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Docket Number 50-346  
License Number NPF-3  
Serial Number 3046

April 21, 2004

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

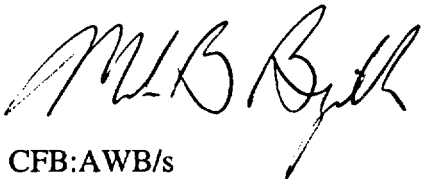
Subject: Davis-Besse Nuclear Power Station Emergency Implementing Procedure Changes

Ladies and Gentlemen:

In accordance with 10 CFR 50.4, this letter submits recent revisions of Davis-Besse Nuclear Power Station (DBNPS) Emergency Implementing Procedures RA-EP-01900, "General Emergency," and RA-EP-02620, "Emergency Dose Control and Potassium Iodide Distribution." The changes, completed in accordance with 10 CFR 50.54(q), do not decrease the effectiveness of the Emergency Plan. The Emergency Plan continues to meet the requirements of 10 CFR 50.47(b) and 10 CFR 50, Appendix E. Therefore, as required by 10 CFR 50.54(q), DBNPS hereby submits the changes to Emergency Implementing Procedures RA-EP-01900 and RA-EP-02620.

If you have any questions, please contact Mr. Gregory A. Dunn, Manager – Regulatory Affairs, at (419) 321-8450.

Very truly yours,



CFB:AWB/s

Enclosures

cc: Regional Administrator, NRC Region III  
DB-1 NRC/NRR Senior Project Manager, w/o  
DB-1 Senior Resident Inspector  
Utility Radiological Safety Board, w/o

A045

Docket Number 50-346  
License Number NPF-3  
Serial Number 3046  
Enclosure 1  
Page 1 of 1

**COMMITMENT LIST**

The following list identifies those actions committed to by Davis-Besse Nuclear Power Station in this document. Any other actions discussed in the submittal represent intended or planned actions by Davis-Besse. They are described only as information and are not regulatory commitments. Please notify the Manager – Regulatory Affairs (419-321-8450) at Davis-Besse of any questions regarding this document or any associated regulatory commitments.

**COMMITMENTS**

**DUE DATE**

None

N/A

Docket Number 50-346  
License Number NPF-3  
Serial Number 3046  
Enclosure 2  
Page 1 of 1

## **Summary of Changes**

### **Revisions to the Davis-Besse Nuclear Power Station Emergency Plan and Emergency Implementing Procedures**

Below is a brief summary of the changes that have recently been made to the listed Emergency Implementing Procedures.

#### **Emergency Implementing Procedures:**

RA-EP-01900, "General Emergency"

Revised to provide additional guidance for modifying offsite protective action recommendations. This guidance was added in response to NRC Regulatory Issue Summary 2003-12, "Clarification of NRC Guidance for Modifying Protective Actions."

RA-EP-02620, "Emergency Dose Control and Potassium Iodide Distribution"

Administrative updates which included 1) adding form numbers to steps 6.1.1.b, 6.2.2 and 6.2.3 (to identify which form to use for authorization) and 2) change step 6.2.4.c.9 to correct form name.

Docket Number 50-346  
License Number NPF-3  
Serial Number 3046  
Enclosure 3  
Page 1 of 1

**LIST OF DOCUMENTS INCLUDED IN SUBMITTAL**

1. RA-EP-01900, "General Emergency," Revision 3, Effective April 8, 2004.
2. RA-EP-02620, "Emergency Dose Control and Potassium Iodide Distribution," Revision 4, Effective March 22, 2004.

Davis-Besse Nuclear Power Station

EMERGENCY PLAN IMPLEMENTING PROCEDURE

RA-EP-01900

GENERAL EMERGENCY

REVISION 03

Prepared by: B. W. Cope

Procedure Owner: Manager – Regulatory Affairs

Effective Date: APR 08 2004

Procedure Classification:

- Safety Related
- Quality Related
- Non-Quality Related

**LEVEL OF USE:**  
**STEP-BY-STEP**

**TABLE OF CONTENTS**

	<u>Page</u>
1.0 PURPOSE .....	3
2.0 REFERENCES .....	3
3.0 DEFINITIONS .....	3
4.0 RESPONSIBILITIES .....	4
5.0 INITIATING CONDITIONS .....	4
6.0 PROCEDURE .....	5
7.0 FINAL CONDITIONS .....	10
8.0 RECORDS .....	10
COMMITMENTS .....	11

## 1.0 PURPOSE

This procedure outlines the course of action and protective measures required to mitigate a General Emergency.

## 2.0 REFERENCES

### 2.1 Developmental

2.1.1 Davis-Besse Nuclear Power Station Emergency Plan

### 2.2 Implementation

2.2.1 RA-EP-01500, Emergency Classification

2.2.2 RA-EP-01600, Unusual Event

2.2.3 RA-EP-01700, Alert

2.2.4 RA-EP-01800, Site Area Emergency

2.2.5 RA-EP-02240, Offsite Dose Assessment

2.2.6 RA-EP-02245, Protective Action Guidelines

2.2.7 RA-EP-02520, Assembly and Accountability

2.2.8 RA-EP-02530, Evacuation

2.2.9 RA-EP-02710, Reentry

2.2.10 RA-EP-02720, Recovery Organization

## 3.0 DEFINITIONS

3.1 **GENERAL EMERGENCY** - Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with the potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

3.2 **TRANSITORY EVENT** - An event which is classifiable in accordance with RA-EP-01500, Emergency Classification, but becomes a lower - classification or non-classifiable event before being declared.

#### 4.0 RESPONSIBILITIES

- 4.1 The Emergency Director shall be responsible for the implementing of this procedure.
  - 4.1.1 The Shift Manager shall become the Emergency Director during activation of the Davis-Besse Emergency Plan and shall be responsible for coordinating the actions of the emergency organization until relieved.
  - 4.1.2 The Unit Supervisor may assume the Emergency Director duties only if the Shift Manager is not in the Control Room, or is incapable of performing those duties.
  - 4.1.3 The Shift Engineer (Shift Technical Advisor) may assume the Emergency Director duties only if neither the Shift Manager nor the Unit Supervisor is in the Control Room and capable of performing those duties.
  - 4.1.4 Upon arrival in the Control Room, the Emergency Assistant Plant Manager or Emergency Plant Manager may relieve the Emergency Director.
  - 4.1.5 The Emergency Plant Manager may assume the Emergency Director duties from the Technical Support Center (TSC) if the TSC and Emergency Operations Facility (EOF) are activated.
  - 4.1.6 The Emergency Director shall remain in the Control Room until the TSC and EOF have been activated.

#### 5.0 INITIATING CONDITIONS

This procedure shall be utilized whenever a General Emergency has been classified in accordance with RA-EP-01500, Emergency Classification.



**NOTE 6.0**

The following procedure steps may be performed simultaneously.

6.0 PROCEDURE

DATE: \_\_\_\_\_

TIME                      INITIALS

The Emergency Director shall direct performance of the following:

**CAUTION 6.1**

1.     If the General Emergency is due to a security event obtain security management concurrence prior to sounding the Station alarm.

6.1     Sound the appropriate Station alarm (fire, access evacuation, and/or initiate emergency procedures) and make the following announcement over the public address system, TWICE.

6.1.1    Upgrading:

"ATTENTION ALL PERSONNEL; ATTENTION ALL PERSONNEL: A GENERAL EMERGENCY HAS BEEN DECLARED. NO EATING, DRINKING, OR SMOKING UNTIL FURTHER NOTICE. ALL MEMBERS OF THE ONSITE EMERGENCY ORGANIZATION REPORT TO YOUR DESIGNATED EMERGENCY RESPONSE FACILITIES. ALL NONESSENTIAL PERSONNEL IMMEDIATELY EVACUATE TO THE LINDSEY SERVICE CENTER. THE REASON FOR THE GENERAL EMERGENCY IS \_\_\_\_\_."

(STATE REASON)  
(SEE RA-EP-02520, ASSEMBLY AND ACCOUNTABILITY FOR FURTHER DETAIL.)

DATE: \_\_\_\_\_

	<u>TIME</u>	<u>INITIALS</u>
6.1.2 If there is a localized emergency (e.g., fire), then announce its type and location and instruct personnel to stand clear of the area.	_____	_____
6.2 Notify the Emergency Response Organization (ERO) in accordance with RA-EP-02110, Emergency Notification.	_____	_____
6.3 Protective Action Recommendations (PARs) shall be made in accordance with RA-EP-02245, Protective Action Guidelines.	_____	_____
6.4 Notify Ottawa County, Lucas County and the State of Ohio within 15 minutes of any emergency classification using the Initial Notification Form, DBEP-010, in accordance with RA-EP-02110, Emergency Notification.	_____	_____
6.5 Notify the NRC within 1 hours using the Reactor Plant Event Notification Worksheet, DB-0095.	_____	_____
6.6 Initiate a general evacuation of the site in accordance with RA-EP-02530, Evacuation.  Nonessential personnel evacuated from the station.	_____	_____
6.7 Initiate personnel accountability (unless previously accomplished) in accordance with RA-EP-02520, Assembly and Accountability.  Accountability completed.	_____	_____
6.8 Terminate all radwaste releases.	_____	_____
6.9 Increase surveillance of Control Room instrumentation. Indications of core status (e.g., incore thermocouple reading, etc.) shall receive particular attention.	_____	_____
6.10 Ensure the following emergency response facilities are activated:		
6.10.1 The Operations Support Center	_____	_____
6.10.2 The Technical Support Center	_____	_____

DATE: \_\_\_\_\_

TIME      INITIALS

6.10.3 The Emergency Operations Facility \_\_\_\_\_

6.10.4 The Joint Public Information Center \_\_\_\_\_

6.10.5 The Corporate Emergency Response  
Organization \_\_\_\_\_

6.11 Continue dose assessment activities in accordance  
with RA-EP-02240, Offsite Dose Assessment, with  
increased emphasis on determining the need for  
protective actions. \_\_\_\_\_

**CAUTION 6.12**  
Changes in Protective Action Recommendations (PARs) shall be  
communicated to the offsite agencies using the Initial Notification Form  
(DBEP-010) within 15 minutes of the Emergency Director decision.

6.12 **IF** changes in plant conditions or projected offsite  
doses require a change in PARs,  
**THEN DO NOT** change an existing PAR for a  
specific sub-area until the conditions that caused the  
PAR to be issued are fully under control,  
**AND** notify the offsite agencies of the PAR changes  
within 15 minutes of the change in the PAR using the  
Initial Notification Form (DBEP-010) in accordance  
with RA-EP-02110, Emergency Notification. Include  
all PARs that are affected with each notification. \_\_\_\_\_

6.13 Make periodic updates to offsite agencies as  
conditions change, or hourly at a minimum, using the  
Periodic Update Form, DBEP-009, in accordance with  
RA-EP-02110, Emergency Notification. These  
updates may be omitted by mutual agreement with the  
offsite agencies. \_\_\_\_\_

6.14 When plant conditions change review RA-EP-01500,  
Emergency Classification, to determine if the event  
should be reclassified. \_\_\_\_\_

DATE: \_\_\_\_\_

TIME            INITIALS

- 6.14.1 Once a General Emergency has been declared, the event shall **NOT** be downgraded without reviewing Downgrading Guidelines in RA-EP-01500, Emergency Classification. \_\_\_\_\_
- 6.14.2 If the event is reclassified, then implement the appropriate procedure. \_\_\_\_\_
- 6.15 When the General Emergency is downgraded, make the following notifications in accordance with RA-EP-02110, Emergency Notification:
  - 6.15.1 Ottawa County, Lucas County, and the State of Ohio using the Initial Notification Form, DBEP-010. \_\_\_\_\_
  - 6.15.2 The NRC using the Reactor Plant Event Notification Worksheet, DB-0095. \_\_\_\_\_
- 6.16 If a transitory General Emergency condition has occurred, notify Ottawa County, Lucas County, State of Ohio, and the NRC in accordance with RA-EP-02110, Emergency Notification. \_\_\_\_\_
- 6.17 The individual assuming the responsibilities of Emergency Director shall complete the Emergency Director Turnover Data Sheet, DBEP-304, using information provided by the Control Room log, unit log, and status boards. \_\_\_\_\_
- 6.18 If the emergency situation is mitigated and completely declassified, then perform the following:
  - 6.18.1 Make this announcement over the public address system:  
  
 "ATTENTION ALL PERSONNEL,  
 ATTENTION ALL PERSONNEL. THE  
 EMERGENCY SITUATION HAS BEEN  
 TERMINATED. I REPEAT, THE  
 EMERGENCY SITUATION HAS BEEN  
 TERMINATED. \_\_\_\_\_
  - 6.18.2 Notify Ottawa County, Lucas County, and the State of Ohio using the Initial Notification Form, DBEP-010, in accordance with RA-EP-02110, Emergency Notification. \_\_\_\_\_

DATE: \_\_\_\_\_

TIME            INITIALS

6.18.3 Notify the Nuclear Regulatory Commission using the Reactor Plant Event Notification Worksheet, DB-0095, in accordance with RA-EP-02110, Emergency Notification.

\_\_\_\_\_

6.18.4 Notify the Emergency Response Organization (ERO) in accordance with RA-EP-02110, Emergency Notification.

\_\_\_\_\_

6.19 Perform necessary reentry actions in accordance with RA-EP-02710, Reentry.

\_\_\_\_\_

6.20 Perform recovery actions in accordance with RA-EP-02720, Recovery Organization.

\_\_\_\_\_

6.21 Records, other than Safeguard Records, shall be collected and forwarded to the Supervisor – Emergency Preparedness who shall submit them to Nuclear Records Management. Safeguards Records shall be collected and forwarded to the Supervisor – Security Shift.

\_\_\_\_\_

Section 6.0 completed by: \_\_\_\_\_ Date: \_\_\_\_\_

**7.0 FINAL CONDITIONS**

7.1 The emergency condition has been downgraded and actions are being taken in accordance with RA-EP-01800, Site Area Emergency, RA-EP-01700, Alert or RA-EP-01600, Unusual Event.

**OR**

7.2 Emergency conditions no longer exist and actions are being taken in accordance with RA-EP-02710, Reentry, and/or RA-EP-02720, Recovery Organization.

**8.0 RECORDS**

8.1 The following quality assurance records are completed by this procedure and shall be listed on the Nuclear Records List, captured, and submitted to Nuclear Records Management in accordance with NG-NA-00106:

8.1.1 None

8.2 The following non-quality assurance records are completed by this procedure and may be captured and submitted to Nuclear Records Management, in accordance with NG-NA-00106:

8.2.1 RA-EP-01900, General Emergency (when steps have been completed)

8.2.2 Emergency Director Turnover Data Sheet, DBEP-304

8.2.3 Initial Notification Form, DBEP-010

8.2.4 Periodic Update Form, DBEP-009

8.2.5 Reactor Plant Event Notification Worksheet, DB-0095

COMMITMENTS

<u>Section</u>	<u>Reference</u>	<u>Comments</u>
6.2, 6.4, 6.13	O 13532, O 13969, O 15211, O 15212	Addresses 24 hour notification capability
6.6	O 13600	Evacuation of non-essential personnel
4.1.3	O 13670	Specifies conditions under which STA may assume Emergency Director duties
6.11	O 13584	Concerns protective action recommendations
6.11	O15209	Dose Assessment
ALL	Q 03113	Activating the ERO
6.12	O 20716	Provides additional guidance for modifying offsite protective action recommendations. RIS 2003-012 (CR03-06439)

Davis-Besse Nuclear Power Station

EMERGENCY PLAN IMPLEMENTING PROCEDURE

RA-EP-02620

EMERGENCY DOSE CONTROL AND POTASSIUM IODIDE DISTRIBUTION

REVISION 04

Prepared by: P. F. Timmerman

Procedure Owner: Manager – Regulatory Affairs

Effective Date: MAR 22 2004

Procedure Classification:

Safety Related

Quality Related

Non-Quality Related

**LEVEL OF USE:  
IN-FIELD REFERENCE**



**TABLE OF CONTENTS**

	<u>Page</u>
1.0 PURPOSE .....	3
2.0 REFERENCES .....	3
3.0 DEFINITIONS .....	4
4.0 RESPONSIBILITIES .....	4
5.0 INITIATING CONDITIONS .....	5
6.0 PROCEDURE .....	6
6.1 Authorization of Emergency Dose .....	6
6.2 Administration of Potassium Iodide (KI) .....	8
7.0 FINAL CONDITIONS .....	10
8.0 RECORDS .....	10
ATTACHMENT 1. Health Effects Due to Radiation Exposure .....	11
COMMITMENTS .....	12

## 1.0 PURPOSE

- 1.1 Provide guidance and administrative controls for radiation dose during emergency conditions.
- 1.2 Provide guidance for the administration of potassium iodide (KI) during emergency conditions.

