

Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

April 12, 2002

10 CFR Part 50, App E

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Mail Stop OWFN, P1-35 Washington, D.C. 20555-0001

Gentleman:

In the Matter of)	Docket Nos.	50-259
Tennessee Valley Authority)		50-260
			50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 1, 2, and 3 EMERGENCY PLAN IMPLEMENTING PROCEDURE (EPIP) REVISIONS

TVA is submitting this notification in accordance with the requirements of 10 CFR Part 50, Appendix E, Section V, to provide NRC with the following EPIP revisions: (1) EPIP-1, Revision 31, EPIP-8, Revision 14, and EPIP-10, Revision 22. The EPIP revision date for these changes is March 20, 2002.

The enclosed information is being sent by certified mail. The signed receipt signifies that you have received this information. If you have any questions, please telephone me at (256) 729-2636.

Sincerelv E. Abney

Manager of <u>Licensing</u> and Industry Affairs

Enclosurè cc: See page 2

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U.S. Nuclear Regulatory Commission Page 2 April 12, 2002 Enclsoure cc (Enclosure): NRC Resident Inspector (Enclosure provided by Browns Ferry Nuclear Plant BFN Document Control Unit) P.O. Box 189 Athens, Alabama 35611 Mr. Paul E. Fredrickson (2 Enclosures) U.S. Nuclear Regulatory Commission Region II Sam Nunn Atlanta Federal Center 61 Forsyth Street S.W., Suite 23T85 Atlanta, Georgia 30303-8931 Mr. Kahtan N. Jabbour, Senior Project Manager (w/o Enclosure) U.S. Nuclear Regulatory Commission One White Flint, North (MS 08G9) Office of Nuclear Reactor Regulation 11555 Rockville Pike Rockville, Maryland 20852-2738

ENCLOSURE TENNESSEE VALLEY AUTHORITY BROWNS FERRY NUCLEAR PLANT UNITS 1, 2, AND 3

EMERGENCY PLAN IMPLEMENTING PROCEDURES (EPIP) EPIP-1,-8, AND -10

SEE ATTACHED

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U.S. Nuclear Regulatory Commission Page 3 April 12, 2002

TGA:JEW: cc (w/o Enclosure): T. W. Cornelius, PAB 2K-BFN B. K. Marks, LP 6B-C A. S. Bhatnagar, PAB 1E-BFN EDMS-K

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ENCLOSURE TENNESSEE VALLEY AUTHORITY BROWNS FERRY NUCLEAR PLANT UNITS 1, 2, AND 3

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EMERGENCY PLAN IMPLEMENTING PROCEDURES (EPIP) EPIP-1,-8, AND -10

SEE ATTACHED

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GENERAL REVISIONS

GENERIC FILING INSTRUCTIONS

FILE DOCUMENTS AS FOLLOWS:

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PAGES)

- EPIP-1 REVISION 30 (AFFECTED EPIP-1 REVISION 31 (SUPPLIED PAGES)
- EPIP-8 REVISION 13 (ALL) EPIP-8 REVISION 14 (ALL)
- EPIP-10 REVISION 21 (ALL) EPIP-10 REVISION 22 (ALL)

TEANESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE EPIP-1

EMERGENCY CLASSIFICATION PROCEDURE

REVISION 31

PREPARED BY: T. W. CORNELIUS

RESPONSIBLE ORGANIZATION: EMERGENCY PREPAREDNESS

APPROVED BY: GILBERT LITTLE

EFFECTIVE DATE: 03/20/2002

LEVEL OF USE: REFERENCE USE

QUALITY-RELATED

PHONE: 2038

DATE: 02/25/2002

REVISION LOG

Procedure Number: EPIP-1

Revision Number 31

Pages Affected: 1, 34, 128, 130, 132, 134

Description of Change:

IC - 42 EPIP 1, rev. 31 revision is being conducted to change the Site Boundary Radiation Reading from a beta-gamma value to gamma only value. This change does not involve the numerical value. This revision is in compliance with the REP and doesn't affect the BFN EP standard emergency classification and action level scheme. This revision is being conducted to ensure consistency with NUMARC/NESP-007, Reg Guide 1.101, and NEI 99-01 (Rev. 4).

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4.0 RADIACTIVITY RELEASE

RADIOACTIVITY RELEASES 4.0

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REVISION 30

EPIP-1 SECTION II EVENT CLASSIFICATION MATRIX

EMERGENCY CLASSIFICATION PROCEDURE

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NOTES:	
NOTE 4.1-U	Prior to making this emergency classification based upon the WRGERMS indication, assess the release by either of the following:
	1. Actual field measurements exceed the limits in Table 4.1-U
	2. SI 4.8.B.1.a.1 Release Fraction exceeds 2.0
	If neither assessment can be conducted within 60 minutes then the declaration must be made on the valid WRGERMS reading.
NOTE 4.1-A	Prior to making this emergency classification based upon the WRGERMS indication, assess the release by either of the following:
	1. Actual field measurements exceed the limits in Table 4.1-A
	2. SI 4.8.B. La.1 Release Fraction exceeds 200
	If neither assessment can be conducted within 15 minutes then the declaration must be made on the valid WRGERMS reading.
NOTE 4.1-S	Prior to making this emergency classification based upon the Gaseous Release Rate indication, assess the release by either of the following methods:
	1. Actual field measurements exceed the limits in Table 4.1-S.
	2. Projected or Actual Dose Assessments exceed in domrem TEDE or 500 mrem CDE.
	If neither assessment can be conducted within 15 minutes then the declaration must be made based on the valid WRGERMS reading.
NOTE 4.1-G	Prior to making this emergency classification based upon the Gaseous Release Rate indication, assess the release by either of the following methods:
	1. Actual field measurements exceed the limits in Table 4.1-G.
	2. Projected or Actual Dose Assessments exceed 1000 mrem TEDE or 5000 mrem CDE.
	If neither assessment can be conducted within 15 minutes then the declaration must be made based on the valid WRGERMS reading.

