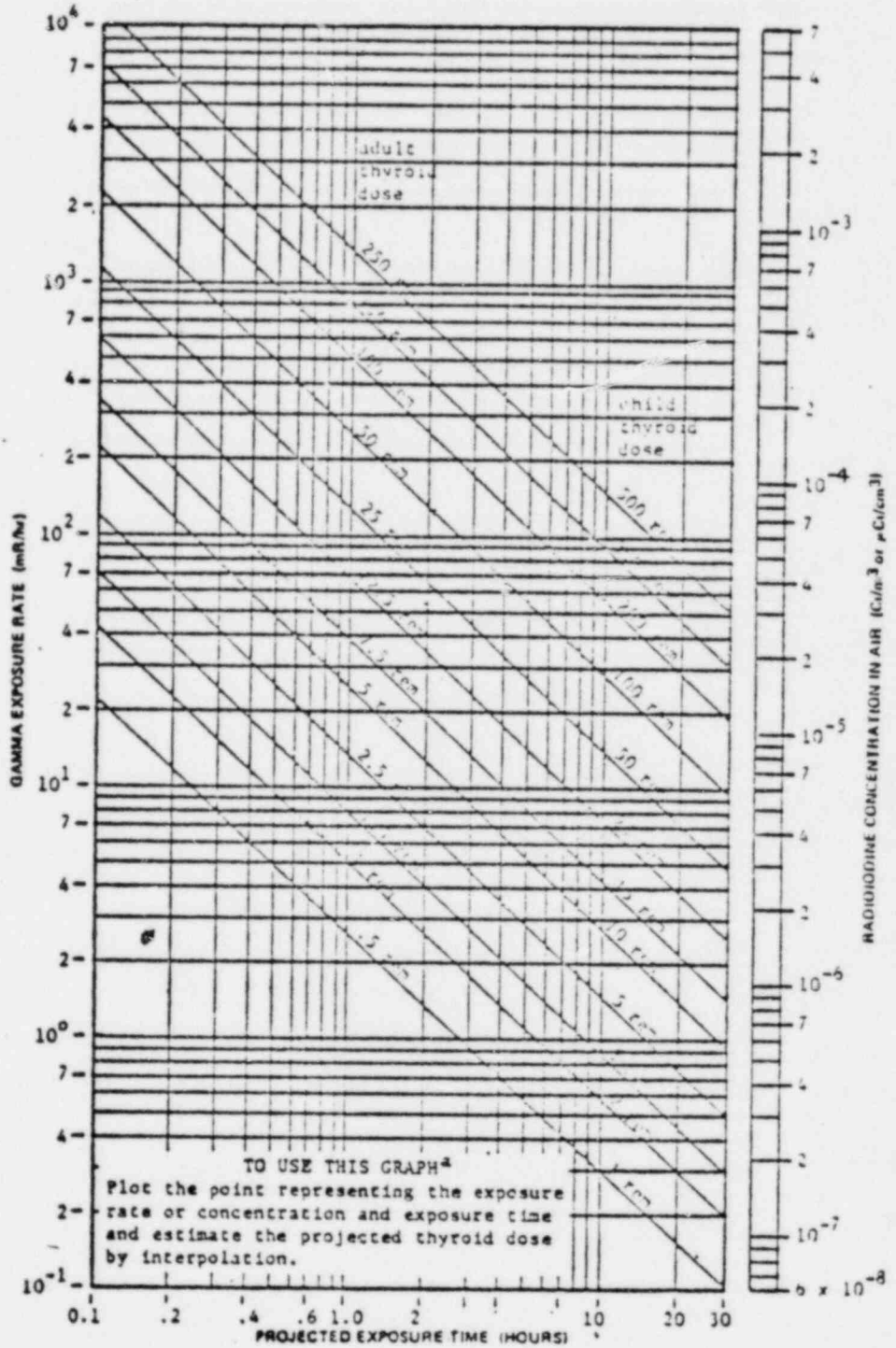
THYRO-BLOCK™ TABLETS (Potassium Iodide, U.S.P.) bottles of 14 tablets (NDC 0037-0472-20.) Each white, round, scored tablet contains 130 mg potassium iodide.

THYRO-BLOCK™ SOLUTION (Potassium Iodide Solution, U.S.P.) 30 ml (1 fl. oz.) light-resistant, measured-drop dispensing units (NDC 0037-4287-25). Each drop contains 21 mg potassium iodide.

WALLACE LABORATORIES
Division of
CARTER-WALLACE, INC.
Cranbury, New Jersey 08512

ATTACHMENT 2

PROJECTED CUMULATIVE DOSES TO THE THYROID



Projected thyroid dose as a function of either gamma exposure rate, or radioiodine concentration in air and the projected exposure time.

ATTACHMENT 3

POTASSIUM IODIDE (KI) ISSUE REPORT

NAME	SOCIAL SECURITY NUMBER	TIME OF EXPOSURE	TIME OF ISSUE	PACKAGE INSERT ISSUED	ISSUED BY

ATTACHMENT 4

MEDICAL QUESTIONNAIRE: IODINE SENSITIVITY

Name _____
First Middle Last

1. Have you any known allergies? If so, please describe below the severity of the allergy and medications taken, if any. ☐ Yes ☐ No

2. Are you able to eat seafood and shellfish without symptoms of stomach or bowel upset or skin erruption? If not, please explain. ☐ Yes ☐ No

3. Has any physician told you that you have a sensitivity to iodine? ☐ Yes ☐ No

4. Have you ever had a gallbladder dye test, kidney x-ray requiring dye injection, thyroid isotope scan? ☐ Yes ☐ No

   If so, any reactions: ☐ Yes ☐ No

5. Explanation: _____

_____

_____

_____

_____

_____

Signature _____ Date _____

Card/Badge Number _____

Reviewed by: _____ Date _____
Radiation Protection Engineer

1.0 PURPOSE

This procedure provides instructions for maintaining those facilities, equipment and supplies required to support activation and operation of the DAEC Emergency Plan and Implementing Procedures.

2.0 APPLICABILITY

This procedure applies to DAEC supervisors involved in implementing maintenance, calibration and test schedules for facilities, equipment and supplies which may be required for a DAEC emergency condition.

3.0 RESPONSIBILITIES

3.1 Assistant Chief Engineer - Operations

3.1.1 Exercise DAEC management control for the Maintenance Program.

3.1.2 Review the adequacy of applicable maintenance, calibration and testing schedules and procedures, as appropriate.

3.1.3 Ensure that maintenance, calibration and testing procedures are performed and schedules are met as necessary.

3.2 Radiation Protection Engineer

3.2.1 Ensure quarterly inventories are conducted of emergency kits (refer to Attachment 1).

3.2.2 Ensure that calibration and testing of radiation monitoring equipment is conducted in accordance with the Radiation Protection Procedures (RPPs).

3.3 Security Guard Captain

3.3.1 Ensure that a monthly inventory of first-aid supplies is conducted and verify that the first-aid room is in a state of readiness.

4.0 INSTRUCTIONS

4.1 DAEC maintenance, calibration and test procedures (ACPs and RPPs) provide instructions and scheduling for inspecting and maintaining emergency facilities, equipment and supplies.

