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July 30, 2001

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
TRANSMITTAL OF THE CPSES 2001 EMERGENCY PREPAREDNESS EXERCISE SCENARIO

REF: TXU Electric letter logged TXX-01097 from C. L. Terry to USNRC dated May 24, 2001

Gentlemen:

Enclosed is one copy of the TXU Electric CPSES Emergency Preparedness Exercise Scenario Manual for the August 22, 2001 Graded Exercise at CPSES. The exercise objectives and guidelines were previously submitted by the referenced letter above. Please contact Mr. Matt Bozeman at (254) 897-5680 if there are any questions or comments.

NOTE: **This transmittal contains Emergency Preparedness exercise information that should <u>NOT</u> be released to the Public Document Room before August 23, 2001.**

ML012140243

DF01
Ex49

This communication contains no new licensing basis commitments regarding CPSES Units 1 and 2

Sincerely,

C. L. Terry

By: Roger D. Walker
Roger D. Walker
Regulatory Affairs Manager

CLW/clw
Enclosure

c - E. W. Merschoff, Region IV (clo)
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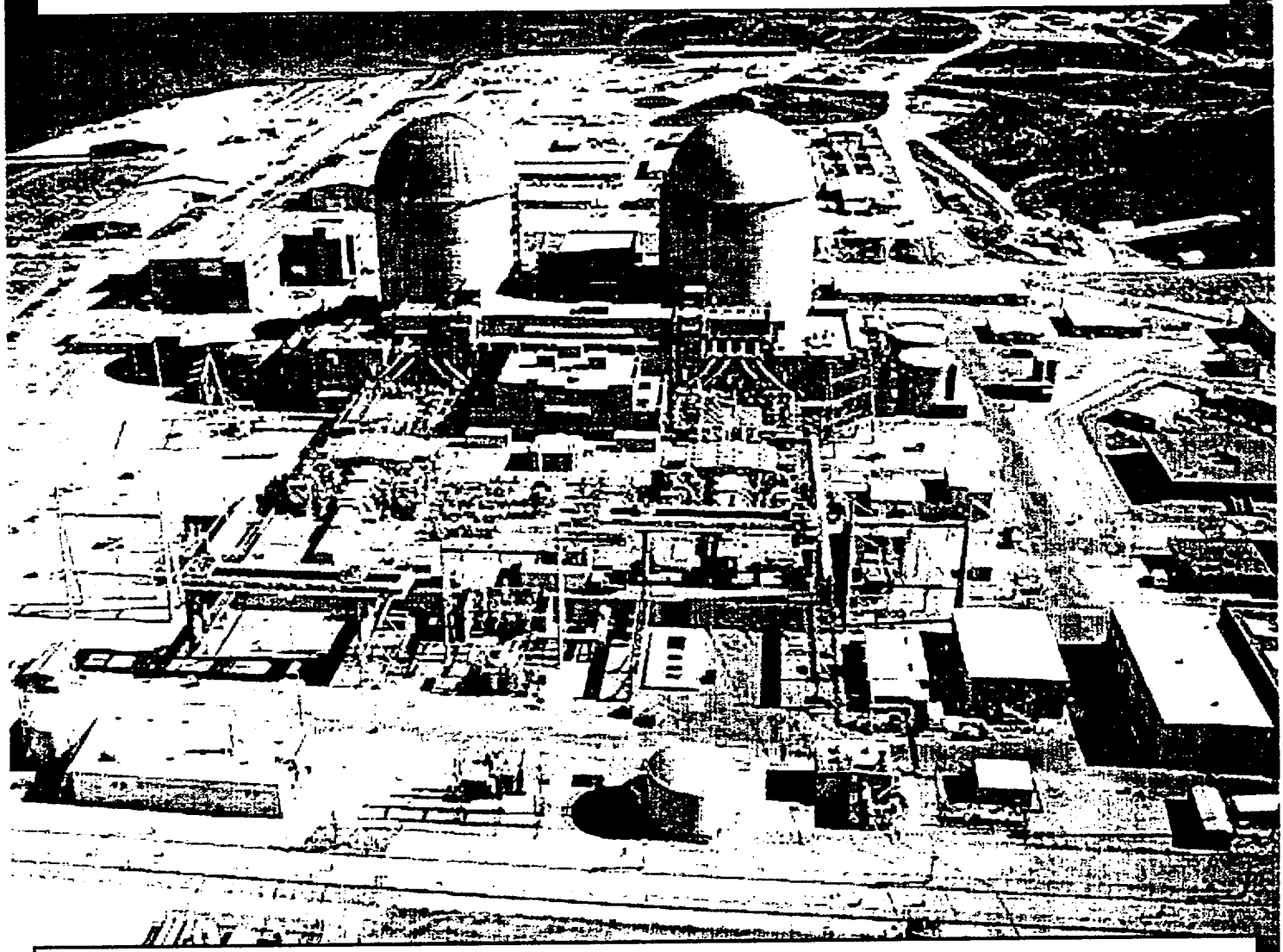
2001
GRADED EXERCISE



COMANCHE PEAK
STEAM ELECTRIC STATION

CONFIDENTIAL
until after the exercise

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COMANCHE PEAK STEAM ELECTRIC STATION
2001 GRADED EXERCISE

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   Contains a schedule of events for the conduct and critique of the exercise.

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   Lists the objectives for the exercise.

3. **GUIDELINES AND EXTENT OF PLAY NOTES**

   Outlines general controller rules and expectations, as well as the extent of play of the participants during the exercise.

4. **INITIAL CONDITIONS**

   Operations crew turnover and briefing sheet for the day.

5. **NARRATIVE SUMMARY**

   Provides initial meteorological conditions, and a step-by-step account of major events in the exercise timeline.

6. **ONSITE EXERCISE GUIDE**

   Summary of the onsite events, messages, and anticipated emergency response activities of the participants.

7. **MESSAGES**

   Contains the onsite exercise messages.

8. **METEOROLOGICAL CONDITIONS**

   Contains meteorological conditions for the extent of the exercise.

9. **IN-PLANT SURVEY DATA**

   Contains in-plant radiological survey information.

10. ONSITE SURVEY DATA

Contains onsite plume exposure information.

11. OFFSITE SURVEY DATA (TXU ELECTRIC)

Contains offsite exposure and contamination information for the utility field teams.

12. CHEMISTRY DATA and CONTROLLER INSTRUCTIONS

Contains onsite chemistry information and controller instructions.

13. SUBSTITUTE TELEPHONE NUMBERS

List of substitute participant telephone numbers to be used during the exercise.

14. ERDC (MAINTENANCE) CONTROLLER INSTRUCTIONS

Special instructions to Emergency Repair and Damage Control team controllers.

15. FIRST AID/RESCUE CONTROLLER INSTRUCTIONS

Special instructions and data for the First Aid controllers.

16. PARTICIPANTS

List of expected participants by facility and position.

17. CONTROLLER/EVALUATOR/ROLEPLAYER ORGANIZATION

List of personnel who will participate as a controller, evaluator, or roleplayer.

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2001 GRADED EXERCISE

INTRODUCTION

The 2001 Graded Exercise will verify the capability of CPSES and offsite agencies to respond to a simulated accident. The exercise will provide training, test the Emergency Response Organization, and identify potential problems in the overall response effort. It will be graded by the Nuclear Regulatory Commission (NRC) and Federal Emergency Management Agency (FEMA). The following is a schedule of exercise-related activities.

Tuesday, August 7

2:30 p.m.,	Lead and County Controllers Briefing, EP Conference Room, NOSF

Thursday, August 9

1:00 p.m.,	Control Room Controllers and Simulator Operators Briefing, EP Conference Room, NOSF

Monday, August 13

10:00 a.m.,	TSC Controllers Briefing, EP Conference Room, NOSF
1:00 p.m.,	Security and LSC Controllers Briefing, EP Conference Room, NOSF

Tuesday, August 14

10:00 a.m.,	Phone Bank Roleplayers Briefing, EP Conference Room, NOSF
1:00 p.m.,	News Center (NC) Controllers and Reporter Roleplayers Briefing, EP Conference Room, NOSF
1:00 p.m.,	Offsite Survey Team Controller Briefing, EOF, NOSF

Wednesday, August 15

1:00 p.m.,	EOF Controllers Briefing, EP Conference Room, NOSF

Thursday, August 16

09:00 a.m.,	OSC Rad Team Controllers Briefing, Outage Control Center
1:00 p.m.,	OSC Management Controllers Briefing, Outage Control Center

Monday, August 20

9:30 a.m.,	NRC Entrance Meeting; EP Conference Room, NOSF

Tuesday, August 21

9:00 a.m.,	Scenario briefing and facility tour for NRC Inspection Team; EP Conference Room, NOSF
1:00 p.m.,	Offsite Roleplayers and Controllers Briefing, Hood County Annex Auditorium, Granbury
2:00 p.m.	Player/Controller/Observer briefing with FEMA – BRC Staging Area, Granbury.

Wednesday, August 22

7:00 a.m.,	Brief on-coming Operations crew in the simulator.
7:30 a.m.,	Exercise Begins
~ 3:00 p.m.,	Exercise Terminated, Facility Debriefs Begin
4:30 p.m.,	Lead Controller/Evaluator Meeting, EP Staff Area, NOSF

Thursday, August 23

8:00 a.m.,	Offsite Critique, Hood County Annex Auditorium, Granbury
10:00 a.m.,	Federal/State/Local Critique, Hood County Annex Auditorium, Granbury
11:30 a.m.,	Public Meeting (NRC and FEMA), Hood County Annex Auditorium, Granbury
3:00 p.m.,	Presentation of exercise findings to Management Review Board; POD Room, MSC

Friday, August 24

1:00 p.m.,	NRC Exit Meeting, CPE Executive Conference Room

A copy of this manual will be provided to each Controller/Evaluator, and selected observers prior to the exercise.

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2001 GRADED EXERCISE

OBJECTIVES

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2001 GRADED EXERCISE

ONSITE OBJECTIVES

The locations where objectives are anticipated to be demonstrated are indicated by abbreviations as shown below. Actual player response, to conditions existing at the time of the exercise, may result in an objective being demonstrated in another facility.

Some objectives (designated NFD) are not intended to be fully demonstrated by this scenario. The portions of these objectives demonstrated by the players will be graded by the facility evaluators, but credit for objective demonstration is not intended.

FACILITY

CONTROL ROOM	(CR)
TECHNICAL SUPPORT CENTER	(TSC)
EMERGENCY OPERATIONS FACILITY	(EOF)
OPERATIONS SUPPORT CENTER	(OSC)
NEWS CENTER	(NC)
Not fully demonstrated	(NFD)

	OBJECTIVE	FACILITY
1.	Demonstrate the ability of the emergency organization to assess plant conditions and make appropriate emergency classification.	CR, TSC
2.	Demonstrate the ability to notify and update federal, state, and local authorities.	CR, TSC, EOF
3.	Demonstrate the ability to alert, notify, and update onsite personnel.	CR, TSC, EOF
4.	Demonstrate the ability to initially staff and activate the Emergency Response Facilities.	ALL
5.	Demonstrate the adequacy of procedures, equipment, displays, security provisions, and habitability precautions for the Emergency Response Facilities.	ALL
6.	Demonstrate the ability to direct, coordinate, and control emergency activities.	ALL
7.	Demonstrate the ability to transfer command and control of the emergency response.	CR, TSC, EOF
8.	Demonstrate the adequacy of communication procedures and equipment for emergency response activities.	ALL
9.	Demonstrate the ability to coordinate the formation and dissemination of accurate information and instructions to the public through news releases.	NC
10.	Demonstrate the ability to establish and operate rumor control.	NC
11.	Demonstrate the ability to monitor, assess and correlate onsite radiological conditions.	CR, TSC, OSC
12.	Demonstrate the ability of the Engineering Team to assess plant conditions.	TSC
13.	Demonstrate the ability to perform dose projections.	EOF

	OBJECTIVE	FACILITY
14.	Demonstrate the ability to make protective action recommendations.	EOF
15.	Demonstrate the ability to monitor and control emergency worker exposure.	ALL
16.	Demonstrate the ability to provide onsite contamination control.	OSC
17.	Demonstrate the ability of Offsite Radiological Monitoring Teams to collect and report field data.	EOF
18.	Demonstrate the ability to collect and evaluate environmental samples and surveys.	NFD
19.	Demonstrate the ability to provide initial and continuous accountability for all personnel within the Protected Area.	NFD
20.	Demonstrate the ability to coordinate the evacuation of onsite personnel.	NFD
21.	Demonstrate the ability to respond to and treat a contaminated injured individual.	NFD
22.	Demonstrate the ability to transport contaminated injured individuals from CPSES to the hospital.	NFD
23.	Demonstrate the adequacy of facilities, equipment, supplies, and personnel for decontamination of emergency workers, equipment, and vehicles.	NFD
24.	Demonstrate the ability to respond to an onsite fire.	NFD
25.	Demonstrate the ability to make the decision to recommend the use of KI to emergency workers, as well as to distribute and administer KI once the decision is made.	NFD
26.	Demonstrate the ability to implement measures for controlled reentry and recovery.	NFD

	OBJECTIVE	FACILITY
27.	Demonstrate the ability to collect, sample, and analyze a post-accident sample.	NFD
28.	Demonstrate the ability to perform a shift change in each of the Emergency Response Facilities.	NFD
29.	Demonstrate the ability to identify the need for and call upon Federal and other outside support agencies for assistance.	EOF
30.	Demonstrate the ability to staff and activate alternate Emergency Operations Facility.	NFD
31.	Demonstrate the ability to staff and activate alternate News Center.	NFD

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COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

GUIDELINES AND EXTENT OF PLAY NOTES

GUIDELINES AND EXTENT OF PLAY NOTES

GENERAL GUIDELINES

The following guidelines have been developed to instruct exercise controllers on the conduct necessary to fulfill the exercise objectives. Where no instructions are provided for a particular objective, actions that would be taken for a real emergency should be taken for the exercise. The intent of the exercise is to demonstrate actual emergency response capabilities as realistically as possible.

1. The exercise controller organization will control all phases of the exercise by passing messages to the participants, either per the timeline or in response to the actions of the participants.

2. The controller and the evaluator organizations are at the direction of the Exercise Lead Controller. Additionally, a Lead Facility Controller will be assigned to each Emergency Response Facility.

3. A controller will be assigned to each location or event where an emergency response is to be demonstrated.

4. The Control Room activities will be conducted in the NOSF Simulator.
   a. Plant Computer System (SPDS) and PC-11 data in the simulator, OSC, TSC, and EOF will be driven by the simulator.
   b. At the direction of the Lead Exercise Controller, if the Simulator fails and cannot be returned to service, the exercise may be continued for the other facilities by the CR staff and controllers acting as roleplayers and presenting simulated plant data by means of the established communication channels.
   c. "All-page" announcements, requiring plant-wide alarms to be sounded, will be coordinated with the actual Control Room as follows:
      - initiating facility will develop the message to be announced, then
      - contact the real Control Room who will actually make the announcement and sound the alarm.

5. The controllers should allow free-play. However, free-play will be stopped under the following conditions:
   a. if the action taken would prevent an exercise objective from being met or is outside the scope of the exercise.
   b. if the actions are judged to be unsafe or leading to violations of laws.
   c. if the actions would degrade systems or equipment, or degrade response to a real emergency.

6. All communications and messages will begin and end with the statement "This is a drill".

GENERAL GUIDELINES (cont.)

7. This exercise will be graded by the NRC and FEMA. Controller/evaluators SHALL NOT coach or correct players during the course of the exercise. Mistakes or areas of improvement should be noted, with feedback given to the players at the critique following the exercise.

8. The 15-minute clock for making local emergency notifications is satisfied when the communicator begins reading the contents of the Emergency Notification Message Form to DPS Waco and Somervell and Hood counties.

9. Participants shall comply with the instructions from the controller organization. If a conflict exists between scenario data and actual data, inform the Facility Lead Controller and wait for further instructions.

10. Controller/evaluators/roleplayers will be identified by wearing either an arm band, special badge, or vest.

11. This exercise is not intended to demonstrate entry into, or use of, the CPSES Severe Accident Management Guidelines (SAMGs).

SAFETY

1. Each controller and evaluator is responsible to ensure that the exercise is conducted in a safe manner.

2. If a controller or evaluator observes an unsafe exercise activity, stop the activity and notify Exercise Lead Controller.

3. If an actual emergency occurs, the exercise may be terminated at the discretion of the on-shift Shift Manager or the Exercise Lead Controller. All communications concerning an actual emergency will begin and end with "This is not, repeat, not a drill."

ACTIVITIES TO BE SIMULATED (EXTENT OF PLAY)

The following is a list of activities that will be simulated during the exercise. NO OTHER ACTIVITIES WILL BE SIMULATED UNLESS APPROVED BY THE EXERCISE LEAD CONTROLLER.

1. The actions of the Control Room crew will be conducted in the NOSF Simulator. Operations personnel will be pre-positioned in the Simulator when the exercise starts. Additional personnel who report to the Control Room during emergencies will report to the Simulator.

2. No activities involving actual plant systems, either manipulation or modification, are allowed by exercise personnel without explicit permission of the on-duty Shift Manager in the real Control Room.

3. Utility personnel that are not onsite at the time of the exercise will not be notified at home.

4. Pager activation will use the normal equipment and procedures, but a "drill only" code will be transmitted.

5. Site evacuation will be simulated. Once the decision to evacuate has been made, a pre-formatted message to simulate the evacuation will be handed to the players. Security should setup roadblock equipment, but traffic will NOT actually be impeded.

6. Accountability will be simulated as follows:
   a. Facility accountability will be performed in the TSC and OSC only.
   b. Security sweeps will be conducted by dispatching Officers, but "bullhorn" announcements will NOT be made.
   c. Security will be required to print a Security Accountability Report. At this point, a Security controller will interject a simulated report and it will be transmitted IAW Security procedures.

7. Emergency repairs or modifications to plant equipment (e.g., temp. cooling of ECCS pumps, breaker replacement, etc) will be simulated. However, all tools, equipment, and procedures required to complete the repairs should be obtained. Every effort should be made by the applicable controller to ensure that needed materials are onhand and are adequate to perform the assigned task.

8. Protective clothing, or other potentially contaminated materials, will not be used outside the Radiologically Controlled Area (RCA) for the purposes of the exercise. Any use of protective clothing, by either onsite or offsite personnel, which is outside of the RCA will be simulated.

ACTIVITIES TO BE SIMULATED (EXTENT OF PLAY) continued

9. If an air purifying or SCBA respirator is dictated for any team (e.g., Fire Brigade, RP, etc); the respirators will be issued, verified operational, seal checked, and then the facepiece removed. If SCBAs are simulated being used, the controllers should simulate the consumption of air, requiring bottle changeout as appropriate.

10. ERDS will be activated from the TSC, however, the activation may be unsuccessful since the NRC Response Center is not participating in the exercise. No further action is required by the exercise players.

11. Fire Brigade should lay out hoses and other suppression equipment, however, actual water flow and/or suppression system operation will be simulated.

12. Roleplayers and/or recordings will be used for:
    * Grid Dispatcher
    * National Weather Service
    * ENS line
    * HPN line
    * Phone Bank
    * Reporters
    * Unit 2 Control Room
    * any injured persons
    * Squaw Creek Park staff

13. Once sufficient personnel have responded to staff the facility, a list of designated players may be given to each facility manager to ensure the designated players are chosen to remain.

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COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

INITIAL CONDITIONS

SHIFT TURNOVER INFORMATION

1.0 INITIAL CONDITIONS:

Time in Core Life:	BOL	T_{avg}:	589 °F
Reactor Power:	100 %	RCS Pressure:	2250 psig
Turbine Load	1162 MWe	Xenon:	Equil.
Boron Concentration:	1415 ppm	Rod Control:	(Auto)
Rod Height:	Bank D @ 215 steps		

2.0 LCOAR/TECHNICAL SPECIFICATION ACTIONS IN EFFECT:

TS#	Description	Reason
None		

3.0 CLEARANCES IN EFFECT:

4.0 SAFETY SYSTEM SETTING BYPASS/MALFUNCTIONS:

None

5.0 DEGRADED EQUIPMENT:

6.0 PLANNED EVOLUTIONS:

Shift orders are to maintain load and availability.

7.0 TURNOVER INFORMATION:

- Presently in IPO-003, step 5.5. Unit 2 is at 100 %.
- Radio channel 1 and Gaitronics line 5 will be used for exercise-related communications. All messages should begin and end with "THIS IS A DRILL
- If communicating with PEOs by phone, ensure Simulator operator is aware of content of discussion.
- Training shift PEOs should be used if Fire Brigade is required.
- Requests for Unit 2 information should be made to the Controller.
- Requests for Radwaste or system dispatcher should be made to the Sim. booth, requests for other support should be made to the actual plant groups.

8.0 SHIFT MANNING:

Shift Manager		**Turbine Bldg PEO**	
Unit Supervisor		**Safeguards Bldg PEO**	
STA		**Auxiliary Bldg PEO**	
Reactor Operator		**ECB PEO**	
BOP Operator		**Perimeter PEO**	
FSS		**Extra**	
RP Lead Tech		**Chemistry Lead Tech**	
Prompt Team Lead		**CR Communicator**	

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

NARRATIVE SUMMARY

This scenario is for Comanche Peak Steam Electric Station Unit 1.

The scenario consists of a 15 gallon-per-minute (gpm) Reactor Coolant System leak, a loss of a vital 6.9 kV bus, a turbine and reactor trip due to loss of condenser vacuum, a tube rupture on S/G #4, failed fuel, and an unisolable steam release to the atmosphere from SG #4 safety valve.

The exercise is scheduled to begin at 7:30 a.m., Wednesday, August 22, 2001.

METEOROLOGICAL CONDITIONS

Temperature is 84 degrees with wind out of the southwest at 7 mph. Temperature will increase to about 98 degrees by the end of the exercise. Wind speed will remain light and variable throughout the day.

NARRATIVE SUMMARY

At 0700 a turnover briefing for the simulator crew will occur.

At 0730 the exercise scenario will start on the simulator.

At 0746 there will be a 15-gpm leak from the Reactor Coolant System.

By ~0801 the leak will have been quantified and the source identified.

At ~0816 conditions will warrant declaration of a **NOUE** due to the Reactor Coolant System leak.
(EPP-201; Chart 2; 2A, 2B, NOUE)

At 0826 a bus fault will result in loss of bus 1EA1 and a subsequent fire in a cable tray.

At ~0841 conditions will warrant declaration of an **ALERT** due to fire effecting a safety system.
Emergency Response Facilities should begin staffing.
(EPP-201, Chart 9; 9.H, 9.E, ALERT)

At ~0850 the fire will be put out.

At 0914 vacuum breaker valve 1-HV-2955 will open due to a faulted circuit. This leads to a rapid loss of condenser vacuum and results in a turbine trip and reactor trip. A tube in S/G #4 will rupture at ~550 gpm with RCS activity increasing to failed fuel threshold.

At ~0929 conditions will warrant declaration of an **SITE AREA EMERGENCY** due to a steam generator tube failure greater than capacity of available CCP's and indications of failed fuel. A Site Evacuation will be called.
(EPP-201, Chart 3; 3.A, 3.B, 3.C, SAE).

By ~0959 Protected Area accountability should be accomplished.

At 1017 a safety valve on S/G #4 will open initating a radiological release to the atmosphere.

At ~1032 conditions will warrant declaration of a **GENERAL EMERGENCY.**

(EPP-201, Chart 3; 3.A, 3.B, 3.C, 3.D, General Emergency)
(PAR Evac. 2A based on plant conditions or 5 mile evac based on dose projections.)

At ~1214 a personnel medical emergency will occur in the Turbine Bldg. (See First Aide/Rescue Controller notes for details.)

At ~ 1300 the safety valve will close terminating the release.

The exercise may be terminated by the Lead Controller when the onsite and offsite objectives have been satisfied.

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COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

ONSITE EXERCISE GUIDE

2001 BLUE Team Graded Exercise
Timeline and Response Guide

TIME	MESSAGE NUMBER	FROM	TO	LOCATION	SUMMARY	RESPONSE	NOTES
0700				Simulator	Initial conditions established for the operating crew.		**All events refer to Unit 1. Ensure crew has had a chance to walkdown the control boards.**
0730	1	CR Lead Controller	Shift Manager	Simulator			
0746				Simulator	A 15 gpm leak occurs from the Reactor Coolant System.	The Ops Crew should quantify the leak per ABN-103.	
~0801				Simulator	The leak should be quantified and the source identified. Shift Manager should declare a NOUE.	Implement the Emergency Plan commensurate with the NOUE.	Ref EPP-201, chart 2; 2A, 2B = NOUE.
~0816	2*	CR Lead Controller	Shift Manager	Simulator	CONTINGENCY MESSAGE: Plant conditions warrant declaration of a NOUE .		Pass only with the permission of the Exercise Lead Controller.
~0826				Simulator	A fire breaks out in an electrical cable tray and subsequent causes loss of bus 1EA1.	PEO dispatched to verify existence of the fire.	

*** - Inform the Exercise Lead Controller if this message is passed.**

2001 BLUE Team Graded Exercise
Timeline and Response Guide

TIME	MESSAGE NUMBER	FROM	TO	LOCATION	SUMMARY	RESPONSE	NOTES
~0841				Simulator	Conditions support Alert declaration .	Implement the Emergency Plan commensurate with an ALERT.	Ref EPP-201, Chart 9; 9.H, 9.E = ALERT
~0841	3*	CR Lead Controller	Shift Manager/ Emergency Coord.	Simulator	**CONTINGENCY MESSAGE:** Plant Conditions warrant declaration of an ALERT.		Pass only with the permission of the Exercise Lead Controller.
~0850					The fire will be put out.		
~0900	4*	CR Lead Controller	TSC Mgr/ Emergency Coord.	Simulator	**CONTINGENCY MESSAGE:** The Emergency Coordinator should relocaate to the TSC at this time ot keep the scenario on the timeline		The approximate time assumes that the TSC is staffed and ready to activate.
0914				Simulator	Vacuum breaker valve 1-HV-2955 fails open due to a faulted circuit. This leads to a rapid loss of condenser vacuum that causes a turbine trip and reactor trip. A tube in the #4 S/G will rupture at ~550 gpm with RCS activity increasing to the failed fuel threshold.	Implement the Emergency Plan commensurate with a Site Area Emergency. A site evacuation should be ordered. **Evacuation should NOT be performed.** Control Room to sound alarm and read message.	Ref. EPP-201, Chart 3; 3.A, 3.B, 3.C = SAE Pass the site evacuation message after the TSC/EOF Manager has prepared one from his PAD.

*** - Inform the Exercise Lead Controller if this message is passed.**

2001 BLUE Team graded Exercise
Timeline and Response Guide

TIME	MESSAGE NUMBER	FROM	TO	LOCATION	SUMMARY	RESPONSE	NOTES
~0929	5*	TSC Lead Controller	TSC Mgr/ Emergency Coord.	TSC	**CONTINGENCY MESSAGE** Plant Conditions warrant declaration of a Site Area Emergency.		Pass only with the permission of the Exercise Lead Controller.
~0959				EOF	Accountability within the Protected Area should be complete.	Security Coordinator should be informed of the results.	See Security Controller instructions for accountability.
1017				TSC/EOF	A safety valve on #4 S/G will open initiating a radiological release to the atmosphere. The Emergency Coordinator should declare a GENERAL EMERGENCY.	Implement the Emergency Plan commensurate with a GENERAL EMERGENCY.	Ref EPP-201, chart : 3.A, 3.B, 3.C, 3.D = GENERAL EMERGENCY.
~1032	7*	TSC Lead Controller	TSC Mgr/ Emergency Coord.	TSC	**CONTINGENCY MESSAGE:** The conditions warrant declaration of a GENERAL EMERGENCY.	Implement the Emergency Plan commensurate with a GENERAL EMERGENCY.	Action necessary to ensure objectives are met.
~1214	8	Roleplayer	Control Room Personnel	Simulator	A member of ERDC Team or PEO reports that a coworker just collapsed in the Turbine Bldg. And is in need of medical assistance.	Dispatch First Responders to scene of casualty.	

*** - Inform the Exercise Lead Controller if this message is passed.**

2001 BLUE Team Graded Exercise
Timeline and Response Guide

TIME	MESSAGE NUMBER	FROM	TO	LOCATION	SUMMARY	RESPONSE	NOTES
1300				Simulator	The safety valve on the #4 S/G goes closed.	Recognize that radiological release has terminated	
~1315	9	Exercise Lead Controller	All	All	The exercise is terminated at the direction of the lead controller.	All personnel should secure exercise related activities, restore their facilities, and prepare for facility de-brief.	Pass only with permission of the exercise lead controller. All objectives have been evaluated.

*** - Inform the Exercise Lead Controller if this message is passed.**

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COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

MESSAGES

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 1

TO: Shift Manager FROM: Lead Controller

LOCATION: Simulator

TIME: 0715

MESSAGE: "The exercise will begin with the following initial conditions."

END OF MESSAGE

(NOTE: Give Shift Manager copy of Shift Turnover Information sheet as well as a copy of the substitute phone number list.)

THIS IS A DRILL

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 2

CONTINGENCY MESSAGE

TO: Shift Manager FROM: CR Lead Controller

LOCATION: Simulator

TIME: ~0816

MESSAGE: "Plant conditions warrant declaration of an N.O.U.E."

END OF MESSAGE

(NOTE: Pass only with permission of the Exercise Lead Controller.)

THIS IS A DRILL

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 3

CONTINGENCY MESSAGE

TO: Shift Manager FROM: CR Lead Controller

LOCATION: Simulator

TIME: ~0841

MESSAGE: "Plant conditions warrant declaration of an ALERT."

END OF MESSAGE

(NOTE: Pass only with permission of the Exercise Lead Controller.)

THIS IS A DRILL

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 4

CONTINGENCY MESSAGE

TO: Emergency Coordinator FROM: CR Lead Controller

LOCATION: Simulator

TIME: ~0900 (Assuming the TSC has been staffed and is ready to activate)

MESSAGE: "The Emergency Coordinator should relocate to the Technical Support Center at this time to keep the scenario on the timeline."

END OF MESSAGE

(NOTE: Pass only with permission of the Exercise Lead Controller.)

THIS IS A DRILL

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 5

CONTINGENCY MESSAGE

TO: Emergency Coordinator

FROM: TSC Lead Controller

LOCATION: TSC

TIME: ~0929

MESSAGE: "Plant conditions warrant the declaration of a Site Area Emergency.

END OF MESSAGE

THIS IS A DRILL

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 6

TO: Emergency Coordinator FROM: TSC Lead Controller

LOCATION: TSC

TIME: ~0929

MESSAGE: Direct the actual Control Room to make the following announcement and sound the evacuation alarm.

Attention in the plant. Clear the Gaitronics for an emergency All-Page announcement.

This is a drill.

A SITE AREA EMERGENCY has been declared due to a Steam Generator tube rupture with indications of failed fuel.

Channel 5 is for Emergency use Only.

The following alarm is for drill purposes only. Disregard the alarm. Do not evacuate.

In a real emergency, you would be directed to evacuate the site and to procede to one of the Relocation Centers, in Cleburne at the Citizens Center or in Stephenville at the City Park.

This is a drill.

Sound the site evacuation alarm for 15-30 seconds.

Repeat announcement.

END OF MESSAGE

Note: Pass this message immediately after the Emergency Coordinator develops the drill evacuation announcement.

THIS IS A DRILL

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 7

CONTINGENCY MESSAGE

TO: Emergency Coordinator FROM: TSC Lead Controller

LOCATION: TSC

TIME: ~1032

MESSAGE: "Plant conditions warrant declaration of a GENERAL EMERGENCY."

END OF MESSAGE

(NOTE: Pass only with permission of the Exercise Lead Controller.)

THIS IS A DRILL

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 8

CONTINGENCY MESSAGE

TO: Control Room Personnel (Simulator) **FROM:** Roleplayer

LOCATION: Turbine Building

TIME: ~1214

MESSAGE:

Call Drill Emergency Number 4911 and pass the following information:

"This is a drill.

This is _____.

One of my coworkers, _____, said that he/she was feeling lightheaded and dizzy and has just passed out. We are in the Turbine Building elevation 803'.

This is a drill."

END OF MESSAGE

THIS IS A DRILL

DO NOT initiate actions affecting plant operations.

MESSAGE NUMBER: 9

TO: ALL

FROM: Exercise Lead Controller

LOCATION: Plant

TIME: ~1315

MESSAGE: "The exercise is terminated. All personnel should secure from the exercise activities, restore their facilities, assemble all paper and forms used during the exercised, and prepare for debriefs."

