TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT IMPLEMENTING PROCEDURES DOCUMENT

REVISION LOG SHEET

Issue Date: November 1, 1982

This log sheet must be retained as the last page of the Browns Ferry Nuclear Plant Implementing Procedures Document.

Inserted by: _____ Date Inserted: _____

Pages to be Removed			New Pages to be Inserted		
Part	Page Number	Revision/ Date	Part	Page Number	Revision/ Date
List of Effective Pages	1 of 10	10/06/82	List of Effective Pages	1 of 10	11/01/82
	2 of 10	10/06/82		2 of 10	11/01/82
	3 of 10	10/06/82		3 of 10	11/01/82
	4 of 10	10/06/82		4 of 10	11/01/82
	5 of 10	10/06/82		5 of 10	11/01/82
	6 of 10	10/06/82		6 of 10	11/01/82
	7 of 10	10/06/82		7 of 10	11/01/82
	8 of 10	10/06/82		8 of 10	11/01/82
	9 of 10	10/06/82		9 of 10	11/01/82
	10 of 10	10/06/82		10 of 10	11/01/82
Table of Contents	1 of 1	06/29/82	Table of Contents	1 of 1	10/19/82
IP-1 Preface	Cover Page	06/15/82	IP-1 Preface	Cover Page	10/19/82
	1 of 1	10/05/81		1 of 1	10/19/82
	1 of 11	10/06/81		1 of 11	10/19/82
	2 of 11	07/02/81		2 of 11	10/19/82
	3 of 11	09/24/82		3 of 11	10/19/82
	4 of 11	07/02/81		4 of 11	10/19/82
	5 of 11	03/31/81		5 of 11	10/19/82
	6 of 11	12/21/81		6 of 11	10/19/82
	7 of 11	07/02/81		7 of 11	10/19/82
	8 of 11	07/02/81		8 of 11	10/19/82
	9 of 11	07/02/81		9 of 11	10/19/82
	10 of 11	10/06/81		10 of 11	10/19/82
	11 of 11	07/02/81		11 of 11	10/19/82

BROWNS FERRY NUCLEAR PLANT IMPLEMENTING PROCEDURES DOCUMENT

REVISION LOG SHEET

Issue Date: November 1, 1982

Pages to be Removed			New Pages to be Inserted		
Part	Page Number	Revision/ Date	Part	Page Number	Revision/ Date
IP-2	2 of 2	04/22/82	IP-2	2 of 2	10/19/82
IP-3	2 of 2	06/29/82	IP-3	2 of 2	10/19/82
Table 1	1 of 1	12/21/81	Table 1	1 of 1	10/19/82
Table 2	1 of 1	12/21/81	Table 2	1 of 1	10/19/82
IP-4	Cover Page	06/29/82	IP-4	Cover Page	10/19/82
	1 of 2	04/22/82		1 of 2	10/19/82
	2 of 2	06/29/82		2 of 2	10/19/82
Table 1	1 of 1	12/21/81	Table 1	1 of 1	10/19/82
Table 2	1 of 1	12/21/81	Table 2	1 of 1	10/19/82
IP-5	2 of 2	06/29/82	IP-5	2 of 2	10/19/82
Table 1	1 of 1	12/21/81	Table 1	1 of 1	10/19/82
Table 2	1 of 1	12/21/81	Table 2	1 of 1	10/19/82
IP-6			IP-6		
Att. 1	1 of 4	06/29/82	Att. 1	1 of 4	10/19/82
	2 of 4	06/29/82		2 of 4	10/19/82
	3 of 4	04/22/82		3 of 4	10/19/82
	4 of 4	06/29/82		4 of 4	10/19/82
IP-7			IP-7		
Att. 1	1 of 1	07/08/82	Att. 1	1 of 2	10/19/82
				2 of 2	10/19/82
IP-8	2 of 4	04/22/82	IP-8	2 of 4	10/19/82
	~~4 of 4~~	~~10/06/81~~		2a of 4	10/19/82
				4 of 4	10/19/82
IP-11	1 of 2	10/06/81	IP-11	1 of 2	10/19/82
	2 of 2	10/06/81		2 of 2	10/06/82

BROWNS FERRY NUCLEAR PLANT IMPLEMENTING PROCEDURES DOCUMENT

REVISION LOG SHEET

Issue Date: November 1, 1982

Pages to be Removed			New Pages to be Inserted		
Part	Page Number	Revision/ Date	Part	Page Number	Revision/ Date
IP-14	1 of 5	06/29/82	IP-14	1 of 6	10/19/82
	2 of 5	04/22/82		2 of 6	10/19/82
	3 of 5	12/21/81		3 of 6	10/19/82
	4 of 5	06/29/81		4 of 6	10/19/82
	5 of 5	06/29/82		5 of 6	10/19/82
	———	———		6 of 6	10/19/82
IP-18	1 of 1	Rev. 0	IP-18	1 of 1	10/19/82
IP-19	1 of 2	06/29/82	IP-19	1 of 2	10/19/82
	2 of 2	06/29/82		2 of 2	10/19/82
IP-20	1 of 5	08/26/82	IP-20	1 of 5	10/19/82
	2 of 5	06/29/82		2 of 5	10/19/82
	3 of 5	08/10/82		3 of 5	10/19/82
	4 of 5	04/22/82		4 of 5	10/19/82
	5 of 5	05/25/82		5 of 5	10/19/82
Att. B	1 of 1	04/22/82	Att. B	1 of 1	10/19/82
———	———	———	Att. D	1 of 1	10/19/82
IP-21	1 of 1	04/22/82	IP-21	1 of 1	10/19/82
Att. 1	1 of 1	04/22/82	Att. 1	1 of 1	10/19/82
IP-22	1 of 2	08/26/82	IP-22	1 of 2	10/19/82
	2 of 2	04/22/82		2 of 2	10/19/82
IP-23	1 of 5	06/29/82	IP-23	1 of 5	10/19/82
	2 of 5	06/29/82		2 of 5	10/19/82
	3 of 5	06/29/82		3 of 5	10/19/82
	4 of 5	06/29/82		4 of 5	10/19/82
	5 of 5	04/22/82		5 of 5	10/19/82
Att. B	1 of 1	06/29/82	Att. B	1 of 1	10/19/82

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT IMPLEMENTING PROCEDURES DOCUMENT

LIST OF EFFECTIVE PAGES

Issue Date: November 1, 1982

This List of Effective Pages must be retained with the Browns Ferry Nuclear Plant Implementing Procedures Documents.

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN		List of Effective Pages	1 of 10	11/01/82
			2 of 10	11/01/82
			3 of 10	11/01/82
			4 of 10	11/01/82
			5 of 10	11/01/82
			6 of 10	11/01/82
			7 of 10	11/01/82
			8 of 10	11/01/82
			9 of 10	11/01/82
			10 of 10	11/01/82
		Table of Contents	1 of 1	10/19/82
	IP-1		Coversheet	10/19/82
		Preface	1 of 1	10/19/82
	IP-1		1 of 11	10/19/82
			2 of 11	10/19/82
			3 of 11	10/19/82
			4 of 11	10/19/82
			5 of 11	10/19/82
			6 of 11	10/19/82
			7 of 11	10/19/82
			8 of 11	10/19/82
			9 of 11	10/19/82
			10 of 11	10/19/82
			11 of 11	10/19/82
	IP-2		Coversheet	06/15/82
			1 of 2	04/22/82
			2 of 2	10/19/82

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN	IP-3		Coversheet	06/29/82
			1 of 2	04/22/82
			2 of 2	10/19/82
		Table 1	1 of 1	10/19/82
		Table 2	1 of 1	10/19/82
	IP-4		Coversheet	10/19/82
			1 of 2	10/19/82
			2 of 2	10/19/82
		Table 1	1 of 1	10/19/82
		Table 2	1 of 1	10/19/82
	IP-5		Coversheet	06/29/82
			1 of 2	04/22/82
			2 of 2	10/19/82
		Table 1	1 of 1	10/19/82
		Table 2	1 of 1	10/19/82
	IP-6		Coversheet	06/29/82
			1 of 1	04/22/82
		Attachment 1	1 of 4	10/19/82
			2 of 4	10/19/82
			3 of 4	10/19/82
			4 of 4	10/19/82
	IP-7		Coversheet	06/29/82
			1 of 1	12/21/81
		Attachment 1	1 of 2	10/19/82
			2 of 2	10/19/82
	IP-8		Coversheet	06/15/82
			1 of 4	04/22/82
			2 of 4	10/19/82
			2a of 4	10/19/82
			3 of 4	04/22/82
			4 of 4	10/19/82
		Attachment 1	1 of 1	05/19/81
	IP-9		Coversheet	06/15/82
			1 of 1	04/22/82

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN	IP-10		Coversheet	06/29/82
			1 of 6	06/30/81
			2 of 6	04/22/82
			3 of 6	04/22/82
			3a of 6	04/22/82
			4 of 6	06/30/81
			5 of 6	12/21/81
			6 of 6	06/30/81
		Attachment 1	1 of 2	06/29/82
			2 of 2	06/29/82
		Attachment 2A	1 of 1	06/30/81
		Attachment 2B	1 of 1	Rev. 0
		Attachment 3	1 of 1	Rev. 0
		Attachment 4	1 of 1	Rev. 0
		Attachment 5	1 of 1	04/22/82
		Attachment 6	1 of 1	Rev. 0
		Attachment 7	1 of 2	06/30/81
			2 of 2	06/30/81
		Attachment 8	1 of 2	06/30/81
			2 of 2	06/30/81
	IP-11		Coversheet	06/15/82
			1 of 2	10/19/82
			2 of 2	10/06/81
	IP-12		1 of 1	04/22/82
	IP-13		1 of 2	06/16/81
			2 of 2	06/16/81
	IP-14		Coversheet	06/29/82
			1 of 6	10/19/82
			2 of 6	10/19/82
			3 of 6	10/19/82
			4 of 6	10/19/82
			5 of 6	10/19/82
			6 of 6	10/19/82

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN (Con't)	IP-14			
		Attachment 1	1 of 1	Rev. 0
		Attachment 2	1 of 1	03/16/82
		Attachment 3	1 of 1	Rev. 0
		Attachment 4	1 of 1	Rev. 0
		Attachment 5	1 of 1	Rev. 0
	IP-15		Coversheet	06/15/82
			1 of 4	Rev. 0
			2 of 4	Rev. 0
			3 of 4	Rev. 0
			4 of 4	03/30/82
	IP-16		Coversheet	06/15/82
			1 of 2	04/22/82
			2 of 2	Rev. 0
	IP-17		Coversheet	06/15/82
			1 of 15	01/26/82
			2 of 15	03/16/82
			3 of 15	04/22/82
			4 of 15	03/16/82
			5 of 15	01/26/82
			6 of 15	07/08/82
			7 of 15	01/26/82
			8 of 15	03/16/82
			9 of 15	01/26/82
			10 of 15	04/22/82
			11 of 15	04/06/82
			12 of 15	01/26/82
			13 of 15	01/26/82
			14 of 15	01/26/82
			15 of 15	01/26/82
		Figure 1	1 of 1	06/30/81
		Figure 2	1 of 1	04/22/82
		Figure 3	1 of 1	Rev. 0

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN (Con't)	IP-18		Coversheet	06/15/82
			1 of 1	10/19/82
		Title Page	1 of 1	Rev. 0
		Table of Contents	1 of 1	04/07/81
		List of Figures	1 of 4	07/21/81
			2 of 4	07/21/81
			3 of 4	07/21/81
			4 of 4	07/21/81
		Appendix	1 of 12	04/22/82
			2 of 12	04/07/81
			3 of 12	04/07/81
			4 of 12	04/07/81
			5 of 12	04/07/81
			6 of 12	04/07/81
			7 of 12	04/07/81
			8 of 12	04/07/81
			9 of 12	04/07/81
			10 of 12	04/07/81
			11 of 12	04/07/81
			12 of 12	04/07/81
		Figure 1.1	1 of 1	Rev. 0
		Figure 1.2	1 of 1	Rev. 0
		Figure 1.3	1 of 1	Rev. 0
		Figure 1.4	1 of 1	Rev. 0
		Figure 2.1	1 of 1	Rev. 0
		Figure 2.2	1 of 1	Rev. 0
		Figure 2.3	1 of 1	Rev. 0
		Figure 2.4	1 of 1	Rev. 0
		Figure 3	1 of 1	Rev. 0
		Figure 4.1	1 of 1	Rev. 0

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN (Con't)	IP-18 (Con't)	Figure 4.2	1 of 1	Rev. 0
		Figure 4.3	1 of 1	Rev. 0
		Figure 4.4	1 of 1	Rev. 0
		Figure 4.5	1 of 1	Rev. 0
		Figure 4.6	1 of 1	Rev. 0
		Figure 4.7	1 of 1	Rev. 0
		Figure 4.8	1 of 1	Rev. 0
		Figure 4.9	1 of 1	Rev. 0
		Figure 4.10	1 of 1	Rev. 0
		Figure 4.11	1 of 1	Rev. 0
		Figure 4.12	1 of 1	Rev. 0
		Figure 5.1	1 of 1	Rev. 0
		Figure 5.2	1 of 1	Rev. 0
		Figure 5.3	1 of 1	Rev. 0
		Figure 5.4	1 of 1	Rev. 0
		Figure 5.5	1 of 1	Rev. 0
		Figure 5.6	1 of 1	Rev. 0
		Figure 5.7	1 of 1	Rev. 0
		Figure 5.8	1 of 1	Rev. 0
		Figure 5.9	1 of 1	Rev. 0
		Figure 5.10	1 of 1	Rev. 0
		Figure 5.11	1 of 1	Rev. 0

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN (Con't)	IP-18 (Con't)	Figure 5.12	1 of 1	Rev. 0
		Figure 6.1	1 of 1	Rev. 0
		Figure 6.2	1 of 1	Rev. 0
		Figure 6.3	1 of 1	Rev. 0
		Figure 6.4	1 of 1	Rev. 0
		Figure 6.5	1 of 1	Rev. 0
		Figure 6.6	1 of 1	Rev. 0
		Figure 6.7	1 of 1	Rev. 0
		Figure 6.8	1 of 1	Rev. 0
		Figure 6.9	1 of 1	Rev. 0
		Figure 6.10	1 of 1	Rev. 0
		Figure 6.11	1 of 1	Rev. 0
		Figure 6.12	1 of 1	Rev. 0
		Figure 7.1	1 of 1	Rev. 0
		Figure 7.2	1 of 1	Rev. 0
		Figure 7.3	1 of 1	Rev. 0
		Figure 7.4	1 of 1	Rev. 0
		Figure 7.5	1 of 1	Rev. 0
		Figure 7.6	1 of 1	Rev. 0
		Figure 7.7	1 of 1	Rev. 0
		Figure 7.8	1 of 1	Rev. 0
		Figure 7.9	1 of 1	Rev. 0

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN (Con't)	IP-18 (Con't)	Figure 7.10	1 of 1	Rev. 0
		Figure 7.11	1 of 1	Rev. 0
		Figure 7.12	1 of 1	Rev. 0
BFN	IP-19		Coversheet	06/29/82
			1 of 2	10/19/82
			2 of 2	10/19/82
		Attachment 1	1 of 18	06/29/82
			2 of 18	06/29/82
			3 of 18	06/29/82
			4 of 18	06/29/82
			5 of 18	06/29/82
			6 of 18	06/29/82
			7 of 18	06/29/82
			8 of 18	06/29/82
			9 of 18	06/29/82
			10 of 18	06/29/82
			11 of 18	06/29/82
			12 of 18	06/29/82
			13 of 18	06/29/82
			14 of 18	06/29/82
			15 of 18	06/29/82
			16 of 18	06/29/82
			17 of 18	06/29/82
			18 of 18	06/29/82
BFN	IP-20		Coversheet	06/29/82
			1 of 5	10/19/82
			2 of 5	10/19/82
			3 of 5	10/19/82
			4 of 5	10/19/82
			5 of 5	10/19/82
		Attachment A	1 of 3	12/21/81
			2 of 3	12/21/81
			3 of 3	12/21/81
		Attachment B	1 of 1	10/19/82