4.2 The replacement of limited life items, such as batteries, shall be conducted on an as needed basis, as determined during the quarterly inventory of Emergency Kits and operability checks of emergency equipment.

4.3 The inventory and operability check of emergency communications equipment will be conducted in accordance with EPIP 6.4.

4.4 The following emergency facilities shall be maintained acording to the DAEC preventive maintenance program:

4.4.1 Control Room Emergency Equipment and Supplies

4.4.2 Operational Support Center Emergency Equipment and Supplies

4.4.3 Relocation and Assembly Area (Palo School) Emergency Equipment and Supplies.

4.4.4 Mercy Hospital Emergency Equipment and Supplies

4.4.5 IE Tower (EOF) Emergency Equipment and Supplies

4.4.6 Technical Support Center Emergency Equipment and Supplies

4.4.7 Central Alarm Station Emergency Equipment and Supplies

5.0 REFERENCES

1. Duane Arnold Energy Center Emergency Plan
2. RPPs
3. ACPs (Section 1406, Plant Maintenance and Section 1410, Security)
4. DAEC Fire Plan
5. DAEC Operations Procedures
6. Mercy Hospital Emergency Procedure

6.0 ATTACHMENTS

1. Emergency and Decontamination Kit Inventory

Approved by: Daniel L Mineck 5-27-82
Chief Engineer

Reviewed by: [signature] 4/1/82
Chairman, Operations Committee

Approved by: Kirk Young 4/1/82
Radiation Protection Engineer

Approved by: BL York 4/1/82
Assistant Chief Engineer - Operations

ATTACHMENT 1
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location CONTROL ROOM

Type DECONTAMINATION

Item	Minimum Quantity	As Found	As Left
Cotton Balls (Bag)	1		
Scissors (Pair)	1		
Skin Marking Pencil	1		
Surgeon's Gloves (Pair)	5		
Scrub Brushes	2		
Phisoderm (5 oz. Bottle)	1		
5 oz. Cups	30		
1 oz. Cups	30		
Gauze Sponges	200		
Cotton Tip Applicators	500		
Potassium Permanganate (Cap)	15		
Sodium Bisulfite (Cap)	15		
Epoxy Remover (Bottle)	1		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ _____ Date _____

Kit Location CONTROL ROOM _____

Type EMERGENCY Page 1 of 3

Item	Minimum Quantity	As Found	As Left
EPIPs	1		
High Range Dose Rate Instrument	1		
Low Range Survey Instrument	1		
First-Aid Kit	1		
Sets of Protective Clothing	2		
Full-Face Respirator	2		
Radiation Rope (Feet)	80		
Caution Signs	10		
Danger Signs	10		
High Radiation (Insert)	4		
Airborne Radioactivity (Insert)	3		
Contaminated Area (Insert)	3		
Radiation Area (Insert)	3		
Emergency Log Book	1		
Radiation Protection Procedures	1		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location CONTROL ROOM

Type EMERGENCY Page 2 of 3

Item	Minimum Quantity	As Found	As Left
Dosimeter Charger	1		
High Range Self-Reading Dosimeters	4		
Tape	1		
Smears and Holders	1BX (500)		
Filters for Emergency Air Samples	1BX (100)		
Filters for Emergency Air Samples	1BX (100)		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location CONTROL ROOM

Type EMERGENCY

Item	Minimum Quantity	As Found	As Left
4" Glass Fiber Air Filters	1BX (100)		
Bags (Large)	10		
Bags (Small)	10		
Masking Tape (Roll)	2		
Area Photos	4		
Instrument Batteries	For each instrument		
Speaker Batteries	1		
Plastic Sheeting (Sheet)	1		
Paper (Pad)	3		
Pencils	12		
Self-Contained Breathing Apparatus	4		
Spare Bottles	8		
Blanket	1		
Emergency Air Sampler	1		
Personnel Statement Incident Record	1 Pad		
Kimwipes	2 Boxes		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (ACCESS CONTROL POINT)

Type DECONTAMINATION

Item	Minimum Quantity	As Found	As Left
Cotton Balls (Bag)	1		
Scissors (Pair)	1		
Skin Marking Pencil	1		
Surgeon's Gloves (Pair)	5		
Scrub Brushes	2		
Phisoderm (5 oz. Bottle)	1		
5 oz. Cups	30		
1 oz. Cups	30		
Gauze Sponges	200		
Cotton Tip Applicators	500		
Potassium Permanganate (Cap)	15		
Sodium Bisulfite (Cap)	15		
Epoxy Remover (Bottle)	1		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 1 of 15

	Check One Yes or No	Comments/ Correction Action
Locker #1		
Shelf # 1 Pink Tag # 1		
1. High Range Pocket Dosimeters		
a) 1 each 5 R on zero	___ ___	_____
b) 1 each 10 R on zero	___ ___	_____
2. High Range Dose Rate Instrument Serial #	___ ___	_____
a) Good physical condition	___ ___	_____
b) Current calibration	___ ___	_____
c) Battery check good	___ ___	_____
d) Source check good	___ ___	_____
e) Instrument turned off	___ ___	_____
3. High Volume Air Sampler		
a) Good physical condition	___ ___	_____
b) Current calibration	___ ___	_____
c) Operable	___ ___	_____
4. Air Sample Filters (1 box)	___ ___	_____
5. Air Sample Record Forms	___ ___	_____
6. Air Sample Plastic Bags and Labels	___ ___	_____
7. Smears (1 box)	___ ___	_____
8. Clipboard	___ ___	_____
9. Note pad	___ ___	_____
10. Pencil	___ ___	_____
11. Flashlight	___ ___	_____
12. Wristwatch	___ ___	_____
13. Full Protective Clothing	___ ___	_____
14. Self Contained Breathing Apparatus (Located in Access Control)	___ ___	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 2 of 15

	Check One Yes or No	Comments/ Correction Action
Locker #1		
Shelf # 2 Pink Tag # 2		
1. High Range Pocket Dosimeters		
a) 1 each 5 R on zero	___ ___	_____
b) 1 each 10 R on zero	___ ___	_____
2. High Range Dose Rate Instrument Serial #	___ ___	_____
a) Good physical condition	___ ___	_____
b) Current calibration	___ ___	_____
c) Battery check good	___ ___	_____
d) Response check good	___ ___	_____
e) Instrument turned off	___ ___	_____
3. High Volume Air Sampler		
a) Good physical condition	___ ___	_____
b) Current calibration	___ ___	_____
c) Operable	___ ___	_____
4. Air Sample Filters (1 box)	___ ___	_____
5. Air Sample Record Forms	___ ___	_____
6. Air Sample Plastic Bags and Labels	___ ___	_____
7. Smears (1 box)	___ ___	_____
8. Clipboard	___ ___	_____
9. Note pad	___ ___	_____
10. Pencil	___ ___	_____
11. Flashlight	___ ___	_____
12. Wristwatch	___ ___	_____
13. Full Protective Clothing	___ ___	_____
14. Self Contained Breathing Apparatus (Located in Access Control)	___ ___	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 3 of 15