END OF MESSAGE

THIS IS A DRILL

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

METEOROLOGICAL CONDITIONS

METEOROLOGY DATA

Real Time	Wind Speed	Wind Dir.	Delta-t	Air Temp.
07:30	8	200	-0.5	85
07:45	8	200	-0.5	85
08:00	8	200	-0.5	86
08:15	8	205	-0.7	86
08:30	9	205	-0.7	86
08:45	9	200	-0.7	86
09:00	9	200	-0.8	87
09:15	9	195	-1.0	87
09:30	10	195	-1.0	87
09:45	10	200	-1.0	88
10:00	10	200	-1.2	88
10:15	12	207	-1.2	88
10:30	12	207	-1.2	88
10:45	12	207	-1.2	88
11:00	12	205	-1.2	90
11:15	12	195	-1.4	90
11:30	12	195	-1.4	90
11:45	10	197	-1.4	90
12:00	10	200	-1.4	92
12:15	10	200	-1.4	92
12:30	13	200	-1.4	92
12:45	13	203	-1.5	94
13:00	13	203	-1.5	94
13:15	13	203	-1.5	94
13:30	13	205	-1.5	94
13:45	15	205	-1.5	95
14:00	15	205	-1.5	95
14:15	15	205	-1.5	95
14:30	15	205	-1.5	96
14:45	15	195	-1.5	96
15:00	15	195	-1.5	96
15:15	15	195	-1.5	98
15:30	15	195	-1.5	98

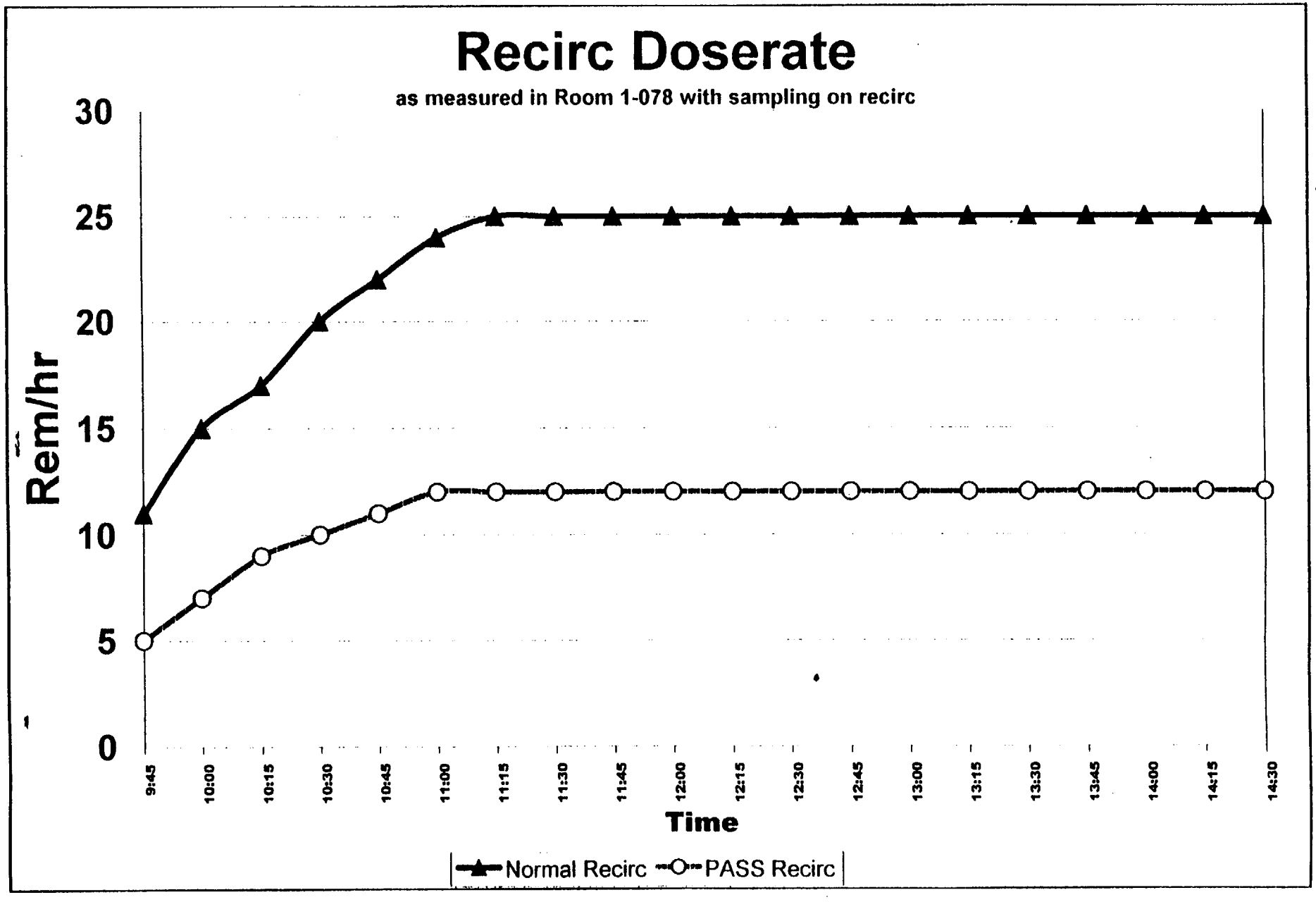
Wind Speed Units: Miles/hour
Wind Direction Units: Degrees
Delta-t Units: Deg. F/50 m
Air Temperature Units: Fahrenheit

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

IN PLANT SURVEY DATA

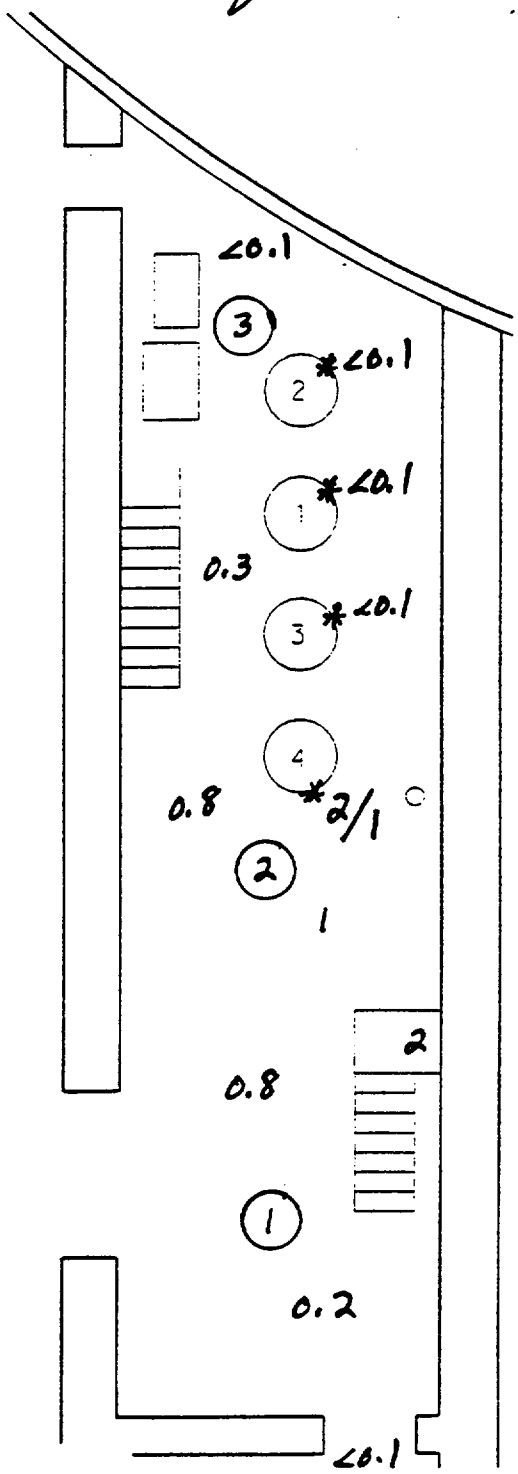

Recirc Doserate
as measured in Room 1-078 with sampling on recirc
Rem/hr
30
25
20
15
10
5
0
9:45
10:00
10:15
10:30
10:45
11:00
11:15
11:30
11:45
12:00
12:15
12:30
12:45
13:00
13:15
13:30
13:45
14:00
14:15
14:30
Time
Normal Recirc
PASS Recirc

U-1 SG 873' SG PORV ACCUMULATOR ROOM 1-107

SURVEY#	RWP / GAP#	☐ ROUTINE ☐ SPECIAL	RX. POWER ___ % 2N/A
INSTRUMENT / ID# / 2N/A DUE DATE			
SURVEYED BY: N/A	DATE/TIME	REVIEWED BY: N/A	DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA; HRA - HIGH RADIATION AREA; LHRA - LOCKED HIGH RADIATION AREA; UG - UNDER GRATING; SOP - STEP OFF PAD; IC - INTERNALLY CONTAMINATED; RMA - RADIOACTIVE MATERIALS AREA; OH - OVERHEAD; LAS - LARGE AREA WIPE SURVEY; CA - CONTAMINATION AREA; CRPRE - CONTACT RP PRIOR TO ENTRY; AA - AIRBORNE AREA

REMARKS: For Drill Use Only - Time: 0914 hrs to end of exercise. Air sample results if taken: <0.25 DAC



sm	cpm/100cm²
1	<1K
2	↓
3	<1K
	N/A

MAXIMUM LEVELS		
GENERAL AREA	1	mR/hr
HOT SPOT	N/A	mR/hr
CONT.	<1K	dpm/100cm²

DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

RP-6001
R-8

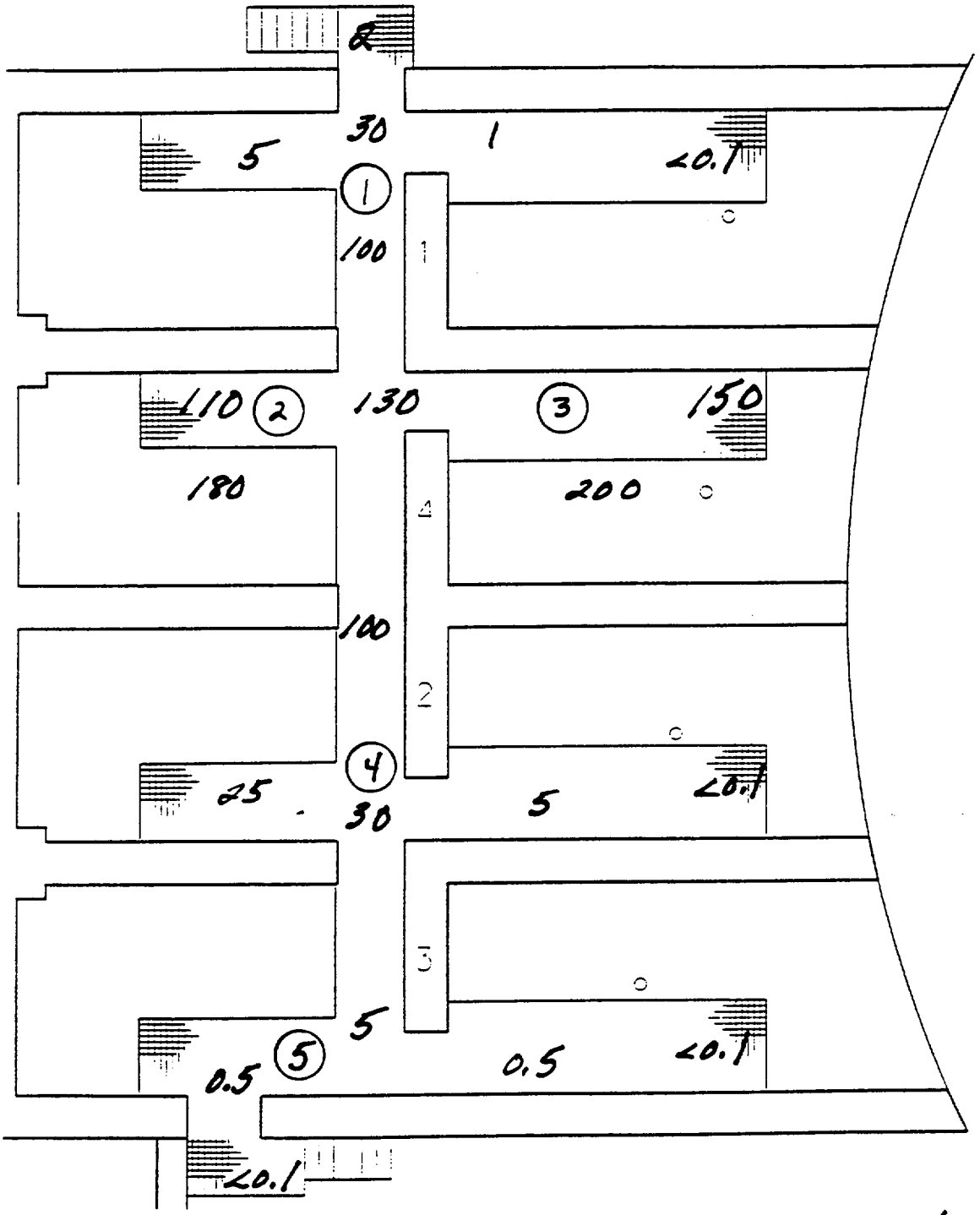
U-1 SG 813' MAIN STEAM PEN AREA 1-108A-H

1-108A

SURVEY#	RWP / GAP#	☐ ROUTINE ☐ SPECIAL N/A	RX. POWER 1 ___ % 2N/A
INSTRUMENT / ID# / CAL DUE DATE			
SURVEYED BY: N/A	DATE/TIME	REVIEWED BY: N/A	DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA; HRA - HIGH RADIATION AREA; LHRA - LOCKED HIGH RADIATION AREA; UG - UNDER GRATING; SOP - STEP OFF PAD; IC - INTERNALLY CONTAMINATED; RMA - RADIOACTIVE MATERIALS AREA; OH - OVERHEAD; LAS - LARGE AREA WIPE SURVEY; CA - CONTAMINATION AREA; CPPE - CONTACT RP PRIOR TO ENTRY; AA - AIRBORNE AREA

REMARKS: Drill Use Only — Time: 0914 hrs to end of exercise. If air sample is taken results: <0.25 DAC



sm	cpm/100cm²
1	<1K
2	1K
3	3K
4	<1K
5	<1K

N/A

MAXIMUM LEVELS	
GENERAL AREA	200 mR/hr
HOT SPOT	N/A mR/hr
CONT.	3K cpm/100cm²

RPI-602-1
R-3

DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

U-150 010 ALL ROOMS

ISO-810AL

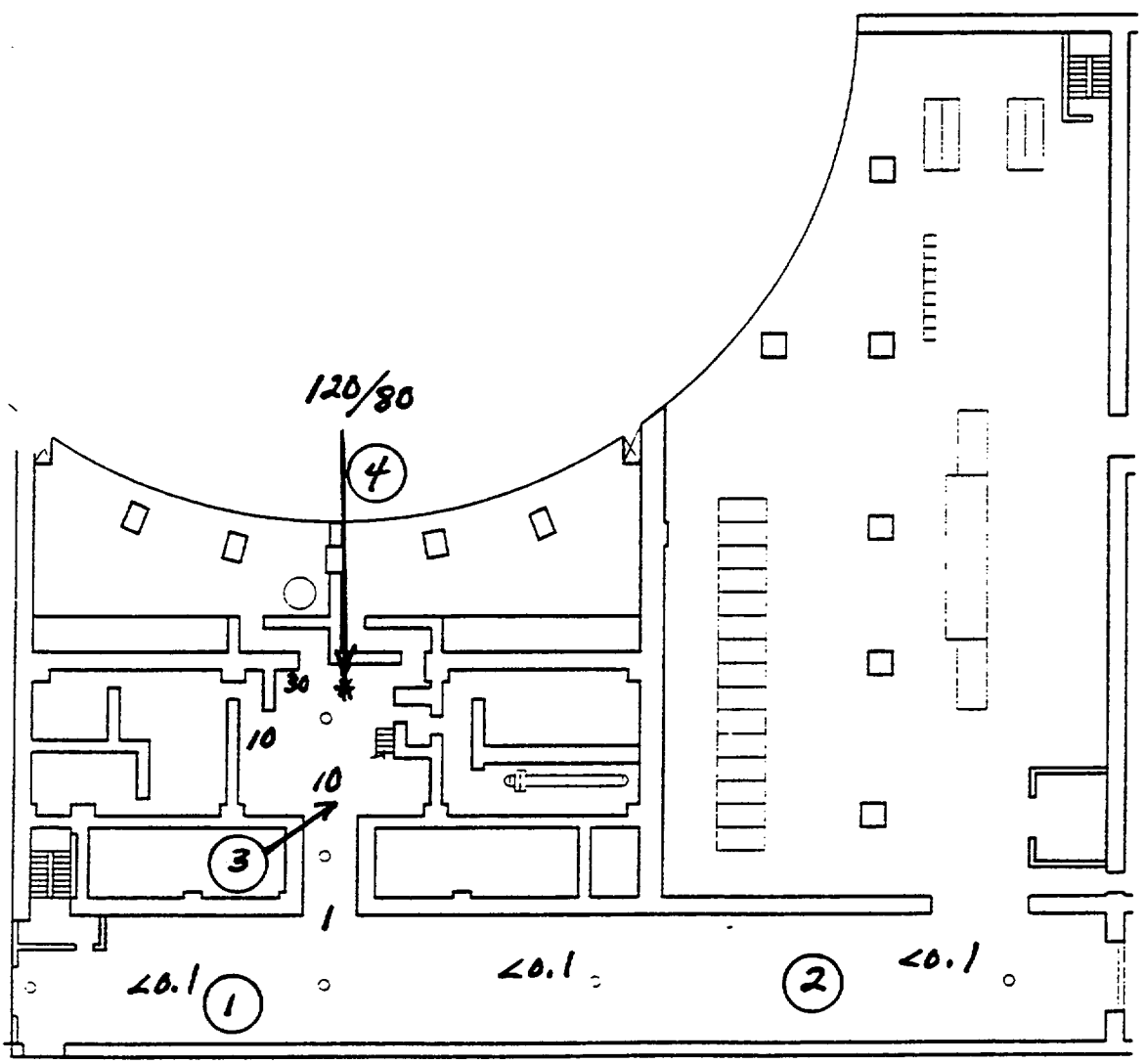
SURVEY#	RWP / GAP#	☐ ROUTINE ☐ SPECIAL	RX. POWER ____ % 2N/A
INSTRUMENT / ID# / CAL DUE DATE	N/A		
SURVEYED BY: N/A	DATE/TIME	REVIEWED BY: N/A	DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA; HRA - HIGH RADIATION AREA; LHRA - LOCKED HIGH RADIATION AREA; UG - UNDER GRATING; SOP - STEP OFF PAD; IC - INTERNALLY CONTAMINATED; RMA - RADIOACTIVE MATERIALS AREA; OH - OVERHEAD; LAS - LARGE AREA WIPE SURVEY; CA - CONTAMINATION AREA; CRPPE - CONTACT RP PRIOR TO ENTRY; AA - AIRBORNE AREA

REMARKS: For Drill Use Only – Time: 0914 hrs to end of exercise. Air sample results if taken: <0.25 DAC

sm	dpm/100cm²
1	<1K
2	↓
3	↓
4	<1K

N/A



MAXIMUM LEVELS		
GENERAL AREA	80	mR/hr
HOT SPOT	N/A	mR/hr
CONT.	<1K	dpm/100cm²

RP-602-1
R-8

DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

UTSG 810 SAMPLE ROOM 1-078

1-078

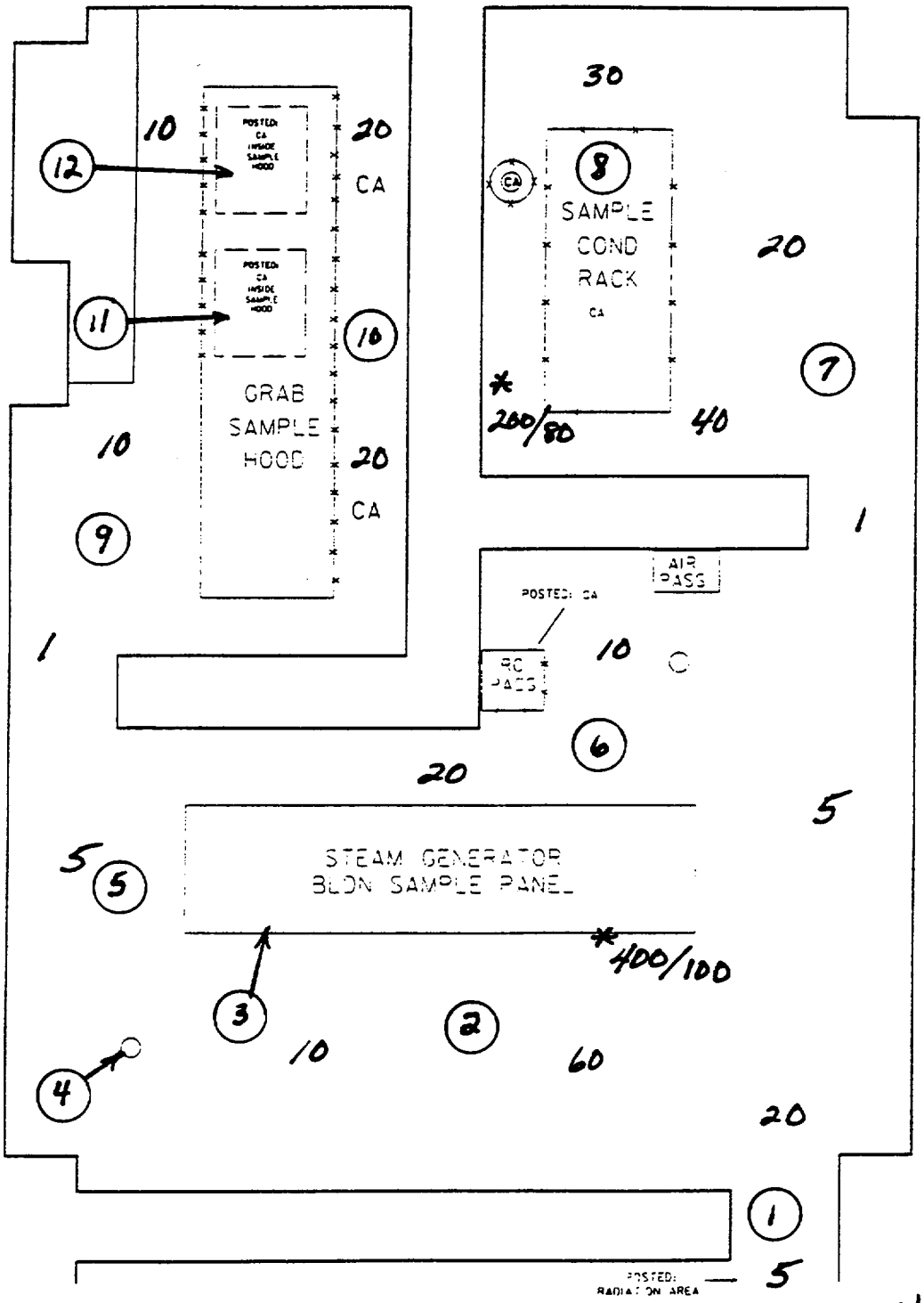
SURVEY#	RWP / CAP#	☐ ROUTINE ☐ SPECIAL	PK. POWER ___ % 2N/A
INSTRUMENT / ID# / CAL DUE DATE			
SURVEYED BY:	DATE/TIME	REVIEWED BY:	DATE

N/A N/A

POSTING ABBREVIATIONS: RA - RADIATION AREA; HRA - HIGH RADIATION AREA; LHRA - LOCKED HIGH RADIATION AREA; UG - UNDER GRATING; SOP - STEP OFF PAD; IC - INTERNALLY CONTAMINATED; RMA - RADIOACTIVE MATERIALS AREA; OH - OVERHEAD; LAS - LARGE AREA WIPE SURVEY; CA - CONTAMINATION AREA; CRPPE - CONTACT RP PRIOR TO ENTRY; AA - AIRBORNE AREA

REMARKS:

ALL SMEARS FROM THE SAMPLE SINKS > 1000 DPM/100cm2 SHOULD BE COUNTED FOR ALPHA ACTIVITY. For Drill Use Only: Time - 0914 hrs to end of exercise. Air sample results if taken: <0.25DAC



sm	cpm/100cm²
1	<1K
2	<1K
3	120K
4	80K
5	<1K
6	↓
7	<1K
8	40K
9	<1K
10	<1K
11	180K
12	100K

N/A

MAXIMUM LEVELS		
GENERAL AREA	100	mR/hr
HOT SPOT	N/A	mR/hr
CONT.	180K	cpm/100cm²

DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

U-1SG 1SG TURBINE DRIVEN AFW PUMP 1-07-1

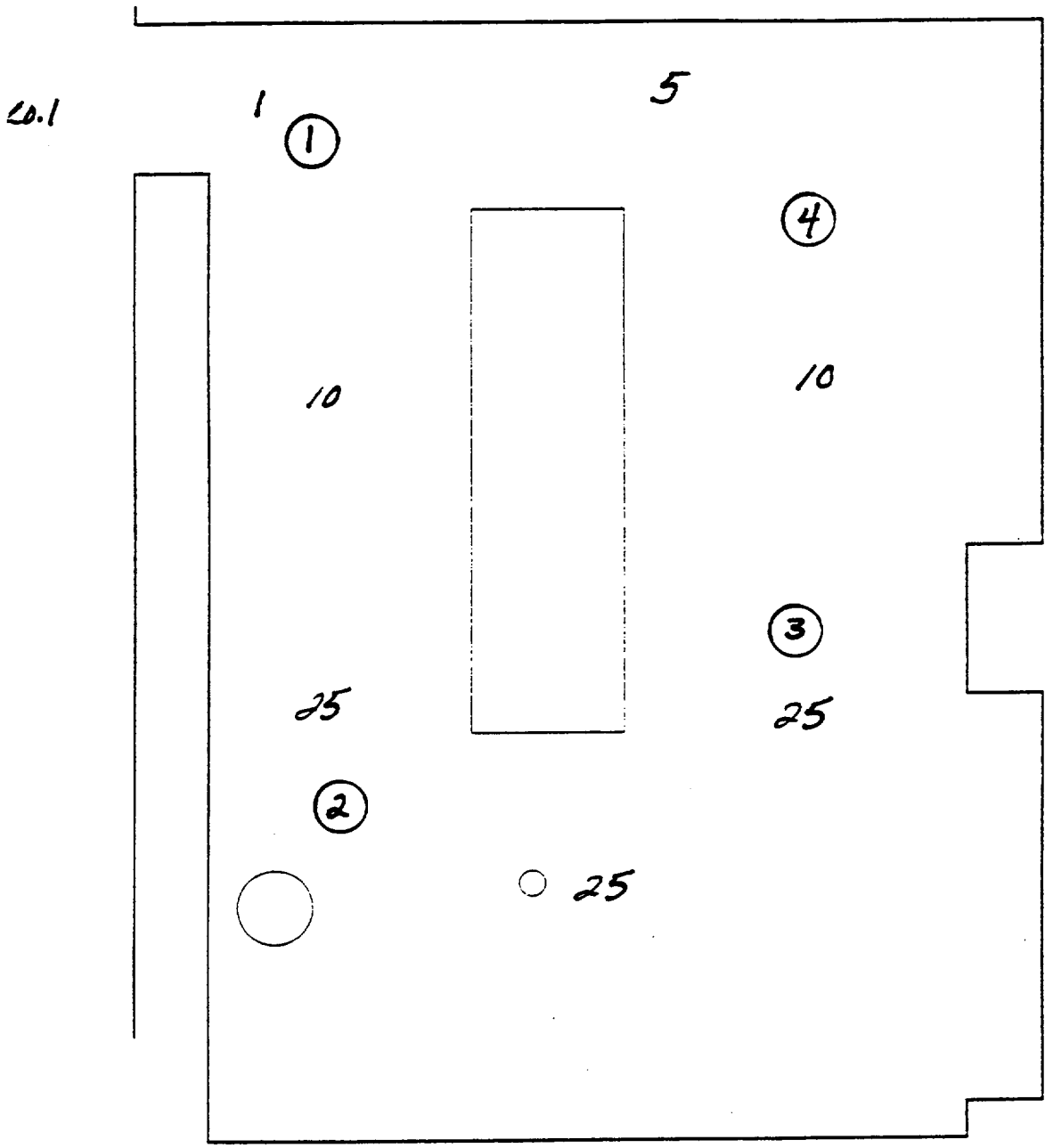
SURVEY#	RWP / CAP#	☐ ROUTINE ☐ SPECIAL	EX. POWER ___ % RN/A
INSTRUMENT / ID# / CAL DUE DATE	N/A		
SURVEYED BY:	DATE/TIME	REVIEWED BY: N/A	DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA; SOP - STEP OFF PAD; LAS - LARGE AREA WIPE SURVEY; HRA - HIGH RADIATION AREA; IC - INTERNALLY CONTAMINATED; CA - CONTAMINATION AREA; LHRA - LOCKED HIGH RADIATION AREA; RMA - RADIOACTIVE MATERIALS AREA; CRPPE - CONTACT RP PRIOR TO ENTRY; UG - UNDER GROUND; OH - OVERHEAD; AA - AIRBORNE AREA

REMARKS: For Drill Use Only. Time - 0914 hrs to end of exercise. Air sample results if taken: <0.25 DAC

sm	cpm/100cm²
1	<1K
2	<1K
3	2K
4	<1K

N/A



MAXIMUM LEVELS		
GENERAL AREA	25	mR/hr
HOT SPOT	N/A	mR/hr
CONT.	2K	cpm/100cm²

DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

RP-602-1 R-3

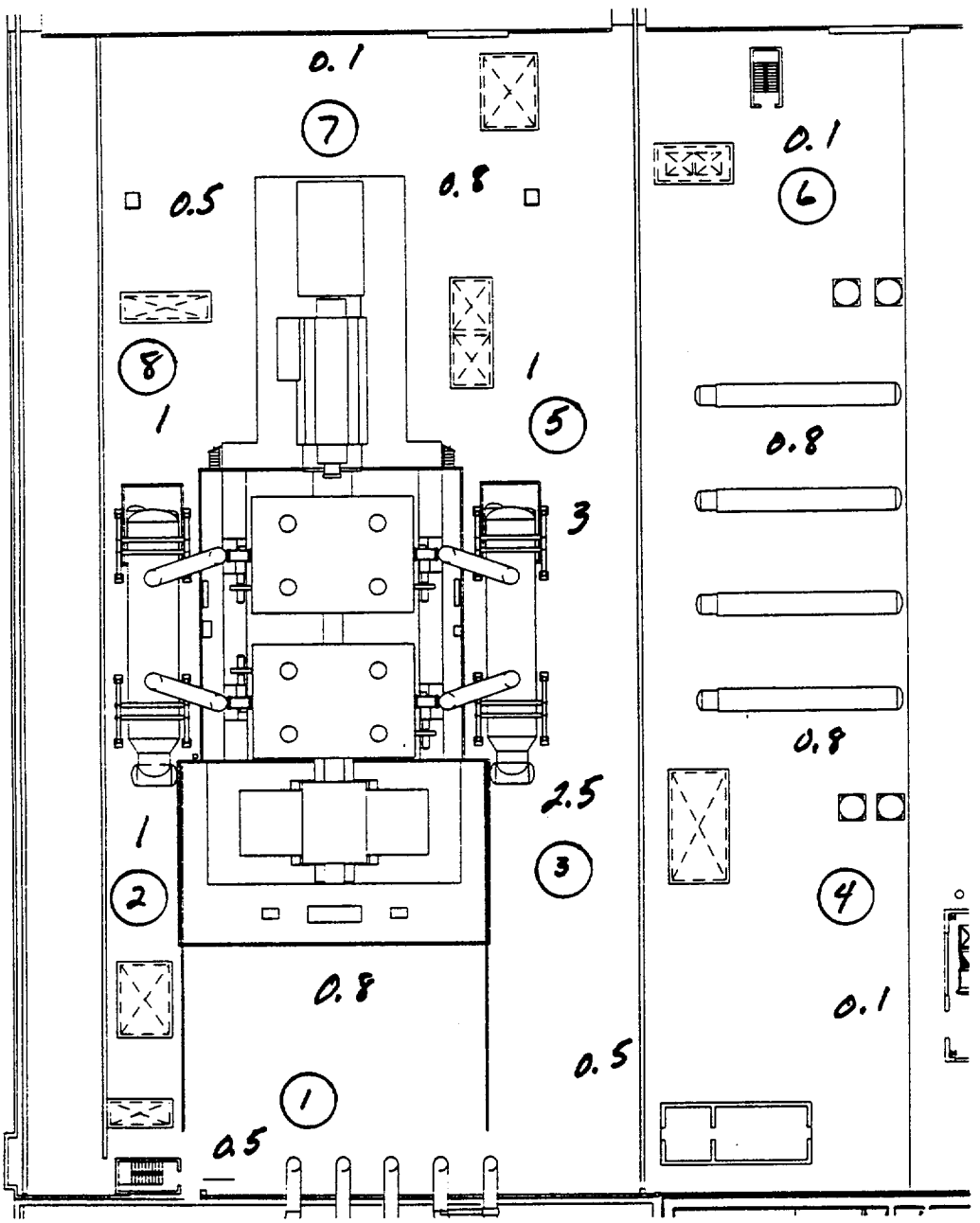
U-1 TB 830' TURBINE DECK

TDECK

SURVEY*	RWP / GAP*	☐ ROUTINE ☐ SPECIAL	RX. POWER 1 ___% 2 ___%
INSTRUMENT / ID* / CAL DUE DATE	N/A		
SURVEYED BY: N/A	DATE/TIME	REVIEWED BY: N/A	DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA; HRA - HIGH RADIATION AREA; LHRA - LOCKED HIGH RADIATION AREA; UG - UNDER GRATING; SOP - STEP OFF PAD; IC - INTERNALLY CONTAMINATED; RMA - RADIOACTIVE MATERIALS AREA; OH - OVERHEAD; LAS - LARGE AREA WIPE SURVEY; CA - CONTAMINATION AREA; CRPPE - CONTACT RP PRIOR TO ENTRY; AA - AIRBORNE AREA

REMARKS: For Drill Use Only. Time: 0914 hrs to end of exercise. Air sample results if taken: <0.25 DAC



sm	cpm/100cm²
1	<1K
2	
3	
4	
5	
6	
7	
8	<1K
	N/A

MAXIMUM LEVELS	
GENERAL AREA	3 mR/hr
HOT SPOT	N/A mR/hr
CONT.	<1K dpm/100cm²

N

RPI-602-1
R-8

DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

U-1 TB 803' ALL ROOMS

TB803AL

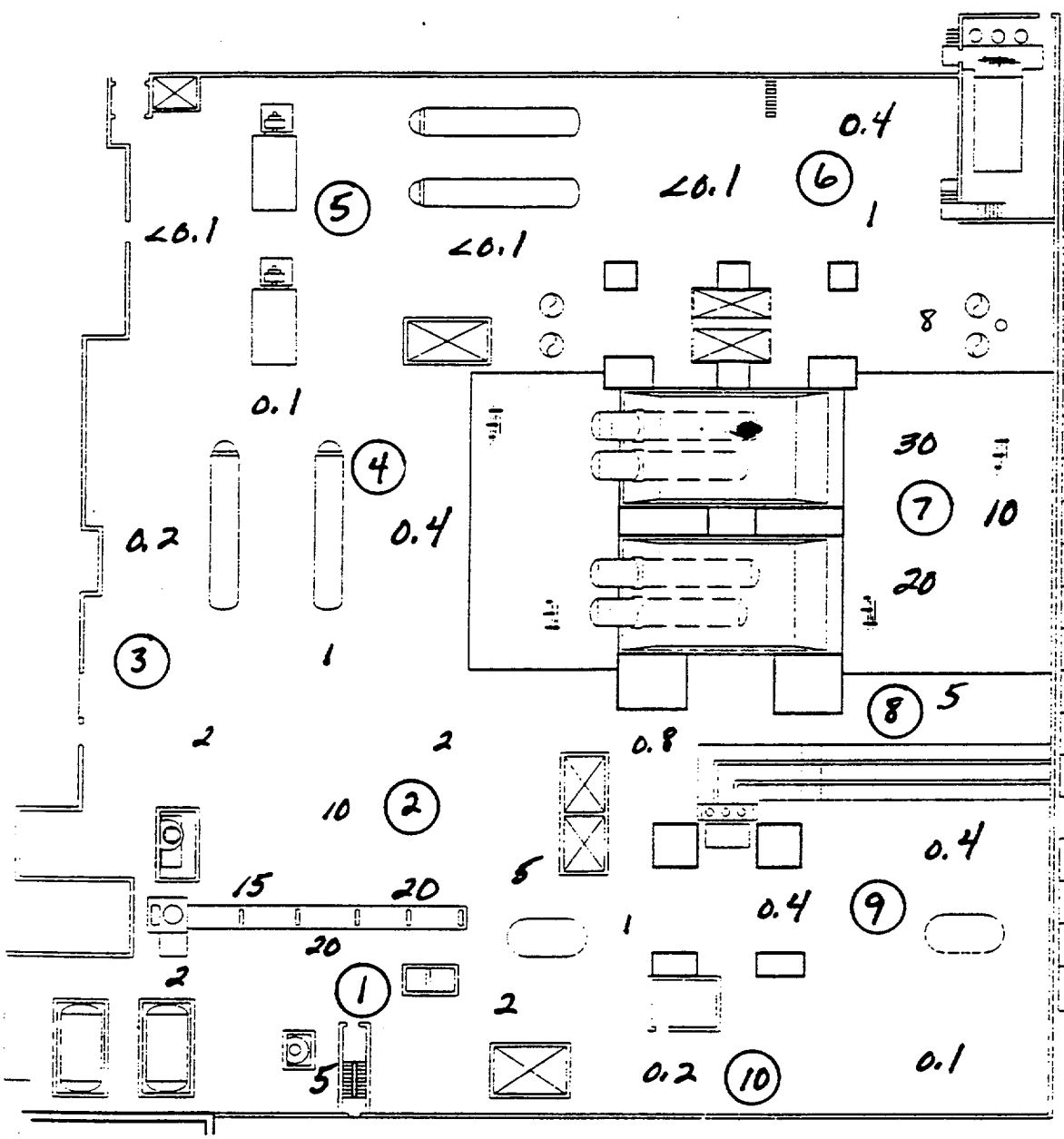
SURVEY#	RWP / GAP#	☐ ROUTINE ☐ SPECIAL	RX. POWER ___% ___%
INSTRUMENT / ID# / CALIBRATION DATE	N/A		
SURVEYED BY:	DATE/TIME	REVIEWED BY: N/A	DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA; SOP - STEP OFF PAD; LAS - LARGE AREA WIPE SURVEY; HRA - HIGH RADIATION AREA; C - INTERNALLY CONTAMINATED; CA - CONTAMINATION AREA; LHRA - LOCKED HIGH RADIATION AREA; RMA - RADIOACTIVE MATERIALS AREA; CRPPE - CONTACT RP PRIOR TO ENTRY; UC - UNDER CRATING; OH - OVERHEAD; AA - AIRBORNE AREA

