

R. A. JONES  
Vice President

Duke Power  
29672 / Oconee Nuclear Site  
7800 Rochester Highway  
Seneca, SC 29672

864 885 3158

864 885 3564 fax

November 24 2003

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 2003-08

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

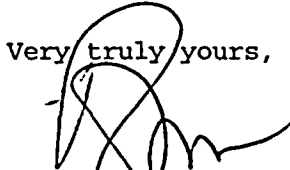
Volume B Revision 2003-08 November 2003

This revision is being submitted in accordance with 10 CFR 50-54(q) 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 Rodney Brown, