



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

SEP 05 2003

10 CFR 50, App E.

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of) Docket No. 50-390
Tennessee Valley Authority)

WATTS BAR NUCLEAR PLANT (WBN) - EMERGENCY PLAN IMPLEMENTING
PROCEDURE (EPIP) REVISION

In accordance with the requirements of 10 CFR Part 50, Appendix E,
Section V, the enclosure provides the EIPs as listed below.

<u>EPIP</u>	<u>Rev</u>	<u>Title</u>	<u>Effective Date</u>
EPIP-6	26	Activation and Operation of the Technical Support Center	8-8-2003
EPIP-10	17	Medical Emergency Response	8-25-2003

EPIP-13, Revision 9, "Initial Dose Assessment for Radiological
Emergencies," was submitted to NRC on July 2, 2003, in accordance
with the requirements of 10 CFR 50, Appendix E, Section V. This
EPIP is being reissued to correct typographical errors.

There are no regulatory commitments in this letter. If you should
have any questions, please contact me at (423) 365-1824.

Sincerely,

P. L. Pace
Manager, Site Licensing and Industry Affairs

Enclosure
cc: See Page 2

A045

U.S. Nuclear Regulatory Commission
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PLP:JES

Enclosure

cc (Enclosure):

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FILING INSTRUCTIONS

DOCUMENT NUMBER EP1P-13

REMOVE REVISION 9 INSERT REVISION 9

Comments Replace due to typo

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-13

INITIAL DOSE ASSESSMENT
FOR
RADIOLOGICAL EMERGENCIES

Revision 9

Unit 0

PREPARED BY: James F. Hagy

SPONSORING ORGANIZATION: Emergency Planning

APPROVED BY: Frank L. Pavlechko

Effective Date: 06/02/2003

LEVEL OF USE: REFERENCE

NON-QUALITY RELATED

REVISION LOG

Revision Number	Implementation Date	Pages Affected	Description of Revision
8	12/16/2002	All	<p>Plan effectiveness determination reviews indicate the following revisions do not reduce the level of effectiveness of the procedure or REP:</p> <p>Non Intent change. Renumbered instruction for inter-site consistency, formerly EPIP-16. For historical data, source notes, etc., see EPIP-16, Revision 14. Editorial revisions. Deleted source notes, renumbered sections, corrected Appendix references.</p>
9	06/02/2003	2, 4, 6, 12, 24	<p>Plan effectiveness determination reviews indicate the following revisions do not reduce the level of effectiveness of the procedure or REP:</p> <p>Non Intent change. Standardized record retention. Editorial corrections. Revised SQN Control Room access phone number.</p>

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1.0 PURPOSE

This Procedure provides initial guidance to support site activities concerning dose assessment for airborne release situation(s).

2.0 REFERENCES

2.1 Interfacing Documents

1. CECC EPIP-8, "Dose Assessment Staff Activities During Nuclear Plant Radiological Emergencies"
2. WBN FSAR
3. ICS User's Manual
4. EPIP-1, "Emergency Plan Classification Flowchart"

2.2 Other Documents

1. TVA NP Radiological Emergency Plan
2. NUREG-0654/FEMA REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
3. NUREG 1465, Accident Source Terms for Light-Water Nuclear Power Plants
4. NUREG 1228, Source Terms Estimated During Incident Response to Severe Nuclear Power Plant Accidents
5. Title 10, Code of Federal Regulations, Part 50, Appendix E
6. DCN 37910-A
7. EPA-400
8. Title 10, Code of Federal Regulations, Part 20
9. Letter, Eberline Instrument Co., to TVA (EEB820919007), 9/19/83 on (High Range Monitor Efficiencies)
10. EPIP-6, Activation and Operation of the Technical Support Center (TSC)
11. ODCM
12. NE Calculation Package, WBN TSR-008, WBNTSR-009, TI-RPS-162, WBN NAL 3-003R1, WBN APS 3-084
13. SPP-2.6, Computer Software Control
14. Watts Bar Nuclear Plant Environmental Data Station Manual.
15. Regulatory Guide 1.23, "Onsite Meteorological Programs."
16. American Nuclear Society Standard ANSI/ANS-3.11-2000, "Determining Meteorological Information at Nuclear Facilities."
17. Meteorological Data Print Program Users Manual.
18. Radiological Emergency Notification Directory (REND).
19. Watts Bar Nuclear Plant Nowcast Manual, October 1991.
20. ANSI N18.7-1976

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2.3 Definitions/Acronyms

AIRBORNE RELEASE: Release of airborne radioactive material from the site into the environment.

CECC: Central Emergency Control Center.

EXCLUSION AREA BOUNDARY: The demarcation of the area (0.62 mile) surrounding the WBN units in which postulated FSAR accidents will not result in population doses exceeding the criteria of 10CFR Part 100. (See Figure A of this procedure).

ICS: Integrated Computer System.

PAG: Protective Action Guide. Specific levels of radiation dose control established by the Environment Protection Agency, (i.e., 1 REM TEDE, 5 REM Thyroid CDE).

RE/RM ICS references radiological elements (RE). The control room also has radiological monitors (RM) connected to these elements. For the purposes of this procedure these acronyms can be used interchangeably.

SITE BOUNDARY: The Site Boundary used here is consistent with the definition in the Offsite Dose Calculation Manual. (See Figure A of this procedure). The appropriate boundary between "onsite" and "offsite".

SITE PERIMETER (SP): An area encompassing owner controlled areas in the immediate site environment. Measurements are taken at the 16 identified radiological monitoring points along the Site Perimeter. (See Figure A of this procedure).

STABILITY CLASS: An index (A-G) to represent the degree of mixing in the atmosphere.

TEDE: Total Effective Dose Equivalent. The TEDE dose is equivalent to the sum of the plume EDE, the inhalation EDE, and the ground EDE.

THYROID CDE: Thyroid Committed Dose Equivalent.

X/Q: The release dilution ratio between concentrations (X) at reception point (e.g., SP) to the source strength (Q) at a given release point. This dilution ratio is incorporated into the tables for Appendix B.

WBN	INITIAL DOSE ASSESSMENT FOR RADIOLOGICAL EMERGENCIES	EPIP-13
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3.0 GENERAL INSTRUCTIONS

- 3.1 The onshift Radiological Control Group (RADCON) is responsible for completing this procedure should the CECC/TSC not be activated. This procedure will be performed as directed by the SED/SM when a dose assessment is necessary.
- 3.2 For initial dose assessment activities, COMPLETE the instructions found in Appendix A, "ICS, Dose Assessment."
- 3.3 Should ICS dose assessment be unavailable use the backup calculation method in Appendix B for the Site Boundary and five mile zones.

4.0 RECORDS

4.1 Records of Classified Emergencies

The materials generated in support of key actions during an actual emergency are considered Lifetime retention Non-QA records. Materials shall be forwarded to the EP Manager who shall submit any records deemed necessary to demonstrate performance to the Corporate EP Manager for storage.

4.2 Drill and Exercise Records

The materials deemed necessary to demonstrate performance of key actions during drills are considered Non-QA records. These records shall be forwarded to the EP Manager who shall retain records deemed necessary to demonstrate six-year plan performance for six years. The EP Manager shall retain other records in this category for three years.

APPENDIX A - "ICS" DOSE ASSESSMENT
(Page 1 of 1)

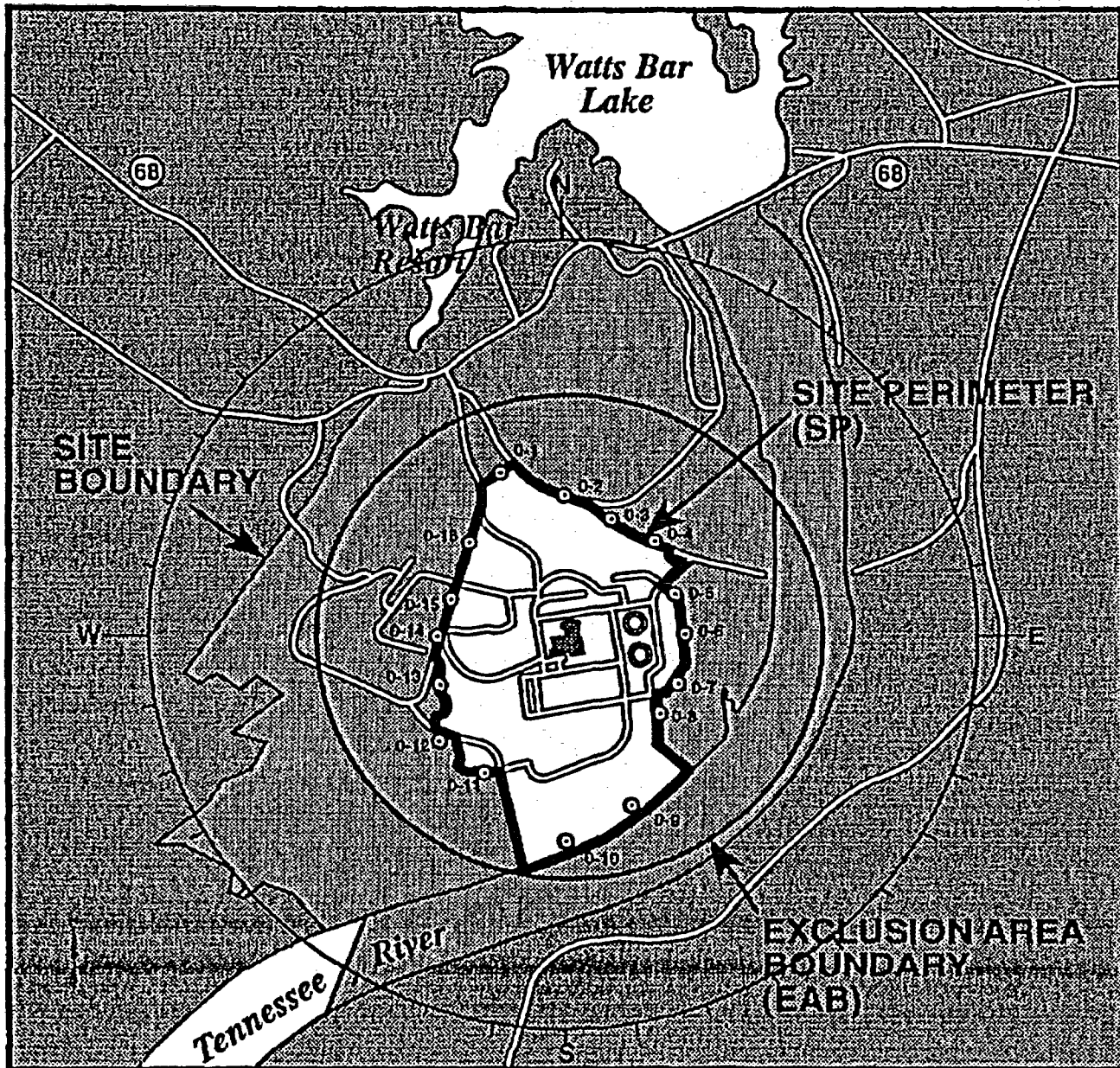
NOTE 1: METDATA, wind direction, and EFF1 information are also available from the Dose Assessment screen. See example of ICS Dose Assessment screen below.

- [1] ACCESS the main WBN menu screen from an ICS terminal.
- [2] ACCESS the TSC menu from the main WBN menu screen.
- [3] ACCESS the Dose Assessment screen (DOSE) from the TSC menu.
- [4] RECALCULATE the Dose Assessment and print the worksheet.
- [5] PROVIDE Dose Assessment information to the SM.
- [6] IF ICS Dose Assessment is unavailable, THEN refer to the Appendix B of this procedure.

WBN - DOSE ASSESSMENT				
INPUTS:		VALUE	UNITS	QUALITY
DATE:	8 / 27 / 2001			
TIME:	12 : 31 : 19			
MET46A15	EDS METDATA 46M 15MIN AV8 WIND SPEED	12.10	MI/HR	8000
MET46D15	EDS METDATA 46M 15MIN AV8 WIND DIRECTION (FROM)	17.74	DEG	8000
METSTCS2	EDS 15MIN STABILITY CLASS	8		8000
RAD025	ICS CALCULATED TOTAL NOBLE GAS RELEASE RATE	7.85E+04	uCi/s	8000
IODINE	0.016 * TOTAL NOBLE GAS RELEASE RATE	1.25E+03	uCi/s	8000
OUTPUT:		TEDE (Rem)	THYROID CDE (Rem)	
SITE BOUNDARY		3.0E-03	2.3E-03	
2 MILE:		7.5E-04	4.4E-04	
5 MILE:		2.1E-04	1.2E-04	

TT062 WK=035/wtr=1 SEC LVL=0 PRIM/BACK CPU 8 MODE 1 MUTE:001

FIGURE A - SITE MAP
(Page 1 of 1)



APPENDIX B - MANUAL ASSESSMENT OF MONITORED GASEOUS RELEASES

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NOTE Appendix J may be referred to for additional help during periods when the Meteorological data is unavailable.

- [1] OBTAIN Stability Class from the MET DATA screen on ICS or from the CECC AND

CIRCLE the Stability Class in both tables below.

- [2] IF the Stability Class cannot be obtained, THEN

DETERMINE the stability class by subtracting the 10 meter from the 46 meter temperatures AND

CIRCLE the stability class in both tables below.

A ≤ -1.24 B -1.11 to -1.23 C -.98 to -1.10 D -.33 to -.97 E .97 to -.32 F 2.59 to .98 G ≥ 2.6

- [3] OBTAIN the wind speed in mph from the 46 meter height and CIRCLE the appropriate range for the wind speed in both tables below.

- [4] CIRCLE the appropriate TEDE factors for each distance in the tables below based on the wind speed and stability class obtained in the above steps.

0.62 Miles TEDE Factors

Stability Class	≤ 2.21	> 2.21	> 4.4	> 6.6	> 8.8	> 11	> 13.2	> 15.4	> 17.6	> 19.8
	≤ 2.21 mph	≤ 4.4 mph	≤ 6.6 mph	≤ 8.8 mph	≤ 11 mph	≤ 13.2 mph	≤ 15.4 mph	≤ 17.6 mph	≤ 19.8 mph	≤ 22 mph
A	1.6E-09	8.0E-10	6.4E-10	4.8E-10	3.2E-10	2.9E-10	2.5E-10	2.2E-10	1.9E-10	1.6E-10
B	7.5E-09	3.7E-09	3.0E-09	2.2E-09	1.4E-09	1.3E-09	1.2E-09	1.0E-09	8.9E-10	7.5E-10
C	2.2E-08	1.1E-08	9.0E-09	6.7E-09	4.3E-09	3.9E-09	3.5E-09	3.0E-09	2.6E-09	2.2E-09
D	6.3E-08	3.2E-08	2.6E-08	1.9E-08	1.2E-08	1.1E-08	1.0E-08	8.8E-09	7.5E-09	6.3E-09
E	1.1E-07	5.5E-08	4.4E-08	3.3E-08	2.2E-08	2.0E-08	1.8E-08	1.6E-08	1.3E-08	1.1E-08
F	2.2E-07	1.0E-07	8.3E-08	6.3E-08	4.2E-08	3.8E-08	3.4E-08	3.0E-08	2.6E-08	2.2E-08
G	4.8E-07	2.3E-07	1.8E-07	1.4E-07	9.0E-08	8.1E-08	7.2E-08	6.3E-08	5.4E-08	4.6E-08

5 Miles TEDE Factors

Stability Class	≤ 2.21	> 2.21	> 4.4	> 6.6	> 8.8	> 11	> 13.2	> 15.4	> 17.6	> 19.8
	≤ 2.21 mph	≤ 4.4 mph	≤ 6.6 mph	≤ 8.8 mph	≤ 11 mph	≤ 13.2 mph	≤ 15.4 mph	≤ 17.6 mph	≤ 19.8 mph	≤ 22 mph
A	7.5E-11	5.2E-11	5.2E-11	5.1E-11	5.1E-11	4.6E-11	4.0E-11	3.5E-11	3.0E-11	2.5E-11
B	9.9E-11	6.8E-11	6.7E-11	6.7E-11	6.6E-11	6.0E-11	5.3E-11	4.6E-11	4.0E-11	3.3E-11
C	1.9E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.2E-10	1.1E-10	9.3E-11	7.9E-11	6.5E-11
D	8.3E-10	5.8E-10	5.7E-10	5.6E-10	5.6E-10	5.0E-10	4.5E-10	3.9E-10	3.4E-10	2.8E-10
E	1.8E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.1E-09	9.8E-10	8.6E-10	7.3E-10	6.0E-10
F	4.6E-09	3.2E-09	3.1E-09	3.1E-09	3.0E-09	2.7E-09	2.4E-09	2.1E-09	1.8E-09	1.5E-09
G	1.1E-08	7.5E-09	7.3E-09	7.2E-09	7.0E-09	6.3E-09	5.6E-09	4.9E-09	4.1E-09	3.4E-09

APPENDIX B - MANUAL ASSESSMENT OF MONITORED GASEOUS RELEASES
(Page 2 of 4)

NOTE TYPE 1 fuel damage should be used when the fuel damage is unknown.