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN (Cont'd)	IP-20			
		Attachment C	1 of 1	06/29/82
		Attachment D	1 of 1	10/19/82
		Figure 1	1 of 1	04/22/82
		Figure 2	1 of 1	04/22/82
	IP-21		Coversheet	06/15/82
			1 of 1	10/19/82
		Attachment 1	1 of 1	10/19/82
		Figure 1	1 of 1	04/22/82
		Figure 2	1 of 1	04/22/82
	IP-22		Coversheet	06/15/82
			1 of 2	10/19/82
			2 of 2	10/19/82
	IP-23		Coversheet	06/29/82
			1 of 5	10/19/82
			2 of 5	10/19/82
			3 of 5	10/19/82
			4 of 5	10/19/82
			5 of 5	10/19/82
		Attachment A	1 of 1	12/21/81
		Attachment B	1 of 1	10/19/82
		Attachment C	1 of 1	06/29/82
		Attachment D	1 of 1	04/22/82

LIST OF EFFECTIVE PAGES (Con't)

Part	Procedure Number	Subdivision	Page Number	Date/Rev. No.
BFN (Con't)	IP-24		Coversheet	06/29/82
			1 of 2	02/23/82
			2 of 2	02/23/82
		Attachment A	1 of 36	02/23/82
			2 of 36	02/23/82
			3 of 36	02/23/82
			4 of 36	02/23/82
			5 of 36	02/23/82
			6 of 36	02/23/82
			7 of 36	02/23/82
			8 of 36	02/23/82
			9 of 36	02/23/82
			10 of 36	02/23/82
			11 of 36	02/23/82
			12 of 36	02/23/82
			13 of 36	02/23/82
			14 of 36	02/23/82
			15 of 36	02/23/82
			16 of 36	02/23/82
			17 of 36	02/23/82
			18 of 36	02/23/82
			19 of 36	02/23/82
			20 of 36	02/23/82
			21 of 36	02/23/82
			22 of 36	02/23/82
			23 of 36	02/23/82
			24 of 36	02/23/82
			25 of 36	02/23/82
			26 of 36	02/23/82
			27 of 36	02/23/82
			28 of 36	02/23/82
			29 of 36	02/23/82
			30 of 36	02/23/82
			31 of 36	02/23/82
			32 of 36	02/23/82
			33 of 36	02/23/82
			34 of 36	02/23/82
			35 of 36	02/23/82
			36 of 36	02/23/82

BROWNS FERRY NUCLEAR PLANT

RADIOLOGICAL EMERGENCY PROCEDURES

*Revision 21

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT

RADIOLOGICAL EMERGENCY PLAN

EMERGENCY PLAN CLASSIFICATION LOGIC
BFN, IP-1

Approved: _____
Plant Superintendent

Date: OCT 19 1982

General Revision

OCT 19 1982

PLAN CLASSIFICATION LOGIC

Classification System

TVA utilizes the following emergency classifications:

1. Notification of Unusual Event

2. Alert

* 3. Site Area Emergency

4. General Emergency

This system of classification is consistent with the systems used by NRC, State and local emergency organizations. Therefore, all communications must be made using only these four classifications exactly.

IP-1 classifies various events into these four categories. However, it is impossible to list every possible initiating event. The Site Emergency Director will use his professional judgement in classifying any events not listed into the proper category, based on the general guidance listed below.

Notification of Unusual Event

This class provides early and prompt notification of minor events which could develop into, or be indicative of more serious conditions which are not yet fully realized.

Alert

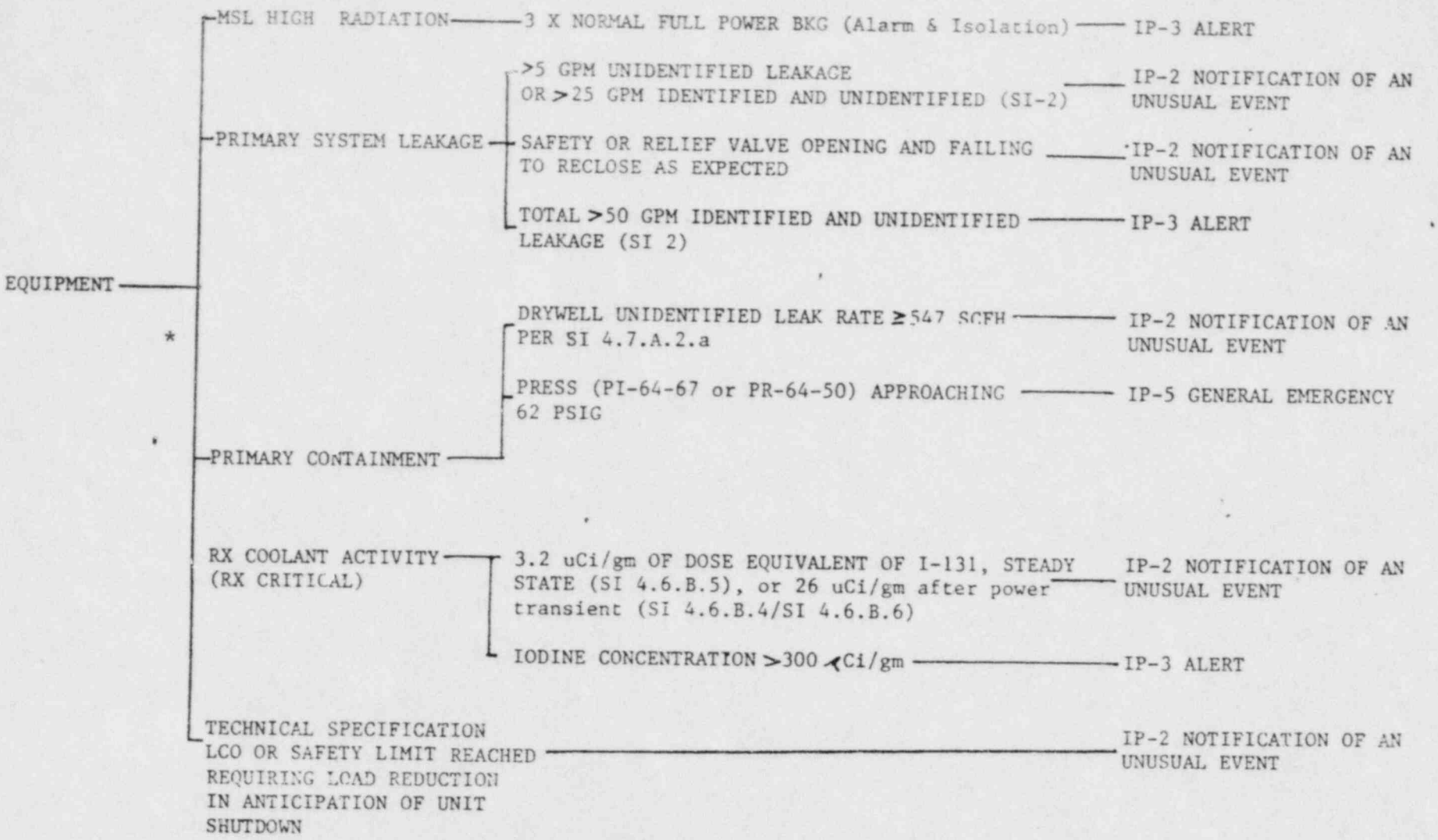
An alert class is indicated when events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

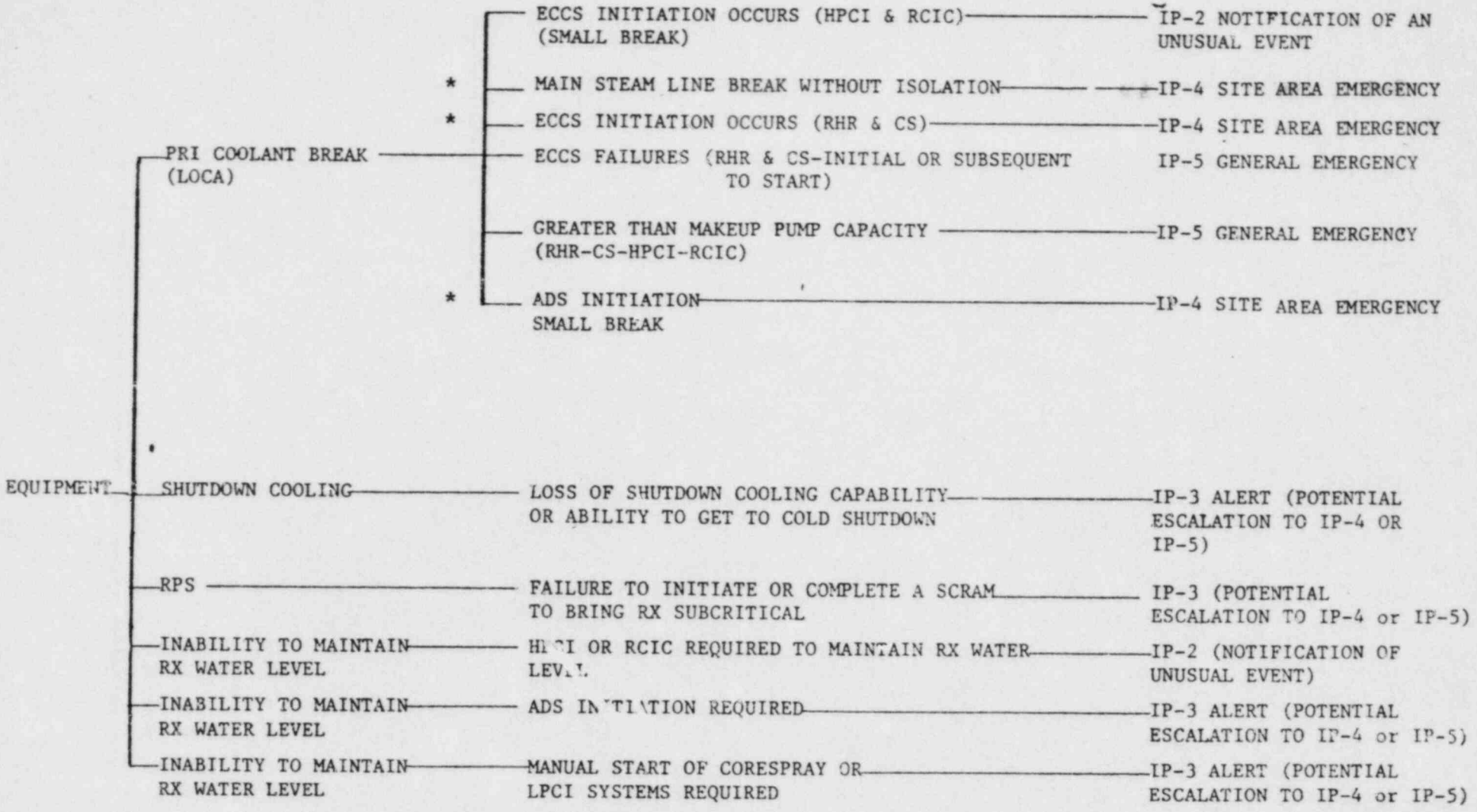
* Site Area Emergency

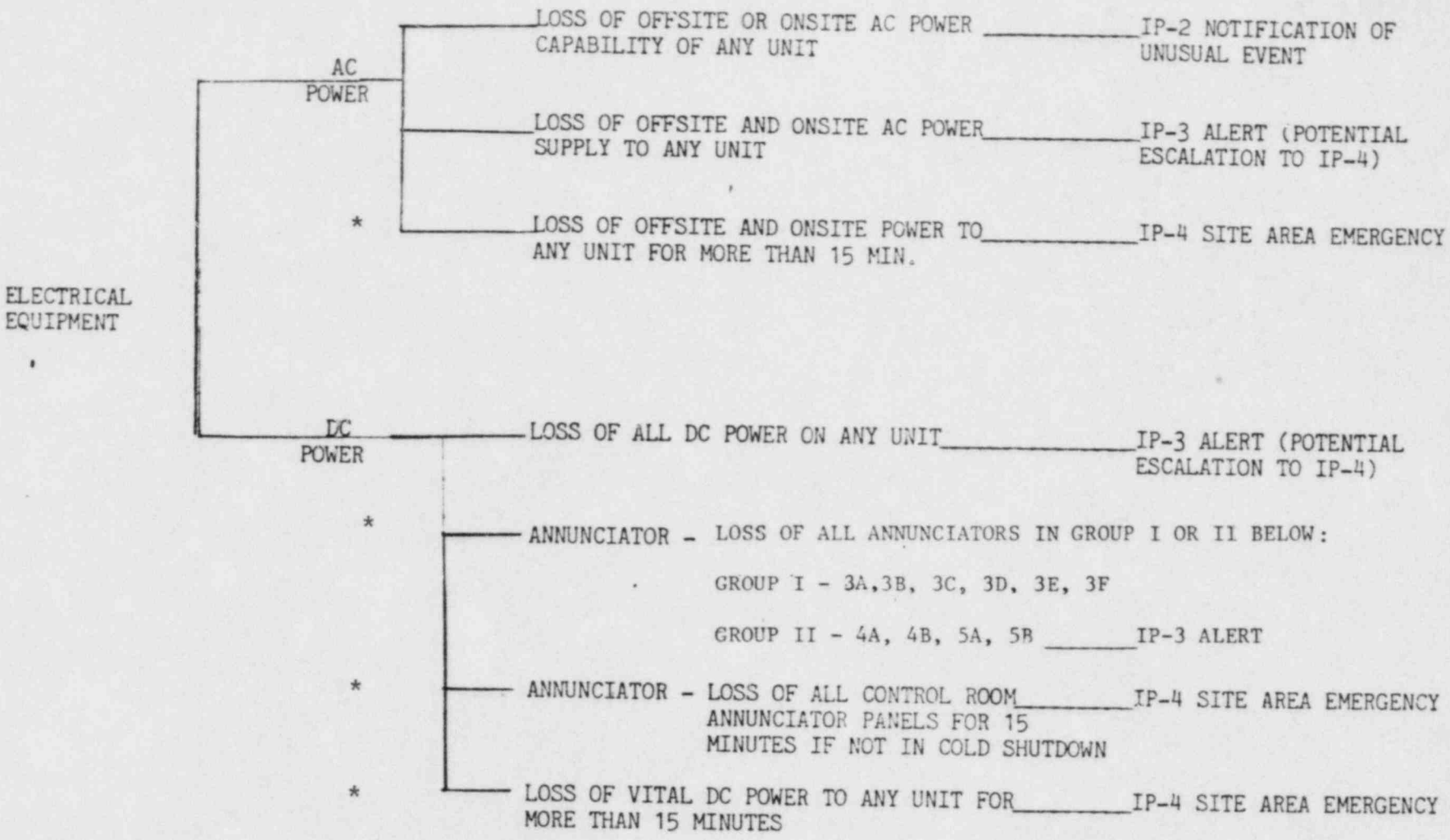
* A Site Area Emergency is declared when events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