CURVES/TABLES:

	Table 4.1-U		
RELE	ASE LIMITS FOR UNUSUAL	EVENT	
ТҮРЕ	MONITORING METHOD	LIMIT	DURATION
GASEOUS RELEASE RATE	STACK NOBLE GAS (WRGERMS)	2.88 X 10 ⁻ µCi/sec	1 HOUR
GASEOUS RELEASE RATE	SI 4.8.B.1.a.1	RELEASE FRACTION 2.0	1 HOUR
SITE BOUNDARY RADIATION READING	FIELD ASSESSMENT TEAM	0.10 MREM/HR Gamma	1 HOUR

	Table 4.1-A		
	RELEASE LIMITS FOR ALE	RT	
ТҮРЕ	MONITORING METHOD	LIMIT	DURATION
GASEOUS RELEASE RATE	STACK NOBLE GAS (WRGERMS)	2.88 X 10 ⁹ μCi/sec	15 MINUTES
GASEOUS RELEASE RATE	SI 4.8.B.1.a.1	RELEASE FRACTION 200	15 MINUTES
SITE BOUNDARY RADIATION READING	FIELD ASSESSMENT TEAM	10 MREM/HR Gamma	15 MINUTES

	Table 4.1-S		
RELEASE	LIMITS FOR SITE AREA EN	AERGENCY	
ТҮРЕ	MONITORING METHOD	LIMIT	DURATION
GASEOUS RELEASE RATE	STACK NOBLE GAS (WRGERMS)	5.9 X 10 ⁹ µCi/sec	15 MINUTES
SITE BOUNDARY RADIATION READING	FIELD ASSESSMENT TEAM	100 MREM/HR Gamma	1 HOUR
SITE BOUNDARY IODINE-131	FIELD ASSESSMENT TEAM	$3.9 \text{ X} 10^{-7} \mu \text{CL} \text{ cm}^{-3}$	1 HOUR

	Table 4.1-G		
RELEASE	LIMITS FOR GENERAL EM	IERGENCY	
ТҮРЕ	MONITORING METHOD	LIMIT	DURATION
GASEOUS RELEASE RATE	STACK NOBLE GAS (WRGERMS)	5.9 X 10 ⁻¹⁰ µCi/sec	15 MINUTES
SITE BOUNDARY RADIATION READING	FIELD ASSESSMENT TEAM	1000 MREM/HR Gamma	1 HOUR
SITE BOUNDARY IODINE-131	FIELD ASSESSMENT TEAM	3.9 X 10 ⁻⁶ uCI / cm ³	1 HOUR

EMERGENCY CLASSIFICATION PROCEDURE

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EPIP-1 SECTION II EVENT CLASSIFICATION MATRIX

4.0 RADIOACTIVE RELEASE

GASEOUS EFFLUENT	MAIN STEAM LINE BREAK	
DESCRIPTION	DESCRIPTION	
4.1-U Gaseous release exceeds ANY limit and duration in Table 4.1-U.	4.2-U Main Steam Line break outside Primary Containment with isolation.	UNUSUAL EVENT
- All	- Mode 1 - Mode 3 - Mode 2	
4.1-A T Gaseous release exceeds ANY limit and duration in Table 4.1-A. OPERATING CONDITION: - All		ALERT
 4.1-S EITHER of the following conditions exists: Gaseous release exceeds or is expected to exceed ANY limit and duration in Table 4.1-S. Dose assessment indicates actual or projected dose consequences above 100 mrem TEDE or 500 mrem thyroid CDE. OPERATING CONDITION: All 	4.2-S Unisolable Main Steam Line break outside Primary Containment. OPERATING CONDITION: - Mode 1 - Mode 3 - Mode 2	SITE EMERGENCY
 4.1-G EITHER of the following conditions exists: Gaseous release exceeds or is expected to exceed ANY limit and duration in Table 4.1-G. Dose assessment indicates actual or projected dose consequences above 1000 mrem TEDE or 5000 mrem thyroid CDE. OPERATING CONDITION:		GENERAL EMERGENCY
4.0 RADIACTIVITY PAGE RELEASE	E 35 OF 207 REVISI	ON 30

NOTES:

CURVES/TABLES:

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EPIP-1 SECTION II EVENT CLASSIFICATION MATRIX

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4.0 RADIOACTIVE RELEASE

LIQUID EFFLUENT		
DESCRIPTION	DESCRIPTION	
4.3-U Liquid release rate exceeds 20 times ECL as determined by chemistry sample AND Release duration exceeds or will exceed 60 minutes. OPERATING CONDITION: - All		UNUSUAL EVENT
4.3-A Liquid release rate exceeds 2000 times ECL as determined by chemistry sample AND Release duration exceeds or will exceed 15 minutes. OPERATING CONDITION: - All		ALERT
		SITE EMERGENCY
		GENERAL EMERGENCY

4.0 RADIACTIVITY RELEASE EMERGENCY CLASSIFICATION PROCEDURE

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4.0 RADIACTIVITY RELEASE

RADIOACTIVITY RELEASE 4.0

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REVISION 30

GASEOUS EFFLUENT

4.1-U

UNUSUAL EVENT

Gaseous release exceeds ANY limit and duration in Table 4.1-U.

OPERATING - All CONDITION

BASIS Unplanned radioactivity releases that exceed Table 4.1-U limits and continue for 1 hour or longer represent an uncontrolled situation and potential degradation in the level of safety of the plant. The Offsite Dose Calculation Manual (ODCM) contains the site specific release limits and appropriate surveillance requirements which normally monitor these limits. Table 4.1-U is based on 2 times the ODCM limit. The release should not be averaged over 60 minutes. For example, a release of 4 times ODCM limits for 30 minutes does not meet the requirements for this event classification. The 1 hour time period allows sufficient time to isolate any release after exceeding ODCM limits. Release continuing for more than 1 hour represents inability to isolate or control the release. The Site Emergency Director should declare the event as soon as it is determined that the release duration has or will likely exceed 1 hour. The value of 0.10 mrem/hr at the site boundary is based on a proration of twice the 500 mrem/yr ODCM instantaneous release rate limit.

Utilize Radiological Control for obtaining site boundary assessments.

Escalation to Alert is based on radiation release rate which exceeds 200 times the ODCM limit.

REFERENCES - Reg Guide 1.101 Rev. 3, (NUMARC-AU1 example-1)

- EDMS L63 010206 800
- 10CFR20



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4.0 RADIOACTIVITY RELEASE

GASEOUS EFFLUENT

4.1-U

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UNUSUAL EVENT (CONTINUED)

CURVES/TABLES

RELEA	Table 4.1-U ASE LIMITS FOR UNUSUAL	EVENT	
TYPE	MONITORING METHOD	LIMIT	DURATION
GASEOUS RELEASE RATE	STACK NOBLE GAS (WRGERMS)	2.88 X 10 ⁷ μCi/sec	1 HOUR
GASEOUS RELEASE RATE	SI 4.8.B.1.a.1	RELEASE FRACTION 2.0	1 HOUR
SITE BOUNDARY RADIATION READING	FIELD ASSESSMENT TEAM	0.10 MREM/HR Gamma	1 HOUR

NOTES

NOTE 4.1-U Prior to making this emergency classification based upon the WRGERMS indication, assess the release by either of the following: 1. Actual field measurements exceed the limits in Table 4.1-A

2. SI 4.8.B.1.a.1 Release Fraction 2.0

If neither assessment can be conducted within 60 minutes then the declaration must be made on the valid WRGERMS reading.

GASEOUS EFFLUENT

4.1-A

<u>ALERT</u>

Gaseous release exceeds ANY limit and duration in Table 4.1-A.

OPERATING - All CONDITION

BASIS This event escalates from Unusual Event by increasing the magnitude of the release by a factor of 100. The release limit is equivalent to 200 times the Offsite Dose Calculation Manual (ODCM) limit. The value of 10 mrem/hr at the site boundary is based on a proration of the 500 mrem/yr criteria for both time (8766 hr/yr) and the 200 multiplier. The required release duration is reduced to 15 minutes in recognition of the increased severity. Table 4.1-A contains the Alert limits and appropriate monitoring points for the releases.