## 2.0 REFERENCES

### 2.1 Developmental

- 2.1.1 Title 10, Code of Federal Regulations, Part 20, Standards for Protection Against Radiation
- 2.1.2 Title 10, Code of Federal Regulations, Part 50, Section 47, Emergency Plans
- 2.1.3 Title 21, Code of Federal Regulations, Part 1090, Potassium Iodide as a Thyroid blocking Agent in a Radiation Emergency
- 2.1.4 National Council on Radiation Protection (NCRP), Report No. 39, Basic Radiation Protection Criteria
- 2.1.5 National Council on Radiation Protection, (NCRP), Report No. 55, Protection of Radioiodine
- 2.1.6 Nuclear Regulatory Commission, Inspection and Enforcement (IE) Information Notice No. 84-40: Emergency Worker Doses
- 2.1.7 Environmental Protection Agency, EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents
- 2.1.8 International Atomic Energy Agency (IAEA), Technical Report No. 152, Evaluation of Radiation Emergencies and Accidents
- 2.1.9 The Food and Drug Administration Approved Patient Package Insert for Commercially Packaged Potassium Iodide
- 2.1.10 Davis-Besse Nuclear Power Station Emergency Plan

### 2.2 Implementation

- 2.2.1 NOP-LP-2001, Condition Report Process
- 2.2.2 RA-EP-02530, Evacuation
- 2.2.3 RA-EP-02610, Emergency Radiation Protection Organization Activation and Response

### 3.0 DEFINITIONS

- 3.1 Emergency Dose/Exposure – Occupational dose received or exposure to radiation or radioactive materials as a result of actions taken in response to a situation or occurrence of a serious nature that develops suddenly or unexpectedly.
- 3.2 10 CFR 20.1201 occupational dose limits for adults:
- 3.2.1 “An annual limit, which is the more limiting of -
- a. The Total Effective Dose Equivalent (TEDE) being equal to 5 rems,
- OR
- b. The sum of the Deep-Dose Equivalent and the Committed Dose Equivalent to any individual organ or tissue other than the lens of the eye being equal to 50 rems.”
- 3.2.2 “The annual limits to the lens of the eye, to the skin, and to the extremities, which are:
- a. An Eye Dose Equivalent of 15 rems,
- AND
- b. A Shallow-Dose Equivalent of 50 rems to the skin or to any extremity.”
- 3.3 Essential Personnel - Personnel assigned specific Emergency Response Duties as identified in the DBNPS Emergency Plan.
- 3.4 Nonessential Personnel - Personnel who are not assigned specific Emergency Response Duties.
- 3.5 Emergency Medical Consultant - A group which may be called upon to assist in the medical care of contaminated injured personnel or other radiation casualties.

### 4.0 RESPONSIBILITIES

- 4.1 The Emergency Director, or when designated, the Emergency Plant Manager, shall be responsible for emergency dose authorizations and administration of potassium iodide (KI) to essential personnel.
- 4.2 The Emergency Radiation Protection (RP) Manager shall be responsible for evaluating, recognizing, and formally recommending in writing, to the Emergency Director the need for emergency dose authorization and KI administration to essential personnel at DBNPS.
- 4.3 The Dose Assessment Coordinator shall be responsible for evaluating, recognizing, and formally recommending in writing to the Emergency RP Manager the need for emergency dose authorization and KI administration to essential personnel outside the Protected Area.

**5.0 INITIATING CONDITIONS**

- 5.1 After declaration of an emergency, this procedure shall be initiated upon either of the following conditions:**
- 5.1.1 An essential person has or is likely to receive dose in excess of the amounts specified in Step 3.2.**
  - 5.1.2 A projected Committed Dose Equivalent (CDE) of 25 rems or greater to the thyroid has been or is likely to be received by an essential person.**

6.0 PROCEDURE6.1 Authorization of Emergency Dose

6.1.1 The Emergency Director, or when designated, the Emergency Plant Manager, shall:

- a. Evaluate the risk of not performing the task against the anticipated dose associated with performing the task before authorizing emergency dose.
- b. Authorize individual dose in excess of the 10 CFR 20 occupational dose limits as listed in Step 3.2, by completing Form DBEP-204, Emergency Dose Authorization.

