

December 1, 2003

Mr. Robert L. Clark  
Office of Nuclear Regulatory Regulation  
U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555-0001

Subject: Addendum to License Amendment Request submitted May 21, 2003.  
R.E. Ginna Nuclear Power Plant  
Docket No. 50-244

References: 1. Letter from Robert C. Mecredy (RG&E) to Robert L. Clark (NRC) dated May 21, 2003, License Amendment Request Regarding Revision of Ginna Technical Specification Sections 1.1, 3.3.6, 3.4.16, 3.6.6, 3.7.9, 5.5.10, 5.5.16, and 5.6.7 Resulting From Modification of the Control Room Emergency Air Treatment System and Change in Dose Calculation Methodology to Alternate Source Term.

2. Letter from Robert C. Mecredy (RG&E) to Guy S. Vissing (NRC) dated May 3, 2001, Application for Amendment to Facility Operating License Control Room Emergency Air Treatment System (CREATS) Actuation Instrumentation Change (LCO 3.3.6).

Dear Mr. Clark:

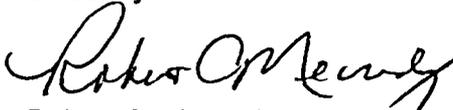
On May 21, 2003, Rochester Gas and Electric (RG&E) submitted a License Amendment Request (LAR) as indicated in Reference 1. As part of that submittal, RG&E committed to "resubmit proposed changes to LCO 3.3.6 and the associated draft bases upon NRC approval of RG&E License Amendment Request dated May 3, 2001" (Ref. 2). Reference 2 has since been approved as Amendment 83 to the Ginna Technical Specifications. The attached markup and typed versions of LCO 3.3.6 satisfy the above commitment and should be docketed as an addendum to Reference 1.

I declare under penalty of perjury under the laws of the United States of America that I am authorized by Rochester Gas and Electric Corporation to submit this documentation and that the foregoing is true and correct.

If you have questions regarding this submittal please contact Mr. Mike Ruby at (585) 771-3572.

Executed on December 1, 2003

Sincerely

  
Robert C. Mecredy

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An equal opportunity employer

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A001

**Attachments:**

1. Tech Spec Section 3.3.6 Markup
2. Tech Spec Section 3.3.6 Typed
3. Bases Section 3.3.6 Markup

**Cc:** Mr. Robert L. Clark (Mail Stop O-8-C2)  
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**Attachment 1**

**Tech Spec Section 3.3.6 Markup**

3.3 INSTRUMENTATION

3.3.6 Control Room Emergency Air Treatment System (CREATS) Actuation Instrumentation

LCO 3.3.6 The CREATS actuation instrumentation for each Function in Table 3.3.6-1 shall be OPERABLE.

APPLICABILITY: *According to Table 3.3.6-1*  
~~MODES 1, 2, 3, and 4;~~  
~~During movement of irradiated fuel assemblies;~~  
~~During CORE ALTERATIONS;~~

ACTIONS

- NOTE -

Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel or train inoperable.	A.1 <del>- NOTE -                      The control room may be unisolated for ≤ 1 hour every 24 hours while in this condition.</del> Place CREATS in Mode F.	7 days
B. One or more Functions with two channels or two trains inoperable.	B.1-1 <del>- NOTE -                      The control room may be unisolated for ≤ 1 hour every 24 hours while in this condition.</del> ① Place CREATS in Mode F.	Immediately
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours  36 hours

*ONE CREATS TRAIN IN emergency mode*

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met during movement of irradiated fuel assemblies <del>or during CORE ALTERATIONS.</del>	<del>D.1 Suspend CORE ALTERATIONS.</del>	Immediately
	<del>AND</del> D.1 Suspend movement of irradiated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTE -

Refer to Table 3.3.6-1 to determine which SRs apply for each CREATS Actuation Function.