Utilize Radiological Control for obtaining site boundary assessments.

Escalation to Site Area Emergency is based on radiation release which will yield a dose to a member of the public which exceeds 10CFR20 limits.

REFERENCES -	Reg Guide 1.101 Rev. 3, (NUMARC-AA1	example-1)
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- EDMS L63 010206 800
- 10CFR20
- EPA 400



4.0 RADIOACTIVITY RELEASE

REVISION 30

4.0 RADIOACTIVITY RELEASE

GASEOUS EFFLUENT

4.1-A

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<u>ALERT</u> (CONTINUED)

CURVES/TABLES

	Table 4.1-A 2FI FASE LIMITS FOR ALEI	211	
ТҮРЕ	MONITORING METHOD	LIMIT	DURATION
GASEOUS RELEASE RATE	STACK NOBLE GAS (WRGERMS)	2.88 X 10 ⁹ μCi/sec	15 MINUTES
GASEOUS RELEASE RATE	SI 4.8.B.1.a.1	RELEASE FRACTION 200	15 MINUTES
SITE BOUNDARY RADIATION READING	FIELD ASSESSMENT TEAM	10 MREM/HR Gamma	15 MINUTES

NOTES

NOTE 4.1-A Prior to making this emergency classification based upon the WRGERMS indication, assess the release by either of the following:

- 1. Actual field measurements exceed the limits in Table 4.1-A
- 2. SI 4.8.B.1.a.1 Release Fraction 200

If neither assessment can be conducted within 15 minutes then the declaration must be made on the valid WRGERMS reading.

GASEOUS EFFLUENT

4.1-S

SITE AREA EMERGENCY

EITHER of the following conditions exists:

- Gaseous release exceeds or is expected to exceed ANY limit and duration in Table 4.1-S.
- Dose assessment indicates actual or projected dose consequences above 100 mrem TEDE or 500 mrem thyroid CDE

OPERATING - All CONDITION

BASIS The limits in this event classification are based on 10 percent of the EPA Protective Action Guidelines or the 10CFR20 dose limit for a member of the public. These limits also provide a desirable gradient between Alert, Site Area Emergency, and General Emergency.

Table 4.1-S limits for stack and field surveys measurements are consistent with 10 percent of the EPA Protective Action Guidelines or the 10CFR20 dose limit for a member of the public. Stack Noble Gas Release Rates of $5.9 \times 10^9 \,\mu$ Ci/sec for 15 minutes, site boundary radiation readings of 100 mrem/hr for 1 hour, and Iodine-131 concentration of $3.9 \times 10^{-7} \,\mu$ Ci/cm³ for 1 hour are indicative of dose consequences consistent with the limits described previously. The durations in Table 4.1-S are consistent with NUMARC recommendations and industry standards. If analyses indicated a longer or shorter duration for this period in which the substantial portion of the activity is released these dose rates should be adjusted.

Utilize Radiological Control for obtaining site boundary. Dose projection assessments should be requested through the CECC by the implementation of CECC EPIP-8, if the CECC is not staffed utilize site Radiological Control for dose projection assessments through the implementation of BFN EPIP-14.



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REVISION 30

4.0 RADIOACTIVITY RELEASE

GASEOUS EFFLUENT

4.1-S

SITE AREA EMERGENCY (CONTINUED)

The 500 mrem thyroid CDE limit was established in consideration of the 1 to 5 ratio of the EPA Protective Action Guidelines for TEDE and thyroid CDE.

Escalation to General Emergency is based on actual or projected dose exceeding 1000 mrem TEDE or 5000 mrem thyroid CDE.

REFERENCES

- Reg Guide 1.101 Rev. 3, (NUMARC-AS1 example-1)
 EDMS L63 010206 800
- 10CFR20
- EPA 400

- LIAH

CURVES/TABLES

RELEASE	Table 4.1-S LIMITS FOR SITE AREA EN	IERGENCY	
ТҮРЕ	MONITORING METHOD	LIMIT	DURATION
GASEOUS RELEASE RATE	STACK NOBLE GAS (WRGERMS)	5.9 X 10 ⁹ µCi/sec	15 MINUTES
SITE BOUNDARY RADIATION READING	FIELD ASSESSMENT TEAM	100 MREM/HR Gamma	1 HOUR
SITE BOUNDARY IODINE-131	FIELD ASSESSMENT TEAM	$3.9 \text{ X} 10^{-7} \mu\text{CI}/\text{cm}^3$	1 HOUR

NOTES

NOTE 4.1-S Prior to making this emergency classification based upon the Gaseous Release Rate indication, assess the release by either of the following methods:

- 1. Actual field measurements exceed the limits in Table 4.1-S.
- 2. Projected or Actual Dose Assessments exceed 100 mrem TEDE or 500 mrem CDE.

If neither assessment can be conducted within 15 minutes then the declaration must be made based on the valid WRGERMS reading.

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4.0 RADIOACTIVITY RELEASE

GASEOUS EFFLUENT

4.1-G

GENERAL EMERGENCY

EITHER of the following conditions exists:

- Gaseous release exceeds or is expected to exceed ANY limit and duration in Table 4.1-G.
- Dose assessment indicates actual or projected dose consequences above 1000 mrem TEDE or 5000 mrem thyroid CDE

OPERATING - All **CONDITION**

BASIS The limits in this event classification are based on the EPA Protective Action Guidelines which require public protective actions if dose consequences of 1000 mrem TEDE or 5000 mrem thyroid CDE are indicated. These limits also provide a desirable gradient between Alert, Site Area Emergency, and General Emergency and represent the upper level of the gradient.

Table 4.1-G limits for stack and field surveys measurements are consistent with the EPA Protective Action Guidelines for dose limits requiring public protective actions. Stack Noble Gas Release Rates of $5.9 \times 10^{10} \,\mu$ Ci/sec for 15 minutes, site boundary radiation readings of 1000 mrem/hr for 1 hour, and Iodine-131 concentration of $3.9 \times 10^{-6} \,\mu$ Ci/cm³ for 1 hour are indicative of dose consequences consistent with the limits described previously. The durations in Table 4.1-G are consistent with NUMARC recommendations and industry standards. If analyses indicated a longer or shorter duration for this period in which the substantial portion of the activity is released these dose rates should be adjusted.

Utilize Radiological Control for obtaining site boundary assessments. Dose projection assessments should be requested through the CECC by the implementation of CECC EPIP-8, if the CECC is not staffed utilize site Radiological Control for dose projection assessments through the implementation of BFN EPIP-14.

The 5000 mrem thyroid CDE limit was established in consideration of the 1 to 5 ratio of the EPA Protective Action Guidelines for TEDE and thyroid CDE. Actual meteorology is used in dose assessment calculations to achieve the most accurate dose assessment possible.