REMARKS: For Drill Use Only. Time: 0914hrs to end of exercise. Air sample results if taken: <0.25 DAC

sm	cpm/100cm²
1	<1K
2	
3	
4	
5	
6	
7	
8	
9	
10	<1K

N/A



MAXIMUM LEVELS		
GENERAL AREA	30	mR/hr
HOT SPOT	N/A	mR/hr
CONT.	<1K	cpm/100cm²

RPI-602-1
R-8

DOSE RECEIVED PERFORMING T-G SURVEY: N/A mR

U-1 TB 778' ALL ROOMS

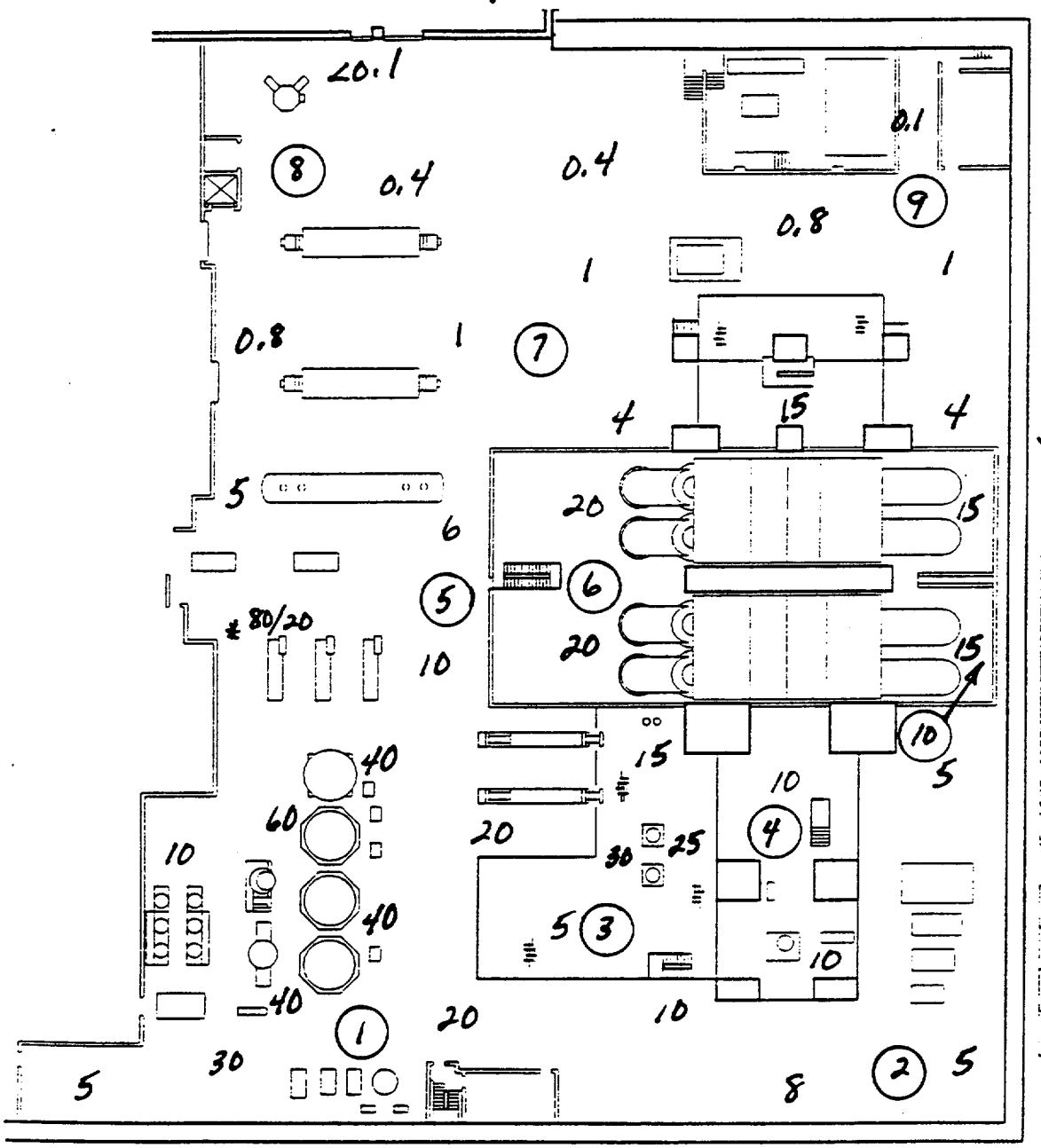
SURVEY# | RWP / CAP# | ☐ ROUTINE ☐ SPECIAL | % POWER ____ % 2 ____ %

INSTRUMENT / ID# / CALIBRATION DATE: N/A

SURVEYED BY: | DATE/TIME | REVIEWED BY: N/A | DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA, SOP - STEP OFF PAD, LAS - LARGE AREA WIPE SURVEY, HRA - HIGH RADIATION AREA, IC - INTERNALLY CONTAMINATED, CA - CONTAMINATION AREA, LHRA - LOCKED HIGH RADIATION AREA, RMA - RADIOACTIVE MATERIALS AREA, CRPPE - CONTACT RP PRIOR TO ENTRY, UG - UNDER GRATING, OH - OVERHEAD, AA - AIRBORNE AREA

REMARKS: For Drill Use Only. Time: 0914 hrs to end of exercise. Air sample results if taken: <0.25 DAC



sm	cpm/100cm²
1	<1K
2	↓
3	
4	
5	<1K
6	2K
7	<1K
8	↓
9	<1K
10	1K
	N/A

MAXIMUM LEVELS	
GENERAL AREA	60 mR/hr
HOT SPOT	N/A mR/hr
CONT.	2K cpm/100cm²

N

DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

RPI-602-1
R-6

U-1 TB 758' ALL ROOMS

INTERSRAL

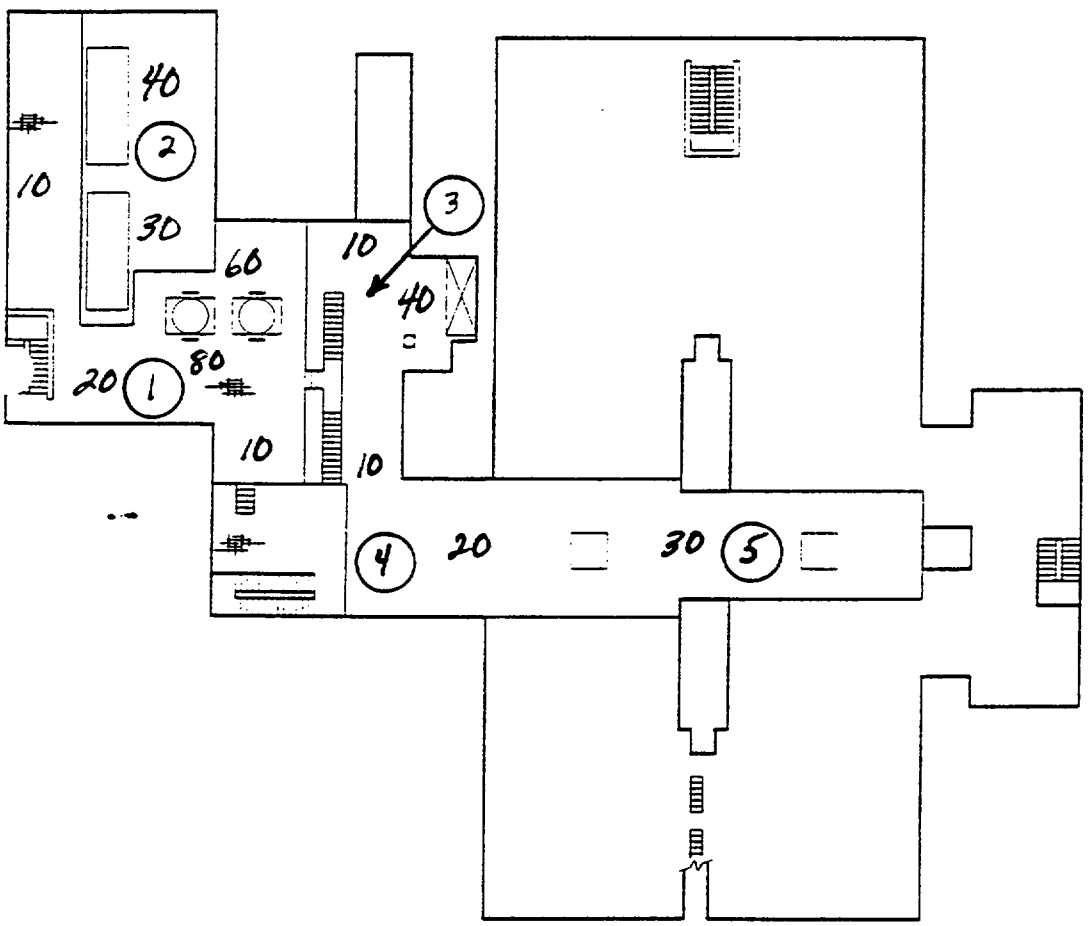
SURVEY#	RWP / GAP#	☐ ROUTINE ☐ SPECIAL	RX. POWER ___%
INSTRUMENT / ID# / CAL DUE DATE	N/A		
SURVEYED BY:	DATE/TIME	REVIEWED BY: N/A	DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA; HRA - HIGH RADIATION AREA; LHRA - LOCKED HIGH RADIATION AREA; UC - UNDER CRATING; SOP - STEP OFF PAD; IC - INTERNALLY CONTAMINATED; RMA - RADIOACTIVE MATERIALS AREA; OH - OVERHEAD; LAS - LARGE AREA WIPE SURVEY; CA - CONTAMINATION AREA; CRPPS - CONTACT RP PRIOR TO ENTRY; AA - AIRBORNE AREA

REMARKS: For Drill Use Only. Time: 0914 hrs to end of exercise. Air sample results if taken: <0.25 DAC

sm	cpm/100cm²
1	20K
2	4K
3	10K
4	30K
5	40K

N/A



MAXIMUM LEVELS		
GENERAL AREA	80	mR/hr
HOT SPOT	N/A	mR/hr
CONT.	40K	dpm/100cm²

PP-602-1
R-9

DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

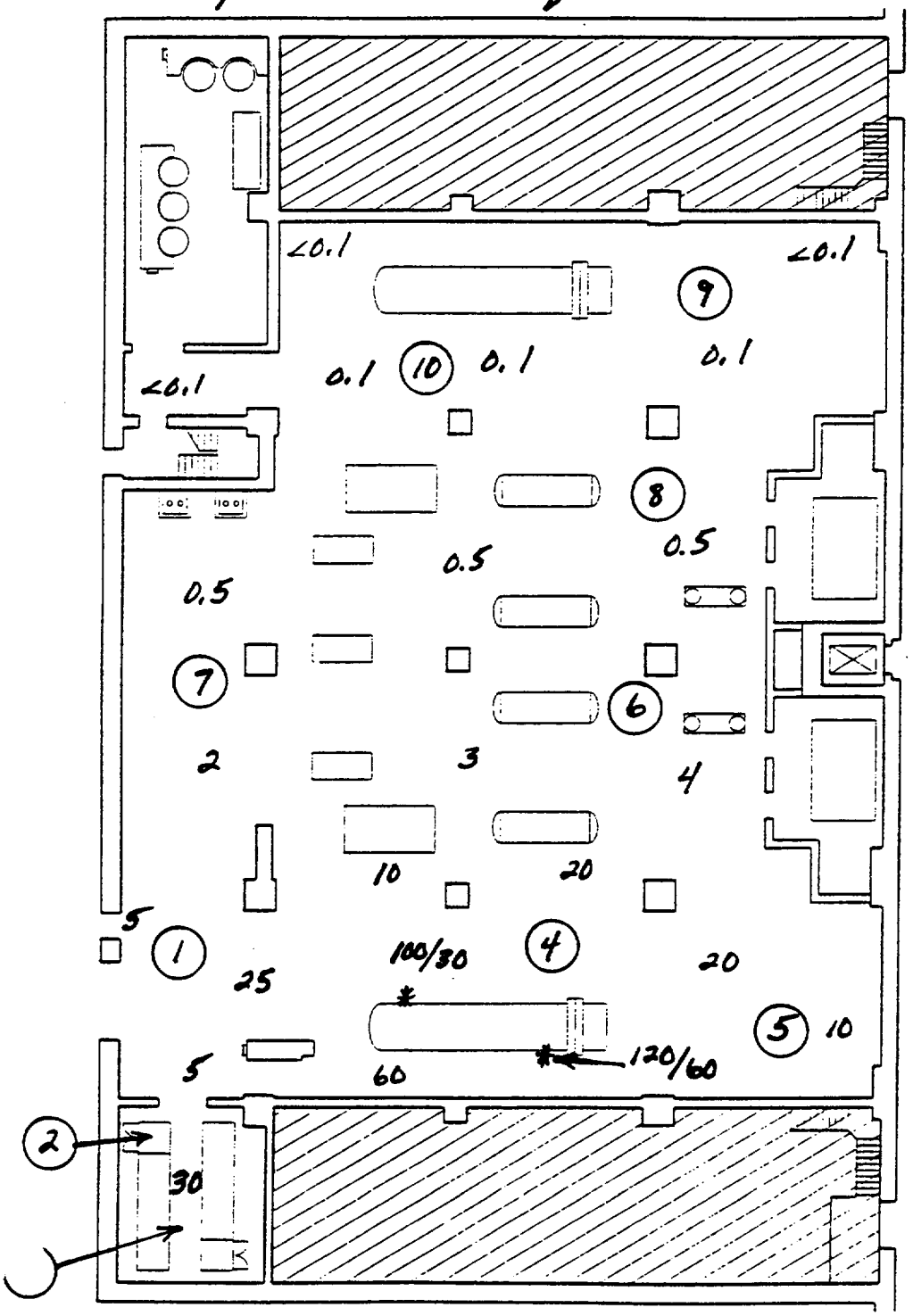
EC 778' ALL ROOMS

EC778AL

SURVEY#	RWP / GAP#	☐ ROUTINE ☐ SPECIAL	RX. POWER
INSTRUMENT / ID# / CAL DUE DATE	N/A		
SURVEYED BY:	DATE/TIME	REVIEWED BY: N/A	DATE

POSTING ABBREVIATIONS: RA - RADIATION AREA, HRA - HIGH RADIATION AREA, LHRA - LOCKED HIGH RADIATION AREA, UG - UNDER GRATING, SOP - STEP OFF PAD, IC - INTERNALLY CONTAMINATED, RMA - RADIOACTIVE MATERIALS AREA, OH - OVERHEAD, LAS - LARGE AREA WIPE SURVEY, CA - CONTAMINATION AREA, CRPPE - CONTACT RP PRIOR TO ENTRY, AA - AIRBORNE AREA

REMARKS: For Drill Use Only. Time: 0914 hrs to end of exercise. Air sample results if taken: <0.25 DAC



sm	cpm/100cm²
1	<1K
2	4K
3	<1K
4	
5	
6	
7	
8	
9	
10	<1K

N/A

MAXIMUM LEVELS		
GENERAL AREA	60	mR/hr
HOT SPOT	N/A	mR/hr
CONT.	4K	dpm/100cm²

N

RPI-602-1
R-8

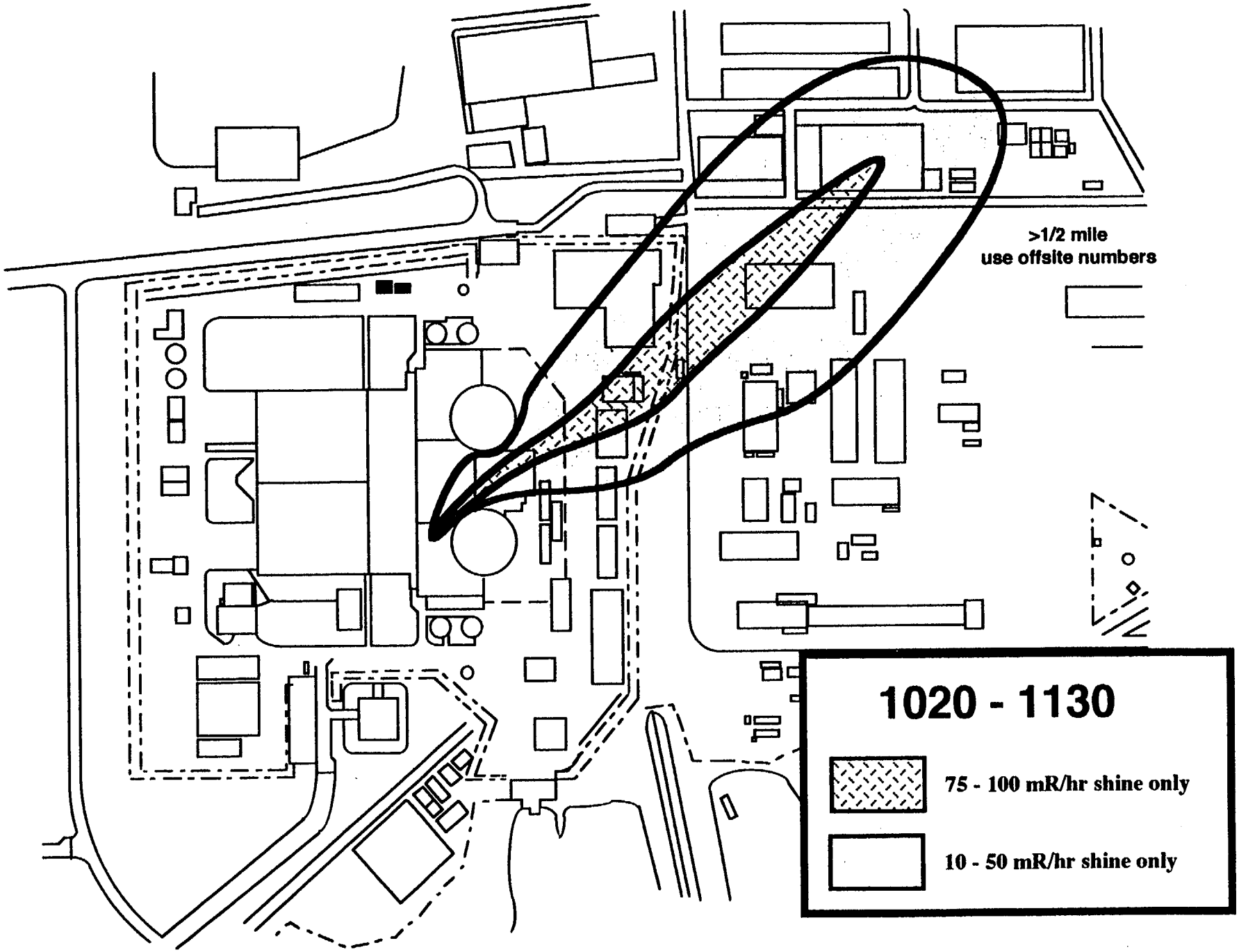
DOSE RECEIVED PERFORMING THIS SURVEY: N/A mR

TXU ELECTRIC

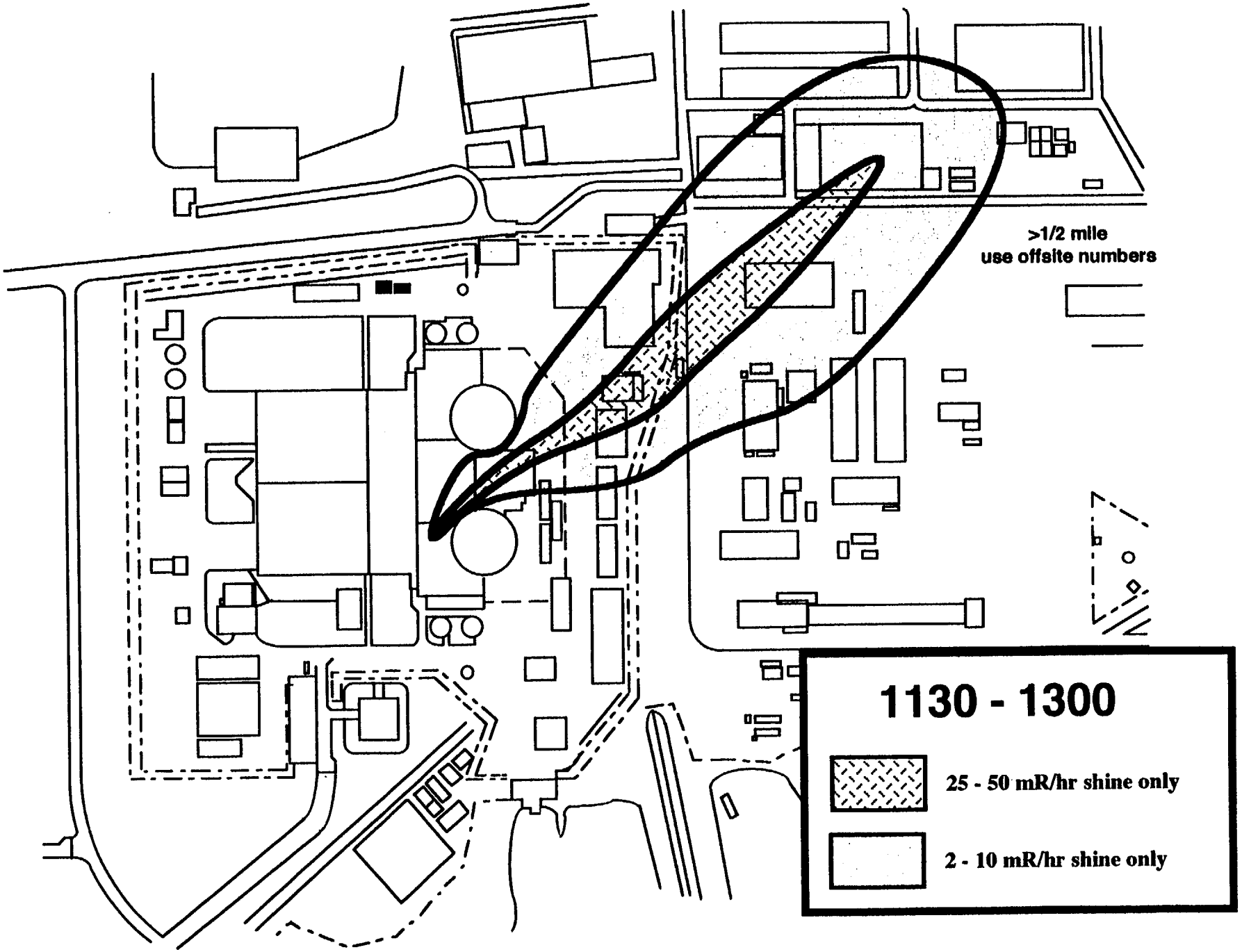
COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

ONSITE SURVEY DATA



ONSITE SURVEY MAP



ONSITE SURVEY MAP

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

OFFSITE SURVEY DATA (TXU ELECTRIC)

OFF-SITE RADIOLOGICAL DATA THUMB RULES

1. All air samples were calculated based on a 10 ft^3 sample volume. If the actual sample volume is different, convert the listed CPM as follows:

$$\frac{CPM_{net} \text{ X vol. } (ft^3)}{10\ ft^3} = CPM_{net} \text{ for volume sampled}$$

2. The values listed for background (45 CPM) are only for areas that have not been exposed to fallout from the plume.

3. Convert dose rates (open window) to frisker readings (CPM) as follows:

   Dose rate (mR/hr) X <u>3000</u> = frisker CPM

4. Convert given ground deposition activity to direct frisk readings (CPM) as follows:

   Net ground deposition (uCi/m^2) X <u>20</u> = direct frisk (CPM)

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

..AL TIME: 10:15 RELATIVE TIME: H+02:45

****

OFFSITE RADIOLOGICAL SURVEY DATA

****

METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	12.00	NOBLE GAS (CI/SEC)	0.000E+00
DELTA-T (DEG. F/50M)	-1.20	IODINE (CI/SEC)	0.000E+00
STABILITY CLASS (PASQUILL)	D	PARTICULATE (CI/SEC)	0.000E+00
WIND DIRECTION (DEG./From)	207.0	TOTAL (CI/SEC)	0.000E+00
WIND TRAVEL (MI)	0.000E+00	AVERAGE GAMMA (MEV/DIS)	0.00
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.00

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 10:30 RELATIVE TIME: H+03:00

****

OFFSITE RADIOLOGICAL SURVEY DATA

****

METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	12.00	NOBLE GAS (CI/SEC)	1.741E+01
DELTA-T (DEG. F/50M)	-1.20	IODINE (CI/SEC)	1.626E+00
STABILITY CLASS (PASQUILL)	D	PARTICULATE (CI/SEC)	1.508E-01
WIND DIRECTION (DEG./From)	207.0	TOTAL (CI/SEC)	1.918E+01
WIND TRAVEL (MI)	3.006E+00	AVERAGE GAMMA (MEV/DIS)	0.46
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.43

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
0.5	0.00	197.20	394.71	4.30E-05	3.99E-06	5.13E-04	6.16E-06	4.05E+04	2.50E+05	1.41E+05	4.23E+02	40
	0.04	119.61	239.40	2.61E-05	2.42E-06	3.11E-04	3.74E-06	2.46E+04	1.52E+05	8.55E+04	2.57E+02	40
	0.08	26.69	53.42	5.82E-06	5.40E-07	6.95E-05	8.34E-07	5.51E+03	3.39E+04	1.91E+04	5.72E+01	40
	0.12	2.19	4.38	4.78E-07	4.43E-08	5.70E-06	6.84E-08	4.89E+02	2.82E+03	1.60E+03	4.70E+00	40
1.0	0.00	63.57	127.25	1.39E-05	1.29E-06	1.65E-04	2.00E-06	1.31E+04	8.11E+04	4.57E+04	1.37E+02	40
	0.07	38.56	77.18	8.45E-06	7.85E-07	1.00E-04	1.21E-06	7.98E+03	4.92E+04	2.77E+04	8.31E+01	40
	0.15	8.60	17.22	1.89E-06	1.75E-07	2.24E-05	2.70E-07	1.81E+03	1.10E+04	6.22E+03	1.86E+01	40
	0.22	0.71	1.41	1.55E-07	1.44E-08	1.84E-06	2.22E-08	1.85E+02	9.40E+02	5.47E+02	1.52E+00	40
1.5	0.00	34.03	68.11	7.56E-06	7.02E-07	8.84E-05	1.08E-06	7.14E+03	4.40E+04	2.48E+04	7.44E+01	40
	0.11	20.64	41.31	4.59E-06	4.26E-07	5.36E-05	6.57E-07	4.35E+03	2.67E+04	1.51E+04	4.51E+01	40
	0.22	4.61	9.22	1.02E-06	9.50E-08	1.20E-05	1.47E-07	1.00E+03	5.99E+03	3.39E+03	1.01E+01	40
	0.32	0.38	0.76	8.40E-08	7.79E-09	9.83E-07	1.20E-08	1.19E+02	5.28E+02	3.15E+02	8.26E-01	40
2.0	0.00	22.20	44.44	4.98E-06	4.62E-07	5.77E-05	7.14E-07	4.72E+03	2.90E+04	1.64E+04	4.90E+01	40
	0.14	13.47	26.95	3.02E-06	2.80E-07	3.50E-05	4.33E-07	2.88E+03	1.76E+04	9.93E+03	2.97E+01	40
	0.28	3.00	6.01	6.74E-07	6.26E-08	7.80E-06	9.66E-08	6.73E+02	3.96E+03	2.25E+03	6.63E+00	40
	0.42	0.25	0.49	5.53E-08	5.14E-09	6.40E-07	7.93E-09	9.20E+01	3.62E+02	2.21E+02	5.44E-01	40
3.0	0.00	12.44	24.90	2.83E-06	2.62E-07	3.23E-05	4.05E-07	2.70E+03	1.65E+04	9.30E+03	2.78E+01	40
	0.20	7.55	15.10	1.71E-06	1.59E-07	1.96E-05	2.46E-07	1.65E+03	1.00E+04	5.66E+03	1.69E+01	40
	0.39	1.68	3.37	3.83E-07	3.55E-08	4.37E-06	5.48E-08	3.99E+02	2.26E+03	1.29E+03	3.76E+00	40
	0.59	0.14	0.28	3.14E-08	2.91E-09	3.58E-07	4.50E-09	6.95E+01	2.23E+02	1.43E+02	3.09E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 10:45 RELATIVE TIME: H+03:15

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	12.00	NOBLE GAS (CI/SEC)	1.386E+01
DELTA-T (DEG. F/50M)	-1.20	IODINE (CI/SEC)	1.284E+00
STABILITY CLASS (PASQUILL)	D	PARTICULATE (CI/SEC)	1.063E-01
WIND DIRECTION (DEG./From)	207.0	TOTAL (CI/SEC)	1.525E+01
WIND TRAVEL (MI)	6.012E+00	AVERAGE GAMMA (MEV/DIS)	0.44
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.42

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRC
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRC COUNT RATE (CPM)
0.5	0.00	149.13	301.04	3.40E-05	2.81E-06	4.09E-04	5.09E-06	3.20E+04	1.76E+05	2.41E+05	7.25E+02	40
	0.04	90.45	182.59	2.06E-05	1.71E-06	2.48E-04	3.09E-06	1.94E+04	1.07E+05	1.46E+05	4.40E+02	40
	0.08	20.18	40.74	4.60E-06	3.81E-07	5.53E-05	6.89E-07	4.36E+03	2.39E+04	3.27E+04	9.81E+01	40
	0.12	1.66	3.34	3.77E-07	3.13E-08	4.54E-06	5.66E-08	3.95E+02	2.00E+03	2.72E+03	8.05E+00	40
1.0	0.00	48.08	97.05	1.10E-05	9.12E-07	1.32E-04	1.65E-06	1.04E+04	5.72E+04	7.83E+04	2.35E+02	40
	0.07	29.16	58.86	6.68E-06	5.53E-07	7.99E-05	1.00E-06	6.32E+03	3.47E+04	4.75E+04	1.42E+02	40
	0.15	6.51	13.13	1.49E-06	1.23E-07	1.78E-05	2.23E-07	1.44E+03	7.77E+03	1.06E+04	3.18E+01	40
	0.22	0.53	1.08	1.22E-07	1.01E-08	1.46E-06	1.83E-08	1.55E+02	6.75E+02	9.09E+02	2.61E+00	40
1.5	0.00	25.73	51.95	5.97E-06	4.95E-07	7.04E-05	8.95E-07	5.65E+03	3.10E+04	4.25E+04	1.27E+02	40
	0.11	15.61	31.51	3.62E-06	3.00E-07	4.27E-05	5.43E-07	3.44E+03	1.88E+04	2.58E+04	7.73E+01	40
	0.22	3.48	7.03	8.08E-07	6.70E-08	9.53E-06	1.21E-07	8.00E+02	4.23E+03	5.78E+03	1.72E+01	40
	0.32	0.29	0.58	6.63E-08	5.50E-09	7.82E-07	9.95E-09	1.02E+02	3.84E+02	5.11E+02	1.42E+00	40
2.0	0.00	16.79	33.89	3.93E-06	3.26E-07	4.59E-05	5.90E-07	3.74E+03	2.05E+04	2.80E+04	8.39E+01	40
	0.14	10.18	20.56	2.39E-06	1.98E-07	2.78E-05	3.58E-07	2.28E+03	1.24E+04	1.70E+04	5.09E+01	40
	0.28	2.27	4.59	5.32E-07	4.41E-08	6.21E-06	7.98E-08	5.40E+02	2.80E+03	3.82E+03	1.14E+01	40
	0.42	0.19	0.38	4.37E-08	3.62E-09	5.10E-07	6.55E-09	8.11E+01	2.67E+02	3.51E+02	9.32E-01	40
3.0	0.00	9.41	18.99	2.23E-06	1.85E-07	2.57E-05	3.35E-07	2.14E+03	1.16E+04	1.59E+04	4.76E+01	40
	0.20	5.71	11.52	1.35E-06	1.12E-07	1.56E-05	2.03E-07	1.31E+03	7.07E+03	9.66E+03	2.89E+01	40
	0.39	1.27	2.57	3.02E-07	2.50E-08	3.48E-06	4.53E-08	3.24E+02	1.61E+03	2.19E+03	6.45E+00	40
	0.59	0.10	0.21	2.48E-08	2.06E-09	2.85E-07	3.72E-09	6.33E+01	1.69E+02	2.16E+02	5.29E-01	40
4.0	0.00	8.32	16.65	1.81E-06	1.68E-07	2.17E-05	2.59E-07	1.74E+03	1.06E+04	5.97E+03	1.78E+01	40
	0.25	5.04	10.10	1.10E-06	1.02E-07	1.31E-05	1.57E-07	1.07E+03	6.43E+03	3.64E+03	1.08E+01	40
	0.50	1.13	2.25	2.45E-07	2.28E-08	2.93E-06	3.51E-08	2.70E+02	1.47E+03	8.43E+02	2.41E+00	40
	0.75	0.09	0.18	2.01E-08	1.87E-09	2.41E-07	2.88E-09	5.89E+01	1.57E+02	1.06E+02	1.98E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

_AL TIME: 10:45 RELATIVE TIME: H+03:15

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRC
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRC COUNT RATE (CPM)
5.0	0.00	6.18	12.38	1.36E-06	1.26E-07	1.61E-05	1.95E-07	1.32E+03	7.96E+03	4.50E+03	1.34E+01	40
	0.30	3.75	7.51	8.25E-07	7.67E-08	9.76E-06	1.18E-07	8.16E+02	4.84E+03	2.74E+03	8.12E+00	40
	0.60	0.84	1.67	1.84E-07	1.71E-08	2.18E-06	2.64E-08	2.13E+02	1.11E+03	6.43E+02	1.81E+00	40
	0.89	0.07	0.14	1.51E-08	1.40E-09	1.79E-07	2.17E-09	5.42E+01	1.28E+02	8.95E+01	1.49E-01	40
6.0	0.00	4.88	9.77	1.08E-06	1.01E-07	1.27E-05	1.55E-07	1.06E+03	6.34E+03	3.59E+03	1.07E+01	40
	0.34	2.96	5.93	6.57E-07	6.10E-08	7.69E-06	9.41E-08	6.57E+02	3.86E+03	2.19E+03	6.46E+00	40
	0.69	0.66	1.32	1.47E-07	1.36E-08	1.72E-06	2.10E-08	1.78E+02	8.93E+02	5.20E+02	1.44E+00	40
	1.03	0.05	0.11	1.20E-08	1.12E-09	1.41E-07	1.72E-09	5.13E+01	1.10E+02	7.94E+01	1.18E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

..AL TIME: 11:00 RELATIVE TIME: H+03:30

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	12.00	NOBLE GAS (CI/SEC)	1.137E+01
DELTA-T (DEG. F/50M)	-1.20	IODINE (CI/SEC)	1.047E+00
STABILITY CLASS (PASQUILL)	D	PARTICULATE (CI/SEC)	7.874E-02
WIND DIRECTION (DEG./From)	205.0	TOTAL (CI/SEC)	1.250E+01
WIND TRAVEL (MI)	9.018E+00	AVERAGE GAMMA (MEV/DIS)	0.42
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.40

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR COUN RATE (CPM
0.5	0.00	117.21	238.47	2.77E-05	2.08E-06	3.35E-04	4.33E-06	2.61E+04	1.31E+05	3.16E+05	9.48E+02	40
	0.04	71.09	144.64	1.68E-05	1.26E-06	2.03E-04	2.63E-06	1.58E+04	7.93E+04	1.92E+05	5.75E+02	40
	0.08	15.86	32.27	3.75E-06	2.82E-07	4.54E-05	5.86E-07	3.56E+03	1.77E+04	4.28E+04	1.28E+02	40
	0.12	1.30	2.65	3.08E-07	2.32E-08	3.73E-06	4.81E-08	3.29E+02	1.49E+03	3.55E+03	1.05E+01	40
1.0	0.00	37.79	76.88	8.98E-06	6.76E-07	1.08E-04	1.40E-06	8.47E+03	4.24E+04	1.02E+05	3.07E+02	40
	0.07	22.92	46.63	5.44E-06	4.10E-07	6.55E-05	8.51E-07	5.16E+03	2.57E+04	6.21E+04	1.86E+02	40
	0.15	5.11	10.40	1.21E-06	9.14E-08	1.46E-05	1.90E-07	1.18E+03	5.77E+03	1.39E+04	4.16E+01	40
	0.22	0.42	0.85	9.97E-08	7.51E-09	1.20E-06	1.56E-08	1.34E+02	5.10E+02	1.18E+03	3.41E+00	40
1.5	0.00	20.23	41.15	4.87E-06	3.66E-07	5.78E-05	7.61E-07	4.61E+03	2.30E+04	5.55E+04	1.67E+02	40
	0.11	12.27	24.96	2.95E-06	2.22E-07	3.50E-05	4.62E-07	2.81E+03	1.40E+04	3.37E+04	1.01E+02	40
	0.22	2.74	5.57	6.59E-07	4.96E-08	7.82E-06	1.03E-07	6.59E+02	3.15E+03	7.55E+03	2.26E+01	40
	0.32	0.22	0.46	5.41E-08	4.07E-09	6.42E-07	8.46E-09	9.08E+01	2.95E+02	6.56E+02	1.85E+00	40
2.0	0.00	13.19	26.84	3.21E-06	2.41E-07	3.77E-05	5.01E-07	3.05E+03	1.52E+04	3.66E+04	1.10E+02	40
	0.14	8.00	16.28	1.95E-06	1.46E-07	2.28E-05	3.04E-07	1.87E+03	9.21E+03	2.22E+04	6.66E+01	40
	0.28	1.79	3.63	4.34E-07	3.27E-08	5.10E-06	6.79E-08	4.48E+02	2.09E+03	4.99E+03	1.49E+01	40
	0.42	0.15	0.30	3.56E-08	2.68E-09	4.18E-07	5.57E-09	7.35E+01	2.08E+02	4.46E+02	1.22E+00	40
3.0	0.00	7.39	15.04	1.82E-06	1.37E-07	2.11E-05	2.85E-07	1.75E+03	8.62E+03	2.08E+04	6.23E+01	40
	0.20	4.48	9.12	1.10E-06	8.31E-08	1.28E-05	1.73E-07	1.08E+03	5.25E+03	1.26E+04	3.78E+01	40
	0.39	1.00	2.04	2.46E-07	1.85E-08	2.85E-06	3.85E-08	2.71E+02	1.20E+03	2.85E+03	8.43E+00	40
	0.59	0.08	0.17	2.02E-08	1.52E-09	2.34E-07	3.16E-09	5.90E+01	1.35E+02	2.71E+02	6.92E-01	40
4.0	0.00	6.29	12.70	1.43E-06	1.19E-07	1.72E-05	2.14E-07	1.38E+03	7.47E+03	1.02E+04	3.05E+01	40
	0.25	3.81	7.70	8.68E-07	7.19E-08	1.05E-05	1.30E-07	8.55E+02	4.55E+03	6.21E+03	1.85E+01	40
	0.50	0.85	1.72	1.94E-07	1.61E-08	2.33E-06	2.90E-08	2.22E+02	1.05E+03	1.42E+03	4.13E+00	40
	0.75	0.07	0.14	1.59E-08	1.32E-09	1.91E-07	2.38E-09	5.49E+01	1.23E+02	1.53E+02	3.39E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