SURVEILLANCE	FREQUENCY
SR 3.3.6.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.6.2 Perform COT.	92 days
SR 3.3.6.3 - NOTE - Verification of setpoint is not required.	
Perform TADOT.	24 months
SR 3.3.6.4 Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.5 Perform ACTUATION LOGIC TEST.	24 months

AND

B.1.2	Enter applicable Conditions and Required Actions for one <del>CREFS</del> <b>CREATS</b> train made inoperable by inoperable <del>CREFS</del> <b>CREATS</b> actuation instrumentation.	Immediately
<u>OR</u>		
B.2	Place both <b>CREATS</b> trains in emergency <del>radiation protection</del> mode.	Immediately

① ←

Table 3.3.6-1  
CREATS Actuation Instrumentation

FUNCTION	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Manual Initiation	2 trains	SR 3.3.6.3	NA
2. Automatic Actuation Logic and Actuation Relays	2 trains	SR 3.3.6.5	NA
3. Control Room Radiation Intake Monitors	2	SR 3.3.6.1 SR 3.3.6.2 SR 3.3.6.4	≤ .5 mR/hr

4. Safety Injection

Refer to LCO 3.3.2 "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.

(a) During movement of irradiated fuel assemblies.

Applicable modes or other specified conditions

1, 2, 3, 4, (a)

1, 2, 3, 4, (a)

1, 2, 3, 4, (a)

**Attachment 2**

**Tech Spec Section 3.3.6 Typed**

3.3 INSTRUMENTATION

3.3.6 Control Room Emergency Air Treatment System (CREATS) Actuation Instrumentation

LCO 3.3.6 The CREATS actuation instrumentation for each Function in Table 3.3.6-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6-1.

ACTIONS

- NOTE -

Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel or train inoperable.	A.1 Place one CREATS train in emergency mode.	7 days
B. One or more Functions with two channels or two trains inoperable.	B.1.1 Place one CREATS train in emergency mode.	Immediately
	<u>AND</u>	
	B.1.2 Enter applicable Conditions and Required Actions for one CREATS train made inoperable by inoperable CREATS actuation instrumentation.	Immediately
	<u>OR</u>	
	B.2 Place both CREATS trains in emergency mode.	Immediately
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	C.2 Be in MODE 5.	36 hours

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met during movement of irradiated fuel assemblies.	D.1 Suspend movement of irradiated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTE -

Refer to Table 3.3.6-1 to determine which SRs apply for each CREATS Actuation Function.

SURVEILLANCE	FREQUENCY
SR 3.3.6.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.6.2 Perform COT.	92 days
SR 3.3.6.3 ----- - NOTE - Verification of setpoint is not required. ----- Perform TADOT.	24 months
SR 3.3.6.4 Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.5 Perform ACTUATION LOGIC TEST.	24 months

Table 3.3.6-1  
CREATS Actuation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Manual Initiation	1, 2, 3, 4, (a)	2 trains	SR 3.3.6.3	NA
2. Automatic Actuation Logic and Actuation Relays	1, 2, 3, 4, (a)	2 trains	SR 3.3.6.5	NA
3. Control Room Radiation Intake Monitors	1, 2, 3, 4, (a)	2	SR 3.3.6.1 SR 3.3.6.2 SR 3.3.6.4	≤ .5 mR/hr
4. Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.			

(a) During movement of irradiated fuel assemblies

## **Attachment 3**

### **Bases Section 3.3.6 Markup**

**Note:** These bases pages are being provided for information only to show the changes that RG&E intends to make following approval of the LAR. The bases are under RG&E control for all changes in accordance with Specification 5.5.13. RG&E requests that the NRC document acceptance of these bases changes in the SER.

B 3.3 INSTRUMENTATION

B 3.3.6 Control Room Emergency Air Treatment System (CREATS) Actuation Instrumentation

BASES

BACKGROUND

CREATS

with respect to

or a Safety Injection (SI) signal

or a SI signal,

the

The CREATS provides a protected environment from which operators can control the plant following an uncontrolled release of radioactivity. This system is described in the Bases for LCO 3.7.9, "Control Room Emergency Air Treatment System (CREATS)." This LCO only addresses the actuation instrumentation for the high radiation state CREATS Mode F.

The high radiation state CREATS Mode F actuation instrumentation consists of two GM probe radiation monitors installed in the outside air intake for the control room ventilation system. A high radiation signal from either of these detectors will initiate the CREATS filtration train and isolate each air supply path with two dampers. The control room operator can also initiate the CREATS filtration train and isolate the air supply paths by using either of two manual pushbuttons in the control room.

place SAC CREATS in the emergency mode

APPLICABLE SAFETY ANALYSES

2 →

~~The location of components and CREATS related ducting within the control room emergency zone envelope ensures an adequate supply of filtered air to all areas requiring access. The CREATS provides airborne radiological protection for the control room operators in MODES 1, 2, 3, and 4, as demonstrated by the control room accident dose analyses for the most limiting design basis loss of coolant accident and steam generator tube rupture (Ref. 1). This analysis shows that with credit for the CREATS, or with credit for instantaneous isolation of the control room coincident with the accident initiator and no CREATS filtration train available, the dose rates to control room personnel remain within GDC 19 limits.~~

The control room must be kept habitable for the operators stationed there during accident recovery and post accident operations.

The CREATS acts to terminate the supply of unfiltered outside air to the control room, and to initiate filtration. These actions are necessary to ensure the control room is kept habitable for the operators stationed there during accident recovery and post accident operations by minimizing the radiation exposure of control room personnel. One train of filtration in conjunction with isolation is sufficient to maintain control room doses within established limits.

Control Room doses were analyzed per Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors (Ref. 6). Per reference 7, Safety Injection is credited with initiating the CREATS emergency mode within the time assumed in the dose analysis for LOCA, SGTR and MSLB accidents. For other analyzed accidents (Rod Ejection, Locked RCP Rotor, Fuel Handling Accident, SFP Tornado Missile), the high radiation signal is the primary protection. CREATS actuation is not required for GDT Rupture, although the analysis demonstrates that actuation will occur from the radiation monitors for this event.

②



Subsequent to the installation of the present rad monitors, the control room accident doses were recalculated using the alternate source term methodology (Ref 6)

(Ref. 3)  
(Ref. 4)  
(Ref. 5)

The Allowable Value for the Control Room Radiation Intake Monitors is based on a correlation to the limit specified in 10 CFR 50, Appendix A, GDC 19 and the guidance provided by the NRC in NUREG-0737 section II.B.2, Dose Rate Criteria, and NUREG-0800 section 6.4, Control Room Habitability Program. This is a maximum of 5 rem body dose, with a 30 day weighted average dose rate of less than 15 mR/hr. This allowable value is calculated in accordance with the Ginna Station Setpoint Verification Program and will provide for isolation of the control room ventilation system which will prevent exceeding these limits. The current control room accident dose calculations conservatively assume that the cloud released during the accident enters the control room envelope for 30 seconds prior to ventilation system isolation. The response time of the Control Room Radiation Intake Monitors to an actual release is bounded by the time used in the analyses.

60

(360 seconds for SGT)

(Ref. 7)

During movement of irradiated fuel assemblies or during CORE ALTERATIONS, the CREATS ensures control room habitability in the event of a fuel handling accident. It has been demonstrated that the CREATS is not required in the event of a waste gas decay tank rupture (Ref. 2).

for those accident's crediting 2hr radiation monitors

The CREATS Actuation Instrumentation satisfies Criterion 3 of the NRC Policy Statement.

LCO

The LCO requirements ensure that instrumentation necessary to initiate the CREATS is OPERABLE.

1. Manual Initiation

The LCO requires two trains to be OPERABLE. A train consists of one pushbutton and the interconnecting wiring to the actuation logic. The operator can initiate the CREATS Filtration train at any time by using either pushbutton in the control room. This action will cause actuation of all components in the same manner as any of the automatic actuation signals required by this LCO.

Emergency mode

Each pushbutton will actuate both chains of isolation dampers and the respective fan train

the

2. Automatic Actuation Logic and Actuation Relays

The LCO requires two trains of Actuation Logic and Actuation Relays to be OPERABLE. Actuation logic consists of all circuitry associated with manual initiation and Control Room Radiation Intake Monitors within the actuation system, including the initiation relay contacts responsible for actuating the CREATS.

Safety Injection

3

Emergency mode

3

The Automatic SI Actuation Logic and Actuation Relays consist of the same features and operate in the same manner as described for ESFAS Function 1.b., SI, in LCO 3.3.2. The applicable MODES and specified conditions for the CREATS portion of these functions are different and less restrictive than those specified for their SI roles. If one or more of the SI functions becomes inoperable in such a manner that only the CREATS function is affected, the Conditions applicable to their SI function need not be entered. The less restrictive Actions specified for inoperability of the CREATS Functions specify sufficient compensatory measures for this case.

3. Control Room Radiation Intake Monitor

The LCO specifies two channels of Control Room Radiation Intake Monitors to ensure that the radiation monitoring instrumentation necessary to initiate the CREATS filtration train and isolation dampers remains OPERABLE. (S)

The Nominal Trip Setpoint used in the Control Room Radiation Intake Monitors is based on the Allowable Value specified in Table 3.3.6-1. The selection of this trip setpoint is such that adequate protection is provided when all sensor and processing time delays, calibration tolerances, instrumentation uncertainties, and instrument drift are taken into account. The Nominal Trip Setpoint specified in plant procedures is therefore conservatively adjusted with respect to the Analytical Limit. If the measured setpoint exceeds the procedural tolerances of the Nominal Trip Setpoint value, the setpoint is considered OPERABLE unless the Allowable Value as specified in Table 3.3.6-1 is exceeded. The Nominal Trip Setpoint specified in the plant procedures bounds the Allowable Value.

(4) →

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APPLICABILITY In MODES 1, 2, 3, and 4, the CREATS actuation instrumentation must be OPERABLE to control operator exposure during and following a Design Basis Accident.

During movement of irradiated fuel assemblies ~~or during CORE ALTERATIONS~~, the CREATS actuation instrumentation must be OPERABLE to cope with the release from a fuel handling accident.

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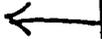
ACTIONS The most common cause of channel inoperability is failure or drift of the bistable or process module sufficient to exceed the tolerance allowed by the plant specific calibration procedures. Typically, the drift is found to be small and results in a delay of actuation rather than a total loss of function. This determination is generally made during the performance of a COT, when the process instrumentation is set up for adjustment to bring it within specification. The "as left" Nominal Trip Setpoint must be within the tolerance specified by the calibration procedure. If the "as found" setpoint exceeds the Allowable Value limit specified in Table 3.3.6-1, the channel must be declared inoperable immediately and the appropriate Condition entered.

4. Safety Injection

Refer to LCO 3.3.2, Function 1, for all initiating Functions and requirements.

The CREATS emergency mode is also initiated by all Functions that automatically initiate SI. The CREATS emergency mode requirements for these Functions are the same as the requirements for their SI function. Therefore, the requirements are not repeated in Table 3.3.6-1. Instead, Function 1, SI, is referenced for all applicable initiating Functions and requirements.

4



A Note has been added to the ACTIONS indicating that separate Condition entry is allowed for each Function. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.6-1 in the accompanying LCO. The Completion Time(s) of the inoperable channel/train of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

~~A.1~~

⑤ → ~~Condition A applies to one or more Functions with one channel of the CREATS actuation instrumentation inoperable.~~

~~If one radiation monitor channel, one manual initiation train, or one automatic actuation logic train is inoperable, 7 days are permitted to restore it to OPERABLE status. In this Condition the remaining redundant OPERABLE channel/train is adequate to perform the control room protection function. However the overall reliability is reduced because a single failure in the OPERABLE channel/train could result in a loss of function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining channel/train to provide the required capability. If the channel/train cannot be restored to OPERABLE status, the CREATS must be placed in Mode-F. This accomplishes the actuation instrumentation function and places the system in a conservative mode of operation.~~

~~The Required Action for Condition A is modified by a Note which allows the control room to be unisolated for  $\leq 1$  hour every 24 hours. This allows fresh air makeup to improve the working environment within the control room and is acceptable based on the low probability of a DBA occurring during this makeup period.~~

⑥ → ~~B.1~~

~~Condition B applies to the failure of two radiation monitor channels, two manual initiation trains, or two automatic actuation logic trains. In this Condition the CREATS actuation instrumentation is not capable of performing its intended automatic function. This is considered a loss of safety function. The Required Action is to place the CREATS in Mode-F immediately. This accomplishes the actuation instrumentation function that may have been lost and places the system in a conservative mode of operation.~~

~~The Required Action for Condition B is modified by a Note which allows the control room to be unisolated for  $\leq 1$  hour every 24 hours. This allows fresh air makeup to improve the working environment within the control room and is acceptable based on the low probability of a DBA occurring during this makeup period.~~

A.1

Condition A applies to the actuation logic train Function of the CREATS, the radiation monitor channel Functions, the manual channel Functions and the SI logic Functions. If one train is inoperable, or one radiation monitor channel is inoperable, 7 days are permitted to restore it to OPERABLE status. The 7 day Completion Time is the same as is allowed if one train of the mechanical portion of the system is inoperable. The basis for this Completion Time is the same as provided in LCO 3.7.9. If the channel/train cannot be restored to OPERABLE status, one CREATS train must be placed in the emergency radiation protection mode of operation. This accomplishes the actuation instrumentation Function and places the plant in a conservative mode of operation.