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GASEOUS EFFLUENT

4.1-G

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GENERAL EMERGENCY (CONTINUED)

REFERENCES

- ES -. Reg Guide 1.101 Rev. 3, (NUMARC-as1 example-1)
 - EDMS L63010206 800
 - 10CFR20

CURVES/TABLES

RELEASE	Table 4.1-G LIMITS FOR GENERAL EM	IERGENCY	
ТУРЕ	MONITORING METHOD	LIMIT	DURATION
GASEOUS RELEASE RATE	STACK NOBLE GAS (WRGERMS)	5.9 X 10 ¹⁰ µCi/sec	15 MINUTES
SITE BOUNDARY RADIATION READING	FIELD ASSESSMENT TEAM	1000 MREM/HR Gamma	1 HOUR
SITE BOUNDARY IODINE-131	FIELD ASSESSMENT TEAM	$3.9 \text{ X} 10^{-6} \mu\text{CI} /\text{cm}^{-3}$	1 HOUR

NOTES

NOTE 4.1-G

Prior to making this emergency classification based upon the Gaseous Release Rate indication, assess the release by either of the following methods:

- 1. Actual field measurements exceed the limits in Table 4.1-G.
- 2. Projected or Actual Dose Assessmnets exceed 1000 mrem TEDE or 5000 mrem CDE.

If neither assessment can be conducted within 15 minutes then the declaration must be made based on the valid WRGERMS reading.

MAIN STEAM LINE BREAK

4.2-U

UNUSUAL EVENT

Main Steam Line break outside Primary Containment with isolation.

OPERATING	-	Mode 1
CONDITION	-	Mode 2
	-	Mode 3

BASIS This event classification is intended to address the puff release associated with a Main Steam Line break outside Primary that isolates by PCIS Logic as required or can be isolated from the Main Control Room. Regardlessly of whether the break is in the Turbine Building or the Reactor Building a ground level release should be anpicipated due to the blowout panels between the two buildings. Design basis analysis shows that even if MSIV closure occurs within design limits, dose consequences from a "puff" release should be expected. Thus this event classification is included due to the posibility of offsite exposures from the "puff" release.

This event is detected by instrumentation which inputs to the PCIS Logic circuitry. Main Steam Line high flow, Reactor low pressure with the mode switch in "Run", And Turbine Building Main Steam Space high temperature are all symptoms of the event and should be evaluated to determine if an actual break has occurred.

Escalation to Area is based on radiation release rate event classifications.

REFERENCES - Reg Guide 1.101 Rev. 3, (NUMARC-FU)

4.0 RADIOACTIVITY RELEASE PAGE 135 OF 207

MAIN STEAM LINE BREAK

4.2-S

SITE AREA EMERGENCY

Unisolable Main Steam Line break outside Primary Containment.

OPERATING	-	Mode 1
CONDITION	-	Mode 2
	-	Mode 3

BASIS This event classification applies to Main Steam Line Break that cannot be isolated by PCIS Logic or from the Main Control Room. Regardless of whether the break is in the Turbine Building or the Reactor Building a ground level release is expected due to the blowout panels between the two buildings. This event classification represents a loss of two of the three fission product barriers.

Main Steam Line high flow, Reactor low pressure with the mode switch in "Run", and Turbine Building Main Steam Space high temperature are all symptoms of the event. This event is anticipatory to 4.1-S and the threshold for leakage outside Primary and Secondary Containment should be considered to be any continuous discharge of steam through the break that, in the opinion of the Site Emergency Director, could result in exceeding the limits outlined in 4.1-S.

Escalation to General Emergency is based on loss of the Fuel Clad barrier or radioactivity release event classifications.

REFERENCES - Reg Guide 1.101 Rev. 3, (NUMARC-FS)

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4.0 RADIOACTIVITY RELEASE

LIQUID EFFLUENT

4.3-U

UNUSUAL EVENT

Liquid release rate exceeding 20 times ECL as determined by chemistry sample

AND

Release duration exceeds or will exceed 60 minutes.

OPERATING - All **CONDITION**

BASIS Liquid release rates are determined using Surveillance Instructions which utilize liquid samples rather than instrument readings for activity determination. Effluent Concentration Limits (ECL) are those annual concentrations given in 10CFR20 Appendix B, Table 2, Column 2. 10 times ECL is equivalent to the instantaneous ODCM limit. Unplanned radioactivity releases that exceed 20 times ECL (2 times ODCM limit) and continue for 60 minutes or longer represent an uncontrolled situation and potential degradation in the level of safety of the plant. The release should not be averaged over 60 minutes. For example, a release of 40 times ECL for 30 minutes does not meet the requirements of this event classification. The 60 minute time period allows sufficient time to isolate any release after exceeding ECL. Greater than 60 minutes represents inability to isolate or control the release. The Site Emergency Director should declare the event as soon as it is determined that the release duration has or will likely exceed 60 minutes. The Chemistry Department determines the magnitude of the release by sample procedure for any release as required by initiating procedures (i.e., SI, ARP, AOI, EOI). The sample results are reported to the Site Emergency Director as a fraction or multiple of ECL.

Escalation to Alert is based on release in excess of 2000 times ECL for greater than 15 minutes.

REFERENCES	-	Reg Guide 1.101 Rev. 3, (NUMARC-AU1 example-2)
	-	EDMS L63 010206 800
	-	10 CFR2 0

4.0	RADIOACTIVITY
	RELEASE

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LIQUID EFFLUENT

4.3-A

ALERT

Liquid release rate exceeding 2000 times ECL as determined by chemistry sample

AND

Release duration exceeds or will exceed 15 minutes.

OPERATING - All **CONDITION**

BASIS This event escalates from Unusual Event by increasing the magnitude of the release by a factor of 100. The required release duration is reduced to 15 minutes in recognition of the increased severity. The Chemistry Department determines the magnitude of the release by sample procedure for any release as required by initiating procedures (e.g., SI, ARP, AOI, EOI). The sample results are reported to the Site Emergency Director as a fraction or multiple of ECL. 10 times ECL is equal to the ODCM limit; therefore, 200 times the ODCM limit is equivalent to 2000 times ECL.

Escalation to Site Area Emergency is based on event classifications indicative of failure of the Reactor Coolant System pressure boundary and Primary Containment barrier.

REFERENCES - Reg Guide 1.101 Rev. 3, (NUMARC-AA1 example-2) - EDMS L63 010206 800

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-8

PERSONAL ACCOUNTABILITY AND EVACUATION

REVISION 14

PREPARED BY: TIM CORNELIUS

PHONE: 2038

RESPONSIBLE ORGANIZATION: EMERGENCY PREPAREDNESS

APPROVED BY: GILBERT LITTLE

DATE: 02/25/2002

EFFECTIVE DATE: 03/20/2002

LEVEL OF USE: REFERENCE USE

QUALITY-RELATED

Procedure Number: EPIP-8

Pages Affected: 6, 10

Pagination Pages: None

Description of Change:

- IC-17 This revision is being conducted to add the Contractor Facility Complex (CFC) to the list of buildings located outside the protected area for the assembly of organizations not reporting to a assembly area inside the protected area.
 - Page 6 Revise the "Note" to include the Contractor Facility Complex in the list of reporting areas for assembly outside the protected area.
 - Page 10 Revise the evacuation checklist for "Outside the Protected Area" assembly areas to include the Contractor Facility Complex (CFC)

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1.0 **PURPOSE**

The purpose of this procedure is to provide a means for administering a protective action response such as the capability to account for all individuals onsite within the "Protective Area (PA)" and for the evacuation of all on-site non-emergency personnel. The procedure is written to prescribe the actions and responsibilities necessary to account for all personnel inside the PA and evacuate non-emergency personnel located within the owner controlled area during an emergency situation.