.EAL TIME: 11:00 RELATIVE TIME: H+03:30

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR(
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR(COUN RATE (CPM
5.0	0.00	4.68	9.44	1.08E-06	8.91E-08	1.28E-05	1.61E-07	1.05E+03	5.62E+03	7.69E+03	2.30E+01	40
	0.30	2.84	5.72	6.52E-07	5.41E-08	7.76E-06	9.78E-08	6.53E+02	3.43E+03	4.68E+03	1.39E+01	40
	0.60	0.63	1.28	1.45E-07	1.21E-08	1.73E-06	2.18E-08	1.77E+02	7.96E+02	1.07E+03	3.11E+00	40
	0.89	0.05	0.10	1.19E-08	9.90E-10	1.42E-07	1.79E-09	5.12E+01	1.02E+02	1.25E+02	2.55E-01	40
6.0	0.00	3.69	7.45	8.56E-07	7.09E-08	1.01E-05	1.28E-07	8.44E+02	4.48E+03	6.13E+03	1.83E+01	40
	0.34	2.24	4.52	5.19E-07	4.30E-08	6.12E-06	7.78E-08	5.28E+02	2.74E+03	3.73E+03	1.11E+01	40
	0.69	0.50	1.01	1.16E-07	9.60E-09	1.37E-06	1.74E-08	1.49E+02	6.41E+02	8.64E+02	2.47E+00	40
	1.03	0.04	0.08	9.50E-09	7.88E-10	1.12E-07	1.43E-09	4.89E+01	8.94E+01	1.08E+02	2.03E-01	40
7.0	0.00	3.99	7.98	8.57E-07	7.97E-08	1.04E-05	1.23E-07	8.45E+02	5.03E+03	2.85E+03	8.43E+00	40
	0.38	2.42	4.84	5.20E-07	4.83E-08	6.30E-06	7.45E-08	5.28E+02	3.07E+03	1.74E+03	5.11E+00	40
	0.77	0.54	1.08	1.16E-07	1.08E-08	1.41E-06	1.66E-08	1.49E+02	7.15E+02	4.20E+02	1.14E+00	40
	1.15	0.04	0.09	9.52E-09	8.85E-10	1.15E-07	1.36E-09	4.89E+01	9.54E+01	7.12E+01	9.36E-02	40
8.0	0.00	3.37	6.75	7.31E-07	6.80E-08	8.79E-06	1.05E-07	7.27E+02	4.30E+03	2.43E+03	7.19E+00	40
	0.42	2.05	4.10	4.43E-07	4.12E-08	5.33E-06	6.35E-08	4.57E+02	2.62E+03	1.49E+03	4.36E+00	40
	0.85	0.46	0.91	9.89E-08	9.20E-09	1.19E-06	1.42E-08	1.33E+02	6.16E+02	3.64E+02	9.73E-01	40
	1.27	0.04	0.08	8.12E-09	7.55E-10	9.76E-08	1.16E-09	4.76E+01	8.73E+01	6.66E+01	7.99E-02	40
9.0	0.00	2.92	5.84	6.36E-07	5.92E-08	7.60E-06	9.12E-08	6.38E+02	3.75E+03	2.12E+03	6.26E+00	40
	0.46	1.77	3.54	3.86E-07	3.59E-08	4.61E-06	5.53E-08	4.03E+02	2.29E+03	1.30E+03	3.80E+00	40
	0.92	0.39	0.79	8.61E-08	8.01E-09	1.03E-06	1.23E-08	1.21E+02	5.42E+02	3.22E+02	8.47E-01	40
	1.38	0.03	0.06	7.07E-09	6.57E-10	8.44E-08	1.01E-09	4.66E+01	8.12E+01	6.32E+01	6.96E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 11:15 RELATIVE TIME: H+03:45

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	12.00	NOBLE GAS (CI/SEC)	6.640E+00
DELTA-T (DEG. F/50M)	-1.40	IODINE (CI/SEC)	6.074E-01
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	3.820E-02
WIND DIRECTION (DEG./From)	195.0	TOTAL (CI/SEC)	7.286E+00
WIND TRAVEL (MI)	1.202E+01	AVERAGE GAMMA (MEV/DIS)	0.41
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.39

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
0.5	0.00	26.09	53.47	6.44E-06	4.06E-07	7.75E-05	1.05E-06	6.09E+03	2.54E+04	3.19E+05	9.58E+02	40
	0.05	15.82	32.43	3.91E-06	2.46E-07	4.70E-05	6.35E-07	3.71E+03	1.54E+04	1.93E+05	5.81E+02	40
	0.11	3.53	7.24	8.72E-07	5.49E-08	1.05E-05	1.42E-07	8.59E+02	3.48E+03	4.32E+04	1.30E+02	40
	0.16	0.29	0.59	7.16E-08	4.50E-09	8.61E-07	1.16E-08	1.07E+02	3.22E+02	3.58E+03	1.06E+01	40
1.0	0.00	7.24	14.83	1.85E-06	1.16E-07	2.14E-05	3.00E-07	1.78E+03	7.33E+03	1.03E+05	3.08E+02	40
	0.10	4.39	8.99	1.12E-06	7.06E-08	1.30E-05	1.82E-07	1.09E+03	4.46E+03	6.23E+04	1.87E+02	40
	0.20	0.98	2.01	2.50E-07	1.58E-08	2.90E-06	4.07E-08	2.75E+02	1.03E+03	1.39E+04	4.17E+01	40
	0.31	0.08	0.16	2.05E-08	1.29E-09	2.38E-07	3.34E-09	5.93E+01	1.21E+02	1.18E+03	3.42E+00	40
1.5	0.00	3.53	7.23	9.15E-07	5.76E-08	1.04E-05	1.49E-07	9.00E+02	3.65E+03	5.54E+04	1.66E+02	40
	0.15	2.14	4.38	5.55E-07	3.49E-08	6.33E-06	9.02E-08	5.62E+02	2.23E+03	3.36E+04	1.01E+02	40
	0.30	0.48	0.98	1.24E-07	7.80E-09	1.41E-06	2.01E-08	1.56E+02	5.28E+02	7.53E+03	2.25E+01	40
	0.44	0.04	0.08	1.02E-08	6.40E-10	1.16E-07	1.65E-09	4.96E+01	8.01E+01	6.55E+02	1.85E+00	40
2.0	0.00	2.16	4.42	5.64E-07	3.55E-08	6.37E-06	9.17E-08	5.70E+02	2.26E+03	3.64E+04	1.09E+02	40
	0.19	1.31	2.68	3.42E-07	2.15E-08	3.87E-06	5.56E-08	3.62E+02	1.39E+03	2.21E+04	6.62E+01	40
	0.38	0.29	0.60	7.63E-08	4.81E-09	8.63E-07	1.24E-08	1.12E+02	3.41E+02	4.96E+03	1.48E+01	40
	0.57	0.02	0.05	6.27E-09	3.95E-10	7.08E-08	1.02E-09	4.59E+01	6.47E+01	4.44E+02	1.21E+00	40
3.0	0.00	1.11	2.28	2.93E-07	1.84E-08	3.28E-06	4.76E-08	3.15E+02	1.20E+03	2.06E+04	6.17E+01	40
	0.27	0.67	1.38	1.78E-07	1.12E-08	1.99E-06	2.89E-08	2.07E+02	7.41E+02	1.25E+04	3.74E+01	40
	0.54	0.15	0.31	3.97E-08	2.50E-09	4.44E-07	6.44E-09	7.73E+01	1.96E+02	2.82E+03	8.35E+00	40
	0.81	0.01	0.03	3.26E-09	2.05E-10	3.64E-08	5.29E-10	4.31E+01	5.28E+01	2.68E+02	6.85E-01	40
4.0	0.00	1.26	2.56	3.17E-07	2.39E-08	3.58E-06	4.96E-08	3.38E+02	1.54E+03	1.06E+04	3.18E+01	40
	0.34	0.76	1.55	1.92E-07	1.45E-08	2.17E-06	3.01E-08	2.21E+02	9.48E+02	6.46E+03	1.93E+01	40
	0.69	0.17	0.35	4.29E-08	3.23E-09	4.84E-07	6.71E-09	8.03E+01	2.43E+02	1.47E+03	4.30E+00	40
	1.03	0.01	0.03	3.52E-09	2.66E-10	3.97E-08	5.51E-10	4.33E+01	5.66E+01	1.58E+02	3.53E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

..AL TIME: 11:15 RELATIVE TIME: H+03:45

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRC
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRC COUNT RATE (CPM)
5.0	0.00	0.90	1.83	2.29E-07	1.72E-08	2.56E-06	3.57E-08	2.55E+02	1.12E+03	7.97E+03	2.38E+01	40
	0.41	0.55	1.11	1.39E-07	1.04E-08	1.55E-06	2.17E-08	1.70E+02	6.94E+02	4.85E+03	1.44E+01	40
	0.82	0.12	0.25	3.09E-08	2.33E-09	3.47E-07	4.84E-09	6.91E+01	1.86E+02	1.11E+03	3.22E+00	40
	1.23	0.01	0.02	2.54E-09	1.91E-10	2.85E-08	3.97E-10	4.24E+01	5.20E+01	1.28E+02	2.64E-01	40
6.0	0.00	0.69	1.41	1.76E-07	1.33E-08	1.97E-06	2.76E-08	2.06E+02	8.72E+02	6.33E+03	1.89E+01	40
	0.47	0.42	0.85	1.07E-07	8.06E-09	1.19E-06	1.67E-08	1.40E+02	5.45E+02	3.86E+03	1.15E+01	40
	0.94	0.09	0.19	2.39E-08	1.80E-09	2.66E-07	3.73E-09	6.24E+01	1.53E+02	8.91E+02	2.56E+00	40
	1.41	0.01	0.02	1.96E-09	1.48E-10	2.19E-08	3.06E-10	4.18E+01	4.92E+01	1.10E+02	2.10E-01	40
7.0	0.00	0.71	1.43	1.72E-07	1.43E-08	1.92E-06	2.58E-08	2.02E+02	9.34E+02	3.22E+03	9.55E+00	40
	0.53	0.43	0.86	1.04E-07	8.66E-09	1.17E-06	1.56E-08	1.38E+02	5.82E+02	1.97E+03	5.79E+00	40
	1.06	0.10	0.19	2.33E-08	1.93E-09	2.60E-07	3.49E-09	6.19E+01	1.61E+02	4.70E+02	1.29E+00	40
	1.58	0.01	0.02	1.91E-09	1.59E-10	2.14E-08	2.86E-10	4.18E+01	4.99E+01	7.53E+01	1.06E-01	40
8.0	0.00	0.59	1.19	1.44E-07	1.19E-08	1.60E-06	2.15E-08	1.75E+02	7.87E+02	2.74E+03	8.12E+00	40
	0.58	0.36	0.72	8.71E-08	7.23E-09	9.71E-07	1.31E-08	1.22E+02	4.93E+02	1.68E+03	4.92E+00	40
	1.16	0.08	0.16	1.94E-08	1.61E-09	2.17E-07	2.91E-09	5.83E+01	1.41E+02	4.06E+02	1.10E+00	40
	1.75	0.01	0.01	1.60E-09	1.32E-10	1.78E-08	2.39E-10	4.15E+01	4.83E+01	7.00E+01	9.02E-02	40
9.0	0.00	0.50	1.01	1.23E-07	1.02E-08	1.37E-06	1.84E-08	1.56E+02	6.79E+02	2.39E+03	7.05E+00	40
	0.63	0.30	0.61	7.46E-08	6.19E-09	8.29E-07	1.12E-08	1.10E+02	4.28E+02	1.46E+03	4.27E+00	40
	1.27	0.07	0.14	1.66E-08	1.38E-09	1.85E-07	2.49E-09	5.56E+01	1.27E+02	3.58E+02	9.54E-01	40
	1.90	0.01	0.01	1.37E-09	1.13E-10	1.52E-08	2.05E-10	4.13E+01	4.71E+01	6.61E+01	7.83E-02	40
10.0	0.00	0.58	1.15	1.34E-07	1.25E-08	1.49E-06	1.92E-08	1.66E+02	8.21E+02	4.79E+02	1.32E+00	40
	0.68	0.35	0.70	8.13E-08	7.57E-09	9.03E-07	1.16E-08	1.16E+02	5.14E+02	3.06E+02	8.00E-01	40
	1.36	0.08	0.16	1.81E-08	1.69E-09	2.01E-07	2.60E-09	5.70E+01	1.46E+02	9.94E+01	1.78E-01	40
	2.04	0.01	0.01	1.49E-09	1.39E-10	1.65E-08	2.13E-10	4.14E+01	4.87E+01	4.49E+01	1.46E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

_AL TIME: 11:30 RELATIVE TIME: H+04:00

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	12.00	NOBLE GAS (CI/SEC)	4.278E+00
DELTA-T (DEG. F/50M)	-1.40	IODINE (CI/SEC)	3.890E-01
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	2.039E-02
WIND DIRECTION (DEG./From)	195.0	TOTAL (CI/SEC)	4.687E+00
WIND TRAVEL (MI)	1.503E+01	AVERAGE GAMMA (MEV/DIS)	0.40
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.37

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGROU
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGROU COUNT RATE (CPM)
0.5	0.00	16.23	33.51	4.13E-06	2.16E-07	4.99E-05	6.94E-07	3.92E+03	1.36E+04	3.17E+05	9.51E+02	40
	0.05	9.85	20.33	2.50E-06	1.31E-07	3.03E-05	4.21E-07	2.39E+03	8.26E+03	1.92E+05	5.77E+02	40
	0.11	2.20	4.54	5.58E-07	2.93E-08	6.76E-06	9.40E-08	5.65E+02	1.87E+03	4.29E+04	1.29E+02	40
	0.16	0.18	0.37	4.58E-08	2.40E-09	5.55E-07	7.71E-09	8.31E+01	1.91E+02	3.56E+03	1.06E+01	40
1.0	0.00	4.50	9.29	1.18E-06	6.21E-08	1.38E-05	1.99E-07	1.15E+03	3.93E+03	1.01E+05	3.05E+02	40
	0.10	2.73	5.64	7.18E-07	3.77E-08	8.37E-06	1.21E-07	7.15E+02	2.40E+03	6.16E+04	1.85E+02	40
	0.20	0.61	1.26	1.60E-07	8.41E-09	1.87E-06	2.70E-08	1.91E+02	5.67E+02	1.38E+04	4.12E+01	40
	0.31	0.05	0.10	1.32E-08	6.90E-10	1.53E-07	2.21E-09	5.24E+01	8.32E+01	1.17E+03	3.38E+00	40
1.5	0.00	2.19	4.53	5.86E-07	3.07E-08	6.72E-06	9.86E-08	5.91E+02	1.97E+03	5.46E+04	1.64E+02	40
	0.15	1.33	2.75	3.55E-07	1.86E-08	4.08E-06	5.98E-08	3.74E+02	1.21E+03	3.32E+04	9.94E+01	40
	0.30	0.30	0.61	7.93E-08	4.16E-09	9.09E-07	1.33E-08	1.15E+02	3.01E+02	7.43E+03	2.22E+01	40
	0.44	0.02	0.05	6.51E-09	3.41E-10	7.46E-08	1.10E-09	4.61E+01	6.14E+01	6.46E+02	1.82E+00	40
2.0	0.00	1.34	2.77	3.61E-07	1.89E-08	4.11E-06	6.08E-08	3.79E+02	1.23E+03	3.58E+04	1.07E+02	40
	0.19	0.81	1.68	2.19E-07	1.15E-08	2.49E-06	3.69E-08	2.46E+02	7.60E+02	2.17E+04	6.52E+01	40
	0.38	0.18	0.37	4.89E-08	2.56E-09	5.56E-07	8.23E-09	8.59E+01	2.01E+02	4.88E+03	1.45E+01	40
	0.57	0.01	0.03	4.01E-09	2.11E-10	4.56E-08	6.76E-10	4.38E+01	5.32E+01	4.37E+02	1.19E+00	40
3.0	0.00	0.69	1.43	1.88E-07	9.84E-09	2.11E-06	3.16E-08	2.16E+02	6.57E+02	2.02E+04	6.06E+01	40
	0.27	0.42	0.87	1.14E-07	5.97E-09	1.28E-06	1.92E-08	1.47E+02	4.14E+02	1.23E+04	3.67E+01	40
	0.54	0.09	0.19	2.54E-08	1.33E-09	2.86E-07	4.28E-09	6.39E+01	1.23E+02	2.77E+03	8.19E+00	40
	0.81	0.01	0.02	2.08E-09	1.09E-10	2.35E-08	3.51E-10	4.20E+01	4.69E+01	2.64E+02	6.73E-01	40
4.0	0.00	0.71	1.45	1.84E-07	1.16E-08	2.09E-06	2.99E-08	2.13E+02	7.66E+02	1.07E+04	3.19E+01	40
	0.34	0.43	0.88	1.12E-07	7.03E-09	1.27E-06	1.81E-08	1.45E+02	4.81E+02	6.49E+03	1.94E+01	40
	0.69	0.10	0.20	2.49E-08	1.57E-09	2.83E-07	4.05E-09	6.34E+01	1.38E+02	1.48E+03	4.32E+00	40
	1.03	0.01	0.02	2.04E-09	1.29E-10	2.32E-08	3.32E-10	4.19E+01	4.81E+01	1.58E+02	3.55E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

..AL TIME: 11:30 RELATIVE TIME: H+04:00

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUN RATE (CPM)
5.0	0.00	0.51	1.04	1.33E-07	8.35E-09	1.50E-06	2.15E-08	1.65E+02	5.63E+02	7.98E+03	2.39E+01	40
	0.41	0.31	0.63	8.04E-08	5.07E-09	9.07E-07	1.31E-08	1.16E+02	3.57E+02	4.86E+03	1.45E+01	40
	0.82	0.07	0.14	1.79E-08	1.13E-09	2.02E-07	2.92E-09	5.69E+01	1.11E+02	1.12E+03	3.23E+00	40
	1.23	0.01	0.01	1.47E-09	9.28E-11	1.66E-08	2.39E-10	4.14E+01	4.58E+01	1.28E+02	2.65E-01	40
6.0	0.00	0.39	0.80	1.02E-07	6.44E-09	1.15E-06	1.66E-08	1.36E+02	4.44E+02	6.33E+03	1.89E+01	40
	0.47	0.24	0.48	6.20E-08	3.91E-09	6.97E-07	1.01E-08	9.83E+01	2.85E+02	3.86E+03	1.15E+01	40
	0.94	0.05	0.11	1.38E-08	8.72E-10	1.55E-07	2.25E-09	5.30E+01	9.46E+01	8.92E+02	2.56E+00	40
	1.41	0.00	0.01	1.14E-09	7.16E-11	1.28E-08	1.85E-10	4.11E+01	4.45E+01	1.10E+02	2.10E-01	40
7.0	0.00	0.56	1.13	1.40E-07	1.06E-08	1.58E-06	2.19E-08	1.72E+02	7.02E+02	3.49E+03	1.04E+01	40
	0.53	0.34	0.68	8.50E-08	6.41E-09	9.57E-07	1.33E-08	1.20E+02	4.42E+02	2.13E+03	6.29E+00	40
	1.06	0.08	0.15	1.90E-08	1.43E-09	2.14E-07	2.97E-09	5.78E+01	1.30E+02	5.07E+02	1.40E+00	40
	1.58	0.01	0.01	1.56E-09	1.17E-10	1.75E-08	2.43E-10	4.15E+01	4.74E+01	7.84E+01	1.15E-01	40
8.0	0.00	0.46	0.94	1.17E-07	8.83E-09	1.31E-06	1.83E-08	1.50E+02	5.93E+02	2.97E+03	8.80E+00	40
	0.58	0.28	0.57	7.10E-08	5.36E-09	7.97E-07	1.11E-08	1.07E+02	3.76E+02	1.82E+03	5.33E+00	40
	1.16	0.06	0.13	1.58E-08	1.20E-09	1.78E-07	2.48E-09	5.49E+01	1.15E+02	4.36E+02	1.19E+00	40
	1.75	0.01	0.01	1.30E-09	9.81E-11	1.46E-08	2.03E-10	4.12E+01	4.61E+01	7.25E+01	9.77E-02	40
9.0	0.00	0.39	0.80	1.00E-07	7.56E-09	1.12E-06	1.57E-08	1.34E+02	5.13E+02	2.58E+03	7.62E+00	40
	0.63	0.24	0.49	6.08E-08	4.58E-09	6.80E-07	9.50E-09	9.71E+01	3.27E+02	1.58E+03	4.62E+00	40
	1.27	0.05	0.11	1.36E-08	1.02E-09	1.52E-07	2.12E-09	5.27E+01	1.04E+02	3.84E+02	1.03E+00	40
	1.90	0.00	0.01	1.11E-09	8.40E-11	1.25E-08	1.74E-10	4.10E+01	4.53E+01	6.82E+01	8.47E-02	40
10.0	0.00	0.44	0.88	1.06E-07	8.80E-09	1.18E-06	1.59E-08	1.39E+02	5.91E+02	7.94E+02	2.27E+00	40
	0.68	0.26	0.53	6.42E-08	5.34E-09	7.19E-07	9.63E-09	1.00E+02	3.74E+02	4.98E+02	1.37E+00	40
	1.36	0.06	0.12	1.43E-08	1.19E-09	1.60E-07	2.15E-09	5.35E+01	1.15E+02	1.42E+02	3.07E-01	40
	2.04	0.00	0.01	1.18E-09	9.77E-11	1.32E-08	1.76E-10	4.11E+01	4.61E+01	4.84E+01	2.52E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 11:45 RELATIVE TIME: H+04:15

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	10.00	NOBLE GAS (CI/SEC)	2.996E+00
DELTA-T (DEG. F/50M)	-1.40	IODINE (CI/SEC)	2.708E-01
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	1.219E-02
WIND DIRECTION (DEG./From)	197.0	TOTAL (CI/SEC)	3.279E+00
WIND TRAVEL (MI)	1.753E+01	AVERAGE GAMMA (MEV/DIS)	0.38
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.36

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
0.5	0.00	13.22	27.49	3.45E-06	1.55E-07	4.20E-05	6.00E-07	3.28E+03	9.77E+03	3.15E+05	9.45E+02	40
	0.05	8.02	16.67	2.09E-06	9.42E-08	2.55E-05	3.64E-07	2.00E+03	5.94E+03	1.91E+05	5.73E+02	40
	0.11	1.79	3.72	4.66E-07	2.10E-08	5.68E-06	8.11E-08	4.78E+02	1.36E+03	4.26E+04	1.28E+02	40
	0.16	0.15	0.31	3.83E-08	1.72E-09	4.66E-07	6.66E-09	7.60E+01	1.48E+02	3.53E+03	1.05E+01	40
1.0	0.00	3.67	7.62	9.89E-07	4.46E-08	1.16E-05	1.72E-07	9.70E+02	2.83E+03	1.00E+05	3.02E+02	40
	0.10	2.22	4.62	6.00E-07	2.70E-08	7.04E-06	1.04E-07	6.04E+02	1.73E+03	6.09E+04	1.83E+02	40
	0.20	0.50	1.03	1.34E-07	6.03E-09	1.57E-06	2.33E-08	1.66E+02	4.18E+02	1.36E+04	4.08E+01	40
	0.31	0.04	0.08	1.10E-08	4.95E-10	1.29E-07	1.91E-09	5.03E+01	7.10E+01	1.16E+03	3.35E+00	40
1.5	0.00	1.79	3.71	4.90E-07	2.21E-08	5.65E-06	8.52E-08	5.00E+02	1.42E+03	5.39E+04	1.62E+02	40
	0.15	1.08	2.25	2.97E-07	1.34E-08	3.43E-06	5.17E-08	3.19E+02	8.78E+02	3.27E+04	9.82E+01	40
	0.30	0.24	0.50	6.63E-08	2.98E-09	7.64E-07	1.15E-08	1.02E+02	2.27E+02	7.33E+03	2.19E+01	40
	0.44	0.02	0.04	5.44E-09	2.45E-10	6.27E-08	9.46E-10	4.51E+01	5.53E+01	6.39E+02	1.80E+00	40
2.0	0.00	1.09	2.27	3.02E-07	1.36E-08	3.45E-06	5.25E-08	3.24E+02	8.92E+02	3.53E+04	1.06E+02	40
	0.19	0.66	1.38	1.83E-07	8.25E-09	2.09E-06	3.18E-08	2.12E+02	5.57E+02	2.14E+04	6.42E+01	40
	0.38	0.15	0.31	4.08E-08	1.84E-09	4.67E-07	7.11E-09	7.84E+01	1.55E+02	4.81E+03	1.43E+01	40
	0.57	0.01	0.03	3.35E-09	1.51E-10	3.83E-08	5.83E-10	4.32E+01	4.95E+01	4.32E+02	1.18E+00	40
3.0	0.00	0.56	1.17	1.57E-07	7.06E-09	1.78E-06	2.73E-08	1.87E+02	4.82E+02	1.99E+04	5.96E+01	40
	0.27	0.34	0.71	9.51E-08	4.28E-09	1.08E-06	1.65E-08	1.29E+02	3.08E+02	1.21E+04	3.61E+01	40
	0.54	0.08	0.16	2.12E-08	9.56E-10	2.40E-07	3.69E-09	5.99E+01	9.99E+01	2.72E+03	8.06E+00	40
	0.81	0.01	0.01	1.74E-09	7.85E-11	1.97E-08	3.03E-10	4.16E+01	4.49E+01	2.60E+02	6.62E-01	40
4.0	0.00	0.53	1.09	1.41E-07	7.43E-09	1.61E-06	2.38E-08	1.73E+02	5.05E+02	1.07E+04	3.19E+01	40
	0.34	0.32	0.66	8.58E-08	4.50E-09	9.79E-07	1.44E-08	1.21E+02	3.22E+02	6.48E+03	1.93E+01	40
	0.69	0.07	0.15	1.91E-08	1.00E-09	2.19E-07	3.22E-09	5.80E+01	1.03E+02	1.48E+03	4.31E+00	40
	1.03	0.01	0.01	1.57E-09	8.25E-11	1.79E-08	2.64E-10	4.15E+01	4.52E+01	1.58E+02	3.54E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 11:45 RELATIVE TIME: H+04:15

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRC
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRC COUNT RATE (CPM)
5.0	0.00	0.38	0.78	1.02E-07	5.35E-09	1.16E-06	1.72E-08	1.36E+02	3.75E+02	7.96E+03	2.38E+01	40
	0.41	0.23	0.47	6.18E-08	3.24E-09	7.01E-07	1.04E-08	9.81E+01	2.43E+02	4.84E+03	1.44E+01	40
	0.82	0.05	0.11	1.38E-08	7.24E-10	1.56E-07	2.32E-09	5.30E+01	8.54E+01	1.11E+03	3.22E+00	40
	1.23	0.00	0.01	1.13E-09	5.94E-11	1.28E-08	1.91E-10	4.11E+01	4.37E+01	1.28E+02	2.64E-01	40
6.0	0.00	0.29	0.60	7.86E-08	4.13E-09	8.88E-07	1.32E-08	1.14E+02	2.98E+02	6.31E+03	1.88E+01	40
	0.47	0.18	0.36	4.77E-08	2.50E-09	5.39E-07	8.02E-09	8.48E+01	1.97E+02	3.84E+03	1.14E+01	40
	0.94	0.04	0.08	1.06E-08	5.58E-10	1.20E-07	1.79E-09	5.00E+01	7.50E+01	8.88E+02	2.55E+00	40
	1.41	0.00	0.01	8.73E-10	4.58E-11	9.87E-09	1.47E-10	4.08E+01	4.29E+01	1.10E+02	2.09E-01	40
7.0	0.00	0.37	0.77	9.76E-08	6.15E-09	1.11E-06	1.59E-08	1.32E+02	4.26E+02	3.64E+03	1.08E+01	40
	0.53	0.23	0.47	5.92E-08	3.73E-09	6.71E-07	9.62E-09	9.56E+01	2.74E+02	2.22E+03	6.56E+00	40
	1.06	0.05	0.10	1.32E-08	8.33E-10	1.50E-07	2.15E-09	5.24E+01	9.22E+01	5.27E+02	1.46E+00	40
	1.58	0.00	0.01	1.08E-09	6.84E-11	1.23E-08	1.76E-10	4.10E+01	4.43E+01	8.00E+01	1.20E-01	40
8.0	0.00	0.31	0.64	8.15E-08	5.14E-09	9.21E-07	1.32E-08	1.17E+02	3.62E+02	3.09E+03	9.15E+00	40
	0.58	0.19	0.39	4.94E-08	3.12E-09	5.58E-07	8.03E-09	8.65E+01	2.35E+02	1.89E+03	5.55E+00	40
	1.16	0.04	0.09	1.10E-08	6.96E-10	1.25E-07	1.79E-09	5.04E+01	8.36E+01	4.53E+02	1.24E+00	40
	1.75	0.00	0.01	9.06E-10	5.71E-11	1.02E-08	1.47E-10	4.09E+01	4.36E+01	7.39E+01	1.02E-01	40
9.0	0.00	0.27	0.55	6.98E-08	4.40E-09	7.86E-07	1.13E-08	1.06E+02	3.16E+02	2.68E+03	7.92E+00	40
	0.63	0.16	0.33	4.23E-08	2.67E-09	4.77E-07	6.88E-09	7.98E+01	2.07E+02	1.64E+03	4.81E+00	40
	1.27	0.04	0.07	9.44E-09	5.95E-10	1.06E-07	1.53E-09	4.89E+01	7.73E+01	3.97E+02	1.07E+00	40
	1.90	0.00	0.01	7.75E-10	4.89E-11	8.73E-09	1.26E-10	4.07E+01	4.31E+01	6.93E+01	8.80E-02	40
10.0	0.00	0.41	0.83	1.04E-07	7.82E-09	1.17E-06	1.62E-08	1.37E+02	5.30E+02	1.09E+03	3.14E+00	40
	0.68	0.25	0.51	6.28E-08	4.74E-09	7.08E-07	9.82E-09	9.90E+01	3.37E+02	6.74E+02	1.90E+00	40
	1.36	0.06	0.11	1.40E-08	1.06E-09	1.58E-07	2.19E-09	5.32E+01	1.06E+02	1.82E+02	4.25E-01	40
	2.04	0.00	0.01	1.15E-09	8.69E-11	1.30E-08	1.80E-10	4.11E+01	4.54E+01	5.16E+01	3.49E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

_AL TIME: 12:00 RELATIVE TIME: H+04:30

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	10.00	NOBLE GAS (CI/SEC)	2.112E+00
DELTA-T (DEG. F/50M)	-1.40	IODINE (CI/SEC)	1.898E-01
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	7.531E-03
WIND DIRECTION (DEG./From)	200.0	TOTAL (CI/SEC)	2.309E+00
WIND TRAVEL (MI)	2.004E+01	AVERAGE GAMMA (MEV/DIS)	0.37
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.35

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
0.5	0.00	9.05	18.95	2.41E-06	9.59E-08	2.96E-05	4.33E-07	2.31E+03	6.05E+03	3.11E+05	9.33E+02	40
	0.05	5.49	11.49	1.46E-06	5.82E-08	1.79E-05	2.63E-07	1.42E+03	3.69E+03	1.89E+05	5.66E+02	40
	0.11	1.23	2.56	3.27E-07	1.30E-08	4.00E-06	5.86E-08	3.47E+02	8.53E+02	4.21E+04	1.26E+02	40
	0.16	0.10	0.21	2.68E-08	1.07E-09	3.29E-07	4.81E-09	6.52E+01	1.07E+02	3.49E+03	1.04E+01	40
1.0	0.00	2.51	5.25	6.93E-07	2.75E-08	8.18E-06	1.24E-07	6.91E+02	1.77E+03	9.90E+04	2.97E+02	40
	0.10	1.52	3.19	4.20E-07	1.67E-08	4.96E-06	7.54E-08	4.35E+02	1.09E+03	6.01E+04	1.80E+02	40
	0.20	0.34	0.71	9.38E-08	3.73E-09	1.11E-06	1.68E-08	1.28E+02	2.73E+02	1.34E+04	4.02E+01	40
	0.31	0.03	0.06	7.70E-09	3.06E-10	9.08E-08	1.38E-09	4.72E+01	5.92E+01	1.14E+03	3.30E+00	40
1.5	0.00	1.22	2.56	3.43E-07	1.36E-08	3.98E-06	6.15E-08	3.62E+02	8.94E+02	5.31E+04	1.59E+02	40
	0.15	0.74	1.55	2.08E-07	8.26E-09	2.41E-06	3.73E-08	2.35E+02	5.58E+02	3.22E+04	9.66E+01	40
	0.30	0.17	0.35	4.64E-08	1.84E-09	5.39E-07	8.32E-09	8.36E+01	1.56E+02	7.22E+03	2.16E+01	40
	0.44	0.01	0.03	3.81E-09	1.51E-10	4.42E-08	6.83E-10	4.36E+01	4.95E+01	6.29E+02	1.77E+00	40
2.0	0.00	0.75	1.57	2.11E-07	8.40E-09	2.43E-06	3.79E-08	2.39E+02	5.66E+02	3.47E+04	1.04E+02	40
	0.19	0.45	0.95	1.28E-07	5.10E-09	1.48E-06	2.30E-08	1.61E+02	3.59E+02	2.11E+04	6.31E+01	40
	0.38	0.10	0.21	2.86E-08	1.14E-09	3.29E-07	5.13E-09	6.69E+01	1.11E+02	4.73E+03	1.41E+01	40
	0.57	0.01	0.02	2.35E-09	9.33E-11	2.70E-08	4.21E-10	4.22E+01	4.58E+01	4.25E+02	1.16E+00	40
3.0	0.00	0.39	0.81	1.10E-07	4.36E-09	1.25E-06	1.97E-08	1.43E+02	3.13E+02	1.95E+04	5.85E+01	40
	0.27	0.23	0.49	6.66E-08	2.65E-09	7.59E-07	1.19E-08	1.03E+02	2.06E+02	1.18E+04	3.55E+01	40
	0.54	0.05	0.11	1.49E-08	5.91E-10	1.69E-07	2.67E-09	5.40E+01	7.70E+01	2.67E+03	7.91E+00	40
	0.81	0.00	0.01	1.22E-09	4.85E-11	1.39E-08	2.19E-10	4.11E+01	4.30E+01	2.56E+02	6.49E-01	40
4.0	0.00	0.36	0.74	9.85E-08	4.44E-09	1.13E-06	1.71E-08	1.33E+02	3.18E+02	1.06E+04	3.16E+01	40
	0.34	0.22	0.45	5.97E-08	2.69E-09	6.86E-07	1.04E-08	9.61E+01	2.09E+02	6.42E+03	1.92E+01	40
	0.69	0.05	0.10	1.33E-08	6.01E-10	1.53E-07	2.32E-09	5.25E+01	7.76E+01	1.46E+03	4.28E+00	40
	1.03	0.00	0.01	1.09E-09	4.93E-11	1.26E-08	1.90E-10	4.10E+01	4.31E+01	1.57E+02	3.51E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