	Check One Yes or No	Comments/ Correction Action
Locker #1		
Shelf # 3 Pink Tag # 3		
1. High Range Pocket Dosimeters	___ ___	_____
a) 1 each 5 R on zero	___ ___	_____
b) 1 each 10 R on zero	___ ___	_____
2. Low Range Survey Instrument Serial #	___ ___	_____
a) Good physical condition	___ ___	_____
b) Current calibration	___ ___	_____
c) Battery check good	___ ___	_____
d) Source check good	___ ___	_____
e) Instrument turned off	___ ___	_____
3. High Volume Air Sampler		
a) Good physical condition	___ ___	_____
b) Current calibration	___ ___	_____
c) Operable	___ ___	_____
4. Air Sample Filters (1 box)	___ ___	_____
5. Air Sample Record Forms	___ ___	_____
6. Air Sample Plastic Bags and Labels	___ ___	_____
7. Smears (1 box)	___ ___	_____
8. Clipboard	___ ___	_____
9. Note pad	___ ___	_____
10. Pencil	___ ___	_____
11. Access Control Survey Forms	___ ___	_____
12. Change House Area Survey Forms	___ ___	_____
13. Flashlight	___ ___	_____
14. Wristwatch	___ ___	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY

	Check One Yes or No	Comments/ Correction Action
Locker #1		
Shelf # 4 Pink Tag # 4		
1. High Range Pocket Dosimeters		
a) 1 each 5 R on zero	___ ___	_____
b) 1 each 10 R on zero	___ ___	_____
2. Low Range Survey Instrument Serial #	___ ___	_____
a) Good physical condition	___ ___	_____
b) Current calibration	___ ___	_____
c) Battery check good	___ ___	_____
d) Response check good	___ ___	_____
e) Instrument turned off	___ ___	_____
3. Clipboard	___ ___	_____
4. Note pad	___ ___	_____
5. Pencil	___ ___	_____
6. "Personnel Statement Concerning Incident" Forms	___ ___	_____
7. "Personnel Contamination Survey" Forms	___ ___	_____
8. Flashlight	___ ___	_____
Orange Tag # 1		
1. High Range Pocket Dosimeters		
a) 1 each 5 R on zero	___ ___	_____
b) 1 each 10 R on zero	___ ___	_____
2. OSC Log	___ ___	_____
3. Pencil	___ ___	_____
4. Noble Gas Effluent Monitor (Located in Locker # 5, Shelf # 1)	___ ___	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 5 of 15

	Check One Yes or No	Comments/ Correction Action
Locker #1 Shelf # 5 Pink Tag # 5		
1. High Range Pocket Dosimeters	___ | ___	_____
a) 1 each 5 R on zero	___ | ___	_____
b) 1 each 10 R on zero	___ | ___	_____
2. High Range Dose Rate Instrument Serial #	___ | ___	_____
a) Good physical condition	___ | ___	_____
b) Current calibration	___ | ___	_____
c) Battery check good	___ | ___	_____
d) Source check good	___ | ___	_____
e) Instrument turned off	___ | ___	_____
3. Teletector		
a) Good physical condition	___ | ___	_____
b) Current calibration	___ | ___	_____
c) Battery check good	___ | ___	_____
d) Source check good	___ | ___	_____
e) Instrument turned off	___ | ___	_____
4. Flashlight	___ | ___	_____
5. Full Protective Clothing	___ | ___	_____
6. Self Contained Breathing Apparatus (Located in Access Control)	___ | ___	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 6 of 15

	Check One Yes or No	Comments/ Correction Action
Locker #2		
Shelf # 1 Pink Tag # 6		
1. High Range Pocket Dosimeters		
a) 1 each 5 R on zero	____ ____	_____
b) 1 each 10 R on zero	____ ____	_____
2. High Range Dose Rate Instrument Serial #	_____	_____
a) Good physical condition	____ ____	_____
b) Current calibration	____ ____	_____
c) Battery check good	____ ____	_____
d) Response check good	____ ____	_____
e) Instrument turned off	____ ____	_____
3. High Volume Air Sampler		
a) Good physical condition	____ ____	_____
b) Current calibration	____ ____	_____
c) Operable	____ ____	_____
4. Air Sample Filters (1 box)	____ ____	_____
5. Air Sample Record Forms	____ ____	_____
6. Air Sample Plastic Bags and Labels	____ ____	_____
7. Clipboard	____ ____	_____
8. Note pad	____ ____	_____
9. Pencil	____ ____	_____
10. Site Survey "SA-1" Forms	____ ____	_____
11. Flashlight	____ ____	_____
12. Wristwatch	____ ____	_____
13. Full Protective Clothing	____ ____	_____
14. Full Face Respirator	____ ____	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY

Locker #2
Shelf # 2 Pink Tag # 7

		Check One Yes	Check One No	Comments/ Correction Action
1.	Self Reading Pocket Dosimeters			
	a) 1 each 200 mR on zero			
	b) 1 each 5 R on zeroo			
2.	High Range Dose Rate Instrument Serial #			
	a) Good physical condition			
	b) Current calibration			
	c) Battery check good			
	d) Response check good			
	e) Instrument turned off			
3.	Low Range Survey Instrument Serial #			
	a) Good physical condition			
	b) Current calibration			
	c) Battery check good			
	d) Response check good			
	e) Instrument turned off			
4.	Air Sample Record Forms			
5.	Clipboard			
6.	Note pad			
7.	Pencil			
8.	Radiation Survey Forms			
9.	Map			
10.	Flashlight			
11.	Wristwatch			
12.	Full Protective Clothing			
13.	Full Face Respirator			
14.	Substation Key			

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY

	Check One Yes or No	Comments/ Correction Action
Locker #2		
Shelf # 3 Pink Tag # 8		
1. Self Reading Pocket Dosimeters		
a) 1 each 200 mR on zero	___ | ___	
b) 1 each 5 R on zero	___ | ___	
2. High Range Dose Rate Instrument Serial #	___ | ___	
a) Good physical condition	___ | ___	
b) Current calibration	___ | ___	
c) Battery check good	___ | ___	
d) Response check good	___ | ___	
e) Instrument turned off	___ | ___	
3. Low Range Survey Instrument Serial #	___ | ___	
a) Good physical condition	___ | ___	
b) Current calibration	___ | ___	
c) Battery check good	___ | ___	
d) Response check good	___ | ___	
e) Instrument turned off	___ | ___	
4. Air Sample Record Forms	___ | ___	
5. Clipboard	___ | ___	
6. Note pad	___ | ___	
7. Pencil	___ | ___	
8. Radiation Survey Forms	___ | ___	
9. Map	___ | ___	
10. Flashlight		
11. Wristwatch	___ | ___	
12. Full Protective Clothing	___ | ___	
13. Full Face Respirator	___ | ___	
14. Substation Key	___ | ___	