- [5] DETERMINE and CIRCLE the TEDE ratio based on the release path and type of fuel damage for both 0.62 and 5 mile distances using the table below.**

NOTE The SM may be able to assist in determining the release paths and type of fuel damage.

Release Paths

Containment leak unfiltered or filtered
 SG Tube Rupture above or below the water
 CNTMT Bypass (e.g. RHR on shutdown cooling leaking in Aux. Bldg.)

Type of Fuel Damage

Type 1 is normal reactor coolant
 Type 2 is fuel clad gap
 Type 3 is core damage (fuel over temp)
 Type 4 is fuel melt

0.62 Miles TEDE Ratios

	Type 1	Type 2	Type 3	Type 4
CNTMT (filtered)	0.5	1.0	1.0	1.2
CNTMT (unfiltered) or SGTR (below)	23	4.4	7.0	20
CNTMT Bypass	23	5.9	7.6	22
SGTR (above)	24	22	13	32

5 Miles TEDE Ratios

	Type 1	Type 2	Type 3	Type 4
CNTMT (filtered)	1.1	1.0	1.1	1.4
CNTMT (unfiltered) or SGTR (below)	55	9.1	16	49
CNTMT Bypass	55	13	17	52
SGTR (above)	58	48	29	75

- [6] IF ICS is unavailable, THEN**
 NOTIFY the SM that Appendix D must be performed by
 RADCON/Chemistry personnel in TSC.
- [7] IF Radiation Monitor data is unavailable or the release is not monitored,
 THEN**
 USE Appendix C to determine the noble gas release rate.

APPENDIX B - MANUAL ASSESSMENT OF MONITORED GASEOUS RELEASES
(Page 3 of 4)

[8] COMPLETE the following TEDE Dose table for both 0.62 and 5 mile as follows:

[a] OBTAIN and **RECORD** the Noble Gas release rate from ICS EFF1 or appropriate appendix.

[b] RECORD the TEDE Factors determined in step [4].

[c] RECORD the TEDE Ratios determined in step [5].

NOTE A duration of 4 hours should be used when the release duration is unknown.

[d] OBTAIN and **RECORD** the estimated duration of the release in hours from the SM or if the release is unmonitored use release duration associated with accident type from Appendix C.

[e] CALCULATE the TEDE dose at .62 and 5 by multiplying the NG release rate x TEDE factor X TEDE ratio x Release duration = TEDE Dose.

TEDE DOSES

Distance	Noble Gas Release Rate <small>μCi/s</small>	TEDE Factor	TEDE Ratio	Release Duration hour(s)	TEDE Dose (REM)
0.62					
5.0					

APPENDIX B - MANUAL ASSESSMENT OF MONITORED GASEOUS RELEASES
(Page 4 of 4)

NOTE TYPE 1 fuel damage should be used when the fuel damage is unknown.

[9] DETERMINE and CIRCLE the Thyroid CDE Ratio for the type of fuel damage and release path determined in step [5] in the table below.

Thyroid CDE Ratios

	Type 1	Type 2	Type 3	Type 4
CNTMT (filtered)	1.4E-02	1.1E-01	4.3E-02	7.2E-02
CNTMT (unfiltered) or SGTR (below)	3.3E-02	2.6E+00	6.4E-01	4.1E-01
CNTMT Bypass	1.1E-01	6.2E+00	2.0E+00	1.4E+00
SGTR (above)	7.8E-01	1.3E+01	8.3E+00	6.4E+00

[10] COMPLETE the following table as follows:

- [a] RECORD the TEDE Dose in step [8].**
- [b] RECORD the Thyroid CDE Ratio in step [9].**
- [c] CALCULATE the Thyroid CDE dose at 0.62 and 5 mile distance by multiplying the TEDE Dose x Thyroid CDE/TEDE Ratio.**

Thyroid CDE Dose

Distance	TEDE Dose (REM)	Thyroid/CDE Ratio	Thyroid CDE (REM)
0.62			
5.0			

[11] PROVIDE this dose assessment to the SM as soon as possible. NG release rates may also be used for event classification in EPIP-1.

Prepared by: _____ Date: _____ Time: _____

APPENDIX C - UNMONITORED RELEASES BASED ON ACCIDENT TYPES

(Page 1 of 1)

Summary of Accident Types (Consult with SM to determine the Accident type to use.)	Duration of the Release (Hours)	Noble Gas Release Rates μCi/s
---	---------------------------------------	--

LOCA - 100% Fuel Melt(>1200F) RCS		
Containment Tech Spec allowed leakage (0.25%/24 hours)	24	1.16E+07
Containment Failure(100%/4 hours)	4	2.79E+10

LOCA - 100% Gap Activity RCS		
Containment Tech Spec allowed leakage(0.25%/24 hours)	24	6.34E+03
Containment Failure(100%/4 hours)	4	1.52E+07

LOCA - Normal RCS		
Containment Tech Spec allowed leakage(0.25%/24 hours)	24	3.40E+01
Containment Failure(100%/4 hours)	4	8.15E+04

SG Tube Rupture		
0-2 hours after the beginning of the release	2	3.87E+06
2-8 hours after the beginning of the release	6	2.14E+00

Fuel Handling - One Bundle Damaged		
Accident inside Containment with Purge fans on	2	1.89E+05
Accident outside Containment with ABGTS on	0.25	1.51E+06

Waste Gas Decay Tank Rupture		
Reg. guide 1.24 analysis	1	2.09E+07

APPENDIX D - NOBLE GAS RELEASE RATE EVALUATION

(Page 1 of 2)

NOTE 1: If ICS is not functional and time is not available due to the ongoing emergency event, wait for the TSC to activate prior to proceeding in this appendix.

NOTE 2: In columns A and B of this Appendix, the radiation monitor and panel number, along with the ICS or Eberline computer points necessary to obtain the data, are listed. Monitors indicating "offscale" ($>10^6$ cpm for monitors on panels 1 or 2-M-30) should be indicated as such.

- [1] **OBTAIN** and **RECORD** the noble gas monitor readings on page 2 of this Appendix.

NOTE : Flow rates that are less than the minimum value indicated should be reported as the minimum value.

- [2] **RECORD** the effluent flow rate(s) on page 2 of this Appendix.
- [3] **IF** flow instrumentation is inoperable, **THEN**
OBTAIN flow estimates using Appendix H.
- [4] **CALCULATE** the noble gas release rates on page 2 of this Appendix.
- [5] **SUM** the noble gas release rates, **AND**
RECORD the gaseous noble gas release rate total on page 2 of this Appendix.
- [6] **TRANSFER** the gaseous noble gas release rate to Appendix G.

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APPENDIX D - NOBLE GAS RELEASE RATE EVALUATION
(Page 2 of 2)

Release Point	Effluent Noble Gas Monitor Reading	Effluent Flow Rate (cfm)	Monitor Conversion Factor	Noble Gas Release Rate (μCi/s)	Monitor Read Date/Time
	A	B	C	D = AxBxC	
Aux. Bldg. Vent (0-M-12)	_____ cpm 0-RM-90-101B R0020A	_____ 0-PNL-90-L397 ³ F2704A (Min.141,000 cfm)	1.82E-05 ¹		____/____
Service Building Vent (0-M-12)	_____ cpm 0-RM-90-132B R0011A	_____ 0-PNL-90-L399 ³ F2702A (Min.3,000 cfm)	1.82E-05 ¹		____/____
U1 Shield Building Vent (1-M-30)	_____ μCi/cc 1-RI-90-400 (EFF)	_____ 1-FI-90-400 (1-M-9) 1-PNL-90-L398 Y2203A (Min.3300 cfm)	472 ²	_____ μCi/s 1-RI-90-400 (Low, Mid, High) R9101A	____/____
U2 Shield Building Vent (2-M-30)	_____ μCi/cc 2-RI-90-400 (EFF)	_____ 2-FI-90-400 (2-M-9) 2-PNL-90-L398 F9015A (Min.3300 cfm)	472 ²	_____ μCi/s 2-RI-90-400 (Low, Mid, High) R9102A	____/____
U1 Condenser Vacuum Exhaust (CVE) (0-M-12)	_____ cpm 1-RM-90-119 R0001A (low mg)	_____ 1-FE-2-256 ³ F2700A (Min.21 cfm)	1.82E-05 ¹		____/____
NOTE: If 1-RM-90-119 is onscale, stop here. If monitor is offscale, proceed to next row.					
U1 Condenser Vacuum Exhaust (CVE) (1-M-31)	_____ cpm 1-RM-90-450 (Data) Channel 13-01 R9061A	_____ 1-FE-2-256 ³ F2700A (Min.21 cfm)	From table below		____/____
NOTE: If Channel 13-01 is onscale, stop here. If monitor is offscale, proceed to next row					
U1 Condenser Vacuum Exhaust (CVE) (1-M-31)	_____ cpm 1-RM-90-450 (Data) Channel 13-03 R9062A	_____ 1-FE-2-256 ³ F2700A (Min.21 cfm)	From table below		____/____
Total					

CVE Accident Monitor Calibration Factors x 472 cc/s/cfm for Various Times (T) Post-Accident

T = Hours	T=0	T=1	T=8	T=16	T=24	T=48	T=168
1-RM-90-450 (Channel 13-01)	5.48E-04	1.04E-03	2.75E-03	4.77E-03	1.60E-02	1.23E-02	1.81E-02
1-RM-90-450 (Channel 13-03)	9.44E-01	2.02	5.33	9.16	1.23E+01	2.23E+01	3.14E+01

The monitor Xe-133 efficiency multiplied by a conversion factor (472 cc/s/scfm).

Conversion factor of 472 cc/s/scfm.

3 No MCR indication (local indication only)

APPENDIX E - STEAM LINE RELEASE EVALUATION

(Page 1 of 2)

- [1] **OBTAIN** and **RECORD** the steam line radiation monitor readings on page 2 of this Appendix.
- [2] **DETERMINE** and **CIRCLE** the appropriate calibration factor listed on page 2 of this Appendix **AND**
RECORD the value on page 2 of this Appendix .

NOTE Engineering may be consulted to determine the best estimate of steam flow during periods when ICS steam flow is unavailable.

- [3] **OBTAIN** and **RECORD** the steam mass flow rates on page 2 of this Appendix.
- [4] **CALCULATE** the steam line release rates on page 2 of this Appendix .
- [5] **SUM** the release rates for the steam lines, and
RECORD the total steam line noble gas release rate on page 2 of this Appendix.
- [6] **TRANSFER** the steam line noble gas release rate to Appendix G.

APPENDIX E - STEAM LINE RELEASE EVALUATION
(Page 2 of 2)

	Steam Line Radiation Monitor Reading (mR/hr)	Calibration Factor (from table below) ($\mu\text{Ci/cc}$ per mR/hr)	Steam Mass Flow Rate ¹ (lbm/hr)	Conversion Factor ²	Release Rate ($\mu\text{Ci/s}$)
	A	B	C	D	AxBxCxD
Steam Generator 1	RM-90-421B (1-M-30) RR-90-268 Pt.01 (1-M-31) R9055A			4.45	
Steam Generator 2	RM-90-422B (1-M-30) RR-90-268 Pt.02 (1-M-31) R9056A			4.45	
Steam Generator 3	RM-90-423B (1-M-30) RR-90-268 Pt.03 (1-M-31) R9057A			4.45	
Steam Generator 4	RM-90-424B (1-M-30) RR-90-268 Pt.04 (1-M-31) R9058A			4.45	
Auxiliary Feedwater Pump Turbine	RM-90-421B (1-M-30) or RM-90-424B (1-M-30)			4.45	
Total					

1 This data is an internal ICS calculation.
2 4.45 = $[\text{cc}(\text{steam})/0.0283 \text{ g}] \times \text{g}/2.205\text{E-}3 \text{ lbm} \times \text{hr}/3600 \text{ sec}$

Main Steam Line Radiation Monitor Calibration Factors (CF)

Time After Shutdown (hrs)	Normal Spectrum Monitor Reading < 1000 mR/hr ($\mu\text{Ci/cc}$ per mR/hr)	DBA Spectrum Monitor Reading > 1000 mR/hr or Suspected Fuel Damage ($\mu\text{Ci/cc}$ per mR/hr)
0	3.00E-3	9.88E-5
1	5.13E-3	7.79E-4
2	6.11E-3	5.41E-3
4	7.76E-3	6.86E-3
8	1.09E-2	9.63E-3

APPENDIX F - USE OF GRAB SAMPLES FOR GASEOUS EFFLUENT EVALUATION

(Page 1 of 2)

- [1] IF sampling analysis is required to determine the site release rates, THEN REQUEST noble gas samples be obtained from applicable release points that have flow.
- [2] RECORD sample date(s) and time(s) for applicable release point(s) on page 2 of this Appendix.

NOTE 1: Flow rates that are less than the minimum value indicated should be reported as the minimum value.

NOTE 2: Operations may be required to obtain flowrate for 1-FE-2-256, Condenser Vacuum Exhaust.

- [3] RECORD the effluent flow rate(s) on page 2 of this Appendix.
- [4] IF flow instrumentation is inoperable, THEN OBTAIN flow estimates using Appendix H.
- [5] RECORD the total noble gas concentration for applicable release point(s) on page 2 of this Appendix.
- [6] CALCULATE the total noble gas release rate as indicated on page 2 of this Appendix .
- [7] SUM the noble gas release rates, AND RECORD the total gaseous noble gas release rate on page 2 of this Appendix.
- [8] TRANSFER the gaseous noble gas release rate to Appendix G.

WBN	INITIAL DOSE ASSESSMENT FOR RADIOLOGICAL EMERGENCIES	EP-13
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APPENDIX F - USE OF GRAB SAMPLES FOR GASEOUS EFFLUENT EVALUATION
(Page 2 of 2)

Release Point	Noble Gas Sample Date/Time	Flow Rates cfm	Total Noble Gas Concentration (μCi/cc)	C ¹	Total Noble Gas Release Rate (μCi/s)
		A	B	C ¹	D = A x B x C
Auxiliary Building	____/____	0-PNL-90-L397 EL 786, A8-V (Min. 141,000 cfm)		472	
Service Building	____/____	0-PNL-90-L399 SN EL 751, S-5 (Min. 3000 cfm)		472	
U1 Shield Building	____/____	1-FI-90-400 1-PNL-90-L398 EL 729, AE-5 (Min. 3,300 cfm)		472	
U2 Shield Building	____/____	2-FI-90-400 2-PNL-90-L398 EL 727, AE-11 (Min. 3,300 cfm)		472	
Condenser Vacuum Exhaust	____/____	_____ (Min. 21 cfm)		472	
Total					

1 Conversion factor: 472 cc/s/scfm.

Performed by: _____ Date: _____

APPENDIX G - TOTAL SITE NOBLE GAS RELEASE RATE

(Page 1 of 1)

- [1] SUM** the values listed below to obtain the total site noble gas release rate.
- [2] IF** the CECC needs long term dose assessment **THEN COMPLETE** and **TRANSMIT** Appendix I.

Total Site Noble Gas Release Rate

Gaseous Noble Gas Release Rate	_____ $\mu\text{Ci/s}$
Steam Line and/or Auxiliary Feedwater Pump Turbine Noble Gas Release Rate	_____ $\mu\text{Ci/s}$
Total Site Noble Gas Release Rate	_____ $\mu\text{Ci/s}$

Performed by _____ Date _____

APPENDIX H - FLOW ESTIMATES

(Page 1 of 1)

NOTE: These values will be conservative.

[1] IF ventilation flow data is not readily obtainable, THEN

the maximum values in cfm from Appendix C of the REP or from DBA analysis (shown in parentheses below) may be used in the Total Flow Rate Column below.

Shield Building - Unit 1 (If 1-FI-90-400 [1-M-9] and 1-PNL-90-L398 are inoperable)		
Containment Purge air flow	(Record 14,000 per operating fan)	cfm
EGTS air flow	(Record 8,000 if operating)	cfm
ABGTS Fan A-A In operation.	(Record 9,900 if operating)	cfm
PASF Ventilation	(Record 2200 if operating)	cfm
Total		cfm (Max. 44,100)

Shield Building - Unit 2 (If 2-FI-90-400 [2-M-9] and 2-PNL-90-L398 are inoperable)		
ABGTS Fan B-B in operation	(Record 9,900 if operating)	cfm (Max. 9,900)

Auxiliary Building (If 0-PNL-90-L397 [no MCR Indication] is inoperable)		
Number of Auxiliary Building Exhaust Fans Operating x 84,000 [1-M-9]		cfm
Number of Fuel Handling Area Exhaust Fans Operating x 60,000 [1-M-9]		cfm
Total		cfm (Max. 228,000)

Condenser Vacuum Exhaust - Unit 1 (If 1-FE-2-256 [no MCR Indication] is inoperable)		
Obtain an estimate from Operations personnel (rotometer on pump)		cfm (Max. 100)

Service Building Exhaust (If 0-PNL-L399 [no MCR Indication] is inoperable)		
Enter 10,500 SCFM for Service Building Exhaust		cfm (Max. 10,500)

APPENDIX I - CECC LONG TERM DOSE ASSESSMENT

(Page 1 of 1)

Iodine and Particulate Release Concentrations

- [1] IF** site iodine and particulate concentrations are required, **THEN**
REQUEST Chem Lab to obtain samples from applicable release points.
- [2] RECORD** the applicable information in the table below.
- [3] COMPLETE** and **TRANSMIT** Appendix I to the CECC.