_AL TIME: 12:00 RELATIVE TIME: H+04:30

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRC
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRC COUNT RATE (CPM)
5.0	0.00	0.26	0.53	7.09E-08	3.20E-09	8.10E-07	1.23E-08	1.07E+02	2.40E+02	7.88E+03	2.35E+01	40
	0.41	0.16	0.32	4.30E-08	1.94E-09	4.91E-07	7.49E-09	8.04E+01	1.62E+02	4.80E+03	1.43E+01	40
	0.82	0.03	0.07	9.60E-09	4.33E-10	1.10E-07	1.67E-09	4.90E+01	6.71E+01	1.10E+03	3.19E+00	40
	1.23	0.00	0.01	7.88E-10	3.55E-11	9.00E-09	1.37E-10	4.07E+01	4.22E+01	1.27E+02	2.62E-01	40
6.0	0.00	0.20	0.41	5.47E-08	2.47E-09	6.22E-07	9.52E-09	9.14E+01	1.95E+02	6.24E+03	1.86E+01	40
	0.47	0.12	0.25	3.32E-08	1.50E-09	3.77E-07	5.77E-09	7.12E+01	1.34E+02	3.80E+03	1.13E+01	40
	0.94	0.03	0.06	7.41E-09	3.34E-10	8.42E-08	1.29E-09	4.70E+01	6.09E+01	8.79E+02	2.52E+00	40
	1.41	0.00	0.00	6.08E-10	2.74E-11	6.91E-09	1.06E-10	4.06E+01	4.17E+01	1.09E+02	2.07E-01	40
7.0	0.00	0.23	0.48	6.25E-08	3.28E-09	7.13E-07	1.05E-08	9.87E+01	2.46E+02	3.69E+03	1.10E+01	40
	0.53	0.14	0.29	3.79E-08	1.99E-09	4.32E-07	6.38E-09	7.56E+01	1.65E+02	2.25E+03	6.64E+00	40
	1.06	0.03	0.07	8.46E-09	4.44E-10	9.64E-08	1.42E-09	4.79E+01	6.78E+01	5.34E+02	1.48E+00	40
	1.58	0.00	0.01	6.94E-10	3.65E-11	7.92E-09	1.17E-10	4.07E+01	4.23E+01	8.05E+01	1.22E-01	40
8.0	0.00	0.19	0.40	5.22E-08	2.74E-09	5.93E-07	8.79E-09	8.91E+01	2.12E+02	3.13E+03	9.27E+00	40
	0.58	0.12	0.24	3.17E-08	1.66E-09	3.60E-07	5.33E-09	6.98E+01	1.44E+02	1.91E+03	5.62E+00	40
	1.16	0.03	0.05	7.07E-09	3.71E-10	8.03E-08	1.19E-09	4.66E+01	6.33E+01	4.58E+02	1.25E+00	40
	1.75	0.00	0.00	5.80E-10	3.05E-11	6.59E-09	9.76E-11	4.05E+01	4.19E+01	7.43E+01	1.03E-01	40
9.0	0.00	0.17	0.34	4.47E-08	2.35E-09	5.06E-07	7.52E-09	8.20E+01	1.87E+02	2.71E+03	8.02E+00	40
	0.63	0.10	0.21	2.71E-08	1.42E-09	3.07E-07	4.56E-09	6.55E+01	1.29E+02	1.66E+03	4.87E+00	40
	1.27	0.02	0.05	6.05E-09	3.18E-10	6.85E-08	1.02E-09	4.57E+01	5.99E+01	4.01E+02	1.09E+00	40
	1.90	0.00	0.00	4.96E-10	2.61E-11	5.62E-09	8.36E-11	4.05E+01	4.16E+01	6.97E+01	8.91E-02	40
10.0	0.00	0.23	0.47	6.01E-08	3.79E-09	6.81E-07	9.76E-09	9.65E+01	2.78E+02	1.23E+03	3.56E+00	40
	0.68	0.14	0.29	3.65E-08	2.30E-09	4.13E-07	5.92E-09	7.43E+01	1.84E+02	7.59E+02	2.16E+00	40
	1.36	0.03	0.06	8.13E-09	5.13E-10	9.22E-08	1.32E-09	4.76E+01	7.22E+01	2.00E+02	4.82E-01	40
	2.04	0.00	0.01	6.68E-10	4.21E-11	7.57E-09	1.08E-10	4.06E+01	4.26E+01	5.32E+01	3.96E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 12:15 RELATIVE TIME: H+04:45

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	10.00	NOBLE GAS (CI/SEC)	1.505E+00
DELTA-T (DEG. F/50M)	-1.40	IODINE (CI/SEC)	1.344E-01
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	4.809E-03
WIND DIRECTION (DEG./From)	200.0	TOTAL (CI/SEC)	1.644E+00
WIND TRAVEL (MI)	2.254E+01	AVERAGE GAMMA (MEV/DIS)	0.36
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.34

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
0.5	0.00	6.28	13.23	1.71E-06	6.13E-08	2.11E-05	3.15E-07	1.65E+03	3.88E+03	3.06E+05	9.19E+02	40
	0.05	3.81	8.02	1.04E-06	3.72E-08	1.28E-05	1.91E-07	1.01E+03	2.37E+03	1.86E+05	5.58E+02	40
	0.11	0.85	1.79	2.31E-07	8.29E-09	2.85E-06	4.27E-08	2.57E+02	5.59E+02	4.15E+04	1.24E+02	40
	0.16	0.07	0.15	1.90E-08	6.80E-10	2.34E-07	3.50E-09	5.79E+01	8.26E+01	3.44E+03	1.02E+01	40
1.0	0.00	1.74	3.67	4.91E-07	1.76E-08	5.83E-06	9.06E-08	5.01E+02	1.14E+03	9.74E+04	2.92E+02	40
	0.10	1.06	2.23	2.98E-07	1.07E-08	3.54E-06	5.49E-08	3.20E+02	7.08E+02	5.91E+04	1.77E+02	40
	0.20	0.24	0.50	6.64E-08	2.38E-09	7.89E-07	1.23E-08	1.02E+02	1.89E+02	1.32E+04	3.96E+01	40
	0.31	0.02	0.04	5.45E-09	1.95E-10	6.47E-08	1.01E-09	4.51E+01	5.22E+01	1.12E+03	3.25E+00	40
1.5	0.00	0.85	1.79	2.43E-07	8.70E-09	2.84E-06	4.48E-08	2.68E+02	5.85E+02	5.21E+04	1.56E+02	40
	0.15	0.51	1.08	1.47E-07	5.28E-09	1.72E-06	2.72E-08	1.78E+02	3.71E+02	3.16E+04	9.49E+01	40
	0.30	0.11	0.24	3.29E-08	1.18E-09	3.84E-07	6.06E-09	7.09E+01	1.14E+02	7.09E+03	2.12E+01	40
	0.44	0.01	0.02	2.70E-09	9.67E-11	3.15E-08	4.98E-10	4.25E+01	4.61E+01	6.19E+02	1.74E+00	40
2.0	0.00	0.52	1.09	1.50E-07	5.36E-09	1.73E-06	2.76E-08	1.81E+02	3.76E+02	3.41E+04	1.02E+02	40
	0.19	0.31	0.66	9.08E-08	3.25E-09	1.05E-06	1.68E-08	1.25E+02	2.44E+02	2.07E+04	6.20E+01	40
	0.38	0.07	0.15	2.03E-08	7.26E-10	2.35E-07	3.74E-09	5.90E+01	8.55E+01	4.64E+03	1.38E+01	40
	0.57	0.01	0.01	1.66E-09	5.96E-11	1.93E-08	3.07E-10	4.16E+01	4.37E+01	4.18E+02	1.13E+00	40
3.0	0.00	0.27	0.56	7.78E-08	2.79E-09	8.92E-07	1.44E-08	1.13E+02	2.15E+02	1.91E+04	5.73E+01	40
	0.27	0.16	0.34	4.72E-08	1.69E-09	5.41E-07	8.70E-09	8.43E+01	1.46E+02	1.16E+04	3.48E+01	40
	0.54	0.04	0.08	1.05E-08	3.77E-10	1.21E-07	1.94E-09	4.99E+01	6.36E+01	2.62E+03	7.76E+00	40
	0.81	0.00	0.01	8.64E-10	3.10E-11	9.91E-09	1.59E-10	4.08E+01	4.19E+01	2.52E+02	6.37E-01	40
4.0	0.00	0.25	0.51	6.90E-08	2.74E-09	7.97E-07	1.24E-08	1.05E+02	2.12E+02	1.04E+04	3.12E+01	40
	0.34	0.15	0.31	4.18E-08	1.66E-09	4.83E-07	7.50E-09	7.93E+01	1.44E+02	6.34E+03	1.89E+01	40
	0.69	0.03	0.07	9.34E-09	3.71E-10	1.08E-07	1.67E-09	4.88E+01	6.33E+01	1.45E+03	4.22E+00	40
	1.03	0.00	0.01	7.66E-10	3.05E-11	8.85E-09	1.37E-10	4.07E+01	4.19E+01	1.55E+02	3.46E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

_AL TIME: 12:15 RELATIVE TIME: H+04:45

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
5.0	0.00	0.18	0.37	4.97E-08	1.98E-09	5.71E-07	8.91E-09	8.67E+01	1.64E+02	7.78E+03	2.32E+01	40
	0.41	0.11	0.22	3.01E-08	1.20E-09	3.46E-07	5.41E-09	6.83E+01	1.15E+02	4.73E+03	1.41E+01	40
	0.82	0.02	0.05	6.73E-09	2.67E-10	7.72E-08	1.21E-09	4.63E+01	5.68E+01	1.09E+03	3.14E+00	40
	1.23	0.00	0.00	5.52E-10	2.20E-11	6.34E-09	9.90E-11	4.05E+01	4.14E+01	1.26E+02	2.58E-01	40
6.0	0.00	0.13	0.28	3.83E-08	1.52E-09	4.38E-07	6.87E-09	7.60E+01	1.35E+02	6.16E+03	1.84E+01	40
	0.47	0.08	0.17	2.33E-08	9.25E-10	2.66E-07	4.17E-09	6.19E+01	9.79E+01	3.75E+03	1.11E+01	40
	0.94	0.02	0.04	5.19E-09	2.06E-10	5.93E-08	9.30E-10	4.49E+01	5.29E+01	8.68E+02	2.49E+00	40
	1.41	0.00	0.00	4.26E-10	1.69E-11	4.87E-09	7.64E-11	4.04E+01	4.11E+01	1.08E+02	2.04E-01	40
7.0	0.00	0.16	0.33	4.35E-08	1.96E-09	4.99E-07	7.57E-09	8.09E+01	1.63E+02	3.69E+03	1.10E+01	40
	0.53	0.10	0.20	2.64E-08	1.19E-09	3.03E-07	4.59E-09	6.48E+01	1.15E+02	2.26E+03	6.65E+00	40
	1.06	0.02	0.04	5.89E-09	2.66E-10	6.76E-08	1.02E-09	4.55E+01	5.66E+01	5.34E+02	1.48E+00	40
	1.58	0.00	0.00	4.83E-10	2.18E-11	5.54E-09	8.41E-11	4.05E+01	4.14E+01	8.06E+01	1.22E-01	40
8.0	0.00	0.13	0.27	3.63E-08	1.64E-09	4.15E-07	6.32E-09	7.42E+01	1.43E+02	3.13E+03	9.28E+00	40
	0.58	0.08	0.17	2.20E-08	9.95E-10	2.52E-07	3.84E-09	6.07E+01	1.02E+02	1.91E+03	5.63E+00	40
	1.16	0.02	0.04	4.92E-09	2.22E-10	5.62E-08	8.56E-10	4.46E+01	5.39E+01	4.58E+02	1.26E+00	40
	1.75	0.00	0.00	4.04E-10	1.82E-11	4.62E-09	7.02E-11	4.04E+01	4.11E+01	7.43E+01	1.03E-01	40
9.0	0.00	0.11	0.23	3.11E-08	1.40E-09	3.55E-07	5.41E-09	6.92E+01	1.28E+02	2.71E+03	8.03E+00	40
	0.63	0.07	0.14	1.89E-08	8.52E-10	2.15E-07	3.28E-09	5.77E+01	9.33E+01	1.66E+03	4.87E+00	40
	1.27	0.02	0.03	4.21E-09	1.90E-10	4.80E-08	7.32E-10	4.40E+01	5.19E+01	4.02E+02	1.09E+00	40
	1.90	0.00	0.00	3.46E-10	1.56E-11	3.94E-09	6.01E-11	4.03E+01	4.10E+01	6.97E+01	8.92E-02	40
10.0	0.00	0.14	0.30	3.85E-08	2.02E-09	4.39E-07	6.48E-09	7.62E+01	1.67E+02	1.30E+03	3.78E+00	40
	0.68	0.09	0.18	2.33E-08	1.23E-09	2.66E-07	3.93E-09	6.19E+01	1.17E+02	8.03E+02	2.29E+00	40
	1.36	0.02	0.04	5.21E-09	2.74E-10	5.94E-08	8.77E-10	4.49E+01	5.72E+01	2.10E+02	5.11E-01	40
	2.04	0.00	0.00	4.28E-10	2.25E-11	4.88E-09	7.20E-11	4.04E+01	4.14E+01	5.40E+01	4.19E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 12:30 RELATIVE TIME: H+05:00

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	13.00	NOBLE GAS (CI/SEC)	1.059E+00
DELTA-T (DEG. F/50M)	-1.40	IODINE (CI/SEC)	9.429E-02
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	3.119E-03
WIND DIRECTION (DEG./From)	200.0	TOTAL (CI/SEC)	1.157E+00
WIND TRAVEL (MI)	2.580E+01	AVERAGE GAMMA (MEV/DIS)	0.35
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.33

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
0.5	0.00	3.32	7.03	9.23E-07	3.06E-08	1.14E-05	1.75E-07	9.07E+02	1.95E+03	3.00E+05	9.01E+02	40
	0.05	2.01	4.26	5.60E-07	1.85E-08	6.92E-06	1.06E-07	5.66E+02	1.20E+03	1.82E+05	5.47E+02	40
	0.11	0.45	0.95	1.25E-07	4.14E-09	1.54E-06	2.37E-08	1.57E+02	2.99E+02	4.07E+04	1.22E+02	40
	0.16	0.04	0.08	1.03E-08	3.39E-10	1.27E-07	1.94E-09	4.96E+01	6.13E+01	3.37E+03	1.00E+01	40
1.0	0.00	0.92	1.95	2.65E-07	8.77E-09	3.16E-06	5.02E-08	2.89E+02	5.89E+02	9.54E+04	2.86E+02	40
	0.10	0.56	1.18	1.61E-07	5.32E-09	1.91E-06	3.04E-08	1.91E+02	3.73E+02	5.79E+04	1.74E+02	40
	0.20	0.12	0.26	3.59E-08	1.19E-09	4.27E-07	6.79E-09	7.37E+01	1.14E+02	1.29E+04	3.87E+01	40
	0.31	0.01	0.02	2.94E-09	9.74E-11	3.51E-08	5.58E-10	4.28E+01	4.61E+01	1.10E+03	3.18E+00	40
1.5	0.00	0.45	0.95	1.31E-07	4.34E-09	1.54E-06	2.48E-08	1.63E+02	3.12E+02	5.10E+04	1.53E+02	40
	0.15	0.27	0.58	7.95E-08	2.63E-09	9.31E-07	1.51E-08	1.15E+02	2.05E+02	3.10E+04	9.29E+01	40
	0.30	0.06	0.13	1.77E-08	5.87E-10	2.08E-07	3.36E-09	5.67E+01	7.68E+01	6.94E+03	2.07E+01	40
	0.44	0.00	0.01	1.46E-09	4.82E-11	1.71E-08	2.76E-10	4.14E+01	4.30E+01	6.07E+02	1.70E+00	40
2.0	0.00	0.27	0.58	8.08E-08	2.68E-09	9.38E-07	1.53E-08	1.16E+02	2.08E+02	3.33E+04	1.00E+02	40
	0.19	0.17	0.35	4.90E-08	1.62E-09	5.69E-07	9.29E-09	8.61E+01	1.42E+02	2.02E+04	6.06E+01	40
	0.38	0.04	0.08	1.09E-08	3.62E-10	1.27E-07	2.07E-09	5.03E+01	6.27E+01	4.54E+03	1.35E+01	40
	0.57	0.00	0.01	8.98E-10	2.97E-11	1.04E-08	1.70E-10	4.08E+01	4.19E+01	4.10E+02	1.11E+00	40
3.0	0.00	0.14	0.30	4.20E-08	1.39E-09	4.83E-07	7.95E-09	7.95E+01	1.27E+02	1.87E+04	5.61E+01	40
	0.27	0.09	0.18	2.55E-08	8.43E-10	2.93E-07	4.82E-09	6.39E+01	9.28E+01	1.14E+04	3.40E+01	40
	0.54	0.02	0.04	5.68E-09	1.88E-10	6.54E-08	1.08E-09	4.53E+01	5.18E+01	2.57E+03	7.59E+00	40
	0.81	0.00	0.00	4.66E-10	1.54E-11	5.37E-09	8.84E-11	4.04E+01	4.10E+01	2.47E+02	6.23E-01	40
4.0	0.00	0.13	0.28	3.76E-08	1.35E-09	4.37E-07	6.93E-09	7.53E+01	1.24E+02	1.02E+04	3.06E+01	40
	0.34	0.08	0.17	2.28E-08	8.17E-10	2.65E-07	4.20E-09	6.14E+01	9.12E+01	6.22E+03	1.86E+01	40
	0.69	0.02	0.04	5.09E-09	1.82E-10	5.91E-08	9.38E-10	4.48E+01	5.14E+01	1.42E+03	4.14E+00	40
	1.03	0.00	0.00	4.18E-10	1.50E-11	4.85E-09	7.70E-11	4.04E+01	4.09E+01	1.53E+02	3.40E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

.EAL TIME: 12:30 RELATIVE TIME: H+05:00

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR COUN RATE (CPM
5.0	0.00	0.09	0.20	2.71E-08	9.71E-10	3.13E-07	4.99E-09	6.54E+01	1.01E+02	7.63E+03	2.28E+01	40
	0.41	0.06	0.12	1.64E-08	5.89E-10	1.90E-07	3.03E-09	5.54E+01	7.69E+01	4.64E+03	1.38E+01	40
	0.82	0.01	0.03	3.66E-09	1.31E-10	4.24E-08	6.76E-10	4.34E+01	4.82E+01	1.07E+03	3.08E+00	40
	1.23	0.00	0.00	3.01E-10	1.08E-11	3.48E-09	5.55E-11	4.03E+01	4.07E+01	1.24E+02	2.53E-01	40
6.0	0.00	0.07	0.15	2.09E-08	7.49E-10	2.40E-07	3.85E-09	5.96E+01	8.69E+01	6.04E+03	1.80E+01	40
	0.47	0.04	0.09	1.27E-08	4.54E-10	1.46E-07	2.34E-09	5.19E+01	6.84E+01	3.68E+03	1.09E+01	40
	0.94	0.01	0.02	2.83E-09	1.01E-10	3.25E-08	5.21E-10	4.27E+01	4.63E+01	8.52E+02	2.44E+00	40
	1.41	0.00	0.00	2.32E-10	8.32E-12	2.67E-09	4.28E-11	4.02E+01	4.05E+01	1.07E+02	2.00E-01	40
7.0	0.00	0.08	0.17	2.35E-08	9.33E-10	2.71E-07	4.21E-09	6.20E+01	9.85E+01	3.65E+03	1.08E+01	40
	0.53	0.05	0.11	1.42E-08	5.66E-10	1.64E-07	2.55E-09	5.34E+01	7.55E+01	2.23E+03	6.58E+00	40
	1.06	0.01	0.02	3.17E-09	1.26E-10	3.66E-08	5.69E-10	4.30E+01	4.79E+01	5.29E+02	1.47E+00	40
	1.58	0.00	0.00	2.61E-10	1.04E-11	3.01E-09	4.67E-11	4.02E+01	4.06E+01	8.01E+01	1.21E-01	40
8.0	0.00	0.07	0.15	1.96E-08	7.80E-10	2.25E-07	3.51E-09	5.84E+01	8.88E+01	3.10E+03	9.17E+00	40
	0.58	0.04	0.09	1.19E-08	4.73E-10	1.37E-07	2.13E-09	5.12E+01	6.96E+01	1.89E+03	5.56E+00	40
	1.16	0.01	0.02	2.65E-09	1.06E-10	3.05E-08	4.75E-10	4.25E+01	4.66E+01	4.53E+02	1.24E+00	40
	1.75	0.00	0.00	2.18E-10	8.66E-12	2.50E-09	3.90E-11	4.02E+01	4.05E+01	7.39E+01	1.02E-01	40
9.0	0.00	0.06	0.12	1.68E-08	6.67E-10	1.92E-07	3.01E-09	5.58E+01	8.18E+01	2.68E+03	7.93E+00	40
	0.63	0.04	0.08	1.02E-08	4.05E-10	1.17E-07	1.82E-09	4.96E+01	6.54E+01	1.64E+03	4.81E+00	40
	1.27	0.01	0.02	2.27E-09	9.03E-11	2.60E-08	4.07E-10	4.21E+01	4.57E+01	3.98E+02	1.07E+00	40
	1.90	0.00	0.00	1.86E-10	7.41E-12	2.14E-09	3.34E-11	4.02E+01	4.05E+01	6.93E+01	8.81E-02	40
10.0	0.00	0.07	0.16	2.06E-08	9.31E-10	2.37E-07	3.59E-09	5.94E+01	9.83E+01	1.32E+03	3.83E+00	40
	0.68	0.05	0.09	1.25E-08	5.65E-10	1.43E-07	2.17E-09	5.17E+01	7.54E+01	8.14E+02	2.33E+00	40
	1.36	0.01	0.02	2.79E-09	1.26E-10	3.20E-08	4.85E-10	4.26E+01	4.79E+01	2.13E+02	5.19E-01	40
	2.04	0.00	0.00	2.29E-10	1.03E-11	2.63E-09	3.98E-11	4.02E+01	4.06E+01	5.42E+01	4.26E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

.AL TIME: 12:45 RELATIVE TIME: H+05:15

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	13.00	NOBLE GAS (CI/SEC)	7.576E-01
DELTA-T (DEG. F/50M)	-1.50	IODINE (CI/SEC)	6.719E-02
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	2.070E-03
WIND DIRECTION (DEG./From)	203.0	TOTAL (CI/SEC)	8.269E-01
WIND TRAVEL (MI)	2.906E+01	AVERAGE GAMMA (MEV/DIS)	0.34
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.32

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR COUN RATE (CPM
0.5	0.00	2.32	4.94	6.58E-07	2.03E-08	8.16E-06	1.28E-07	6.58E+02	1.31E+03	2.94E+05	8.84E+02	40
	0.05	1.41	3.00	3.99E-07	1.23E-08	4.95E-06	7.75E-08	4.15E+02	8.11E+02	1.79E+05	5.36E+02	40
	0.11	0.31	0.67	8.90E-08	2.74E-09	1.10E-06	1.73E-08	1.24E+02	2.12E+02	3.99E+04	1.20E+02	40
	0.16	0.03	0.05	7.31E-09	2.25E-10	9.07E-08	1.42E-09	4.69E+01	5.41E+01	3.31E+03	9.82E+00	40
1.0	0.00	0.64	1.37	1.89E-07	5.82E-09	2.26E-06	3.67E-08	2.17E+02	4.05E+02	9.35E+04	2.81E+02	40
	0.10	0.39	0.83	1.15E-07	3.53E-09	1.37E-06	2.22E-08	1.48E+02	2.61E+02	5.67E+04	1.70E+02	40
	0.20	0.09	0.19	2.56E-08	7.88E-10	3.05E-07	4.96E-09	6.40E+01	8.94E+01	1.27E+04	3.80E+01	40
	0.31	0.01	0.02	2.10E-09	6.47E-11	2.51E-08	4.07E-10	4.20E+01	4.41E+01	1.08E+03	3.12E+00	40
1.5	0.00	0.31	0.67	9.34E-08	2.88E-09	1.10E-06	1.81E-08	1.28E+02	2.20E+02	5.00E+04	1.50E+02	40
	0.15	0.19	0.41	5.67E-08	1.75E-09	6.66E-07	1.10E-08	9.33E+01	1.49E+02	3.03E+04	9.10E+01	40
	0.30	0.04	0.09	1.26E-08	3.90E-10	1.49E-07	2.46E-09	5.19E+01	6.44E+01	6.80E+03	2.03E+01	40
	0.44	0.00	0.01	1.04E-09	3.20E-11	1.22E-08	2.02E-10	4.10E+01	4.20E+01	5.95E+02	1.67E+00	40
2.0	0.00	0.19	0.41	5.76E-08	1.78E-09	6.71E-07	1.12E-08	9.41E+01	1.51E+02	3.26E+04	9.79E+01	40
	0.19	0.12	0.25	3.49E-08	1.08E-09	4.07E-07	6.78E-09	7.28E+01	1.07E+02	1.98E+04	5.94E+01	40
	0.38	0.03	0.06	7.80E-09	2.40E-10	9.08E-08	1.51E-09	4.73E+01	5.51E+01	4.45E+03	1.32E+01	40
	0.57	0.00	0.00	6.40E-10	1.97E-11	7.46E-09	1.24E-10	4.06E+01	4.12E+01	4.02E+02	1.09E+00	40
3.0	0.00	0.10	0.21	2.99E-08	9.22E-10	3.45E-07	5.81E-09	6.81E+01	9.78E+01	1.83E+04	5.49E+01	40
	0.27	0.06	0.13	1.81E-08	5.60E-10	2.10E-07	3.52E-09	5.71E+01	7.51E+01	1.11E+04	3.33E+01	40
	0.54	0.01	0.03	4.05E-09	1.25E-10	4.67E-08	7.86E-10	4.38E+01	4.78E+01	2.51E+03	7.43E+00	40
	0.81	0.00	0.00	3.32E-10	1.02E-11	3.84E-09	6.45E-11	4.03E+01	4.06E+01	2.43E+02	6.10E-01	40
4.0	0.00	0.09	0.19	2.64E-08	8.74E-10	3.08E-07	4.99E-09	6.48E+01	9.47E+01	1.00E+04	3.00E+01	40
	0.34	0.05	0.12	1.60E-08	5.30E-10	1.87E-07	3.03E-09	5.50E+01	7.32E+01	6.11E+03	1.82E+01	40
	0.69	0.01	0.03	3.57E-09	1.18E-10	4.16E-08	6.76E-10	4.34E+01	4.74E+01	1.39E+03	4.07E+00	40
	1.03	0.00	0.00	2.93E-10	9.71E-12	3.42E-09	5.55E-11	4.03E+01	4.06E+01	1.51E+02	3.34E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

..EAL TIME: 12:45 RELATIVE TIME: H+05:15

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR COUN RATE (CPM
5.0	0.00	0.06	0.14	1.90E-08	6.30E-10	2.20E-07	3.60E-09	5.79E+01	7.94E+01	7.49E+03	2.24E+01	40
	0.41	0.04	0.08	1.15E-08	3.82E-10	1.34E-07	2.18E-09	5.08E+01	6.39E+01	4.56E+03	1.36E+01	40
	0.82	0.01	0.02	2.57E-09	8.52E-11	2.98E-08	4.87E-10	4.24E+01	4.53E+01	1.05E+03	3.03E+00	40
	1.23	0.00	0.00	2.11E-10	6.99E-12	2.45E-09	4.00E-11	4.02E+01	4.04E+01	1.23E+02	2.48E-01	40
6.0	0.00	0.05	0.10	1.47E-08	4.86E-10	1.69E-07	2.78E-09	5.38E+01	7.04E+01	5.92E+03	1.77E+01	40
	0.47	0.03	0.06	8.89E-09	2.95E-10	1.03E-07	1.68E-09	4.84E+01	5.84E+01	3.61E+03	1.07E+01	40
	0.94	0.01	0.01	1.98E-09	6.57E-11	2.29E-08	3.76E-10	4.19E+01	4.41E+01	8.36E+02	2.39E+00	40
	1.41	0.00	0.00	1.63E-10	5.39E-12	1.88E-09	3.08E-11	4.02E+01	4.03E+01	1.05E+02	1.96E-01	40
7.0	0.00	0.06	0.12	1.66E-08	5.96E-10	1.93E-07	3.06E-09	5.56E+01	7.73E+01	3.60E+03	1.07E+01	40
	0.53	0.04	0.07	1.01E-08	3.61E-10	1.17E-07	1.86E-09	4.95E+01	6.26E+01	2.20E+03	6.49E+00	40
	1.06	0.01	0.02	2.25E-09	8.07E-11	2.61E-08	4.15E-10	4.21E+01	4.51E+01	5.22E+02	1.45E+00	40
	1.58	0.00	0.00	1.85E-10	6.62E-12	2.14E-09	3.40E-11	4.02E+01	4.04E+01	7.96E+01	1.19E-01	40
8.0	0.00	0.05	0.10	1.39E-08	4.98E-10	1.61E-07	2.56E-09	5.30E+01	7.12E+01	3.05E+03	9.05E+00	40
	0.58	0.03	0.06	8.41E-09	3.02E-10	9.74E-08	1.55E-09	4.79E+01	5.89E+01	1.87E+03	5.49E+00	40
	1.16	0.01	0.01	1.88E-09	6.74E-11	2.17E-08	3.46E-10	4.18E+01	4.42E+01	4.48E+02	1.22E+00	40
	1.75	0.00	0.00	1.54E-10	5.53E-12	1.78E-09	2.84E-11	4.01E+01	4.03E+01	7.35E+01	1.01E-01	40
9.0	0.00	0.04	0.09	1.19E-08	4.26E-10	1.37E-07	2.19E-09	5.12E+01	6.67E+01	2.64E+03	7.82E+00	40
	0.63	0.02	0.05	7.20E-09	2.58E-10	8.31E-08	1.33E-09	4.68E+01	5.62E+01	1.62E+03	4.74E+00	40
	1.27	0.01	0.01	1.61E-09	5.77E-11	1.85E-08	2.96E-10	4.15E+01	4.36E+01	3.93E+02	1.06E+00	40
	1.90	0.00	0.00	1.32E-10	4.73E-12	1.52E-09	2.43E-11	4.01E+01	4.03E+01	6.89E+01	8.69E-02	40
10.0	0.00	0.05	0.11	1.44E-08	5.75E-10	1.67E-07	2.59E-09	5.36E+01	7.60E+01	1.32E+03	3.85E+00	40
	0.68	0.03	0.07	8.76E-09	3.49E-10	1.01E-07	1.57E-09	4.82E+01	6.19E+01	8.18E+02	2.34E+00	40
	1.36	0.01	0.01	1.95E-09	7.78E-11	2.26E-08	3.50E-10	4.18E+01	4.49E+01	2.14E+02	5.21E-01	40
	2.04	0.00	0.00	1.60E-10	6.39E-12	1.85E-09	2.88E-11	4.02E+01	4.04E+01	5.42E+01	4.28E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 13:00 RELATIVE TIME: H+05:30

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	13.00	NOBLE GAS (CI/SEC)	5.384E-01
DELTA-T (DEG. F/50M)	-1.50	IODINE (CI/SEC)	4.753E-02
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	1.419E-03
WIND DIRECTION (DEG./From)	203.0	TOTAL (CI/SEC)	5.873E-01
WIND TRAVEL (MI)	3.231E+01	AVERAGE GAMMA (MEV/DIS)	0.33
PLUME TRAILING EDGE (MI)	0.000E+00	AVERAGE BETA (MEV/DIS)	0.32

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR COUN RATE (CPM
0.5	0.00	1.61	3.46	4.65E-07	1.39E-08	5.80E-06	9.25E-08	4.77E+02	9.11E+02	2.89E+05	8.67E+02	40
	0.05	0.98	2.10	2.82E-07	8.43E-09	3.52E-06	5.61E-08	3.05E+02	5.68E+02	1.75E+05	5.26E+02	40
	0.11	0.22	0.47	6.30E-08	1.88E-09	7.85E-07	1.25E-08	9.92E+01	1.58E+02	3.91E+04	1.17E+02	40
	0.16	0.02	0.04	5.17E-09	1.54E-10	6.44E-08	1.03E-09	4.49E+01	4.97E+01	3.25E+03	9.63E+00	40
1.0	0.00	0.45	0.96	1.34E-07	3.99E-09	1.60E-06	2.65E-08	1.66E+02	2.90E+02	9.16E+04	2.75E+02	40
	0.10	0.27	0.58	8.10E-08	2.42E-09	9.73E-07	1.61E-08	1.16E+02	1.92E+02	5.56E+04	1.67E+02	40
	0.20	0.06	0.13	1.81E-08	5.40E-10	2.17E-07	3.59E-09	5.70E+01	7.38E+01	1.24E+04	3.72E+01	40
	0.31	0.00	0.01	1.48E-09	4.43E-11	1.78E-08	2.95E-10	4.14E+01	4.28E+01	1.06E+03	3.05E+00	40
1.5	0.00	0.22	0.47	6.61E-08	1.97E-09	7.81E-07	1.31E-08	1.02E+02	1.64E+02	4.90E+04	1.47E+02	40
	0.15	0.13	0.28	4.01E-08	1.20E-09	4.73E-07	7.97E-09	7.77E+01	1.15E+02	2.97E+04	8.91E+01	40
	0.30	0.03	0.06	8.95E-09	2.67E-10	1.06E-07	1.78E-09	4.84E+01	5.67E+01	6.66E+03	1.99E+01	40
	0.44	0.00	0.01	7.34E-10	2.19E-11	8.67E-09	1.46E-10	4.07E+01	4.14E+01	5.84E+02	1.63E+00	40
2.0	0.00	0.13	0.29	4.07E-08	1.22E-09	4.77E-07	8.10E-09	7.83E+01	1.16E+02	3.20E+04	9.59E+01	40
	0.19	0.08	0.17	2.47E-08	7.38E-10	2.89E-07	4.91E-09	6.32E+01	8.62E+01	1.94E+04	5.81E+01	40
	0.38	0.02	0.04	5.51E-09	1.65E-10	6.46E-08	1.10E-09	4.52E+01	5.03E+01	4.36E+03	1.30E+01	40
	0.57	0.00	0.00	4.53E-10	1.35E-11	5.30E-09	9.00E-11	4.04E+01	4.08E+01	3.95E+02	1.07E+00	40
3.0	0.00	0.07	0.15	2.12E-08	6.32E-10	2.45E-07	4.21E-09	5.99E+01	7.96E+01	1.79E+04	5.37E+01	40
	0.27	0.04	0.09	1.28E-08	3.84E-10	1.49E-07	2.55E-09	5.21E+01	6.40E+01	1.09E+04	3.26E+01	40
	0.54	0.01	0.02	2.86E-09	8.56E-11	3.32E-08	5.69E-10	4.27E+01	4.54E+01	2.46E+03	7.27E+00	40
	0.81	0.00	0.00	2.35E-10	7.02E-12	2.73E-09	4.67E-11	4.02E+01	4.04E+01	2.39E+02	5.97E-01	40
4.0	0.00	0.06	0.13	1.88E-08	5.80E-10	2.20E-07	3.65E-09	5.77E+01	7.63E+01	9.85E+03	2.95E+01	40
	0.34	0.04	0.08	1.14E-08	3.52E-10	1.33E-07	2.21E-09	5.07E+01	6.20E+01	5.99E+03	1.79E+01	40
	0.69	0.01	0.02	2.54E-09	7.85E-11	2.98E-08	4.94E-10	4.24E+01	4.49E+01	1.37E+03	3.99E+00	40
	1.03	0.00	0.00	2.09E-10	6.44E-12	2.44E-09	4.05E-11	4.02E+01	4.04E+01	1.49E+02	3.27E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 13:00 RELATIVE TIME: H+05:30

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRC
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRC COUNT RATE (CPM)
5.0	0.00	0.04	0.10	1.35E-08	4.18E-10	1.58E-07	2.63E-09	5.27E+01	6.62E+01	7.34E+03	2.19E+01	40
	0.41	0.03	0.06	8.21E-09	2.53E-10	9.55E-08	1.59E-09	4.77E+01	5.59E+01	4.47E+03	1.33E+01	40
	0.82	0.01	0.01	1.83E-09	5.65E-11	2.13E-08	3.56E-10	4.17E+01	4.35E+01	1.03E+03	2.97E+00	40
	1.23	0.00	0.00	1.50E-10	4.64E-12	1.75E-09	2.92E-11	4.01E+01	4.03E+01	1.21E+02	2.44E-01	40
6.0	0.00	0.03	0.07	1.04E-08	3.22E-10	1.21E-07	2.03E-09	4.98E+01	6.02E+01	5.81E+03	1.73E+01	40
	0.47	0.02	0.04	6.33E-09	1.95E-10	7.34E-08	1.23E-09	4.60E+01	5.22E+01	3.54E+03	1.05E+01	40
	0.94	0.00	0.01	1.41E-09	4.36E-11	1.64E-08	2.74E-10	4.13E+01	4.27E+01	8.21E+02	2.35E+00	40
	1.41	0.00	0.00	1.16E-10	3.58E-12	1.34E-09	2.25E-11	4.01E+01	4.02E+01	1.04E+02	1.93E-01	40
7.0	0.00	0.04	0.08	1.17E-08	3.86E-10	1.36E-07	2.21E-09	5.10E+01	6.42E+01	3.55E+03	1.05E+01	40
	0.53	0.02	0.05	7.07E-09	2.34E-10	8.23E-08	1.34E-09	4.66E+01	5.47E+01	2.17E+03	6.39E+00	40
	1.06	0.01	0.01	1.58E-09	5.23E-11	1.84E-08	2.99E-10	4.15E+01	4.33E+01	5.15E+02	1.43E+00	40
	1.58	0.00	0.00	1.29E-10	4.29E-12	1.51E-09	2.45E-11	4.01E+01	4.03E+01	7.90E+01	1.17E-01	40
8.0	0.00	0.03	0.07	9.73E-09	3.23E-10	1.13E-07	1.84E-09	4.91E+01	6.02E+01	3.01E+03	8.91E+00	40
	0.58	0.02	0.04	5.90E-09	1.96E-10	6.85E-08	1.12E-09	4.55E+01	5.23E+01	1.84E+03	5.40E+00	40
	1.16	0.00	0.01	1.32E-09	4.37E-11	1.53E-08	2.50E-10	4.12E+01	4.27E+01	4.41E+02	1.21E+00	40
	1.75	0.00	0.00	1.08E-10	3.59E-12	1.26E-09	2.05E-11	4.01E+01	4.02E+01	7.30E+01	9.89E-02	40
9.0	0.00	0.03	0.06	8.33E-09	2.76E-10	9.64E-08	1.58E-09	4.78E+01	5.73E+01	2.60E+03	7.70E+00	40
	0.63	0.02	0.04	5.05E-09	1.68E-10	5.85E-08	9.57E-10	4.47E+01	5.05E+01	1.60E+03	4.67E+00	40
	1.27	0.00	0.01	1.13E-09	3.74E-11	1.30E-08	2.14E-10	4.11E+01	4.23E+01	3.87E+02	1.04E+00	40
	1.90	0.00	0.00	9.25E-11	3.07E-12	1.07E-09	1.75E-11	4.01E+01	4.02E+01	6.85E+01	8.55E-02	40
10.0	0.00	0.04	0.07	1.02E-08	3.67E-10	1.19E-07	1.89E-09	4.96E+01	6.30E+01	1.32E+03	3.84E+00	40
	0.68	0.02	0.05	6.20E-09	2.23E-10	7.21E-08	1.14E-09	4.58E+01	5.40E+01	8.15E+02	2.33E+00	40
	1.36	0.00	0.01	1.38E-09	4.97E-11	1.61E-08	2.55E-10	4.13E+01	4.31E+01	2.13E+02	5.20E-01	40
	2.04	0.00	0.00	1.14E-10	4.08E-12	1.32E-09	2.10E-11	4.01E+01	4.03E+01	5.42E+01	4.27E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 13:15 RELATIVE TIME: H+05:45