2.0 SCOPE

The scope of this procedure includes employees having and not having emergency assignments, visitors, contractor and construction personnel and other persons who may be within the owner controlled area during an emergency situation.

3.0 INSTRUCTIONS

3.1 General

- 3.1.1 All individuals entering the protected area shall:
 - Swipe their badge into the Entry Card Reader.
 - Enter the protected area in accordance with security procedures.

3.1.2 All individuals leaving the protected area shall:

- Swipe their badge into the Exit Card Reader in the appropriate exit portals.
- Exit the protected area in accordance with security procedures.

NOTE: These "Entry and Exit" Card Readers function as accountability card readers.

3.2 Particular Area Evacuation

- **3.2.1** The Public Address (PA) System will be used to announce the evacuation of a particular area of the plant.
- **3.2.2** Personnel in the affected areas upon hearing the PA announcement shall do the following:
 - If working in a contaminated zone, exit the zone in accordance with Radiological Control (RADCON) procedures, unless instructed otherwise by RADCON.
 - Exit the affected area in an orderly manner.
 - Personnel not in the affected area should continue assigned task if not instructed otherwise.

<u>NOTE</u>: Personnel should not enter the affected area until the "All Clear" has been announced or directed through emergency response processes.

3.0 INSTRUCTIONS (CONTINUED)

3.2 Particular Area Evacuation (continued)

3.2.3 Shift Manager/Site Emergency Director (SED) shall: *Make a Public Address (PA) announcement similar to - "Attention All Personnel, conditions in the (area to be evacuated) warrant an evacuation of the area. Leave the (area to be evacuated) immediately.*

3.3 Site Assembly and Accountability

3.3.1 General

- **3.3.1.1** A 3 minute undulating siren (Assembly and Accountability Siren) will sound when an emergency condition exists requiring assembly and accountability of site personnel.
- **3.3.1.2** Non-Emergency Responders, upon hearing the Assembly and Accountability Siren, PA Announcement or See associated Strobe Lights, shall proceed immediately to their designated assembly areas as listed on Attachment A. Upon arriving at the assembly area, swipe your badge into the Accountability Card Reader and remain in the designated assembly area until released by the Site Emergency Director (SED) or a Plant Evacuation is ordered. See step 3.4.1.2 for instructions regarding Plant Evacuation.
- 3.3.1.3 Emergency Responders, upon hearing the Assembly and Accountability Siren PA Announcement or associated Strobe Lights, shall proceed immediately to their designated assembly area as listed on Attachment B. Upon arriving at the designated assembly area swipe your badge into the Accountability Card Reader and Sign the Accountability Roster Form, Attachment C. If you are a emergency responder and have escort responsibilities, please take the applicable steps to have the visitor transferred to a non-emergency responder and re-located to an appropriate assembly area. If a Plant Evacuation is ordered, all Emergency Responders will remain in their designated assembly area.
- **3.3.1.4** Visitors remain with escorts and swipe your badge into the appropriate Accountability Card Reader.
- **3.3.1.5** If you cannot reach your designated assembly area within 20 minutes, go to the nearest Accountability Card Reader and swipe your badge. See Attachment A and B.
- **3.3.1.6** If the Accountability Card Reader will not accept your badge, or if your cannot access a reader, call Nuclear Security at extension 3238 or 2219.

3.0 INSTRUCTIONS (CONTINUED)

3.3 Site Assembly and Accountability (continued)

3.3.2 When required the Shift Manager/SED shall:

- **3.3.2.1** Activate the Assembly and Accountability Alarm (3-minute undulating siren). Reactivate as necessary.
- **3.3.2.2** Use guidelines listed below to re-locate personnel from designated assembly areas to other assembly areas.
 - radiation dose rate > 2 mrem/hr
 - airborne radioactivity > 10CFR 20.1201 DAC Limits
- **3.3.2.3** Make PA announcement, use Emergency Dispatches and or instruct Nuclear Security to inform the affected personnel.

3.3.3 Upon the activation of Site Assembly and Accountability Nuclear Security (NS) shall:

- **3.3.3.1** Restrict access to the Protected Area to personnel listed on the Emergency Response Access List or as authorized by the SED.
- **3.3.3.2** Dispatch officer(s) to search areas on TVA properly outside the protected area.
- **NOTE:** For any person found on the owner controlled area and are not TVA personnel or contractors, NS will obtain name, address, phone number. RADCON will survey the individuals if conditions warrant.
 - **3.3.3.3** Report results of accountability within 30-minutes after the assembly and accountability alarm has sounded.
 - **3.3.3.4** If necessary, form a search team to locate missing individual(s) 15-minutes after accountability deadline has passed.
 - 3.3.3.5 Each team will be accompanied by a RADCON technician.
 - **3.3.3.6** Provide assistance to the SED/Shift Manager in movement and informing personnel.

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3.0 INSTRUCTIONS (CONTINUED)

3.3 Site Assembly and Accountability (continued)

3.3.4 Upon the activation of Site Assembly and Accountability RADCON shall:

- **3.3.4.1** Survey all assembly areas (including the Emergency Centers), if radiological conditions warrant.
- **3.3.4.2** Support any search teams.

3.4 Site Evacuation

3.4.1 General

- **3.4.1.1** A Site Evacuation will be conducted upon an order by the SED to initiate a Site Evacuation.
- 3.4.1.2 All Non-Emergency Responder Assembly Areas will be evacuated in an orderly manner. Non-Emergency Responders should remain in their designated assembly area until released to evacuate either by plant public address announcement or Nuclear Security personnel. For nonemergency personnel assembled within the protected area, when released, proceed to the appropriate protected area exit portal. Swipe your badge into the Exit Card Reader or as instructed by Nuclear Security. Exit the protected area in accordance with security procedures. Proceed to your vehicle and evacuate from the site to your place of residence. For nonemergency personnel assembled outside the protected area, proceed to your vehicle and evacuate from the site to your place of residence. All personnel exiting the site area should anticipate that site area checkpoints will be established and that Radcon will be monitoring vehicles as they exit, if conditions warrant. Additionally exit routes may be suggested by Nuclear Security, please follow all guidance provided by appropriate site personnel during the conduct of a site evacuation. Upon exiting the owner controlled area follow all guidance at this time of state and local authorities, where applicable.
- 3.4.1.3 Emergency Responders, shall remain in designated assembly areas.