	Flow Rate (cfm) A	I-131 Concentration ($\mu\text{Ci/cc}$) B	Particulate Concentration ($\mu\text{Ci/cc}$) C
Auxiliary Building			
Service Building			
U1 Shield Building			
U2 Shield Building			
Condenser Vacuum Exhaust			
Total			

Iodine and Particulate Release Fractions

Noble Gas Release Rate ($\mu\text{Ci/s}$) (1) D	I-131 Release Rate ($\mu\text{Ci/s}$) E = A * B * 472	I-131 Fraction E/D	Particulate Release Rate ($\mu\text{Ci/s}$) F = A * C * 472	Particulate Fraction F/D

(1) From App. B or App. G

Performed by: _____ Date: _____

APPENDIX J - LOSS OF METEOROLOGICAL DATA

(Page 1 of 4)

1.0 PURPOSE

This Appendix provides instructions to ensure appropriate actions are taken by the Shift Manager (SM) for Main Control Room outages of onsite meteorological data.

2.0 RESPONSIBILITY

Daily meteorological channel checks are performed by the SM to verify operability.

If an outage is detected, the SM shall take necessary actions to check backup displays, track the outage, and to initiate repair request.

Emergency Planning (EP) Field Support is responsible for operating the meteorological data system and for making the data signal available to the plant.

3.0 MINIMUM REQUIREMENTS

- A. The Offsite Dose Calculation Manual (ODCM) requires that two of three wind speed channels, two of three wind direction channels, and one of three air temperature differences be operable at all times to support estimation of routine and accident doses. A special report to the NRC is to be prepared for outages of more than seven (7) days.
- B. Emergency action level event (5.2 tornado) and protective action decision making of the Radiological Emergency Plan (REP) require use of meteorological data.
- C. R.G. 1.23 "Onsite Meteorological Programs" and ANSI/ANS Standard 3.11-2000 "Determining Meteorological Information at Nuclear Facilities" require a 90 percent annual joint data recovery rate of valid wind speed, wind direction and temperature difference.

APPENDIX J
(Page 2 of 4)

LOSS OF METEOROLOGICAL DATA

NOTE I&C should be contacted to fix any problem associated with the ICS display.

- [1]** IF Met data is unavailable in the Main Control Room or from the ICS Terminals in the TSC and OSC (METDATA), THEN
- OBTAIN** Met Data from the MET Tower using the CECC computer terminal in the TSC per Appendix J (page 3 of 4) of this Procedure.
- [2]** IF the minimum required data listed in Section 3.0 is not available from these methods, THEN
- DECLARE** the system inoperable and begin appropriate tracking, AND
- NOTIFY** EP Field Support (normal business hours or next working day, whichever is applicable) at x8450.
- [3]** IF specific Met data is still needed (i.e., EPIP-1, emergency action levels), THEN
- the remaining steps for obtaining data should be used in the following order:
- [a]** **CALL** the SQN Control Room (843-7680) and request the needed meteorological information.
- [b]** **REQUEST** the Operations Duty Specialist (ODS) to page the duty CECC Meteorologist. The CECC Meteorologist has backup procedures to estimate missing data using established relationships between onsite data and other sources of data.
- NOTE** This information obtained in step [c] will be from the 10 meter elevation but is still usable.
- [c]** **CALL** the Morristown National Weather Service at 9-1-(423)-586-8400 and **REQUEST** the wind speed and wind direction.
- [4]** **DOCUMENT** the closure of any tracking initiated, **AFTER** notification that the Met Tower outage is completed.

APPENDIX J
(Page 3 of 4)

TSC CECC COMPUTER AND PRINTER USE

- [1] ENSURE computer terminal is energized (switch is located in front).
- [2] PRESS the "Return" key twice (repeat step if necessary).
- [3] TYPE "WBMET" at the "Username" prompt AND
PRESS "Return".

NOTE The printer will print the MET data and log off the computer.

- [4] TYPE "TSC" at the "Password" prompt AND
PRESS "Return".
- [5] REPEAT step 2 through 4 for additional MET data as needed.

APPENDIX J
(Page 4 of 4)

**EXAMPLE REPORT
WATTS BAR NUCLEAR PLANT
METEOROLOGICAL DATA**

DATE: 4-OCT-01 TIME: 11:30:48 (Central)
REF: 49 LOCATION: CECC COMPUTER

DESCRIPTION	INSTRUMENT	TS LIMIT	DATA (Last 15 min)
WIND SPEED	10m Elevation	Operable and Channel Check	3.5 mph
	46m Elevation		5.4 mph
	91m Elevation		6.3 mph
WIND DIRECTION	10m Elevation		233.7 deg
	46m Elevation		222.4 deg
	91m Elevation		219.3 deg
AIR	10 to 46m		-1.1 F*
Delta T	10 to 91m		-1.9 F*
	46 to 91m		-0.9 F*

* To calculate Delta T, subtract the Lower elevation temperature value from the higher elevation temperature value (ex: (91m value) - (10m value)).

Performers Initials _____

SROs Initials _____

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-10

MEDICAL EMERGENCY RESPONSE

Revision 17

Unit 0

PREPARED BY: James F. Hagy

SPONSORING ORGANIZATION: Emergency Planning

APPROVED BY: Frank L. Pavlechko

Effective Date: 08/25/2003

LEVEL OF USE: REFERENCE

NON-QUALITY RELATED

REVISION DESCRIPTION:

Revision Number	Implementation Date	Pages Affected	Description of Revision
11	02/08/00	All	Non-intent Changes. Revised phone numbers to McMinn Hospital and REAC/TS. Revised map to McMinn Hospital using new State Route 305.
12	06/14/00	All	Non Intent change. Phone number to Fire Protection revised. Reference number revised. Typographical error corrected. Physician's designee added to the procedure for EMS consultation on medical response. This revision resolves problems identified in WBN PER, 006394.
13	09/25/01	All pg. 6, 10, 18	Plan effectiveness determinations revisions indicate the following revisions do not reduce the level of effectiveness of the procedure of REP: Intent change. Procedure revised to Non-Quality related per requirements of NQAP & pending revision to SPP-2.2. The coversheet and records section of the procedure was revised to reflect this change. Non-Intent change. Removed reference to TVA Physician and replaced with Site Physician or designee
14	01/24/02	All pg. 3, 12	Plan effectiveness determinations revisions indicate the following revisions do not reduce the level of effectiveness of the procedure of REP: Non-intent change. Added emergency room notification to Appendix D.
15	06/05/02	All 3, 8, 10 11 & 20	Plan effectiveness determinations on these changes indicate the following revisions do not reduce the level of effectiveness of the procedure or REP. Non-intent change(s): Added location of the 911 phone in app. B & C. Revised phone number to Industrial Safety, RADCON and MCR. Removed zip codes from Appendix C. Added OSHA notification requirements within (8) hours after a catastrophic accident and corrected two typo(s) in the procedure.
16	03/31/2003	All	Plan effectiveness determinations on these changes indicate the following revisions do not reduce the level of effectiveness of the procedure or REP. Non-intent change(s): Updated format for intersite consistency. Deleted Source Notes. Updated phone numbers.
17	08/25/2003	2, 12	Plan effectiveness determinations on these changes indicate the following revisions do not reduce the level of effectiveness of the procedure or REP. Non-intent change: Added ODS notification for SQPER 03-005656-000

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1.0 INTRODUCTION

At WBN the Medical Emergency Response Team (MERT) is an organized group of onsite personnel designated as the primary responders in a medical emergency. Emergency medical treatment involves treatment of a patient in areas other than the Medical Services facility. The MERT shall consist of the following list of personnel:

- Operations (Designated Unit Supervisor (US) and available AUOs)
- Fire Protection Section
- Radiological Control (RADCON) Technicians
- Medical Services - Nurse as requested
- Nuclear Security

This procedure outlines the actions to be followed during medical emergencies by the Medical Emergency Response Team (MERT) and other onsite support personnel. The Shift Manager (SM) and the MERT team members are primarily responsible to ensure that the actions outlined in this procedure are implemented.

2.0 REFERENCES

2.1 Source Documents

1. NUREG 0654, FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in support of Nuclear Power Plants
2. NUREG 0696, Functional Criteria for Emergency Response Facilities, Final Report

2.2 Interfacing Documents

1. NP Radiological Emergency Plan (REP)
2. WBN-EPIP-2 Notification of Unusual Event
3. WBN-EPIP-3 Alert
4. WBN-EPIP-4 Site Area Emergency
5. WBN-EPIP-5 General Emergency
6. WBN-EPIP-12, Emergency Equipment and Supplies
7. SPP-3.1 Corrective Action Program
8. SPP-3.5 Regulatory Reporting Requirements
9. ANSI Standard N.18.7-19762.0

3.0 INSTRUCTIONS

3.1 Initial Response

Upon discovering an ill or injured person, ALL WBN personnel shall

- A. **ADMINISTER** immediate aid for any life threatening situation (IF TRAINED).
- B. **SUMMON** assistance from available personnel in the immediate area.
- C. **NOTIFY** the Control Room Ext. 3911 and state that a medical emergency has occurred and **RESPOND** to ALL Questions.

NOTE Individuals not involved in the emergency are to remain at their work stations, refrain from using the phone, portable radio, and elevators, and continue working unless called upon for assistance or told to move to another location.

CAUTION Patients known or suspected of being in medical distress shall not be allowed to walk, especially when the cause of distress may be aggravated by exertion.

3.2 Control Room Response

Upon receipt of medical emergency notification, Control Room personnel shall perform APPENDIX A, Control Room Operator Medical Response Checklist.

3.3 Shift Manager Response

Upon receipt of medical emergency notification, the Shift Manager shall perform APPENDIX B, Shift Manager (SM) Medical Response Checklist.

IF Offsite Hospital assistance is required, **THEN**

the Shift Manager shall perform APPENDIX D, Hospital Notification Report.

3.0 Instructions (continued)

3.4 Incident Commander Response

Upon receipt of medical emergency notification, the Incident Commander (US) shall perform APPENDIX E, Incident Commander (US) Medical Response Guidelines.

3.5 MERT Response

Upon receipt of medical emergency notification, the MERT shall perform APPENDIX F, EMS Leader/EMT Medical Response Guidelines.

3.6 Medical Services Nurse Response

Upon receipt of medical emergency notification, the Medical Services Nurse shall perform APPENDIX H, Medical Services Nurse Medical Response Guidelines.

3.7 RADCON Response

Upon receipt of medical emergency notification, RADCON shall perform APPENDIX G, Radiological Control (RADCON) Medical Response Guidelines.

3.8 Nuclear Security and Standby AUO Response

Upon receipt of medical emergency notification, Nuclear Security and Standby AUO(s) shall perform APPENDIX I, Nuclear Security/AUOs (on Standby) Medical Response Guidelines.

3.9 Supplies

Radiological Emergency Supply Cabinets are located at the agreement hospitals and are stocked in accordance with EPIP-12, Emergency Equipment And Supplies. Specialized replacement items can be obtained in coordination with the WBN EP Manager as required.

4.0 RECORDS**4.1 Records of Classified Emergencies**

The materials generated in support of key actions during an actual Medical Emergency are considered Lifetime retention Non-QA records. Materials shall be forwarded to the EP Manager who shall submit any records deemed necessary to demonstrate performance to the Corporate EP Manager for storage.

4.2 Drill and Exercise Records

The materials deemed necessary to demonstrate performance of key actions during drills are considered Non-QA records. These records shall be forwarded to the EP Manager who shall retain records deemed necessary to demonstrate six-year plan performance for six years. The EP Manager shall retain other records in this category for three years.

**APPENDIX A
CONTROL ROOM OPERATOR MEDICAL RESPONSE CHECKLIST**

(Page 1 of 1)

Control room personnel will USE the following checklist in their RESPONSE to an onsite medical emergency.

- A. Obtain NAME of caller _____
- B. LOCATION (Bldg., Elev., Column) _____
- C. Type of Medical Emergency _____
- D. Number of Personnel Involved _____
- E. Immediate Area Hazards (Radiological, Safety) _____

- _____
- F. Telephone Number of Caller _____
- G. ALERT and DISPATCH MERT PERSONNEL _____
- H. Make the following plant announcement with public address:

"ATTENTION ALL SITE PERSONNEL."

"ATTENTION ALL SITE PERSONNEL."

**"A MEDICAL emergency has been reported. The MERT is to
ACTIVATE and RESPOND to the following LOCATION:**

_____ "

- I. CONFIRM that the Shift Manager (SM) has been notified.
- J. CONFIRM that the Fire Protection Section Duty Shift
Supervisor (Fire Brigade Leader) was notified by:
- Radio or
 Telephone (extension #3311 or #3355) and Pocket Pager #40566
- K. CONFIRM/COORDINATE MERT response (via radio or phone)
until Incident Commander assumes control.

APPENDIX B
SHIFT MANAGER (SM) MEDICAL RESPONSE CHECKLIST

(Page 1 of 2)

SMs will use the following checklists in Appendix B in response to an onsite Medical Emergency:

INITIAL RESPONSE CHECKLIST

A. ESTABLISH and MAINTAIN communications with the designated Incident Commander.

B. ENSURE the Onsite Medical Services Personnel (if staffed) have been notified to STANDBY. (#3254)

C. OBTAIN victim's name(s) and company or section.
Name _____ Co. Section _____

D. IF NEEDED, EXPEDITE offsite ambulance and hospital support by immediately completing the Hospital Notification Report in Appendix D and going to steps in TRANSPORTING OFFSITE of this Appendix.

**APPENDIX B
SHIFT MANAGER (SM) MEDICAL RESPONSE CHECKLIST
(Page 2 of 2)**

TRANSPORTING OFFSITE

- A. **OBTAIN** medical transports, as requested by the Incident Commander,
 Primary ambulance number: 9-775-2141, back-up 911 (outside bell line on SM desk).
 Life Force Helicopter: 9-778-5433, contact radio frequency is 155.205.
 IF Life Force is called, **ALSO** call Rhea County Ambulance for additional medical support.
- B. **ADVISE** ambulance dispatcher of radiological conditions, type of
 medical emergency, type of transport needed (emergency or non-emergency),
 and point of site entry.
- C. **ENSURE** the receiving hospital is notified, and has the information identified on
APPENDIX D.

NOTE 1 All WBN employees with service related traumatic injuries should be transported to an agreement facility. IF in shock or the condition is life threatening, he or she should be taken to the nearest facility, (Rhea Medical Center).

NOTE 2 IF the patient is suspected or known to have been over exposed or contaminated with radioactive material, use an agreement hospital and ambulance IF use of the WBN ambulance is not preferred.

- D. **NOTIFY** Nuclear Security to escort the ambulance onsite or prepare the landing
 zone and advise of its Estimated Time of Arrival (ETA).

FOLLOW-UP ACTIONS

- A. **PERFORM** reporting functions required by SPP-3.01 and SPP-3.5.
- B. **IF** it is determined that the patient's "Emergency Contact" (located on the
 employee's Form TVA 9880, Employee Status and Information Record) needs
 to be notified, **ENSURE** that Employee Relations & Development is contacted
 during regular hours and the employee's Supervisor is contacted during off-hours.
- C. **IF** the victim was determined to be a non-TVA employee, ensure that their
 supervision has been notified.
- D. **NOTIFY** the site Physician (or designee) any time TVA personnel receive radiation
 doses in excess of the TVA occupational dose limits at the first opportunity
 and as information becomes available. (#3254)
- E. **NOTIFY** Industrial Safety (if on duty) (#3418) or at home if the medical emergency
 has resulted in a fatality or catastrophic injury (i.e. three (3) or more hospitalized.
 OSHA notification needs to be made within eight (8) hours after these types of
 accidents by the site Industrial Safety Manager or duty Plant Manager.

APPENDIX C NOTIFICATION LIST

(Page 1 of 1)

WATTS BAR ONSITE EMERGENCY CONTACTS

Medical Emergency/TVA Ambulance	-3911
Medical Office (WBN Training Center)	-3254
Nuclear Security	-8544
Shift Manager	-7860
RADCON	-7865, 1862
Fire Protection Section	-3311 (3355, Back-up),
FPS Pocket Pager for Duty FPS/SS at	40566
Site Safety Manager	-3418

AMBULANCE

<u>Primary:</u>	Primary contact:	9-775-2141 (Dayton)
Rhea County Ambulance Service		911 (Backup, outside bell line SM Desk)
Highway 27, North	Secondary contact:	9-365-9500 (Spring City)
Dayton, Tennessee	Primary contact:	9-778-5433 (Chattanooga)
Life Force Helicopter		

RADIOLOGICAL AGREEMENT HOSPITALS

Rhea Medical Center (Primary Hosp)	Athens Reg. Med. Center (Secondary Hosp)
Highway 27, North	111 W. Madison Ave.
Dayton, Tennessee	Athens, TN
9-775-1121	9-1-(423)-745-1411
9-775-8542 (ER)	9-1-(423)-744-3260 (ER)
9-775-8589 (ER)	9-1-(423)-744-3227 (ER)

RADIOLOGICAL/TRAUMA

Erlanger Medical Center
975 E. Third St.
Chattanooga, TN
9-778-7296 (Emergency Room)

NOTE Erlanger provides Trauma/Radiological Backup services to TVA when directed by one of our Agreement Hospitals.