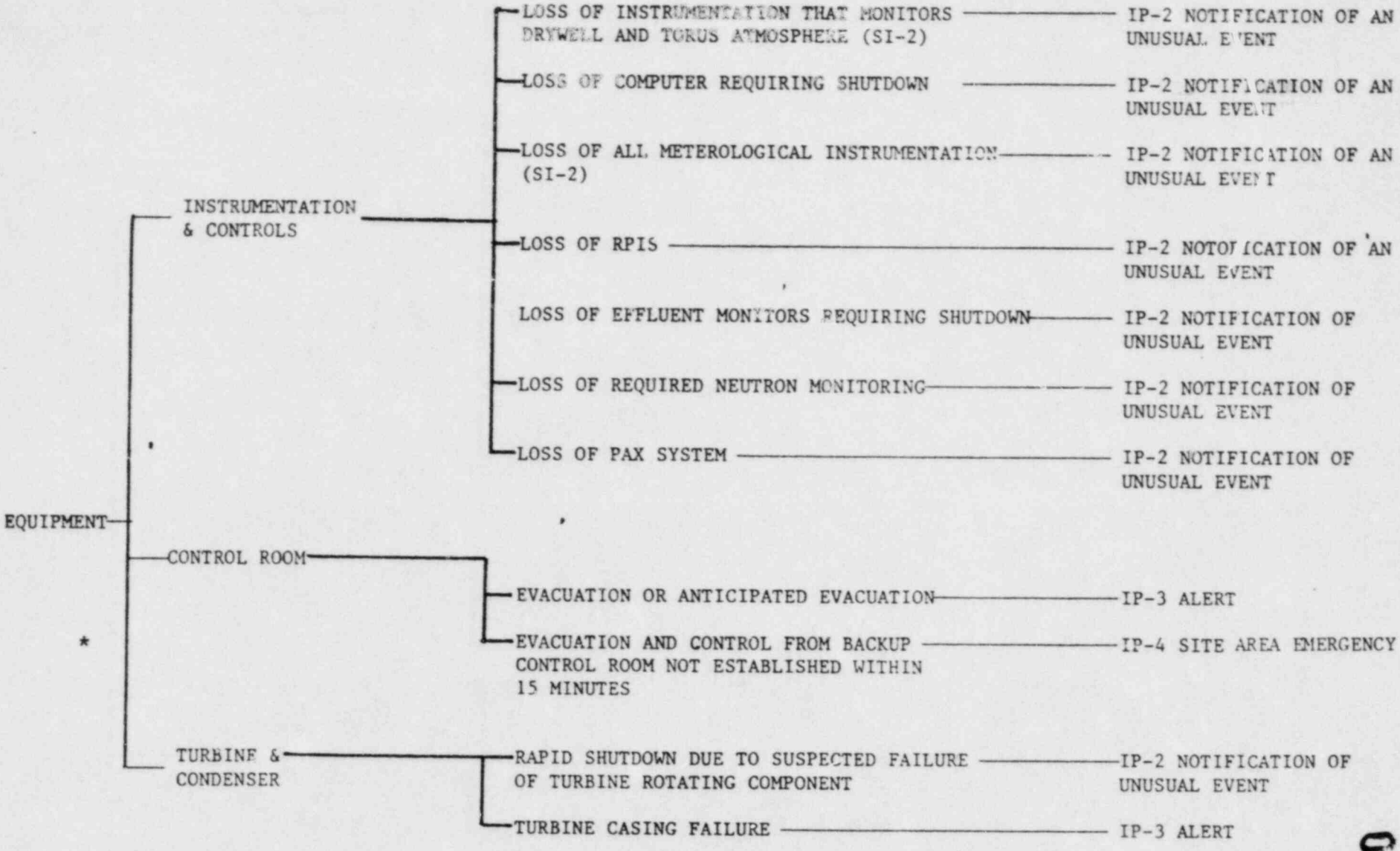
General Emergency

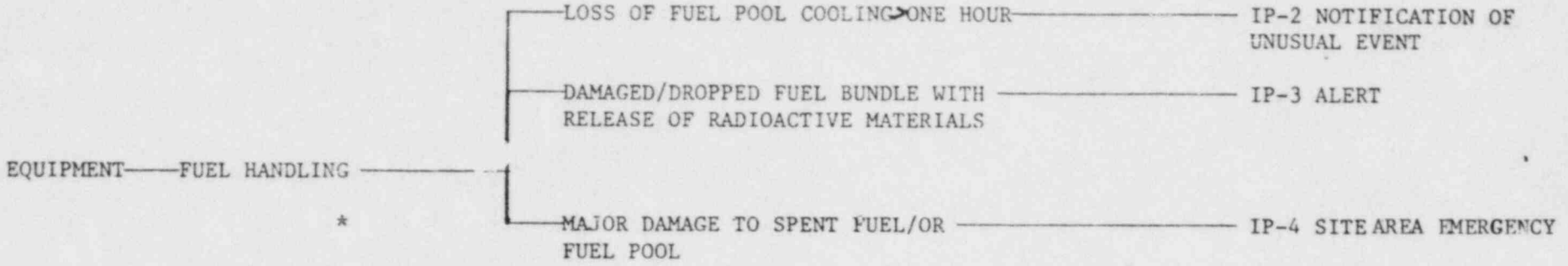
A General Emergency is declared when events are in progress or have occurred which involve actual or imminent substantial core failure with potential for loss of containment integrity.


EQUIPMENT
MSL HIGH RADIATION
3 X NORMAL FULL POWER BKG (Alarm & Isolation)
IP-3 ALERT
PRIMARY SYSTEM LEAKAGE
>5 GPM UNIDENTIFIED LEAKAGE OR >25 GPM IDENTIFIED AND UNIDENTIFIED (SI-2)
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
SAFETY OR RELIEF VALVE OPENING AND FAILING TO RECLOSE AS EXPECTED
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
TOTAL >50 GPM IDENTIFIED AND UNIDENTIFIED LEAKAGE (SI 2)
IP-3 ALERT
PRIMARY CONTAINMENT
DRYWELL UNIDENTIFIED LEAK RATE ≥547 SCFH PER SI 4.7.A.2.a
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
PRESS (PI-64-67 or PR-64-50) APPROACHING 62 PSIG
IP-5 GENERAL EMERGENCY
RX COOLANT ACTIVITY (RX CRITICAL)
3.2 uCi/gm OF DOSE EQUIVALENT OF I-131, STEADY STATE (SI 4.6.B.5), or 26 uCi/gm after power transient (SI 4.6.B.4/SI 4.6.B.6)
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
IODINE CONCENTRATION >300 μCi/gm
IP-3 ALERT
TECHNICAL SPECIFICATION LCO OR SAFETY LIMIT REACHED REQUIRING LOAD REDUCTION IN ANTICIPATION OF UNIT SHUTDOWN
IP-2 NOTIFICATION OF AN UNUSUAL EVENT


EQUIPMENT
PRI COOLANT BREAK (LOCA)
ECCS INITIATION OCCURS (HPCI & RCIC) (SMALL BREAK)
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
* MAIN STEAM LINE BREAK WITHOUT ISOLATION
IP-4 SITE AREA EMERGENCY
* ECCS INITIATION OCCURS (RHR & CS)
IP-4 SITE AREA EMERGENCY
ECCS FAILURES (RHR & CS-INITIAL OR SUBSEQUENT TO START)
IP-5 GENERAL EMERGENCY
GREATER THAN MAKEUP PUMP CAPACITY (RHR-CS-HPCI-RCIC)
IP-5 GENERAL EMERGENCY
* ADS INITIATION SMALL BREAK
IP-4 SITE AREA EMERGENCY
SHUTDOWN COOLING
LOSS OF SHUTDOWN COOLING CAPABILITY OR ABILITY TO GET TO COLD SHUTDOWN
IP-3 ALERT (POTENTIAL ESCALATION TO IP-4 OR IP-5)
RPS
FAILURE TO INITIATE OR COMPLETE A SCRAM TO BRING RX SUBCRITICAL
IP-3 (POTENTIAL ESCALATION TO IP-4 or IP-5)
INABILITY TO MAINTAIN RX WATER LEVEL
HPCI OR RCIC REQUIRED TO MAINTAIN RX WATER LEVEL
IP-2 (NOTIFICATION OF UNUSUAL EVENT)
INABILITY TO MAINTAIN RX WATER LEVEL
ADS INITIATION REQUIRED
IP-3 ALERT (POTENTIAL ESCALATION TO IP-4 or IP-5)
INABILITY TO MAINTAIN RX WATER LEVEL
MANUAL START OF CORESPRAY OR LPCI SYSTEMS REQUIRED
IP-3 ALERT (POTENTIAL ESCALATION TO IP-4 or IP-5)


ELECTRICAL EQUIPMENT
AC POWER
LOSS OF OFFSITE OR ONSITE AC POWER CAPABILITY OF ANY UNIT
IP-2 NOTIFICATION OF UNUSUAL EVENT
LOSS OF OFFSITE AND ONSITE AC POWER SUPPLY TO ANY UNIT
IP-3 ALERT (POTENTIAL ESCALATION TO IP-4)
*
LOSS OF OFFSITE AND ONSITE POWER TO ANY UNIT FOR MORE THAN 15 MIN.
IP-4 SITE AREA EMERGENCY
DC POWER
LOSS OF ALL DC POWER ON ANY UNIT
IP-3 ALERT (POTENTIAL ESCALATION TO IP-4)
*
ANNUNCIATOR - LOSS OF ALL ANNUNCIATORS IN GROUP I OR II BELOW:
GROUP I - 3A,3B, 3C, 3D, 3E, 3F
GROUP II - 4A, 4B, 5A, 5B
IP-3 ALERT
*
ANNUNCIATOR - LOSS OF ALL CONTROL ROOM ANNUNCIATOR PANELS FOR 15 MINUTES IF NOT IN COLD SHUTDOWN
IP-4 SITE AREA EMERGENCY
*
LOSS OF VITAL DC POWER TO ANY UNIT FOR MORE THAN 15 MINUTES
IP-4 SITE AREA EMERGENCY


EQUIPMENT
INSTRUMENTATION & CONTROLS
LOSS OF INSTRUMENTATION THAT MONITORS DRYWELL AND TORUS ATMOSPHERE (SI-2)
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
LOSS OF COMPUTER REQUIRING SHUTDOWN
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
LOSS OF ALL METEROLOGICAL INSTRUMENTATION (SI-2)
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
LOSS OF RPIS
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
LOSS OF EFFLUENT MONITORS REQUIRING SHUTDOWN
IP-2 NOTIFICATION OF UNUSUAL EVENT
LOSS OF REQUIRED NEUTRON MONITORING
IP-2 NOTIFICATION OF UNUSUAL EVENT
LOSS OF PAX SYSTEM
IP-2 NOTIFICATION OF UNUSUAL EVENT
CONTROL ROOM
EVACUATION OR ANTICIPATED EVACUATION
IP-3 ALERT
EVACUATION AND CONTROL FROM BACKUP CONTROL ROOM NOT ESTABLISHED WITHIN 15 MINUTES
IP-4 SITE AREA EMERGENCY
TURBINE & CONDENSER
RAPID SHUTDOWN DUE TO SUSPECTED FAILURE OF TURBINE ROTATING COMPONENT
IP-2 NOTIFICATION OF UNUSUAL EVENT
TURBINE CASING FAILURE
IP-3 ALERT