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 9 of 15

	Check One Yes or No	Comments/ Correction Action
Locker #2		
Shelf # 4 Green Tag # 1		
1. High Range Pocket Dosimeters	___ | ___	_____
a) 1 each 5 R on zero	___ | ___	_____
b) 1 each 10 R on zero	___ | ___	_____
2. Emergency Air Sampler (Battery powered)		
a) Good physical condition	___ | ___	_____
b) Current calibration	___ | ___	_____
c) Operable	___ | ___	_____
3. 12 Volt Battery with Charger	___ | ___	_____
4. Air Sampler Filters (1 box each type)	___ | ___	_____
5. Flashlight	___ | ___	_____
6. Wristwatch	___ | ___	_____
7. Full Protective Clothing	___ | ___	_____
8. Full Face Respirator	___ | ___	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 10 of 15

	Check One Yes or No	Comments/ Correction Action
Locker #2		
Shelf # 5 Green Tag # 2		
1. Self reading pocket dosimeters	___ | ___	_____
a) 1 each 200 mR on zero	___ | ___	_____
b) 1 each 5 R on zero	___ | ___	_____
2. Emergency Air Sampler (Battery powered)		
a) Good physical condition	___ | ___	_____
b) Current calibration	___ | ___	_____
c) Operable	___ | ___	_____
3. Emergency Air Sampler(Gasoline Powered)	___ | ___	_____
a) Good physical condition	___ | ___	_____
b) Current calibration	___ | ___	_____
c) Operable	___ | ___	_____
4. Air Sampler Fuel	___ | ___	_____
5. Air Sample Filters (1 box each type)	___ | ___	_____
6. Air Sample Plastic Bags and Labels	___ | ___	_____
7. Flashlight	___ | ___	_____
8. Wristwatch	___ | ___	_____
9. Full Protective Clothing	___ | ___	_____
10. Full Face Respirator	___ | ___	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY

	Check One Yes or No	Comments/ Correction Action
Locker #3		
Shelf # 1 Green Tag # 3		
1. Self reading pocket dosimeters	___ | ___	
a) 1 each 200 mR on zero	___ | ___	
b) 1 each 5 R on zero	___ | ___	
2. Emergency Air Sampler (Battery powered)	___ | ___	
a) Good physical condition	___ | ___	
b) Current calibration	___ | ___	
c) Operable	___ | ___	
3. Emergency Air Sampler (Gasoline Powered)	___ | ___	
a) Good physical condition	___ | ___	
b) Current calibration	___ | ___	
c) Operable	___ | ___	
4. Air Sampler Fuel	___ | ___	
5. Air Sampler Filters (1 box each type)	___ | ___	
6. Air Sample Plastic Bags and Labels	___ | ___	
7. Flashlight	___ | ___	
8. Wristwatch	___ | ___	
9. Full Protective Clothing	___ | ___	
10. Full Face Respirator	___ | ___	

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 12 of 15

	Check One Yes	Check One No	Comments/ Correction Action
Locker # 3			
Shelf # 2 Blue Tag # 1			
1. High Range Pocket Dosimeters			
a) 1 each 5 R on zero	____	____	_____
b) 1 each 10 R on zero	____	____	_____
2. Instrumentation Tool Kit	____	____	_____
a) Good Physical condition	____	____	_____
b) Inventory from attached list completed	____	____	_____
3. Simpson VOM (2 each)	____	____	_____
a) Good physical condition	____	____	_____
b) Replaced batteries with fresh ones (Return old batteries to Access Control)	____	____	_____
4. Flashlight	____	____	_____
5. Full Protective Clothing	____	____	_____
6. Self Contained Breathing Apparatus (Located at Access Control)	____	____	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 13 of 15

	Check One Yes	or No	Comments/ Correction Action
Locker #3			
Shelf # 3 Purple Tag # 1			
1. High Range Pocket Dosimeters			
a) 1 each 5 R on zero			
b) 1 each 10 R on zero			
2. Electricians Tool Kit			
a) Good physical condition			
b) Inventory from attached list completed			
3. Simpson VOM			
a) Good physical condition			
b) Replaced batteries with fresh ones (Return old batteries to Access Control)			
4. Flashlight			
5. Full Protective Clothing			
6. Self Contained Breathing Apparatus (Located at Access Control)			

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY

	Check One Yes	or No	Comments/ Correction Action
Locker # 3 Shelf # 4 Purple Tag # 2			
1. High Range Pocket Dosimeters	____	____	_____
a) 1 each 5 R on zero	____	____	_____
b) 1 each 10 R on zero	____	____	_____
2. Electricians Tool Kit	____	____	_____
a) Good physical condition	____	____	_____
b) Inventory from attached list completed	____	____	_____
3. Simpson VOM	____	____	_____
a) Good physical condition	____	____	_____
b) Replaced batteries with fresh ones (Return old batteries to Access Control)	____	____	_____
4. Flashlight	____	____	_____
5. Full Protective Clothing	____	____	_____
6. Self Contained Breathing Apparatus (Located at Access Control)	____	____	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONAL SUPPORT CENTER (EMERGENCY LOCKERS)

Type EMERGENCY Page 15 of 15

	Check One Yes or No		Comments/ Correction Action
Locker # 3			
Shelf # 5 Yellow Tag # 1			
1 High Range Pocket Dosimeters			
a) 1 each 5 R on zero	____	____	_____
b) 1 each 10 R on zero	____	____	_____
2. Mechanical Tool Kit	____	____	_____
a) Good physical condition	____	____	_____
b) Inventory from attached list completed	____	____	_____
3. Flashlight	____	____	_____
4. Full Protective Colothing	____	____	_____
5. Self Contained Breathing Apparatus (Located in Access Control)	____	____	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONS SUPPORT CENTER

Type EMERGENCY

	Quantity	Check One Yes or No	Comments/ Correction Action
1. Multichannel Analyzer, Model 1056A	1	____ | ____	
a) Good physical condition		____ | ____	
b) Current calibration		____ | ____	
c) Response check good		____ | ____	
2. High Voltage Power Supply, Fluke 412B	1	____ | ____	
a) Good physical condition		____ | ____	
b) Operational		____ | ____	
3. NaI detector Unit		____ | ____	
a) Good physical condition		____ | ____	
b) Response check good (along with MCA)		____ | ____	
4. Ludlum Model 2000 Scaler	1	____ | ____	
a) Good physical condition		____ | ____	
b) Current calibration		____ | ____	
c) Response check good		____ | ____	
5. Detector/Shield assembly for scaler	1	____ | ____	
a) Good physical condition		____ | ____	
b) Clean		____ | ____	
6. Battery operated air sampler	1	____ | ____	
a) Good physical condition		____ | ____	
b) Current calibration		____ | ____	
c) Operational		____ | ____	
7. 12 Volt battery (fully charged)	1	____ | ____	
8. Battery charger (12 volt)	1	____ | ____	
9. Compressed air bottle with regulator sample holder and tygon tubing	1		
a) Good physical condition		____ | ____	
b) Bottle pressure-at least 1800 psi		____ | ____	
c) Regulator flow test good		____ | ____	
10. Calculator with extra batteries	1	____ | ____	
a) Good physical condition		____ | ____	
b) Batteries good		____ | ____	
c) Operational		____ | ____	
11. Procedure - RPP 13.7	1	____ | ____	
12. Instruction Manual-Ludlum 2000	1	____ | ____	
13. Extension cord with 4 plug receptacle	1	____ | ____	
14. Spray and Wipe	1 can	____ | ____	

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location OPERATIONS SUPPORT CENTER