REACTS, OAK RIDGE, TENNESSEE	9-1-(865) 576-3131
24-Hour Hospital Disaster Network Commercial	9-1-(865) 576-1005

WBN

MEDICAL EMERGENCY RESPONSE

EPIP-10

APPENDIX D
HOSPITAL NOTIFICATION REPORT

(Page 1 of 1)
(Non-QA Record)

The Shift Manager shall complete this form and NOTIFY the destination hospital as soon as the need for offsite transportation is determined by calling:

Primary, Rhea Medical Center (9-775-1121 or 9-775-8542), or Secondary, Athens Regional Medical Center (9-1-(423)-745-1411 or 9-1-(423)-744-3227).

"This is the Shift Manager at the Watts Bar Nuclear Plant." (Connect me with the Emergency Room)

Date / / Time Hospital
Person Contacted Title

MESSAGE

"Watts Bar Nuclear Plant will be sending (number) injured person(s) to your hospital Emergency Department. The victim(s) is/are (names):"

Patient Condition: (Check one)

- NOT a Radiation Accident Victim(s). No radiological hazards.
Contaminated with radioactive material. (External/Internal)
Radiation overexposure only, no contamination
Contaminated and Overexposed
Potentially Contaminated, Medical injuries prevent a complete body survey.

Contamination Levels are:

- Unknown at this time
Counts Per Minute (Report as maximum level identified)
Millirem/hour

Check appropriate type of radiation:

- Alpha Beta Gamma

REM exposure MREM exposure"

The nature of injury(ies) are: "

The medical condition of the victim is: "

An Estimated Time of Arrival (ETA) will be provided by the ambulance EMT upon departure from Watts Bar."

Please call me back at to verify and confirm the validity of this medical emergency call."

(The SM should prepare to receive an immediate confirmation call-back from the Hospital.)

ODS notified of any ambulance traffic to or from site

Time:

**APPENDIX E
INCIDENT COMMANDER - DESIGNATED US
MEDICAL RESPONSE GUIDELINES**

(Page 1 of 2)

Incident Commander's will UTILIZE the following Guidelines in responding to an onsite Medical Emergency:

NOTE 1 The following steps may be performed in varying sequences as needed.

NOTE 2 If personnel contamination with injury has occurred, necessary medical treatment will take precedence over decontamination efforts.

INITIAL RESPONSE

- A. **ESTABLISH** communications with the SM and EMS leader.
- B. **RESPOND** to the incident and **ESTABLISH** a **COMMAND POST**.
- C. **DIRECT** initial first-aid **MERT** efforts until the **EMS Leader** arrives.
- D. **DIRECT** personnel in support of the medical response (i.e., **RADCON**, **Nuclear Security**, **AUOs**, **Nurse**).
- E. **ADVISE** the **SM** of the victim's name and organization.
- F. **ADVISE** the **SM** on radiological conditions with the patient.
- G. **ADVISE** the **SM** on which ambulance is required (per **MERT Leader**).

NOTE 3 Rhea County Ambulance is primary. TVA is secondary or for "load and go" if Rhea County Ambulance has an unacceptable ETA.

APPENDIX E
INCIDENT COMMANDER - DESIGNATED US
MEDICAL RESPONSE GUIDELINES
(Page 2 of 2)

- H. **ADVISE** the EMS leader on access/egress routes.
- I. **IF** radiological conditions with the patient are confirmed or suspected, **DIRECT RADCON** to accompany the patient in the ambulance and provide Radiological Control assistance.
- J. **DIRECT** on scene Security to address site access badging needs.
- K. **CONTROL** access to the accident scene until all hazards are removed to the extent that the area can be returned to unrestricted access (i.e., radiological, physical, or bio-hazard blood borne pathogens).
- L. **IF** the emergency is at the onsite Health Station and the full MERT has not been activated, then **COORDINATE** necessary support (i.e., standby notice to onsite EMTs, Security escorts for responding ambulances, and notifications).

**APPENDIX F
EMS LEADER/EMT
MEDICAL RESPONSE GUIDELINES**

(Page 1 of 2)

INITIAL RESPONSE

NOTE 1 The following steps may be performed in varying sequences as needed.

- A. **ESTABLISH** communications with the Incident Commander (US).
- B. **DIRECT** the dispatch of EMTs and equipment to the scene.
- C. **RESPOND** to the scene and **ASSUME** direction of the EMS response.
- D. **COORDINATE** necessary support via the Incident Commander.
- E. **DETERMINE** which ambulance (if any) is to be used. (ADVISE SM).

NOTE RHEA COUNTY AMBULANCE is the PRIMARY means of ground transport unless the medical emergency is life threatening and the ETA of the offsite ambulance is unacceptable. LIFE FORCE helicopter may be utilized according to medical protocol. This includes transportation of contaminated and injured patients. IF Life Force is chosen, Rhea County Ambulance should also be called as a back up for medical support.

- F. **ADVISE** the Incident Commander of the patient's destination (specific hospital, site Health Station or decon room or no further TVA care).
- G. **IF** the patient is contaminated, **ENSURE** the patient is wrapped in a linen sheet to contain the contamination during movement.
- H. **IF** the TVA ambulance is to be used, an EMT shall ride with the injured person. **REFER TO** Appendix J, Transit Maps, for driving directions.

NOTE 3 One TVA EMT from the Fire Protection Section or a nurse shall remain onsite at all times, except in life-threatening situations as determined by the site Physician (or designee) or EMS Leader, in consultation with the SM.

**APPENDIX F
EMS LEADER/EMT
MEDICAL RESPONSE GUIDELINES
(Page 2 of 2)**

- I. The EMT shall **CONTACT** the receiving hospital from the ambulance to provide an updated report and Estimated Time of Arrival.

- J. **OBTAIN SM** concurrence if a TVA ambulance is to be taken offsite, out-of-service, or when an employee treated by a TVA EMT is taken offsite for medical treatment due to service-related injury or illness.

- K. **ENSURE** necessary actions are taken for blood-borne pathogen controls at the accident scene. **REFER TO** Appendix K, Blood Cleanup at Watts Bar Nuclear Plant. Assistance may be available from site Health Services. **ADVISE** the Incident Commander of clean-up status.

**APPENDIX G
RADIOLOGICAL CONTROL (RADCON)
MEDICAL RESPONSE GUIDELINES**

(Page 1 of 2)

INITIAL RESPONSE

- A. **ADVISE** the MERT of radiological conditions and **PROVIDE** radiological support (monitoring, dosimetry, contamination control).
- B. **ESTABLISH** contamination control zones to support the EMS effort.
- C. **COORDINATE** the collection of isotopic samples for analysis.
- D. **ASSIST** in onsite patient decontamination as indicated.

NOTE 1 Essential medical care takes priority over decontamination.

NOTE 2 If the person is severely injured, they will be transported directly to an agreement hospital. However, reasonable efforts should be made to reduce the exposure level from contamination to less than 500 mrem/hour at one foot. The patient shall be wrapped in a linen sheet to contain contamination. Avoid the use of plastics to prevent patient heat stress.

- E. **ACCOMPANY** the patient in the ambulance (for radiological conditions).
- F. **ADVISE** the SM if a REP Van needs to be dispatched to the hospital.
- G. Upon arrival at the hospital, **ADVISE** the hospital team leader or Radiation Safety Officer of your identity and offer assistance.
- H. Unless directed otherwise, **PROVIDE** general radiological support (i.e., establish checkpoint, perform surveys of personnel and equipment).

**APPENDIX G
RADIOLOGICAL CONTROL (RADCON)
MEDICAL RESPONSE GUIDELINES
(Page 2 of 2)**

- I. **FOLLOW-UP** on TLD process and isotopic analysis data to the hospital.
- J. **COLLECT** contaminated material from the hospital and take necessary actions for disposal. Transport of material shall be in accordance with the TVA Radiological Material Shipping Manual.
- K. Any personnel known or suspected of receiving radiation exposure in excess of the TVA occupational dose limits should be reported by RADCON to the Site Physician (or designee) at the first opportunity and as information becomes available. (#3254)

**APPENDIX H
 MEDICAL SERVICES (NURSE)
 MEDICAL RESPONSE GUIDELINES
 (Page 1 of 1)**

- A. **PREPARE** to assist with patient care if the patient is brought to the site medical facility or onsite decontamination facility.
- B. **RESPOND** to the accident scene when requested, (Nuclear Security will provide an escort).
- C. **COORDINATE** radiological decontamination efforts with RADCON while onsite as the medical status permits.
- D. **ACCOMPANY** the EMT in the ambulance if needed.

NOTE 1 If an ambulance is to be used, an EMT shall ride with the injured person. A nurse may accompany the EMT.

NOTE 2 One TVA EMT from the Fire Protection Section or a nurse shall remain onsite at all times, except in life-threatening situations as determined by the site physician or EMS Leader, in consultation with the SM.

NOTE 3 Individuals who have received an acute whole body radiation exposure greater than 5 rem should have hematological studies performed to detect chromosomal aberrations or other changes in blood constituents. REACTS can provide this service and can be contacted at 9-1-865-576-3131 or 9-1-865-576-1005, by the attending physician.

- E. **IF** an emergency medical situation occurs at the Medical Station which requires EMT or ambulance assistance, **REQUEST** assistance using extension 3911. **IF** the situation is not of an emergency nature, the SM may be notified directly using a non-emergency phone number.

**APPENDIX I
NUCLEAR SECURITY/AUOs (on Standby)
MEDICAL RESPONSE GUIDELINES**

(Page 1 of 1)

NUCLEAR SECURITY

- A. **FACILITATE** emergency personnel and equipment movement through site areas, including control of the plant elevator as necessary.
- B. **PROVIDE** crowd control (at accident scene and ambulance).

NOTE If helipad is to be used, stage a vehicle with emergency lights to aid in the identification of the landing area to the aircraft. **DO NOT** shine spotlights in the air at the aircraft and **DO NOT** approach the aircraft once landed. **KEEP** all bystanders away from aircraft. Flight crew will handle patient loading. If there is a nearby aerial obstruction (power line, power pole, illumination by spot light is recommended.

- C. **COORDINATE** site access badging, TLD issuance, and escort needs with *MERT members, support staff, and offsite responders.*
- D. **PROVIDE** vehicle escorts for ambulances arriving and departing the site as necessary.
- E. **PROVIDE** escort for site Medical Services Staff from the Medical Station to the accident scene as required.

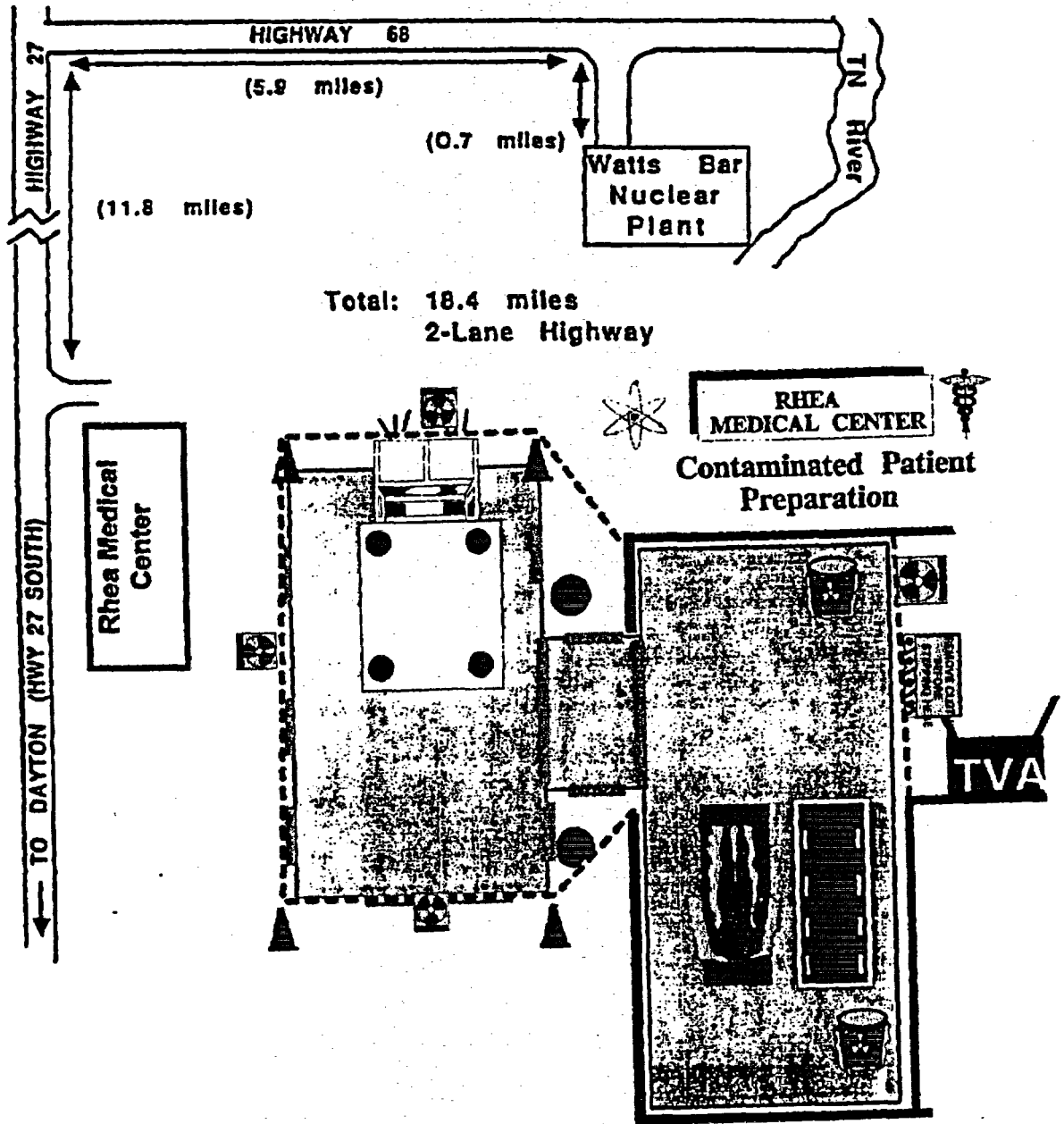
ASSISTANT UNIT OPERATORS

- A. Available AUOs will report to the Service Building Fire Emergency Equipment Room, Elevation 729 and **WAIT** for instructions from the Incident Commander.
- B. Anticipate the following needs:
- Delivery of equipment and supplies to the MERT (stretchers, etc.).
 - Assistance on securing/operating elevators.
 - Assistance with plant equipment as related to the emergency response.
 - Prepare to dress-out if you may be used in the control zone or for aid in passing a contaminated patient onto an awaiting stretcher.

