PROC. NO.	TITLE	REV.	REV DATE	DISKET
LZP 100-1	DELETED	C3	11/80	01
LZP 100-2	DELETED	C4	11/80	01
LZP 100-3	DELETED	C3	10/80	01
LZP 200-1	DELETED	C2	11/80	01
LZP 200-2	DELETED	C2	11/80	01
LZP 200-3	DELETED	C2	11/80	01
LZP 200-4	DELETED	C3	11/80	01
LZP 210-1	DELETED	C2	10/80	01
LZP 300-1	DELETED	C4	8/80	01
LZP 300-2	DELETED	C3	11/80	01
LZP 310-1	DELETED	C3	11/80	01
LZP 320-1	DELETED	C2	10/80	01
LZP 330-1	DELETED	01	10/80	01
LZP 340-1	DELETED	C1	10/80	01
LZP 350-1	DELETED	02	10/80	01
LZP 360-1	DELETED	02	10/80	01
LZP 370-1	DELETED	01	10/80	01
LZP 400-1	DELETED	C2	11/80	01
LZP 400-2	DELETED	C2	10/80	01
LZP 400-3	DELETED	C1	11/80	01
LZP 410-1	DELETED	01	11/80	01
LZP 420-1	DELETED	01	11/80	01
LZP 510-1	DELETED	C2	10/80	01
LZP 520-1	DELETED	C2	10/80	01
LZP 520-2	DELETED	C1	10/80	01
LZP 520-3	DELETED	01	10/80	01
LZP 530-1	DELETED	01	10/80	01

PROC. NO.	TITLE	REV.	REV DATE	DISKETT
ZP 530-2	DELETED	C2	10/80	01
ZP 540-1	DELETED	C1	10/80	01
ZP 700-2	DELETED	C1	11/80	01
ZP 710-1	DELETED	C2	10/80	01
ZP 810-1	DELETED	C1	10/80	02
ZP 820-1	DELETED	C1	10/80	02
ZP 830-1	DELETED	C1	10/80	02
ZP 850-1	DELETED	C1	10/80	02
ZP 860-1	DELETED	C1	10/80	02
ZP 880-1	DELETED	C1	11/80	02
ZP 1110-1	STATION DIRECTOR (ACTING STATION DIRECTOR) IMPLEMENTING PROCEDURE	C4	3/83	02
ZP 1120-1	OPERATIONS DIRECTOR IMPLEMENTING PROCEDURE	C4	2/83	02
ZP 1130-1	TECHNICAL DIRECTOR IMPLEMENTING PROC.	C3	4/81	02
ZP 1140-1	MAINTENANCE DIRECTOR IMPLEMENTING PROCEDURE	C1	11/80	02
ZP 1150-1	STORES DIRECTOR IMPLEMENTING PROCEDURE	C1	11/80	02
ZP 1160-01	ADMINISTRATIVE DIRECTOR IMPLEMENTING PROCEDURE	C2	1/82	02
ZP 1170-1	SECURITY DIRECTOR IMPLEMENTING PROCEDURE	04	7/83	02
ZP 1180-1	RAD/CHEM DIRECTOR IMPLEMENTING PROCEDURE	C3	7/81	02
ZP 1180-2	RAD/CHEM DIRECTOR INITIATED ENVIRONMENTAL MONITORING ACTIVITIES	C1	11/80	02
ZP 1190-1	ENVIRONS DIRECTOR INPLEMENTING PROCEDURE	C0	6/83	03
ZP 1200-1	CLASSIFICATIONS OF GSEP CONDITIONS	C3	8/82	01
ZP 1200-2	CLASSIFICATION OF A NOBLE GAS RELEASE	C1	5/82	02
ZP 1200-3	CLASSIFICATION OF AN IODINE RELEASE	C1	2/82	01

PROC. NO.	TITLE	REV.	REV DATE	DISKETT
ZP 1200-4	CLASSIFICATION OF A LIQUID RELEASE	C1	5/82	01
ZP 1210-1	HAZARDOUS MATERIAL INCIDENTS REPORTING	C2	3/83	01
ZP 1220-1	EMERGENCY TELEPHONE NUMBER	C1	5/81	01
ZP 1220-4	DELETED CONTAINMENT ATMOSPHERE FOR RADIOIDINES DETERMINATION AND PARTICULATES ALTERNATE "EANS	C1	7/81	01
ZP 1310-1	NOTIFICATIONS	04	7/83	C2
ZP 1320-1	AUGMENTATION OF PLANT STAFFING	C5	7/83	02
ZP 1330-1	DELETED	C2	7/82	02
ZP 1330-2	DELETED	C2	7/82	03
ZP 1330-3	DELETED	C3	7/82	03
ZP 1330-4	DELETED	C2	7/82	03
ZP 1330-5	POST-ACCIDENT NOBLE GAS RELEASE RATE DETERMINATION	C0	11/80	03
ZP 1330-6	DELETED	C1	7/81	03
ZP 1330-7	DELETED	C2	7/82	02
ZP 1330-8	SAMPLING LIQUID PROCESS MONITORS DURING LIQUID MONITOR HIGH RADIATION ALARM CONDITIONS	01	8/82	03
ZP 1330-10	DELETED	01	1/82	03
ZP 1330-11	DILUTION AND TRANSFER OF GAS SAMPLES	C0	11/81	03
ZP 1330-20	POST-ACCIDENT ANALYSIS OF BARON (BACKUP PROCEDURE)	C0	3/81	03
ZP 1330-21	POST-ACCIDENT ANALYSIS OF CHLORIDE	03	6/82	03
ZP 1330-22	CALIBRATION OF THE MODEL 10 DIONEX ION CHROMATOGRAPH	C2	4/82	03
ZP 1330-23	DETERMINATION OF REACTOR COOLANT PH, CONDUCTIVITY AND DISSOLVED OXYGEN CONCENTRATION AT THE HIGH RADIATION SAMPLE SYSTEM	02	6/82	03
ZP 1330-24	DETERMINATION OF REACTOR COOLANT HYDROGEN AND OFF-GAS CONCENTRATIONS AT THE HIGH RADIATION SAMPLING SYSTEM	C2	1/83	03

PROC. NO.	TITLE	REV.	REV DATE	DISKETT
ZP 1330-25	SAMPLING OF REACTOR COOLANT AT THE HIGH RADIATION SAMPLE SYSTEM	02	6/82	03
ZP 1330-26	SAMPLING OF CONTAINMENT AIR AT THE HIGH RADIATION SAMPLING SYSTEM	03	6/82	03
ZP 1330-27	DELETED	02	10/82	03
ZP 1330-28	SAMPLING OF RADIOACTIVE WASTE LIQUIDS RADIOACTIVITY AT THE HIGH RADIATION	02	6/82	03
ZP 1330-29	DELETED	01	10/82	03
ZP 1330-30	TRANSFER OF WASTES FROM THE HRSS WASTE TANK AND WASTE PUMP	00	11/81	03
ZP 1330-31	DELETED	01	8/82	03
ZP 1330-32	POST ACCIDENT SAMPLING OF THE GENERAL ATOMIC WIDE RANGE GAS MONITOR	02	3/83	03
ZP 1330-33	ISOTOPIC ANALYSIS OF LIQUID SAMPLES USING AAIS SOFTWARE WITH PARAPS HARDWARE	00	6/82	03
ZP 1330-34	ISOTOPIC ANALYSIS OF NOBLE GAS SAMPLES USING AAIS SOFTWARE AND PARAPS HARDWARE	00	6/82	03
ZP 1330-35	ISOTOPIC ANALYSIS IODINE SAMPLES USING AAIS SOFTWARE AND PARAPS HARDWARE	00	6/82	03
ZP 1330-36	ISOTOPIC ANALYSIS OF PARTICULATE SAMPLES USING AAIS SOFTWARE WITH PARAPS HARDWARE	00	6/82	03
ZP 1330-50	RADIATION SURVEYS UNDER ACCIDENT CONDITIONS	00	10/81	03
ZP 1340-1	IMPLEMENTING PROCEDURE FOR FIRE: FIRE MARSHALL	01	9/81	02
ZP 1340-2	IMPLEMENTING PROCEDURE FOR FIRE: FIRE CHIEF (DESIGNATED SHIFT FOREMAN)	02	3/83	02
ZP 1340-3	IMPLEMENTING PROCEDURE FOR FIRE: FIRE OFFICER #1 (COGNIZANT MAINTENANCE FOREMAN)	01	9/81	02
ZP 1340-4	IMPLEMENTING PROCEDURE FOR FIRE: FIRE BRIGADE	01	9/81	02
ZP 1340-5	IMPLEMENTING PROCEDURE FOR FIRE: FIRE COMPANY NO. 1 (MAINTENANCE PERSONNEL)	01	8/81	02

PROC. NO.	TITLE	REV.	REV DATE	DISKETT
ZP 1360-1	PROTECTIVE MEASURES FOR ON-SITE PERSONNEL	03	7/81	02
ZP 1360-2	USE OF POTASSIUM IODIDE (KI) AS A THYROID BLOCKING AGENT	01	1/83	03
ZP 1360-4	RADIATION PROTECTION PRACTICES DURING ACCIDENT CONDITIONS	00	11/81	03
ZP 1370-1	RESCUE	00	10/80	02
ZP 1370-2	PERSONNEL INJURIES	02	11/82	02
ZP 1370-3	FIRST AID, DECONTAMINATION AND EVACUATION OF EXPOSED AND/OR CONTAMINATED CASUALTIES	00	10/80	02
ZP 1380-1	CONTROL OF OIL SPILLS	01	12/82	02
ZP 1420-1	ROLE AND STAFFING OF THE ON-SITE TSC	01	11/80	02
ZP 1430-1	ROLE AND STAFFING OF THE ON-SITE OSC	02	4/81	02
ZP 1440-1	ON-SITE GSEP COMMUNICATIONS SYSTEMS	03	12/82	02
ZP 1450-1	DELETED	01	7/81	02
ZP 1450-2	DELETED	01	7/81	01
ZP 1510-1	GSEP OPERATIONAL READINESS	00	10/80	01
ZP 1520-1	TRAINING REQUIREMENTS	00	10/80	02
ZP 1530-1	EXERCISES AND DRILLS	01	8/81	02
ZP 1550-1	FIRST AID FACILITIES MONTHLY SURVEILLANCE	02	12/82	02
ZP 1550-2	ENVIRONS SAMPLING SUPPLIES INVENTORY	03	12/82	01
ZP 1550-3	DECONTAMINATION FACILITIES MONTHLY SURVEILLANCE	01	5/81	02
ZP 1550-4	ST. MARY'S HOSPITAL HEALTH PHYSICS SUPPLIES QUARTERLY SURVEILLANCE	01	7/81	02
ZP 1550-5	TECHNICAL SUPPORT CENTER QUARTERLY SURVEILLANCE	02	2/83	01
ZP 1550-6	OPERATIONAL SUPPORT CENTER QUARTERLY SURVEILLANCE	02	2/83	01
ZP 1550-7	DELETED	03	4/83	01

PROC. NO.	TITLE	REV.	REV DATE	DISKETT
ZP 1550-8	DELETED (NARS) MONTHLY SURVEILLANCE	03	3/83	02
ZP 1550-9	SPECIAL TLD QUARTERLY SURVEILLANCE	02	11/81	03
ZP 1550-10	ENVIRONMENTAL SURVEILLANCE STATIONS	00	7/81	02
ZP 1550-11	POST-ACCIDENT SAMPLING EQUIPMENT INVENTORY	01	7/83	03
ZP 1610-1	RECOVERY AND RE-ENTRY PLANS	00	10/80	01
ZP 1700-1	GSEP STATION GROUP DIRECTORY	05	1/83	01
ZP 1700-2	STATION EMPLOYEE LIST	05	7/83	01
ZP 1700-3	STATION PHONE LIST	04	7/83	03

SECURITY DIRECTOR
IMPLEMENTING PROCEDURE

A. PURPOSE

The purpose of this procedure is to outline the method used to implement the Station Security Director's duties during emergency situations.

B. REFERENCES

1. LZP 1320-1, "Augmentation of Plant Staffing."
2. LZP 1700-1, "Station Group Directory."
3. LZP 1700-2, "Station Employee List."
4. LaSalle Security Procedures.

C. PREREQUISITES

1. None.

D. PRECAUTIONS

1. None.

E. LIMITATIONS AND ACTIONS

1. The Operating Shift Supervisor provides the services of the Station Security Director until relieved of the responsibility by the Security Administrator per Reference 4.
2. Responsibility.
   a. PROVIDE security services including plant personnel accountability and plant security as required during the emergency.
3. Notification.
   a. Initial notification by:
      1) Acting Station Director.

a) Operating Shift Supervisor.

b) Senior NSO.