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	13.00	NOBLE GAS (CI/SEC)	0.000E+00
DELTA-T (DEG. F/50M)	-1.50	IODINE (CI/SEC)	0.000E+00
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	0.000E+00
WIND DIRECTION (DEG./From)	203.0	TOTAL (CI/SEC)	0.000E+00
WIND TRAVEL (MI)	3.557E+01	AVERAGE GAMMA (MEV/DIS)	0.33
PLUME TRAILING EDGE (MI)	3.256E+00	AVERAGE BETA (MEV/DIS)	0.31

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRC
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRC COUNT RATE (CPM)
0.5	0.00									2.82E+05	8.47E+02	40
	0.05									1.71E+05	5.14E+02	40
	0.11									3.82E+04	1.15E+02	40
	0.16									3.17E+03	9.41E+00	40
1.0	0.00									8.95E+04	2.69E+02	40
	0.10									5.43E+04	1.63E+02	40
	0.20									1.21E+04	3.64E+01	40
	0.31									1.03E+03	2.98E+00	40
1.5	0.00									4.79E+04	1.44E+02	40
	0.15									2.90E+04	8.71E+01	40
	0.30									6.51E+03	1.94E+01	40
	0.44									5.71E+02	1.60E+00	40
2.0	0.00									3.12E+04	9.37E+01	40
	0.19									1.90E+04	5.68E+01	40
	0.38									4.26E+03	1.27E+01	40
	0.57									3.87E+02	1.04E+00	40
3.0	0.00									1.75E+04	5.25E+01	40
	0.27									1.06E+04	3.19E+01	40
	0.54									2.41E+03	7.11E+00	40
	0.81									2.34E+02	5.83E-01	40
4.0	0.00	0.04	0.09	1.33E-08	3.97E-10	1.56E-07	2.64E-09	5.25E+01	6.49E+01	9.67E+03	2.89E+01	40
	0.34	0.03	0.06	8.06E-09	2.41E-10	9.48E-08	1.60E-09	4.76E+01	5.51E+01	5.88E+03	1.75E+01	40
	0.69	0.01	0.01	1.80E-09	5.38E-11	2.12E-08	3.58E-10	4.17E+01	4.34E+01	1.34E+03	3.91E+00	40
	1.03	0.00	0.00	1.48E-10	4.42E-12	1.74E-09	2.94E-11	4.01E+01	4.03E+01	1.47E+02	3.21E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

:AL TIME: 13:15 RELATIVE TIME: H+05:45

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR.
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR. COUN RATE (CPM
5.0	0.00	0.03	0.07	9.58E-09	2.86E-10	1.12E-07	1.90E-09	4.90E+01	5.79E+01	7.20E+03	2.15E+01	40
	0.41	0.02	0.04	5.81E-09	1.74E-10	6.79E-08	1.15E-09	4.55E+01	5.09E+01	4.39E+03	1.30E+01	40
	0.82	0.00	0.01	1.30E-09	3.88E-11	1.51E-08	2.58E-10	4.12E+01	4.24E+01	1.01E+03	2.91E+00	40
	1.23	0.00	0.00	1.06E-10	3.18E-12	1.24E-09	2.11E-11	4.01E+01	4.02E+01	1.20E+02	2.39E-01	40
6.0	0.00	0.02	0.05	7.39E-09	2.21E-10	8.60E-08	1.47E-09	4.69E+01	5.38E+01	5.70E+03	1.70E+01	40
	0.47	0.01	0.03	4.48E-09	1.34E-10	5.21E-08	8.91E-10	4.42E+01	4.84E+01	3.47E+03	1.03E+01	40
	0.94	0.00	0.01	1.00E-09	2.99E-11	1.16E-08	1.99E-10	4.09E+01	4.19E+01	8.06E+02	2.30E+00	40
	1.41	0.00	0.00	8.21E-11	2.45E-12	<LLD	1.63E-11	4.01E+01	4.02E+01	1.03E+02	1.89E-01	40
7.0	0.00	0.03	0.06	8.30E-09	2.56E-10	9.71E-08	1.61E-09	4.78E+01	5.61E+01	3.49E+03	1.04E+01	40
	0.53	0.02	0.04	5.04E-09	1.56E-10	5.89E-08	9.78E-10	4.47E+01	4.97E+01	2.13E+03	6.29E+00	40
	1.06	0.00	0.01	1.12E-09	3.47E-11	1.31E-08	2.18E-10	4.11E+01	4.22E+01	5.07E+02	1.40E+00	40
	1.58	0.00	0.00	9.23E-11	2.85E-12	1.08E-09	1.79E-11	4.01E+01	4.02E+01	7.83E+01	1.15E-01	40
8.0	0.00	0.02	0.05	6.94E-09	2.14E-10	8.08E-08	1.35E-09	4.65E+01	5.34E+01	2.96E+03	8.76E+00	40
	0.58	0.01	0.03	4.21E-09	1.30E-10	4.90E-08	8.17E-10	4.40E+01	4.81E+01	1.81E+03	5.31E+00	40
	1.16	0.00	0.01	9.39E-10	2.90E-11	1.09E-08	1.82E-10	4.09E+01	4.18E+01	4.35E+02	1.19E+00	40
	1.75	0.00	0.00	7.71E-11	2.38E-12	<LLD	1.50E-11	4.01E+01	4.01E+01	7.24E+01	9.73E-02	40
9.0	0.00	0.02	0.04	5.94E-09	1.83E-10	6.90E-08	1.15E-09	4.56E+01	5.15E+01	2.56E+03	7.57E+00	40
	0.63	0.01	0.03	3.60E-09	1.11E-10	4.18E-08	6.99E-10	4.34E+01	4.70E+01	1.57E+03	4.59E+00	40
	1.27	0.00	0.01	8.03E-10	2.48E-11	9.33E-09	1.56E-10	4.08E+01	4.16E+01	3.81E+02	1.03E+00	40
	1.90	0.00	0.00	6.60E-11	2.04E-12	<LLD	1.28E-11	4.01E+01	4.01E+01	6.80E+01	8.41E-02	40
10.0	0.00	0.02	0.05	7.18E-09	2.38E-10	8.36E-08	1.36E-09	4.67E+01	5.49E+01	1.31E+03	3.81E+00	40
	0.68	0.01	0.03	4.35E-09	1.44E-10	5.07E-08	8.24E-10	4.41E+01	4.91E+01	8.10E+02	2.31E+00	40
	1.36	0.00	0.01	9.71E-10	3.22E-11	1.13E-08	1.84E-10	4.09E+01	4.20E+01	2.12E+02	5.16E-01	40
	2.04	0.00	0.00	7.97E-11	2.65E-12	<LLD	1.51E-11	4.01E+01	4.02E+01	5.41E+01	4.23E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 13:30 RELATIVE TIME: H+06:00

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	13.00	NOBLE GAS (CI/SEC)	0.000E+00
DELTA-T (DEG. F/50M)	-1.50	IODINE (CI/SEC)	0.000E+00
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	0.000E+00
WIND DIRECTION (DEG./From)	205.0	TOTAL (CI/SEC)	0.000E+00
WIND TRAVEL (MI)	3.883E+01	AVERAGE GAMMA (MEV/DIS)	0.32
PLUME TRAILING EDGE (MI)	6.513E+00	AVERAGE BETA (MEV/DIS)	0.30

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR COUN RATE (CPM
0.5	0.00									2.76E+05	8.29E+02	40
	0.05									1.67E+05	5.03E+02	40
	0.11									3.74E+04	1.12E+02	40
	0.16									3.11E+03	9.20E+00	40
1.0	0.00									8.76E+04	2.63E+02	40
	0.10									5.31E+04	1.59E+02	40
	0.20									1.19E+04	3.56E+01	40
	0.31									1.01E+03	2.92E+00	40
1.5	0.00									4.68E+04	1.41E+02	40
	0.15									2.84E+04	8.52E+01	40
	0.30									6.37E+03	1.90E+01	40
	0.44									5.60E+02	1.56E+00	40
2.0	0.00									3.06E+04	9.17E+01	40
	0.19									1.86E+04	5.56E+01	40
	0.38									4.17E+03	1.24E+01	40
	0.57									3.79E+02	1.02E+00	40
3.0	0.00									1.72E+04	5.14E+01	40
	0.27									1.04E+04	3.12E+01	40
	0.54									2.36E+03	6.96E+00	40
	0.81									2.30E+02	5.71E-01	40
4.0	0.00									9.46E+03	2.83E+01	40
	0.34									5.75E+03	1.72E+01	40
	0.69									1.31E+03	3.83E+00	40
	1.03									1.45E+02	3.14E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

:AL TIME: 13:30 RELATIVE TIME: H+06:00

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRC
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRC COUNT RATE (CPM)
5.0	0.00									7.05E+03	2.11E+01	40
	0.41									4.29E+03	1.28E+01	40
	0.82									9.89E+02	2.85E+00	40
	1.23									1.18E+02	2.34E-01	40
6.0	0.00									5.58E+03	1.66E+01	40
	0.47									3.40E+03	1.01E+01	40
	0.94									7.90E+02	2.25E+00	40
	1.41									1.02E+02	1.85E-01	40
7.0	0.00	0.02	0.04	5.87E-09	1.76E-10	6.90E-08	1.17E-09	4.55E+01	5.10E+01	3.43E+03	1.02E+01	40
	0.53	0.01	0.03	3.56E-09	1.07E-10	4.18E-08	7.08E-10	4.33E+01	4.67E+01	2.10E+03	6.18E+00	40
	1.06	0.00	0.01	7.95E-10	2.38E-11	9.34E-09	1.58E-10	4.07E+01	4.15E+01	4.99E+02	1.38E+00	40
	1.58	0.00	0.00	6.53E-11	1.95E-12	<LLD	1.30E-11	4.01E+01	4.01E+01	7.77E+01	1.13E-01	40
8.0	0.00	0.02	0.03	4.91E-09	1.47E-10	5.74E-08	9.75E-10	4.46E+01	4.92E+01	2.91E+03	8.62E+00	40
	0.58	0.01	0.02	2.98E-09	8.91E-11	3.48E-08	5.92E-10	4.28E+01	4.56E+01	1.78E+03	5.23E+00	40
	1.16	0.00	0.00	6.64E-10	1.99E-11	7.77E-09	1.32E-10	4.06E+01	4.12E+01	4.28E+02	1.17E+00	40
	1.75	0.00	0.00	5.45E-11	1.63E-12	<LLD	1.08E-11	4.01E+01	4.01E+01	7.19E+01	9.57E-02	40
9.0	0.00	0.01	0.03	4.20E-09	1.26E-10	4.90E-08	8.35E-10	4.39E+01	4.79E+01	2.52E+03	7.45E+00	40
	0.63	0.01	0.02	2.55E-09	7.62E-11	2.97E-08	5.06E-10	4.24E+01	4.48E+01	1.54E+03	4.52E+00	40
	1.27	0.00	0.00	5.68E-10	1.70E-11	6.63E-09	1.13E-10	4.05E+01	4.11E+01	3.76E+02	1.01E+00	40
	1.90	0.00	0.00	4.67E-11	1.40E-12	<LLD	9.27E-12	4.00E+01	4.01E+01	6.75E+01	8.27E-02	40
10.0	0.00	0.02	0.04	5.11E-09	1.58E-10	5.98E-08	9.93E-10	4.48E+01	4.99E+01	1.30E+03	3.77E+00	40
	0.68	0.01	0.02	3.10E-09	9.59E-11	3.63E-08	6.02E-10	4.29E+01	4.60E+01	8.02E+02	2.29E+00	40
	1.36	0.00	0.00	6.92E-10	2.14E-11	8.09E-09	1.34E-10	4.07E+01	4.13E+01	2.10E+02	5.10E-01	40
	2.04	0.00	0.00	5.68E-11	1.76E-12	<LLD	1.10E-11	4.01E+01	4.01E+01	5.39E+01	4.19E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

AL TIME: 13:45 RELATIVE TIME: H+06:15

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	15.00	NOBLE GAS (CI/SEC)	0.000E+00
DELTA-T (DEG. F/50M)	-1.50	IODINE (CI/SEC)	0.000E+00
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	0.000E+00
WIND DIRECTION (DEG./From)	205.0	TOTAL (CI/SEC)	0.000E+00
WIND TRAVEL (MI)	4.258E+01	AVERAGE GAMMA (MEV/DIS)	0.32
PLUME TRAILING EDGE (MI)	1.027E+01	AVERAGE BETA (MEV/DIS)	0.30

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
0.5	0.00									2.70E+05	8.12E+02	40
	0.05									1.64E+05	4.92E+02	40
	0.11									3.66E+04	1.10E+02	40
	0.16									3.04E+03	9.02E+00	40
1.0	0.00									8.58E+04	2.58E+02	40
	0.10									5.21E+04	1.56E+02	40
	0.20									1.16E+04	3.49E+01	40
	0.31									9.93E+02	2.86E+00	40
1.5	0.00									4.59E+04	1.38E+02	40
	0.15									2.78E+04	8.35E+01	40
	0.30									6.24E+03	1.86E+01	40
	0.44									5.49E+02	1.53E+00	40
2.0	0.00									2.99E+04	8.98E+01	40
	0.19									1.82E+04	5.45E+01	40
	0.38									4.09E+03	1.22E+01	40
	0.57									3.72E+02	9.98E-01	40
3.0	0.00									1.68E+04	5.03E+01	40
	0.27									1.02E+04	3.05E+01	40
	0.54									2.31E+03	6.81E+00	40
	0.81									2.26E+02	5.59E-01	40
4.0	0.00									9.27E+03	2.77E+01	40
	0.34									5.64E+03	1.68E+01	40
	0.69									1.29E+03	3.75E+00	40
	1.03									1.43E+02	3.08E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

.EAL TIME: 13:45 RELATIVE TIME: H+06:15

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGR
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGR COUN RATE (CPM
5.0	0.00									6.91E+03	2.06E+01	40
	0.41									4.20E+03	1.25E+01	40
	0.82									9.69E+02	2.79E+00	40
	1.23									1.16E+02	2.29E-01	40
6.0	0.00									5.47E+03	1.63E+01	40
	0.47									3.33E+03	9.88E+00	40
	0.94									7.74E+02	2.21E+00	40
	1.41									1.00E+02	1.81E-01	40
7.0	0.00									3.36E+03	9.98E+00	40
	0.53									2.06E+03	6.05E+00	40
	1.06									4.90E+02	1.35E+00	40
	1.58									7.69E+01	1.11E-01	40
8.0	0.00									2.85E+03	8.44E+00	40
	0.58									1.74E+03	5.12E+00	40
	1.16									4.20E+02	1.14E+00	40
	1.75									7.12E+01	9.37E-02	40
9.0	0.00									2.47E+03	7.29E+00	40
	0.63									1.51E+03	4.42E+00	40
	1.27									3.69E+02	9.87E-01	40
	1.90									6.70E+01	8.10E-02	40
10.0	0.00									1.27E+03	3.69E+00	40
	0.68									7.85E+02	2.24E+00	40
	1.36									2.06E+02	4.99E-01	40
	2.04									5.37E+01	4.10E-02	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

_AL TIME: 14:00 RELATIVE TIME: H+06:30

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OFFSITE RADIOLOGICAL SURVEY DATA

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METEOROLOGICAL DATA		RELEASE DATA	
WIND SPEED (MPH)	15.00	NOBLE GAS (CI/SEC)	0.000E+00
DELTA-T (DEG. F/50M)	-1.50	IODINE (CI/SEC)	0.000E+00
STABILITY CLASS (PASQUILL)	C	PARTICULATE (CI/SEC)	0.000E+00
WIND DIRECTION (DEG./From)	205.0	TOTAL (CI/SEC)	0.000E+00
WIND TRAVEL (MI)	4.634E+01	AVERAGE GAMMA (MEV/DIS)	0.31
PLUME TRAILING EDGE (MI)	1.403E+01	AVERAGE BETA (MEV/DIS)	0.29

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
0.5	0.00									2.65E+05	7.96E+02	40
	0.05									1.61E+05	4.83E+02	40
	0.11									3.59E+04	1.08E+02	40
	0.16									2.98E+03	8.84E+00	40
1.0	0.00									8.41E+04	2.53E+02	40
	0.10									5.10E+04	1.53E+02	40
	0.20									1.14E+04	3.42E+01	40
	0.31									9.74E+02	2.81E+00	40
1.5	0.00									4.50E+04	1.35E+02	40
	0.15									2.73E+04	8.19E+01	40
	0.30									6.12E+03	1.83E+01	40
	0.44									5.39E+02	1.50E+00	40
2.0	0.00									2.94E+04	8.81E+01	40
	0.19									1.78E+04	5.34E+01	40
	0.38									4.01E+03	1.19E+01	40
	0.57									3.66E+02	9.78E-01	40
3.0	0.00									1.65E+04	4.94E+01	40
	0.27									1.00E+04	2.99E+01	40
	0.54									2.26E+03	6.68E+00	40
	0.81									2.23E+02	5.48E-01	40
4.0	0.00									9.09E+03	2.72E+01	40
	0.34									5.53E+03	1.65E+01	40
	0.69									1.26E+03	3.68E+00	40
	1.03									1.41E+02	3.02E-01	40

NOTE: The average background count rate is 40

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

..AL TIME: 14:00 RELATIVE TIME: H+06:30

LOCATION		DOSE RATE		AIR CONCENTRATION				AIR SAMPLE CPM		GROUND DEPOSITION		BACKGRO
DOWN WIND DIST (MI)	DIST. OFF CENT. (MI)	CLOSED WINDOW DOSE R. (MR/HR)	OPEN WINDOW DOSE R. (MR/HR)	GROSS IODINE ACTIVITY (UCI/CC)	GROSS PART. ACTIVITY (UCI/CC)	NOBLE GAS ACTIVITY (UCI/CC)	IODINE 131 ACTIVITY (UCI/CC)	GROSS IODINE COUNT R. (CPM)	GROSS PART. COUNT R. (CPM)	GROSS DEPOSIT. COUNT R. (CPM)	NET GROUND DEPOSIT. (UCI/M2)	BACKGRO COUNT RATE (CPM)
5.0	0.00									6.77E+03	2.02E+01	40
	0.41									4.12E+03	1.23E+01	40
	0.82									9.51E+02	2.74E+00	40
	1.23									1.15E+02	2.25E-01	40
6.0	0.00									5.36E+03	1.60E+01	40
	0.47									3.27E+03	9.69E+00	40
	0.94									7.60E+02	2.16E+00	40
	1.41									9.91E+01	1.77E-01	40
7.0	0.00									3.30E+03	9.78E+00	40
	0.53									2.02E+03	5.93E+00	40
	1.06									4.81E+02	1.32E+00	40
	1.58									7.62E+01	1.09E-01	40
8.0	0.00									2.79E+03	8.27E+00	40
	0.58									1.71E+03	5.02E+00	40
	1.16									4.13E+02	1.12E+00	40
	1.75									7.06E+01	9.19E-02	40
9.0	0.00									2.42E+03	7.15E+00	40
	0.63									1.48E+03	4.34E+00	40
	1.27									3.62E+02	9.68E-01	40
	1.90									6.64E+01	7.94E-02	40
10.0	0.00									1.24E+03	3.62E+00	40
	0.68									7.70E+02	2.19E+00	40
	1.36									2.03E+02	4.89E-01	40
	2.04									5.34E+01	4.02E-02	40

NOTE: The average background count rate is 40

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

CHEMISTRY DATA and CONTROLLER INSTRUCTIONS

TXU Electric
2001-TXU-Graded Exercise
REAL TIME: 07:30

22-AUG-2001
RELATIVE TIME: H+00:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

****

NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.95E-01	0.00E+00	0.00E+00		0.00E+00
KR-85	1.19E-02	0.00E+00	0.00E+00		0.00E+00
KR-85M	4.70E-01	0.00E+00	0.00E+00		0.00E+00
KR-87	9.02E-01	0.00E+00	0.00E+00		0.00E+00
KR-88	1.28E-01	0.00E+00	0.00E+00		0.00E+00
XE-133	2.41E-01	0.00E+00	0.00E+00		0.00E+00
XE-133M	6.13E-02	0.00E+00	0.00E+00		0.00E+00
XE-135	6.60E-01	0.00E+00	0.00E+00		0.00E+00
XE-135M	6.49E-01	0.00E+00	0.00E+00		0.00E+00
XE-138	2.13E-01	0.00E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	2.25E-01	0.00E+00	0.00E+00		0.00E+00
I-132	3.42E-01	0.00E+00	0.00E+00		0.00E+00
I-133	5.03E-01	0.00E+00	0.00E+00		0.00E+00
I-134	5.90E-01	0.00E+00	0.00E+00		0.00E+00
I-135	4.57E-01	0.00E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	5.29E-05	0.00E+00	0.00E+00		0.00E+00
RU-106	8.43E-03	0.00E+00	0.00E+00		0.00E+00
TE-132	4.75E-02	0.00E+00	0.00E+00		0.00E+00
CS-134	1.05E-03	0.00E+00	0.00E+00		0.00E+00
CS-137	6.37E-02	0.00E+00	0.00E+00		0.00E+00
CS-138	3.17E-03	0.00E+00	0.00E+00		0.00E+00
LA-140	6.20E-03	0.00E+00	0.00E+00		0.00E+00
BA-140	6.10E-03	0.00E+00	0.00E+00		0.00E+00
CE-144	4.96E-03	0.00E+00	0.00E+00		0.00E+00
TOTAL N.G.	3.53E+00	0.00E+00	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.12E+00	0.00E+00	0.00E+00		IOD: 0.0%
TOTAL PART.	1.41E-01	0.00E+00	0.00E+00		PAR: 0.0%
TOTAL/SYSTEM	5.79E+00	0.00E+00	0.00E+00		

RCS I-131 EQUIVALENT = 4.22E-01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise
REAL TIME: 07:45

22-AUG-2001
RELATIVE TIME: H+00:15

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.95E-01	0.00E+00	0.00E+00		0.00E+00
KR-85	1.19E-02	0.00E+00	0.00E+00		0.00E+00
KR-85M	4.70E-01	0.00E+00	0.00E+00		0.00E+00
KR-87	9.02E-01	0.00E+00	0.00E+00		0.00E+00
KR-88	1.28E-01	0.00E+00	0.00E+00		0.00E+00
XE-133	2.41E-01	0.00E+00	0.00E+00		0.00E+00
XE-133M	6.13E-02	0.00E+00	0.00E+00		0.00E+00
XE-135	6.60E-01	0.00E+00	0.00E+00		0.00E+00
XE-135M	6.49E-01	0.00E+00	0.00E+00		0.00E+00
XE-138	2.13E-01	0.00E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	2.25E-01	0.00E+00	0.00E+00		0.00E+00
I-132	3.42E-01	0.00E+00	0.00E+00		0.00E+00
I-133	5.03E-01	0.00E+00	0.00E+00		0.00E+00
I-134	5.90E-01	0.00E+00	0.00E+00		0.00E+00
I-135	4.57E-01	0.00E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	5.29E-05	0.00E+00	0.00E+00		0.00E+00
RU-106	8.43E-03	0.00E+00	0.00E+00		0.00E+00
TE-132	4.75E-02	0.00E+00	0.00E+00		0.00E+00
CS-134	1.05E-03	0.00E+00	0.00E+00		0.00E+00
CS-137	6.37E-02	0.00E+00	0.00E+00		0.00E+00
CS-138	3.17E-03	0.00E+00	0.00E+00		0.00E+00
LA-140	6.20E-03	0.00E+00	0.00E+00		0.00E+00
BA-140	6.10E-03	0.00E+00	0.00E+00		0.00E+00
CE-144	4.96E-03	0.00E+00	0.00E+00		0.00E+00
TOTAL N.G.	3.53E+00	0.00E+00	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.12E+00	0.00E+00	0.00E+00		IOD: 0.0%
TOTAL PART.	1.41E-01	0.00E+00	0.00E+00		
TOTAL/SYSTEM	5.79E+00	0.00E+00	0.00E+00		PAR: 0.0%

RCS I-131 EQUIVALENT = 4.22E-01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise
REAL TIME: 08:00

22-AUG-2001
RELATIVE TIME: H+00:30

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.95E-01	0.00E+00	0.00E+00		0.00E+00
KR-85	1.19E-02	0.00E+00	0.00E+00		0.00E+00
KR-85M	4.70E-01	0.00E+00	0.00E+00		0.00E+00
KR-87	9.02E-01	0.00E+00	0.00E+00		0.00E+00
KR-88	1.28E-01	0.00E+00	0.00E+00		0.00E+00
XE-133	2.41E-01	0.00E+00	0.00E+00		0.00E+00
XE-133M	6.13E-02	0.00E+00	0.00E+00		0.00E+00
XE-135	6.60E-01	0.00E+00	0.00E+00		0.00E+00
XE-135M	6.49E-01	0.00E+00	0.00E+00		0.00E+00
XE-138	2.13E-01	0.00E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	2.25E-01	0.00E+00	0.00E+00		0.00E+00
I-132	3.42E-01	0.00E+00	0.00E+00		0.00E+00
I-133	5.03E-01	0.00E+00	0.00E+00		0.00E+00
I-134	5.90E-01	0.00E+00	0.00E+00		0.00E+00
I-135	4.57E-01	0.00E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	5.29E-05	0.00E+00	0.00E+00		0.00E+00
RU-106	8.43E-03	0.00E+00	0.00E+00		0.00E+00
TE-132	4.75E-02	0.00E+00	0.00E+00		0.00E+00
CS-134	1.05E-03	0.00E+00	0.00E+00		0.00E+00
CS-137	6.37E-02	0.00E+00	0.00E+00		0.00E+00
CS-138	3.17E-03	0.00E+00	0.00E+00		0.00E+00
LA-140	6.20E-03	0.00E+00	0.00E+00		0.00E+00
BA-140	6.10E-03	0.00E+00	0.00E+00		0.00E+00
CE-144	4.96E-03	0.00E+00	0.00E+00		0.00E+00
TOTAL N.G.	3.53E+00	0.00E+00	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.12E+00	0.00E+00	0.00E+00		IOD: 0.0%
TOTAL PART.	1.41E-01	0.00E+00	0.00E+00		PAR: 0.0%
TOTAL/SYSTEM	5.79E+00	0.00E+00	0.00E+00		

RCS I-131 EQUIVALENT = 4.22E-01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 08:15 RELATIVE TIME: H+00:45

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.95E-01	0.00E+00	0.00E+00		0.00E+00
KR-85	1.19E-02	0.00E+00	0.00E+00		0.00E+00
KR-85M	4.70E-01	0.00E+00	0.00E+00		0.00E+00
KR-87	9.02E-01	0.00E+00	0.00E+00		0.00E+00
KR-88	1.28E-01	0.00E+00	0.00E+00		0.00E+00
XE-133	2.41E-01	0.00E+00	0.00E+00		0.00E+00
XE-133M	6.13E-02	0.00E+00	0.00E+00		0.00E+00
XE-135	6.60E-01	0.00E+00	0.00E+00		0.00E+00
XE-135M	6.49E-01	0.00E+00	0.00E+00		0.00E+00
XE-138	2.13E-01	0.00E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	2.25E-01	0.00E+00	0.00E+00		0.00E+00
I-132	3.42E-01	0.00E+00	0.00E+00		0.00E+00
I-133	5.03E-01	0.00E+00	0.00E+00		0.00E+00
I-134	5.90E-01	0.00E+00	0.00E+00		0.00E+00
I-135	4.57E-01	0.00E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	5.29E-05	0.00E+00	0.00E+00		0.00E+00
RU-106	8.43E-03	0.00E+00	0.00E+00		0.00E+00
TE-132	4.75E-02	0.00E+00	0.00E+00		0.00E+00
CS-134	1.05E-03	0.00E+00	0.00E+00		0.00E+00
CS-137	6.37E-02	0.00E+00	0.00E+00		0.00E+00
CS-138	3.17E-03	0.00E+00	0.00E+00		0.00E+00
LA-140	6.20E-03	0.00E+00	0.00E+00		0.00E+00
BA-140	6.10E-03	0.00E+00	0.00E+00		0.00E+00
CE-144	4.96E-03	0.00E+00	0.00E+00		0.00E+00
TOTAL N.G.	3.53E+00	0.00E+00	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.12E+00	0.00E+00	0.00E+00		IOD:
TOTAL PART.	1.41E-01	0.00E+00	0.00E+00		0.0%
TOTAL/SYSTEM	5.79E+00	0.00E+00	0.00E+00		PAR: 0.0%

RCS I-131 EQUIVALENT = 4.22E-01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise

REAL TIME: 08:30

22-AUG-2001

RELATIVE TIME: H+01:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.95E-01	0.00E+00	0.00E+00		0.00E+00
KR-85	1.19E-02	0.00E+00	0.00E+00		0.00E+00
KR-85M	4.70E-01	0.00E+00	0.00E+00		0.00E+00
KR-87	9.02E-01	0.00E+00	0.00E+00		0.00E+00
KR-88	1.28E-01	0.00E+00	0.00E+00		0.00E+00
XE-133	2.41E-01	0.00E+00	0.00E+00		0.00E+00
XE-133M	6.13E-02	0.00E+00	0.00E+00		0.00E+00
XE-135	6.60E-01	0.00E+00	0.00E+00		0.00E+00
XE-135M	6.49E-01	0.00E+00	0.00E+00		0.00E+00
XE-138	2.13E-01	0.00E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	2.25E-01	0.00E+00	0.00E+00		0.00E+00
I-132	3.42E-01	0.00E+00	0.00E+00		0.00E+00
I-133	5.03E-01	0.00E+00	0.00E+00		0.00E+00
I-134	5.90E-01	0.00E+00	0.00E+00		0.00E+00
I-135	4.57E-01	0.00E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	5.29E-05	0.00E+00	0.00E+00		0.00E+00
RU-106	8.43E-03	0.00E+00	0.00E+00		0.00E+00
TE-132	4.75E-02	0.00E+00	0.00E+00		0.00E+00
CS-134	1.05E-03	0.00E+00	0.00E+00		0.00E+00
CS-137	6.37E-02	0.00E+00	0.00E+00		0.00E+00
CS-138	3.17E-03	0.00E+00	0.00E+00		0.00E+00
LA-140	6.20E-03	0.00E+00	0.00E+00		0.00E+00
BA-140	6.10E-03	0.00E+00	0.00E+00		0.00E+00
CE-144	4.96E-03	0.00E+00	0.00E+00		0.00E+00
TOTAL N.G.	3.53E+00	0.00E+00	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.12E+00	0.00E+00	0.00E+00		IOD: 0.0%
TOTAL PART.	1.41E-01	0.00E+00	0.00E+00		PAR: 0.0%
TOTAL/SYSTEM	5.79E+00	0.00E+00	0.00E+00		

RCS I-131 EQUIVALENT = 4.22E-01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 08:45 RELATIVE TIME: H+01:15

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

****

NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.95E-01	0.00E+00	0.00E+00		0.00E+00
KR-85	1.19E-02	0.00E+00	0.00E+00		0.00E+00
KR-85M	4.70E-01	0.00E+00	0.00E+00		0.00E+00
KR-87	9.02E-01	0.00E+00	0.00E+00		0.00E+00
KR-88	1.28E-01	0.00E+00	0.00E+00		0.00E+00
XE-133	2.41E-01	0.00E+00	0.00E+00		0.00E+00
XE-133M	6.13E-02	0.00E+00	0.00E+00		0.00E+00
XE-135	6.60E-01	0.00E+00	0.00E+00		0.00E+00
XE-135M	6.49E-01	0.00E+00	0.00E+00		0.00E+00
XE-138	2.13E-01	0.00E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	2.25E-01	0.00E+00	0.00E+00		0.00E+00
I-132	3.42E-01	0.00E+00	0.00E+00		0.00E+00
I-133	5.03E-01	0.00E+00	0.00E+00		0.00E+00
I-134	5.90E-01	0.00E+00	0.00E+00		0.00E+00
I-135	4.57E-01	0.00E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	5.29E-05	0.00E+00	0.00E+00		0.00E+00
RU-106	8.43E-03	0.00E+00	0.00E+00		0.00E+00
TE-132	4.75E-02	0.00E+00	0.00E+00		0.00E+00
CS-134	1.05E-03	0.00E+00	0.00E+00		0.00E+00
CS-137	6.37E-02	0.00E+00	0.00E+00		0.00E+00
CS-138	3.17E-03	0.00E+00	0.00E+00		0.00E+00
LA-140	6.20E-03	0.00E+00	0.00E+00		0.00E+00
BA-140	6.10E-03	0.00E+00	0.00E+00		0.00E+00
CE-144	4.96E-03	0.00E+00	0.00E+00		0.00E+00
TOTAL N.G.	3.53E+00	0.00E+00	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.12E+00	0.00E+00	0.00E+00		IOD: 0.0%
TOTAL PART.	1.41E-01	0.00E+00	0.00E+00		PAR: 0.0%
TOTAL/SYSTEM	5.79E+00	0.00E+00	0.00E+00		

RCS I-131 EQUIVALENT = 4.22E-01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 09:00 RELATIVE TIME: H+01:30

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

****

NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.95E-01	0.00E+00	0.00E+00		0.00E+00
KR-85	1.19E-02	0.00E+00	0.00E+00		0.00E+00
KR-85M	4.70E-01	0.00E+00	0.00E+00		0.00E+00
KR-87	9.02E-01	0.00E+00	0.00E+00		0.00E+00
KR-88	1.28E-01	0.00E+00	0.00E+00		0.00E+00
XE-133	2.41E-01	0.00E+00	0.00E+00		0.00E+00
XE-133M	6.13E-02	0.00E+00	0.00E+00		0.00E+00
XE-135	6.60E-01	0.00E+00	0.00E+00		0.00E+00
XE-135M	6.49E-01	0.00E+00	0.00E+00		0.00E+00
XE-138	2.13E-01	0.00E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	2.25E-01	0.00E+00	0.00E+00		0.00E+00
I-132	3.42E-01	0.00E+00	0.00E+00		0.00E+00
I-133	5.03E-01	0.00E+00	0.00E+00		0.00E+00
I-134	5.90E-01	0.00E+00	0.00E+00		0.00E+00
I-135	4.57E-01	0.00E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	5.29E-05	0.00E+00	0.00E+00		0.00E+00
RU-106	8.43E-03	0.00E+00	0.00E+00		0.00E+00
TE-132	4.75E-02	0.00E+00	0.00E+00		0.00E+00
CS-134	1.05E-03	0.00E+00	0.00E+00		0.00E+00
CS-137	6.37E-02	0.00E+00	0.00E+00		0.00E+00
CS-138	3.17E-03	0.00E+00	0.00E+00		0.00E+00
LA-140	6.20E-03	0.00E+00	0.00E+00		0.00E+00
BA-140	6.10E-03	0.00E+00	0.00E+00		0.00E+00
CE-144	4.96E-03	0.00E+00	0.00E+00		0.00E+00
TOTAL N.G.	3.53E+00	0.00E+00	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.12E+00	0.00E+00	0.00E+00		IOD: 0.0%
TOTAL PART.	1.41E-01	0.00E+00	0.00E+00		PAR: 0.0%
TOTAL/SYSTEM	5.79E+00	0.00E+00	0.00E+00		

RCS I-131 EQUIVALENT = 4.22E-01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 09:15 RELATIVE TIME: H+01:45