APPENDIX J
TRANSIT MAPS

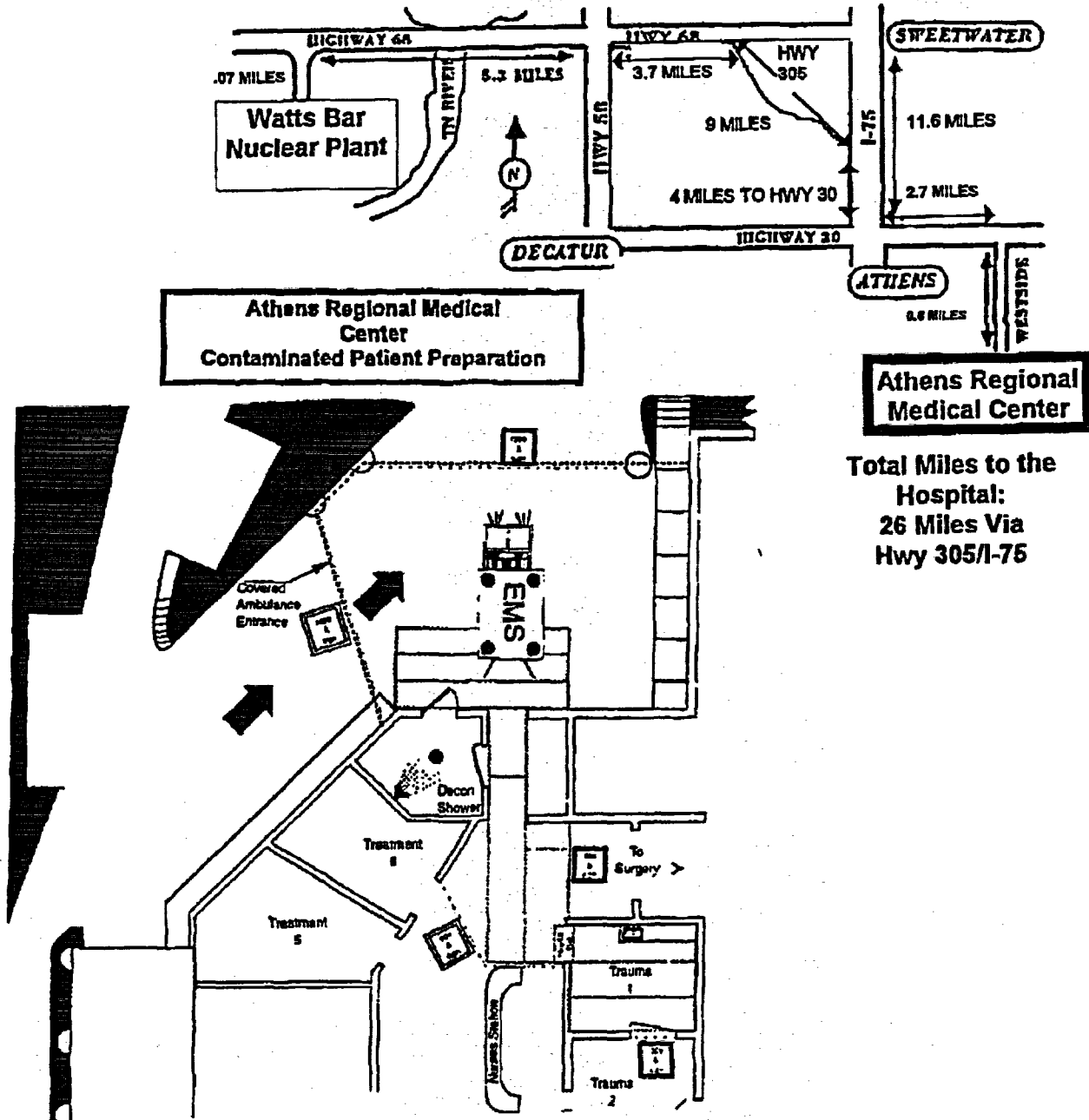
(Page 1 of 3)

WATTS BAR TO RHEA MEDICAL CENTER



**APPENDIX J
TRANSIT MAPS
(Page 2 of 3)**

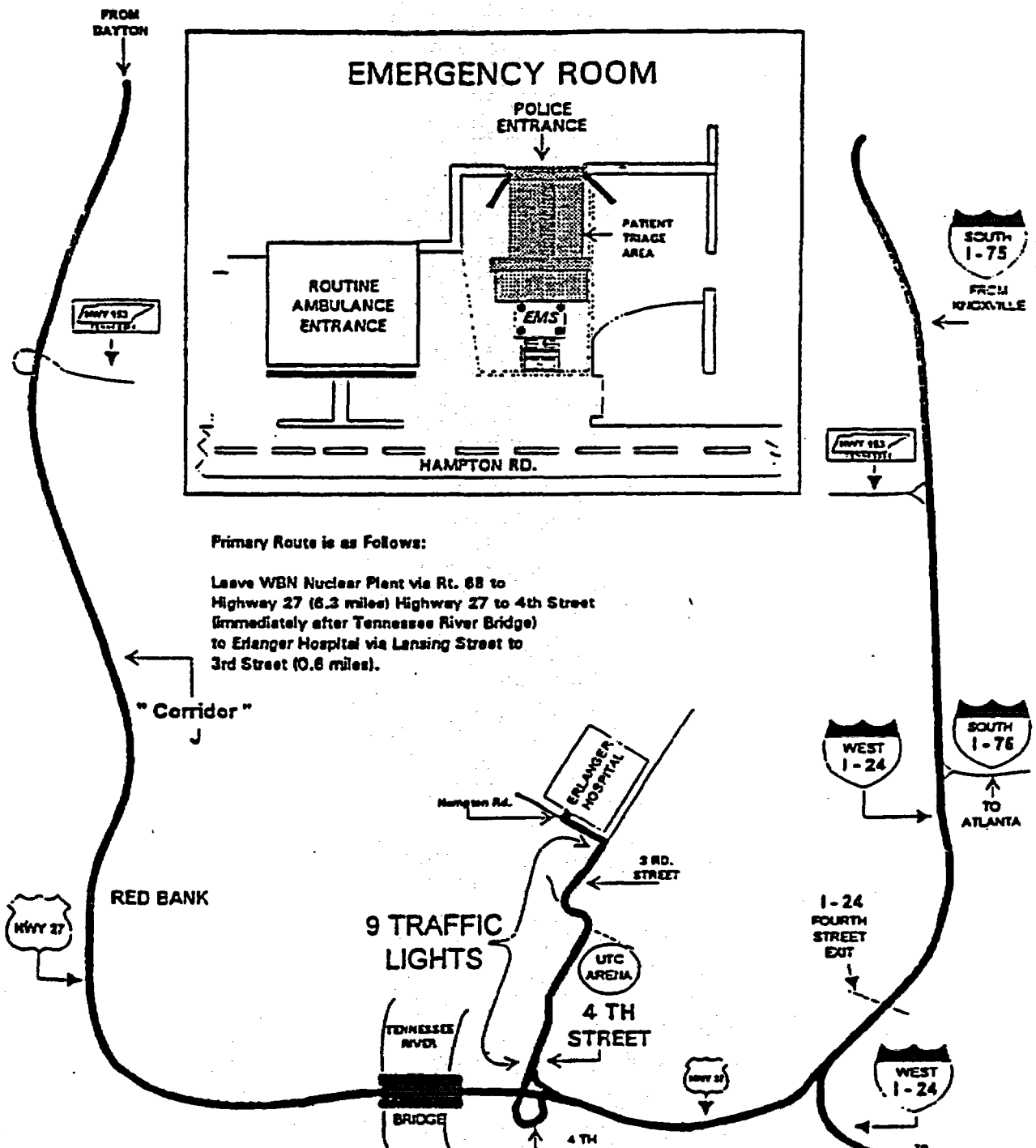
WATTS BAR TO ATHENS REGIONAL MEDICAL CENTER



APPENDIX J
TRANSIT MAPS

(Page 3 of 3)

WATTS BAR TO ERLANGER MEDICAL CENTER AREA



APPENDIX K
BLOOD CLEAN-UP AT WATTS BAR NUCLEAR PLANT
(Page 1 of 1)

Fire Operations Personnel have the responsibility of cleaning up accidentally spilled blood on site.

The following methods are to be used in cleaning up spilled blood:

Accidentally spilled blood in plant (including Stainless Steel piping).

1. Wipe up blood, using damp cloth.
2. Wipe spill area with cloth fully saturated (wet) with O-SYL Disinfectant "USE CODE II", diluted to proper strength solution (see O-SYL container for dilution ratio).
3. Let stand for ten (10) minutes, maintaining a damp surface.
4. Let area dry. Do not wipe up.
5. Place all clean-up materials in a "Bio-Hazard" marked disposable bag.
6. Take "Bio-Hazard" bag to Site Medical Services for disposal.
7. Notify Chem-Lab and have them do a swipe test per CEM-601.
(If blood spilled on Stainless Steel Piping)
8. If swipe test does not meet CEM-601 specs, re-do steps needed until acceptable limits are met.

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-6

**ACTIVATION AND OPERATION OF THE
TECHNICAL SUPPORT CENTER (TSC)**

Revision 26

Unit 0

PREPARED BY: James F. Hagy

SPONSORING ORGANIZATION: Emergency Planning

APPROVED BY: Frank L. Pavlechko

Effective Date: 08/08/2003

LEVEL OF USE: REFERENCE

NON-QUALITY RELATED

WBN	ACTIVATION AND OPERATION OF THE TECHNICAL SUPPORT CENTER	EPIP-6
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REVISION LOG

Revision Number	Implementation Date	Pages Affected	Description of Revision
21	06/05/02	All 3, 18, 24, 29 & 61	Plan effectiveness determinations on these changes indicate the following revisions do not reduce the level of effectiveness of the procedure or REP. Non-intent change(s): Clarified in App.B that the Site VP can assume the duties of the SED as necessary. Corrected typo in App. C and removed the reference to the 3 and 4 PARs. Added an operational responsibility to the TAM in App.E. to coordinate WOG-99-064 (ERG) activities with the TAT Team. Added WOG-99-064 to the App.V reference list.
22	12/16/2002	All	Plan effectiveness determination reviews indicate the following revisions do not reduce the level of effectiveness of the procedure or REP: Non-intent change to revise instruction references. Updated format for intersite consistency. Deleted source notes. Added table of contents. Revised section numbering.
23	01/21/2003	2, 60	Plan effectiveness determination reviews indicate the following revisions do not reduce the level of effectiveness of the procedure or REP: Non-intent change to add loss of offsite power to App. X, for WBPOR 03-00695-000.
24	03/31/2003	2, 4, 45, 65	Plan effectiveness determination reviews indicate the following revisions do not reduce the level of effectiveness of the procedure or REP: Non-intent change to reflect training provided for Clerical Staff. Editorial corrections. Added overtime restriction check to Appendix AA.
25	06/02/2003	2, 10, 33	Plan effectiveness determinations reviews indicate the following revisions do not reduce the level of effectiveness of the procedure or REP: Non-intent change. Standardized record retention. Editorial corrections.
26	08/08/2003	2-5, 47, 59-60	Non-intent change. Relocated technical considerations (Appendices W, X, Y, & Z) to TI-128, "Post Accident Technical Considerations (TSC)." Added AOI's to interface documents. Editorial corrections.

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1.0 PURPOSE

The purpose of this Procedure is to describe activation of Technical Support Center (TSC), describe the TSC organization, and provide for TSC operation once it has been staffed.

2.0 REFERENCES

2.1 Source Documents:

1. Tennessee Valley Authority Nuclear Power Radiological Emergency Plan (REP)
2. SPP-1.2, Fitness For Duty
3. SPP-1.5, Overtime Restrictions (Regulatory)
4. Memo from J. B. Hosmer to R. J. Johnson dated 1/15/88, RIMS No. B25 88011 5028
5. NUREG 0654, FEMA-REP-1, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in support of Nuclear Power Plants
6. NUREG 0696, Functional Criteria for Emergency Response Facilities, Final Report
7. ANSI Standard N 18.7-1976
8. CFR 20, Standards for Protection From Radiation
9. EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents
10. NRC Generic Letter 96-06, Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Condition
11. Response Technical Manual (RTM) 96 Vol. 1 Rev. 4.

2.2 Interface Documents

1. EPIP-1 Emergency Plan Classification Flowchart
2. EPIP-2 Notification of Unusual Event
3. EPIP-3 Alert
4. EPIP-4 Site Area Emergency
5. EPIP-5 General Emergency
6. EPIP-7 Activation and Operation of the Operations Support Center
7. EPIP-8 Personnel Accountability and Evacuation
8. EPIP-11 Security and Access Control
9. EPIP-13 Initial Dose Assessment for Radiological Emergencies
10. EPIP-15 Emergency Exposure Guidelines
11. EPIP-16 Termination of the Emergency and Recovery
12. AOI-6 Small Reactor Coolant System Leak
13. AOI-7.01 Maximum Probable Flood
14. AOI-8 Tornado Watch Or Warning
15. AOI-9 Earthquake
16. AOI-22 Break Of Downstream Dam
17. AOI-35 Loss Of Offsite Power
18. TI-128 Post Accident Technical Considerations (TSC)
19. CECC-EPIP-9 Emergency Environmental Radiological Monitoring Procedures
20. WBN FSAR
21. SOI-30.06 Auxiliary Building Gas Treatment System (ABGTS)
22. SOI-67.01 Essential Raw Cooling Water System
23. Chemistry Manual, Chapter 13 (PASS)
24. ICS User's Manual
25. Watts Bar Nuclear Plant, Plant Lighting, N3-228-4003
26. SOI-14.03, Condensate Demineralizer Waste Disposal

3.0 INSTRUCTIONS

3.1 General

The Shift Manager (SM), upon detection of an emergency condition, becomes the Site Emergency Director (SED), classifies the emergency, and declares the event. Upon arrival of the Plant Manager, or alternate defined in the Emergency Response Organization Call List, the SM will be relieved of the SED duties. The SED activates and operates the TSC (Appendix A) and oversees the operations of the Operations Support Center (OSC).

NOTE: In the event of plant inaccessibility, all references to the TSC (or OSC) are intended to refer to the alternate location selected for staffing, such as the staging area in Classroom 19 of the Watts Bar Training Center.

The TSC will provide the following functions:

- A. Provide plant management and technical support to plant Operations personnel during emergency conditions.
- B. Perform CECC functions for the Alert Emergency class, the Site Area Emergency class, and General Emergency class until the CECC is functional.
- C. Help the reactor operators determine the plant safety status.
- D. Relieve the reactor operators of peripheral duties and communications not directly related to reactor system manipulations.
- E. Prevent congestion in the control room.
- F. Provide assistance to the operators by technical personnel who have comprehensive plant data at their disposal.
- G. Provide a coordinated emergency response by both technical and management personnel.

3.0 INSTRUCTIONS**3.1 General (continued)**

- H. Provide reliable communications between onsite and offsite emergency response personnel.
- I. Provide a focal point for development of recommendations for offsite actions.
- J. Provide relevant plant data to the NRC for its analysis of abnormal plant operating conditions.

3.2 Initiating Conditions

This procedure shall be activated if an emergency has been declared and classified as ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY.

This procedure may be activated at any other time at the discretion of the SED.

3.3 Activation of the TSC

3.3.1 The SED will activate the TSC and announce the emergency condition by one or more of the following methods depending on time of day, etc:

- A. Plant public address announcement.

NOTE: The Radiological Emergency Response Organization Call List is handled in accordance with the Fitness for Duty, (SPP-1.2).

- B. Shift personnel will normally activate the Emergency Paging System (EPS) or contact the persons designated on the Emergency Response Organization Call List.
- C. TSC personnel can also contact additional responders/replacements by phone using the Emergency Response Organization Call List available in the TSC and Appendix W.
- D. Target activation time for Minimum TSC staffing is approximately 60 minutes.

3.0 INSTRUCTIONS (continued)**3.3.2 Emergency Response Organization Call List**

The Site Emergency Preparedness (EP) Manager shall:

1. **MAINTAIN** an Emergency Response Call List listing all TSC (and other emergency) personnel by organizational title, name, home and work telephone numbers, and pager numbers.
2. **UPDATE** the Emergency Response Organization Call List quarterly with input by the appropriate organizations. Current copies of the list will be maintained in the TSC, OSC, Main Control Room, SM Office, and Nuclear Security. Each page will be dated for revision control.

NOTE: All TSC responders shall have unescorted protected area access and shall comply with fitness-for-duty policies while on-call.

3.3.3 Depending on the emergency conditions, personnel required for the TSC may vary. Listed below is the minimum staff required:

- Site Emergency Director
- Operations Manager or Operations Communicator
- Technical Assessment Manager (TAM) or Technical Assessment Team Leader or TAT Team (Thermal Hydraulics, Mechanical, and Electrical) Members
- RADCON Manager

3.0 INSTRUCTIONS (continued)

3.3.4 In addition, the following personnel should report to the TSC, or assigned TSC support location, upon announcement of an ALERT or higher emergency or at the direction of the SED:

- Site Vice President (optional)
- Operations Manager
- Operations Communicator
- TSC Maintenance Manager
- Control Room Communicator (report to Control Room)
- Nuclear Security Manager (can initially be the Nuclear Security Shift Supervisor)
- Technical Assessment Team
- Chemistry Manager
- NRC Coordinator
- Emergency Preparedness Manager
- Media Relations Specialist (optional)
- Westinghouse Representative
- TSC Boardwriters
- Clerical Staff
- Emergency Response Team Boardwriter

3.0 INSTRUCTIONS (continued)**3.4 Required Actions For Activation and Operation of the TSC**

- 3.4.1 TSC staff actions and responsibilities are described in their checklists (Appendices B-Q).
- 3.4.2 TSC responders will complete all of the applicable steps contained in the appropriate Appendix/Checklist for their position.
- 3.4.3 The Site Emergency Director or designee shall declare the TSC activated and inform the SM of the final transfer of responsibilities. A formal activation announcement shall be made plant wide to indicate the transfer of responsibility from the SM to the TSC SED.

3.5 Contingencies

- 3.5.1 If there is a loss of onsite to offsite telephone communications, cellular phone, radios or the satellite phone described in SOI-100.01 will be used.
- 3.5.2 If the TSC becomes uninhabitable, the SED will relocate the TSC to an alternate location based on RADCON/OPERATIONS advice.
- 3.5.3 Plant procedures should be followed whenever possible. Should a situation arise where normal procedures would be inappropriate, action will be performed as determined by the SED.

3.0 INSTRUCTIONS (continued)

3.6 Long-Term Operation

- 3.6.1 Long-term operation will be put into effect during emergencies which are projected to exist for more than 12 hours.
- 3.6.2 The SED will notify the Central Emergency Control Center (CECC) of the decision to begin long-term operation.
- 3.6.3 Meals and arrangements for sleeping facilities will be made at the request of the SED. These arrangements may be made by the CECC.
- 3.6.4 Additional personnel will be called in at the request of the SED to provide coverage or to ensure 12-hour or shorter shifts in the TSC. The SED will coordinate these call-ins with Nuclear Security to facilitate site access.
- 3.6.5 The SED, through the OSC Manager, will establish 12-hour (or shorter) shifts for craft personnel onsite and call in additional personnel as necessary.