2) Activation Phone List.

F. PROCEDURE

1. ASSUME GSEP duties in the Technical Support Center unless otherwise directed by the Station Director.

NOTE

Attachment A is provided to serve as a checklist for the convenience of the Director.

2. INFORM the Station Director of the overall plant security situation.

3. ACCOUNT for all personnel within the protected area.

a. In the event of an onsite assembly of all personnel, the Security Director should account for all individuals within the protected area at the time the assembly was announced, and should be able to ascertain the names of missing individuals within 30 minutes. Attachment B may be used as an assembly program.

4. MAINTAIN plant security.

a. Main Access Facility - Extensions 496 and 219.

b. Guard Force - 312-969-0955, Burns International Security, Services, Inc., Nuclear Unit.

5. IDENTIFY to the Station Director any non-routine security procedures and/or contingencies that are in effect or require a response.

6. COORDINATE with the Rad/Chem Director in controlling ingress and egress to the protected area.

7. MAINTAIN a record of the GSEP related activities.

G. CHECKLISTS

1. None.

H. TECHNICAL SPECIFICATION REFERENCES

1. None.

ATTACHMENT A

SECURITY DIRECTOR
CHECKLIST OF INITIAL GSEP RESPONSIBILITIES

NOTE

This checklist is provided solely for the convenience of the Security Director. It is not necessary to follow this checklist step by step. Its completion is not required and its use is determined by the Security Director.

I. Assembly:

a. See Attachment B for an assembly outline.

_____

_____

_____

_____

_____

_____

II. If it is recommended that the site be evacuated, post the appropriate exit for traffic control (West and/or South gate).

_____

_____

_____

_____

III. Coordinate with the Rad/Chem Director and control ingress and egress to and from the protected area.

ATTACHMENT B
SECURITY DIRECTOR
ASSEMBLY OUTLINE

NOTE

1. This outline is provided solely for the convenience of the Security Director. It is not necessary to follow this outline step by step. Its use is to be determined by the Security Director.

2. During Assembly Drills it is necessary to maintain an adequate security posture. Posts and positions not taking part in the Drill should be pre-notified. During actual assemblies the Security Director is responsible to assure all Security personnel participate in the assembly.

ASSEMBLY

I. The GSEP activity will be initiated by the Shift Engineer or Station Director.

II. Notification to activate the TSC will be made.

III. Upon receipt of notification to report to the TSC, arrange to take the following materials to the TSC:

a. ASCI- Alphabetical listing - printout.

b. Unit / Sector Outline.

c. Current PC - Numerical listing - printout.

d. RC - Roll call printout - request most current.

e. Stationery supplies.

Notify the Security Shift Supervisor that you are in the TSC and assuming the security responsibilities of the station. Request a current Badge Issue Log - form LSF164, a Radio and an Onduty Log from the Security Shift Supervisor.

IV. When necessary, the Station Director may determine if an assembly is required.

V. If a Roll Call - RC - printout is unavailable, the Badge Issue Log - form LSF164 - will be used. Compare the hand logs to the PC printout to determine the actual roll call.

VI. Inquire of the Shift Engineer/Station Director if an assembly is imminent. Notify the console operator of the schedule.

VII. Upon notification that the assembly is to start, advise the console operator to prepare the computer for the assembly by:

a. Loading the tape that de-activiates door alarms for the assembly.

b. If the tape is not loaded, the Security Director shall determine if the assembly should continue with Active Door Alarms.

VIII. The Console Operator will complete the assembly preparations by initiating the AA-S command. The Security Director will be notified when the computer preparations are completed.

a. If the AA-S command cannot be initiated, advise the security assembly coordinator to hand log the assembly on Badge Issue Form - LSF164.

IX. Advise the Station Director that preparations for the assembly in progress.

X. Advise the Security Shift Supervisor to man the assembly areas and secure and evacuate the access facilities.

NOTE

An adequate level of security will be maintained during assembly drills.

XI. Assure that hand logs are developed for groups and individuals on site and not participating in the assembly. Included are TSC attendees, Auditors and security personnel on post.

XII. Upon completion of preparations notify the Station Director and Shift Engineer that the assembly siren may now be sounded.

a. If the assembly siren fails to operate or is operated out of sequence consider using all available communications to advise site personnel of the appropriate course of action.

XIII. After the assembly has started, contact the security assembly coordinator and determine how the assembly is progressing.

a. If an individual card readers fail, assure that the individual assembling are re-directed to an operating reader.

b. If all the assembly card readers fail, consider aborting the drill. If the assembly must continue, assure hand logs are generated.

c. Actual assemblies must continue until completion.

XIV. Maintain a communication channel with the security assembly coordinator, to verify the estimated completion time and assembly conditions.

XV. Fifteen minutes after the siren, consider requesting an intermediate assembly report, an AA-R from the console operator.

XVI. To prepare for the accountability, delete the names of known non-participants, obtained in B.III.d, B.V. and B.IX.

XVII. As soon as the assembly appears to be completed request an AA-R printout from the console operator.

a. If the assembly is a drill and the assembly is not completed by twenty five minutes after the siren, consider aborting the drill.

XVIII. Review and compare the assembly reports, print outs, handlogs, and designated non-participants to determine if anyone is unaccounted for.

XIX. After determining who is unaccounted for using the Unit/Sector outline, advise the Station Director who is missing and their last known location.

XX. Advise the Rad Chem Director of the missing individuals, their last known location and inquire if a search is to be implimented.

XXI. Advise the search party of the names of the individuals missing, their company affiliation and the last known location.

XXII. This concludes the assembly participation.

XXIII. If the assembly was a drill, assure that the security force personnel are released first. Advise the console operator to run an AA-E and return all alarms and activities to normal.

XXIV. If the GSEP activity requires an evacuation, request the Rad Chem Director to suggest an evacuation route. Advise the Security Shift Supervisor of the evacuation and route.

XXV. Upon direction from the Station Director, release the assemblers either to evacuation or normal duties.

NOTIFICATIONS

A. PURPOSE

The purpose of this procedure is to outline the various notification requirements for GSEP response conditions.

B. REFERENCES

1. IE Bulletin No. 79-06B.
2. IE Bulletin No. 79-08.
3. IE Bulletin No. 80-15.
4. IE Information Notice 80-06.
5. Supplement to IE Information Notice 80-06, dated July 29, 1980.
6. 10CFR Part 50 Section 50.72, Notification of Significant Events.
7. 10CFR Part 20 Section 20.403, Notification of Incidents.
8. Nuclear Stations Division Manager's Directive No. 014.
9. Generating Stations Emergency Plan, Section 6.0.
10. Regulatory Guide 1.16.
11. Technical Specification, Section 6.6.
12. LZP 1110-1, "Station Director Implementing Procedure."
13. LZP 1210-1, "Hazardous Material Incidents Reporting."
14. LZP 1380-1, "Control of Oil Spills."
15. Environmental Emergency Plan Inplementing Procedures.
16. 10 CFR Part 70 Section 70.52.
17. 10 CFR Part 73 Section 73.71

18. LXP 100, "Security Contingency Events (General)."

C. PREREQUISITES

1. None.

D. PRECAUTIONS

1. All information given over the ENS phone will be designated as unofficial and preliminary until it is reviewed and finalized by the Shift Engineer, the Station Director or Command Center Desk.

E. LIMITATIONS AND ACTIONS

1. Whenever the NRC phone (ENS) is used, notification of the General Office Nuclear Duty Officer is required. Normally, the station will inform the Power Supply Load Dispatcher to make this required notification. However if shift supervisor received instructions (via the night orders or direct communication with the specific Duty Officer) to take the responsibility for direct notification of the Duty Officer, they must then inform the load dispatcher that the station will make the required notification.

F. PROCEDURE

1. When initial notification of an emergency is made to State or local authorities the State of Illinois Nuclear Accident Report Form (Attachment C) is to be used to compile the information needed for the report with periodic updates made whenever possible if plant or atmospheric conditions change significantly. Per 10 CFR 50 App E. D.3, State and local authorities must be notified within 15 min. of declaring an emergency (initiation of GSEP).

2. A requirement to notify the NRC within one (1) hour applies to the following events which should be reported on the Control Room phone:

   a. In accordance with References 1 and 2, one hour notifications shall be made when the reactor is not in a controlled or expected condition while operating or shutdown. This condition is interpreted to mean:

1) A LOCA or similar failure of the reactor coolant system which results in an uncontrolled increase in containment radiation levels, pressures, or temperatures or unexpected uncontrolled release of radioactivity off-site.

2) When the reactor coolant system pressures and temperatures are not under control or following expected trends within a reasonable amount of time such as 15 minutes after a transient.

b. In accordance with Reference 4, 5, 6, and 9, notification shall be made as soon as possible and, in all cases, within one hour by telephone for the events listed below. For the following events, also establish and maintain an <u>open continuous</u> communications channel with the NRC Operations Center and close this channel <u>only</u> when notified by the NRC:

1) Any event requiring initiation of the licensee's emergency plan or any section of that plan as described below:

a) See Attachment A (GSEP Table LA 5-1, LSCS Emergency Action Levels).

b) Fires are reportable if an off-site fire department is notified to respond or assist, or more than ten (10) minutes is required from the time of discovery to control or extinguisn the fire.

2) The exceeding of any Technical Specification Safety Limit.

3) Any act that threatens the safety of the nuclear power plant or site personnel, or the security of special nuclear material. This includes civil disturbances or acts of sabotage or attempted sabotage. (See LXP 100 for additional information.)

c. In accordance with Reference 4, 5, 6, 7, and 8, notification shall be made as soon as possible

and in all cases within one hour by telephone for the following events:

1) Any event requiring initiation of shutdown of the nuclear power plant in accordance with Technical Specification Limiting Conditions for Operation.

2) Personnel error or procedural inadequacy which, during normal operations, anticipated operational occurrences, or accident conditions, prevents or could prevent, by itself, the fulfillment of the safety function of those structures, systems, and components important to safety that are needed to (i) shutdown the reactor safely and maintain it in a safe shutdown condition, or (ii) remove residual heat following reactor shutdown, or (iii) limit the release of radioactive material to acceptable levels or reduce the potential for such release.

3) Any event resulting in manual or automatic actuation of Engineered Safety Features, including the Reactor Protection System. Notification is required for unplanned unit or reactor trips resulting from valid Reactor Protection System (RPS) actuation. Excluded from notification are:

   a) Partial actuation of safeguards or RPS (i.e. -half scrams).

   b) Actuation of ESF including the RPS which result from and are part of the planned sequence during surveillance testing or startup testing.

4) Any accidental, unplanned, or uncontrolled radioactive release (normal or expected releases from maintenance or other operational activities are not included). Gaseous or liquid releases require notification if:

   a) A minor release which escapes the plant, is detectable either through sampling or observation of a (recording)

monitor, or reaches a monitor alarm setpoint, and is associated with an unplanned or accidental event.

b) The release exceeds a Technical Specification Limiting Condition for operation.

c) Excluded from notification are increases in effluent monitor from sampling, inventory changes in rented tanks or equipment, and increases attributable to operating processes wherein radioactive water moves through systems with minor leakage such that activity will be released to vented buildings. (i.e. - start of pumps with controlled leakage seals)

5) Any fatality or serious injury occurring on the site and requiring transport to an off-site medical facility for treatment. Serious injury is considered to be any injury that in the judgement of the licensee representative will require admission of the injured individual to a hospital for treatment or observation for an extended period of time (greater than 48 hours). Injuries that only require treatment and/or medical observation at a hospital or off-site medical facility, but do not meet the conditions satisfied above, are not required to be reported.

a) Notification should also be made for less severe injuries if contamination complications also exist or if an ambulance service is used to transport the victim to an off-site medical facility.

6) Any serious personnel radioactive contamination requiring extensive on-site decontamination or outside assistance.

7) Any incident involving by-product, source, or special nuclear material which, in

accordance with 10CFR section 20.403, may have caused or threatens to cause:

a) Exposure of the whole body of any individual to 25 rems or more of radiation; exposure of the skin of the whole body of any individual of 150 rems or more of radiation; or exposure of the feet, ankles, hands or forearms of any individual to 375 rems or more of radiation; or

b) The release of radioactive material in concentrations which, if averaged over a period of 24 hours, would exceed 5,000 times the limits specified for such materials in 10CFR 20 Appendix B, Table II (see Attachment B); or

c) The loss of one working week or more of the operation of any facilities affected; or

d) Damage to property in excess of $200,000.00.