RADIOLOGICAL

RADIOACTIVE EFFLUENTS

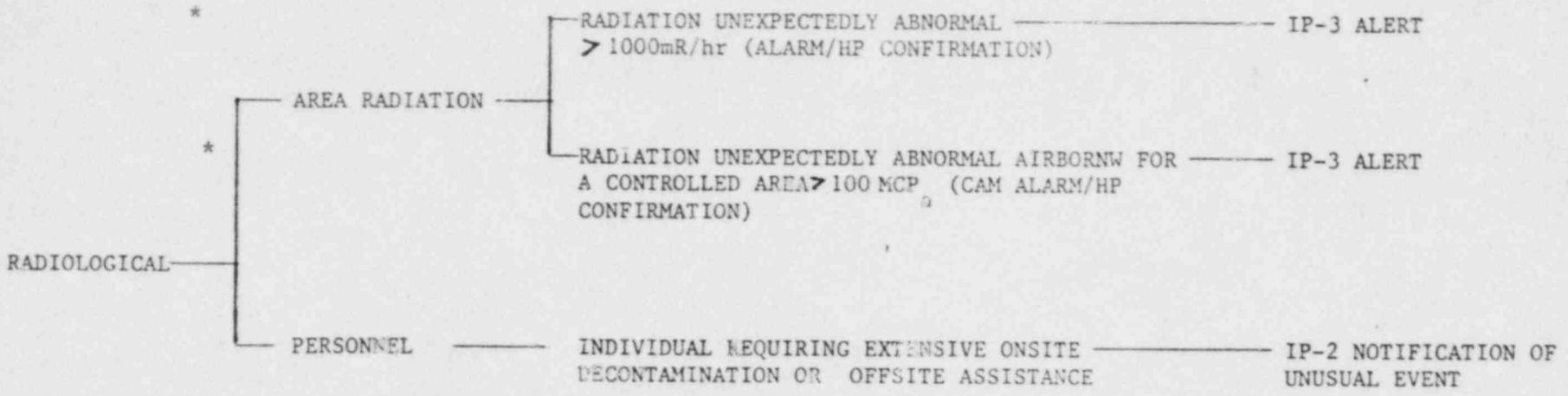
LIQUID

- EXCEEDING TECH SPECS (3.8.A.1., 2, or 5) ____ IP-2 NOTIFICATION OF AN UNUSUAL EVENT

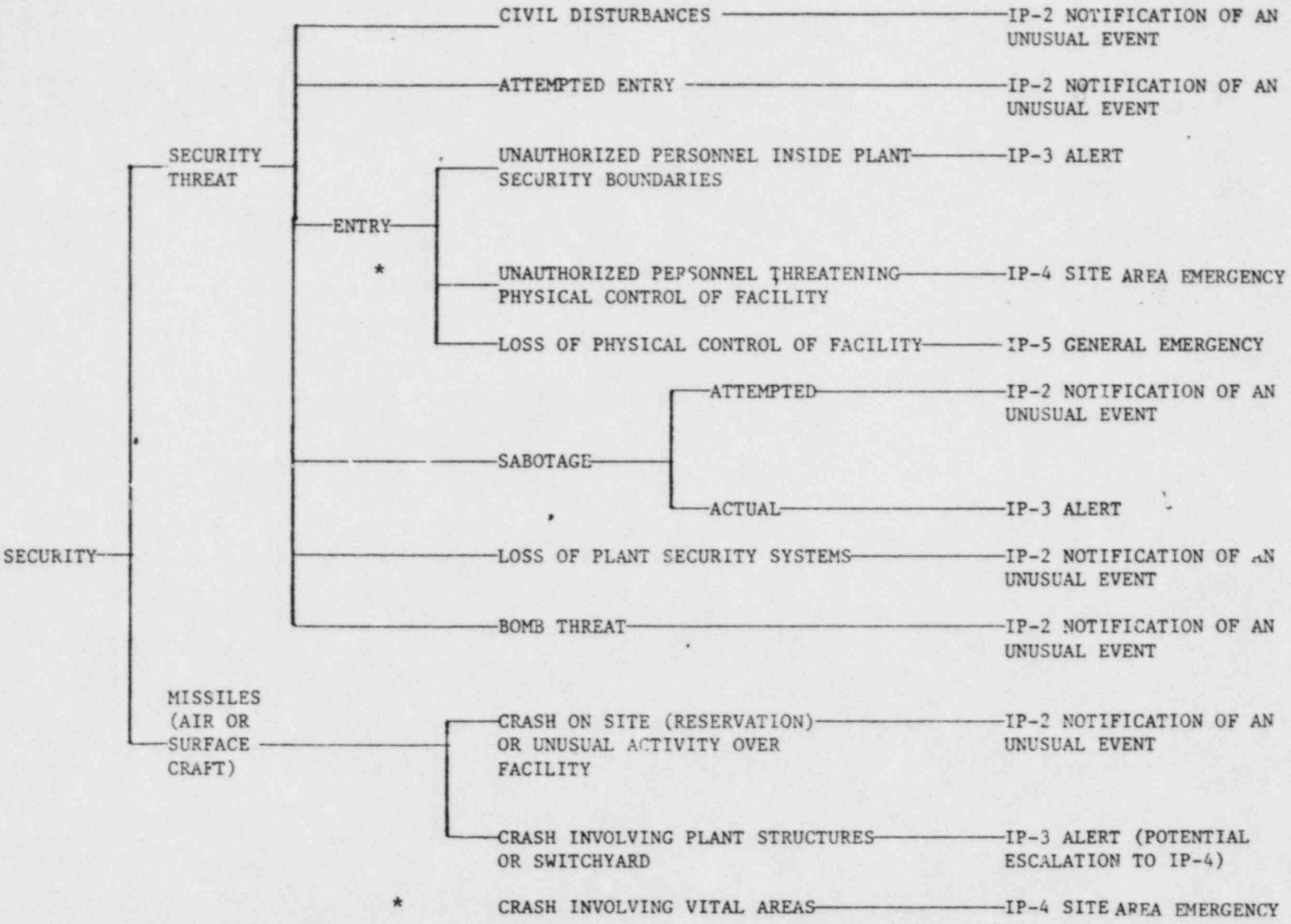
GASEOUS

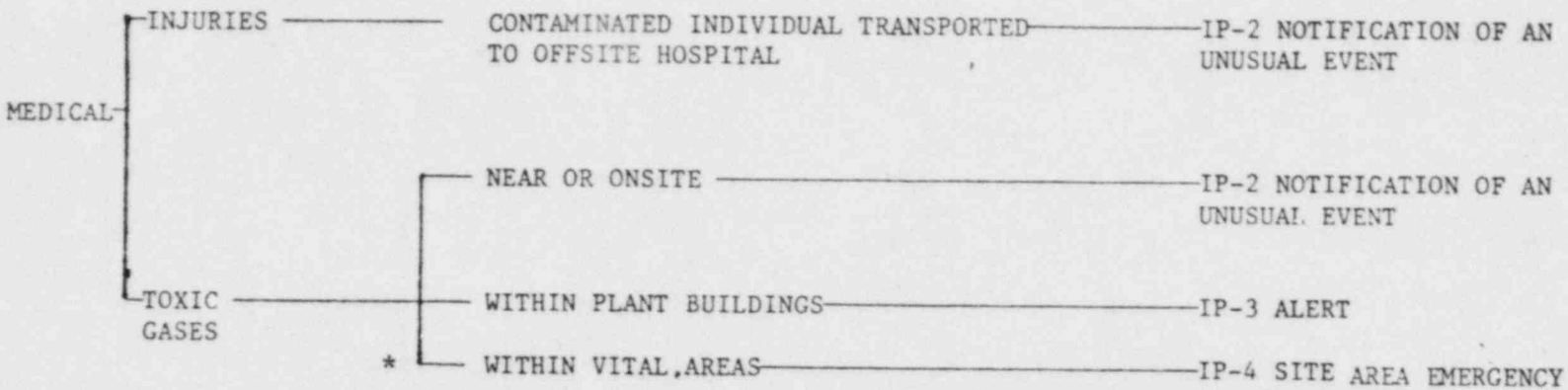
- EXCEEDING TECH SPECS ____ IP-2 NOTIFICATION OF AN UNUSUAL EVENT
- UNEXPLAINED ISOLATION OFF GAS SYSTEM DUE TO POST TREATMENT MONITOR (RR-90-265) ____ IP-2 NOTIFICATION OF UNUSUAL EVENT
- (1) STACK RELEASE RATE (>3.5 E+6 UCI/SEC) OR BUILDING RELEASE RATE (>1.2 E+4 UCI/SEC) (Corresponds to 2.5 mrem/hr thyroid from noble gas and iodine mix) ____ IP-3 ALERT
- * (1) STACK RELEASE RATE (>9.3 E+7 UCI/SEC) FOR 1/2 HOUR DURATION OR * BUILDING RELEASE RATE (>1.7 E+5 UCI/SEC) FOR 1/2 HOUR DURATION (Corresponds to 250 mrem/hr thyroid from from noble gas and iodine mix) ____ IP-4 SITE AREA EMERGENCY
- * (1) STACK RELEASE RATE (>9.3 E+8 UCI/SEC) FOR 2 MINUTE DURATION OR BUILDING RELEASE RATE (>1.7 x 10^6 UCI/SEC FOR 2 MINUTE DURATION -(Corresponds to 2500 mrem/hr thyroid from noble gas and iodine mix) ____ IP-4 SITE AREA EMERGENCY
- (1) STACK RELEASE RATE (>1.8 E+9 UCI/SEC) OR * BUILDING RELEASE RATE (>3.4 E+6 UCI/SEC) (Corresponds to 5000 mrem/hr thyroid from noble gas and iodine mix) ____ IP-5 GENERAL EMERGENCY

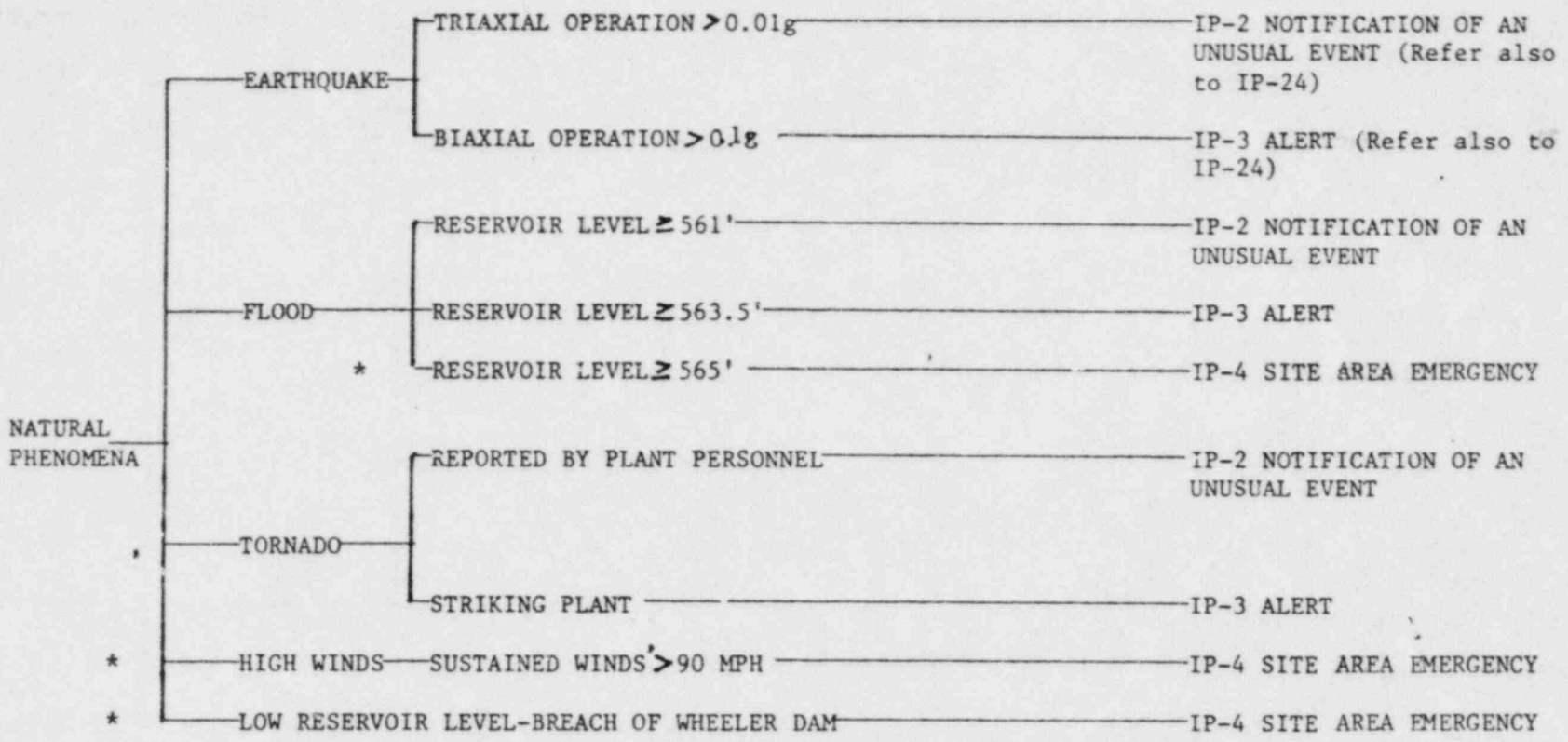
(1) Based on calculations from SI 4.8.B.1.a

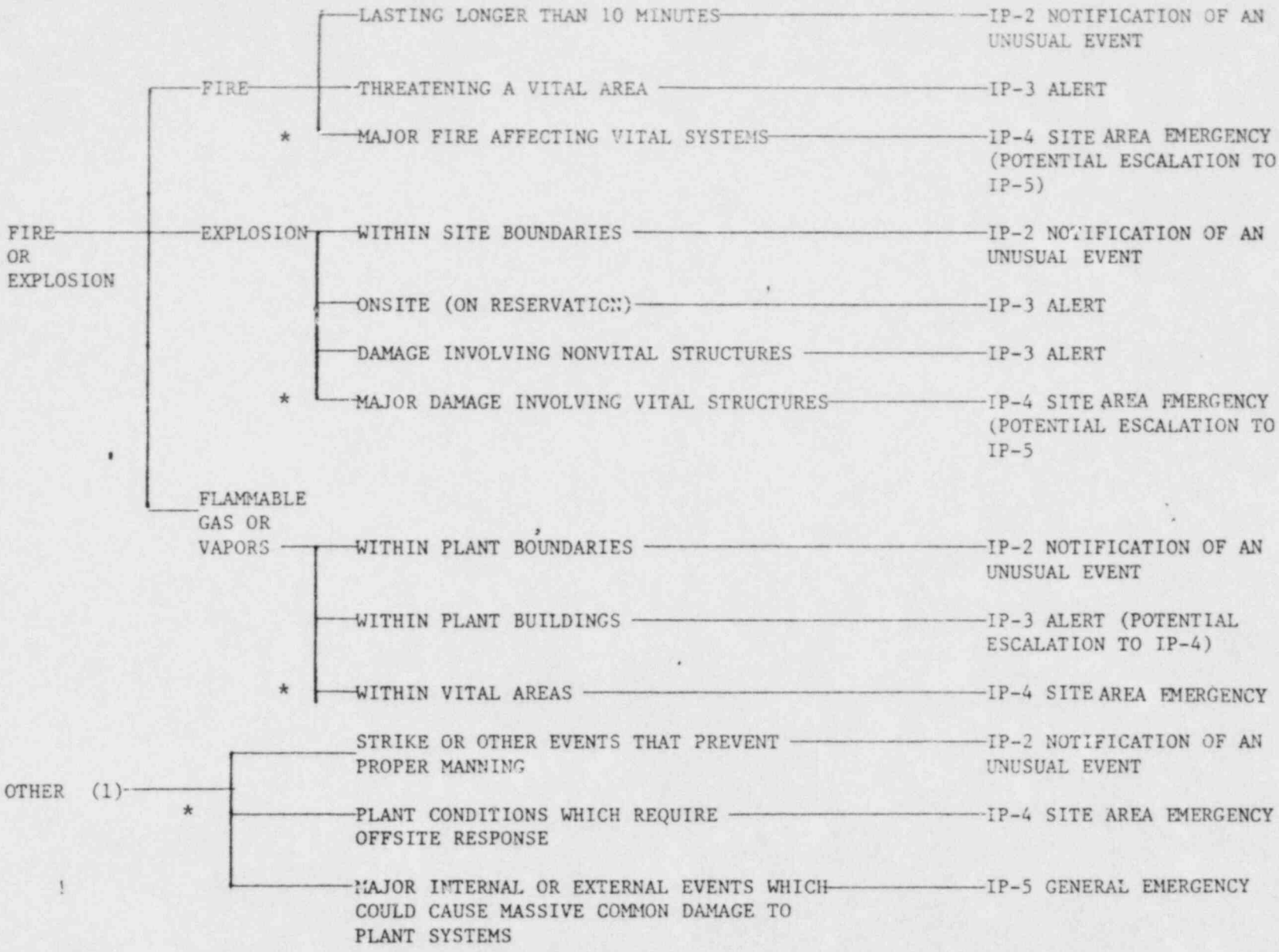


MPC_a + MPC for controlled area


SECURITY
SECURITY THREAT
CIVIL DISTURBANCES
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
ATTEMPTED ENTRY
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
ENTRY
UNAUTHORIZED PERSONNEL INSIDE PLANT SECURITY BOUNDARIES
IP-3 ALERT
*
UNAUTHORIZED PERSONNEL THREATENING PHYSICAL CONTROL OF FACILITY
IP-4 SITE AREA EMERGENCY
LOSS OF PHYSICAL CONTROL OF FACILITY
IP-5 GENERAL EMERGENCY
SABOTAGE
ATTEMPTED
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
ACTUAL
IP-3 ALERT
LOSS OF PLANT SECURITY SYSTEMS
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
BOMB THREAT
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
MISSILES (AIR OR SURFACE CRAFT)
CRASH ON SITE (RESERVATION) OR UNUSUAL ACTIVITY OVER FACILITY
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
CRASH INVOLVING PLANT STRUCTURES OR SWITCHYARD
IP-3 ALERT (POTENTIAL ESCALATION TO IP-4)
*
CRASH INVOLVING VITAL AREAS
IP-4 SITE AREA EMERGENCY


MEDICAL
INJURIES
CONTAMINATED INDIVIDUAL TRANSPORTED TO OFFSITE HOSPITAL
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
TOXIC GASES
NEAR OR ONSITE
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
WITHIN PLANT BUILDINGS
IP-3 ALERT
*
WITHIN VITAL AREAS
IP-4 SITE AREA EMERGENCY


NATURAL PHENOMENA
EARTHQUAKE
TRIAXIAL OPERATION > 0.01g
IP-2 NOTIFICATION OF AN UNUSUAL EVENT (Refer also to IP-24)
BIAXIAL OPERATION > 0.1g
IP-3 ALERT (Refer also to IP-24)
FLOOD
RESERVOIR LEVEL ≥ 561'
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
RESERVOIR LEVEL ≥ 563.5'
IP-3 ALERT
*
RESERVOIR LEVEL ≥ 565'
IP-4 SITE AREA EMERGENCY
TORNADO
REPORTED BY PLANT PERSONNEL
IP-2 NOTIFICATION OF AN UNUSUAL EVENT
STRIKING PLANT
IP-3 ALERT
*
HIGH WINDS
SUSTAINED WINDS > 90 MPH
IP-4 SITE AREA EMERGENCY
*
LOW RESERVOIR LEVEL-BREACH OF WHEELER DAM
IP-4 SITE AREA EMERGENCY



(1) These items are based on Site Emergency Director's professional judgement

C. The Shift Engineer or Shift Engineer's Clerk will notify the following individuals of the incident:

Contact the individual directly : the only message that should be left is for the individual to call the plant. Use PAX phone, home phone, plant paging system, or pocket pager as applicable. State that this is "NOTIFICATION OF UNUSUAL EVENT" and a brief description. The individual does not have to report to the plant.

(Initials)			
* _____	a.	Other Shift Engineer. (when assigned)	
_____	b.	Shift Technical Advisor	
_____	c.	Operations Section Supervisor	R. Hunkapillar Decatur
		OR	
_____		Operations Supervisor	Tommy Jordan Muscle Shoals
		OR	
_____		Operations Supervisor	A. Burnette Florence
_____		Plant Superintendent	G. T. Jones Decatur
		OR	
* _____		Assistant Plant Superintendent	E. R. Ennis Decatur
		OR	
_____		Assistant Plant Superintendent	J. R. Pittman Decatur
_____		Public Information Officer	R. C. Boyer Decatur

D. Notify the NRC by ring-down of plan activation. Specify NOTIFICATION OF UNUSUAL EVENT . Maintain an open line until released by NRC.

