



**Duke Energy**

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W. R. McCollum, Jr.  
Vice President

February 6, 2001

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

Subject: Oconee Nuclear Station  
Docket Nos. 50-269, -270, -287  
Emergency Plan Implementing Procedures Manual  
Volume B, Revision 2001-02

Please find attached for your use and review copies of the revision to the Oconee Nuclear Station Emergency Plan:

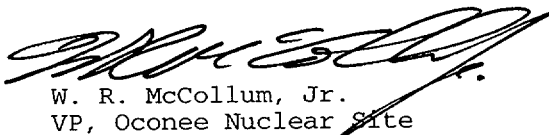
Volume B Revision 2001-02 February 2001

This revision is being submitted in accordance with 10 CFR 50-54(g) and does not decrease the effectiveness of the Emergency Plan or the Emergency Plan Implementing Procedures.

Any questions or concerns pertaining to this revision please call Mike Thorne, Emergency Planning Manager at 864-885-3210.

By copy of this letter, two copies of this revision are being provided to the NRC, Region II, Atlanta, Georgia.

Very truly yours,



W. R. McCollum, Jr.  
VP, Oconee Nuclear Site

xc: (w/2 copies of attachments)  
Mr. Luis Reyes,  
Regional Administrator, Region II  
U. S. Nuclear Regulatory Commission  
61 Forsyth St., SW, Suite 24T23  
Atlanta, Georgia 30303

w/copy of attachments  
Mr. Steven Baggett  
Rockville, Maryland

(w/o Attachments, Oconee Nuclear Station)  
NRC Resident Inspector  
M. D. Thorne, Manager, Emergency Planning

A045

February 6, 2001

OCONEE NUCLEAR SITE

SUBJECT: Emergency Plan Implementing Procedures  
Volume B, Revision 2001-02

Please make the following changes to the Emergency Plan, Volume B  
by following these instructions.

REMOVE

Cover Sheet Rev. 2001-01

Table of Contents page 1

HP/0/B/1009/012 - 06/15/99

ADD

Cover Sheet Rev. 2001-02

Table of Contents page 1

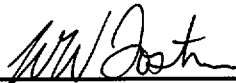
HP/0/B/1009/012 - 01/09/01

# DUKE POWER

## EMERGENCY PLAN IMPLEMENTING PROCEDURES VOLUME B



**APPROVED:**



W. W. Foster, Manager  
Safety Assurance

02/06/2001

Date Approved

02/06/2001

Effective Date

VOLUME B  
REVISION 2001-02  
February, 2001

**VOLUME B**  
**TABLE OF CONTENTS**

Page 1

Chemistry Lab LM-O-P003C	Determination Of Boron By Manual Colorimetric Titration - (11/18/96)
Chemistry Lab LM-O-P919	Boron Analysis by Mettler DL 58 Boron Titration – (10/26/99)
CP/1/A/2002/004C	Operating Procedure for the Post Accident Liquid Sampling System (PALSS) - (12/16/99)
CP/1&2/A/2002/005	Post Accident Caustic Injection into the Low Pressure Injection System - (05/23/00)
CP/2/A/2002/004C	Operating Procedure for the Post Accident Liquid Sampling System (PALSS) - (12/16/99)
CP/3/A/2002/004C	Operation Procedure for Operation of the Post-Accident Liquid Sampling System (PALSS) - (12/16/99)
CP/3/A/2002/005	Post Accident Caustic Injection into the Low Pressure Injection System - (05/23/00)
HP/0/B/1009/009	Procedure for Determining The Inplant Airborne Radioiodine Concentration During Accident Conditions - (12/03/97)
HP/0/B/1009/012	Distribution of Potassium Iodide Tablets In The Event Of A Radioiodine Release - (01/09/01)
HP/0/B/1009/015	Procedure for Sampling and Quantifying High Level Gaseous Radioiodine And Particulate Radioactivity - (06/16/99)
HP/0/B/1009/016	Procedure for Emergency Decontamination of Personnel and Vehicles On-Site And From Off-Site Remote Assembly Area - (12/29/97)
HP/1/A/1009/017	Operating Procedure For Post-Accident Containment Air Sampling System - (09/13/00)
HP/2/A/1009/017	Operating Procedure For Post-Accident Containment Air Sampling System - (09/13/00)
HP/3/A/1009/017	Operating Procedure For Post-Accident Containment Air Sampling System - (09/13/00)
RP/O/B/1000/011	Planned Emergency Exposure - (02/01/94)
RP/0/B/1000/025	Operational Support Center Manager Procedure - (06/26/00)
RP/0/B/1000/027	Re-Entry Recovery Procedure - (05/30/00)