8) Strikes of operating employees or security guards, or honoring of picket lines by these employees.

d. In accordance with Reference 3, notification shall be made within one hour, by commercial telephone or relayed message, to the NRC Operations Center, when one or more extensions of the Emergency Notification System (ENS) is found to be inoperable for any reason. (See precaution #1)

3. Notification of reportable Oil or Hazardous Substances.

a. Oil spills shall be reported as required per Reference 14.

b. Hazardous materials shall be reported in accordance with Reference 13.

4. A requirement to notify the NRC within twenty-four (24) hours applies to the following events which should be reported on the Control Room phone. These

events should be confirmed by telegraph, mailgram, or facsimile transmission by no later than the first working day following the event, with a written followup report within two weeks.

a. In accordance with Reference 7, any incident involving licensed material which may have causes or threatens to cause:

1) Exposure of the whole body of any individual to 5 rems of more or radiation; exposure of the skin of the whole body of any individual to 30 rems or more of radiation; or exposure of the feet, ankles, hands, or forearms to 75 rems or more of radiation; or

2) The release of radioactive material in concentration which, if averaged over a period of 24 hours, would exceed 500 times the limits specified for such materials in 10CFR20 Appendix B, Table II (see Attachment B); or

3) A loss of one day or more of the operation of any facilities affected; or

4) Damage to property in excess of $2,000.00.

b. In accordance with Reference 10, notification shall be made as expeditiously as possible, but within 24 hours by telephone for the following events:

1) Failure of the reactor protection system or other systems subject to limiting safety-system settings to initiate the required protective function by the time a monitored parameter reaches the setpoint specified as the limiting safety-system setting in the technical specifications or failure to complete the required protective function.

2) Errors discovered in the transient or accident analyses or in the methods used for such analyses as described in the safety analyses report or in the bases for the technical specifications that have

or could have permitted reactor operation in a manner less conservative than assumed in the analyses.

3) Performance of structures, systems, or components that requires remedial action or corrective measures to prevent operation in a manner less conservative than that assumed in the accident analyses in the safety analyses report or technical specifications bases; or discovery during plant life of conditions not specifically considered in the safety analyses report or technical specifications that require remedial action or corrective measures to prevent existence or development of an unsafe condition.

5. Accidental criticality requires immediate NRC Regional Office notification (Region III) by telephone and a followup telegram, mailgram or facsimile (Reference 17).

6. As required in Reference 17 and 18, one hour notification of the NRC Operations Center via the ENS line is required for:

a. Any event which significantly threatens or lessens the effectiveness of a physical security system.

b. The loss, unlawful diversion, theft, attempted theft or suspected attempted theft of special nuclear material. This event also requires immediate notification of the NRC Regional Office by telephone and followup telegram, mailgram or facsimile notification.

c. An act of radiological sabotage against the plant or its transportation system.

G. CHECKLISTS

1. None.

H. TECHNICAL SPECIFICATION REFERENCES

1. Section 6.6.

LSCS EMERGENCY ACTION LEVELS

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
Class Description	Events in progress or have occurred which indicated a potential degradation of the level of Safety of the plant.	Events in progress or have occurred which involve and actual or potential substantial degradation of the level of safety of the plant.	Events in progress or have occurred which involve actual or likely major failures of plant functions need for protection of the public	Events in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.
1) Aircraft Crash or missiles from whatever source.	Impacted on-site	Impacted on-site and requiring unit shutdown due to the implementation of an ACTION statement of the Technical Specifications	Impacted on-site and requiring unit shutdown due to the implementation of Technical Specification Section 3.0.3.	
2) Control Room Evacuation		Evacuation is anticipated or required with control established from remote shutdown panel	Evacuation is required and control is not established from remote shutdown panel within 15 min.	

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
3) Earthquake (Activation of seismic monitoring alarm with level verification from the Aux. Electric Room) (Not spurious or testing)	Equipment activated at the setpoint level ($\leq$ 0.01g)	At a level greater then an Operating Basis Earthquake (0.1 g horizontal 0.066 g vertical)	At a level greater than a Safe Shutdown Earthquake with a unit not in cold shutdown or refueling (0.2 g horizontal 0.133 g vertical)	
4) Explosion Causing Damage	Onsite.	Requiring unit shutdown due to the implementation of an ACTION statement of the Technical Specifications	Requiring unit shutdown due to the implementation of Technical Specifications Section 3.0.3.	
5) Fire (Ongoing as detected by observation or alarm, and verified by the Fire brigade)	Requiring offsite assistance	Requiring offsite assistance and requiring unit shutdown due to the implementation of an ACTION statement of the Technical Specifications	Requiring offsite assistance and requiring unit shutdown due to the implementation of Technical Specification 3.0.3.	

ATTACHMENT A
LSCS EMERGENCY ACTION LEVELS

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
6) Flood	Rupture of cooling pond dike affecting offsite property	1) Illinofs River > 610' MSL (88 feet above max probable flood) 2) > 25 inches of rain in a 48 hour period as determined from the National Weather Service	1) Illinois River > 710' MSL (188 feet above max probable flood) 2) > 25 inches of rain in a 6 hour period.	
7) FSAR Analyzed Accidents NOTE: For fuel Handling Accident (FSAR 15.7.4), see condition no. 17.		1) Control Rod Drop (FSAR 15.4.9) 2) Pipe Breaks Outside Primary Containment (FSAR Appendix C)	1) Pipe Breaks Inside Primary Containment (FSAR 6.2, 6.3, 7.1, 7.3, 8.3, 15.6.5) 2) Gaseous Radwaste Adsorber Tank Rupture (FSAR 15.7.1)	

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
8) Security Threat	The following events as described in the Security Plan: 1) Obvious attempt to sabotage. 2) Internal disturbance (disturbance which is not short lived or is not a harmless outburst involving one or more individuals within the protected area). 3) Bomb device discovered. 4) Hostage. 5) Civil disturbance (spontaneous collective group gathering which disrupts normal operations). 6) Armed or forced protected area intrusion. 7) Armed or forced vital area intrusion.	Security Threat of increasing severity that persists for more than 60 minutes.	Imminent loss of physical control of facility.	Loss of physical control of facility.

ATTACHMENT A
LSCS EMERGENCY ACTION LEVELS

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
9) Tornado or Severe winds being experienced (Wind speed as indicated in Control Room)	1) Tornado near facility. a) Control Room informed by Load Dispatcher or b) Informed by Station personnel who have made visual sighting. 2) Sustained winds of > 60 mph.	1) Tornado strikes facility 2) Sustained winds of > 75 mph.	Sustained winds of > 90 mph (Designed Winds)	
10) Toxic Gas (Chlorine, Ammonia)	Incident observed near or onsite	Detected by the Chlorine and Ammonia Detection System <u>with</u> Control Room and Auxiliary Electric Equipment Room Emergency Filtration System operable. Chlorine detected at 5 ppm Ammonia detected at 50 ppm	Detected by the Chlorine and Ammonia Detection System <u>without</u> Emergency Filtration System operable .	
11) Loss of AC Power	Unit shutdown due to implementation of Technical Specification ACTION statement 3.8.1.1.	Unit shutdown due to implementation of Technical Specification Section 3.0.3	Loss of <u>all</u> the following 4160 VAC Busses for>15 minutes: 141y (241y), 142y (242y) and 143 (243)	

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
12) DC Power	Unit shutdown due to implementation of Technical Specification ACTION statement 3.8.2.3	Unit shutdown due to implementation of Technical Specification Section 3.0.3	Loss of <u>all</u> the following 125 VDC Distribution Panels for > 15 minutes 111y(211y), 112y(212y), 113(213)	
13) Plant Shutdown Functions		1) Loss of all systems capable of maintaining cold shutdown, or 2) Failure of the Reactor Protection System instrumentation to initiate and complete a SCRAM which brings the reactor subcritical once a limiting Safety system setting, as specified in Technical Specifications Section 2.2.1, has been exceeded.	Loss of systems capable of maintaining hot shutdown.	
14) Other Systems required by any Technical Specification (such as ECCS, fire protection systems, control room ventilation, etc.)	Unit shutdown due to the implementation of a Technical Specifications ACTION statement.	Unit shutdown due to implementation of Technical Specifications Section 3.0.3		

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
15). Loss of Fission Product Barriers		A. $\geq 2.10^2$ R/hr Primary Containment Activity, or B. Loss of 1 of the following 3 fission product barriers: 1) Cladding: grab sample > 300 uci/cc equivalent of I-131 2) Reactor Coolant Sys: > 1.69 psig drywell pressure and < -129 inches Reactor Vessel Level 3) Primary Containment: a) > 45 psig Containment pressure, or b) > 340°F drywell temperature , or c) > 275°F wetwell air temp., or d) > 200°F wetwell water temp.	A. $\geq 4x10^2$ R/hr Primary Containment Activity, or B. Loss of 2 of the following 3 fission product barriers: 1) Cladding: grab sample > 300 uci/cc equivalent of I-131 2) Reactor Coolant Sys: > 1.69 psig drywell pressure and < -129 inches Reactor Vessel Level 3) Primary Containment: a) > 45 psig Containment pressure, or b) > 340°F drywell temperature, or c) > 275°F wetwell air temp., or d) > 200°F wetwell water temp., or e) Loss of Primary Containment integrity when Containment integrity is required.	A. $\geq 2x10^3$ R/hr Primary Containment Activity, and B. Loss of 2 of the following 3 fission product barriers, with an imminent loss of the 3rd fission product barrier: 1) Cladding: grab sample > 300 uci/cc equivalent of I-131 2) Reactor Coolant Sys: > 1.69 psig drywell pressure and < -129 inches Reactor Vessel Level 3) Primary Containment: a) > 45 psig Containment pressure, or b) > 340°F drywell temperature, or c) > 275°F wetwell air temp., or d) > 200°F wetwell water temp., or e) Loss of Primary Containment intergity when Containment integrity is required.

ATTACHMENT A
LSCS EMERGENCY ACTION LEVELS

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
16) Loss Primary Coolant	1) ECCS Initiation (Not spurious) examples: a) Loss of F.W. b) Loss of Condensate 2) Failure of a Primary System Safety Valve to close as indicated by position indication.	A >50 gpm leakage <u>increase</u> in a 4 hour period as indicated by monitors* or totalizer.	1) A >500 gpm leakage <u>increase</u> in a 4 hour period as indicated by monitors* 2) A Main Steam Line Break Outside Containment <u>without isolation</u> (MSIV closure) as indicated by the following alarms: MS line area temp Hi; Main steam line flow high.	Imminent Core Melt
17) Fuel Handling Accident (Report of damage to irradiated fuel assemblies and fuel pool exhaust Monitor > 100 mR/hr)		Standby gas treatment system operable	Standby gas treatment system <u>not</u> operable	

* Monitors are: Primary Containment sump flow monitors; or air coolers condensate flow rate monitors.

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
18) Radiation Releases From the Plant	1) Gaseous Effluents 10CFR20 instantaneous release limits (10CFR20.105) are exceeded as measured by the vent stack radiation monitor and/or counting equipment.	1) Gaseous Effluents >10 times the 10CFR20 imstantameou release limits (10CFR20.105) as measured by the vent stack radiation monitor and/or counting equipment.	1) Gaseous Effluents Effluent monitors detect level corresponding to >50 mR/hr (1.3×10^7 uCi/sec) for 1/2 hour or >500 mR/hr (1.3×10^8 uCi/sec) for 2 minutes at the site boundary (adverse meteorology)	1) Gaseous Effluents Effluent monitors detect levels corresponding to >1 Rem/hr whole body at the site boundary. This condition exists when: $Q/u > 4.5 \times 10^7$ where Q=release rate in uCi/sec u=mean wind speed in mph or $Q/u > 1 \times 10^8$ where Q=release rate in uCi/sec u=mean wind speed in meters/sec
	2) Liquid Effluents estimated liquid release > 4 Ci but $\leq$ 40 Ci** sampled and measured counting equipment.	2) Liquid Effluents $>10^{-6}$ uCi/ml as measured by monitors* and/or counting equipment or Estimated liquid release > 40 Ci but $\leq$ 2000 Ci	2) Liquid Effluents Estimated liquid release > 2000 Ci but $\leq$ 20,000 Ci	2) Liquid Effluents Estimated liquid release > 2×10^4 Ci

* Monitors: Radioactive liquid waste effluent radiation monitors
service water effluent monitor
** $>1 \times 10^{-7}$ µCi/ml but $\leq 1 \times 10^{-6}$ µCi/ml

CONDITION	UNUSUAL EVENT	ALERT	SITE EMERGENCY	GENERAL EMERGENCY
19) Personnel Injury	Transportation of radioactivity contaminated injured person to hospital			
20) Hazardous Materials	As a direct result of hazardous materials a person is killed or hospitalized or estimated property damage exceeds $50,000.			
21) Any other conditions of equivalent magnitude to the criteria used to define the accident category as determined by Station Director.*	Warrants increased awareness on the part of the state and/or local offsite officials			

*Conditions that may or may not warrant classification under GSEP include:

a. Incident reporting per 10CFR50.72
b. Incident reporting per 10CFR20.403 or Illinois Rules and Regulations, Part D .403.
c. Discharges of oil or hazardous substances into waterways per 33CFR153.
d. Security contingency events per the Station Security Plan.