NOTE 6.1.2

It is preferable to document authorization by the Emergency Director, or when designated, the Emergency Plant Manager, before the exposure. However, verbal authorization may be granted and then documented as soon as possible.

6.1.2 The following guidelines are provided for emergency dose:

- a. Personnel performing emergency tasks should be volunteers familiar with the consequences of radiation dose.
- b. Declared pregnant individuals shall not be used.
- c. Emergency dose should be limited to once in a lifetime for any individual.
- d. When possible, the individual should be over the age of 45.
- e. Personnel shall not enter any area where dose rates are unknown, unmonitored, or cannot be determined.
- f. All attempts should be made to keep emergency dose ALARA.
- g. The individual's dose history should be available for review.

6.1.3 Authorize increased dose for workers performing emergency services using the following guidance:

- a. Limit doses to the following when protecting valuable property and lower doses are not practical:
  1. 10,000 mrem TEDE
  2. 30,000 mrem to the lens of the eye
  3. 100,000 mrem:
    - Total Organ Dose Equivalent (TODE)
    - Shallow Dose Equivalent (SDE) to the skin of the whole body or to any extremity

**WARNING 6.1.3.b**

The following guidelines may be exceeded only in extreme situations. The personnel involved in exceeding these guides, shall be volunteers and made fully aware of the risks involved with this dose prior to receiving this dose.

- b. **Limit doses to the following when *protecting large populations or performing life-saving activities* and lower doses are not practical:**
1. 25,000 mrem TEDE
  2. 75,000 mrem to the lens of the eye
  3. 250,000 mrem SDE
- 6.1.4 The briefer and individual who will receive the emergency dose shall fill in the information required on DBEP-204, Emergency Dose Authorization, and obtain the Emergency RP Manager's signature before receiving the emergency dose.
- a. Individual should review Attachment 1.
- 6.1.5 For any dose in excess of the 10 CFR 20 occupational dose limits specified in Step 3.2, the Emergency RP Manager shall:
- a. Notify the Medical Director when emergency doses have been authorized. (The phone number is listed in the Emergency Plan Telephone Directory under *Other Resources/Medical Director*.)
  - b. Call the Emergency Medical Consultant for follow-up care and further evaluation, as required. (The phone number is listed in the Emergency Plan Telephone Directory under *Other Resources/Medical Consultants*.)
- 6.1.6 **IF** radiological surveys or dosimetry data indicate conditions approaching the dose limits for nonessential personnel as stated in RA-EP-02610, Emergency Radiation Protection Organization Activation and Response,
- THEN** the Emergency Director, with the recommendations from the Emergency RP Manager, should consider evacuation of the affected personnel according to RA-EP-02530, Evacuation.

**6.2 Administration of Potassium Iodide (KI)**

- 6.2.1 The Emergency Director, or when designated, the Emergency Plant Manager shall authorize the use of KI.
- 6.2.2 The Emergency RP Manager shall recognize the need for KI distribution within the Protected Area.
- a. IF KI is to be distributed, a written recommendation using Form DBEP-106, Potassium Iodide (KI) Administration, shall be completed and submitted to the Emergency Director or designee for approval.
- 6.2.3 The Dose Assessment Coordinator shall recognize the need for KI distribution outside the Protected Area.
- a. IF KI is to be distributed, a written recommendation using Form DBEP-106, Potassium Iodide (KI) Administration, shall be completed and submitted to the Emergency RP Manager.
- 6.2.4 The Emergency RP Manager and/or the Dose Assessment Coordinator should:
- a. Calculate, measure, or estimate the airborne radioiodine concentration in an essential person's breathing zone.
- b. IF the concentration exceeds  $2 \times 10^{-5} \mu\text{Ci/cc}$  for one hour ( $2 \times 10^{-6} \mu\text{Ci/cc}$  for ten hours), or the Committed Dose Equivalent (CDE) to the thyroid is likely to exceed 25 rems,
- THEN determine if KI should be administered to essential personnel.

**WARNING 6.2.4.c.**

Individuals who have known allergies to iodine shall not be issued KI.