2.2 At least every two hours, or more frequently, if conditions warrant , the shift engineer will reevaluate the event using IP-1. The shift engineer on the unaffected unit(s) will handle additional communications.

a. If the situation no longer exists, inform the personnel notified in step 2.1.

b. If the condition warrants upgrading to a higher classification, initiate the appropriate procedure for the more serious conditions.

OCT 19 1982

g. Unusual release of radioactivity (yes or no).

h. Direction wind is coming from _____ and speed _____.

E. The Shift Engineer or Shift Engineer's Clerk will notify the following individuals of the incident.

Message: This is an ALERT. This is not a drill. Give a brief description.

* ___ ___ a. Other Shift Engineer (when assigned)
* ___ ___ b. Shift Technical Advisor,
___ ___ c. Chemical Laboratory, PAX

___ ___ F. The Shift Engineer's Clerk will notify the personnel listed in IP-6.

___ ___ G. Notify the NRC by ring-down phone of plan activation. Specify that this is an ALERT and a brief description. Maintain an open line until released by the NRC.

Note: NRC may send a response team to the site.

___ ___ *H. Time permitting, the Shift Engineer will implement operation of the TSC (Room 220), to include activation of Dimension telephones and placing required desks in hall in front of TSC

2.2 At least every two hours, or more frequently if conditions warrant, the Shift Engineer will reevaluate the event using IP-1.

___ ___ a. If the situation no longer exists or should be down graded, inform the personnel notified in step 2.1.

___ ___ b. If the condition warrants upgrading to a higher classification, initiate the appropriate procedure for the more serious conditions.

___ 2.3 Refer to Table 1 for a quick estimate of maximum offsite dose for a stack release, and Table 2 for a quick estimate of the site boundary dose for building release.

*Revision 11

OCT 19 1982

Table 1

Maximum Offsite Doses Corresponding to Noble Gas Release Rates (1) (2) through the Stack at BFN

	Noble Gas Release Rate (1) (uCi/s)	Maximum Offsite Thyroid Dose Rate (mrem/h)	Comments
	1×10^4	0.007	Average meteorology assumed. Maximum dose rate is at 17,000m.
	5×10^4	0.035	
	1×10^5	0.07	
	5×10^5	0.35	
	1×10^6	0.70	
	2×10^6	1.4	
	3.5×10^6	2.5	ALERT
	5×10^6	14.	Adverse meteorology assumed for this and larger releases Maximum dose rate at 8,000 m
	7×10^6	19.	
	1×10^7	27.	
	2×10^7	54.	
	4×10^7	110.	
	6×10^7	160.	
	8×10^7	220.	
*	9.3×10^7	250.	If expected to persist over 30 minutes-SITE AREA EMERGENC
(3)	1.4×10^8	380.	EMERGENCY
	1.6×10^8	430.	
	2.0×10^8	540.	
	2.5×10^8	680.	
	3.0×10^8	810.	
	5.0×10^8	1,400.	
*	7.0×10^8	1,900.	
	9.3×10^8	2,500.	If expected to persist over 2 minutes-SITE AREA EMERGENCY
	1.2×10^9	3,200.	
	1.5×10^9	4,100.	
	1.8×10^9	5,000.	GENERAL EMERGENCY
	2.0×10^9	5,400.	
	4.0×10^9	11,000.	
	6.0×10^9	16,000.	
	8.0×10^9	22,000.	
	1.0×10^{10}	27,000.	

(1) Release rates are equated to offsite dose rates assuming a noble gas and iodine mix. (Ref. Nov. 3, 1981 memorandum from M. D. Matheny to Radiological Hygiene Branch Files entitled "Relation of Radioactivity Rates to Emergency Classifications")

(2) Stack release rate (SRR) calculated as follows:
SRR = (RM 90-147) X (FI 90-271) X 2.93 E -3.

(3) Release rates larger than this cannot be measured by using stack monitors (instruments off-scale high). Request radiochemical laboratory personnel to use TI 67 to estimate release rates by measuring dose rates on SBGTs effluent ducts.

*Revision

Table 2

Site Boundary (1) Doses Corresponding to Noble Gas Release Rates (2) other than through the Stack at BFN

	Noble Gas Release Rate (2) (3) (uCi/s)	Site Boundary Thyroid Dose Rate (mrem/h)	Comments
	1×10^2	0.02	Average meteorology assumed
	5×10^2	0.11	
	1×10^3	0.22	
	5×10^3	1.1	
	1.2×10^4	2.5	ALERT
	2×10^4	30.	Adverse meteorology assumed for this and larger release
	4×10^4	60.	
	6×10^4	90.	
	1×10^5	150.	
*	1.7×10^5	250.	If expected to persist over 30 minutes-SITE AREA EMERGENCY
	4×10^5	600.	
	6×10^5	900.	
	1×10^6	1,500.	
*	1.7×10^6	2,500.	If expected to persist over 2 minutes-SITE AREA EMERGENCY
	2×10^6	3,000.	
	3×10^6	4,500.	
	3.4×10^6	5,000.	GENERAL EMERGENCY
	4×10^6	6,000.	
	5×10^6	7,500.	
	6×10^6	9,000.	
	8×10^6	12,000.	
	1×10^7	15,000.	
	2×10^7	30,000.	
	4×10^7	60,000.	
	6×10^7	90,000.	
	1×10^8	150,000.	

(1) These values are for a ground level location at a distance of 1,000 meters.

(2) Release rates are equated to off-site dose rates assuming a noble gas and iodine mix

(Ref. November 3, 1981 memorandum from M. D. Matheny to Radiological Hygiene Branch Files entitled "Relation of Radioactivity Rates to Emergency Classifications"). Either estimates of off-site dose rates will be provided by MSEC.

(3) Release rate calculated from building (reactor, turbine, radwaste) CAMs in accordance with SI 4.8.B.1.a.

* Revision

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT

RADIOLOGICAL EMERGENCY PLAN

* SITE AREA EMERGENCY
BFN, 1P-4

Approved: _____
Plant Superintendent

Date: OCT 19 1982

General Revision

* SITE AREA EMERGENCY

1.0 PURPOSE

1.1 To provide a method for timely notification of appropriate individuals when the shift engineer had determined by IP-1 that an incident has occurred which is classified as a SITE AREA EMERGENCY.

1.2 To provide a method for periodic reanalysis of the currect situation to determine whether the SITE AREA EMERGENCY action should be cancelled, continued, upgraded, or downgraded to another classification.

2.0 INSTRUCTIONS

2.1 Upon determining by IP-1 that a SITE AREA EMERGENCY exists:

The shift engineer will:

Initials	Time	
		A. Have the shift engineer's clerk notify the Public Safety Shift Supervisor, state that this is a "SITE AREA EMERGENCY" and direct him to activate the following procedures:
		a. IP-11, Security and Access Control.
		b. IP-7, Activation of the Operations Support Center.
		c. If any personnel are injured, initiate IP-10, Medical Emergency Procedures.
		B. Have the shift engineer's clerk notify the Health Physics Shift Supervisor, state this is a "SITE AREA EMERGENCY" and direct him to activate the following procedure: IP-14, Health Physics Procedure.
		C. Evaluate plant conditions, and, if conditions warrant, initiate either or both IP-8 or IP-9 (activate emergency sirens for personnel assembly).
		D. Notify the Operations Duty Specialist by direct dimension-phone 40-200, alternate-Chattanooga 50-0200 and state the following:
		a. Your name.
		b. Browns Ferry Nuclear Plant.
		c. SITE AREA EMERGENCY
		d. Time of incident.
		e. Brief description of incident.
		f. Plant condition (whether stable or deteriorating).

g. Unusual release of radioactivity (yes or no)

h. Direction wind is coming from _____ and speed ____/

E. The Shift Engineer or Shift Engineer's Clerk will notify the following individuals of the incident.

* Message: "This is a SITE AREA EMERGENCY, this is not a drill." Give a brief description.

*___ ___ a. Other Shift Engineer. (when assigned)

___ ___ b. Shift Technical Advisor, PAX

*___ ___ c. Chemical laboratory, PAX

___ ___ F. The Shift Engineer's clerk will notify the personnel listed in IP-6.

___ ___ G. Notify the NRC by ring-down phone of plan activation. Specifiy this is a SITE AREA EMERGENCY and a brief description. Maintain an open line until released by the NRC.

Note: NRC should arrive onsite in approximately 3 hours.

H. Time permitting, the Shift Engineer will implement operation of the TSC (IP-20), to include activation of Dimension telephones and placing required desks in hall in front of TSC.

2.2. At least every two hours, or more frequently if conditions warrant, the Shift Engineer will reevaluate the event using IP-1.

a. If the situation no longer exists or should be downgraded, inform the personnel notified in step 2.1.

b. If the condition warrants upgrading to a higher classification, initiate the appropriate procedure for the more serious conditions.

* NOTE: Precautionary site evacuation should be considered.

2.3 Refer to Table 1 for a quick estimate of maximum offsite dose for a stack release, and Table 2 for a quick estimate of the site boundary dose for a building release.

Table 1

Maximum Offsite Doses Corresponding to Noble Gas Release Rates (1) (2) through the Stack at BFN

	Noble Gas Release Rate (1) (uCi/s)	Maximum Offsite Thyroid Dose Rate (mrem/h)	Comments
	1×10^4	0.007	Average meteorology assumed. Maximum dose rate is at 10,000m.
	5×10^4	0.035	
	1×10^5	0.07	
	5×10^5	0.35	
	1×10^6	0.70	
	2×10^6	1.4	
	3.5×10^6	2.5	ALERT
	5×10^6	14.	Adverse meteorology assumed for this and larger release Maximum dose rate at 8,000
	7×10^6	19.	
	1×10^7	27.	
	2×10^7	54.	
	4×10^7	110.	
	6×10^7	160.	
	8×10^7	220.	
	9.3×10^7	250.	If expected to persist over 30 minutes-SITE AREA EMERGENC
* (3)	1.4×10^8	380.	
	1.6×10^8	430.	
	2.0×10^8	540.	
	2.5×10^8	680.	
	3.0×10^8	810.	
	5.0×10^8	1,400.	
	7.0×10^8	1,900.	
*	9.3×10^8	2,500	If expected to persist over 2 minutes-SITE AREA EMERGENCY
	1.2×10^9	3,200.	
	1.5×10^9	4,100.	
	1.8×10^9	5,000.	GENERAL EMERGENCY
	2.0×10^9	5,400.	
	4.0×10^9	11,000.	
	6.0×10^9	16,000.	
	8.0×10^9	22,000.	
	1.0×10^{10}	27,000.	

(1) Release rates are equated to offsite dose rates assuming a noble gas and iodine mix. (Ref. Nov. 3, 1981 memorandum from M. D. Matheny to Radiological Hygiene Branch Files entitled "Relation of Radioactivity Rates to Emergency Classifications")

(2) Stack release rate (SRR) calculated as follows:
SRR = (RM 90-147)X(FI 90-271)X2.93 E -3.

(3) Release rates larger than this cannot be measured by using stack monitors (instruments off-scale high). Request radiochemical laboratory personnel to use TI 67 to estimate release rates by measuring dose rates on SBGTs effluent ducts.

Table 2

Site Boundary (1) Doses Corresponding to Noble Gas Release Rates (2) other than through the Stack at BFN

	Noble Gas Release Rate (2) (3) (uCi/s)	Site Boundary Thyroid Dose Rate (mrem/h)	Comments
	1 X 10^2	0.02	Average meteorology assumed.
	5 X 10^2	0.11	
	1 X 10^3	0.22	
	5 X 10^3	1.1	
	1.2 X 10^4	2.5	ALERT
	2 X 10^4	30.	Adverse meteorology assumed
	4 X 10^4	60.	for this and larger releases
	6 X 10^4	90.	
	1 X 10^5	150.	
*	1.7 X 10^5	250.	If expected to persist over
	4 X 10^5	600.	30 minutes-SITE AREA EMERGEN
	6 X 10^5	900.	
	1 X 10^6	1,500.	
*	1.7 X 10^6	2,500.	If expected to persist over
	2 X 10^6	3,000.	2 minutes-SITE AREA EMERGENC
	3 X 10^6	4,500.	
	3.4 X 10^6	5,000.	GENERAL EMERGENCY
	4 X 10^6	6,000.	
	5 X 10^6	7,500.	
	6 X 10^6	9,000.	
	8 X 10^6	12,000.	
	1 X 10^7	15,000.	
	2 X 10^7	30,000.	
	4 X 10^7	60,000.	
	6 X 10^7	90,000.	
	1 X 10^8	150,000.	

(1) These values are for a ground level location at a distance of 1,000 meters.

(2) Release rates are equated to off-site dose rates assuming a noble gas and iodine mix (Ref. November 3, 1981 memorandum from M. D. Matheny to Radiological Hygiene Branch Files entitled "Relation of Radioactivity Rates to Emergency Classifications"). Either * estimates of off-site dose rates will be provided by MSEC.

(3) Release rate calculated from building (reactor, turbine, radwaste) CAMs in accordance with SI 4.8.B.1.a.

OCT 19 1982

f. Plant condition (whether stable or deteriorating).

g. Unusual release of radioactivity (yes or no).

h. Direction wind is coming from _____and speed _____.

i. Recommended initial protective actions for the public: (Activate the warning systems and advise the public to take shelter, tune radio or TV to a local station, and await further instructions.)

E. The Shift Engineer or Shift Engineer's Clerk will notify the following individuals of the incident.

Message: This is a GENERAL EMERGERNCY. This is not a drill. Give a brief description.

* a. Other Shift Engineer. (when assigned)

b. Shift Technical Advisor, PAX

c. Chemical Laboratory, PAX

F. The Shift Engineer's Clerk will notify the people listed in IP-6

G. Notify the NRC by ring-down phone of plan activation. Specify that this is a GENERAL EMERGENCY and a brief description. Maintain an open line until released by the NRC.

H. Time permitting, the Shift Engineer will implement operation of the TSC (IP-20), to include activation of Dimension telephones and placing required desks in hall in front of the TSC.

Note: NRC should arrive onsite in approximately 3 hours.

2.2 At least every two hours, or more frequently if conditions warrant, the Shift Engineer will reevaluate the event using IP-1. The Shift Engineer on the unaffected unit(s) will handle additional communications.

a. If the situation no longer exists or should be downgraded, inform the personnel notified in step 2.1.

NOTE: Site evacuation is probable under these conditions.

2.3 Refer to Table 1 for a quick estimate of maximum offsite dose for a stack release, and Table 2 for a quick estimate of the site boundary dose for building release.

*Revision MJ

OCT 19 1982

Table 1

Maximum Offsite Doses Corresponding to Noble Gas Release Rates (1) (2) through the Stack at BFN

	Noble Gas Release Rate (1) (uCi/s)	Maximum Offsite Thyroid Dose Rate (mrem/h)	Comments
	1×10^4	0.007	Average meteorology assumed. Maximum dose rate is at 10,000m.
	5×10^4	0.035	
	1×10^5	0.07	
	5×10^5	0.35	
	1×10^6	0.70	
	2×10^6	1.4	
	3.5×10^6	2.5	ALERT
	5×10^6	14.	Adverse meteorology assumed for this and larger release
	7×10^6	19.	
	1×10^7	27.	Maximum dose rate at 8,000
	2×10^7	54.	
	4×10^7	110.	
	6×10^7	160.	
	8×10^7	220.	
	9.3×10^7	250.	
*	1.4×10^8 (3)	380.	If expected to persist over 30 minutes-SITE AREA EMERGENC
	1.6×10^8	430.	
	2.0×10^8	540.	
	2.5×10^8	680.	
	3.0×10^8	810.	
	5.0×10^8	1,400.	
	7.0×10^8	1,900.	
	9.3×10^8	2,500.	
*	1.2×10^9	3,200.	If expected to persist over 2 minutes-SITE AREA EMERGENCY
	1.5×10^9	4,100.	
	1.8×10^9	5,000.	GENERAL EMERGENCY
	2.0×10^9	5,400.	
	4.0×10^9	11,000.	
	6.0×10^9	16,000.	
	8.0×10^9	22,000.	
	1.0×10^{10}	27,000.	