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	4.22E+00	6.45E-01	0.00E+00		0.00E+00
KR-85	2.57E-01	3.93E-02	0.00E+00		0.00E+00
KR-85M	1.02E+01	1.55E+00	0.00E+00		0.00E+00
KR-87	1.95E+01	2.98E+00	0.00E+00		0.00E+00
KR-88	2.78E+00	4.24E-01	0.00E+00		0.00E+00
XE-133	5.22E+00	7.98E-01	0.00E+00		0.00E+00
XE-133M	1.33E+00	2.03E-01	0.00E+00		0.00E+00
XE-135	1.43E+01	2.18E+00	0.00E+00		0.00E+00
XE-135M	1.40E+01	2.15E+00	0.00E+00		0.00E+00
XE-138	4.61E+00	7.03E-01	0.00E+00		0.00E+00
-----IODINES-----					
I-131	9.36E+00	8.31E-01	0.00E+00		0.00E+00
I-132	1.43E+01	1.27E+00	0.00E+00		0.00E+00
I-133	2.10E+01	1.86E+00	0.00E+00		0.00E+00
I-134	2.46E+01	2.18E+00	0.00E+00		0.00E+00
I-135	1.90E+01	1.69E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	9.89E-04	6.04E-05	0.00E+00		0.00E+00
RU-106	1.57E-01	9.62E-03	0.00E+00		0.00E+00
TE-132	8.88E-01	5.42E-02	0.00E+00		0.00E+00
CS-134	1.97E-02	1.20E-03	0.00E+00		0.00E+00
CS-137	1.19E+00	7.27E-02	0.00E+00		0.00E+00
CS-138	5.93E-02	3.62E-03	0.00E+00		0.00E+00
LA-140	1.16E-01	7.08E-03	0.00E+00		0.00E+00
BA-140	1.14E-01	6.96E-03	0.00E+00		0.00E+00
CE-144	9.26E-02	5.65E-03	0.00E+00		0.00E+00
TOTAL N.G.	7.64E+01	1.17E+01	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	8.82E+01	7.83E+00	0.00E+00		IOD: 0.0%
TOTAL PART.	2.64E+00	1.61E-01	0.00E+00		PAR: 0.0%
TOTAL/SYSTEM	1.67E+02	1.97E+01	0.00E+00		

RCS I-131 EQUIVALENT = 1.76E+01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 09:30 RELATIVE TIME: H+02:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

****

NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.42E+00	2.48E+00	0.00E+00		0.00E+00
KR-85	1.25E-01	2.19E-01	0.00E+00		0.00E+00
KR-85M	3.61E+00	6.31E+00	0.00E+00		0.00E+00
KR-87	6.29E+00	1.10E+01	0.00E+00		0.00E+00
KR-88	9.66E-01	1.69E+00	0.00E+00		0.00E+00
XE-133	2.09E+00	3.44E+00	0.00E+00		0.00E+00
XE-133M	4.94E-01	8.57E-01	0.00E+00		0.00E+00
XE-135	8.07E+00	1.37E+01	0.00E+00		0.00E+00
XE-135M	2.77E+00	4.66E+00	0.00E+00		0.00E+00
XE-138	9.40E-01	1.64E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	8.99E+00	3.52E+00	0.00E+00		0.00E+00
I-132	1.27E+01	4.98E+00	0.00E+00		0.00E+00
I-133	2.00E+01	7.83E+00	0.00E+00		0.00E+00
I-134	1.94E+01	7.60E+00	0.00E+00		0.00E+00
I-135	1.78E+01	6.99E+00	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	6.18E-02	1.06E-01	0.00E+00		0.00E+00
RU-106	2.87E-01	4.34E-02	0.00E+00		0.00E+00
TE-132	1.61E+00	2.44E-01	0.00E+00		0.00E+00
CS-134	3.58E-02	5.42E-03	0.00E+00		0.00E+00
CS-137	2.17E+00	3.28E-01	0.00E+00		0.00E+00
CS-138	8.40E-01	1.34E+00	0.00E+00		0.00E+00
LA-140	2.10E-01	3.18E-02	0.00E+00		0.00E+00
BA-140	2.07E-01	3.14E-02	0.00E+00		0.00E+00
CE-144	1.69E-01	2.55E-02	0.00E+00		0.00E+00
TOTAL N.G.	2.68E+01	4.60E+01	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	7.89E+01	3.09E+01	0.00E+00		IOD: 0.0%
TOTAL PART.	5.59E+00	2.16E+00	0.00E+00		PAR: 0.0%
TOTAL/SYSTEM	1.11E+02	7.90E+01	0.00E+00		

RCS I-131 EQUIVALENT = 1.67E+01

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 09:45 RELATIVE TIME: H+02:15

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

****

NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	9.58E-01	5.60E+00	0.00E+00		0.00E+00
KR-85	1.14E-01	6.69E-01	0.00E+00		0.00E+00
KR-85M	2.57E+00	1.50E+01	0.00E+00		0.00E+00
KR-87	4.06E+00	2.37E+01	0.00E+00		0.00E+00
KR-88	6.72E-01	3.93E+00	0.00E+00		0.00E+00
XE-133	1.65E+00	8.88E+00	0.00E+00		0.00E+00
XE-133M	3.67E-01	2.12E+00	0.00E+00		0.00E+00
XE-135	7.08E+00	3.97E+01	0.00E+00		0.00E+00
XE-135M	1.14E+00	6.11E+00	0.00E+00		0.00E+00
XE-138	3.84E-01	2.24E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	6.43E+00	1.28E+01	0.00E+00		0.00E+00
I-132	8.47E+00	1.68E+01	0.00E+00		0.00E+00
I-133	1.42E+01	2.81E+01	0.00E+00		0.00E+00
I-134	1.14E+01	2.26E+01	0.00E+00		0.00E+00
I-135	1.24E+01	2.47E+01	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	4.65E-02	3.41E-01	0.00E+00		0.00E+00
RU-106	2.58E-01	1.18E-01	0.00E+00		0.00E+00
TE-132	1.45E+00	6.62E-01	0.00E+00		0.00E+00
CS-134	3.22E-02	1.47E-02	0.00E+00		0.00E+00
CS-137	1.95E+00	8.92E-01	0.00E+00		0.00E+00
CS-138	4.22E-01	3.37E+00	0.00E+00		0.00E+00
LA-140	1.88E-01	8.62E-02	0.00E+00		0.00E+00
BA-140	1.86E-01	8.53E-02	0.00E+00		0.00E+00
CE-144	1.52E-01	6.94E-02	0.00E+00		0.00E+00
TOTAL N.G.	1.90E+01	1.08E+02	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	5.29E+01	1.05E+02	0.00E+00		IOD:
TOTAL PART.	4.68E+00	5.64E+00	0.00E+00		0.0%
TOTAL/SYSTEM	7.66E+01	2.19E+02	0.00E+00		PAR:
RCS I-131 EQUIVALENT = 1.18E+01					0.0%

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 10:00 RELATIVE TIME: H+02:30

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	8.12E-01	6.76E+00	0.00E+00		0.00E+00
KR-85	1.26E-01	1.05E+00	0.00E+00		0.00E+00
KR-85M	2.30E+00	1.91E+01	0.00E+00		0.00E+00
KR-87	3.29E+00	2.74E+01	0.00E+00		0.00E+00
KR-88	5.88E-01	4.89E+00	0.00E+00		0.00E+00
XE-133	1.60E+00	1.22E+01	0.00E+00		0.00E+00
XE-133M	3.43E-01	2.81E+00	0.00E+00		0.00E+00
XE-135	7.12E+00	5.64E+01	0.00E+00		0.00E+00
XE-135M	5.94E-01	4.39E+00	0.00E+00		0.00E+00
XE-138	1.97E-01	1.64E+00	0.00E+00		0.00E+00
-----IODINES-----					
I-131	3.96E+00	1.67E+01	0.00E+00		0.00E+00
I-132	4.85E+00	2.04E+01	0.00E+00		0.00E+00
I-133	8.68E+00	3.66E+01	0.00E+00		0.00E+00
I-134	5.76E+00	2.43E+01	0.00E+00		0.00E+00
I-135	7.47E+00	3.15E+01	0.00E+00		0.00E+00
-----PARTICULATES-----					
RB-88	5.13E-02	5.01E-01	0.00E+00		0.00E+00
RU-106	3.69E-01	1.27E-01	0.00E+00		0.00E+00
TE-132	2.07E+00	7.10E-01	0.00E+00		0.00E+00
CS-134	4.60E-02	1.58E-02	0.00E+00		0.00E+00
CS-137	2.79E+00	9.58E-01	0.00E+00		0.00E+00
CS-138	3.80E-01	3.82E+00	0.00E+00		0.00E+00
LA-140	2.68E-01	9.22E-02	0.00E+00		0.00E+00
BA-140	2.67E-01	9.16E-02	0.00E+00		0.00E+00
CE-144	2.17E-01	7.45E-02	0.00E+00		0.00E+00
TOTAL N.G.	1.70E+01	1.37E+02	0.00E+00		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	3.07E+01	1.29E+02	0.00E+00		IOD: 0.0%
TOTAL PART.	6.45E+00	6.39E+00	0.00E+00		PAR: 0.0%
TOTAL/SYSTEM	5.41E+01	2.72E+02	0.00E+00		

RCS I-131 EQUIVALENT = 7.21E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 10:20 RELATIVE TIME: H+02:50

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	7.15E-01	3.08E+00	4.51E-02		0.00E+00
KR-85	1.39E-01	6.01E-01	8.80E-03		0.00E+00
KR-85M	2.13E+00	9.18E+00	1.34E-01		0.00E+00
KR-87	2.77E+00	1.19E+01	1.75E-01		0.00E+00
KR-88	5.34E-01	2.30E+00	3.37E-02		0.00E+00
XE-133	1.61E+00	6.23E+00	8.93E-02		0.00E+00
XE-133M	3.32E-01	1.41E+00	2.06E-02		0.00E+00
XE-135	7.15E+00	2.90E+01	4.22E-01		0.00E+00
XE-135M	3.47E-01	1.24E+00	1.65E-02		0.00E+00
XE-138	1.05E-01	4.52E-01	6.63E-03		0.00E+00
-----IODINES-----					
I-131	3.82E+00	8.34E+00	1.22E-02		0.00E+00
I-132	4.35E+00	9.45E+00	1.38E-02		0.00E+00
I-133	8.30E+00	1.81E+01	2.65E-02		0.00E+00
I-134	4.56E+00	9.96E+00	1.46E-02		0.00E+00
I-135	7.02E+00	1.53E+01	2.24E-02		0.00E+00
-----PARTICULATES-----					
RB-88	6.11E-02	2.84E-01	2.17E-03		0.00E+00
RU-106	3.56E-01	6.34E-02	2.19E-05		0.00E+00
TE-132	1.99E+00	3.54E-01	1.23E-04		0.00E+00
CS-134	4.44E-02	7.91E-03	2.74E-06		0.00E+00
CS-137	2.69E+00	4.79E-01	1.66E-04		0.00E+00
CS-138	3.50E-01	1.75E+00	5.86E-03		0.00E+00
LA-140	2.58E-01	4.60E-02	1.59E-05		0.00E+00
BA-140	2.57E-01	4.58E-02	1.59E-05		0.00E+00
CE-144	2.09E-01	3.73E-02	1.29E-05		0.00E+00
TOTAL N.G.	1.58E+01	6.55E+01	9.52E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.81E+01	6.12E+01	8.96E-02		IOD:
TOTAL PART.	6.22E+00	3.07E+00	8.38E-03		0.0%
TOTAL/SYSTEM	5.01E+01	1.30E+02	1.05E+00		PAR:
RCS I-131 EQUIVALENT = 6.89E+00					0.0%

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise
REAL TIME: 10:30

22-AUG-2001
RELATIVE TIME: H+03:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	6.30E-01	1.40E+00	4.06E-02		4.51E-02
KR-85	1.52E-01	3.38E-01	9.78E-03		1.08E-02
KR-85M	1.98E+00	4.41E+00	1.28E-01		1.42E-01
KR-87	2.34E+00	5.21E+00	1.51E-01		1.67E-01
KR-88	4.86E-01	1.08E+00	3.13E-02		3.48E-02
XE-133	1.63E+00	3.19E+00	8.93E-02		9.91E-02
XE-133M	3.22E-01	7.04E-01	2.03E-02		2.25E-02
XE-135	7.07E+00	1.47E+01	4.19E-01		4.65E-01
XE-135M	2.23E-01	3.73E-01	8.82E-03		9.79E-03
XE-138	5.61E-02	1.25E-01	3.62E-03		4.01E-03
-----IODINES-----					
I-131	3.69E+00	4.17E+00	1.21E-02		1.43E-01
I-132	3.91E+00	4.39E+00	1.27E-02		1.51E-01
I-133	7.97E+00	8.99E+00	2.60E-02		3.09E-01
I-134	3.62E+00	4.09E+00	1.18E-02		1.40E-01
I-135	6.62E+00	7.47E+00	2.16E-02		2.57E-01
-----PARTICULATES-----					
RB-88	6.34E-02	1.47E-01	2.57E-03		3.30E-01
RU-106	3.44E-01	3.18E-02	1.10E-05		1.41E-03
TE-132	1.92E+00	1.77E-01	6.12E-05		7.84E-03
CS-134	4.30E-02	3.96E-03	1.37E-06		1.75E-04
CS-137	2.60E+00	2.40E-01	8.30E-05		1.06E-02
CS-138	2.91E-01	7.36E-01	5.05E-03		6.47E-01
LA-140	2.49E-01	2.29E-02	7.93E-06		1.02E-03
BA-140	2.48E-01	2.29E-02	7.92E-06		1.01E-03
CE-144	2.02E-01	1.87E-02	6.45E-06		8.26E-04
TOTAL N.G.	1.49E+01	3.15E+01	9.01E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.58E+01	2.91E+01	8.42E-02		IOD: 91.5%
TOTAL PART.	5.96E+00	1.40E+00	7.81E-03		PAR: 8.5%
TOTAL/SYSTEM	4.66E+01	6.20E+01	9.93E-01		

RCS I-131 EQUIVALENT = 6.60E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 10:45 RELATIVE TIME: H+03:15

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	5.57E-01	6.40E-01	3.06E-02		4.26E-02
KR-85	1.63E-01	1.87E-01	8.94E-03		1.25E-02
KR-85M	1.85E+00	2.12E+00	1.01E-01		1.41E-01
KR-87	1.98E+00	2.27E+00	1.09E-01		1.51E-01
KR-88	4.43E-01	5.10E-01	2.44E-02		3.40E-02
XE-133	1.64E+00	1.63E+00	7.49E-02		1.04E-01
XE-133M	3.13E-01	3.52E-01	1.67E-02		2.33E-02
XE-135	6.95E+00	7.37E+00	3.46E-01		4.82E-01
XE-135M	1.59E-01	1.24E-01	4.16E-03		5.80E-03
XE-138	3.00E-02	3.45E-02	1.65E-03		2.30E-03
-----IODINES-----					
I-131	3.58E+00	2.08E+00	9.97E-03		1.50E-01
I-132	3.52E+00	2.04E+00	9.74E-03		1.47E-01
I-133	7.66E+00	4.46E+00	2.14E-02		3.21E-01
I-134	2.88E+00	1.68E+00	8.02E-03		1.21E-01
I-135	6.25E+00	3.64E+00	1.74E-02		2.62E-01
-----PARTICULATES-----					
RB-88	6.20E-02	7.31E-02	2.25E-03		4.08E-01
RU-106	3.34E-01	1.59E-02	5.49E-06		9.97E-04
TE-132	1.86E+00	8.86E-02	3.05E-05		5.55E-03
CS-134	4.16E-02	1.99E-03	6.85E-07		1.24E-04
CS-137	2.52E+00	1.20E-01	4.15E-05		7.53E-03
CS-138	2.28E-01	2.95E-01	3.17E-03		5.75E-01
LA-140	2.40E-01	1.15E-02	3.95E-06		7.17E-04
BA-140	2.41E-01	1.15E-02	3.96E-06		7.19E-04
CE-144	1.96E-01	9.36E-03	3.23E-06		5.86E-04
TOTAL N.G.	1.41E+01	1.52E+01	7.17E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.39E+01	1.39E+01	6.65E-02		IOD: 92.4%
TOTAL PART.	5.72E+00	6.28E-01	5.51E-03		PAR: 7.6%
TOTAL/SYSTEM	4.37E+01	2.98E+01	7.89E-01		

RCS I-131 EQUIVALENT = 6.35E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise
REAL TIME: 11:00

22-AUG-2001
RELATIVE TIME: H+03:30

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	4.93E-01	2.92E-01	1.94E-02		4.03E-02
KR-85	1.72E-01	1.02E-01	6.78E-03		1.41E-02
KR-85M	1.72E+00	1.02E+00	6.77E-02		1.41E-01
KR-87	1.67E+00	9.93E-01	6.58E-02		1.37E-01
KR-88	4.05E-01	2.40E-01	1.59E-02		3.31E-02
XE-133	1.65E+00	8.33E-01	5.27E-02		1.09E-01
XE-133M	3.05E-01	1.76E-01	1.16E-02		2.41E-02
XE-135	6.81E+00	3.68E+00	2.39E-01		4.96E-01
XE-135M	1.26E-01	4.56E-02	1.73E-03		3.60E-03
XE-138	1.61E-02	9.54E-03	6.32E-04		1.32E-03
-----IODINES-----					
I-131	3.47E+00	1.04E+00	6.92E-03		1.56E-01
I-132	3.17E+00	9.46E-01	6.28E-03		1.42E-01
I-133	7.38E+00	2.22E+00	1.47E-02		3.32E-01
I-134	2.29E+00	6.89E-01	4.57E-03		1.03E-01
I-135	5.91E+00	1.78E+00	1.18E-02		2.66E-01
-----PARTICULATES-----					
RB-88	5.90E-02	3.56E-02	1.63E-03		4.88E-01
RU-106	3.24E-01	8.02E-03	2.74E-06		8.24E-04
TE-132	1.80E+00	4.45E-02	1.52E-05		4.57E-03
CS-134	4.04E-02	1.00E-03	3.42E-07		1.03E-04
CS-137	2.45E+00	6.06E-02	2.07E-05		6.23E-03
CS-138	1.74E-01	1.15E-01	1.66E-03		4.98E-01
LA-140	2.32E-01	5.75E-03	1.97E-06		5.91E-04
BA-140	2.34E-01	5.78E-03	1.98E-06		5.94E-04
CE-144	1.91E-01	4.72E-03	1.61E-06		4.84E-04
TOTAL N.G.	1.34E+01	7.40E+00	4.81E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.22E+01	6.67E+00	4.43E-02		IOD: 93.0%
TOTAL PART.	5.50E+00	2.81E-01	3.33E-03		PAR: 7.0%
TOTAL/SYSTEM	4.11E+01	1.43E+01	5.28E-01		

RCS I-131 EQUIVALENT = 6.12E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 11:15 RELATIVE TIME: H+03:45

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	4.37E-01	1.34E-01	1.30E-02		3.78E-02
KR-85	1.82E-01	5.54E-02	5.40E-03		1.57E-02
KR-85M	1.61E+00	4.93E-01	4.80E-02		1.40E-01
KR-87	1.42E+00	4.34E-01	4.23E-02		1.23E-01
KR-88	3.71E-01	1.13E-01	1.10E-02		3.21E-02
XE-133	1.66E+00	4.27E-01	3.95E-02		1.15E-01
XE-133M	2.98E-01	8.84E-02	8.55E-03		2.49E-02
XE-135	6.67E+00	1.84E+00	1.75E-01		5.09E-01
XE-135M	1.07E-01	1.85E-02	8.70E-04		2.53E-03
XE-138	8.65E-03	2.64E-03	2.57E-04		7.49E-04
-----IODINES-----					
I-131	3.38E+00	5.22E-01	5.11E-03		1.62E-01
I-132	2.87E+00	4.40E-01	4.31E-03		1.37E-01
I-133	7.12E+00	1.10E+00	1.08E-02		3.43E-01
I-134	1.83E+00	2.83E-01	2.77E-03		8.81E-02
I-135	5.61E+00	8.67E-01	8.49E-03		2.70E-01
-----PARTICULATES-----					
RB-88	5.53E-02	1.72E-02	1.15E-03		5.80E-01
RU-106	3.16E-01	4.07E-03	1.37E-06		6.93E-04
TE-132	1.75E+00	2.26E-02	7.60E-06		3.84E-03
CS-134	3.94E-02	5.08E-04	1.71E-07		8.65E-05
CS-137	2.39E+00	3.08E-02	1.04E-05		5.24E-03
CS-138	1.29E-01	4.46E-02	8.09E-04		4.09E-01
LA-140	2.25E-01	2.91E-03	9.80E-07		4.95E-04
BA-140	2.27E-01	2.94E-03	9.89E-07		5.00E-04
CE-144	1.86E-01	2.39E-03	8.06E-07		4.08E-04
TOTAL N.G.	1.28E+01	3.61E+00	3.44E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	2.08E+01	3.21E+00	3.15E-02		IOD: 94.1%
TOTAL PART.	5.31E+00	1.28E-01	1.98E-03		PAR: 5.9%
TOTAL/SYSTEM	3.89E+01	6.95E+00	3.77E-01		

RCS I-131 EQUIVALENT = 5.91E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 11:30 RELATIVE TIME: H+04:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	3.89E-01	6.13E-02	8.95E-03		3.55E-02
KR-85	1.90E-01	2.99E-02	4.37E-03		1.73E-02
KR-85M	1.51E+00	2.38E-01	3.48E-02		1.38E-01
KR-87	1.21E+00	1.91E-01	2.79E-02		1.10E-01
KR-88	3.41E-01	5.37E-02	7.84E-03		3.11E-02
XE-133	1.68E+00	2.19E-01	3.04E-02		1.20E-01
XE-133M	2.91E-01	4.45E-02	6.45E-03		2.55E-02
XE-135	6.54E+00	9.21E-01	1.31E-01		5.20E-01
XE-135M	9.54E-02	8.11E-03	5.03E-04		1.99E-03
XE-138	4.66E-03	7.34E-04	1.07E-04		4.25E-04
-----IODINES-----					
I-131	3.29E+00	2.62E-01	3.86E-03		1.68E-01
I-132	2.60E+00	2.05E-01	3.02E-03		1.32E-01
I-133	6.89E+00	5.50E-01	8.09E-03		3.52E-01
I-134	1.47E+00	1.17E-01	1.72E-03		7.50E-02
I-135	5.33E+00	4.25E-01	6.25E-03		2.72E-01
-----PARTICULATES-----					
RB-88	5.14E-02	8.32E-03	8.12E-04		6.75E-01
RU-106	3.08E-01	2.11E-03	6.86E-07		5.70E-04
TE-132	1.70E+00	1.17E-02	3.79E-06		3.15E-03
CS-134	3.84E-02	2.63E-04	8.56E-08		7.11E-05
CS-137	2.33E+00	1.60E-02	5.18E-06		4.31E-03
CS-138	9.52E-02	1.73E-02	3.80E-04		3.16E-01
LA-140	2.19E-01	1.50E-03	4.88E-07		4.06E-04
BA-140	2.22E-01	1.52E-03	4.94E-07		4.11E-04
CE-144	1.81E-01	1.24E-03	4.03E-07		3.35E-04
TOTAL N.G.	1.22E+01	1.77E+00	2.52E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.96E+01	1.56E+00	2.30E-02		IOD: 95.0%
TOTAL PART.	5.15E+00	5.99E-02	1.20E-03		PAR: 5.0%
TOTAL/SYSTEM	3.70E+01	3.39E+00	2.77E-01		

RCS I-131 EQUIVALENT = 5.72E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 11:45 RELATIVE TIME: H+04:15

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	3.47E-01	2.83E-02	6.15E-03		3.31E-02
KR-85	1.98E-01	1.61E-02	3.51E-03		1.89E-02
KR-85M	1.42E+00	1.16E-01	2.52E-02		1.36E-01
KR-87	1.03E+00	8.42E-02	1.83E-02		9.87E-02
KR-88	3.13E-01	2.56E-02	5.56E-03		3.00E-02
XE-133	1.69E+00	1.13E-01	2.33E-02		1.26E-01
XE-133M	2.86E-01	2.25E-02	4.86E-03		2.62E-02
XE-135	6.41E+00	4.64E-01	9.82E-02		5.29E-01
XE-135M	8.78E-02	3.75E-03	3.17E-04		1.71E-03
XE-138	2.52E-03	2.05E-04	4.46E-05		2.41E-04
-----IODINES-----					
I-131	3.22E+00	1.33E-01	2.92E-03		1.74E-01
I-132	2.37E+00	9.64E-02	2.12E-03		1.26E-01
I-133	6.69E+00	2.76E-01	6.06E-03		3.62E-01
I-134	1.18E+00	4.85E-02	1.07E-03		6.36E-02
I-135	5.08E+00	2.09E-01	4.60E-03		2.75E-01
-----PARTICULATES-----					
RB-88	4.76E-02	4.10E-03	5.75E-04		7.62E-01
RU-106	3.01E-01	1.14E-03	3.43E-07		4.54E-04
TE-132	1.66E+00	6.27E-03	1.89E-06		2.51E-03
CS-134	3.76E-02	1.42E-04	4.28E-08		5.67E-05
CS-137	2.28E+00	8.59E-03	2.59E-06		3.44E-03
CS-138	6.95E-02	6.91E-03	1.74E-04		2.30E-01
LA-140	2.13E-01	8.06E-04	2.43E-07		3.22E-04
BA-140	2.17E-01	8.18E-04	2.47E-07		3.27E-04
CE-144	1.77E-01	6.68E-04	2.02E-07		2.67E-04
TOTAL N.G.	1.18E+01	8.73E-01	1.85E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.85E+01	7.62E-01	1.68E-02		IOD: 95.7%
TOTAL PART.	5.00E+00	2.94E-02	7.54E-04		PAR: 4.3%
TOTAL/SYSTEM	3.53E+01	1.67E+00	2.03E-01		

RCS I-131 EQUIVALENT = 5.56E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 12:00 RELATIVE TIME: H+04:30

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	3.10E-01	1.32E-02	4.25E-03		3.09E-02
KR-85	2.05E-01	8.75E-03	2.81E-03		2.05E-02
KR-85M	1.34E+00	5.72E-02	1.84E-02		1.34E-01
KR-87	8.83E-01	3.76E-02	1.21E-02		8.81E-02
KR-88	2.89E-01	1.23E-02	3.96E-03		2.89E-02
XE-133	1.71E+00	5.90E-02	1.80E-02		1.31E-01
XE-133M	2.81E-01	1.15E-02	3.68E-03		2.68E-02
XE-135	6.30E+00	2.36E-01	7.39E-02		5.38E-01
XE-135M	8.24E-02	1.81E-03	2.14E-04		1.56E-03
XE-138	1.36E-03	5.81E-05	1.87E-05		1.36E-04
-----IODINES-----					
I-131	3.15E+00	6.78E-02	2.21E-03		1.79E-01
I-132	2.15E+00	4.57E-02	1.49E-03		1.21E-01
I-133	6.50E+00	1.40E-01	4.57E-03		3.70E-01
I-134	9.46E-01	2.03E-02	6.65E-04		5.38E-02
I-135	4.85E+00	1.04E-01	3.41E-03		2.76E-01
-----PARTICULATES-----					
RB-88	4.41E-02	2.09E-03	4.09E-04		8.35E-01
RU-106	2.95E-01	6.55E-04	1.71E-07		3.50E-04
TE-132	1.62E+00	3.60E-03	9.44E-07		1.93E-03
CS-134	3.68E-02	8.17E-05	2.14E-08		4.37E-05
CS-137	2.23E+00	4.95E-03	1.30E-06		2.65E-03
CS-138	5.04E-02	2.93E-03	7.80E-05		1.59E-01
LA-140	2.08E-01	4.63E-04	1.21E-07		2.47E-04
BA-140	2.12E-01	4.71E-04	1.23E-07		2.52E-04
CE-144	1.74E-01	3.85E-04	1.01E-07		2.06E-04
TOTAL N.G.	1.14E+01	4.38E-01	1.37E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.76E+01	3.78E-01	1.23E-02		IOD: 96.2%
TOTAL PART.	4.88E+00	1.56E-02	4.90E-04		PAR: 3.8%
TOTAL/SYSTEM	3.39E+01	8.31E-01	1.50E-01		

RCS I-131 EQUIVALENT = 5.41E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 12:15 RELATIVE TIME: H+04:45

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	2.77E-01	6.32E-03	2.97E-03		2.88E-02
KR-85	2.12E-01	4.83E-03	2.27E-03		2.20E-02
KR-85M	1.27E+00	2.88E-02	1.36E-02		1.31E-01
KR-87	7.56E-01	1.72E-02	8.10E-03		7.85E-02
KR-88	2.67E-01	6.09E-03	2.86E-03		2.77E-02
XE-133	1.73E+00	3.15E-02	1.41E-02		1.37E-01
XE-133M	2.76E-01	6.05E-03	2.82E-03		2.74E-02
XE-135	6.20E+00	1.23E-01	5.64E-02		5.46E-01
XE-135M	7.81E-02	9.04E-04	1.53E-04		1.49E-03
XE-138	7.39E-04	1.68E-05	7.91E-06		7.67E-05
-----IODINES-----					
I-131	3.09E+00	3.53E-02	1.70E-03		1.84E-01
I-132	1.97E+00	2.22E-02	1.07E-03		1.16E-01
I-133	6.33E+00	7.24E-02	3.48E-03		3.78E-01
I-134	7.62E-01	8.71E-03	4.19E-04		4.55E-02
I-135	4.64E+00	5.30E-02	2.55E-03		2.77E-01
-----PARTICULATES-----					
RB-88	4.09E-02	1.13E-03	2.94E-04		8.91E-01
RU-106	2.90E-01	4.20E-04	8.57E-08		2.60E-04
TE-132	1.59E+00	2.31E-03	4.71E-07		1.43E-03
CS-134	3.62E-02	5.25E-05	1.07E-08		3.24E-05
CS-137	2.19E+00	3.18E-03	6.48E-07		1.97E-03
CS-138	3.64E-02	1.38E-03	3.47E-05		1.05E-01
LA-140	2.04E-01	2.96E-04	6.03E-08		1.83E-04
BA-140	2.09E-01	3.02E-04	6.16E-08		1.87E-04
CE-144	1.70E-01	2.47E-04	5.04E-08		1.53E-04
TOTAL N.G.	1.11E+01	2.25E-01	1.03E-01		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.68E+01	1.92E-01	9.22E-03		IOD: 96.5%
TOTAL PART.	4.77E+00	9.31E-03	3.30E-04		PAR: 3.5%
TOTAL/SYSTEM	3.26E+01	4.26E-01	1.13E-01		

RCS I-131 EQUIVALENT = 5.28E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 12:30 RELATIVE TIME: H+05:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	2.51E-01	3.00E-03	2.06E-03		2.68E-02
KR-85	2.21E-01	2.64E-03	1.81E-03		2.36E-02
KR-85M	1.21E+00	1.44E-02	9.90E-03		1.29E-01
KR-87	6.55E-01	7.82E-03	5.36E-03		6.98E-02
KR-88	2.50E-01	2.98E-03	2.04E-03		2.66E-02
XE-133	1.77E+00	1.67E-02	1.09E-02		1.42E-01
XE-133M	2.75E-01	3.15E-03	2.14E-03		2.79E-02
XE-135	6.16E+00	6.35E-02	4.25E-02		5.53E-01
XE-135M	7.52E-02	4.52E-04	1.10E-04		1.43E-03
XE-138	4.05E-04	4.84E-06	3.32E-06		4.32E-05
-----IODINES-----					
I-131	3.07E+00	1.83E-02	1.29E-03		1.89E-01
I-132	1.82E+00	1.07E-02	7.54E-04		1.10E-01
I-133	6.24E+00	3.72E-02	2.63E-03		3.85E-01
I-134	6.21E-01	3.70E-03	2.62E-04		3.83E-02
I-135	4.49E+00	2.68E-02	1.89E-03		2.77E-01
-----PARTICULATES-----					
RB-88	3.83E-02	5.65E-04	2.10E-04		9.30E-01
RU-106	2.88E-01	2.53E-04	4.29E-08		1.90E-04
TE-132	1.58E+00	1.39E-03	2.35E-07		1.04E-03
CS-134	3.59E-02	3.16E-05	5.35E-09		2.37E-05
CS-137	2.18E+00	1.91E-03	3.24E-07		1.43E-03
CS-138	2.65E-02	6.04E-04	1.52E-05		6.74E-02
LA-140	2.02E-01	1.77E-04	3.01E-08		1.33E-04
BA-140	2.07E-01	1.82E-04	3.08E-08		1.36E-04
CE-144	1.69E-01	1.49E-04	2.52E-08		1.11E-04
TOTAL N.G.	1.09E+01	1.15E-01	7.68E-02		RATIO OF IOD./PAR. RELEASE: IOD: 96.8%
TOTAL IOD.	1.62E+01	9.66E-02	6.84E-03		
TOTAL PART.	4.72E+00	5.26E-03	2.26E-04		
TOTAL/SYSTEM	3.18E+01	2.17E-01	8.39E-02		PAR: 3.2%

RCS I-131 EQUIVALENT = 5.21E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 12:45 RELATIVE TIME: H+05:15

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	2.27E-01	1.49E-03	1.45E-03		2.49E-02
KR-85	2.29E-01	1.51E-03	1.46E-03		2.51E-02
KR-85M	1.15E+00	7.58E-03	7.37E-03		1.27E-01
KR-87	5.68E-01	3.73E-03	3.62E-03		6.22E-02
KR-88	2.33E-01	1.53E-03	1.49E-03		2.56E-02
XE-133	1.80E+00	9.28E-03	8.56E-03		1.47E-01
XE-133M	2.74E-01	1.72E-03	1.66E-03		2.85E-02
XE-135	6.12E+00	3.44E-02	3.26E-02		5.59E-01
XE-135M	7.25E-02	2.38E-04	7.21E-05		1.24E-03
XE-138	2.22E-04	1.46E-06	1.42E-06		2.44E-05
-----IODINES-----					
I-131	3.05E+00	9.89E-03	1.00E-03		1.94E-01
I-132	1.68E+00	5.35E-03	5.42E-04		1.05E-01
I-133	6.14E+00	2.00E-02	2.02E-03		3.92E-01
I-134	5.06E-01	1.64E-03	1.67E-04		3.23E-02
I-135	4.34E+00	1.41E-02	1.43E-03		2.77E-01
-----PARTICULATES-----					
RB-88	3.58E-02	3.18E-04	1.52E-04		9.56E-01
RU-106	2.86E-01	1.79E-04	2.14E-08		1.35E-04
TE-132	1.56E+00	9.79E-04	1.17E-07		7.36E-04
CS-134	3.57E-02	2.24E-05	2.67E-09		1.68E-05
CS-137	2.16E+00	1.35E-03	1.62E-07		1.02E-03
CS-138	1.93E-02	3.10E-04	6.67E-06		4.19E-02
LA-140	2.00E-01	1.25E-04	1.50E-08		9.41E-05
BA-140	2.06E-01	1.29E-04	1.54E-08		9.67E-05
CE-144	1.68E-01	1.05E-04	1.26E-08		7.92E-05
TOTAL N.G.	1.07E+01	6.15E-02	5.83E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.57E+01	5.09E-02	5.17E-03		IOD: 97.0%
TOTAL PART.	4.68E+00	3.52E-03	1.59E-04		PAR: 3.0%
TOTAL/SYSTEM	3.11E+01	1.16E-01	6.36E-02		

RCS I-131 EQUIVALENT = 5.14E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 13:00 RELATIVE TIME: H+05:30

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	2.06E-01	8.59E-04	1.06E-03		2.33E-02
KR-85	2.37E-01	9.89E-04	1.22E-03		2.68E-02
KR-85M	1.10E+00	4.60E-03	5.68E-03		1.25E-01
KR-87	4.92E-01	2.05E-03	2.53E-03		5.56E-02
KR-88	2.18E-01	9.09E-04	1.12E-03		2.46E-02
XE-133	1.84E+00	5.95E-03	6.88E-03		1.51E-01
XE-133M	2.73E-01	1.09E-03	1.32E-03		2.91E-02
XE-135	6.08E+00	2.16E-02	2.57E-02		5.64E-01
XE-135M	7.01E-02	1.44E-04	4.23E-05		9.29E-04
XE-138	1.22E-04	5.08E-07	6.27E-07		1.38E-05
-----IODINES-----					
I-131	3.02E+00	6.09E-03	7.99E-04		1.99E-01
I-132	1.55E+00	3.06E-03	4.01E-04		9.98E-02
I-133	6.05E+00	1.22E-02	1.60E-03		3.98E-01
I-134	4.13E-01	8.31E-04	1.09E-04		2.71E-02
I-135	4.20E+00	8.46E-03	1.11E-03		2.76E-01
-----PARTICULATES-----					
RB-88	3.35E-02	2.29E-04	1.17E-04		9.72E-01
RU-106	2.84E-01	1.87E-04	1.17E-08		9.73E-05
TE-132	1.55E+00	1.02E-03	6.37E-08		5.31E-04
CS-134	3.55E-02	2.34E-05	1.46E-09		1.21E-05
CS-137	2.15E+00	1.42E-03	8.83E-08		7.36E-04
CS-138	1.39E-02	2.18E-04	3.14E-06		2.62E-02
LA-140	1.98E-01	1.30E-04	8.12E-09		6.77E-05
BA-140	2.04E-01	1.35E-04	8.38E-09		6.99E-05
CE-144	1.67E-01	1.10E-04	6.86E-09		5.72E-05
TOTAL N.G.	1.05E+01	3.81E-02	4.55E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.52E+01	3.06E-02	4.02E-03		IOD: 97.1%
TOTAL PART.	4.64E+00	3.47E-03	1.20E-04		PAR: 2.9%
TOTAL/SYSTEM	3.04E+01	7.22E-02	4.97E-02		