3.7 Termination and Deactivation

- 3.7.1 REFER TO EPIP-16, "Termination of the Emergency and Recovery," for activities associated with terminating emergencies, TSC deactivation, and post-accident recovery.
- 3.7.2 All equipment, supplies, and procedures will be replenished in the TSC following a drill, exercise or emergency by applicable groups as assigned in EPIP-12.

4.0 RECORDS

4.1 Records of Classified Emergencies

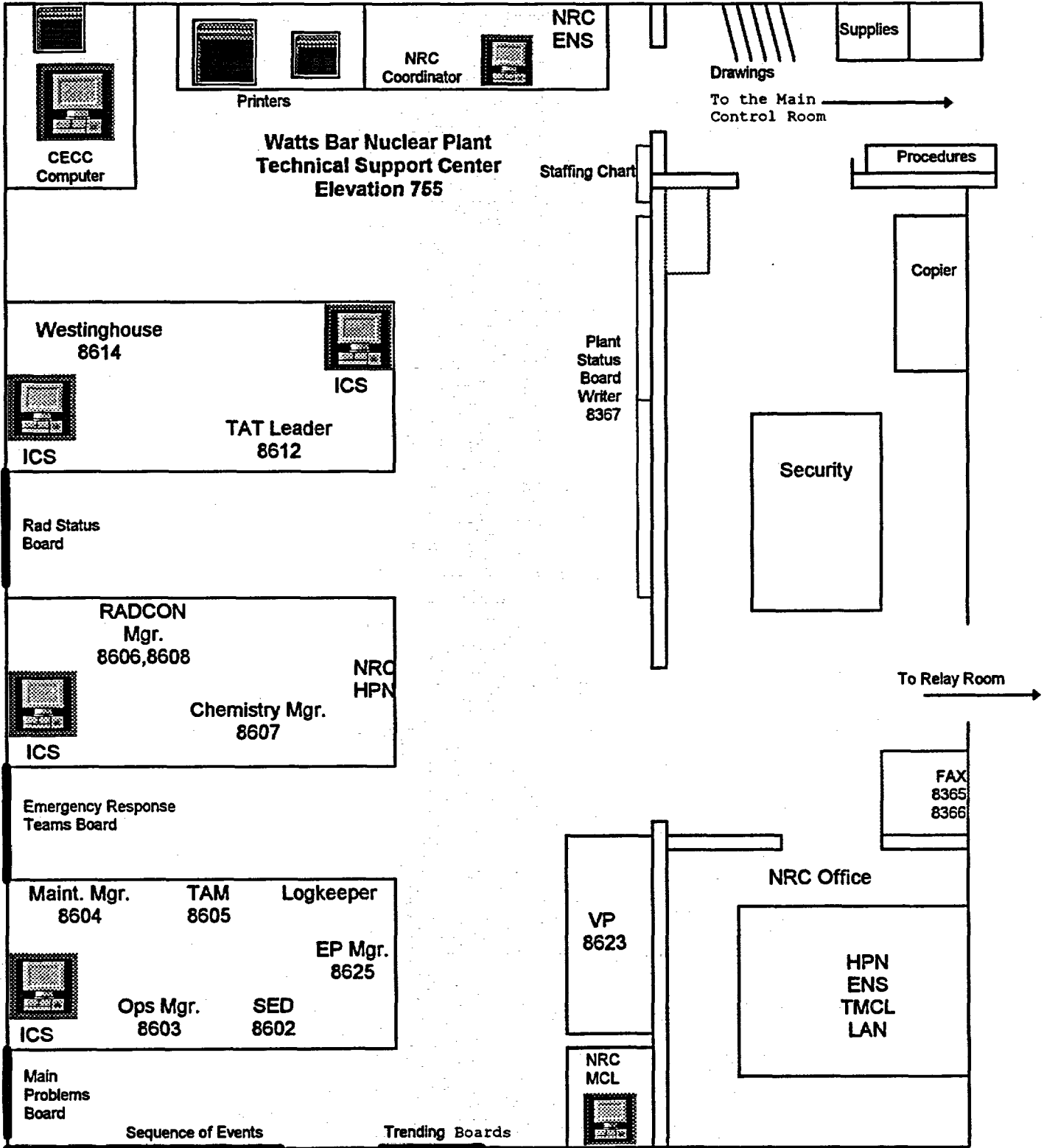
The materials generated in support of key actions during an actual emergency are considered Lifetime retention Non-QA records. Materials shall be forwarded to the EP Manager who shall submit any records deemed necessary to demonstrate performance to the Corporate EP Manager for storage.

4.2 Drill and Exercise Records

The materials deemed necessary to demonstrate performance of key actions during drills are considered Non-QA records. These records shall be forwarded to the EP Manager who shall retain records deemed necessary to demonstrate six-year plan performance for six years. The EP Manager shall retain other records in this category for three years.

APPENDIX A
TSC Facility Layout Diagram

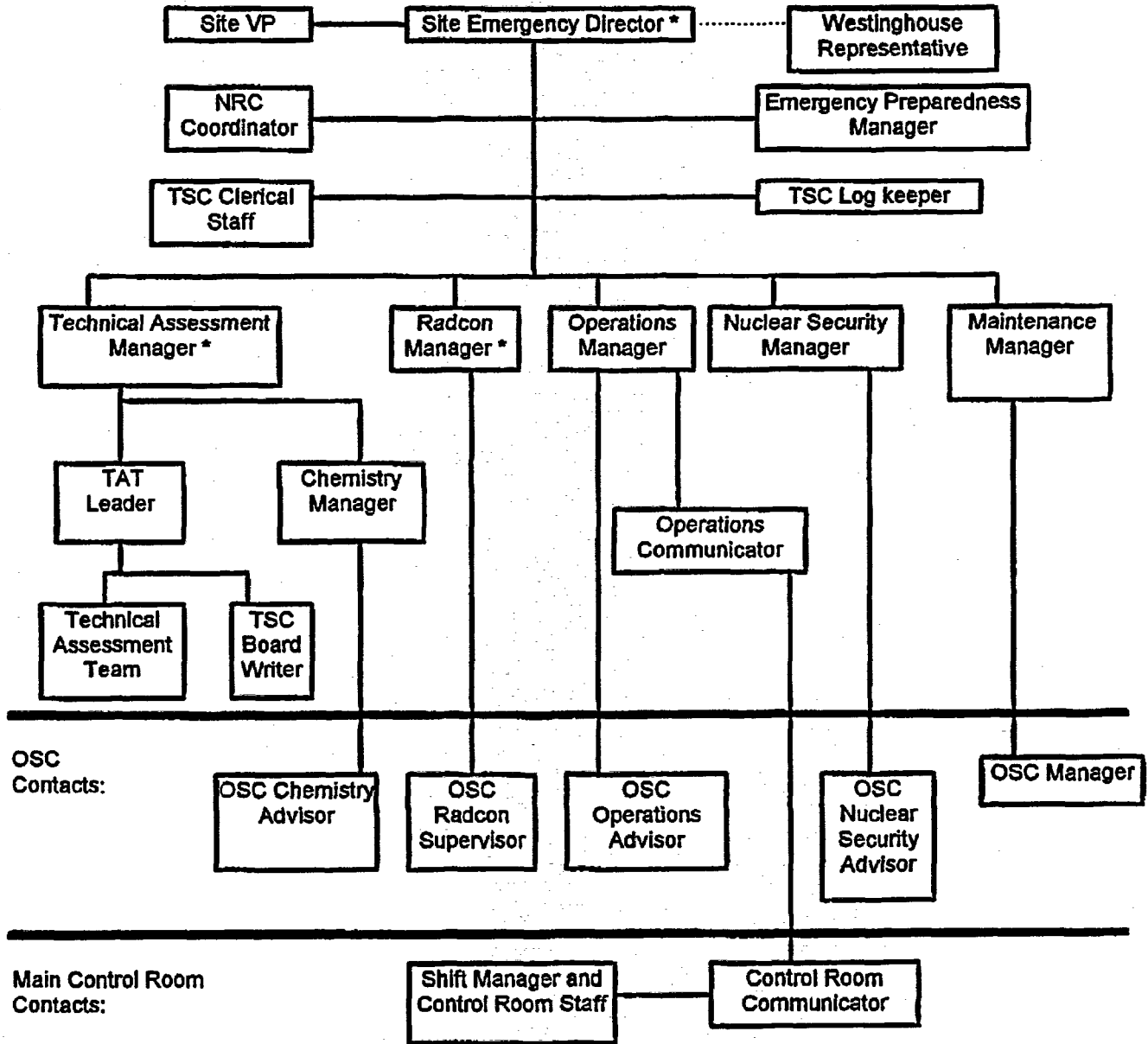
Page 1 of 2



APPENDIX A
Page 2 of 2

Technical Support Center (TSC)

WBN EMERGENCY RESPONSE ORGANIZATION



(*) Denotes minimum staffing position(s) per NUREG 0654.

APPENDIX B
SITE VICE PRESIDENT

Page 1 of 2

Initial Activation of the Technical Support Center ChecklistDate: _____
Inits/Time

- ___/___ ENTER badge into the TSC Accountability Card Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ NOTIFY SED of arrival.
- ___/___ ESTABLISH a log of communications/events.
- ___/___ ESTABLISH contact with the Media Relations Specialist.
- ___/___ ESTABLISH contact with the CECC Director.
- ___/___ CHECK the status of emergency actions already in progress.
(Such as accountability, site evacuation or press inquiries.)

APPENDIX B
SITE VICE PRESIDENT

Page 2 of 2

Operational Responsibilities List

- Provides TVA policy direction to the Site Emergency director (SED) and can assume the duties of the SED as necessary.
- Provides support to other emergency centers as necessary.
- Serves as the primary site representative to function as a TVA Spokesperson in the Local News Center (LNC) at the WBN Training Center (if activated).
- Directs the site resources to support the SED in the accident mitigation activities.
- Provides direct interface on overall site response activities with NRC, FEMA, other Federal organizations, the CECC Director, and onsite media.
- Provides interfaces/briefings (as needed) at offsite locations on the overall site response activities with Federal, State and Local agencies.

APPENDIX C
SITE EMERGENCY DIRECTOR

Page 1 of 7

Initial Activation of the Technical Support Center ChecklistDate: _____
Inits/Time

- ___/___ **OBTAIN** turnover briefing from SM/SED. Pages 5, 6 and 7 of Appendix C, SED Turnover Data Sheet may be used as a guide.
- ___/___ **REPORT** to the TSC and **ENTER** badge into the TSC Accountability Card Reader.
- ___/___ **SIGN IN** on the staffing chart and **PUT ON** position badge.
- ___/___ **ESTABLISH** log of communications/events.
- ___/___ **ESTABLISH** initial contact with the CECC Director.
- ___/___ **CHECK** the status of emergency actions already in effect such as emergency notifications (NRC, State, etc.) and accountability or site evacuation.
- ___/___ **REQUEST** checklist completion status for required positions:
- Site Emergency Director
 - Operations Manager or Operations Communicator
 - TAM or TAT Leader or TAT Team (Thermal Hydraulics, Mechanical, and Electrical) members
 - RADCON Manager
- ___/___ **CONFIRM** TSC staffed and Operational.
- ___/___ **ASSUME** role of SED from SM (confirmatory phone call to the SM).

APPENDIX C
SITE EMERGENCY DIRECTOR

Page 2 of 7

Initial TSC Activation Checklist (continued)

 / **INFORM** the CECC Director and OSC Manager that TSC is operational and that you have assumed responsibility of the SED and provide initial briefing.

 / **MAKE** a general plant-wide announcement regarding plant condition similar to the following:

1. **ACCESS** the Public Address System by dialing 487.
2. **COVER** the following points as a minimum:
 - a. **"ATTENTION ALL SITE PERSONNEL. ATTENTION ALL SITE PERSONNEL."**
 - b. "This is a drill, this is a drill." OR
 - c. "This is a real emergency. This is a real emergency."
 - d. This is _____ (name) Site Emergency Director. The TSC was activated at _____ hours. Due to _____ we have classified a _____ (NOUE, Alert, Site Area Emergency, General Emergency). Plant protective actions which we are implementing include: (Evacuations, assembly and accountability, etc.) _____
 - e. Radiological release points: _____

 - f. Our plan of action at this time is to _____

 - g. The OSC (is, is not) activated. All emergency response teams will be dispatched from the OSC.
 - h. Any emergency response personnel who are fatigue and feel they can not perform their assigned duties, should notify the EP Manager in the TSC and the OCS Manager in the OSC.
 - i. "This is a drill, this is a drill." OR
 "This is a real emergency. This is a real emergency."

**APPENDIX C
SITE EMERGENCY DIRECTOR**

Page 3 of 7

Operational Responsibilities

- Determines the emergency classification and periodically reevaluates the classification. Changes to the classification will be reported to the CECC Director and the NRC. **THE CLASSIFICATION OF THE EVENT CANNOT BE DELEGATED.** (See EPIP-1)
- Approves or authorizes emergency doses that may exceed applicable NRC dose limits. **THIS RESPONSIBILITY CANNOT BE DELEGATED.** (See EPIP-15)
- Prior to the CECC being staffed, makes recommendations for protective actions to State and Local agencies through the Operations Duty Specialist. **THIS RESPONSIBILITY CANNOT BE DELEGATED EXCEPT TO THE CECC DIRECTOR.** Use Appendix U, Protective Action Recommendation Guidance Flowchart as a guide. (See EPIP-5)
- Directs onsite emergency accident mitigation activities and periodically briefs the TSC/OSC staff on the current plant situation.
- Ensures that general plant population is periodically briefed on the emergency conditions.
- Periodically reviews priority of work operations of the OSC with the OSC Manager. (See EPIP-7)
- Directs activities of onsite emergency organizations.
- Consults with the CECC Director and Site VP on important decisions. Use the CECC Ring-down Line to the CECC Director.

APPENDIX C
SITE EMERGENCY DIRECTOR

Page 4 of 7

Operational Responsibilities (continued)

- Coordinates emergency actions with onsite NRC.
- Initiates onsite protective actions. (See EPIP-8)
- Verifies the administration of Potassium Iodine (KI) to TVA personnel based on RADCON Manager's advice/direction. (See EPIP-14)
- Establishes a RADCON checkpoint for site evacuation if conditions warrant. (See EPIP-8 and EPIP-14)
- Initiates long-term 24 Hour/day operation.
- Assumes responsibilities for the Severe Accident Management, when directed by the Main Control Room and the TSC is functional and the SAMG Evaluators are monitoring "TSC Diagnostic Flow Chart" (DFC). The TSC must have three SAMG Evaluators monitoring SAMGs to assume the accident responsibility.
- Evaluates conditions and determines if emergency procedures should be implemented.

a.	Emergency Environmental Radiological Monitoring Procedures	CECC-EPIP-9
b.	Medical Emergency Response	EPIP-10
c.	Security Threat	Physical Security Plan
d.	Personnel Accountability and Evacuation	EPIP-8
e.	Initial Dose Assessment for Radiological Emergencies	EPIP-13

DEACTIVATION RESPONSIBILITIES

Refer to EPIP-16.

**APPENDIX C
SITE EMERGENCY DIRECTOR**

Page 5 of 7

SED Turnover Datasheet

1. Current Emergency Classification:

UE ALERT SAE GE

Time/Date Declared ___/___

2. Event Description: _____

3. Equipment Problems: _____

4. Site Radiological Problems _____

5. Rad Release: Yes No
 Filtered Unfiltered
 Monitored Unmonitored
 Controlled Uncontrolled
 Projected Duration ___/___ (hrs./min.)

APPENDIX C
SITE EMERGENCY DIRECTOR
Page 6 of 7

SED TURNOVER DATASHEET (continued)

Wind Speed _____ mph Wind Direction FROM _____

Projected Whole Body Dose _____ mrem \cong _____ miles

Projected Thyroid Dose _____ mrem \cong _____ miles

6. Protective Action Recommendations to Offsite Officials (use PAR Flowchart in App. U):

None 1 2

7. Onsite Protective Actions Taken: _____

SITE EVACUATION ACCOUNTABILITY SPECIFIC AREA EVACUATIONS

8. Field Monitoring Vans Activated: Yes No

9. SM/SED Notifications Made:

Time ODS notified: _____ (State and other notifications)

Time NRC Notified _____

10. Injured or contaminated persons status: _____

Rhea County Medical Center

Athens Regional Medical Center

APPENDIX C
SITE EMERGENCY DIRECTOR

Page 7 of 7

SED TURNOVER DATASHEET (continued)

11. Status of personnel in the field:

<u>NAME</u>	<u>LOCATION</u>
_____	_____
_____	_____
_____	_____
_____	_____

12. SED Responsibility Transferred:

- Physically in the TSC
- TSC has minimum staffing
- Call SM to see if conditions have changed.
- Declares over the telephone, "The TSC is staffed and activated. This is _____ and I am now assuming the role of Site Emergency Director."