3.0 INSTRUCTIONS (CONTINUED)

3.4 Site Evacuation (continued)

- **3.4.1.4** Visitors remain with escorts and swipe your badge into the appropriate Exit Card Reader or as instructed by Nuclear Security.
- **3.4.1.5** If for any reason the Exit Card Reader will not acknowledge acceptance your badge indicated by receiving the green indicator light, call Nuclear Security at extension 3238 or 2219.

3.4.2 When required the SED shall:

3.4.2.1 Initiate the Site Evacuation Order.

3.4.2.2 Notify Nuclear Security to implement EPIP-8 steps 3.4.3.

3.4.3 Upon the notification of the Order to conduct a Site Evacuation, Nuclear Security shall:

3.4.3.1 Complete Attachment D.

3.4.4 Upon the activation of Site Evacuation RADCON shall:

- **3.4.4.1** If radiological condition warrants, set up control check points which coincide with NS access control points.
- **3.4.4.2** Ensure personnel and vehicles are decontaminated before being released from the owner controlled area.
- **3.4.4.3** If necessary, provide decontamination support to the Muscle Shoals Service Shop #4. (Offsite decontamination facility)

4.0 ATTACHMENTS

- Attachment A Non-Emergency Responder Assembly Areas
- Attachment B Emergency Responder Emergency Facility/Assembly Areas
- Attachment C Accountability Roster Form
- Attachment D Evacuation Checklist

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ATTACHMENT A

Page 1 of 1

NON EMERGENCY RESPONDERS ASSEMBLY AREAS

Designated Assembly Area	Reporting Organizations
Maintenance Shop	Maintenance Production personnel (except for IM) Maintenance Program Support personnel Work Control Center personnel
Plant Assembly Room	Work Control/Outage personnel
Maintenance Building	Instrument Mechanic (IM) Shop personnel Maintenance Support personnel
Plant Engineering Building	Site Engineering - System Engineering personnel Radwaste personnel
West Access Portal Exit	All other organizations not listed and the west portal is your regular entry point.
East Access Portal Exit	All other organizations not listed and the west portal is your regular entry point.
Plant Managers Office Foyer Area	Plant Manager's office staff Operations office staff Maintenance office staff RADCON office staff Outage Office Staff

- **NOTE:** If your organization is not listed on this attachment and your are exiting, utilizing the east or west portal then swipe your badge into the Exit Card Reader at the portal and go inside one of the following Buildings
 - Administration Building
 - Common Maintenance Building
 - BFN Training and Visitor Center
 - Materials Procurement Complex
 - Modifications Fabrication Shop
 - Modifications Administration Building
 - Contractor Facility Complex (CFC)

PERSONNEL ACCOUNTABILITY AND EVACUATION

EPIP-8

ATTACHMENT B Page 1 of 1

EMERGENCY RESPONDERS EMERGENCY FACILITY/ASSEMBLY AREAS

Designated Assembly Area	Reporting Organizations
Unit 1 and 2 Control Rooms	All operations personnel in Control Bays, Unit 1/2
Unit 3 Control Room	All operations personnel in Control Bays, Unit 3
Technical Support Center	TSC staff
Operations Support Center	OSC staff Document Control and Records Management, personnel from plant office building information center.
OSC Staging Area	Maintenance personnel assigned to staging area Fire Protection ESTs Tool Room personnel
Radiological Control (RADCON)	RADCON Field Operations personnel
Radiochemistry Laboratory	Chemistry Control personnel

ATTACHMENT C

Page 1 of 1

ACCOUNTABILITY ROSTER

Emergency Response Facility

Supervisor In Charge _____ Ext.

SSN	Name (Last, First MI)	ERO Position Filled (Staging Area Personnel, OSC Board Writer, etc.)
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PERSONNEL ACCOUNTABILITY AND EVACUATION

EPIP-8

ATTACHMENT D Page 1 of 2

EVACUATION CHECKLIST

The following checklist shall be utilized by the TSC Nuclear Security Manager or if unavailable the Shift Nuclear Security Supervisor for the purpose of conducting a Site Evacuation when ordered by the SED.

Initials/Time

Evacuation Checklist Item

____/____

Control All Protected Area Access, restricting access except for Designated or SED Authorized Emergency Response Personnel.

Establish Owner Controlled Property Road Blocks, On-Site Traffic Controls and Evacuation Checkpoints.

Notify TSC Radcon Manager or if unavailable the on-shift Radcon Shift Supervisor to provide support at Evacuation Checkpoints (if conditions warrant).

TSC Radcon Manager	3767
On-Shift Radcon Supervisor	2300

Determine evacuation route for personnel exiting the owner controlled property.

- Consult with Radcon concerning off-site environmental radiological hazards (potential plume pathways).
- Consider, if applicable, Local Weather Information to determine hazardous weather conditions.

Suggested Evacuation Route is:

Shaw Road (North)

] Nuclear Plant Road (East)

Shaw Road or Nuclear Plant Road

PERSONNEL ACCOUNTABILITY AND EVACUATION

EPIP-8

BROWNS FERRY NUCLEAR PLANT * * *

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ATTACHMENT D

Page 2 of 2

EVACUATION CHECKLIST

Initials/Time	Evacuation Checklist Item
/	All prior items in this listing have been completed.
/	Utilizing Security Personnel begin the evacuation of "Outside the Protected Area" Assembly Areas.
/	 BFN Training and Visitor Center Administration Building Materials and Procurement Building Common Maintenance Building Modifications Fabrication Shop Modifications Administration Building Contractor Facility Complex (CFC)
	Utilizing the Plant Public Address System, or Security Personnel begin the evacuation of Assembly Areas within the Protective Area.
	 Maintenance Shop Area Plant Assembly Room Maintenance Building Plant Engineering Building Plant Managers Office Foyer Area
/	Evacuation Completed/
/	Notify the SED upon completion of Site Evacuation and request the SED to inform the CECC.

LAST PAGE

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-10

MEDICAL EMERGENCY PROCEDURE

REVISION 22

PREPARED BY: T. W. CORNELIUS

PHONE: 2038

RESPONSIBLE ORGANIZATION: EMERGENCY PREPAREDNESS

APPROVED BY: GILBER LITTLE

DATE: 02/25/2002

EFFECTIVE DATE: 03/20/2002

LEVEL OF USE: REFERENCE USE

QUALITY-RELATED

REVISION LOG

Procedure Number: EPIP-10

Revision Number 22

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Pages Affected: 9, 12

Description of Change:

- IC 23 This revision is being conducted to update a telephone number and a reference for contacting a TVA Physician.
 - Page 9 Reference change for contacting the TVA Physician. Change from "refer to REND Section K" to "Contact Site Medical Office".

Page 12 - Change cellular phone operator assistance number from "Cellular One - 9-1-800-333-4004" to "Verizon Wireless. 9-1-800-922-0204.