- c. After briefing the Emergency Director or his designee and receiving authorization for the administration of KI, ensure the following:
1. Notify those who are to receive KI, to report to a designated location for distribution.

**NOTE 6.2.4.c.2**

KI is stored in the Operations Support Center (OSC) and in the Radiological Testing Laboratory (RTL).

2. Inform the individual that taking KI is voluntary.
3. The individual who will receive KI should fill in the information and sign the Potassium Iodide Administration Form, DBEP-106.

**CAUTION 6.2.4.c.4**

KI has the following effectiveness in blocking radioiodine uptake by the thyroid:

- 90% blockage if administered within the first hour after exposure.
- 50% blockage if administered within four hours after exposure.
- KI is ineffectual if administered more than 14 hours after exposure.

4. Issue one 130 mg KI tablet to each individual.
5. Notify the Medical Director when KI is issued.
6. The Emergency RP Manager should contact the Emergency Medical Consultant and request follow-up care for KI administration. (The phone number is listed in the Emergency Plan Telephone Directory under *Other Resources/Medical Consultants*.)
7. The Emergency RP Manager shall ensure one 130 mg KI tablet is issued daily for ten days or as directed by the Emergency Medical Consultant and record each issuance on Potassium Iodide (KI) Administration Form, DBEP-106.
8. The Emergency RP Manager shall ensure that bioassay analysis is provided in order to determine the effectiveness of the KI administration and estimate the dose commitment.
9. Forward the completed Form DBEP-106, Potassium Iodide (KI) Administration, to the Emergency RP Manager and Emergency Director for review and signatures.



**7.0** **FINAL CONDITIONS**

- 7.1** Refer to NOP-LP-2001, Condition Report Process, to describe the actions necessary to investigate and report the radiation dose of an individual over the occupational limits stated in 10 CFR 20.
- 7.2** The completed forms have been:
  - 7.2.1** Submitted and reviewed by the Emergency Director
  - 7.2.2** Submitted and reviewed by the Manager - Radiation Protection
  - 7.2.3** Submitted and reviewed by the Manager – Regulatory Affairs.

**8.0** **RECORDS**

- 8.1** The following quality assurance records are completed by this procedure and shall be listed on the Nuclear Records List, captured, and submitted to Nuclear Records Management in accordance with NG-NA-00106.
  - 8.1.1** None
- 8.2** The following non-quality assurance records are completed by this procedure and may be captured and submitted to Nuclear Records Management in accordance with NG-NA-00106.
  - 8.2.1** Emergency Dose Authorization, DBEP-204
  - 8.2.2** Potassium Iodide (KI) Administration, DBEP-106

**ATTACHMENT 1: HEALTH EFFECTS DUE TO RADIATION EXPOSURE**

Page 1 of 1

**TABLE 1****Health Effects Associated With Whole-Body Absorbed Doses Received Within a Few Hours<sup>a</sup>**  
(EPA 400 Table 2-3)

Whole Body Absorbed Dose (Rad)	Early Fatalities <sup>b</sup> (Percent)	Whole Body Absorbed Dose (Rad)	Prodromal Effects <sup>c</sup> (Percent Affected)
140	5	50	2
200	15	100	15
300	50	150	50
400	85	200	85
460	95	250	98

- Risks will be lower for protracted exposure periods.
- Supportive medical treatment may increase the dose at which these frequencies occur by approximately 50 percent.
- Forewarning symptoms of more serious health effects associated with large doses of radiation

**TABLE 2****Approximate Cancer Risk to Average Individuals from 25 Rem Effective Dose Equivalent Delivered Promptly**  
(EPA 400 Table 2-4)

Age at Exposure (Years)	Appropriate Risk of Premature Death (Deaths per 1,000 persons exposed)	Average Years of Life Lost if Premature Death Occurs (Years)
20 to 30	9.1	24
30 to 40	7.2	19
40 to 50	5.3	15
50 to 60	3.5	11

COMMITMENTS

<u>Step Number</u>	<u>Reference</u>	<u>Comments</u>
4.1	TERMS 0 13454	Emergency Dose Authorization
6.1.3	TERMS 014577	Guidelines as stated in EPA-400-R-92-001
6.1.2.e	TERMS 0 16239	RP Response to Fires