From: _____ to _____
SM TSC/SED

Time: _____ Date: _____

APPENDIX D
OPERATIONS MANAGER

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ **ENTER** badge into the TSC Accountability Card Reader.
- ___/___ **SIGN IN** on the Organizational/Staffing Chart and **PUT ON** position badge.
- ___/___ **ESTABLISH** log of communications/events.
- ___/___ **ESTABLISH** contact with the OSC Operations Advisor and the CR Communicator in the MCR.
- ___/___ **CHECK** the status of onsite emergency actions already in effect such as Accountability or Evacuations.
- ___/___ **REPORT** the status of inplant field activities (operations, repair, radiological, etc.) received from the OSC Operations Advisor, Maintenance Manager or SM.
- ___/___ **VERIFY** that notification of the NRC has been accomplished and inform SED and NRC Coordinator.
- ___/___ **DESIGNATES** a person knowledgeable of the event to establish and maintain communications with the NRC via the phone as needed. This will be the NRC Coordinator when present. **NOTIFY** the SM that responsibility for NRC contact has been transferred to the TSC.
- ___/___ **PROVIDE** this completed checklist to the SED or EP Manager.

APPENDIX D
OPERATIONS MANAGER

Page 2 of 2

Operational Responsibilities

- Directs operational activities.
- Informs the SED of plant status and operational problems.
- Recommends solutions and mitigating action for operational problems.
- Designates a SRO for the Technical Assessment Team, as needed.
- Provides advice regarding Technical Specifications, system response, safety limits, etc.
- Periodically reviews the emergency status with the control room. Reviews trended parameters, time history information, and status boards with the Control Room staff.
- Ensures that the Control Room is aware of TSC accident assessments and OSC repair and response activities and priorities.
- Ensures that adequate Operations staffing is currently in the Main Control Room and that oncoming control room staffing requirements are being met for the following positions (Appendix W, Emergency Responder Notification Form, may be used to document):
 - Shift Manager
 - Unit Supervisor
 - Station Technical Advisor
 - 2 Reactor Operators
 - 5 AUOs (minimum tech specs staffing)

APPENDIX E
TECHNICAL ASSESSMENT MANAGER

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

___/___

ENTER badge into the TSC Accountability Badge Reader.

___/___

SIGN IN on the Organizational/Staffing Chart and **PUT ON** position badge.

___/___

ESTABLISH log of communications/events.

___/___

CHECK the status of emergency actions already in effect such as Accountability or Site Evacuation or Response Teams in the Plant.

___/___

PROVIDE this completed checklist to the SED or EP Manager.

**APPENDIX E
TECHNICAL ASSESSMENT MANAGER**

Page 2 of 2

Operational Responsibilities

- Designates Technical Assessment Team Leader (if necessary).
- Directs activities of the Technical Assessment Team.
- Directs onsite effluent assessment.
- Projects future plant status based on present plant conditions.
- Keeps assessment team informed of plant status.
- Provides information, evaluations, and projections to the SED.
- Coordinates assessment activities with the CECC Plant Assessment team.
- Establishes and maintains a status of significant plant problems.
- If ICS is not operable, ensures information on Appendices R, S and T is sent to the CECC to be used in the predictive release rate model.
- Coordinate with the Chemistry Manager to initiate a Post-Accident Sample (PASS) as needed for assessment of the containment atmosphere and/or fuel damage.
- Provides for trending of significant parameters.
- Coordinate support activities performed by the TAT Team in association with WOG-99-064 Emergency Response Guidelines (ERGs) Background Information.
- Assumes SAMG responsibilities, when directed by the SED. The TSC must be functional and 3 SAMG Evaluators must be monitoring the "TSC Diagnostic Flow Chart" (DFC) to assume SAMG responsibilities.

APPENDIX F
MAINTENANCE MANAGER

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Badge Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ ESTABLISH log of communications/events.
- ___/___ ESTABLISH contact with the OSC Manager and Asst. OSC Manager.
- ___/___ CHECK the status of emergency actions already in effect such as Accountability or Site Evacuation.
- ___/___ CHECK status of deployed emergency response teams (Operations, Maintenance, Medical Emergency Response Teams, etc.)
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

**APPENDIX F
MAINTENANCE MANAGER**

Page 2 of 2

Operational Responsibilities

- Coordinates emergency response team assignment activities with the SED and the OSC.
- Maintains cognizance of deployed OSC teams purpose and status.
- Assists the SED and the OSC Manager in determining the relative priorities of maintenance/repair activities.
- Ensures that damage assessment and repair priorities are coordinated with the OSC.
- Maintains the Emergency Response Teams tracking board in the TSC.

APPENDIX G
OPERATIONS COMMUNICATOR

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Badge Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ OBTAIN headset and dial 4101.
- ___/___ CHECK operability of the Integrated Computer System (ICS) system.
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

APPENDIX G
OPERATIONS COMMUNICATOR

Page 2 of 2

Operational Responsibilities

- Provides operational knowledge as needed to status evaluations of plant systems.
- Provides advise to the Operations Manager regarding Technical Specifications, Systems Response, and safety limits.
- Assist Operations Manager in development of operations recommendations to problems.
- Monitors the Control Room Communicator Party line.
- Operates TSC ICS to obtain plant status and parameters.
- Provides information from the Control Room to the Technical Support Center personnel.
- Completes portions of plant parameter data sheets (Appendices R and S) as needed.
- Monitors plant status boards.
- Obtains supplemental data as needed by the TSC, OSC, or CECC.
- Makes inquiries to the Control Room Communicator to obtain specific information as necessary.
- Maintains the "Sequence of Events" board and "Main Problems" board.

APPENDIX H
NUCLEAR SECURITY MANAGER

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Badge Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ NOTIFY SED of arrival.
- ___/___ ESTABLISH log of communications/events.
- ___/___ ESTABLISH contact with the Central Alarm Station (CAS) and the Secondary Alarm Station (SAS).
- ___/___ CHECK the status of emergency actions already in effect such as Accountability, Site Evacuation or site being closed to visitors.
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

**APPENDIX H
NUCLEAR SECURITY MANAGER**

Page 2 of 2

Operational Responsibilities

- Directs activities of Nuclear Security personnel and mobilizes additional personnel as needed.
- Reports on site accountability/evacuation as defined in EPIP-8.
- Assists in establishing search teams, as required. (EPIP-8)
- Provides status updates to Nuclear Security personnel.
- Reports status of Security related events to the SED.
- Remain cognizant of Plant Radiological Conditions and report location(s) of Security Personnel/Patrols (as needed) to the RADCON Manager and the SED.
- Controls access to the site and the Main Control Room.
- Advises incoming emergency response personnel at the gate house of any radiological, security, or environmental hazards enroute to the TSC/OSC.

APPENDIX I
RADCON MANAGER

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Card Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ NOTIFY SED of arrival.
- ___/___ ESTABLISH log of communications/events.
- ___/___ ESTABLISH contact with the OSC RADCON Supervisor, the plant monitoring van (if dispatched), and the CECC Radiological Assessment Coordinator (RAC).
- ___/___ CONTROL eating and drinking in the TSC until habitability has been established.
- ___/___ CHECK the status of offsite/onsite radiological conditions and emergency actions already in effect such as Accountability or Site Evacuation.
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

APPENDIX I
RADCON MANAGER

Page 2 of 2

Operational Responsibilities

- Directs onsite Radcon activities.
- IF the CECC is not staffed, utilize EPIP-13 to perform dose assessment. REPORT results to the SED.
- Makes recommendations for protective actions for onsite personnel to the SED and for personnel entry into radiological hazardous environments.
- Obtains MET data as needed by using ICS or CECC computer.
- Directs the issue of KI by following EPIP-14 guidelines to onsite personnel after notifying the SED.
- Remains cognizant of assessments of inplant and onsite radiological conditions from the OSC RADCON Supervisor.
- Directs the radiological monitoring vans until the CECC assumes control (CECC EPIP-9).
- Provides periodic status reports to the SED on radiological conditions.
- Keeps the CECC RAC informed on site radiological conditions and Coordinates supplemental RADCON support.
- Coordinates assessment of radiological conditions offsite with CECC RAM.
- Maintains status maps of offsite radiological conditions and inplant Radiological Conditions status board (ensuring times are posted next to radiological data).
- Provides RADCON surveillance through the OSC to MET station personnel, if required by environmental releases.
- Designates a qualified/knowledgeable person to provide inplant radiological data to the NRC via the Health Physics Network (HPN) upon request.
- Ensures outlying emergency responders (i.e. line crews, warehouse) have dosimetry and are being protected during the emergency.
- Provide radiological data to the OSC that must be obtained from the Main Control Room.

APPENDIX J
CHEMISTRY MANAGER

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Card Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ NOTIFY SED of arrival.
- ___/___ ESTABLISH log of communications/events.
- ___/___ ESTABLISH contact with the OSC Chemistry Advisor and the CECC Radiological Assessment Coordinator (RAC).
- ___/___ CHECK the status of emergency actions already in effect such as chemistry sampling.
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

APPENDIX J
CHEMISTRY MANAGER

Page 2 of 2

Operational Responsibilities

- Coordinates information and the assessment of radioactive effluents with the CECC.
- Directs and remains cognizant of OSC Chemistry Advisor's Post-Accident Sampling Activities.

NOTE: From the time a decision is made to take a PASS sample, the results must be obtained in three (3) hours. A PASS should not (normally) be requested until post-accident conditions are stable enough to provide for useful evaluation results.

- Determines the impact of the incident on radwaste and various effluent treatment systems.
- Assist the RADCON Manager in Dose Assessment Calculations using EPIP-13, Initial Dose Assessment For Radiological Emergencies.
- Maintains the release rate portion on the Chemistry Status Board.
- Completes portions of plant parameter data sheets (Appendices R and S) as needed.
- Provides assistance to the SED and Technical Assessment Manager as needed.

APPENDIX K
NRC COORDINATOR

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Card Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ NOTIFY SED and OPS Manager of arrival.
- ___/___ ESTABLISH log of communications/events.
- ___/___ CHECK the status of plant conditions and emergency actions already in effect such as Accountability or Site Evacuation.
- ___/___ RELIEVE the Control Room of responsibility for maintaining contact with the NRC, (ENS).
- ___/___ CALL NRC to inform them that you have assumed responsibility for contact from the Control Room.
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

**APPENDIX K
NRC COORDINATOR**

Page 2 of 2

Operational Responsibilities

- Acts as primary liaison with onsite NRC personnel.
- Remains fully cognizant of emergency and plant conditions.
- Updates NRC personnel on plant status (use Appendix T as a guide when ICS is unavailable).
- Provides information requests from NRC to TSC personnel.

APPENDIX L CONTROL ROOM COMMUNICATOR

Page 1 of 1

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ **ENTER** badge into the Accountability Card Reader.
- ___/___ **SIGN IN** on the Organizational/Staffing Chart and **PUT ON** position badge.
- ___/___ **NOTIFY** SED of arrival.
- ___/___ **REPORT** to the TSC to obtain headset.
- ___/___ **REPORT** to Control Room and establish the Main Control Room "party line". Obtain headset/transmitter and activate amplifier at SM console - Dial 4101 for contact.
- ___/___ **ESTABLISH** contact with the Operations Manager and the other party line receivers (Status Board Writer, OSC OPS Advisor, TSC OPS Communicator).
- ___/___ **PROVIDE** this completed checklist to the SED or EP Manager.

Operational Responsibilities

- Serves as the control room - operations communications interface.
- Provides key plant parameters and critical safety function conditions and other information as requested over the operations "party line" to various positions in the TSC, OSC, and CECC.
- Provides operational knowledge for status evaluation of plant systems.

APPENDIX M
EP MANAGER

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Card Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ NOTIFY SED of arrival.
- ___/___ ESTABLISH log of communications/events.
- ___/___ CHECK the status of emergency actions already in effect such as Accountability or Site Evacuation.
- ___/___ ENSURE checklists are distributed and are being completed. INFORM SED when key staff are present.
- ___/___ ENSURE all essential positions are filled by qualified responders who are fit for duty and checklists are returned.
- ___/___ CALL TSC Clerks to come to the TSC as necessary.
- ___/___ ENSURE all activation activities are proceeding normally.
- ___/___ ENSURE operability of backup communications.
- ___/___ ENSURE that initial conditions data are transmitted to the CECC. Data may include equipment status, core status, and a copy of the latest RCS coolant chemical analysis.
- ___/___ ANNOUNCE activation of the TSC and provide SED (name) on the Plant PA and instruct AUOs in the plant to report to the OSC staging area once they have completed previous missions assigned by the Main Control Room.

**APPENDIX M
EP MANAGER**

Page 2 of 2

Operational Responsibilities

- Advises the SED regarding the REP, use of EIPs, emergency equipment use and availability, and coordination with the CECC.
- Confirm completion of action steps in EIPs 2 - 5.
- Confirms TSC and OSC are operating properly.
- Monitor fitness for duty (ie. fatigue) for the response team and make recommendations to the SED as needed.
- Provides assistance to the SED as requested.
- Coordinates food and lodging requirements for the ERO with the CECC.
- Assist the SED by making PA announcements to update plant personnel of emergency status.
- The EP Manager is authorized to activate the TSC if the incoming SED has been delayed. The SM/SED will be notified that Emergency classifications, Protective Action Recommendations and Emergency Dose Authorizations will remain with the SM/SED.

DEACTIVATION RESPONSIBILITIES

Refer to EPIP-16.

APPENDIX N
Intentionally Deleted
Page 1 of 1

Nuclear Engineering personnel are available on the TAT Teams and do not require a separate and repetitive Activation Checklist.

This appendix will remain in its current state/position for future use.

APPENDIX O
TSC LOGKEEPER

Page 1 of 1

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Card Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ REPORT to the SED and begin a log of his/her activities.
- ___/___ RECORD significant information on the TSC Sequence of Events board.
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

Operational Responsibilities

- Maintains official logs of the events and SED activities.
- Initiates the shift turnover list as directed by the SED.

APPENDIX P
TSC CLERICAL STAFF

Page 1 of 2

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Card Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ DISTRIBUTE manuals and TSC supplies and operate equipment as requested.
- ___/___ ENSURE that EIPs are at the appropriate revision level.
- ___/___ ASSIST TSC personnel in obtaining their TLDs.

Deactivation of the TSC

- ___/___ COLLECT all logs, notes, and other materials from each TSC position and PROVIDE them to the EP Manager for documentation and storage.
- ___/___ ASSIST in the deactivation of the TSC by returning all equipment, supplies and manuals to the proper storage cabinets.
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

APPENDIX P
TSC CLERICAL STAFF

Page 2 of 2

Operational Responsibilities

- Assist in the set up of the TSC.
- Maintains accountability of TSC personnel and staff organization board.
- Answers telephones.
- Distributes plant parameter data sheets (Appendices R, S, & T), if ICS in unavailable.
- Uses Emergency Response Call List to obtain staff for unfilled positions or replacement staff for shift turnover using Appendix W, "Emergency Responder Notification Form". Ensure that the following directions relative to call-in for unscheduled work per the "Fitness For Duty" (SPP-1.2) are followed: ASK responder the following questions:
 1. "Have you consumed alcohol in the past five hours?"
 2. "Are you fit for duty?"

If the first question is answered in the affirmative, call the next person on the call list unless the individual indicates that he is fit for duty in which case you should refer the determination to a supervisor.

- Operates facsimile machines.
- Operates CECC computer.

APPENDIX Q
TECHNICAL ASSESSMENT TEAM

Page 1 of 3

Initial Activation of The Technical Support Center Checklist

Date: _____

Inits/Time

- ___/___ ENTER badge into the TSC Accountability Card Reader.
- ___/___ SIGN IN on the Organizational/Staffing Chart and PUT ON position badge.
- ___/___ ESTABLISH log of communications/events.
- ___/___ ESTABLISH contact with the Technical Assessment Manager.
- ___/___ CHECK the status of emergency actions already in effect such as Accountability or Site Evacuation.
- ___/___ PROVIDE this completed checklist to the SED or EP Manager.

**APPENDIX Q
TECHNICAL ASSESSMENT TEAM**

Page 2 of 3

Operational Responsibilities

- Team Leader may designate TSC Logkeeper and Board Writer as directed by the TAM.
- Prepares and provides current assessment on plant conditions and provides this information to the CECC Plant Assessment Team.
- Reviews TI-128, "Post Accident Technical Considerations (TSC)," for additional information which may be applicable to the ongoing events.
- Project future status based on present plant conditions.
- Provide technical support and recommendations to plant operations on mitigating the accident.
- Determines the condition of the reactor and nuclear fuel.
- If ICS is unavailable, prepares accident assessment form (Appendix T) for the TAM and NRC Communicator as warranted.
- Provides Predictive Release Data Sheet (Appendix S) to the CECC as requested.
- Performs trending of key plant parameters using ICS.
- Assumes SAMG responsibilities, when directed by the TAM. The TSC must be functional and 3 SAMG Evaluators must be monitoring the "TSC Diagnostic Flow Chart" (DFC) to assume SAMG responsibilities.

**APPENDIX Q
TECHNICAL ASSESSMENT TEAM**

Page 3 of 3

Operational Responsibilities (continued)

- Verifies that all Aux. Bldg. Secondary Containment Enclosures (ABSCE) doors are closed. (SOI-30.06, Auxiliary Building Gas Treatment System, Checklist 3 or Fire Protection)
- Identifies and tracks the status of current ABSCE breaches. (Contact HVAC System Engineer for Breaching Log status)
- Verifies that all Emergency Control Room Pressurization Boundary (ECRPB) doors are closed.
- Identifies and tracks the status of current ECRPB breaches.