The Station Director may, at his discretion, categorize the above situations as GSEP emergencies, depending upon the seriousness of the situation. (Refer to Section 10.3 of the generic plan for additional information).

ATTACHMENT A

LSCS EMERGENCY ACTION LEVELS

Transportation Accident

A. A vehicle transporting radioactive materials or non-radioactive hazardous materials from a Commonwealth Edison generating station is involved in a situation in which:

1. Fire, breakage, or suspected radioactive contamination occurs involving a shipment of radioactive material or;

2. As a direct result of hazardous materials,

   (a) A person is killed; or
   (b) A person receives injuries requiring hospitalization; or
   (c) Estimated carrier or other property damage exceeds $50,000.

B. Any other condition involving hazardous material transportation and equivalent to the criteria in Item A.

ATTACHMENT B

APPENDIX B

Concentrations in Air and Water Above Natural Background

(See footnotes on page 20-18)

Element (atomic number)	Isotope [1] †		Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Actinium (89)	Ac 227	S	2×10^{-12}	6×10^{-3}	8×10^{-14}	2×10^{-4}
		I	3×10^{-11}	9×10^{-3}	9×10^{-13}	3×10^{-4}
	Ac 228	S	8×10^{-9}	3×10^{-3}	3×10^{-9}	9×10^{-5}
		I	2×10^{-8}	3×10^{-3}	4×10^{-10}	9×10^{-5}
Americium (95)	Am 241	S	6×10^{-13}	1×10^{-4}	2×10^{-13}	4×10^{-6}
		I	1×10^{-10}	8×10^{-4}	4×10^{-12}	3×10^{-5}
	Am 242m	S	6×10^{-13}	1×10^{-4}	2×10^{-13}	4×10^{-6}
		I	3×10^{-10}	3×10^{-3}	9×10^{-13}	9×10^{-5}
	Am 242	S	4×10^{-9}	4×10^{-3}	1×10^{-9}	1×10^{-4}
		I	5×10^{-9}	4×10^{-3}	2×10^{-9}	1×10^{-4}
	Am 243	S	6×10^{-13}	1×10^{-4}	2×10^{-13}	4×10^{-6}
		I	1×10^{-10}	8×10^{-4}	4×10^{-12}	3×10^{-5}
	Am 244	S	4×10^{-6}	1×10^{-1}	1×10^{-7}	5×10^{-3}
		I	2×10^{-6}	1×10^{-1}	8×10^{-9}	3×10^{-3}
Antimony (51)	Sb 122	S	1×10^{-7}	8×10^{-4}	6×10^{-9}	3×10^{-5}
		I	2×10^{-7}	8×10^{-4}	5×10^{-9}	3×10^{-5}
	Sb 124	S	2×10^{-8}	7×10^{-4}	7×10^{-10}	2×10^{-5}
		I	5×10^{-7}	7×10^{-4}	2×10^{-9}	2×10^{-5}
	Sb 125	S	3×10^{-8}	3×10^{-3}	9×10^{-10}	1×10^{-4}
		I	6×10^{-7}		1×10^{-4}	
Argon (18)	A 37	Sub [2]	2×10^{-4}		4×10^{-6}	
	A 41	Sub	2×10^{-6}		7×10^{-8}	5×10^{-6}
Arsenic (33)	As 73	S	4×10^{-7}	1×10^{-2}	1×10^{-8}	5×10^{-4}
		I	3×10^{-7}	1×10^{-2}	1×10^{-8}	5×10^{-4}
	As 74	S	1×10^{-7}	2×10^{-3}	1×10^{-8}	5×10^{-5}
		I	1×10^{-7}	2×10^{-3}	4×10^{-9}	5×10^{-5}
	As 76	S	1×10^{-7}	4×10^{-4}	4×10^{-9}	2×10^{-5}
		I	1×10^{-7}	4×10^{-4}	3×10^{-9}	2×10^{-5}
	As 77	S	3×10^{-7}	2×10^{-3}	2×10^{-8}	8×10^{-5}
		I	4×10^{-7}	2×10^{-3}	1×10^{-8}	8×10^{-5}
Astatine (85)	At 211	S	7×10^{-9}	5×10^{-3}	2×10^{-10}	2×10^{-4}
		I	3×10^{-8}	2×10^{-3}	1×10^{-9}	7×10^{-5}
Barium (56)	Ba 131	S	1×10^{-6}	3×10^{-3}	4×10^{-8}	2×10^{-4}
		I	4×10^{-7}	5×10^{-3}	1×10^{-8}	2×10^{-4}
	Ba 140	S	1×10^{-7}	8×10^{-4}	4×10^{-9}	3×10^{-5}
		I	4×10^{-8}	7×10^{-4}	1×10^{-9}	3×10^{-5}
Berkelium (97)	Bk 249	S	9×10^{-10}	2×10^{-1}	3×10^{-11}	6×10^{-3}
		I	1×10^{-7}	2×10^{-1}	4×10^{-9}	6×10^{-3}
	Bk 250	S	1×10^{-7}	6×10^{-3}	5×10^{-9}	2×10^{-4}
		I	1×10^{-6}	6×10^{-3}	4×10^{-8}	2×10^{-4}
Beryllium (4)	Be 7	S	4×10^{-6}	5×10^{-3}	2×10^{-7}	2×10^{-4}
		I	1×10^{-6}	5×10^{-3}	4×10^{-8}	2×10^{-4}
Bismuth (83)	Bi 206	S	3×10^{-7}	1×10^{-3}	6×10^{-9}	4×10^{-5}
		I	1×10^{-7}	1×10^{-3}	5×10^{-9}	4×10^{-5}
	Bi 207	S	2×10^{-7}	2×10^{-3}	6×10^{-9}	6×10^{-5}
		I	1×10^{-6}	2×10^{-3}	3×10^{-10}	6×10^{-5}
	Bi 210	S	6×10^{-9}	1×10^{-3}	2×10^{-10}	4×10^{-5}
		I	6×10^{-9}	1×10^{-3}	2×10^{-10}	4×10^{-5}
	Bi 212	S	1×10^{-7}	1×10^{-3}	3×10^{-9}	4×10^{-5}
		I	2×10^{-7}	1×10^{-3}	7×10^{-9}	4×10^{-5}

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APPENDIX B

Concentrations in Air and Water Above Natural Background—Continued

(See footnotes on page 20-18)

Element (atomic number)	Isotope [1] †		Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Bromine (35)	Br 82	S	1×10^{-6}	6×10^{-3}	4×10^{-8}	3×10^{-4}
		I	2×10^{-7}	1×10^{-3}	6×10^{-9}	4×10^{-5}
Cadmium (48)	Cd 109	S	5×10^{-8}	5×10^{-3}	2×10^{-9}	2×10^{-4}
		I	7×10^{-8}	8×10^{-3}	3×10^{-9}	2×10^{-4}
	Cd 115m	S	4×10^{-8}	7×10^{-4}	1×10^{-9}	3×10^{-5}
		I	4×10^{-8}	7×10^{-4}	1×10^{-9}	2×10^{-5}
	Cd 115	S	2×10^{-7}	1×10^{-3}	6×10^{-9}	3×10^{-5}
		I	2×10^{-7}	1×10^{-3}	6×10^{-9}	4×10^{-5}
Calcium (20)	Ca 45	S	3×10^{-8}	3×10^{-4}	1×10^{-9}	9×10^{-6}
		I	1×10^{-7}	5×10^{-3}	4×10^{-9}	2×10^{-4}
	Ca 47	S	2×10^{-7}	1×10^{-3}	6×10^{-9}	5×10^{-5}
		I	2×10^{-7}	1×10^{-3}	6×10^{-9}	3×10^{-5}
Californium (98)	Cf 249	S	2×10^{-13}	1×10^{-4}	5×10^{-14}	4×10^{-6}
		I	1×10^{-10}	7×10^{-4}	3×10^{-12}	2×10^{-5}
	Cf 250	S	3×10^{-12}	4×10^{-4}	2×10^{-13}	1×10^{-5}
		I	1×10^{-10}	7×10^{-4}	3×10^{-12}	3×10^{-5}
	Cf 251	S	2×10^{-13}	1×10^{-4}	6×10^{-14}	4×10^{-6}
		I	1×10^{-10}	8×10^{-4}	3×10^{-12}	3×10^{-5}
	Cf 252	S	6×10^{-13}	3×10^{-4}	2×10^{-13}	7×10^{-6}
		I	3×10^{-11}	3×10^{-4}	1×10^{-11}	7×10^{-6}
	Cf 253	S	8×10^{-10}	4×10^{-3}	3×10^{-11}	1×10^{-4}
		I	8×10^{-10}	4×10^{-3}	3×10^{-11}	1×10^{-4}
	Cf 254	S	5×10^{-13}	4×10^{-6}	2×10^{-13}	1×10^{-7}
		I	5×10^{-13}	4×10^{-6}	2×10^{-13}	1×10^{-7}
Carbon (6)	C 14 (CO_2)	Sub	4×10^{-6}	2×10^{-2}	1×10^{-7}	8×10^{-7}
			5×10^{-6}		1×10^{-6}	
Cerium (58)	Ce 141	S	4×10^{-7}	3×10^{-3}	2×10^{-8}	9×10^{-5}
		I	2×10^{-7}	3×10^{-3}	5×10^{-9}	9×10^{-5}
	Ce 143	S	2×10^{-7}	1×10^{-3}	9×10^{-9}	4×10^{-5}
		I	2×10^{-7}	1×10^{-3}	7×10^{-9}	4×10^{-5}
	Ce 144	S	1×10^{-8}	3×10^{-4}	3×10^{-10}	1×10^{-5}
		I	6×10^{-9}	3×10^{-4}	2×10^{-10}	1×10^{-5}
Cesium (55)	Cs 131	S	1×10^{-6}	7×10^{-3}	4×10^{-8}	2×10^{-4}
		I	3×10^{-6}	3×10^{-3}	1×10^{-7}	9×10^{-5}
	Cs 134m	S	4×10^{-6}	2×10^{-3}	1×10^{-7}	6×10^{-5}
		I	4×10^{-6}	3×10^{-3}	1×10^{-7}	1×10^{-4}
	Cs 134	S	1×10^{-6}	1×10^{-3}	2×10^{-8}	9×10^{-5}
		I	5×10^{-7}	2×10^{-3}	9×10^{-9}	4×10^{-5}
	Cs 135	S	9×10^{-8}	7×10^{-3}	3×10^{-9}	2×10^{-4}
		I	4×10^{-7}	2×10^{-3}	1×10^{-8}	2×10^{-4}
	Cs 136	S	2×10^{-7}	2×10^{-3}	6×10^{-9}	9×10^{-5}
		I	6×10^{-8}	4×10^{-3}	2×10^{-9}	6×10^{-5}
	Cs 137	S	1×10^{-8}	1×10^{-3}	5×10^{-10}	2×10^{-5}
		I	4×10^{-7}	2×10^{-3}	1×10^{-8}	4×10^{-5}
Chlorine (17)	Cl 36	S	2×10^{-8}	1×10^{-3}	8×10^{-10}	6×10^{-5}
		I	3×10^{-8}	1×10^{-3}	9×10^{-10}	4×10^{-5}
	Cl 38	S	2×10^{-6}	1×10^{-3}	7×10^{-8}	4×10^{-5}
		I	2×10^{-6}	1×10^{-3}	8×10^{-8}	4×10^{-5}
Chromium (24)	Cr 51	S	1×10^{-6}	3×10^{-2}	4×10^{-8}	2×10^{-3}
		I	2×10^{-6}	5×10^{-2}	9×10^{-8}	2×10^{-3}

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APPENDIX B

Concentrations in Air and Water Above Natural Background—Continued

(See footnotes on page 20-18)