RCS I-131 EQUIVALENT = 5.08E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 13:15 RELATIVE TIME: H+05:45

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.87E-01	5.38E-03	9.66E-04		2.17E-02
KR-85	2.45E-01	7.06E-03	1.27E-03		2.85E-02
KR-85M	1.05E+00	3.04E-02	5.46E-03		1.23E-01
KR-87	4.26E-01	1.23E-02	2.21E-03		4.97E-02
KR-88	2.04E-01	5.88E-03	1.06E-03		2.38E-02
XE-133	1.87E+00	4.63E-02	6.89E-03		1.55E-01
XE-133M	2.72E-01	7.60E-03	1.32E-03		2.97E-02
XE-135	6.04E+00	1.57E-01	2.52E-02		5.68E-01
XE-135M	6.78E-02	1.14E-03	3.01E-05		6.77E-04
XE-138	6.69E-05	1.93E-06	3.46E-07		7.80E-06
-----IODINES-----					
I-131	3.00E+00	3.98E-02	7.98E-04		2.03E-01
I-132	1.43E+00	1.88E-02	3.72E-04		9.47E-02
I-133	5.97E+00	7.91E-02	1.59E-03		4.04E-01
I-134	3.36E-01	4.46E-03	8.95E-05		2.28E-02
I-135	4.07E+00	5.40E-02	1.08E-03		2.75E-01
-----PARTICULATES-----					
RB-88	3.13E-02	1.13E-03	9.49E-05		9.86E-01
RU-106	2.82E-01	2.00E-03	5.12E-09		5.32E-05
TE-132	1.54E+00	1.09E-02	2.79E-08		2.90E-04
CS-134	3.53E-02	2.49E-04	6.39E-10		6.64E-06
CS-137	2.14E+00	1.51E-02	3.87E-08		4.02E-04
CS-138	1.01E-02	8.98E-04	1.28E-06		1.33E-02
LA-140	1.96E-01	1.39E-03	3.55E-09		3.69E-05
BA-140	2.03E-01	1.43E-03	3.68E-09		3.82E-05
CE-144	1.66E-01	1.17E-03	3.01E-09		3.13E-05
TOTAL N.G.	1.04E+01	2.74E-01	4.44E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.48E+01	1.96E-01	3.93E-03		IOD:
TOTAL PART.	4.60E+00	3.43E-02	9.62E-05		0.0%
TOTAL/SYSTEM	2.98E+01	5.04E-01	4.85E-02		PAR:
					0.0%

RCS I-131 EQUIVALENT = 5.01E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 13:30 RELATIVE TIME: H+06:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.69E-01	8.89E-03	8.80E-04		2.03E-02
KR-85	2.52E-01	1.32E-02	1.31E-03		3.02E-02
KR-85M	1.01E+00	5.30E-02	5.24E-03		1.21E-01
KR-87	3.69E-01	1.94E-02	1.92E-03		4.44E-02
KR-88	1.91E-01	1.00E-02	9.93E-04		2.29E-02
XE-133	1.91E+00	8.80E-02	6.90E-03		1.59E-01
XE-133M	2.71E-01	1.39E-02	1.32E-03		3.04E-02
XE-135	6.00E+00	2.89E-01	2.48E-02		5.71E-01
XE-135M	6.56E-02	1.96E-03	2.37E-05		5.46E-04
XE-138	3.67E-05	1.93E-06	1.91E-07		4.41E-06
-----IODINES-----					
I-131	2.98E+00	7.16E-02	7.98E-04		2.07E-01
I-132	1.32E+00	3.15E-02	3.45E-04		8.98E-02
I-133	5.88E+00	1.41E-01	1.57E-03		4.09E-01
I-134	2.74E-01	6.59E-03	7.34E-05		1.91E-02
I-135	3.94E+00	9.46E-02	1.05E-03		2.74E-01
-----PARTICULATES-----					
RB-88	2.93E-02	1.38E-03	8.56E-05		9.93E-01
RU-106	2.81E-01	2.67E-03	2.25E-09		2.61E-05
TE-132	1.52E+00	1.45E-02	1.22E-08		1.42E-04
CS-134	3.50E-02	3.33E-04	2.80E-10		3.25E-06
CS-137	2.12E+00	2.02E-02	1.70E-08		1.97E-04
CS-138	7.29E-03	7.63E-04	5.61E-07		6.51E-03
LA-140	1.94E-01	1.84E-03	1.55E-09		1.80E-05
BA-140	2.01E-01	1.91E-03	1.61E-09		1.87E-05
CE-144	1.65E-01	1.57E-03	1.32E-09		1.53E-05
TOTAL N.G.	1.02E+01	4.98E-01	4.34E-02		RATIO OF
TOTAL IOD.	1.44E+01	3.45E-01	3.84E-03		IOD./PAR.
TOTAL PART.	4.56E+00	4.52E-02	8.62E-05		RELEASE:
TOTAL/SYSTEM	2.92E+01	8.89E-01	4.73E-02		IOD: 0.0%
RCS I-131 EQUIVALENT = 4.95E+00					PAR: 0.0%

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 14:00 RELATIVE TIME: H+06:30

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.39E-01	1.37E-02	7.31E-04		1.76E-02
KR-85	2.64E-01	2.62E-02	1.39E-03		3.36E-02
KR-85M	9.19E-01	9.10E-02	4.85E-03		1.17E-01
KR-87	2.78E-01	2.75E-02	1.46E-03		3.53E-02
KR-88	1.67E-01	1.65E-02	8.79E-04		2.12E-02
XE-133	1.98E+00	1.73E-01	6.91E-03		1.67E-01
XE-133M	2.68E-01	2.59E-02	1.31E-03		3.16E-02
XE-135	5.90E+00	5.40E-01	2.39E-02		5.77E-01
XE-135M	6.15E-02	3.19E-03	1.82E-05		4.39E-04
XE-138	1.11E-05	1.09E-06	5.83E-08		1.41E-06
-----IODINES-----					
I-131	2.94E+00	1.30E-01	7.96E-04		2.16E-01
I-132	1.13E+00	4.93E-02	2.97E-04		8.05E-02
I-133	5.71E+00	2.52E-01	1.55E-03		4.19E-01
I-134	1.82E-01	8.04E-03	4.94E-05		1.34E-02
I-135	3.69E+00	1.63E-01	1.00E-03		2.71E-01
-----PARTICULATES-----					
RB-88	2.56E-02	1.96E-03	7.47E-05		9.98E-01
RU-106	2.77E-01	2.91E-03	4.33E-10		5.78E-06
TE-132	1.50E+00	1.58E-02	2.34E-09		3.12E-05
CS-134	3.46E-02	3.64E-04	5.40E-11		7.21E-07
CS-137	2.10E+00	2.20E-02	3.27E-09		4.37E-05
CS-138	3.79E-03	4.18E-04	1.31E-07		1.75E-03
LA-140	1.90E-01	2.00E-03	2.97E-10		3.96E-06
BA-140	1.99E-01	2.09E-03	3.10E-10		4.14E-06
CE-144	1.63E-01	1.71E-03	2.54E-10		3.40E-06
TOTAL N.G.	9.97E+00	9.17E-01	4.15E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.37E+01	6.02E-01	3.69E-03		IOD: 0.0%
TOTAL PART.	4.49E+00	4.92E-02	7.49E-05		PAR: 0.0%
TOTAL/SYSTEM	2.81E+01	1.57E+00	4.52E-02		

RCS I-131 EQUIVALENT = 4.84E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 14:15 RELATIVE TIME: H+06:45

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.26E-01	1.53E-02	6.67E-04		1.64E-02
KR-85	2.70E-01	3.29E-02	1.43E-03		3.53E-02
KR-85M	8.78E-01	1.07E-01	4.66E-03		1.15E-01
KR-87	2.41E-01	2.93E-02	1.28E-03		3.14E-02
KR-88	1.56E-01	1.90E-02	8.27E-04		2.04E-02
XE-133	2.01E+00	2.17E-01	6.92E-03		1.70E-01
XE-133M	2.67E-01	3.17E-02	1.31E-03		3.21E-02
XE-135	5.85E+00	6.58E-01	2.35E-02		5.79E-01
XE-135M	5.95E-02	3.66E-03	1.70E-05		4.19E-04
XE-138	6.07E-06	7.39E-07	3.22E-08		7.93E-07
-----IODINES-----					
I-131	2.92E+00	1.56E-01	7.95E-04		2.20E-01
I-132	1.05E+00	5.52E-02	2.76E-04		7.62E-02
I-133	5.63E+00	3.01E-01	1.53E-03		4.24E-01
I-134	1.49E-01	7.95E-03	4.05E-05		1.12E-02
I-135	3.57E+00	1.91E-01	9.74E-04		2.69E-01
-----PARTICULATES-----					
RB-88	2.40E-02	2.27E-03	7.03E-05		9.99E-01
RU-106	2.76E-01	2.88E-03	1.90E-10		2.70E-06
TE-132	1.49E+00	1.55E-02	1.02E-09		1.46E-05
CS-134	3.44E-02	3.60E-04	2.37E-11		3.37E-07
CS-137	2.08E+00	2.18E-02	1.44E-09		2.04E-05
CS-138	2.73E-03	3.00E-04	6.77E-08		9.63E-04
LA-140	1.88E-01	1.97E-03	1.30E-10		1.84E-06
BA-140	1.97E-01	2.06E-03	1.36E-10		1.93E-06
CE-144	1.62E-01	1.69E-03	1.12E-10		1.59E-06
TOTAL N.G.	9.86E+00	1.11E+00	4.06E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.33E+01	7.11E-01	3.62E-03		IOD: 0.0%
TOTAL PART.	4.46E+00	4.89E-02	7.03E-05		PAR: 0.0%
TOTAL/SYSTEM	2.76E+01	1.87E+00	4.43E-02		

RCS I-131 EQUIVALENT = 4.78E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 14:30 RELATIVE TIME: H+07:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.14E-01	1.64E-02	6.08E-04		1.53E-02
KR-85	2.76E-01	3.98E-02	1.47E-03		3.70E-02
KR-85M	8.40E-01	1.21E-01	4.48E-03		1.13E-01
KR-87	2.09E-01	3.01E-02	1.11E-03		2.80E-02
KR-88	1.46E-01	2.10E-02	7.78E-04		1.96E-02
XE-133	2.04E+00	2.60E-01	6.93E-03		1.74E-01
XE-133M	2.66E-01	3.74E-02	1.30E-03		3.27E-02
XE-135	5.80E+00	7.71E-01	2.31E-02		5.80E-01
XE-135M	5.76E-02	4.06E-03	1.62E-05		4.07E-04
XE-138	3.33E-06	4.80E-07	1.78E-08		4.47E-07
-----IODINES-----					
I-131	2.90E+00	1.81E-01	7.95E-04		2.24E-01
I-132	9.70E-01	5.95E-02	2.56E-04		7.20E-02
I-133	5.55E+00	3.46E-01	1.52E-03		4.28E-01
I-134	1.21E-01	7.56E-03	3.32E-05		9.35E-03
I-135	3.46E+00	2.16E-01	9.49E-04		2.67E-01
-----PARTICULATES-----					
RB-88	2.24E-02	2.56E-03	6.61E-05		9.99E-01
RU-106	2.74E-01	2.83E-03	8.33E-11		1.26E-06
TE-132	1.48E+00	1.53E-02	4.48E-10		6.78E-06
CS-134	3.42E-02	3.54E-04	1.04E-11		1.57E-07
CS-137	2.07E+00	2.14E-02	6.30E-10		9.52E-06
CS-138	1.97E-03	2.14E-04	3.59E-08		5.43E-04
LA-140	1.87E-01	1.93E-03	5.67E-11		8.57E-07
BA-140	1.96E-01	2.03E-03	5.96E-11		9.01E-07
CE-144	1.61E-01	1.67E-03	4.90E-11		7.40E-07
TOTAL N.G.	9.75E+00	1.30E+00	3.98E-02		RATIO OF IOD./PAR. RELEASE: IOD: 0.0%
TOTAL IOD.	1.30E+01	8.10E-01	3.55E-03		
TOTAL PART.	4.42E+00	4.83E-02	6.61E-05		
TOTAL/SYSTEM	2.72E+01	2.16E+00	4.34E-02		PAR: 0.0%

RCS I-131 EQUIVALENT = 4.73E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 14:45 RELATIVE TIME: H+07:15

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

****

NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	1.03E-01	1.72E-02	5.54E-04		1.42E-02
KR-85	2.81E-01	4.68E-02	1.51E-03		3.87E-02
KR-85M	8.02E-01	1.34E-01	4.31E-03		1.10E-01
KR-87	1.81E-01	3.01E-02	9.71E-04		2.49E-02
KR-88	1.36E-01	2.27E-02	7.32E-04		1.88E-02
XE-133	2.07E+00	3.04E-01	6.94E-03		1.78E-01
XE-133M	2.65E-01	4.29E-02	1.30E-03		3.33E-02
XE-135	5.75E+00	8.79E-01	2.27E-02		5.81E-01
XE-135M	5.58E-02	4.41E-03	1.56E-05		4.00E-04
XE-138	1.83E-06	3.04E-07	9.81E-09		2.52E-07
-----IODINES-----					
I-131	2.88E+00	2.04E-01	7.94E-04		2.27E-01
I-132	8.98E-01	6.24E-02	2.37E-04		6.80E-02
I-133	5.48E+00	3.88E-01	1.51E-03		4.32E-01
I-134	9.89E-02	7.00E-03	2.73E-05		7.81E-03
I-135	3.35E+00	2.37E-01	9.24E-04		2.65E-01
-----PARTICULATES-----					
RB-88	2.10E-02	2.82E-03	6.22E-05		1.00E+00
RU-106	2.72E-01	2.77E-03	3.65E-11		5.88E-07
TE-132	1.46E+00	1.49E-02	1.96E-10		3.16E-06
CS-134	3.40E-02	3.46E-04	4.56E-12		7.33E-08
CS-137	2.06E+00	2.10E-02	2.76E-10		4.44E-06
CS-138	1.42E-03	1.52E-04	1.94E-08		3.11E-04
LA-140	1.85E-01	1.88E-03	2.48E-11		3.98E-07
BA-140	1.95E-01	1.98E-03	2.61E-11		4.20E-07
CE-144	1.60E-01	1.63E-03	2.15E-11		3.45E-07
TOTAL N.G.	9.65E+00	1.48E+00	3.90E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.27E+01	8.98E-01	3.49E-03		IOD: 0.0%
TOTAL PART.	4.39E+00	4.75E-02	6.22E-05		PAR: 0.0%
TOTAL/SYSTEM	2.67E+01	2.43E+00	4.25E-02		

RCS I-131 EQUIVALENT = 4.68E+00

********** -NOTES- **********

1) CONCENTRATIONS ARE IN UCI/ML
2) ATMOSPHERIC NUCLIDE RATIOS ARE THE RELATIVE CONCENTRATION OF INDIVIDUAL NUCLIDES COMPARED TO THE TOTAL CONCENTRATION OF THE NUCLIDE GROUP
3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 15:00 RELATIVE TIME: H+07:30

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	9.35E-02	1.76E-02	5.05E-04		1.32E-02
KR-85	2.86E-01	5.38E-02	1.54E-03		4.03E-02
KR-85M	7.67E-01	1.44E-01	4.14E-03		1.08E-01
KR-87	1.57E-01	2.96E-02	8.47E-04		2.22E-02
KR-88	1.28E-01	2.40E-02	6.89E-04		1.80E-02
XE-133	2.10E+00	3.47E-01	6.94E-03		1.82E-01
XE-133M	2.64E-01	4.83E-02	1.29E-03		3.38E-02
XE-135	5.70E+00	9.83E-01	2.23E-02		5.82E-01
XE-135M	5.41E-02	4.71E-03	1.51E-05		3.95E-04
XE-138	1.00E-06	1.89E-07	5.42E-09		1.42E-07
-----IODINES-----					
I-131	2.86E+00	2.26E-01	7.93E-04		2.31E-01
I-132	8.32E-01	6.42E-02	2.20E-04		6.42E-02
I-133	5.40E+00	4.26E-01	1.50E-03		4.36E-01
I-134	8.07E-02	6.36E-03	2.24E-05		6.52E-03
I-135	3.25E+00	2.56E-01	9.00E-04		2.62E-01
-----PARTICULATES-----					
RB-88	1.96E-02	3.04E-03	5.85E-05		1.00E+00
RU-106	2.71E-01	2.71E-03	1.60E-11		2.74E-07
TE-132	1.45E+00	1.45E-02	8.60E-11		1.47E-06
CS-134	3.38E-02	3.38E-04	2.00E-12		3.42E-08
CS-137	2.05E+00	2.05E-02	1.21E-10		2.07E-06
CS-138	1.02E-03	1.07E-04	1.05E-08		1.80E-04
LA-140	1.83E-01	1.83E-03	1.08E-11		1.85E-07
BA-140	1.94E-01	1.93E-03	1.15E-11		1.96E-07
CE-144	1.59E-01	1.59E-03	9.43E-12		1.61E-07
TOTAL N.G.	9.55E+00	1.65E+00	3.82E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.24E+01	9.78E-01	3.43E-03		IOD:
TOTAL PART.	4.36E+00	4.65E-02	5.85E-05		0.0%
TOTAL/SYSTEM	2.63E+01	2.68E+00	4.17E-02		PAR:
					0.0%

RCS I-131 EQUIVALENT = 4.63E+00

********** -NOTES- **********

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3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 15:15 RELATIVE TIME: H+07:45

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	8.48E-02	1.78E-02	4.60E-04		1.23E-02
KR-85	2.90E-01	6.11E-02	1.58E-03		4.20E-02
KR-85M	7.33E-01	1.54E-01	3.98E-03		1.06E-01
KR-87	1.36E-01	2.86E-02	7.39E-04		1.97E-02
KR-88	1.19E-01	2.51E-02	6.48E-04		1.73E-02
XE-133	2.13E+00	3.92E-01	6.95E-03		1.85E-01
XE-133M	2.63E-01	5.37E-02	1.29E-03		3.44E-02
XE-135	5.65E+00	1.08E+00	2.19E-02		5.83E-01
XE-135M	5.24E-02	4.98E-03	1.47E-05		3.91E-04
XE-138	5.51E-07	1.16E-07	2.99E-09		7.97E-08
-----IODINES-----					
I-131	2.84E+00	2.46E-01	7.93E-04		2.35E-01
I-132	7.71E-01	6.52E-02	2.04E-04		6.05E-02
I-133	5.33E+00	4.61E-01	1.48E-03		4.40E-01
I-134	6.59E-02	5.70E-03	1.84E-05		5.44E-03
I-135	3.15E+00	2.72E-01	8.77E-04		2.60E-01
-----PARTICULATES-----					
RB-88	1.84E-02	3.24E-03	5.50E-05		1.00E+00
RU-106	2.69E-01	2.65E-03	7.04E-12		1.28E-07
TE-132	1.44E+00	1.42E-02	3.76E-11		6.84E-07
CS-134	3.36E-02	3.31E-04	8.78E-13		1.60E-08
CS-137	2.04E+00	2.00E-02	5.32E-11		9.67E-07
CS-138	7.37E-04	7.63E-05	5.78E-09		1.05E-04
LA-140	1.81E-01	1.78E-03	4.74E-12		8.61E-08
BA-140	1.93E-01	1.89E-03	5.03E-12		9.13E-08
CE-144	1.58E-01	1.56E-03	4.14E-12		7.51E-08
TOTAL N.G.	9.46E+00	1.82E+00	3.75E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.22E+01	1.05E+00	3.38E-03		IOD: 0.0%
TOTAL PART.	4.33E+00	4.58E-02	5.50E-05		PAR: 0.0%
TOTAL/SYSTEM	2.59E+01	2.92E+00	4.10E-02		

RCS I-131 EQUIVALENT = 4.58E+00

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TXU Electric

2001-TXU-Graded Exercise 22-AUG-2001

REAL TIME: 15:30 RELATIVE TIME: H+08:00

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IN-PLANT CHEMISTRY AND ATMOSPHERIC NUCLIDE RATIOS

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NUCLIDE GROUP/ NUCLIDE	SYSTEM 1 RCS	SYSTEM 2 S/G 1-04	SYSTEM 3 Release mix	SYSTEM 4	ATMOSPHERIC NUCLIDE RATIOS
-----NOBLE GASES-----					
KR-83M	7.71E-02	1.71E-02	4.19E-04		1.14E-02
KR-85	2.96E-01	6.55E-02	1.61E-03		4.37E-02
KR-85M	7.03E-01	1.56E-01	3.83E-03		1.04E-01
KR-87	1.18E-01	2.62E-02	6.44E-04		1.75E-02
KR-88	1.12E-01	2.48E-02	6.10E-04		1.65E-02
XE-133	2.16E+00	4.16E-01	6.96E-03		1.89E-01
XE-133M	2.63E-01	5.64E-02	1.29E-03		3.49E-02
XE-135	5.61E+00	1.13E+00	2.15E-02		5.83E-01
XE-135M	5.09E-02	4.93E-03	1.43E-05		3.87E-04
XE-138	3.03E-07	6.72E-08	1.65E-09		4.48E-08
-----IODINES-----					
I-131	2.83E+00	2.56E-01	7.92E-04		2.38E-01
I-132	7.16E-01	6.31E-02	1.90E-04		5.71E-02
I-133	5.27E+00	4.76E-01	1.47E-03		4.43E-01
I-134	5.39E-02	4.87E-03	1.51E-05		4.53E-03
I-135	3.06E+00	2.76E-01	8.54E-04		2.57E-01
-----PARTICULATES-----					
RB-88	1.72E-02	3.34E-03	5.86E-05		1.00E+00
RU-106	2.69E-01	2.62E-03	4.66E-12		7.95E-08
TE-132	1.43E+00	1.40E-02	2.49E-11		4.24E-07
CS-134	3.35E-02	3.27E-04	5.82E-13		9.92E-09
CS-137	2.03E+00	1.98E-02	3.52E-11		6.01E-07
CS-138	5.32E-04	5.46E-05	4.11E-09		7.01E-05
LA-140	1.80E-01	1.76E-03	3.13E-12		5.33E-08
BA-140	1.92E-01	1.87E-03	3.33E-12		5.68E-08
CE-144	1.58E-01	1.54E-03	2.74E-12		4.67E-08
TOTAL N.G.	9.39E+00	1.89E+00	3.68E-02		RATIO OF IOD./PAR. RELEASE:
TOTAL IOD.	1.19E+01	1.08E+00	3.32E-03		IOD: 0.0%
TOTAL PART.	4.32E+00	4.53E-02	5.86E-05		PAR: 0.0%
TOTAL/SYSTEM	2.56E+01	3.02E+00	4.02E-02		
RCS I-131 EQUIVALENT = 4.54E+00					

********** -NOTES- **********

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3) ATMOSPHERIC NUCLIDE RATIOS ARE CALCULATED AT THE POINT OF RELEASE

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

SUBSTITUTE TELEPHONE NUMBERS

SUBSTITUTE TELEPHONE NUMBERS

All communications MUST begin and end with "**This is a drill.**"

During the exercise, use the telephone numbers listed below.

Control Room Simulator	
Shift Manager	**5515**
RO Desk	**3210**
Communicator	**3503**
"Emergency"	**4911**
ENS Roleplayer (Using Federal Telephone System (orange tag) phone ext 731-8189)	**1-254-897-8336**
HPN Roleplayer (Using Federal Telephone System (orange tag) phone ext 731-8192)	**1-254-897-5414**
National Weather Service Recording	**5268**

All communications MUST begin and end with "**This is a drill.**"

NOTE: The local hospitals and ambulance services are **NOT** participating with CPSES in this drill. If you have a question, contact your controller before attempting the communication.

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

ERDC (MAINTENANCE) CONTROLLER INSTRUCTIONS

Event: **Cable tray fire and loss of bus 1EA1.**

Location: Unit 1

Time: 0826

Initiating Event:

A fire in the MCC CP1-EPMCEB-01 affects cable trays T13OEGG17 and T11OEAA39-40 and result in a fault on bus 1EA1 and subsequent loss of train A safeguards electrical equipment.

Anticipated Player Response:

Control room personnel should dispatch a PEO to verify the fire and dispatch the fire brigade.

Upon arriving on the scene the PEO should report that there is a fire in the motor control center and cable trays T13OEGG17 and T11OEAA39-40 and that bus 1EA1 appears to be affected.

The fire brigade should attempt to extinguish the fire.

An ERDC team should be dispatched to the scene after the fire has been extinguished to assess damage.

Controller Actions:

The fire will not be extinguished until ~0850.

Following inspection it will be reported that lockout relays 86-1 and 86-2 flags are dropped.

The ERDC team will report that some melting of bus bars has occurred causing a phase-to-phase short and a phase-to-ground short. If investigated, the cause of the melted bus bars was overcurrent caused by the failure of the trip fuses which then did not isolate the transformer.

Scenario Needs:

This will result in a loss of train A safeguards equipment. Bus will not be restored to service during exercise.

Event: **Failure (fully open) of Main Condenser Vacuum Breaker MOV, 1HV-2955.**

Location: Unit 1

Time: 0914

Initiating Event:

1-HV-2955 will open due to a circuit failure inside the MCC.

Anticipated Player Response:

Any attempt to shut the valve at the MCB will not work.

An Operator should be dispatched to attempt to manually shut the valve.

Controller Actions:

When the Operator attempts to shut the valve, it will remain stuck open

Cause of valve actuation is a broken wire in the MCC shorting across the open contacts (1+3).

Scenario Needs:

A loss of condenser vacuum causing a turbine and reactor trip.

Event: **Failure (fully open) Steam Generator #4 Main Steam Safety Valve, 1MS-0129.**

Location: Unit 1

Time: 1017

Initiating Event:

1-MS-0129 will open due to a valve failure.

Anticipated Player Response:

An Operator may be dispatched to verify valve status. An ERDC team should be dispatched to attempt to manually close the valve.

Controller Actions:

When the ERDC team attempts to close the valve, it will remain stuck open.

Attempts to close the valve will not be successful until ~1300.

Scenario Needs:

This provides the source for a radiological release to the atmosphere.

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

FIRST AID/RESCUE CONTROLLER INSTRUCTIONS

Event: Injured Person
Location: Unit 1 Turbine Bldg; elev. 803'

Time: ~1214

Initiating Event:

A worker in the 803' U1 Turbine Bldg passes out after complaining to his co-worker that he is feeling hot, dizzy, and has a headache.

The co-worker calls the CR (simulator) emergency number, x4911, and reports the medical emergency. ***(Message #8)***

Anticipated Response:

Control Room personnel should dispatch the medical response team to the scene.

Upon arrival of the medical response team, the worker has regained consciousness and complains of feeling dizzy, nauseous, and hot. He relates his condition as feeling sort of "flu-like".

The patient should be taken to a cooler location and loaded onto the ambulance. The extent of play should end when the ambulance is outside the protected area, and enroute to highway 56.

Controller Instructions:

When asked, provide the following patient information:

	On arrival of medical team	15 minutes after cooling started
Blood Pressure	116/76	135/90
Respiration	18	26
Pulse	84	104
Skin Color	Ashen, dry	Pale, clammy

If a follow-up status is requested from the hospital:

- the patient is on an IV for re-hydration and is being cooled. He is responding well to treatment and should be released from the hospital later today.

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

PARTICIPANTS

BLUE TEAM
Participant List

CONTROL ROOM

Shift Manager	Shift OPs - Crew 15
Unit Supervisor	Shift OPs - Crew 15
Shift Technical Advisor	Shift OPs - Crew 15
Plant Equipment Operators	Shift OPs - Crew 15
Operations Status Board Communicator	Bill Moore
Operations Advisor	Jack Dillard
Control Room Communicator	Prompt Team Crew 15

TECHNICAL SUPPORT CENTER

Manager	Steve Ellis
Operations Coordinator	Russel Smith
Engineering Team Coordinator	Duerk Reimer
EngineeringTeam (Analysis)	Craig Harrington
Engineering Team (Electrical)	John Gregg/Steve Ward
Engineering Team (I&C)	Mike McCutchen/Pravin Shah
Engineering Team (Mechanical)	Chris Dupre/John Meyer
EngineeringTeam (Nuclear)	Wayne Rosette
Engineering Team (Operational)	Bill Murphy
ERF Computer Operator	Moazam Syed
ENS Communicator	Tom Daskam
Onsite Radiological Assessment Coordinator (ONRAC)	Ray Fishencord
Emergency Planning Advisor	Bill Nix
Communications Coordinator	Coy Rice
Communicator	Bob Gill
Radiological Status Board Recorder	Doug Kay
Sequence of Events Board Recorder	Buck Gastinel/Heather Brown
Operational Status Board Recorder	Rob Slough

BLUE TEAM
Participant List

OPERATIONS SUPPORT CENTER

Manager	Scotty Harvey
Chemistry Supervisor	Robert Theimer
Chemistry Technicians	SHIFT
Radiation Protection Supervisor	Ruben Garcia
Team Communicator	Jim Wren
Radiological Status Board Recorder	Gary Millican
Sequence of Events Board Recorder	Terry Meaders
Radiation Protection Technicians	SHIFT
ERDC Supervisor	Prompt Team Crew 15
ERDC Electrician	Prompt Team Crew 15
ERDC Mechanic	Prompt Team Crew 15
I&C Technician	Prompt Team Crew 15
First Aid & Rescue Teams	SHIFT

NEWS CENTER

Company Spokesperson	Norman Hood
News Conference Manager	Sid Underwood
Information Coordinator	Gary Ellis
Information Liaison	Angie Riley
News Release Writer	Mark Manroe
Rumor Control Coordinator	Chuck Kessinger
Rumor Control Aides	Glenn Huber
	Debbie Piloian
	Jose Rodriguez
	Carla White
Media Monitoring Aides	Tionette Blakely
	Randy Hiler
	Linda Hyde
	Carol Johnson
Electronic Media Monitoring Aide	Jim R. Gallman
News Center Aide	Donna Maness
	Patti Marsh
AudioVisual Aide	Rick Nichols

BLUE TEAM
Participant List

EMERGENCY OPERATIONS FACILITY

Manager	Dave Moore
Clerk (Manager)	Jo Conte
Emergency Planning Advisor	Ted Robison
Radiation Protection Coordinator	Scott Bradley
Radiation Protection Technician	Roy Bost
Offsite Radiological Assessment Coordinator (OFFRAC)	Neil Harris
Dose Assessors	Connie Wilkerson
	Bob Sandford
Health Physics Network (HPN) Communicator	Stephanie Goodrum
Offsite Monitoring Teams Director	Grover Downing
Offsite Monitoring Teams Communicator	Mike Watts
Offsite Field Team Drivers	Dave Manning
	Glen Levisay
	Gordon Dalby
Radiological Status Board Recorder	Kim Kirwin
Communications Coordinator	Al Saunders
Communicator	Nick Rakos
TSC/EOF Liaison	Elizabeth Meaders
Operational Status Board Recorder	Peter Presby
Sequence of Events Board Recorder	Jack Hicks
Security Coordinator	Craig Cravey
Logistical Support Coordinator	Fred Powers
Procurement Coordinator	Chris Miller
Contract Coordinator	Henry Bow
Manpower Coordinator	James Brown
Clerk (Manpower)	Wanda Everitt
Clerks	Judy Carroll/Janet Hughes
Transportation Vehicle Drivers	Gus Grzywinski
	James A. Kelley
	Danny Moore
Information Technology Service Coordinator	Bob Hobart

EXTERNAL FACILITIES

Somervell County EOC	John Ellard
Hood County EOC	David Barham
State EOC Advisor	Richard Calder

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION

2001 GRADED EXERCISE

CONTROLLER/EVALUATOR/ROLEPLAYER ORGANIZATION

Controllers, Evaluators, and Roleplayers

Bob Kidwell	Exercise Lead	**817-434-6464** pager
CONTROL ROOM		
Clint Carter	Plant Impact/Announcements	x5450
CONTROL ROOM SIMULATOR		**x7211**
Terry Marsh	Lead Controller	
Paul Cox	Shift Manager	
Doyce McGaughey	Unit Supv and U2 CR roleplayer	
John Finneran	Communications	
Ray Wheeler	Field Support / PEO Controller	Radio or Gaitronics
Kit Wilson	PEO Controller	"
Neal Platt	PEO Controller	"
Steve Cypher	PEO Controller	"
Lenoard Hardy	PEO Controller	"
Jimmy Barnard	Simulator Operator	x3338
Cliff Davis	Simulator Operator	x3338
TECHNICAL SUPPORT CENTER		**x4721**
Greg Bell	Lead Controller	817-452-1301 pager
Randy Morrison	Management	
Dale Walling	Engineering	
Todd Evans	Engineering	
Anita Barnette	Radiological	
Hayden Haby	Communications	
Michael Feneley	ENS RolePlayer	x8336
OPERATIONS SUPPORT CENTER		**x6873**
Dave Fuller	Lead/Management Controller	
Chuck Cotton	Management Area Controller	
Adam Hinkley / Jimmy Alldredge	RP Controller Coordinator (RCA Access)	x8081
Johnny Windham	ERDC Controller Coordinator	x6873
Robert Segura	ERDC Team Controller	Gaitronics
Tim Robbins	ERDC Team Controller	"
Finley Nunn	ERDC Team Controller	"
Tim Gilder	ERDC Team Controller	"
Bill Reppa	ERDC Team Controller	"
John White	ERDC Team Controller	"
Burce Emanuel	Survey Team Controller	"
Mike Macho	Survey Team Controller	"
Charles England	Survey Team Controller	"
Andy Caves	Survey Team Controller	"
Gary Wiechering	Survey Team Controller	"
Dave Perkins	Chem Team Controller	"
Shawn Flaherty	Chem Team Controller	"

Controllers, Evaluators, and Roleplayers

OPERATIONS SUPPORT CENTER (Cont)		Gaitronics
Willie Scott	Fire Brigade	"
Dwayne Sandlin	Fire Brigade	"
Max Neal	Medical Controller	"

EMERGENCY OPERATIONS FACILITY		**x4062**
Matt Bozeman	Lead Controller	817-273-8587 pager
Mitch Lucas	Management	
Danny Wilder	Radiological Lead	
John Blaikie	Radiological/Dose Assessment	
Jeff Braun	Security	
Tom Mewhinney	Communications	
Bobby Bird	Logistics	
Kerry Riggs	ERO Staging Area	x8643
Steve Dixon	Offsite Survey Team	Vehicle Radio
Dewey Heintz	Offsite Survey Team	"
Carolyn Cosentino	Offsite Survey Team	"
Billy Hise	HPN Roleplayer	x5290
Alan Hall	EOC Controller - Hood	
Gene Dyas	EOC Controller - Somervell	
N/A	Squaw Creek Park	817-573-7053

Karen Taylor	Offsite Roleplayer
Ron McGlothlin	" "
Jim Stevens	" "
Tony Summers	" "
Patti Edwards	" "
Trish Stout	" "
Mike Ware	" "
Barney Poole	" "
Jerry Hobbs	" "
Randle Wakeman	" "

Controllers, Evaluators, and Roleplayers

NEWS CENTER		x5054
Kelly Faver	Lead Controller	817-434-1332 pager
Jerry Lee	Press Conference and Reporters	
Patsy Lamb & Kim Waldrep	Lobby and Auditorium	
Dave McAfee	Rumor Control	
Donna Hammond	Phone Bank Lead	x0583
Jack Martin	Phone Bank Roleplayer	
Kay Uloth	Phone Bank Roleplayer	
Bob Reible	Phone Bank Roleplayer	
Michele Meyer	Phone Bank Roleplayer	
Tonya Luerson	Phone Bank Roleplayer	
Sandra Taylor	Phone Bank Roleplayer	
Mike Blevins	Reporter Roleplayer	
Tom Tigner	Reporter Roleplayer	
Frank Shants	Reporter Roleplayer	
Mitch Warren	Reporter Roleplayer	
Obaid Bhatty	Reporter Roleplayer	
Susan Gravatt	Reporter Roleplayer	
Jan Caldwell	Reporter Roleplayer	
Tom Moody	Reporter Roleplayer	
Chandis Fischer	Reporter Roleplayer	