Type EMERGENCY

	Quantity	Check One Yes or No		Comments/ Correction Action
15.Plastic lab gloves	25 pairs	___	___	_____
16.Gelman 50 mm particulate filters, 100/box	1 box	___	___	_____
17.Cesco charcoal cartridges, 12/box	2 boxes	___	___	_____
18.Silver Zeolite cartridges, 12/box	1 box	___	___	_____
19.Kimwipes	1 box	___	___	_____
20.Pencil	1	___	___	_____
21.Grease Pencil	1	___	___	_____
22.Felt Tip Pen	1	___	___	_____
23.Pencil Sharpener	1	___	___	_____
24.Clipboard	1	___	___	_____
25.Gamma Photopeak Counting Forms	1 set	___	___	_____
26.General Survey Records Forms	1 set	___	___	_____
27.Ba-133 Disc Source	1	___	___	_____
28.Plastic bags with labels	50	___	___	_____
29.125 ml squeeze bottle	1	___	___	_____
30.250 ml bottle-isopropyl alcohol	1	___	___	_____
31.Smears	1 box	___	___	_____
32.Flashlight with extra batteries	1	___	___	_____
33.Adaptor-50 mm sample head to tygon tubing	1	___	___	_____
34.Adaptor-for filling small air bottle	1	___	___	_____
35.Planchets	15	___	___	_____
Upon completion of check list, have all appropriate materials including Ba-133 source been returned to the wooden box and the lock secured?		___	___	_____

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location RELOCATION AND ASSEMBLY AREA (PALO SCHOOL)

Type EMERGENCY KIT

Item	Minimum Quantity	As Found	As Left
Paper coveralls	25 (sets)		
Shoe covers	25 (sets)		
Cotton liners	25 (sets)		
Rubber gloves	25 (sets)		
Waterless hand cleaner	2 containers		
Kim wipes	6 boxes		
Large plastic bags	10		
Small plastic bags	10		
Blankets	2		
Dosimeters - 0 - 200mR	10		
Dosimeters - 0 - 200R	2		
Dosimeter charger	2		
Masking tape	2 rolls		
Megaphone	1		
Paper (pad)	6 pads		
Pencils	1 box		
EPIPs	1		
Radiation protection procedures	1		
Personnel statement of incident record	1 pad		
First aid kit	1		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location MERCY HOSPITAL

Type DECONTAMINATION

Item	Minimum Quantity	As Found	As Left
Cotton Balls (Bag)	1		
Scissors (Pair)	1		
Skin Marking Pencil	1		
Surgeon's Gloves (Pair)	5		
Scrub Brushes	2		
Phisoderm (5 oz. Bottle)	1		
5 oz. Cups	30		
1 oz. Cups	30		
Gauze Sponges	200		
Cotton Tip Applicators	500		
Potassium Permanganate (Cap)	15		
Sodium Bisculfite (Cap)	15		
Epoxy Remover (Bottle)	1		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location MERCY HOSPITAL

Type HOSPITAL EMERGENCY

Item	Minimum Quantity	As Found	As Left
Sheet Poly (Sheet)	6		
Absorbent Paper (Roll)	1		
Paper Lab Coat	25		
Large Bags	12		
Small Bags	25		
Cotton Gloves (Pair)	10		
Plastic Shoe Covers (Pair)	25		
Masking Tape (Roll)	2		
Poly Gloves (Disposable)	72		
Radiation Signs	10		
Rubber Gloves (Pair)	4		
Full-Face Respirator	2		
1 Gallon Pails	2		
5 Gallon Buckets	10		
Radiation Tape (Rolls)	2		
Liquid Soap (Bottles)	2		
Scrub Brushes	2		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location IE TOWER (EOF)

Type DECONTAMINATION

Item	Minimum Quantity	As Found	As Left
Cotton Balls (Bag)	1		
Scissors (Pair)	1		
Skin Marking Pencil	1		
Surgeon's Gloves (Pair)	5		
Scrub Brushes	2		
Phisoderm (5 oz. Bottle)	1		
5 oz. Cups	30		
1 oz. Cups	30		
Gauze Sponges	200		
Cotton Tip Applicators	500		
Potassium Permanganate (Cap)	15		
Sodium Bisulfite (Cap)	15		
Epoxy Remover (Bottle)	1		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location IE TOWER (EOF)

Type EMERGENCY Page 1 of 2

Item	Minimum Quantity	As Found	As Left
EPIPs	1		
High Range Dose Rate Instrument	1		
Instrument Batteries	For each instrument		
Low Range Survey Instrument	1		
First-Aid Kit	1		
Sets of Protective Clothing	3		
Full-Face Respirator	2		
Radiation Rope (Feet)	80		
Caution Signs	10		
Danger Signs	10		
High Radiation (Insert)	4		
Airborne Radioactivity (Insert)	3		
Contaminated Area (Insert)	3		
Radiation Area (Insert)	3		
Emergency Log Book	1		
Radiation Protection Procedures	1		
Dosimeter Charger	1		
High Range Self-Reading Dosimeters	4		

ATTACHMENT 1
(continued)
EMERGENCY AND DECONTAMINATION KIT INVENTORY

Performed by _____ Date _____

Kit Location IE TOWER (EOF)

Type EMERGENCY

Item	Minimum Quantity	As Found	As Left
Emergency Air Sampler	1		
Smears and Holders	1BX (500)		
Fiber Filters for Emergency Air Samples	1BX (100)		
Fiber Filters for Emergency Air Samples	1BX (100)		
4" Glass Fiber Air Filters	1BX (100)		
Bags (Large)	10		
Bags (Small)	10		
Masking Tape (Roll)	2		
Area Photos	4		
Speaker Batteries	1		
Plastic Sheeting (Strip)	1		
Paper (Pad)	3		
Pencils	12		
Self Contained Breathing Apparatus	1		
Spare Bottles	2		
Blanket	1		

1.0 PURPOSE

This procedure defines the requirements for emergency preparedness communications system checks to be conducted on a periodic basis as defined in 10CFR50 Appendix E.

2.0 APPLICABILITY

This procedure applies to the emergency communications systems that are installed at both the DAEC and at the IE Tower which are associated with emergency preparedness response efforts.

3.0 RESPONSIBILITIES

3.1 Emergency Planning Assistant

3.1.1 Perform communications checks as assigned in Section 4.0

3.1.2 Verify satisfaction completion of the communication checks conducted on a periodic basis as defined in Attachments 1 through 4.

3.2 Lead STA

3.2.1 Verify that emergency preparedness communications systems checks are completed as assigned.

3.2.2 Coordinate with the Emergency Planning Assistant as required to insure satisfactory completion of the communications systems checks.