Element (atomic number)	Isotope [1]	†	Table I		Table II	
			Column 1 Air (μCi/ml)	Column 2 Water (μCi/ml)	Column 1 Air (μCi/ml)	Column 2 Water (μCi/ml)
Cobalt (27)	Co 57	S	3×10^{-6}	2×10^{-5}	1×10^{-7}	5×10^{-7}
		I	4×10^{-7}	1×10^{-5}	6×10^{-9}	4×10^{-7}
	Co 58m	S	2×10^{-5}	8×10^{-5}	6×10^{-7}	3×10^{-6}
		I	9×10^{-6}	6×10^{-5}	3×10^{-7}	2×10^{-6}
	Co 58	S	6×10^{-7}	4×10^{-6}	3×10^{-9}	1×10^{-7}
		I	5×10^{-6}	3×10^{-5}	2×10^{-8}	9×10^{-7}
	Co 60	S	3×10^{-7}	1×10^{-6}	1×10^{-9}	5×10^{-8}
		I	9×10^{-9}	1×10^{-6}	3×10^{-10}	2×10^{-8}
Copper (29)	Cu 64	S	2×10^{-6}	1×10^{-5}	7×10^{-9}	3×10^{-7}
		I	1×10^{-6}	6×10^{-5}	4×10^{-8}	2×10^{-6}
Curium (96)	Cm 242	S	1×10^{-10}	7×10^{-4}	4×10^{-12}	2×10^{-7}
		I	2×10^{-10}	7×10^{-4}	6×10^{-12}	3×10^{-7}
	Cm 243	S	6×10^{-12}	1×10^{-4}	2×10^{-13}	5×10^{-8}
		I	1×10^{-10}	7×10^{-4}	3×10^{-12}	2×10^{-7}
	Cm 244	S	9×10^{-12}	2×10^{-4}	3×10^{-13}	7×10^{-8}
		I	1×10^{-10}	8×10^{-4}	3×10^{-12}	3×10^{-7}
	Cm 245	S	5×10^{-13}	1×10^{-4}	2×10^{-13}	4×10^{-8}
		I	1×10^{-10}	8×10^{-4}	4×10^{-13}	3×10^{-7}
	Cm 246	S	5×10^{-13}	1×10^{-4}	2×10^{-13}	4×10^{-8}
		I	1×10^{-10}	8×10^{-4}	4×10^{-13}	3×10^{-7}
	Cm 247	S	9×10^{-12}	1×10^{-4}	2×10^{-13}	4×10^{-8}
		I	1×10^{-10}	6×10^{-4}	4×10^{-13}	2×10^{-7}
	Cm 248	S	6×10^{-13}	1×10^{-5}	2×10^{-14}	4×10^{-9}
		I	1×10^{-11}	4×10^{-5}	4×10^{-13}	1×10^{-7}
	Cm 249	S	1×10^{-5}	6×10^{-3}	4×10^{-7}	2×10^{-6}
		I	1×10^{-5}	6×10^{-3}	4×10^{-7}	2×10^{-6}
Dysprosium (66)	Dy 165	S	3×10^{-6}	1×10^{-5}	9×10^{-9}	4×10^{-8}
		I	2×10^{-6}	1×10^{-5}	7×10^{-8}	4×10^{-8}
	Dy 166	S	2×10^{-7}	1×10^{-5}	8×10^{-9}	4×10^{-8}
		I	2×10^{-7}	1×10^{-5}	7×10^{-9}	4×10^{-8}
Einsteinium (99)	Es 253	S	8×10^{-10}	7×10^{-6}	3×10^{-11}	2×10^{-8}
		I	6×10^{-10}	7×10^{-6}	2×10^{-11}	2×10^{-8}
	Es 254m	S	3×10^{-8}	3×10^{-4}	2×10^{-10}	2×10^{-6}
		I	6×10^{-9}	5×10^{-4}	2×10^{-10}	2×10^{-6}
	Es 254	S	2×10^{-11}	4×10^{-4}	6×10^{-13}	1×10^{-6}
		I	1×10^{-10}	4×10^{-4}	4×10^{-12}	1×10^{-6}
	Es 255	S	5×10^{-10}	8×10^{-4}	2×10^{-11}	3×10^{-6}
		I	4×10^{-10}	8×10^{-4}	1×10^{-11}	3×10^{-6}
Erbium (68)	Er 169	S	6×10^{-7}	3×10^{-5}	2×10^{-8}	9×10^{-8}
		I	4×10^{-7}	3×10^{-5}	1×10^{-8}	9×10^{-8}
	Er 171	S	7×10^{-7}	3×10^{-5}	2×10^{-8}	1×10^{-7}
		I	6×10^{-7}	3×10^{-5}	2×10^{-8}	1×10^{-7}
Europium (63)	Eu 152 (T/2 = 9.2 hrs)	S	4×10^{-7}	2×10^{-5}	1×10^{-8}	6×10^{-8}
		I	3×10^{-7}	2×10^{-5}	1×10^{-8}	6×10^{-8}
	Eu 152 (T/2 = 13 yrs)	S	1×10^{-6}	2×10^{-5}	4×10^{-10}	6×10^{-8}
		I	2×10^{-6}	2×10^{-5}	4×10^{-10}	8×10^{-8}
	Eu 154	S	4×10^{-7}	6×10^{-6}	1×10^{-10}	2×10^{-8}
		I	7×10^{-7}	6×10^{-6}	2×10^{-10}	2×10^{-8}
	Eu 155	S	9×10^{-8}	6×10^{-5}	3×10^{-9}	2×10^{-7}
		I	7×10^{-8}	6×10^{-5}	3×10^{-9}	2×10^{-7}

Element (atomic number)	Isotope [1]	†	Table I		Table II	
			Column 1 Air (μCi/ml)	Column 2 Water (μCi/ml)	Column 1 Air (μCi/ml)	Column 2 Water (μCi/ml)
Fermium (100)	Fm 254	S	6×10^{-6}	4×10^{-5}	2×10^{-7}	1×10^{-6}
		I	7×10^{-6}	4×10^{-5}	2×10^{-9}	1×10^{-6}
	Fm 253	S	2×10^{-6}	1×10^{-5}	6×10^{-10}	3×10^{-8}
		I	1×10^{-6}	1×10^{-5}	6×10^{-10}	3×10^{-8}
	Fm 256	S	3×10^{-9}	3×10^{-5}	1×10^{-10}	9×10^{-7}
		I	2×10^{-9}	3×10^{-5}	6×10^{-11}	9×10^{-7}
Fluorine (9)	F 18	S	5×10^{-6}	2×10^{-5}	2×10^{-7}	8×10^{-7}
		I	3×10^{-6}	1×10^{-5}	9×10^{-8}	5×10^{-7}
Gadolinium (64)	Gd 153	S	2×10^{-7}	6×10^{-5}	8×10^{-9}	2×10^{-6}
		I	9×10^{-8}	6×10^{-5}	3×10^{-9}	2×10^{-6}
	Gd 159	S	5×10^{-7}	2×10^{-5}	2×10^{-8}	8×10^{-7}
		I	4×10^{-7}	2×10^{-5}	1×10^{-8}	8×10^{-7}
Gallium (31)	Ga 72	S	2×10^{-7}	1×10^{-5}	8×10^{-9}	4×10^{-7}
		I	2×10^{-7}	1×10^{-5}	6×10^{-9}	4×10^{-7}
Germanium (32)	Ge 71	S	1×10^{-5}	8×10^{-5}	4×10^{-7}	2×10^{-6}
		I	6×10^{-6}	5×10^{-5}	2×10^{-7}	2×10^{-6}
Gold (79)	Au 196	S	1×10^{-6}	8×10^{-5}	4×10^{-8}	2×10^{-6}
		I	6×10^{-7}	4×10^{-5}	2×10^{-8}	1×10^{-6}
	Au 198	S	2×10^{-7}	2×10^{-5}	1×10^{-8}	5×10^{-7}
		I	2×10^{-7}	1×10^{-5}	8×10^{-9}	5×10^{-7}
	Au 199	S	1×10^{-6}	8×10^{-5}	4×10^{-8}	2×10^{-6}
		I	8×10^{-7}	4×10^{-5}	3×10^{-8}	2×10^{-6}
Hafnium (72)	Hf 181	S	4×10^{-8}	2×10^{-5}	1×10^{-9}	7×10^{-8}
		I	7×10^{-8}	2×10^{-5}	3×10^{-9}	7×10^{-8}
Holmium (67)	Ho 166	S	2×10^{-7}	9×10^{-4}	7×10^{-9}	3×10^{-7}
		I	2×10^{-7}	9×10^{-4}	6×10^{-9}	3×10^{-7}
Hydrogen (1)	H3	S	5×10^{-6}	1×10^{-3}	2×10^{-7}	3×10^{-5}
		I	5×10^{-6}	1×10^{-3}	2×10^{-7}	3×10^{-5}
		Sub	2×10^{-5}		4×10^{-8}	
Indium (49)	In 113m	S	8×10^{-6}	4×10^{-5}	3×10^{-7}	1×10^{-6}
		I	7×10^{-6}	4×10^{-5}	2×10^{-7}	1×10^{-6}
	In 114m	S	1×10^{-7}	5×10^{-6}	4×10^{-9}	2×10^{-7}
		I	2×10^{-6}	5×10^{-6}	7×10^{-10}	2×10^{-7}
	In 115m	S	2×10^{-6}	1×10^{-5}	8×10^{-9}	4×10^{-7}
		I	2×10^{-6}	1×10^{-5}	6×10^{-9}	4×10^{-7}
	In 115	S	2×10^{-7}	2×10^{-5}	9×10^{-9}	9×10^{-7}
		I	3×10^{-6}	2×10^{-5}	1×10^{-9}	9×10^{-7}
Iodine (53)	I 125	S	5×10^{-9}	4×10^{-8}	8×10^{-11}	2×10^{-7}
		I	2×10^{-7}	6×10^{-8}	6×10^{-9}	2×10^{-6}
	I 126	S	8×10^{-9}	5×10^{-8}	9×10^{-10}	3×10^{-7}
		I	3×10^{-7}	3×10^{-8}	1×10^{-8}	9×10^{-9}
	I 129	S	2×10^{-9}	1×10^{-8}	2×10^{-11}	6×10^{-9}
		I	7×10^{-8}	6×10^{-8}	2×10^{-9}	2×10^{-6}
	I 131	S	9×10^{-9}	6×10^{-8}	1×10^{-10}	3×10^{-7}
		I	3×10^{-7}	2×10^{-8}	1×10^{-9}	4×10^{-7}
	I 132	S	2×10^{-7}	1×10^{-8}	3×10^{-9}	8×10^{-7}
		I	9×10^{-7}	3×10^{-8}	3×10^{-8}	2×10^{-6}
	I 133	S	3×10^{-8}	2×10^{-8}	4×10^{-10}	2×10^{-7}
		I	2×10^{-7}	1×10^{-8}	7×10^{-9}	4×10^{-7}
	I 134	S	5×10^{-7}	4×10^{-8}	6×10^{-9}	2×10^{-6}

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APPENDIX B

Concentrations in Air and Water Above Natural Background—Continued

(See footnotes on page 28-18)