(1) Release rates are equated to offsite dose rates assuming a noble gas and iodine mix. (Ref. Nov. 3, 1981 memorandum from M. D. Matheny to Radiological Hygiene Branch Files entitled "Relation of Radioactivity Rates to Emergency Classifications")

(2) Stack release rate (SRR) calculated as follows:
SRR = (RM 90-147) X (FI 90-271) X 2.93 E -3.

(3) Release rates larger than this cannot be measured by using stack monitors (instruments off-scale high). Request radiochemical laboratory personnel to use TI 67 to estimate release rates by measuring dose rates on SBGTs effluent ducts.

* Revision M

OCT 19 198?

Table 2

Site Boundary (1) Doses Corresponding to Noble Gas Release Rates (2) other than through the Stack at BFN

Noble Gas Release Rate (2) (3) (uCi/s)	Site Boundary Thyroid Dose Rate (mrem/h)	Comments
1×10^2	0.02	Average meteorology assumed
5×10^2	0.11	
1×10^3	0.22	
5×10^3	1.1	
1.2×10^4	2.5	ALERT
2×10^4	30.	Adverse meteorology assumed for this and larger release
4×10^4	60.	
6×10^4	90.	
1×10^5	150.	
* 1.7×10^5	250.	If expected to persist over 30 minutes-SITE AREA EMERGEN
4×10^5	600.	
6×10^5	900.	
1×10^6	1,500.	
* 1.7×10^6	2,500.	If expected to persist over 2 minutes-SITE AREA EMERGENCY
2×10^6	3,000.	
3×10^6	4,500.	
3.4×10^6	5,000.	GENERAL EMERGENCY
4×10^6	6,000.	
5×10^6	7,500.	
6×10^6	9,000.	
8×10^6	12,000.	
1×10^7	15,000.	
2×10^7	30,000.	
4×10^7	60,000.	
6×10^7	90,000.	
1×10^8	150,000.	

(1) These values are for a ground level location at a distance of 1,000 meters.

(2) Release rates are equated to off-site dose rates assuming a noble gas and iodine mix

(Ref. November 3, 1981 memorandum from M. D. Matheny to Radiological Hygiene Branch Files entitled "Relation of Radioactivity Rates to Emergency Classifications"). Either estimates of off-site dose rates will be provided by MSECC.

(3) Release rate calculated from building (reactor, turbine, radwaste) CAMs in accordance with SI 4.8.B.1.a.

OCT 19 1982

TSC COMMUNICATOR (Contact 1)

INITIAL	TIME CONTACTED		PAX	DIMENSION	HOME
_____	_____	Bob Metke			Athens
_____	_____	Dwight Mims			Decatur
_____	_____	R. McPherson			Decatur

REP COORDINATOR/COMMUNICATOR (Contact 1)

_____	_____	Terry Chinn			Athens
_____	_____	Bill Roberts			Athens
_____	_____	Carrol Rozear			Decatur

PUBLIC SAFETY SERVICE SUPERVISOR (Contact 1)

_____	_____	Ralph Jackson			Killen
_____	_____	James Brazell			Athens
_____	_____	Glenn Lard			Florence

NRC COORDINATOR (Contact 1)

* _____	_____	Bob Smith			Decatur
_____	_____	Bill Roberts			Athens
_____	_____	Carrol Rozear			Decatur

HEALTH PHYSICS (Contact 1)

_____	_____	Allen Sorrell			Florence
_____	_____	Ed Cargill			Athens
_____	_____	Wayne Simpkins			Athens

RADIOCHEMICAL ENGINEER (Contact 1)

_____	_____	Bill Thomison			Decatur
_____	_____	Ausie Clement			Athens
_____	_____	Weaver Burton			Decatur

*Revision M1

OCT 19 1982

ATTACHMENT 1

Contact one or more (as noted below) from each category by name . Do not leave a message. Inform each person contacted of the position he was contacted to fill.

MESSAGE: "We have a/an (ALERT) (SITE AREA EMERGENCY) (GENERAL EMERGENCY) condition existing at the plant. This is not a drill. Please report to the Technical Support Center immediately.

SITE EMERGENCY DIRECTOR (Contact 1)

INITIAL	TIME CONTACTED		PAX	DIMENSION	HOME
_____	_____	George Jones			Decatur
_____	_____	John Pittman			Decatur
_____	_____	Eddie Ennis			Decatur
_____	_____	Ray Hunkpillar			Decatur

OPERATION MANAGER (Contact 1)

_____	_____	Ray Hunkpillar			Decatur
_____	_____	Tommy Jordan			Muscle Shoals
_____	_____	A. L. Burnette			Florence

TECHNICAL ASSESSMENT MANAGER (Contact 1)

_____	_____	Terry Chinn			Athens
_____	_____	Bill Thomison			Decatur
_____	_____	Bob Metke			Athens

MAINTENANCE MANAGER (Contact 1)

_____	_____	John Pittman			Decatur
_____	_____	Jim Swindell			Decatur

*Revision

OCT 19 1982

MECHANICAL ENGINEER (Contact 1)

INITIAL	TIME CONTACTED		PAX	DIMENSION	HOME
_____	_____	Tink Haney			Athens
_____	_____	Dwight Mims			Decatur
_____	_____	R. McPherson			Decatur

ELECTRICAL ENGINEER (Contact 1)

_____	_____	D. Thompson			Athens
_____	_____	Wayne Percle			Decatur
_____	_____	Stan Solley			Rogersville

INSTRUMENT & CONTROLS ENGINEER (Contact 1)

_____	_____	Ron Burns			Decatur
_____	_____	Gary Shanker			Woodville
_____	_____	Bob Irby			Pulaski, TN

REACTOR ENGINEER (Contact 1)

_____	_____	Earl Nave			Huntsville

(Backup provided by shift technical advisor)

PSO ENGINEER (Contact 1)

_____	_____	Leonard Bynum			Huntsville
_____	_____	Lee Haygood			Kilen

SECRETARY (Contact 3)

_____	_____	G. Harrison			Athens
_____	_____	C. McChristian			Athens
* _____	_____	Betty Riley			Athens
_____	_____	Brenda Owens			Athens
_____	_____	Cindy Carlisle			Huntsville

PUBLIC INFORMATION OFFICER

_____	_____	Bob Boyer			Decatur

*Revision MH

OCT 19 1982

OPERATIONS SPECIALIST (Contact 1)

INITIAL	TIME CONTACTED		PAX	DIMENSION	HOME
_____	_____	S. Burnette			Florence
_____	_____	Tommy Jordan			Muscle Shoals
_____	_____	Roy Smallwood			Killen

NSSS SITE ENGINEER (Contact 1)

_____	_____	Vacant			

COMPUTER SPECIALIST (Contact 1)

_____	_____	Dan Phillips			Huntsville
_____	_____	Larry Johnson			Athens
_____	_____	Russ McNutt			Athens

*Revision _____

OCT 19 1982

ATTACHMENT 1

Request each person by name by stating "Browns Ferry calling (name)" and indicate the time each person was contacted in the left margin.

* Message: "We have a/an (ALERT) (SITE AREA EMERGENCY) (GENERAL EMERGENCY) condition exsisting at the plant. Please report to the Operations Support Center immediately.

Initials	Time Contacted	Name	PAX	DIM	HOME
*		INSTRUMENT MAINTENANCE (CONTACT 3)			
_____	_____	Alton McCaleb			Athens
_____	_____	Gene Hartsfield			Athens
_____	_____	J. D. Thompson			Decatu
_____	_____	Guy Thompson			Decatur
_____	_____	Keh Montgomery			Rogersville
_____	_____	Ron Turberville			Athens
*		ELECTRICAL MAINTENANCE (CONTACT 4)			
_____	_____	Mike Jackson			Athens
_____	_____	John Killen			Florence
_____	_____	Julian Bass			Rogersville
_____	_____	Pete McLemore			Rogersville
_____	_____	Billy Thompkins			Tuscumbia
_____	_____	Jim Fowler			Lexington
_____	_____	Jim Thompson			Decatur

*Revision M

Initials	Time Contacted	Name	PAX	DIM	HOME
		* MECHANICAL MAINTENANCE (CONTACT 4)			
_____	_____	John Whitt			Athens
_____	_____	Carlos Jones			Athens
_____	_____	Bobby Laurence			Lexington
_____	_____	John Beck			Town Creek
_____	_____	Tom Marshall			Hartselle
_____	_____	Charles Wages			Sheffield
_____	_____	Jimmy Walker			Athens

*Addendum

2.1.2.2 Operators

If outside the control room, secure the operation in which they are engaged and proceed to the control room for further instructions and accountability. If within the control room, remain there for instructions and accountability. Each assistant shift engineer will account for operating personnel assigned to his unit and report to the shift engineer. The shift engineer will forward these listings to the Site Emergency Director.

2.1.2.3 Health Physics Technicians

Proceed to the Health Physics lab (if habitable) and make an accountability report to the Site Emergency Director, and standby for instructions. If the HP lab is uninhabitable, proceed to the backup HP center in the unit 3 mechanical equipment room, control bay, elevation 617, and report to the shift engineer or the Site Emergency Director and standby for instrumentation.

2.1.2.4 Public Safety Service Employees

Man assigned post until instructed otherwise by the Public Safety Service shift supervisor. The PSS shift supervisor, after consultation with the Site Emergency Director, will assign PSS officers at strategic locations, as needed, compatible with IP-11, Security Access Control. The Public Safety Service shift supervisor will notify construction of the evacuation using attachment 1.

2.1.2.5 All Persons Within Plant Controlled Areas

If he deems it necessary, or if radiation levels would cause a radiation exposure of 100 mrem in unrestricted areas, or if airborne radioactivity is in excess of MPC for uncontrolled areas, the Site Emergency Director, using the public address systems and siren, will order evacuation to the west and east employee parking lots adjacent to the front and rear portals for accountability and additional instructions. If radiological conditions are such that one parking lot is unsuitable for an assembly area, the other lot will act as a backup. Personnel would then exit through their normal gatehouse but then proceed to the other parking lot.

* All plant employees (except those assigned emergency duties) and visitors will proceed to the parking lot adjacent to the front portal for accountability and further instructions. During off shifts, the emergency director appoints and dispatches an accounting officer to this location.

*Revision 11

Field services personnel, construction services personnel within the protected area, and all others who entered through the east portal will proceed to the parking lot adjacent to the east portal for accountability and further instructions.

*Addendum

Health Physics checkpoints coincident with the PSS access control point for survey prior to being released. If radiation levels at both employee parking lots are unsafe for occupancy, the assembly point will be moved to a location specified by the Site Emergency Director. Instructions will be given by the Site Emergency Director, based on local radiation and contamination conditions. He may recall evacuated people as needed.

2.1.2.6 DIVISION OF CONSTRUCTION

Refer to IP-9. Notification will be made by Public Safety as described in 2.1.2.4.

2.1.2.7 CONTAMINATED INDIVIDUALS

* Contaminated individuals will be evacuated to the Wilson Hydro Plant utility building. The Site Emergency Director will notify the CEC Director and provide for transportation, sheltering, and

* decontamination through the CEC Director. The Site Emergency Director will recall individuals through the CEC Director.

2.1.3 VISITORS OUTSIDE PLANT CONTROLLED AREAS

Upon hearing the emergency siren, the Public Safety Officer on duty at the gate will lock all gates to ensure controlled entrance and exit. Using the Public Safety Service radio system, he will summon additional Public Safety officers to assist in evacuation of all visitors from TVA land and adjacent water areas outside the fenced area. He will then assemble all nonescorted visitors in the designated area in the parking lot and account for them to the Site Emergency Director. Visitor's names and addresses will be recorded and they will be escorted to the main gate, where Health Physics personnel will check all people and vehicles for contamination prior to their release. Affected areas of Wheeler Lake will be evacuated by the Alabama Division of Water Safety, as defined in that section of the State Plan, through the Division Emergency Director.

If only a particular area is cleared, the Public Safety officers will restrict entry to nonescorted visitors and request any who may be in the office area to leave.

2.1.4 PLANT REENTRY

As soon as possible after personnel evacuation has been accomplished, procedures will be initiated to restore the plant to normal conditions. Complete radiation and contamination surveys wil be made prior to plant personnel reentering evacuated areas.

The Site Emergency Director will authorize reentry only when he is assured that the emergency has been controlled and reentry is safe.

*Revision MJ

OCT 19 1982

SECURITY AND ACCESS CONTROL

1.0 PURPOSE

1.1 To provide a method for implementation of a predetermined security and access control plan for a plant emergency as declared by the shift engineer.

2.0 INSTRUCTIONS

On notification of a plant emergency by the shift engineer, the shift engineer's clerk or by the undulating siren, the PSS shift supervisor will initiate the following steps:

2.1 Report immediately to the Central Alarm Station. He will take charge of the assignments to the PSS personnel, supervise accountability procedures and maintain communications with all onsite PSS personnel

* 2.2 If it is a SITE AREA EMERGENCY or GENERAL EMERGENCY, or at the request of the Site Emergency Director, close all site access control points which control personnel entering or leaving the site. No personnel except those preauthorized by identification card or authorized by the Site Emergency Director will be allowed to enter. No personnel except those who have (1) been authorized by the Site Emergency Director, (2) accounted for by PSS, and (3) monitored by HP will be allowed to leave the site.

2.3 Notify the PSS unit supervisor of the emergency condition.

2.4 Dispatch officers to secure all exterior doors into the plant and all gates on the reservation.

* 2.5 If it is an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY, or at the request of the Site Emergency Director, dispatch access control officers to the entrance of control rooms. These officers will deny access to the control room of all personnel without the required picture badge with solid red bar at the bottom of the badge. The Site Emergency Director can give authorization for other persons to enter the control rooms, if required.

2.6 Assign available officers to access portals, east and west. These officers will survey the employees badge, accountability card racks, and visitor log. These officers will then make an accountability by badge number of all personnel in the plant that entered these access portals. This list will then be taken to and compared with the Site Emergency Director's assembly area accountability list.

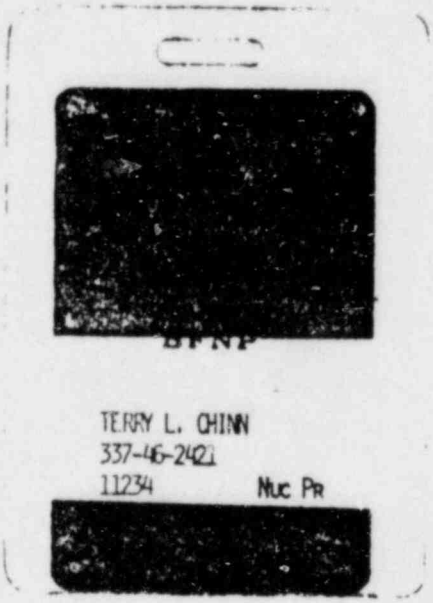
* 2.7 At the direction of the Site Emergency Director, the PSS shift supervisor will assign PSS officers to strategic locations, as needed, and will remain there until the emergency is over.

* 2.8 Periodic radio or phone checks shall be made to the PSS shift supervisor or his designee, by all post assigned officers.

* 2.9 At the end of the emergency, PSS will be relieved from the emergency duties by the Site Emergency Director or the PSS supervisor by radio. At this time, Public Safety officers will resume their normal duties.

Below is an example of picture badge authorized for access to the control room during an emergency.