3.3 Security Guard Captain

3.3.1 Verify that emergency preparedness communications system checks are completed as assigned.

4.0 INSTRUCTION

4.1 The following communications systems shall be checked and verified operable at the specified frequency.

4.1.1 Completion of monthly communications checks shall be documented on attachments 1 & 2. include

The following systems or circuits are included:

a) NRC ENS
b) NRC HPN

c) PBX & Centrix connections to:
   (1) Office of Disaster Services
   (2) Linn County Sheriff
   (3) Benton County Sheriff

4.1.2 Completion of the quarterly communications checks shall be documented on attachment 3.

The following systems or circuits are included:

4.1.2.1 Dedicated telephone circuits between:
   (a) Control Room and
       Technical Support Center
       Access Control
       Security Control Point
       Emergency Operations Facility
   (b) Technical Support Center and
       Control Room
       Access Control
       Security Control Point
       Emergency Operations Facility
   (c) Access Control and
       Control Room
       Technical Support Center
       Security Control Point
   (d) Security Control Point
       Control Room
       Technical Support Center
       Access Control

4.1.2.2 Operations Radio between:
   (a) Control Room (base station)
   (b) Technical Support Center (console)
   (c) Site Boundary
   (d) Access Control (console)

4.1.2.3 Security/Radiological Survey Radio between:
   (a) Ten (10) mile radius
   (b) Technical Support Center (console)
   (c) Emergency Operation Facility (console)
   (d) Security Control Point

4.1.2.4 Operationally Check and Inventory the Following Equipment:
   (a) (2) Six Button Phones in the Control Room
   (b) (1) Headset in the Control Room
   (c) (8) Twenty Button Phones in the TSC

(d) (5) Headsets in the TSC
(e) (4) Operations Radios in the SCP
(f) (2) Security/Radiological Porta-Mobiles in the SCP
(g) (2) Magnetic Mount Antennas in the SCP
(h) (2) Antenna Adapters in the SCP

NOTE

The head set in the TSC are located in the cabinet in the Communications Room.

4.1.3 Completion of the annual communication checks shall be documented on Attachment 4.

4.1.3.1 Centrix connections to:
(a) FFMA
(b) DOE
(c) Office of Disaster Services
(d) Linn County Civil Defense
(e) Benton County Civil Defense

4.2 Communication checks should be conducted as follows:

4.2.1 Monthly - first full calender week

4.2.2 Quarterly - first full calender week during January, April, July and October

4.2.3 Annual - first full calender week during October.

4.3 A message similar to that shown on Attachment 5 should be used when conducting communications systems checks external to IELP.

4.4 Communications checks should be performed by:

4.4.1 DAEC - as directed by the Lead STA and Security Guard Captain.

4.4.2 IE Tower - Emergency Planning Assistant

4.5 The Security Guard Captain shall ensure that the communications checks indicated in Attachment 1 are performed, sign the form, and forward it to the Lead STA.

4.6 The Lead STA shall review Attachment 1 upon its completion and forward to the Emergency Planning Assistant.

4.7 The Emergency Planning Assistant shall perform the communication check indicated in Attachment 2, 3, and 4.

4.8 The Emergency Planning Assistant shall review all documentation associated with the communications checks and prepare a written summary for the Chief Engineer, Emergency Planning Coordinator, and Director Nuclear Generation.

4.9 Acceptance Criteria

4.9.1 All required communications checks shall be made and satisfactorily completed. In the event that a call cannot be completed, contact the party by another means and inform them of the problem, making sure the party understands no problem exists at the DAEC and their response is not required. If possible determine the cause of the problem and rectify it as soon as possible. If the problem cannot be readily resolved, attach a note clearly stating which phone, who was being called, what number (if any), who was calling and any other pertinent information to the EPIP checklist in use. Complete the remaining communcations checks and forward the test and comments to the Emergency Planning Assistant.

5.0 REFERENCE

5.1 10 CFR 50 Appendix E
5.2 EPIP 2.2 "Activation and Operation of the Technical Support Center"

6.0 ATTACHMENTS

1. Monthly DAEC Emergency Communications Checks
2. Monthly IE Tower Emergency Communications Checks
3. Quarterly DAEC Emergency Communications Checks
4. Annual IE Tower Emergency Communications Checks
5. Example Communication Check Message Format

APPROVED BY: David C Mineck DATE: 4-2-82
Chief Engineer

REVIEWED BY: [signature] DATE: 4/1/82
Chairman, Operations Committee

APPROVED BY: D Wilson DATE: 3-29-82
Assistant Chief Engineer
Radiation Protection and Security

ATTACHMENT 1
Monthly DAEC Emergency Communications Check

Communication Circuit	Initiated By (Name)	Received By (Name)	Time	Date
1. NRC ENS				
a) Control Room				
b) Technical Support Center(TSC)				
2. NRC HPN				
a) Access Control[1]				
b) TSC[1]				
c) TSC[2]				
d) Security Control Point[1]				
3. COMMERCIAL TELEPHONES				
a) NRC-Bethesda (301)492-8111 or (301)427-4056 or (301)492-7000				
b) Office of Disaster Services (515)281-3231 or (515)281-3561				
c) Linn Co. Sheriff 398-3911				
d) Benton Co. Sheriff 11-472-4777 or 11-472-2337				
4. POINT TO POINT RADIOS				
a) Linn County Sheriff				
b) Benton County Sheriff				
c) Iowa Highway Patrol				
5. IWAS PHONE[3]				
a) Office of Disaster Services				
6. NWS FIRST ORDER STATION, Cedar Rapids Flight Service 11-364-7127				
7. NWS FORECASTING STATION Des Moines (515) 284-4492				

[1]Dial 22 (NRC-Bethesda)

[2]Dial 23 (NRC-Region III during regular business hours only)

[3]This test will be initiated by the State Office of Disaster Services on the following days: January 4, February 1, March 1, April 5, May 3, June 7, July 6, August 2, September 7, October 4, November 1, December 6, 1982.

[4]Items 1 through 3a will be performed by an STA and items 3b through 7 will be performed by Security.

REVIEWED BY _____ DATE _____
Security Guard Captain

REVIEWED BY _____ DATE _____
Lead STA

REVIEWED BY _____ DATE _____
Emergency Planning Coordinator

ATTACHMENT 2

Monthly IE TOWER Emergency Communication Checks

Communication Circuit	Initiated By (initials)	Received By (Name)	Time	Date
Centrex				
NRC Region III (312)932-2500				
NRC Bethesda (301)492-8111				
or (301)427-4056				
or (301)492-7000				
Office of Disaster Services (515)281-3231				
or (414)281-3561				
Linn County Sheriff 398-3911				
Benton County Sheriff 1-472-4777				
or 1-472-2337				
NRC ENS Emergency Operations Facility				
NRC HPN - Bethesda Dial 22				
NRC HPN - Region III Dial 23				
(During Regular Business Hours Only)				
NWS First Order Station 364-7127				
NWS Forecasting Station(515)284-4492				

CONDUCTED BY _____
Emergency Planning Assistant

Reviewed _____ Date _____
Emergency Planning Coordinator

ATTACHMENT 3

Quarterly DAEC Emergency Communications Checks

Communication Circuit	Initiated By (initials)	Received By (Name)	Time	Date	Remarks
Control Room Dedicated Circuits					
TSC					
Access Control					
Security Control Point					
EOF					
Back Panel Circuit to TSC					
Intercom					
Operability Check and Inventory					
(1) Headset					
(2) Six Button Phones					
TSC Dedicated Circuits					
Control Room					
Control Room (back panel)					
Access Control					
Security Control Pt.					
TSC to EOF					
EOF to TSC					
Intercom					
Operability Check and Inventory					
(5) Headsets					
(8) Twenty Button Phones					
Access Control Dedicated Circuits					
Control Room					
TSC					
Security Control Pt.					
Intercom					
Security Control Pt. Dedicated Circuits					
Control Room					
TSC					
Access Control					
Intercom					