MEDICAL EMERGENCY PROCEDURE

1.0 **PURPOSE**

To provide timely response to medical emergencies at Browns Ferry.

2.0 SCOPE

This procedure applies to Medical Emergency response for both <u>radioactively</u> <u>contaminated</u> and <u>non-radioactively contaminated</u> injured individuals.

3.0 **INSTRUCTIONS**

3.1 Initial Notification by Unit Operator

- 3.1.1 Upon receiving a Medical Emergency call, the Control Room Unit Operator will:
 - Obtain <u>Name</u> of caller.
 - Obtain <u>Location</u> of medical emergency.
 - Obtain **Type** of medical emergency.
 - Obtain Number of People involved.
 - Obtain **Telephone Number** from caller.
- **3.1.2** If not activated, activate the plant medical/fire alarm. Announce medical emergency location over the plant public address (PA) system, repeating at regular intervals to alert the Medical Emergency Response Team (MERT) to the location until instructed otherwise by Shift Manager or Unit Supervisor.
- 3.1.3 Notify the Fire Protection Personnel using the Operations/Fire Protection Radio.
- 3.1.4 Notify the Shift Manager of the emergency.
 - **3.1.4.1** The MERT consist of the following:
 - Incident Commander (as defined in FPP)
 - Medical/Fire Operation Personnel
 - RADCON Personnel (if location of emergency is in a Radiological Controlled Area)
 - Nuclear Security Personnel
 - Health Services (as requested)
 - Level II Responders (as defined in FPP)

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3.0 INSTRUCTIONS (CONTINUED)

3.2 The Shift Manager will:

- 1. Dispatch Unit Supervisor or designee to the scene to act as Incident Commander.
- 2. Establish and Maintain communication with the Unit Supervisor .
- 3. Notify the nurse on duty (if requested by the MERT Leader).

3.3 <u>The Incident Commander will:</u>

- 1. Ensure and Maintain the MERT Team's passage route.
- 2. Ensure that the Shift Manager is keep knowledgeable of the situation.
- 3. Request the Shift Manager to obtain ambulance as needed.
- 4. Establish radio communication with the Shift Manager.
- 5. **Ensure** that plant operations do not impose any hazardous conditions on the injured or Medical Response Team.

3.4 <u>The Medical/Fire Operations Personnel will:</u>

- 1. **Provide** medical emergency supplies to the location of the emergency.
- 2. **Provide** emergency medical assistance to injured personnel.
- 3. Transport injured personnel as required.
- 4. Communicate applicable support recommendations to the Incident Commander.

3.5 <u>The Radiological Control Personnel will:</u>

Assist the medical/fire operations team personnel concerning:

- Radiological Protection
- Radiological Protective measures
- Control of Contamination
- As requested

3.6 <u>The Nuclear Security Services Personnel will:</u>

- 1. Ensure crowd control.
- 2. Assist the Incident Commander.

3.0 INSTRUCTIONS (CONTINUED)

3.7 The Medical Services Personnel will when requested:

Respond to medical emergencies to support and assist the Incident Commander.

3.8 The Level II Responders will:

- 1. **Report** to fire equipment cages in the Turbine Building elevation 557'.
- 2. Establish radio or telephone contact with the Incident Commander.
- 3. Ensure emergency equipment is ready for use.
- 4. **Direct** the movement of equipment to the emergency scene.
- **3.9** All members of the Medical Emergency Response Team proceed to the scene upon hearing the announcement or as directed by the MERT Leader.

3.10 Transport Offsite (If Required)

- **NOTE:** If patient is <u>not</u> contaminated/irradiated, transport to Athens-Limestone Hospital, unless otherwise directed. If patient is contaminated/irradiated, only transport to hospitals listed below:
 - Decatur General Hospital (see Attachment D)
 - Huntsville Hospital (see Attachment E)
 - **3.10.1** Shift Manager calls for an ambulance from outside ambulance service, if requested by MERT Leader or Incident Commander.
- **NOTE**: See <u>Attachment F</u> for Medical Emergency telephone numbers.
 - **3.10.2** Shift Manager complete Attachment A and provide information to receiving hospital. Forward completed Attachment A to the REP Manager to be filed.
 - 3.10.3 Attachments D, and E give directions to various hospitals.

BROWNS FERRY NUCLEAR PLANT . . .

3.0 INSTRUCTIONS (CONTINUED)

3.11 If contamination/irradiation is suspected, RADCON personnel will accompany ambulance, and furnish radiological services as requested.

3.12 Follow-Up

- **3.12.1** EMT/RADCON makes follow-up call to hospital from the ambulance to give/receive additional information concerning patient's condition and estimated time of arrival.
- **3.12.2** Shift Manager is responsible for any further notifications per EPIP-2 through EPIP-5.

3.13 **TVA Notification**

- **3.13.1** The Fire Brigrade Leader, or designee, should notify BFN Industrial Safety, if someone is ill or injured to the extent they require ambulance transportation to a hospital.
- **3.13.2** RADCON should notify the TVA Physician Representative (refer to the REND, Section K) any time TVA personnel are suspected of receiving radiation exposure in excess of the recommended TVA occupational exposure limits.

4.0 ATTACHMENTS

Attachment A - Medical Emergency Notification Form (SHIFT MANAGER)

Attachment B - Patient Care Guidelines

- Attachment C Procedure for Cytogenetics Blood Studies By REAC/TS
- Attachment D Typical Layout of Decatur General Hospital

Attachment E - Typical Layout of Huntsville Hospital

Attachment F - Medical Emergency Telephone Numbers

Date://	Time of Injury	
Time Contacted	Total number of Victims	
Victim(s) Name	Condition	Type of Injury
The Victim(s) is: (Check	all that apply, or list the number of vio on Accident Victim ontaminated (Survey incomplete du I with radioactive material	ctims for each) e to injuries)
The Victim(s) is: (Check Not a Radiati Potentially Co Contaminated Irradiated (or If Contaminated, are level If yes provide the for Level of Co Type of Co	all that apply, or list the number of vie on Accident Victim ontaminated (Survey incomplete du d with radioactive material ver-exposed) whole body dose is els known at this time? Yes Collowing information. ontamination (CPM) or (ontamination Alpha, Beta, or [on Expected? Yes No	ctims for each) e to injuries) Rem No [No [MRAD/Hr) - <u>Circle one</u> Beta/Gamma
The Victim(s) is: (Check Not a Radiati Potentially Co Contaminated Irradiated (or If Contaminated, are level If yes provide the for Level of Co Type of Co Is Internal Contamination If yes: By Inha	all that apply, or list the number of vie on Accident Victim ontaminated (Survey incomplete due d with radioactive material ver-exposed) whole body dose is els known at this time? Yes Collowing information. ontamination (CPM) or (ontamination Alpha, Beta, or [on Expected? Yes No lation, Open Wounds, Ingesti	ctims for each) e to injuries) Rem No (MRAD/Hr) - <u>Circle one</u> Beta/Gamma on, or Other

Operations Duty Specialist Notification

Notify the Operations Duty Specialist (751-1700) of all offsite ambulance responses, regardless of emergency or non-emergency requests.