*

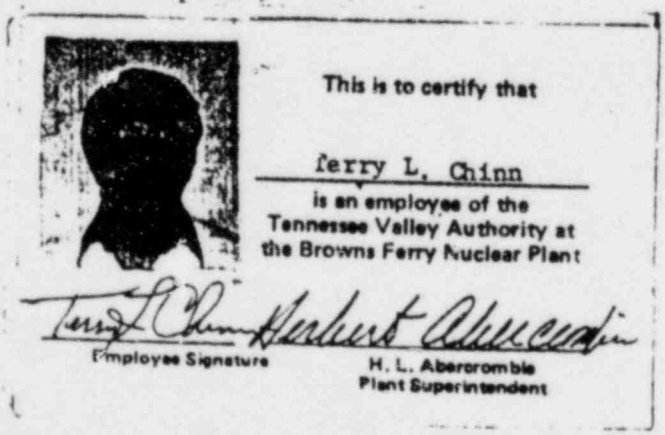


Person's picture with red background

Red bar

Below is an example of I.D. card authorized to gain access onsite during emergencies. They will be required to be shown to Public Safety officers at predetermined locations. (Example: County road, access road to plant, etc.)

*



Revision 2

OCT 19 1982

HEALTH PHYSICS PROCEDURES

1.0 PURPOSE

This procedure outlines the actions to be followed by Health Physics personnel during a plant emergency.

2.0 GENERAL

2.1 The magnitude of the response by health physics is dependent on the type of emergency existing. This can range from no response at all to a total manpower mobilization.

2.2 It is possible that for a given emergency no radiological problems will be encountered. Natural phenomena, security threats, or other events not involving radiation could be the cause for the emergency alert. This procedure describes those HP actions required during an emergency involving radiological problems.

2.3 NOTE: Shift Engineer's clerk will initiate IP-14 by calling the Health Physics Shift Supervisor (PAX
(Initials) _____ notifying the Shift Supervisor that there is an NOTIFICATION OF USUSUAL EVENT, ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY and that health physics is to initiate IP-14.

3.0 NOTIFICATION OF UNUSUAL EVENT

3.1 No offsite radiological problems are postulated during a NOTIFICATION OF UNUSUAL EVENT. Transportation of a contaminated injured individual to a hospital, a fire lasting more than 10 minutes, or if radiological effluent technical specifications are exceeded are all examples of an unusual event.

3.2 These events require a certain notification to be made to an offsite agency. These events will not have any major impact on the health physics unit.

3.3 It shall be noted that in many cases Health Physics will not even know that a NOTIFICATION OF UNUSUAL EVENT occurred. Notification is made when health physics response is required.

3.4 Health physics will follow standard practices and procedures during any response work.

4.0 ALERT

4.1 A limited release is possible during an alert situation. Onsite emergency teams may be activated and offsite agencies contacted. Severe loss of fuel cladding, or high radiation levels (e.g.,

*Revision A

OCT 19 1982

increase of factor of 1000 in direct radiation readings) are examples of an ALERT situation.

4.2 All health physics technicians should report to the HP lab unless directed otherwise by the Site Emergency Director. Upon activation of the TSC and OSC, the following equipment will be carried to each center by the health physics section: 1 Ion chamber survey instrument.

Health physics personnel will periodically survey the TSC and OSC. A health physics technician will accompany any personnel dispatched into areas of potential hazard.

4.3 It should be noted that an ALERT situation may require the evacuation of a certain plant area and/or building. Health physics will ensure that these areas are properly posted and that arrangements are made with public safety to restrict all unauthorized access to the affected area(s).

4.4 Health physics personnel will assist in the development of all recovery plans as necessary. Recommendations will be made to keep exposures as low as reasonably achievable and to recommend and approve any cleanup activites.

4.5 Health physics technicians will survey all vehicles and personnel with RM-14 friskers and smear techniques prior to release from the site.

5.0 SITE AREA EMERGENCY

* 5.1 During a SITE AREA EMERGENCY there may be releases to the environment requiring health physics response. A degraded core, or a large object dropped onto the spent fuel storage area are examples of a site area emergency situation. Initial offsite environmental assessment will be conducted per HPSIL 56.

* 5.2 A SITE AREA EMERGENCY may require the evacuation of a plant building and/or buildings.

5.3 Personnel will be called to assemble for accountability as described in IP-8 and IP-9. Health physics personnel shall secure work in a safe manner and proceed to the health physics laboratory if habitable. If not, go to the mechanical equipment room in the control bay, elevation 617, unit 3. Upon activation of the TSC and OSC, the following equipment will be carried to each center by the health physics section: 1 Ion chamber survey instrument.

Health physics personnel will periodically survey the TSC and OSC. A health physics technician will accompany any personnel dispatched into areas of potential hazard.

5.4 An accountability report will be made to the Site Emergency

*Revision A11

Director. At this time, information should be gathered describing the emergency situation and health physics representatives should be sent to the assembly areas to determine if any workers were in the affected plant areas at the time of the event. These people should be separated from other plant workers and personnel contamination surveys initiated for all personnel.

5.5 As reports become available regarding the details of the emergency, health physics personnel shall prepare all necessary equipment needed during recovery and ready a survey team(s) for entry into the affected area(s).

5.6 Upon notification from the Site Emergency Director, the survey team may proceed to the specified area. It should be noted that depending on the type of accident, this initial survey may be performed within hours or days or perhaps even longer. In this event, procedures may be developed describing the reentry steps to be followed. Other essential personnel may be required to assist in reentry surveys.

5.7 A site boundary survey may be required. This survey should not be done without prior consultation with, and approval of the Site Emergency Director.

5.8 The emergency van will be utilized during site boundary surveys. The van is already equipped with numerous supplies; however, the equipment listed in attachment 1 should be transported to the van.

5.9 When instructed to do so, travel to the site boundary in the down wind direction and measure the dose rate with an ionizaton chamber or similar survey instrument. If possible, air sampling should also be performed at the same time.

5.10 Precautions must be taken to prevent overexposure if there are high concentrations of radioactive particulates or radioiodine being released.

5.11 Record all survey results. All findings shall be reported to the emergency control center. If results indicate offsite contamination, the survey may need to be extended. Obtain further instructions and perform required surveillance.

5.12 Arrangements have been made for manpower support and equipment for offsite surveys for Muscle Shoals.

5.13 A monitoring station will be set up at the site access control points established by Public Safety Service personnel for the purpose of surveying equipment and personnel leaving the site. Health physics technicians will survey all vehicles and personnel with RM-14 friskers and smear techniques prior to release.

*Revision 11

OCT 19 1982

6.0 GENERAL EMERGENCY

* 6.1 During a GENERAL EMERGENCY, there may be radiation releases to the environment requiring health physics response. These releases may require evacuation procedures to be implemented as described in IP-8 and IP-9. Initial offsite environmental assessment will be conducted per HPSIL 56.

6.2 An extensive health physics response will probably be required during a general emergency. Upon activation of the TSC and OSC, the following equipment will be carried to each center by the
* health physics section: 1 Ion chamber survey instrument.

Health physics personnel will periodically survey the TSC and OSC. A health physics technician will accompany any personnel dispatched into areas of potential hazard.

* 6.3 The actions described under SITE AREA EMERGENCY (paragraphs 5.3 to
* 5.11) will be applicable to a GENERAL EMERGENCY condition as well.

* 6.4 During a general emergency (and perhaps during a SITE AREA EMERGENCY), conditions in the health physics laboratory may be such that evacuation is warranted. If this situation developed, a health physics laboratory would need to be established in the mechanical equipment room in the control bay, elevation 617, unit 3. This lab would be equipped with all necessary supplies and instrumentation needed to perform minimum radiological surveys and analyses required during an emergency.

6.5 If it is necessary to evacuate the HP lab, then the HP technicians stationed in the lab will secure the equipment listed in Attachment 2. This equipment will be brought to the mechanical equipment room, control bay, elevaton 617, unit 3 by health physics. This list is a minimum and if time permits and manpower allows, then efforts should be made to transport additional equipment and supplies. The Site Emergeny Director shall be informed when it becomes necessary to evacuate the HP lab.

6.6 All subsequent offsite activites must be coordinated with all offsite support agency survey teams. Make the best use of available manpower. Report all survey results as soon as possible to the emergency center so they can make recommendations to the proper agencies to initiate any required protective actions.

6.7 A monitoring station will be set up at the site access control points established by Public Safety Service personnel for the purpose of surveying equipment and personnel leaving the site. Health physics technicians will survey all vehicles and personnel with RM-14 friskers and smear techniques prior to release.

*Revision AII

OCT 19 1982

7.0 ISSUANCE OF POTASSIUM IODINE (KI)

If a responsible health physicist or other knowledgeable individual has reasons to believe that a person's projected cumulative dose to the thyroid from inhalation of radioactive iodine might exceed 10 rems, the exposed person should be started immediately on a dose regimen of potassium iodine (KI). Anyone authorized to initiate KI shall be familiar with the Food and Drug Administration approved package insert and be sure that each proposed recipient is similarly informed. The initial dose of KI should not be delayed and those who begin therapy should continue the 10-day course of KI unless their thyroid dose is determined not to have exceeded 10 rem. An adequate supply of KI is stored at each nuclear facility to supply any personnel exposed to radioactive iodine. It is supplied in bottles which contain a full 10-day dose regime. Follow dosage scheduled as outlined on the package insert accompanying each bottle of KI.

7.2 Projected cumulative doses to the thyroid from inhalation of radioctive iodine can be determined using the chart Occupational Dose from Inhalation of Iodine-131 (Attachment 3).

7.3 The potassium iodine is stored in the plant medical station. KI has an approved shelf-life with the expiration date listed on each bottle. To ensure that the KI supply is valid, these dates will be inspected during the emergency medical supply inventory and the bottles replaced as necessary.

7.4 A copy of the Food and Drug Administration approved package insert shall accompany each bottle of KI issued. Dosage scheduled and other pertinent information are outlined on the package and should be followed closely (Attachment 4).

7.5 The issuing agent shall complete the Potassium Iodine Issue Report (attachment 5) for each bottle of KI issued. A copy of this report will be routed to the plant health physicist in a timely manner.

8.0 USE OF NRC ORANGE PHONE (HEALTH PHYSICS NETWORK)

8.1 This phone is located in the HP plant laboratory and the NRC Resident Inspector's office.

8.2 The phone is to be used by TVA personnel only under the following circumstances:

a. Incoming call from NRC.

b. Incoming call from another reactor site, if call is made at request of NRC at that site. Individual answering phone should verify that incoming call is made at NRC request.

c. Outgoing call to another reactor site at request of NRC at Brow.s Ferry

d. Outgoing call to the two numbers (NRC) listed on the phone. This is to be used in the event of an emergency, or as a third backup to the ENS (red phone) and Bell system during an emergency.

OCT 19 1982

POTENTIAL RELEASE EVALUATION PROCEDURE

1.0 PURPOSE

To provide the methodology for estimating actual or potential radionuclide relases in gaseous effluents in the event of a loss-of-coolant accident.

2.0 SCOPE

These procedures are to be used for calculating total noble gas and total iodine release rates from the stack and turbine building in the event of a small to medium break loss-of-coolant accident. This will include (1) a projection based on current (actual) plant operating data and (2) an evaluation of potential release rates based on assumed further degradation of plant conditions.

2.0 RESPONSIBILITIES

Upon indication at the site that an emergency situation exists, site personnel will be responsible for data collection and release rate * calculations until the KEC is staffed. Once staffed, the KEC will assume lead responsibility for the calculation of release potential. Data for * the KEC evaluation will be updated on a 30-minute interval by designated * site personnel. After the KEC results and assumptions have been * coordinated with and approved by the TSC, KEC will transmit the results * to the MSEC for subsequent off-site dose calculations.

4.0 REQUIREMENT

Implement the model described in the Appendix.

*Revision A[illegible]

OPERATION OF THE EMERGENCY DATA INFORMATION SYSTEM

1.0 PURPOSE

1.1 To provide instructions for operation of the Emergency Data Information System CRT and lineprinter located in the Technical Support Center.

2.0 INSTRUCTIONS

2.1 The Emergency Data Information System is a message switching system which provides a means of creating, editing, and sending messages to other sites. The user communicates with the system through a Televideo terminal located in the T.S.C.

2.2 System Start-up: To use the system, the user must first log on the system with the following procedure:

* 2.2.1. Enter: HELLO BFTSC

* 2.2.2. The system will respond with "PASSWORD":

2.2.3. Enter BFNP and type a return. The password will not be typed on the screen as it is entered.

2.2.4. The system will respond by printing a list of available options for the message switching program.

NOTE: If the account name or PASSWORD is entered incorrectly, the system will print an error message and the process must be repeated.

2.3 After correctly logging in, the user will select required system function and make necessary keyboard entries for the selected function as listed below. Functions available to the user are:

Function	Function Key
Exit the current module	F1
Program stop	F2
Display meteorological data	F3
List, edit, and review messages	F4
Release a message to another site	F5
Create a new message	F6
Edit/display the next page	F8
Edit/display the previous page	F9
Edit/save changes made to the current page	F10
Edit/refresh the current page	F11

*Revision

2.0 INSTRUCTIONS (cont.)

2.4 To select a function, press the corresponding function key. The function keys are on the top row of the Televideo terminal keyboard. Each of the functions and their uses are described in the attached user manual.

2.5 Modules Available

2.5.1 Create module.

2.5.2 Edit module.

2.5.3 Release module.

2.5.4 List module.

2.5.5 Display Met Data Module

Use of each module is described in detail in the attached user manual.

*Revision M

TECHNICAL SUPPORT CENTER (TSC) OPERATION

1.0 PURPOSE

To establish the TSC organization and proide for TSC operation after it is manned. This should begin within 30-minutes to 1 hour after plan activation. Activation of the TSC is required only during an ALERT, SITE
* AREA EMERGENCY, or GENERAL EMERGENCY.

1.0 INSTRUCTIONS

Note: Refer to Figure 1 of IP-20 for Radiological Emergency Organization Chart.

2.1 As soon as possible after the shift engineer has begun plan activiation the TSC should be established. See Attachment 2 for activating TSC phones.

* 2.2 The shift engineer designated by the schedule will assume the duties of the Site Emergency Director and man the TSC until relieved. When relieved, he will continue to act as the principal communicator with DNPEC until relieved by the REP Coordinator/Communicator. If a second shift engineer is assigned
* to the shift, he will direct activites on the affected unit.

2.3 Establish communications with the Division of Nuclear Power
* Emergency Center (DNPEC) dimension phone or alternate means as listed in IP-23. (Duty will be assumed by REP Coordinator/Communicator notified in IP-6 upon arrival at the TSC).

2.4 Shift engineer will maintain log of events and communications. (Duty will be assumed by secretary notified in IP-6 upon arrival at the ECC.)

2.5 Site Emergency Director will verify that all positions in the Emergency Organization (Figure 1) are filled, or will call in additional personnel from the call list in IP-6.

2.6 Site Emergency Director will reevalute emergency conditions in accordance with IP-1 every two hours or more often if conditions warrant.

* 2.7 Maintenance Unit Supervisor or individual designated by the Maintenance Manager will direct each area of the OSC and will communicate with the Maintenance Manager. The Site Emergency Director will communicate with OSC through these individuals. OSC PAX numbers are: Mechanical
Electrical
Instrumentation

*Revision A

2.8 Technical Assessment Manager will direct the technical staff in the TSC.

2.9 The TSC is located on the 3C level of the control bay, between the units 1 and 2 and unit 3 control rooms. Physical layout of the TSC is shown in Figure 2 of this procedure. The lunchroom, located between the relay room and units 1 and 2 control room is available for extra working space.

Note: Additional communications for the TSC are available in the shift engineer's office.

2.10 The TSC communicator will keep the TSC informed of plant conditions, especially information required for use in IP-18.

2.11 Responsibilities of positions in the TSC and individuals assigned these positions are as listed below:

2.12 Reference books available for TSC use during an emergency are listed on Attachment D.

Site Emergency Director

1. Directs activities of site emergency organization.
2. Consults with CECC on important decisions
3. Initiates protective actions onsite
4. Coordinates as necessary emergency with onsite NRC.