APPENDIX R
Plant Parameter Data Sheets

Page 1 of 6

DATE: _____ TIME: _____ UNIT: _____

NOTE: Unit status updates can be gained from the ICS computer utilizing the TSC Mimics and the following subgroups: REP1, REP2, 2PS1, 3MS1, 4SI1, or SPDS.

Refer to the ICS System User's Guide for additional information. If the ICS is inoperable, utilize the sheets of this appendix to trend/track needed data.

1. CST LEVEL: (LI-2-230A) _____ (LI-2-233A) _____ GAL
2. SG HEAT SINK: CONDENSER ATMOSPHERE
3. AFW PUMPS RUNNING: A-A B-B TD
4. SG LEVELS: NR: (1) _____ (2) _____ (3) _____ (4) _____ %
(LI-3-39) (LI-3-52) (LI-3-94) (LI-3-107)
WR: (1) _____ (2) _____ (3) _____ (4) _____ %
(LI-3-43A) (LI-3-56A) (LI-3-98A) (LI-3-111A)
5. SG PRESSURES: (1) _____ (2) _____ (3) _____ (4) _____ PSIG
(PI-1-2A) (PI-1-9A) (PI-1-20A) (PI-1-27A)
6. RVLIS: DYNAMIC RANGE _____ % STATIC _____ %
7. PZR LEVEL: (LI-68-335A) _____ (LI-68-320) _____ %
(COLD CAL) (HOT CAL)
8. PZR PRESSURE: (PI-68-342A) _____ (PI-68-340A) _____ PSIG
9. RCS PRESSURE: (LOOP 3 HOT LEG) (PI-68-64) _____ PSIG
10. HL TEMP: WR (1) _____ (2) _____ (3) _____ (4) _____ °F
(TI-68-1) (TI-68-24A) (TI-68-43) (TI-68-65)
11. CL TEMP: WR (1) _____ (2) _____ (3) _____ (4) _____ °F
(TI-68-18) (TI-68-41) (TI-68-60) (TI-68-83)

APPENDIX R
Plant Parameter Data Sheets
Page 2 of 6

DATE: _____ TIME: _____ UNIT: _____

12. RCS FLOW: RCP's RUNNING: 1 2 3 4 NATURAL CIRC

13. ECCS STATUS: STANDBY INJECT RECIRC SPRAY

14. RWST LEVEL: (LI-63-50) _____ GAL (LI-63-51) _____ GAL

15. CNTMT SUMP LEVEL: (LI-63-176) _____ %

16. FLOWRATE: (FI-62-93) _____ GPM (FI-63-170) _____ GPM
CHARGING BIT

17. CNTMT PRESSURE: NR (PI-30-44) _____ (PI-30-45) _____ PSID

18. INCORE THERMOCOUPLES:
QUAD 1 - (1 of #41,28,24,56,55,29,6) _____ °F
QUAD 2 - (1 of #44,22,58,21,16,63,64) _____ °F
QUAD 3 - (1 of #54,12,8,40,4,3,7) _____ °F
QUAD 4 - (1 of #60,9,45,6,46,42,36) _____ °F

19. NIS SOURCE RANGE: (N-131) _____ CPS (N-132) _____ CPS

20. SUB COOLING MARGIN _____ °F _____ °F
(TI-68-105) (TI-68-115)

21. STATUS TREE INDICATING:
RED REASON: _____
ORANGE REASON: _____
DATA BY: _____

APPENDIX R
Plant Parameter Data Sheets

Page 3 of 6

DATE: _____ TIME: _____ UNIT: _____

RADIATION MONITORSNOTE: UNIT STATUS UPDATE SHEETS (FOR USE WHEN TSC/ICS
COMPUTER IS INOPERABLE)

1. LOWER CNTMT (1-RE-90-106) (A) PARTICULATE _____ CPM
 ISOLATED TO LOWER (B) TOTAL GAS _____ CPM
 TO UPPER
2. UPPER CNTMT (1-RE-90-112) (A) PARTICULATE _____ CPM
 ISOLATED TO UPPER (B) TOTAL GAS _____ CPM
 TO LOWER (C) IODINE _____ CPM
3. SHIELD BLDG VENT (1&2-RE-90-400) TOTAL GAS U1 _____ U2 _____ μ Ci/cc
FLOW _____ CFM
4. AUXILIARY BLDG VENT (0-RE-90-101) (A) PARTICULATE _____ CPM
 ISOLATED (B) TOTAL GAS _____ CPM
FLOW _____ CFM (C) IODINE _____ CPM
5. CONDENSER EXHAUST (LR) _____ CPM FLOW _____ CFM
(1-RE-90-119) (FT-2-256)

NOTE: ICS radiation monitor(s) RE identifications may be referenced as RM
in the MCR.

APPENDIX R
Plant Parameter Data Sheets

Page 4 of 6

6. STEAM LINE RAD MONITORS: 1-RE-90-421 _____ mR/hr
 1-RE-90-422 _____ mR/hr
 1-RE-90-423 _____ mR/hr
 1-RE-90-424 _____ mR/hr

STEAMFLOW (MCR)

- 1-FI-1-3A(3B) SG1 _____ 1bm/hr.
 1-FI-1-10A(10B) SG2 _____ 1bm/hr.
 1-FI-1-21A(21B) SG3 _____ 1bm/hr.
 1-FI-1-28A(28B) SG4 _____ 1bm/hr.

7. SERVICE BLDG VENT _____ CPM FLOW _____ CFM
 0-RE-90-132

8. SG BLOWDOWN: _____ CPM _____ CPM
 1-RE-90-120 1-RE-90-121

9. ERCW DISCHARGE: HEADER A: _____ CPM _____ CPM
 0-RE-90-133 0-RE-90-140
 HEADER B: _____ CPM _____ CPM
 0-RE-90-134 0-RE-90-141

10. Additional monitors in alarm (trend as needed).

DATA BY: _____

APPENDIX R

Plant Parameter Data Sheets

Page 5 of 6

DATE: _____ TIME: _____ UNIT: _____

POST-ACCIDENT RADIATION MONITORS

NOTE: UNIT STATUS UPDATE (FOR USE WHEN TSC/ICS COMPUTER IS INOPERABLE)

1. UPPER CNTMT: (TOP OF #2 & #3 SG) 1-RE-90-271: _____ R/hr
(TOP OF #1 & #4 SG) 1-RE-90-272: _____ R/hr
2. LOWER CNTMT: (BETWEEN #2 & #3 SG) 1-RE-90-273: _____ R/hr
(BETWEEN #1 & #4 SG) 1-RE-90-274: _____ R/hr
3. COND VAC EXHAUST: (mid.R/1-RE-90-404A) _____ (HR/1-RE-90-404B) _____ CPM
4. Additional monitors in alarm (trend as needed):

DATA BY: _____

APPENDIX R
Plant Parameter Data Sheets

Page 6 of 6

NOTE: UNIT STATUS UPDATE (FOR USE WHEN TSC/ICS COMPUTER IS INOPERABLE)

DATE: _____ TIME: _____ UNIT: _____

RADIOLOGICAL RELEASE DATA

1. RELEASE POINT: _____

2. RELEASE RATES: CIRCLE ONE: DECREASING STABLE INCREASING UNKNOWN

-----AIRBORNE-----LIQUID RELEASE-----

RELEASES μ Ci/SEC	ISO-TOPE	CONCENTRATION VALUE UNITS	FLOWRATE VALUE UNITS	TOTAL-RELEASE VALUE UNITS
NOBLE GAS _____	_____	_____	_____	_____
IODINES _____	_____	_____	_____	_____
PARTICULATE _____	_____	_____	_____	_____
_____ COMBINED RELEASE ISOTOPE RELEASE RATE	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

3. RELEASE BEGAN _____ EXPECTED TO END _____ EST/EDT. DURATION _____ HR
RELEASE POTENTIAL: _____ Ci, IN VOLUME OF _____ (CU FT OR GAL)

4. METEOROLOGICAL CONDITIONS: (IF REQUESTED DUE TO MET DATALINK INOPERABLE)

DATE	TIME	WIND SPEED (MPH or METERS)	DIRECTION (DEGREES)	ELEVATION (METERS)	TEMPERATURE DIFFERENTIAL
____/____/____	____:____	_____	_____	_____	_____
____/____/____	____:____	_____	_____	_____	_____
____/____/____	____:____	_____	_____	_____	_____

5. REMARKS/COMMENTS:

DATA BY: _____

APPENDIX S
Predictive Release Data Sheet

Page 1 of 1

DATE: _____ TIME: _____ UNIT: _____
DATA NEEDED FOR CECC TO PERFORM PREDICTIVE RELEASE METHODOLOGY

1. PRIMARY COOLANT CONCENTRATION

ISOTOPE	IN GAS		IN LIQ		SAMPLE DATA	
	$\mu\text{Ci/cc}$		$\mu\text{Ci/ml}$		DATE: _____	TIME: _____
I-131	_____	_____	_____	_____	_____	_____
I-132	_____	_____	_____	_____	_____	_____
I-133	_____	_____	_____	_____	_____	_____
I-134	_____	_____	_____	_____	_____	_____
I-135	_____	_____	_____	_____	_____	_____
CS-137	_____	_____	_____	_____	_____	_____
CS-138	_____	_____	_____	_____	_____	_____
KR-85m	_____	_____	_____	_____	_____	_____
KR-85	_____	_____	_____	_____	_____	_____
KR-87	_____	_____	_____	_____	_____	_____
KR-88	_____	_____	_____	_____	_____	_____
XE-133	_____	_____	_____	_____	_____	_____
XE-135	_____	_____	_____	_____	_____	_____

LOCATION: _____

TEMPERATURE: _____ °F

PRESSURE _____ PSIA

GAS VOLUME: _____ CC

WATER MASS: _____ GRAM

WATER LEVEL: _____

2. CONCENTRATION OF HYDROGEN IN CONTAINMENT ATMOSPHERE

H₂ CONC (MOLE %): _____ DATE: _____

CNTMT TEMP: _____ °F TIME: _____

CNTMT PRESS _____ PSI LOCATION: _____

3. OPERATING POWER HISTORY (IF CECC/ICS DATALINK INOPERABLE)

DATE/TIME OF SHUTDOWN: _____

START PERIOD	END PERIOD	AVG POWER IN MWt	START PERIOD	END PERIOD	AVG POWER IN MWt
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

4. CORE EXIT THERMOCOUPLE READINGS (IF CECC/ICS DATALINK INOPERABLE)

THERMOCOUPLE NUMBER	DATE	TIME	READING (F)	NOTES:
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

5. REACTOR WATER LEVEL HISTORY (IF CECC/ICS DATALINK INOPERABLE)

DATE	TIME	READING (UNITS)	RCS VOL (CU FT)	NOTES:
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Send to: CECC Core Damage & CECC RAC. DATA BY _____

APPENDIX T
TSC Accident Assessment Summary Sheet

Page 1 of 1

NOTE: This Status Update Sheet is for use when the TSC ICS/ERDS data systems are inoperable.

TO: Tech. Assmt. Mgr. & NRC Coordinator and CECC Plant Assessment Team
FROM: WBN Tech. Assmt. Team

I. HEAT REMOVAL CAPABILITY (Core Cooling, Heat Sink, RSC Inventory):

Status Tree: _____

II. FUEL INTEGRITY (Subcriticality, RCS Radionuclide):**III. RADIOACTIVITY IN CONTAINMENT;****IV. CONTAINMENT INTEGRITY:**

Status Tree: _____

V. OVERALL ASSESSMENT & RECOMMENDATIONS:

Prepared by _____

WBN /EXT _____

Time _____

APPENDIX U
Protective Action Recommendation

Page 1 of 1

NOTE: If conditions are unknown utilizing the flowchart, then answer NO.

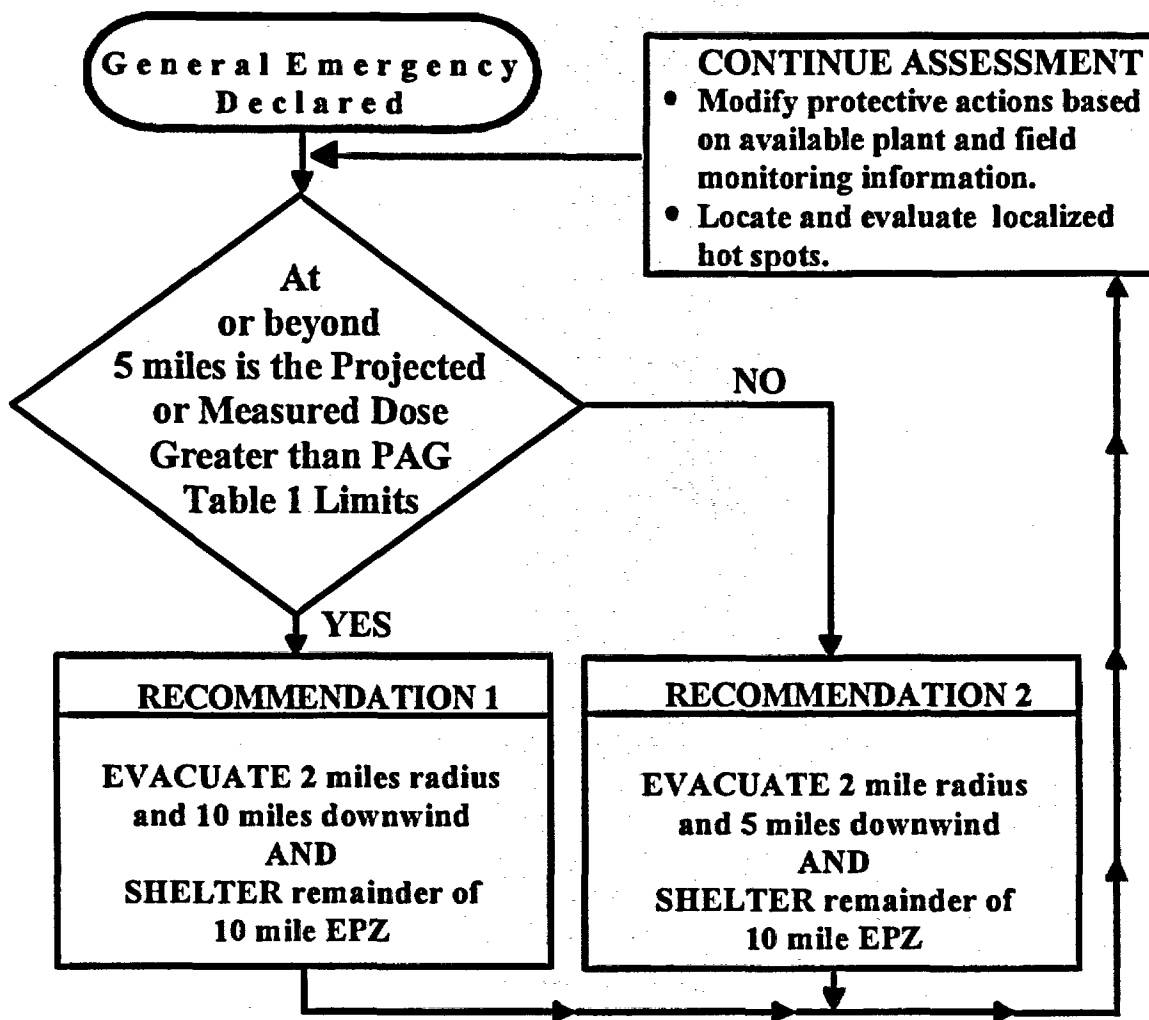


TABLE 1 Protective Action Guides	
TYPE	LIMIT
Measured	3.9E-6 microCi/cc of Iodine 131 or 1 REM/hr External Dose
Projected	1 REM TEDE or 5 REM Thyroid CDE

APPENDIX V
Reference Materials and Equipment List

Page 1 of 1

The following reference materials are provided in the TSC:

1. Watts Bar Nuclear Plant FSAR.
2. Watts Bar Nuclear Plant Technical Specifications (Unit 1).
3. Surveillance Instructions (Selected). (Note ¹ Below)
4. Technical Instructions (Selected). (Note ¹ Below)
5. Radiological Control Instructions.
6. System Operating Instructions.
7. General Operating Instructions.
8. REP and WBN and CECC Emergency Plan Implementing Procedures
9. Plant Functional Drawings.
10. Abnormal Operating Instructions.
11. Emergency Operating Procedures.
12. Westinghouse Emergency Response Guidelines. (Note ² Below)
13. WOG, ERG Maintenance Direct Work Item DW-97-002 Response (Emergency Response Guidelines, Background Information).
14. Hand-held calculators.
15. Office supplies for use in the TSC.

NOTE: 1: Selection to be made by Technical Assessment Team Leader(s) or Technical Assessment Manager(s) and approved by the Emergency Preparedness Manager.

NOTE: 2: Obtain copy from Site Westinghouse Representative or Master Files.