ATTACHMENT B

(Page 1 of 3) PATIENT CARE GUIDELINES

1.0 GENERAL

- **1.1** First aid and emergency medical care should be provided for onsite to preserve life and to minimize injury and suffering.
- **1.2** The Medical Emergency Response Team (MERT) will take appropriate action as directed by the Team Leader.
- **1.3** The nurse should assist from outside any contamination zone unless the medical condition of the patient necessitates her/his presence.
- 1.4 A doctor should be consulted when further professional attention is needed.
- **1.5** The care of persons known or suspected to be associated with radiation exposure or contamination will be coordinated with the RADCON representative. The essential aims of the MERT-RADCON team are:
 - a. Minimize the injury and further radiation exposure to the victim.
 - b. Protect attending personnel from excessive and unnecessary radiation exposure.
 - c. Control spread of radioactivity contamination.
 - d. Assess and document the patient's radiological exposure.
 - e. Immediate lifesaving and disability limiting procedures will take precedence over noncritical decontamination and dosimetry assessment procedures.
- **1.6** Coordinate, the care, disposition, and reporting of all injuries known or suspected to be associated with excess levels of radiation exposure or contamination with the CECC, when staffed.

2.0 NONCONTAMINATED - NONIRRADIATED

When it is known that the patient is not contaminated and has not been overexposed to radiation, advise the patient, ambulance crew, receiving hospital, and attending physician of the absence of Radiological Complications.

ATTACHMENT B (Page 2 of 3) PATIENT CARE GUIDELINES

3.0 IRRADIATED-NONCONTAMINATED

- **3.1** Remove the victim from further exposure providing only essential first aid in the process, then direct attention to medical care of other physical injuries.
- **3.2** Medical care of the radiation exposure is governed by the medical status of the patient and the findings of the RADCON representative. The treatment of illness or physical injury takes precedence over treatment for radiation exposure.
- **3.3** Individuals who have received an acute total body radiation exposure greater than 5 Rem should have hematological studies performed to detect chromosomal aberrations or other changes in blood constituent. REACTS can provide this service and should be contacted by the attending physician.
- 3.4 Advise all involved personnel of radiological conditions.

4.0 CONTAMINATED PATIENTS

- **4.1** The patient should be given initial emergency care by the medical emergency response team. All decontamination that the medical status of the patient will allow should be accomplished. The appropriate sequence of care must be determined on an individual basis by the medical-RADCON team. The injured person will be transported and treated in one of two ways:
 - a. If the person is severely injured, they may be transported directly to Huntsville Hospital or Decatur General Hospital. Every reasonable effort should be made to reduce the radioactive contamination level to less than 0.5 rem per hour at one foot. Spread of contamination may be minimized by removing the patient's excess clothing and wrapping him in a sheet, as his injuries permit.
 - b. In cases of less severe injuries, the patient will be sent to the personnel decontamination facility in the service building (or radwaste building, if stretcher bound) treated in the emergency treatment area or transferred to Huntsville Hospital or Decatur General Hospital.

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ATTACHMENT B (Page 3 of 3) PATIENT CARE GUIDELINES

4.0 <u>CONTAMINATED PATIENTS</u> (Continued)

- **4.2** The RADCON representative will collect, identify, label, and analyze all biological specimens as required and deemed necessary. He will obtain the injured person's personal dosimetry and replace with equivalent dosimetry if appropriate.
- **4.3** The RADCON group will control contamination during transportation to the receiving hospital.
- 4.4 Advise all involved personnel of Radiological conditions.

ATTACHMENT C

PROCEDURE FOR CYTOGENETICS BLOOD STUDIES BY REAC/TS

TVA has an agreement with the Radiation Emergency Assistance Center/Training Site (REAC/TS) Cytogenetics Laboratory for support services including a white blood cell (lymphocyte) culture for dose assessment of whole-body exposures to ionizing radiation.

Upon the order of a physician, and in coordination with a health physicist, REAC/TS shall be contacted to request and coordinate the shipment and return of a blood sample kit. This kit contains all necessary collection, shipping, and instruction materials. The kit is provided by REAC/TS to promote optimal test results by use of controlled sample handling materials.

KEY INFORMATION ON CYTOGENETIC BLOOD STUDIES:

WHEN:	Upon the order of a responsible physician, with verification that known or suspected ionizing radiation exposure (acute whole-body) exceeds 5 REM.	
FREQUENCY:	Once, unless directed otherwise by REAC/TS or physician.	
TO REQUEST KIT:	Attending physician should contact: REAC/TS_attention Cytogenetics Laboratory	

COORDINATE RESULTS WITH:

TVA Physician Representative (Contact Site Medical Office))

SHIPMENT: Refer to instruction sheet in REAC/TS kit. Kit is designed as return shipping container, complete with chemical ice pack. REAC/TS recommends air shipment; however, undelayed method of shipment by TVA services may be considered if coordinated with REAC/TS.

BROWNS FERRY NUCLEAR PLANT 



MEDICAL EMERGENCY PROCEDURE EPIP-10

ATTACHMENT E (Page 1 of 1) Typical Layout of Huntsville Hospital



BROWNS FERRY NUCLEAR PLANT ----

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ATTACHMENT F (Page 1 of 1) MEDICAL EMERGENCY TELEPHONE NUMBERS

B	ROWNS FERRY	
٠	Medical Station	4747, 2700
•	TVA Emergency Services/Ambulance Rescue	3313, 2491
L	OCAL AMBULANCE SERVICE	
٠	Athens-Limestone Hospital Ambulance Service	9-232-2525
•	Athens, Alabama	9-233-9159
H	EAR SYSTEM FREQUENCY	155.340MHz
<u>H</u>	<u>OSPITALS</u>	
•	Athens - Limestone Hospital	9-233-9155
٠	Athens, Alabama	9-233-9151
•	Decatur General Hospital	9-1-256-341-2174
٠	Decatur, Alabama	9-1-256-341-2175
	(Use only if other numbers are busy)	9-1-256-341-2000
•	Huntsville, Hospital	9-1-256-517-8137
•	Huntsville, Alabama	9-1-256-517-8139
	(Use only if other numbers are busy)	9-1-256-517-8020
<u>R</u>]	EAC/TS OAK RIDGE, TENNESSEE	
•	Day Shift (8 a.m 4:30 p.m.)	9-1-865-576-3131
٠	After Hours	9-1-865-576-1005
	Ask for REAC/15	
<u>T</u>	VA-BFN-EMERGENCY VEHICLE CELLULAR PHONES	
•	Huntsville Area Roamer Access	9-1-256-656-7626
•	"Verizon Wireless" Assistance Operator	9-1-800-922-0204
٠	BFN-Ambulance Cellular Phone	9-1-256-656-0137

- BFN-REP Truck #5
- BFN-REP Truck #6

LAST PAGE

9-1-256-508-4872

9-1-256-656-9623