Continued on next page

ATTACHMENT 3 (continued)

Quarterly DAEC Emergency Communications Checks

Communication Circuit	Initiated By (initials)	Received By (Name)	Time	Date	Remarks
Operations Radio (TSC)					
Secondary Alarm Station					
Security Control Point					
Site Boundary					
Operability Check and Inventory					
(4) Hand Held Radios					
Security/Health Physics Radio (TSC)					
EOF					
Security Control Point					
10 mile radius					
Operability Check and Inventory					
(2) Porta Mobile Radios					
(2) Magnetic Mount Antennas					
(2) Antenna Adapters					

CONDUCTED BY _____ Date _____
Emergency Planning Assistant

Reviewed _____ Date _____
Emergency Planning Coordinator

ATTACHMENT 4

Annual IE Tower Emergency Communication Checks

Communication Circuit	Initiated By (initials)	Received By (Name)	Time	Date
Centrex				
FEMA (202)634-7800 or (202)287-0540				
DOE (312)972-4800 or (312)972-5731				
Office of Disaster (515)281-3231				
Service or (515)281-3561				
Linn County CD 363-2671				
Benton County CD 472-4519				

Conducted By: _____ Date _____

Emergency Planning Assistant

Reviewed By: _____ Date _____

Emergency Planning Coordinator

Attachment 5

EXAMPLE COMMUNICATION CHECK

MESSAGE FORMAT

This is _____, _____
Name Title

from _____
DAEC or IELP

The purpose of this call is simply to check operability of this communication system.

An emergency situation does not - I repeat - does not exist at the DAEC.

NOTE

Advise the individual who answered the call that this check is being done monthly, quarterly, or yearly, as the case may be, to comply with NRC regulations. Obtain his or her name, advise it is simply for documentation purposes, thank him and end the conversation courteously.

Iowa Electric Light and Power Company

SPECIAL ORDER, General # 486

TO: ALL DAEC Personnel

SUBJECT: Emergency Response Organization Notification List

ORIGINATED BY: Randy Portz, Emergency Planning Assistant

EFFECTIVE DATE: 1 June 1982

CANCELLATION DATE: 1 September 1982

DISTRIBUTION:

L. Root
R. McGaughy
D. Mineck (2)
B. York
D. Wilson
J. Vinquist
R. Rockhill
J. Sweiger
G. Fulford
J. VanSickel
R. Anderson
L. Morey
K. Young
R. Steigers
R. McCracken
B. Klotz
D. Nowotny
M. Huting
L. Voss
J. West
D. Vest
F. Brush
N. Brown
G. VanMiddlesworth
D. Teply
C. Mick
J. DeVries
R. Roberts
R. Zook
R. Potts
B. Dye
M. Benfield
D. Gipson
J. Davis
K. Meyer
R. Portz
Security Control Point
Chem Lab (2)
Health Physics
Radwaste Control
Central Alarm Station
J. Sparano
M. Sparks
R. Cantrell
D. Rickels
R. Sanders
L. Wille
D. Kelley
All EPIP Manual Holders

The attached phone list is hereby promulgated, this list supersedes Special Order General # - 479. The lists are separated according to Emergency Job Classification. Please place this list with your Emergency Plan Implementation Procedure (EPIP 1.2) and discard existing Special Order #457.

Daniel L. Mineck
Chief Engineer
Duane Arnold Energy Center

DLM/sg
Attachment

cc: Ken Vanous

Notification List No. 1

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO REQ.	NOTIFICATIONS INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
	EMERGENCY COORDINATOR				1	1				
	P) Daniel L. Mineck									
	1) Bobby R. York									
	2) David L. Wilson									
	3) John V. Vinquist									
	4) Rick L. Hannen									
	EMERGENCY RESPONSE & RECOVERY DIRECTOR				1	1				
	P) Dick McGaughy									
	1) Larry D. Root									
	2) Harold Rehrauer									
	Security Shift Supervisor (CAS)				1	1				
	Linn County EOC (sheriff)				15 min.					
	Benton County EOC (Sheriff)				15 min.					
	State EOC (ODS)				15 min.					

398-3911
or
Point to Point Radio
or
IWAS Phone

11-472-4777
or
11-472-2337
or
Point to Point Radio
or
IWAS Phone

11-515-281-3231
or
11-515-281-3561
or
Point to Point Radio
or
IWAS Phone

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO REQ.	NOTIFICATIONS INITIAL YES	NOTIFICATIONS INITIAL NO	NOTIFICATIONS RECALL YES	NOTIFICATIONS RECALL NO
_____	NRC Operations Center Bethesda, Maryland		NRC "HOTLINE" or (202) 951-0550 or (301) 427-4056 or HP Net - 22 or (301) 492-7000		1 hour					

Communicator Name_____ Date_____

Notification List No. 2

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
	Site Radiation Protection Coordinator				1	1				
	(P) Keith Young									
	(1) Bob Dye									
	(2) Ed Parsons									
	OSC Supervisor				1	1				
	(P) Ed Parsons									
	(P) Paul Serra									
	(1) Bob Dye									
	Health Physics Technicians				5	8				
	Kevin Konzem									
	Paul A. Louis									
	Kevin Coppes									
	Gerald G. Wilford									
	Eric Wienola									
	L. Sills									
	S. Hopper									
	J. Evans									
	M. Davison									
	J. Elbert									
	D. Black									
	A. Reese									
	R. Grafton									
	S. Funk									
	B. Sligh									
	D. Kubacka									
	Terry Matta (Trainee)									
	DeeAnn Anderson (Trainee)									
	Janiece Ford (Trainee)									
	Wesley Kadlec (Trainee)									
	Norman Nelson (Trainee)									
	Tony Bata (Trainee)									
	Mary Burns (Trainee)									
	L. Ganske (Trainee)									
	P. Schmidt (Trainee)									
	B. Nielsen (Trainee)									