5 ←

B.1.1, B.1.2, and B.2

Condition B applies to the failure of two CREATS actuation trains, two radiation monitor channels, two manual channels, or two SI actuation trains. The first Required Action is to place one CREATS train in the emergency mode of operation immediately. This accomplishes the actuation instrumentation Function that may have been lost and places the plant in a conservative mode of operation. The applicable Conditions and Required Actions of LCO 3.7.9 must also be entered for the CREATS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed upon train inoperability as discussed in the Bases for LCO 3.7.9.

5 ←

Alternatively, both trains may be placed in the emergency mode. This ensures the CREATS function is performed even in the presence of a single failure.

C.1 and C.2

Condition C applies when the Required Action and associated Completion Time of Condition A or B has not been met and the plant is in MODE 1, 2, 3, or 4. The plant must be brought to a MODE that minimizes accident risk. To achieve this status, the plant must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

D.1 and D.2

Condition D applies when the Required Action and associated Completion Time of Condition A or B has not been met during movement of irradiated fuel assemblies, ~~or during CORE ALTERATIONS~~. Movement of irradiated fuel assemblies ~~and CORE ALTERATIONS~~ must be suspended immediately to reduce the risk of accidents that would require CREATS actuation. This places the plant in a condition that minimizes risk. This does not preclude movement of fuel or other components to a safe position.

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**SURVEILLANCE  
REQUIREMENTS**

A Note has been added to the SR Table to clarify that Table 3.3.6-1 determines which SRs apply to which CREATS Actuation Functions.

SR 3.3.6.1

Performance of the CHANNEL CHECK once every 12 hours ensures that gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift in one of the channels or of more serious instrument conditions. A CHANNEL CHECK will detect gross channel failure; thus, it is a verification that the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

CHANNEL CHECK acceptance criteria are determined by the plant staff based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit.

The Frequency of 12 hours is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.3.6.2

This SR is the performance of a COT once every 92 days on each required channel to ensure the entire channel will perform the intended function. This test verifies the capability of the instrumentation to provide the automatic CREATS actuation. The setpoints shall be left consistent with the plant specific calibration procedure tolerance. The Frequency of 92 days is based on the known reliability of the monitoring equipment and has been shown to be acceptable through operating experience.

SR 3.3.6.3

This SR is the performance of a TADOT of the Manual Initiation Function every 24 months. The Manual Initiation Function is tested up to, and including, the master relay coils.

The Frequency of 24 months is based on the known reliability of the Function and the redundancy available, and has been shown to be acceptable through operating experience.

The SR is modified by a Note that excludes verification of setpoints because the Manual Initiation Function has no setpoints.

SR 3.3.6.4

This SR is the performance of a CHANNEL CALIBRATION every 24 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

The Frequency of 24 months is based on operating experience and is consistent with the typical industry refueling cycle.

SR 3.3.6.5

This SR is the performance of an ACTUATION LOGIC TEST. All possible logic combinations are tested for the CREATS actuation instrumentation. In addition, the master relay is tested for continuity. This verifies that the logic modules are OPERABLE and there is an intact voltage signal path to the master relay coils. This test is acceptable based on instrument reliability and operating experience.

REFERENCES

1. UFSAR, Section 6.4.

2. ~~Letter from Robert C. Mecredy, RG&E, to Guy S. Vissing, NRC,  
Subject: Application for Amendment to Facility Operating License  
Control Room Emergency Air Treatment System CREATS  
Applicability Change (LCO 3.3.6 and LCO 3.7.9), dated July 21,  
2008.~~

DA-NS-2008-057,  
Revision 2, Gas Decay  
Tank Rupture Offsite  
and Control Room Desms

3. 10 CFR 50, Appendix A, GDC 19

4. NUREG-0737, Section II.B.2, Dose Rate Criteria.

5. NUREG-0800, Section 6.4, Control Room  
Habitability Program

6. Regulatory Guide 1.183, Alternative Radiological  
Source Terms for Evaluating Design Basis  
Accidents at Nuclear Power Reactors

7. RG&E UFSAR Chapter 15 Transient  
Analysis Calculation Sheet 10.26, Rev 1,  
Control Room Isolation Time.