Element (atomic number)	Isotope [1] †	Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Iodine (53)	I 134 I	3×10^{-6}	2×10^{-4}	1×10^{-7}	6×10^{-6}
	I 135 S I	1×10^{-7}	7×10^{-6}	1×10^{-8}	4×10^{-6}
Iridium (77)	Ir 190 S I	4×10^{-7}	2×10^{-3}	1×10^{-8}	7×10^{-5}
		1×10^{-6}	6×10^{-3}	4×10^{-8}	2×10^{-4}
	Ir 192 S I	4×10^{-7}	3×10^{-3}	1×10^{-8}	2×10^{-4}
		1×10^{-7}	1×10^{-3}	4×10^{-9}	4×10^{-5}
	Ir 194 S I	3×10^{-6}	1×10^{-3}	9×10^{-10}	4×10^{-5}
		2×10^{-7}	1×10^{-3}	8×10^{-9}	3×10^{-5}
Iron (26)	Fe 55 S I	2×10^{-7}	9×10^{-4}	5×10^{-9}	3×10^{-5}
		9×10^{-7}	2×10^{-3}	3×10^{-8}	8×10^{-4}
	Fe 59 S I	1×10^{-6}	7×10^{-3}	3×10^{-8}	2×10^{-3}
		1×10^{-7}	2×10^{-3}	5×10^{-9}	6×10^{-5}
Krypton (36)	Kr 83m Sub	5×10^{-6}		2×10^{-9}	5×10^{-5}
	Kr 85 Sub	6×10^{-6}		1×10^{-7}	
	Kr 87 Sub	1×10^{-5}		3×10^{-9}	
	Kr 88 Sub	1×10^{-6}		2×10^{-8}	
Lanthanum (57)	La 140 S I	2×10^{-7}	7×10^{-4}	2×10^{-8}	
Lead (82)	Pb 203 S I	1×10^{-7}	7×10^{-4}	5×10^{-9}	2×10^{-5}
		3×10^{-6}	1×10^{-3}	4×10^{-9}	2×10^{-5}
	Pb 210 S I	2×10^{-6}	1×10^{-3}	9×10^{-9}	4×10^{-6}
		1×10^{-10}	4×10^{-6}	6×10^{-8}	4×10^{-6}
	Pb 212 S I	2×10^{-10}	5×10^{-5}	4×10^{-11}	1×10^{-7}
		2×10^{-8}	6×10^{-4}	8×10^{-11}	2×10^{-6}
Lutetium (71)	Lu 177 S I	2×10^{-7}	5×10^{-4}	6×10^{-10}	2×10^{-5}
		6×10^{-7}	3×10^{-3}	7×10^{-10}	2×10^{-5}
Manganese (25)	Mn 52 S I	5×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
		2×10^{-7}	1×10^{-3}	2×10^{-8}	1×10^{-4}
	Mn 54 S I	1×10^{-7}	9×10^{-4}	7×10^{-9}	3×10^{-5}
		4×10^{-7}	4×10^{-3}	5×10^{-9}	3×10^{-5}
	Mn 56 S I	4×10^{-8}	3×10^{-3}	1×10^{-8}	1×10^{-4}
		8×10^{-7}	4×10^{-3}	1×10^{-9}	1×10^{-4}
Mercury (80)	Hg 197m S I	3×10^{-7}	3×10^{-3}	3×10^{-9}	1×10^{-4}
		7×10^{-7}	6×10^{-3}	2×10^{-8}	1×10^{-4}
	Hg 197 S I	8×10^{-7}	5×10^{-3}	2×10^{-8}	2×10^{-4}
		1×10^{-6}	9×10^{-3}	3×10^{-8}	2×10^{-4}
	Hg 203 S I	3×10^{-6}	1×10^{-2}	4×10^{-8}	2×10^{-4}
		7×10^{-6}	5×10^{-4}	2×10^{-8}	2×10^{-5}
Molybdenum (42)	Mo 99 S I	1×10^{-7}	3×10^{-3}	4×10^{-9}	1×10^{-4}
		7×10^{-7}	5×10^{-3}	3×10^{-8}	2×10^{-4}
Neodymium (60)	Nd 144 S I	2×10^{-7}	1×10^{-3}	7×10^{-9}	2×10^{-5}
		8×10^{-11}	2×10^{-3}	3×10^{-12}	7×10^{-5}
	Nd 147 S I	3×10^{-10}	2×10^{-3}	1×10^{-11}	8×10^{-5}
		4×10^{-7}	2×10^{-3}	1×10^{-8}	6×10^{-5}
	Nd 149 S I	2×10^{-7}	2×10^{-3}	8×10^{-9}	6×10^{-5}
		2×10^{-6}	8×10^{-3}	6×10^{-8}	3×10^{-4}
		1×10^{-6}	8×10^{-3}	5×10^{-8}	3×10^{-4}

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APPENDIX B

Concentrations in Air and Water Above Natural Background—Continued

(See footnotes on page 28-18)

Element (atomic number)	Isotope [1] †	Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Neptunium (93)	Np 237 S I	4×10^{-13}	9×10^{-5}	1×10^{-13}	3×10^{-5}
		1×10^{-10}	9×10^{-4}	4×10^{-13}	3×10^{-5}
	Np 239 S I	8×10^{-7}	4×10^{-3}	2×10^{-8}	1×10^{-4}
		7×10^{-7}	4×10^{-3}	2×10^{-8}	1×10^{-4}
Nickel (28)	Ni 59 S I	5×10^{-7}	6×10^{-3}	2×10^{-8}	2×10^{-4}
		8×10^{-7}	6×10^{-3}	3×10^{-8}	2×10^{-4}
	Ni 63 S I	6×10^{-8}	8×10^{-4}	2×10^{-9}	3×10^{-5}
		3×10^{-7}	2×10^{-3}	1×10^{-8}	7×10^{-4}
	Ni 65 S I	9×10^{-7}	4×10^{-3}	3×10^{-8}	1×10^{-4}
		5×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
Niobium (Columbium) (41)	Nb 93m S I	1×10^{-7}	1×10^{-3}	4×10^{-9}	4×10^{-5}
		2×10^{-7}	1×10^{-3}	8×10^{-9}	4×10^{-5}
	Nb 95 S I	3×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
		1×10^{-7}	3×10^{-3}	3×10^{-9}	1×10^{-4}
	Nb 97 S I	6×10^{-6}	3×10^{-3}	2×10^{-7}	9×10^{-5}
		5×10^{-6}	3×10^{-3}	2×10^{-7}	9×10^{-5}
Osmium (76)	Os 185 S I	3×10^{-7}	2×10^{-3}	2×10^{-8}	7×10^{-5}
		5×10^{-8}	2×10^{-3}	2×10^{-9}	7×10^{-5}
	Os 191m S I	2×10^{-6}	7×10^{-3}	6×10^{-7}	2×10^{-3}
		9×10^{-6}	7×10^{-3}	3×10^{-7}	2×10^{-3}
	Os 191 S I	1×10^{-6}	5×10^{-3}	4×10^{-8}	2×10^{-4}
		4×10^{-7}	5×10^{-3}	1×10^{-8}	2×10^{-4}
	Os 193 S I	4×10^{-7}	2×10^{-3}	1×10^{-8}	6×10^{-5}
		2×10^{-7}	2×10^{-3}	9×10^{-9}	5×10^{-5}
Palladium (46)	Pd 103 S I	1×10^{-6}	1×10^{-3}	5×10^{-8}	3×10^{-4}
		7×10^{-7}	8×10^{-3}	3×10^{-8}	3×10^{-4}
	Pd 109 S I	6×10^{-7}	3×10^{-3}	2×10^{-8}	9×10^{-5}
		4×10^{-7}	2×10^{-3}	1×10^{-8}	7×10^{-5}
Phosphorus (15)	P 32 S I	7×10^{-8}	5×10^{-4}	2×10^{-9}	2×10^{-5}
		8×10^{-8}	7×10^{-4}	3×10^{-9}	2×10^{-5}
Platinum (78)	Pt 191 S I	8×10^{-7}	4×10^{-3}	3×10^{-8}	1×10^{-4}
		6×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
	Pt 193m S I	7×10^{-6}	3×10^{-2}	2×10^{-7}	1×10^{-3}
		5×10^{-6}	3×10^{-2}	2×10^{-7}	1×10^{-3}
*	Pt 193 S I	1×10^{-6}	3×10^{-3}	4×10^{-8}	9×10^{-5}
		3×10^{-7}	8×10^{-3}	1×10^{-8}	2×10^{-4}
	Pt 197m S I	6×10^{-6}	3×10^{-2}	2×10^{-7}	1×10^{-3}
		8×10^{-6}	3×10^{-2}	3×10^{-7}	9×10^{-4}
	Pt 197 S I	8×10^{-7}	4×10^{-3}	3×10^{-8}	1×10^{-4}
		6×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
Plutonium (94)	Pu 238 S I	2×10^{-13}	1×10^{-4}	7×10^{-14}	5×10^{-6}
		3×10^{-11}	8×10^{-4}	1×10^{-12}	3×10^{-5}
	Pu 239 S I	2×10^{-13}	1×10^{-4}	6×10^{-14}	5×10^{-6}
		4×10^{-11}	8×10^{-4}	1×10^{-12}	3×10^{-5}
	Pu 240 S I	2×10^{-13}	1×10^{-4}	6×10^{-14}	5×10^{-6}
		4×10^{-11}	8×10^{-4}	1×10^{-12}	3×10^{-5}
	Pu 241 S I	9×10^{-11}	7×10^{-3}	3×10^{-12}	2×10^{-4}
		4×10^{-9}	4×10^{-2}	1×10^{-9}	1×10^{-3}

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Concentrations in Air and Water Above Natural Background—Continued

(See footnotes on page 20-18)

Element (atomic number)	Isotope [1]	†	Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Plutonium (94)	Pu 241	S	2×10^{-12}	1×10^{-4}	6×10^{-14}	5×10^{-6}
		I	4×10^{-11}	9×10^{-4}	1×10^{-12}	3×10^{-5}
	Pu 243	S	2×10^{-6}	1×10^{-2}	6×10^{-8}	3×10^{-4}
		I	2×10^{-6}	1×10^{-2}	8×10^{-8}	3×10^{-4}
	Pu 244	S	2×10^{-12}	1×10^{-4}	6×10^{-14}	4×10^{-6}
		I	3×10^{-11}	3×10^{-4}	1×10^{-12}	1×10^{-4}
Polonium (84)	Po 210	S	3×10^{-10}	2×10^{-2}	2×10^{-11}	7×10^{-7}
		I	2×10^{-10}	8×10^{-4}	7×10^{-12}	3×10^{-5}
Potassium (19)	K 42	S	2×10^{-6}	9×10^{-3}	7×10^{-8}	3×10^{-4}
		I	1×10^{-7}	6×10^{-4}	4×10^{-9}	2×10^{-5}
Praseodymium (59)	Pr 142	S	2×10^{-7}	9×10^{-4}	7×10^{-9}	3×10^{-5}
		I	2×10^{-7}	9×10^{-4}	5×10^{-9}	3×10^{-5}
	Pr 143	S	3×10^{-7}	1×10^{-3}	1×10^{-8}	5×10^{-5}
		I	2×10^{-7}	1×10^{-3}	6×10^{-9}	5×10^{-5}
Promethium (61)	Pm 147	S	6×10^{-8}	6×10^{-3}	2×10^{-9}	2×10^{-4}
		I	1×10^{-7}	6×10^{-3}	3×10^{-9}	2×10^{-4}
	Pm 149	S	3×10^{-7}	1×10^{-3}	1×10^{-8}	4×10^{-5}
		I	2×10^{-7}	1×10^{-3}	8×10^{-9}	4×10^{-5}
Protoactinium (91)	Pa 230	S	2×10^{-9}	7×10^{-5}	6×10^{-11}	2×10^{-6}
		I	8×10^{-10}	7×10^{-5}	3×10^{-11}	2×10^{-6}
	Pa 231	S	1×10^{-11}	3×10^{-3}	4×10^{-14}	9×10^{-7}
		I	1×10^{-10}	8×10^{-4}	4×10^{-12}	2×10^{-5}
	Pa 233	S	6×10^{-7}	4×10^{-3}	2×10^{-9}	1×10^{-4}
		I	2×10^{-7}	3×10^{-3}	6×10^{-9}	1×10^{-4}
Radium (88)	Ra 223	S	2×10^{-9}	2×10^{-3}	6×10^{-11}	7×10^{-7}
		I	2×10^{-10}	1×10^{-4}	8×10^{-12}	4×10^{-6}
	Ra 224	S	5×10^{-9}	7×10^{-3}	2×10^{-10}	3×10^{-6}
		I	7×10^{-10}	2×10^{-4}	2×10^{-11}	8×10^{-6}
	Ra 226	S	3×10^{-11}	4×10^{-7}	2×10^{-13}	3×10^{-9}
		I	5×10^{-11}	9×10^{-4}	2×10^{-12}	3×10^{-5}
	Ra 228	S	7×10^{-11}	8×10^{-7}	2×10^{-13}	3×10^{-9}
		I	4×10^{-11}	7×10^{-4}	1×10^{-12}	3×10^{-5}
Radon (86)	Rn 220	S	3×10^{-7}	----------	1×10^{-8}	----------
	Rn 222 [3]	***	1×10^{-8}	----------	3×10^{-9}	----------
Rhenium (75)	Re 183	S	3×10^{-6}	2×10^{-2}	9×10^{-8}	6×10^{-4}
		I	2×10^{-7}	8×10^{-3}	5×10^{-9}	3×10^{-4}
	Re 186	S	6×10^{-7}	3×10^{-3}	2×10^{-8}	9×10^{-5}
		I	2×10^{-7}	1×10^{-3}	8×10^{-9}	5×10^{-5}
	Re 187	S	9×10^{-6}	7×10^{-2}	2×10^{-7}	3×10^{-3}
		I	3×10^{-7}	4×10^{-3}	2×10^{-8}	2×10^{-4}
	Re 188	S	4×10^{-7}	2×10^{-3}	1×10^{-8}	6×10^{-5}
		I	2×10^{-7}	9×10^{-4}	6×10^{-9}	3×10^{-5}
Rhodium (45)	Rh 103m	S	8×10^{-5}	4×10^{-1}	3×10^{-6}	1×10^{-2}
		I	6×10^{-5}	3×10^{-1}	2×10^{-6}	1×10^{-2}
	Rh 105	S	8×10^{-7}	4×10^{-3}	3×10^{-8}	1×10^{-4}
		I	5×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
Rubidium (37)	Rb 86	S	3×10^{-7}	2×10^{-3}	1×10^{-8}	7×10^{-5}
		I	7×10^{-8}	7×10^{-4}	2×10^{-9}	2×10^{-5}
	Rb 87	S	8×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
		I	7×10^{-8}	3×10^{-3}	2×10^{-9}	2×10^{-4}