Revision 2001-02  
February, 2001

**INFORMATION ONLY**

**PROCEDURE PROCESS RECORD**

Revision No 012

**PREPARATION**

(2) Station OCONEE NUCLEAR STATION

(3) Procedure Title Distribution Of Potassium Iodide Tablets In The Event Of A Radioiodine Release

(4) Prepared By Doug Bernhart Date 1/4/01

- (5) Requires 10CFR50.59 evaluation?
  - Yes (New procedure or revision with major changes)
  - No (Revision with minor changes)
  - No (To incorporate previously approved changes)

(6) Reviewed By [Signature] (QR) Date 1-4-01

Cross-Disciplinary Review By \_\_\_\_\_ (QR)NA SM Date 1-4-01

Reactivity Mgmt. Review By \_\_\_\_\_ (QR)NA SM Date 1-4-01

(7) Additional Reviews

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

(8) Temporary Approval (if necessary)

By \_\_\_\_\_ (SRO/QR) Date \_\_\_\_\_

By \_\_\_\_\_ (QR) Date \_\_\_\_\_

(9) Approved By [Signature] Date 1/9/01

**PERFORMANCE** (Compare with control copy every 14 calendar days while work is being performed.)

(10) Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

(11) Date(s) Performed \_\_\_\_\_

Work Order Number (WO#) \_\_\_\_\_

**COMPLETION**

(12) Procedure Completion Verification

- Yes  NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- Yes  NA Listed enclosures attached?
- Yes  NA Data sheets attached, completed, dated, and signed?
- Yes  NA Charts, graphs, etc. attached, dated, identified, and marked?
- Yes  NA Procedure requirements met?

Verified By \_\_\_\_\_ Date \_\_\_\_\_

(12) Procedure Completion Approved \_\_\_\_\_ Date \_\_\_\_\_

( ) Remarks (Attach additional pages, if necessary)

Duke Power Company  
Oconee Nuclear Station

**Distribution Of Potassium Iodide Tablets In The Event  
Of A Radioiodine Release**

**Information Use**

Procedure No.

HP/0/B/1009/012

Revision No.

012

Electronic Reference No.

OX002SD1

## Distribution Of Potassium Iodide Tablets In The Event Of A Radioiodine Release

### 1. Purpose

- 1.1 This procedure provides information necessary to distribute Potassium Iodide (KI) tablets to in-plant personnel in the event of a release of radioiodine.
- 1.2 This procedure is an Emergency Plan Implementing Procedure (EPIP). It must be forwarded to the Emergency Planning Group within three working days of approval by the responsible group. {PIP 4-O-93-0701}

### 2. References

- 2.1 NCRP Report No. 55; Protection of the Thyroid Gland in the Event of Releases of Radioiodine 1977
- 2.2 NCRP Report No. 65; Management of Persons Accidentally Contaminated with Radioiodine 1980
- 2.3 SH/0/B/2001/001, Internal Dose Assessment
- 2.4 NUREG 0654
- 2.5 RP/0/B/1000/011, Planned Emergency Exposure
- 2.6 PIP 4-O-93-701, Distribution Of Emergency Plan Procedures

### 3. Limits And Precautions

- 3.1 Persons who are allergic to KI should **NOT** receive these tablets.
- 3.2 Nursing mothers who receive KI tablets must be advised to use nutrient substitutes (ex: milk or a formula) for children for the duration of the ten-day tablet use period.
- 3.3 Personnel shall be advised **NOT** to deviate from prescribed dosages and dosage rates.
- 3.4 Best results will be achieved when KI tablets are administered prior to the exposure but at least within 4 hours after an exposure.