Communi..cor Name _____ Date _____

Notification List No. 2

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Chemistry Technicians				1	2				
	Ralph M. Lewis									
	Craig Sealls									
	Anthony Funke									
	Don Rees									
	Radwaste Operators				1	1				
	James L. Klocke									
	Steven M. Eylers									
	M. Larson									
	C. Brown									
	Robert Schlueter (New Operator)									
	Marshall Nickelson (Trainee)									
	L. Schmidt (Trainee)									
	J. Jacobsen (Trainee)									
	G. Skala (Trainee)									
	Exposure Records Coordinator					1				
	Linda Haven									
	Radwaste Coordinator									
	Roger Stigers									
	Environmental H.P.									
	Don Johnson									
	Administrative									
	Jerald Davis									
	NRC Resident Inspector					1				
	Larry Clardy									
	Nick Chrissotimos		home(							
	G. E. Operations Engineer					INFORM				
	John Silva									
	Plant Chemist									
	Ralph Pohto									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	TSC Supervisor				1	1				
	(P) Bobby R. York									
	(1) David L. Wilson									
	(2) John V. Vinquist									
	(3) Rick L. Hannen									
	(4) Gary Van Middlesworth									
	(5) John D. Van Sickel									
	(6) Donald F. Vest									
	Control Room Coordinator				1	1				
	(P) Donald F. Teply									
	(1) C. R. Mick									
	Technical & Engineering Supervisor									
	(P) John Vinquist									
	(1) Dave Wilson									
	(2) Rick Hannen									
	Security & Support Supervisor									
	(P) Dave Wilson									
	(1) Jim Sparano									
	(2) Jerry Davis									
	(3) Mike Sparks									
	Communicators				2	8				
	(P) Mike Chandler									
	(P) Ken Peveler									
	(P) Linus Drouhard									
	(P) Jeff Nelson									
	(P) Taj Mahammed									
	(1) Bill Rackle									
	(2) Bill Scholberg									
	(3) Gene Havlic									
	(4) Sam Ray									
	(5) John Johnson									
	(6) Bill Ellis									
	(7) Clare Bleau									

Communicator Name _____ Date _____

ME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
	Shift Technical Advisors(STA)				2	2				
	Mike Teply									
	Wally Beck									
	John Bjorseth									
	Giorgos Anagnostopoulos									
	Paul Collingsworth									
	Dave Mankin									
	Rx. & Plant Perf. Engineers				1	1				
	Gary Van Middlesworth									
	Donald F. Vest									
	Nicholas Brown									
	Francis L. Brush									
	Mechanical Maintenance				1	4				
	James P. Goersch									
	William E. Seely									
	Donald L. Schott									
	James M. Meyerhoff									
	Ronald D. Shields									
	Daniel L. Coghlan									
	James Becker									
	David McGill									
	David A. Pladsen									
	Duane Long (Apprentice)									
	Stanley Jacobson (Apprentice)									
	C. Kress (Apprentice)									
	R. Comreid (Apprentice)									
	Electricians				1	2				
	Paul Abernathy									
	James Scott									
	Harold Rodenberg									
	Norman Thiessen									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	INITIAL NO	RECALL YES	RECALL NO
	Instrument Technicians				1	1				
	Paul J. Maternowski									
	Larry Gosnell									
	Michael Long									
	Tony E. Olsen									
	Allen R.Schmidt									
	Ernest C. Zaugg									
	Lowell J. Russell									
	Bob R. Stout									
	Daniel L. Thies									
	William A. McVicker									
	R. Craig Hunt (Apprentice)									
	Electricial Design					1				
	Clare Bleau									
	Mike Chandler									
	Sam Ray									
	Taj Mahammed									
	Giorgos Anagnostopoulous									
	Lila Grover									
	Mechanical Design					1				
	Bill Ellis									
	Bill Scholberg									
	Bill Rackle									
	Jim Loehrlein									
	Ken Peveler									
	Linus Drouhard									
	Jeff Nelson									
	Gene Havlic									
	John Johnson									
	Paul Collingsworth									
	Dave Mankin									
	Mike Teply									
	Monty Hintz									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Mechanical Supervisors					1				
	(P) Richard D. Rockhill									
	(1) George R. Fulford									
	Electricial Maintenance Supervisors					1				
	(P) Jerome C. Sweiger									
	(1) Larry L. Voss									
	Warehouse Personnel									
	(P) Robert LaPointe									
	(1) Russell L. Brown									
	(2) Eldon M. Marting									
	Security Supervisor									
	(P) James Sparano									
	(1) Michael Sparks									

Communicator Name_____ Date_____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO. REQ. IN 30 min.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Shift Supervising Engineers(SSE)									
	John DeVries									
	Douglas R. Gipson									
	Ronald E. Potts									
	Raymond Roberts									
	Raymond L. Zook									
	Shift Supervising Engineers "B"									
	Dwight Barton									
	Dean Robertson									
	Jack Mohr									
	Richard Fowler									
	Gary Statton									
	Dwight Hartz									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Operators				2					
	John Adams									
	Richard L. Anderson									
	Russell Becker									
	Wayne L. Bentley									
	Lonnie D. Gross									
	Robert Hovey									
	Brian Hupke									
	Duane R. Johnson									
	Kevin J. Morgan									
	Wayne Render									
	Keith Reule									
	Steve Reynolds									
	Stephen Rohr									
	Joe Ruth									
	Frank Sauser									
	David M. Schussler									
	Allen J. Steen									
	Teryl Subbert									
	Kenneth Thomas									
	George R. Thullen									
	Frank S. VanEtten									
	Benjamin Westcot									
	Thomas A. Zimmerman									
	Paul Sullivan									

Communicator Name _____ Date _____

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ. IN 30 MIN.	TOTAL NO.. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Training Group									
	Robert Anderson									
	Larry Morey									
	Bob Thorson									
	Dave Miller									
	Ed Harms									
	Alan Dalton									
	Don Hickman									
	Paul Roy									
	Ed Thomas									
	John Connon									
	Health Physics Support									
	Robert Decker									
	Parley Smith									
	Floyd Dickson									
	Chris Cummin									
	Alfred Ward Western									

Communicator Name_____ Date_____

Additional Resource

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ IN 30 MIN	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Security Guard Lieutenant									
	Rollie Cantrell									
	Daniel Kelley									
	Darrell Rickels									
	Richard Sanders									
	Larry Wille									
	Security Personnel									
	Howard D. Brown									
	Diane Engelhardt									
	Frederick Hadenfeldt									
	Brian C. Hall									
	Larry Joens									
	Ron Larsen									
	Larry W. McDonald									
	Robert Moriarity									
	Donald Reiner									
	Tom Steparek									
	Melvin Theisen									
	Robert Wetherall									
	R. Uthoff									
	M. Meeks									
	K. Moore									
	R. Warren									
	F. Stein									
	D. Roggentein									
	Utility									
	Doreen Kelly		No phone							

Communicator Name _____ Date _____

Additional Resource

TIME	PARTY CALLED EMERGENCY TITLE/NAME	PAGER NO.	HOME PHONE	OFFICE EXTENSION	NO REQ IN 30 MIN	TOTAL NO. REQ.	NOTIFICATION INITIAL YES	NOTIFICATION INITIAL NO	NOTIFICATION RECALL YES	NOTIFICATION RECALL NO
	Quality Control									
	Robert A. McCracken									
	Mark A. Huting									
	Bruce C. Klotz									
	Donald Metcalf									
	Dennis L. Nowotny									
	James West									
	Joe Fata									
	Technical Engineer									
	David Varner									
	Staff Assistant									
	Lance Mooney									
	Clerical									
	Mary Bonnet									
	Pauletta Carbaugh									
	Sheryl Fetzer									
	Nancy S. Franck									
	Rita Fry									
	Stephanie M. Gilbertson									
	Lila Hancock									
	Linda Haven									
	Patricia Henkle									
	Ann Howard									
	Bonnie Kelsey									
	Paula Luxa									
	Rhonda Reamon									
	Elaine Sutton									
	Rae Jean Sweeney									
	Sharon L. Teufel									

Communicator Name _____ Date _____