Operations Manager

1. Directs operational activities.
2. Informs Site Emergency Director of plant status and operational problems.
3. Performs damage assessment as necessary.
4. Recommends solutions and mitigating action for operational problems.

Technical Assessment Manager

1. Directs onsite radiological monitoring and effluent assessment.
2. Directs activities of system status evaluators.
3. Projects future plant status based on present plant conditions.
4. Keeps assessment team informed on plant status.
5. Provides information, evaluations, and projections to Site Emergency Director.

Maintenance Manager

1. Directs repairs and corrective actions.
2. Performs damage assessment.
3. Directs activities of Operational Support Center.
4. Coordinates repair activities with the nuclear central office.

REP Coordinator/Communicator

1. Advises site emergency director regarding overall radiological emergency plan, use of procedures, emergency equipment availability, and coordination with DNPEC, KEC, and MSEC.
2. Evaluates plant status and performs principal communications with DNPEC.
3. Maintains plant status board in TSC.

Secretaries

1. Maintains log of events.
2. Maintains accountability of TSC personnel.
3. Answers telephones.
4. Other duties as assigned by Site Emergency Director.
5. Maintains REP Organization Board.

TSC Communicator

1. Provides data from control rooms to Technical Assesssment Manager.

Public Safety Services Supervisor .

1. Directs activities of public safety services personnel.
2. Controls access to site and control rooms.
3. Reports on accountability in case of evacuation.

Radiochemical Engineer

1. Coordinates with MSEC assessment of radioactive effluents.
2. Directs post-accident sampling activities.
3. Directs activities of the radiochemical laboratory.
4. Determines impact of incident on radwaste and various effluent treatment systems.
5. Maintains status maps and coordinates assessment of radiological conditions offsite with MSEC.
6. Provides meteorological and dose protection information.

Mechanical Engineer

1. Determines the status of SBGT, control bay ventilation, reactor building ventilation, RHRSW, EECW, HPCI, RCIC, diesels, and emergency breathing air.

Reactor Engineer

1. Determines the status of core, RHR, core spray, and CRD hydraulic.

Instrument & Controls Engineer

1. Determines status of computer systems, RPS, and control room instrumentation.

Electrical Engineer

1. Determines status of 161 and 4KV systems, DC systems and batteries, diesel generators, communications systems, and lighting systems.

Health Physicist

1. Directs and/or performs assesment of inplant and onsite radiological conditions.
2. Directs onsite HP actvities.
3. Coordinates additional HP support with MSEC.
4. Makes recommendations for protective actions for onsite personnel.
5. Coordinates effluent and offsite dose assessment with MSEC.
6. Maintains inplant radiation status board.

PSO Engineer

1. Determines status of 500 KV and 161 KV systems, and communications.

NSSS Engineer

1. Advise on all NSSS systems.

NRC Coordinator

1. Acts as primary liason with onsite NRC personnel.
2. Updates NRC personnel of plant status.
3. Provides information requests from NRC to TSC personnel.

Operations Specialist

1. Provides operational knowledge into status evaluation of all plant systems.
2. Provides advice regarding technical specifications, system response, safety limits, etc. to system status evaluators.
3. Assists in development of recommemded solutions to developing problems.

Computer Engineer

1. Provides assistance to TSC by maintaining computer, repairing hardware, software development, etc.
2. Troubleshoot, maintain, and repair TSC computer systems and peripheries (when installed).

2.13 Key emergency communication systems and numbers are listed in IP-23 for both onsite and offsite communications.

2.14 In events lasting longer than 12 hours, long term operations will be undertaken as described in IP-22.

2.15 Calculations made in accordance with IP-18 will be forwarded to DNPEC, KEC, MSEC via dimension phone or by alternate communications as described in IP-23.

OCT 19 1982

2.16 Communications of other technical information will be via dimension phone or alternate communications as described in IP-23 to the DNPEC, KEC, or MSEC, as appropriate.

2.17 Ringdown with Chattanooga, Muscle Shoals, and Knoxville via dimension is operated as follows:

Number	Location
22 + 200	DNPEC
23 + 361	Sequoyah TSC
24	MSEC
25	KEC
26	BFNP TSC
99	All (Conference)

2.18 The NRC role onsite is to observe, advise, and concur with licensee decisions and actions. If a situation arises where the NRC wants an action taken regarding plant operation that TVA does not agree with, the Site Emergency Director shall require the NRC to sign a Written Order (per 10 CFR 2) directing TVA to take the action before the Site Emergency Director will comply.

2.19 Should it be necessary to evacuate the TSC, the communications room will act as the alternate TSC.

2.20 Refer to Attachment B for TSC dimension phone numbers.

*Revision A11

OCT 19 1982

TECHNICAL SUPPORT CENTER - DIMENSION PHONE NUMBERS

	TITLE	PHONE
	Site Emergency	
	Operations Manger	
	REP Coordinator/Communicator	
	NRC Coordinator	
	Technical Assessment Manager	
	Maintenance Manager	
	Health Physicist	
	Radiochemical Engineer	
	Mechanical Engineer	
	Electrical Enginee	
	I & C Engineer	
	Reactor Engineer	
*	NSSS Site Engineer	
	Operations Specialist	
	Secretary	
	PSO Engineer	
	Secretary	
*	NRC Site Director of Operations	
	NRC	
	NRC	
	NRC	
	NRC	
*	Any	PAX

* [1]Rings at Secretary's desk , and can be transferred via dimension to any phone in TSC.

[2]Revision 10/

OCT 19 1982

REFERENCE BOOK LIST

Reference	Where Available
1. Chemical Rubber Company (CRC) Handbook of Chemistry and Physics	Chemical Unit
2. Cameron Hydraulic Data (Ingersoll-Rand)	Engineering Test Unit
3. Steam Tables; Keenan, Kayes, Hall & Moore (John Wiley & Son, Inc.)	Engineering Test Unit
4. Compressed Air and Gas Data Book (Ingersoll-Rand)	Engineering Test Unit
5. American Electricians Handbook; Craft, Carr, Watt; (McGraw-Hall Book Co.)	Electrical Maintenance
6. Flow of Fluids (Crane Tech Paper 410)	IM Supervisor's Office or Chemical Unit or Engineering Test Unit
7. CRC Handbook of Radioactive Nuclides	Chemical Unit
8. Radiological Health Handbook	IM Supervisor's Office
9. Table of Isotopes	Engineering Test Unit or Chemical Unit
10. Standard Handbook for Mechanical Engineers	Compliance Staff
11. Dangerous Properties of Industrial Materials	Chemical Unit
12. Chemical Engineers Handbook (McGraw-Hall)	Chemical Unit

*Addendum

OCT 19 1982

OPERATIONS SUPPORT CENTER (OSC) OPERATION

1.0 PURPOSE

To provide for OSC operation after it is manned. This should begin within 30-minutes to 1 hour after plan activation. Activation is
* required only during an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY.

2.0 INSTRUCTIONS

NOTE: Refer to Figure 1 of IP-20 for Radiological Emergency Organization.

2.1 The OSC is located in three maintenance shop offices as follows:
Mechanical - Mechanical maintenance shop office, elevation 565 service building. (Figure 1)
Electrical - Electrical maintenance shop office, elevation 565 service building. (Figure 1)
Instrumentation - Instrument maintenance shop office, elevation 580 service building. (Figure 2)

2.2 Any necessary emergency supplies for the OSC can normally be found in the shop areas, but a cabinet in the Central Alarm Station can be used as necessary.

2.3 The Maintenance Manager located in the TSC will direct the overall OSC effort. The maintenance unit supervisors (mech, elec, inst.) or other individual designated by the Maintenance Manager will supervise their respective areas. They will be in communication with the TSC. These individuals will also assume responsibility for OSC peronnel accoutability in their area, and will log individual in/out.

2.4 The Maintenance Manager will keep the OSC informed of plant conditions.

2.5 In events lasting longer than 12 hours, long-term operations will be undertaken as described in IP-22.

2.6 Should evacuation of the OSC be necessary, the Control Bay Hallway, elevation 1C, will act as backup.

2.7 See Attachment 1 for Dimension and PAX phone numbers.

*Revision 11

OCT 19 1982

TECHNICAL SUPPORT CENTER - DIMENSION PHONE NUMBERS

	TITLE	PHONE
	Site Emergency Director	
	Operations Manager	
	REP Coordinator/Communicator	
	NRC Coordinator	
	Technical Assessment Manager	
	Maintenance Manager	
	Health Physicist	
	Radiochemical Engineer	
	Mechanical Engineer	
	Electrical Engineer	
	I & C Engineer	
	Reactor Engineer	
	NSSS Site Engineer	
	Operations Specialist	
	Secretary	
	PSO Engineer	
	Secretary	
*	NRC Site Director of Operations	
	NRC	
	NRC	
	NRC	
	NRC	
*	Any	PAX
*	1 Rings at secretary's desk and can be transferred via dimension to any phone.	

*Revision

OCT 19 1982

LONG TERM OPERATION

1.0 PURPOSE

* To provide for operation with emergency conditions categorized as ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY which exist or are projected to exist for more than 12 hours.

2.0 INSTRUCTIONS

2.1 When an emergency condition has existed or in the Site Emergency Director's judgement will exist for greater than 12 hours, he will take the steps outlined for long-term operations.

2.2 Notify DNPEC of decision to begin long-term operation.

DNPEC will make arrangements necessary for food, clothing, and other supplies requested.

2.3 Food is immediately available in the plant and outage lunchrooms. The Site Emergency Director, through the DNPEC, will arrange for delivery of meals to the plant at specified times. The plant lunchroom will serve as dining facilities for all emergency personnel.

2.4 The upper level of the office building will serve as the primary sleeping area. If radiological or other conditions do not permit this area to be used, provisions will be made through the DNPEC for near-site lodging, or for other sleeping areas onsite.

2.5 The lunchroom in the control bay at elevation 3C will serve as an assembly room for meetings, etc. The plant assembly room can also be used if additional space is needed and radiological conditions permit.

2.6 Additional personnel can be called in by the Site Emergency Director to provide coverage in the following areas:

a. Drawing Control Center
b. Document Control
c. Administration
d. Additional clerical support

2.7 The Techical Support Center will be placed on 12-hour shifts. The Site Emergency Director will establish the 12-hour shifts and provide for calling in additional personnel from IP-6 to fill key positions in the Radiologcal Emergency Organization.

2.8 The Maintenance Manager, through the designated individuals in charge of the OSC will establish 12-hour shifts for the OSC personnel. The OSC personnel will, in turn, establish 12-hour shifts for their craft personnel onsite and call in additional personnel as necessary.

2.9 During long-term operation, all key positions shown in Figure 1 of IP-20 will be filled to the extent possible.

2.10 If additional personnel are needed in particular areas, they will be filled with onsite personnel or offsite personnel, dependent on the situation.

*Revision

OCT 19 1982

COMMUNICATIONS SYSTEMS

1.0 PURPOSE

To provide a ready reference of onsite communication capabilities and key telephone and pager numbers on and offsite. It also specified which lines of communication are assigned to which individual or group.

2.0 INSTRUCTIONS

2.1 Communications in shift engineer's office

a. PAX , - For shift engineer use.

* b. NRC ring-down (GPO-1488) - For initial use by TVA, until NRC arrives onsite.

c. Bell (dimension) system , - For Site Emergency Director and TSC use.

d. Repeater radio (F1, F2) - For operations or PSS use.

e. Paging system (beeper) - For shift engineer use. See Attachment B.

f. PAX executive right-of-way - For Site Emergency Director use.

g. Turret extension (receiver only) - For shift engineer use.

h. Ring-down to/from superintendent's office - For shift engineer use.

2.2 Communications in Technical Support Center

a. PAX lunchroom or relay room) - For TSC use.

* b. PAX (5 lines) - For TVA and NRC use.

c. Bell (Dimension) System - For TVA & NRC use - See Attachment D for numbers.

* d. Private circuit with Chattanooga, Muscle Shoals, Knoxville - For TSC use (see IP-20 for numbers).

e. NRC ring-down (GPO 1488) - For NRC use.

f. PSO VHF radio - For PSO or Site Emergency Director use.

*Revision 11

OCT 19 1982

g. Emergency Data Information System (CRT/Lineprinter).

2.3 Communications in Operations Support Center

a. Mechanical - PAX
Dimension

b. Electrical - PAX
Dimension

c. Instrumentation - PAX

2.4 Key Onsite Numbers

Location	Phone (PAX)	DIMENSION
Assembly Room		
Central Alarm Station		
Chemical Laboratory		
Code Call		
Code Call (Answer)		
Communications room		
Construction (CSB)		
Document Control		
Drawing Control		
East Gatehouse		
Fire		
Health Station		
Health Physics Laboratory		
Lunchroom		
Medical Emergency		
Meteorological Tower		
NRC (onsite)		

*Revision A1

OCT 19 1982

Bell

Operations

OSC

* Mechanical

* Electrical

Instrumentation

* Field Services

Paging System

Plant Superintendent's Office

* Power Stores

* PSS shift supervisor

Shift engineer's office

Shift technical advisor

* TSC

* TVA ambulance

* West Gatehouse

2.4 Key Offsite Numbers

Location	Phone
Ambulances	
AAA Southend (Decatur)	
Athens Limestone Hospital	
Metro Shoals Emergency Hospital Serviced (Florence)	

*Revision All

OCT 19 1982

Hospitals

Athens-Limestone

Colonial Manor (Florence)

Decatur General

REAC/TS (Oak Ridge, TN)

CECC (Operations Duty Specialist) PAX

* KEC Private circuit from TSC

PAX

* Dimension

* MSEC Private circuit from TSC

PAX

NRC (Atlanta)
(After 4 p.m., rings in Washington)

NRC Bethesda-via HPN Orange phone-Dial

NRC Operations Center (Bethesda) (Commercial, used upon a failure of the Emergency Notification System)

* NRC (G. L. Paulk)

* Beeper

Operations Duty Specialist, DNPEC Dimension

2.6 Information on plant communications systems (Normal and alternate power supplies, etc.) is shown on Attachment A.

2.7 NRC Orange Phone (HP Network) - This phone is located in the HP plant laboratory and the NRC Resident Inspectors Office. The phone is to be used by TVA personnel only under the following circumstances:

a. Incoming call from NRC.

b. Incoming call from another reactor site, if call is made at request of NRC at that site. Individual answering phone should

*Revision 11

OCT 19 1982

b. Incoming call from another reactor site, if call is made at request of NRC at that site. Individual answering phone should verify that incoming call is made at NRC request.

c. Outgoing call to another reactor site at request of NRC at Browns Ferry.

d. Outgoing call to the two numbers (NRC listed on the phone. This is to be used in the event of an emergency, or as a third backup to the ENS (red phone) and Bell system during an emergency.

2.8 To ensure proper pager operation, a monthly functional test of personnel pagers will be conducted in accordance with BF Standard Practice 19.25 using Attachment B.

2.9 Refer to Attachment C for procedure to activate TSC phones.

2.10 Refer to Attachment D for TSC dimension phone numbers.

*Revision 11

OCT 19 1982

BFNP PERSONNEL PAGER MONTHLY FUNCTIONAL TEST

Date _____

	SECTION	PAGER NUMBER	HOME PHONE NUMBER	NAME
*	Superintendent			G. T. Jones
	EM			T. D. Cosby
	EM			J. M. Jackson
	HP			A. W. Sorrell
*	Assistant Superintendent			J. R. Pittman
	MM			M. W. Haney
	MM			J. B. Walker
	MM			R. L. Thigpen
	NR			Shift Technical Adv
	Spare			Spare
	OPS			Spare
	OPS			R. Hunkapillar
	Field Services			J. Miller
	Spare			Spare
	IM			R. E. Burns
	Field Services			J. E. Swindell

Pager check on the following numbers was unsuccessful:

_____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____

Signature _____

Remarks _____

_____

_____
Operations Section Supervisor

*Revision 11