- 3.5 Do **NOT** distribute discolored or disfigured tablets, or tablets that have exceeded their expiration date. Such tablets shall be discarded:
- 3.5.1 The expiration date listed on the bottle may have been extended by the manufacturer. Documentation of extension shall be kept with the supply of KI tablets.
- 3.6 Hands of personnel shall be free of contamination prior to taking KI tablets.
- 3.7 The RP Manager may approve the use of KI to block thyroid uptake of radioiodines during emergency situations. If the thyroid CDE is anticipated to exceed 25 REM (which is 1000 iodine DAC hours as calculated by Enclosure 5.1), the radiation risk is considered to be greater than the risk of side effects from the KI in most cases. Personnel to be considered for KI include:
- 3.7.1 Personnel suspected of having been in the affected area prior to detection and during a release;
- 3.7.2 Persons present in the affected area; and
- 3.7.3 Persons who will enter the area while a significant amount of radioiodine is present, as defined in Step 3.7.
- 3.8 Each new bottle of KI contains 14 tablets and will require removal of sufficient tablets to ensure only 10 tablets are issued to each affected person.
- 3.9 Replacement tablets should be ordered at least three months prior to the KI expiration date, to ensure an adequate supply of viable tablets.
- 3.10 KI tablets shall be stored under the following conditions:
- 3.10.1 temperature range of 68 degrees F to 77 degrees F;
- 3.10.2 low humidity; and
- 3.10.3 away from direct exposure to light.



#### 4. Procedure

4.1 Calculate total iodine DAC-hours expected from task using Enclosure 5.1.

**NOTE:** If total iodine DAC-hours expected from task is less than OR equal to 1000, administration of KI is NOT required.

4.2 **IF** total iodine DAC-hours expected from task > 1000 (which is 25 REM), administer KI to affected personnel.

4.3 Secure tablets from emergency inventory:

4.3.1 Inspect bottles for evidence of tampering (example: seal broken etc.).

4.3.2 Ensure issue date or extension letter date has NOT expired.

4.4 Record data required on Enclosure 5.2 for personnel arriving at distribution site.

4.5 Issue one (1) tablet to each affected person for immediate consumption:

4.5.1 Remove sufficient tablets, if necessary, to ensure only nine (9) tablets remain in the bottle/vial.

4.5.2 Store tablets removed from new bottles of KI in a plastic vial or other similar container.

4.5.3 Record the expiration date of the bottle or extension letter and the name of the RP representative issuing the tablets on the vial.

4.6 Issue each affected person one (1) bottle/vial containing nine (9) KI tablets:

- Issue the accumulated vials of KI to avoid opening new bottles until necessary.

4.7 Issue each affected person the package insert for use of the tablets (refer to Enclosure 5.3 for example of the package insert).

4.8 Instruct each person receiving KI to take one (1) tablet per day for 10 days, as near as 24 hour schedule as possible, unless otherwise directed by the Radiation Protection Manager or designee.

**NOTE:** If the number of persons affected render it impractical to give all a BBA, the RP Shift General Supervisor or designee shall draw a sample of persons to receive a BBA.

4.9 Schedule personnel ingesting KI for a BBA.

4.10 Ensure proper disposition of Enclosures 5.1 and 5.2:

- Original to Master File, under appropriate (S)RWP.
- Copy to the Radiation Protection Manager.
- Copy to the RP Shift General Supervisor.

## **5. Enclosures**

5.1 Example Calculation Of Iodine DAC-hours

5.2 Example Potassium Iodide Tablet Distribution Data Sheet

5.3 Example Package Insert For Thyro-Block™ Tablets And solution

Example  
Calculation Of Iodine DAC-Hours

(S)RWP \_\_\_\_\_

$$[(I-131 \text{ uCi/ml} = \frac{\text{_____}}{2E-8\text{uCi/ml per DAC}}) + (I-133 \text{ uCi/ml} = \frac{\text{_____}}{1E-7\text{uCi/ml per DAC}}) + (I-135 \text{ uCi/ml} = \frac{\text{_____}}{7E-7\text{uCi/ml per DAC}})] \times \text{_____ time in hrs}$$

$$= \text{_____} \# \text{ of iodine DAC-hours expected from task}$$

Where:

I-131, I-133, and I-135 are the respective iodine isotope concentrations either actually in or potentially in the workplace during task.

**NOTE:** If another iodine isotope(s) is in or expected to be in the workplace, divide its concentration (in uCi/ml) by its DAC, as shown above and add to the other radioiodine DACs and multiply the sum by the time spent in the radioiodine atmosphere.