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Concentrations in Air and Water Above Natural Background—Continued

(See footnotes on page 20-18)

Element (atomic number)	Isotope [1]	†	Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Ruthenium (44)	Ru 97	S	2×10^{-6}	1×10^{-2}	8×10^{-8}	4×10^{-4}
		I	2×10^{-6}	1×10^{-2}	6×10^{-8}	3×10^{-4}
	Ru 103	S	3×10^{-7}	2×10^{-3}	2×10^{-8}	8×10^{-5}
		I	6×10^{-7}	2×10^{-3}	3×10^{-8}	8×10^{-5}
	Ru 105	S	7×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
		I	5×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
	Ru 106	S	6×10^{-8}	4×10^{-4}	3×10^{-9}	1×10^{-5}
		I	6×10^{-9}	3×10^{-4}	2×10^{-10}	1×10^{-5}
Samarium (62)	Sm 147	S	7×10^{-11}	2×10^{-3}	2×10^{-11}	6×10^{-5}
		I	3×10^{-10}	2×10^{-3}	9×10^{-13}	7×10^{-5}
	Sm 151	S	6×10^{-8}	1×10^{-2}	2×10^{-9}	4×10^{-4}
		I	1×10^{-7}	1×10^{-2}	5×10^{-9}	4×10^{-4}
	Sm 153	S	8×10^{-7}	2×10^{-3}	2×10^{-8}	6×10^{-5}
		I	4×10^{-7}	2×10^{-3}	1×10^{-8}	8×10^{-5}
Scandium (21)	Sc 46	S	2×10^{-7}	1×10^{-3}	6×10^{-9}	4×10^{-5}
		I	2×10^{-8}	1×10^{-3}	8×10^{-10}	4×10^{-5}
	Sc 47	S	6×10^{-7}	3×10^{-3}	2×10^{-8}	9×10^{-5}
		I	5×10^{-7}	3×10^{-3}	2×10^{-8}	9×10^{-5}
	Sc 48	S	2×10^{-7}	8×10^{-4}	6×10^{-9}	3×10^{-5}
		I	1×10^{-7}	8×10^{-4}	6×10^{-9}	3×10^{-5}
Selenium (34)	Se 75	S	1×10^{-6}	9×10^{-3}	4×10^{-8}	3×10^{-4}
		I	1×10^{-7}	9×10^{-3}	4×10^{-9}	3×10^{-4}
Silicon (14)	Si 31	S	6×10^{-6}	2×10^{-2}	2×10^{-7}	9×10^{-4}
		I	1×10^{-6}	6×10^{-3}	3×10^{-8}	2×10^{-4}
Silver (47)	Ag 105	S	6×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
		I	6×10^{-8}	3×10^{-3}	3×10^{-9}	1×10^{-4}
	Ag 110m	S	3×10^{-7}	9×10^{-4}	7×10^{-9}	3×10^{-5}
		I	1×10^{-8}	9×10^{-4}	3×10^{-10}	3×10^{-5}
	Ag 111	S	3×10^{-7}	1×10^{-3}	1×10^{-8}	4×10^{-5}
		I	2×10^{-7}	1×10^{-3}	8×10^{-9}	4×10^{-5}
Sodium (11)	Na 22	S	2×10^{-7}	1×10^{-3}	6×10^{-9}	4×10^{-5}
		I	9×10^{-9}	9×10^{-4}	3×10^{-10}	3×10^{-5}
	Na 24	S	1×10^{-6}	6×10^{-3}	4×10^{-8}	2×10^{-4}
		I	1×10^{-7}	6×10^{-3}	5×10^{-9}	2×10^{-4}
Strontium (38)	Sr 85m	S	4×10^{-6}	2×10^{-2}	1×10^{-7}	7×10^{-4}
		I	3×10^{-6}	2×10^{-2}	1×10^{-7}	7×10^{-4}
	Sr 85	S	2×10^{-7}	3×10^{-3}	8×10^{-9}	1×10^{-4}
		I	1×10^{-7}	3×10^{-3}	4×10^{-9}	2×10^{-4}
	Sr 89	S	3×10^{-8}	3×10^{-4}	3×10^{-10}	3×10^{-6}
		I	4×10^{-8}	3×10^{-4}	1×10^{-9}	3×10^{-6}
	Sr 90	S	1×10^{-9}	1×10^{-4}	3×10^{-11}	3×10^{-7}
		I	5×10^{-9}	1×10^{-4}	2×10^{-10}	4×10^{-6}
	Sr 91	S	4×10^{-7}	2×10^{-3}	2×10^{-8}	7×10^{-5}
		I	3×10^{-7}	1×10^{-3}	9×10^{-9}	5×10^{-5}
	Sr 92	S	4×10^{-7}	2×10^{-3}	2×10^{-8}	7×10^{-5}
		I	3×10^{-7}	2×10^{-3}	1×10^{-8}	6×10^{-5}
Sulfur (16)	S 35	S	3×10^{-7}	2×10^{-3}	9×10^{-9}	6×10^{-5}
		I	3×10^{-7}	6×10^{-3}	9×10^{-9}	3×10^{-4}
Tantalum (73)	Ta 182	S	4×10^{-8}	1×10^{-3}	1×10^{-9}	4×10^{-5}
		I	2×10^{-8}	1×10^{-3}	7×10^{-10}	4×10^{-5}

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PART 20 • STANDARDS FOR PROTECTION AGAINST RADIATION

APPENDIX B

Concentrations in Air and Water Above Natural Background—Continued

(See footnotes on page 20-18)

Element (atomic number)	Isotope [1]	†	Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Technetium (43)	Tc 96m	S	8×10^{-6}	4×10^{-4}	3×10^{-6}	1×10^{-4}
	Tc 96	S	3×10^{-6}	3×10^{-4}	1×10^{-6}	1×10^{-4}
	Tc 97m	S	6×10^{-7}	3×10^{-4}	2×10^{-6}	1×10^{-4}
	Tc 97	S	2×10^{-6}	1×10^{-3}	8×10^{-6}	4×10^{-4}
	Tc 99m	S	2×10^{-6}	1×10^{-3}	8×10^{-6}	4×10^{-4}
	Tc 99	S	3×10^{-7}	8×10^{-4}	4×10^{-7}	2×10^{-4}
		W	1×10^{-6}	5×10^{-4}	4×10^{-7}	2×10^{-4}
		Y	3×10^{-7}	2×10^{-4}	1×10^{-6}	8×10^{-6}
Tellurium (52)	Te 125m	S	4×10^{-7}	2×10^{-4}	1×10^{-6}	6×10^{-5}
	Te 127m	S	1×10^{-6}	8×10^{-4}	9×10^{-7}	3×10^{-4}
	Te 127	S	1×10^{-6}	8×10^{-4}	7×10^{-6}	3×10^{-4}
	Te 129m	S	6×10^{-6}	3×10^{-4}	2×10^{-6}	2×10^{-4}
	Te 129	S	4×10^{-6}	3×10^{-4}	1×10^{-6}	2×10^{-4}
	Te 131m	S	1×10^{-6}	3×10^{-4}	4×10^{-6}	1×10^{-4}
	Te 132	S	1×10^{-6}	3×10^{-4}	5×10^{-6}	1×10^{-4}
		W	1×10^{-6}	3×10^{-4}	1×10^{-6}	8×10^{-5}
		Y	4×10^{-6}	2×10^{-4}	1×10^{-6}	8×10^{-5}
Terbium (65)	Tb 160	S	2×10^{-6}	9×10^{-4}	6×10^{-6}	3×10^{-4}
Thallium (81)	Tl 200	S	4×10^{-6}	2×10^{-4}	1×10^{-6}	6×10^{-5}
	Tl 201	S	2×10^{-6}	9×10^{-4}	6×10^{-6}	3×10^{-4}
	Tl 202	S	9×10^{-7}	5×10^{-4}	3×10^{-6}	2×10^{-4}
	Tl 204	S	3×10^{-6}	1×10^{-3}	1×10^{-5}	4×10^{-4}
		W	6×10^{-7}	3×10^{-4}	2×10^{-6}	1×10^{-4}
		Y	3×10^{-6}	2×10^{-4}	9×10^{-6}	6×10^{-5}
Thorium (90)	Th 227	S	3×10^{-10}	2×10^{-7}	2×10^{-8}	2×10^{-5}
	Th 228	S	2×10^{-10}	8×10^{-8}	6×10^{-9}	2×10^{-5}
	Th 230	S	8×10^{-11}	2×10^{-7}	3×10^{-9}	7×10^{-6}
	Th 231	S	2×10^{-10}	4×10^{-7}	8×10^{-9}	1×10^{-5}
	Th 232	S	1×10^{-10}	5×10^{-8}	4×10^{-9}	2×10^{-6}
		W	1×10^{-6}	5×10^{-4}	4×10^{-7}	2×10^{-4}
		Y	3×10^{-11}	1×10^{-8}	1×10^{-9}	3×10^{-6}
	Th natural	S	6×10^{-11}	2×10^{-8}	2×10^{-9}	3×10^{-6}
		W	6×10^{-11}	2×10^{-8}	2×10^{-9}	3×10^{-6}
		Y	6×10^{-11}	2×10^{-8}	2×10^{-9}	3×10^{-6}

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APPENDIX B

Concentrations in Air and Water Above Natural Background—Continued

(See footnotes on page 20-18)

Element (atomic number)	Isotope [1]	†	Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Thorium (90)	Th 234	S	6×10^{-8}	3×10^{-4}	2×10^{-7}	1×10^{-4}
		W	3×10^{-8}	5×10^{-4}	1×10^{-7}	2×10^{-4}
Thulium (69)	Tm 170	S	4×10^{-8}	1×10^{-3}	1×10^{-7}	6×10^{-4}
		W	3×10^{-8}	1×10^{-3}	1×10^{-7}	5×10^{-4}
	Tm 171	S	1×10^{-7}	1×10^{-3}	4×10^{-7}	5×10^{-4}
		W	2×10^{-7}	1×10^{-3}	8×10^{-7}	5×10^{-4}
Tin (50)	Sn 113	S	4×10^{-7}	2×10^{-3}	1×10^{-6}	9×10^{-4}
		W	8×10^{-8}	2×10^{-3}	2×10^{-7}	8×10^{-4}
	Sn 125	S	1×10^{-7}	8×10^{-4}	4×10^{-7}	2×10^{-4}
		W	8×10^{-8}	5×10^{-4}	3×10^{-7}	2×10^{-4}
Tungsten (Wolfram) (74)	W 181	S	2×10^{-6}	1×10^{-3}	8×10^{-6}	4×10^{-4}
		W	1×10^{-7}	1×10^{-3}	4×10^{-7}	3×10^{-4}
	W 185	S	8×10^{-7}	4×10^{-3}	3×10^{-6}	1×10^{-4}
		W	1×10^{-7}	3×10^{-3}	4×10^{-7}	1×10^{-4}
	W 187	S	4×10^{-7}	2×10^{-3}	2×10^{-6}	7×10^{-5}
		W	3×10^{-7}	2×10^{-3}	1×10^{-6}	6×10^{-5}
Uranium (92)	U 230	S	3×10^{-10}	1×10^{-6}	1×10^{-11}	5×10^{-4}
		W	1×10^{-10}	1×10^{-6}	4×10^{-11}	5×10^{-4}
	U 232	S	1×10^{-10}	8×10^{-4}	3×10^{-11}	3×10^{-5}
		W	2×10^{-11}	8×10^{-4}	9×10^{-11}	3×10^{-5}
	U 233	S	3×10^{-10}	9×10^{-4}	2×10^{-11}	3×10^{-5}
		W	1×10^{-10}	9×10^{-4}	4×10^{-11}	3×10^{-5}
	U 234	S[4]	6×10^{-10}	9×10^{-4}	2×10^{-11}	3×10^{-5}
		W	2×10^{-10}	9×10^{-4}	4×10^{-11}	3×10^{-5}
	U 235	S[4]	5×10^{-10}	8×10^{-4}	2×10^{-11}	3×10^{-5}
		W	1×10^{-10}	8×10^{-4}	4×10^{-11}	3×10^{-5}
	U 236	S	6×10^{-10}	1×10^{-3}	3×10^{-11}	4×10^{-5}
		W	1×10^{-10}	1×10^{-3}	4×10^{-11}	3×10^{-5}
	U 238	S[4]	7×10^{-11}	5×10^{-4}	3×10^{-11}	4×10^{-5}
		W	1×10^{-10}	1×10^{-3}	5×10^{-11}	4×10^{-5}
	U 240	S	2×10^{-7}	1×10^{-3}	8×10^{-9}	3×10^{-5}
		W	2×10^{-7}	1×10^{-3}	6×10^{-9}	3×10^{-5}
	U-natural	S[4]	1×10^{-10}	1×10^{-3}	5×10^{-12}	3×10^{-5}
		W	2×10^{-10}	1×10^{-3}	8×10^{-12}	3×10^{-5}
Vanadium (23)	V 48	S	2×10^{-7}	9×10^{-4}	6×10^{-9}	3×10^{-5}
		W	6×10^{-8}	8×10^{-4}	2×10^{-9}	3×10^{-5}
Xenon (54)	Xe 131m	Sub	2×10^{-5}	.....	4×10^{-7}	.....
	Xe 133	Sub	1×10^{-5}	.....	3×10^{-7}	.....
	Xe 133m	Sub	1×10^{-5}	.....	3×10^{-7}	.....
	Xe 135	Sub	4×10^{-6}	.....	1×10^{-7}	.....
Ytterbium (70)	Yb 175	S	7×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
		W	6×10^{-7}	3×10^{-3}	2×10^{-8}	1×10^{-4}
Yttrium (39)	Y 90	S	1×10^{-7}	5×10^{-4}	4×10^{-9}	2×10^{-5}
		W	1×10^{-7}	6×10^{-4}	3×10^{-9}	2×10^{-5}
	Y 91m	S	2×10^{-5}	1×10^{-1}	8×10^{-7}	3×10^{-3}
		W	2×10^{-5}	1×10^{-1}	6×10^{-7}	3×10^{-3}
	Y 91	S	4×10^{-8}	8×10^{-4}	1×10^{-9}	3×10^{-5}
		W	3×10^{-8}	8×10^{-4}	1×10^{-9}	3×10^{-5}
	Y 92	S	4×10^{-7}	2×10^{-3}	1×10^{-8}	6×10^{-5}
		W	3×10^{-7}	2×10^{-3}	1×10^{-8}	6×10^{-5}
	Y 93	S	2×10^{-7}	8×10^{-4}	6×10^{-9}	3×10^{-5}
		W	1×10^{-7}	8×10^{-4}	4×10^{-9}	3×10^{-5}