2E-8uCi/ml per DAC = the concentration of I-131 equivalent to one DAC

1E-7uCi/ml per DAC = the concentration of I-133 equivalent to one DAC

7E-7uCi/ml per DAC = the concentration of I-135 equivalent to one DAC

Time = the total time in hours that personnel are expected to be in the radioiodine atmosphere



**Example**  
**Package Insert For Thyro-Block™ Tablets**  
**And Solution**

Patient Package Insert For

**THYRO-BLOCK®**  
TABLETS  
(POTASSIUM IODIDE TABLETS, USP)  
(pronounced poe-TASS-e-um EYE-oh-dyed)  
(abbreviated: KI)

**IF YOU ARE TOLD TO TAKE THIS MEDICINE, TAKE IT ONE TIME EVERY 24 HOURS. DO NOT TAKE IT MORE OFTEN. MORE WILL NOT HELP YOU AND MAY INCREASE THE RISK OF SIDE EFFECTS. DO NOT TAKE THIS DRUG IF YOU KNOW YOU ARE ALLERGIC TO IODIDE. (SEE SIDE EFFECTS BELOW.)**

**INDICATIONS**

THYROID BLOCKING IN A RADIATION EMERGENCY ONLY.

**DIRECTIONS FOR USE**

Use only as directed by State or local public health authorities in the event of a radiation emergency.

**DOSE**

Tablets:

**ADULTS AND CHILDREN 1 YEAR OF AGE OR OLDER:** One (1) tablet once a day. Crush for small children.  
**BABIES UNDER 1 YEAR OF AGE:** One-half (1/2) tablet once a day. Crush first.

Take for 10 days unless directed otherwise by State or local public health authorities.

Store at controlled room temperature between 15° and 30°C (59° to 86°F). Keep container tightly closed and protect from light.

**WARNING**

*Potassium iodide should not be used by people allergic to iodide.* Keep out of the reach of children. In case of overdose or allergic reaction, contact a physician or the public health authority.

**DESCRIPTION**

Each white, round, scored, monogrammed THYRO-BLOCK® TABLET contains 130 mg of potassium iodide. Other ingredients: magnesium stearate, microcrystalline cellulose, silica gel, and sodium thiosulfate.

**Example**  
**Package Insert For Thyro-Block™ Tablets**  
**And Solution**

**HOW POTASSIUM IODIDE WORKS**

Certain forms of iodine help your thyroid gland work right. Most people get the iodine they need from foods, like iodized salt or fish. The thyroid can "store" or hold only a certain amount of iodine.

In a radiation emergency, radioactive iodine may be released in the air. This material may be breathed or swallowed. It may enter the thyroid gland and damage it. The damage would probably not show itself for years. Children are most likely to have thyroid damage.

If you take potassium iodide, it will fill up your thyroid gland. This reduces the chance that harmful radioactive iodine will enter the thyroid gland.

**WHO SHOULD NOT TAKE POTASSIUM IODIDE**

The only people who should not take potassium iodide are people who know they are allergic to iodide. You may take potassium iodide even if you are taking medicines for a thyroid problem (for example, a thyroid hormone or antithyroid drug). Pregnant and nursing women and babies and children may also take this drug.

**HOW AND WHEN TO TAKE POTASSIUM IODIDE**

Potassium iodide should be taken as soon as possible after public health officials tell you. You should take one dose every 24 hours. More will not help you because the thyroid can "hold" only limited amounts of iodine. Larger doses will increase the risk of side effects. You will probably be told not to take the drug for more than 10 days.

**SIDE EFFECTS**

Usually, side effects of potassium iodide happen when people take higher doses for a long time. You should be careful not to take more than the recommended dose or take it for longer than you are told. Side effects are unlikely because of the low dose and the short time you will be taking the drug.

Possible side effects include skin rashes, swelling of the salivary glands, and "iodism" (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and sometimes stomach upset and diarrhea).

A few people have an allergic reaction with more serious symptoms. These could be fever and joint pains, or swelling of parts of the face and body and at times severe shortness of breath requiring immediate medical attention.

Taking iodide may rarely cause overactivity of the thyroid gland, underactivity of the thyroid gland, or enlargement of the thyroid gland (goiter).

**WHAT TO DO IF SIDE EFFECTS OCCUR**

If the side effects are severe or if you have an allergic reaction, stop taking potassium iodide. Then, if possible, call a doctor or public health authority for instructions.

**HOW SUPPLIED**

THYRO-BLOCK® TABLETS (Potassium Iodide Tablets, USP) are white, round tablets, one side scored, other side debossed 472 WALLACE, each containing 130 mg potassium iodide. Available in bottles of 14 tablets (NDC 0037-0472-20).

**WALLACE LABORATORIES**  
Division of  
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