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APPENDIX B

Concentrations in Air and Water Above Natural Background—Continued

Element (atomic number)	Isotope[1]		Table I Column 1 Air (μCi/ml)	Table I Column 2 Water (μCi/ml)	Table II Column 1 Air (μCi/ml)	Table II Column 2 Water (μCi/ml)
Zinc (30)	Zn 65	S	1×10^{-7}	3×10^{-3}	4×10^{-9}	1×10^{-4}
		I	6×10^{-8}	5×10^{-3}	2×10^{-9}	2×10^{-4}
	Zn 69m	S	4×10^{-7}	2×10^{-3}	1×10^{-8}	7×10^{-5}
		I	3×10^{-7}	2×10^{-3}	1×10^{-8}	6×10^{-5}
	Zn 69	S	7×10^{-6}	5×10^{-2}	2×10^{-7}	2×10^{-3}
		I	9×10^{-6}	5×10^{-2}	3×10^{-7}	2×10^{-3}
Zirconium (40)	Zr 93	S	1×10^{-7}	2×10^{-3}	4×10^{-9}	8×10^{-5}
		I	3×10^{-7}	2×10^{-3}	1×10^{-8}	8×10^{-5}
	Zr 95	S	1×10^{-7}	2×10^{-3}	4×10^{-9}	6×10^{-5}
		I	3×10^{-6}	1×10^{-2}	1×10^{-7}	4×10^{-4}
	Zr 97	S	1×10^{-7}	3×10^{-4}	4×10^{-9}	2×10^{-5}
		I	9×10^{-6}	3×10^{-4}	3×10^{-7}	2×10^{-5}
Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life less than 2 hours.		Sub	1×10^{-6}		3×10^{-8}	
Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life greater than 2 hours.			3×10^{-9}	9×10^{-7}	1×10^{-10}	3×10^{-8}
Any single radionuclide not listed above, which decays by alpha emission or spontaneous fission.			6×10^{-10}	4×10^{-7}	2×10^{-11}	3×10^{-8}

[1] Soluble (S); Insoluble (I).

[2] "Sub" means that values given are for submersion in a semispherical infinite cloud of airborne material.

*These radon concentrations are appropriate for protection from radon-222 combined with its short-lived daughters. Alternatively, the value in Table I may be replaced by one-third (⅓) "working level." (A "working level" is defined as any combination of short-lived radon-222 daughters, polonium-218, lead-214, bismuth-214 and polonium-214, in one liter of air, without regard to the degree of equilibrium, that will result in the ultimate emission of 1.3×10^5 MeV of alpha particle energy.) The Table II value may be replaced by one-thirtieth (1/30) of a "working level." The limit on radon-222 concentrations in restricted areas may be based on an annual average.

‡4. For soluble mixtures of U-238, U-234 and U-235 in air chemical toxicity may be the limiting factor. If the percent by weight (enrichment) of U-235 is less than 5, the concentration value for a 40-hour workweek, Table I, is 0.2 milligrams uranium per cubic meter of air average. For any enrichment, the product of the average concentration and time of exposure during a 40-hour workweek shall not exceed 8×10^{-4} SA μCi-hr/ml, where SA is the specific activity of the uranium inhaled. The concentration value for Table II is 0.007 milligrams uranium per cubic meter of air. The specific activity for natural uranium is 6.77×10^{-7} curies per gram U. The specific activity for other mixtures of U-238, U-235 and U-234, if not known, shall be:

$SA = 3.6 \times 10^{-7}$ curies/gram U — U-depleted E≥0.72

$SA = (0.4 + 0.38\ E + 0.0034\ E^2)\ 10^{-6}$

where E is the percentage by weight of U-235, expressed as percent.

*Amended 37 FR 23319.

**Amended 39 FR 23990; footnote redesignated 40 FR 50704.

***Amended 40 FR 50704.

†Amended 38 FR 29314.

‡Amended 39 FR 25463; redesignated 40 FR 50704.

25 FR 10914; 39 FR 23990; 40 FR 50704

ATTACHMENT C

MESSAGE IDENTIFICATION _____ _____
TIME DATE

STATE OF ILLINOIS
NUCLEAR ACCIDENT REPORTING SYSTEM FORM

1. SITE
   - [A] DRESDEN
   - [B] QUAD CITIES
   - [C] ZION
   - [D] LA SALLE
   - [E] BYRON
   - [F] BRAIDWOOD
   - [G] _____

2. ACCIDENT CLASSIFICATION
   - [A] TRANSPORTATION ACCIDENT (SEE ITEM #18)
   - [B] UNUSUAL EVENT
   - [C] ALERT
   - [D] SITE AREA EMERGENCY
   - [E] GENERAL EMERGENCY

3. REACTOR NUMBER (S)
   - [A] ONE (1)
   - [B] TWO (2)
   - [C] THREE (3)
   - [D] NOT APPLICABLE

4. TIME AND DATE OF INCIDENT/EVENT: TIME _____ DATE _____

5. INCIDENT INVOLVES: _____

6. SITUATION INVOLVES:
   - [A] NO RELEASE
   - [B] POTENTIAL (POSSIBLE) RELEASE
   - [C] IMMINENT (PROBABLE) RELEASE
   - [D] A RELEASE IS OCCURRING
   - [E] A RELEASE THAT OCCURRED, BUT STOPPED.

7. TYPE OF RELEASE IS
   - [A] RADIOACTIVE GASEOUS
   - [B] NON-RADIOACTIVE GASEOUS
   - [C] RADIOACTIVE LIQUID
   - [D] NON-RADIOACTIVE LIQUID
   - [E] NON-APPLICABLE

8. RECOMMENDED PROTECTIVE ACTIONS:
   - [A] FOR INFORMATION ONLY - (UNUSUAL EVENT, ALERT OR TRANSPORTATION ACCIDENT)
   - [B] PREPARE FOR POSSIBLE ACTION INVOLVING THE PUBLIC, TO INCLUDE NOTIFICATION. (ALERT OR SITE EMERGENCY OR TRANSPORTATION ACCIDENT)
   - [C] NOTIFY PUBLIC TO TAKE THE FOLLOWING PROTECTIVE ACTIONS. (SITE OR GENERAL EMERGENCY OR TRANSPORTATION ACCIDENT.)

SHELTER	EVACUATE	
[D]	[H]	0-2 MILE RADIUS (GASEOUS RELEASE)
[E]	[I]	2-5 MILES FOR THREE (3) DOWNWIND SECTORS (GASEOUS RELEASE)
[F]	[J]	5-10 MILES FOR THREE (3) DOWNWIND SECTORS (GASEOUS RELEASE)
[G]	[K]	_____ MILES (TRANSPORTATION ACCIDENT OR OTHER)

   - [L] DISCONTINUE USE OF POTENTIALLY AFFECTED WATER IN _____ (LOCATION(S))
   - [M] PUT CATTLE ON STORED FEED IN DOWNWIND SECTORS OUT TO _____ MILES.

9. RELEASE IS:
   - [A] CONTINUING - EXPECTED DURATION OR MAGNITUDE _____
   - [B] TERMINATED - APPROXIMATE DURATION OR MAGNITUDE _____

10. HEIGHT OF GASEOUS RELEASE IS: [A] GROUND LEVEL [B] ELEVATED

11. WIND SPEED _____ METERS PER SECOND X 2 = _____ MILES PER HOUR

NOTE: USE NOT APPLICABLE (N/A) WHERE APPROPRIATE.

ATTACHMENT C

12. WIND DIRECTION DATA (CHECK ONE, READ ACROSS)

	WIND FROM	DEGREES	WIND TOWARD	SECTORS AFFECTED
[A]	N	349-11	S	H J K
[B]	NNE	12-33	SSW	J K L
[C]	NE	34-56	SW	K L M
[D]	ENE	57-78	WSW	L M N
[E]	E	79-101	W	M N P
[F]	ESE	102-123	WNW	N P Q
[G]	SE	124-146	NW	P Q R
[H]	SSE	147-168	NNW	Q R A
[I]	S	169-191	N	R A B
[J]	SSW	192-213	NNE	A B C
[K]	SW	214-236	NE	B C D
[L]	WSW	237-258	ENE	C D E
[M]	W	259-281	E	D E F
[N]	WNW	282-303	ESE	E F G
[O]	NW	304-326	SE	F G H
[P]	NNW	327-348	SSE	G H J

13. CURRENT OUTSIDE TEMPERATURE: [A] _____ °F [B] _____ °C

14. WEATHER CONDITIONS (RAIN, SNOW, SLEET, ETC.): _____

15. TEMPERATURE DIFFERENCE (ΔT): [A] _____ F° [B] _____ C° or [C] _____ C°/100M

[D] ELEVATION OF TEMP. DIFFERENCE MEASUREMENT: _____

16. RELEASE DETECTED BY:

[A] VISUAL

[B] SAMPLE RESULTS ARE: _____

[C] INSTRUMENTATION — IDENTIFICATION — READING

_____ _____

_____ _____

_____ _____

17. ACCIDENT RELATED INJURIES: [A] NO [B] YES [C] NUMBER OF INJURIES _____

18. A. LOCATION OF TRANSPORTATION ACCIDENT: _____

_____

B. TYPE OF SHIPMENT (NEW FUEL, SPENT FUEL, LOW WASTE, ETC.): _____

C. TYPE OF VEHICLE OR CONTAINER _____

D. FORM OF MATERIAL BEING SHIPPED (SOLID, LIQUID, GASEOUS): _____

E. CECO. PERSONNEL DISPATCHED TO TRANSPORTATION ACCIDENT SCENE: [A] NO [B] YES [C] NUMBER ____

19. OTHER INFORMATION: _____

_____

20. MESSAGE REPORTED BY: _____ (NAME) _____ (ORGANIZATION) _____ (TELEPHONE (OUTSIDE #))

21. N.A.R.S. MESSAGE RECEIVED BY _____ (YOUR NAME) _____ (TIME) _____ (DATE)

22. MESSAGE VERIFIED: [A] NO [B] YES

IF YES, BY WHOM: _____ (NAME) _____ (ORGANIZATION)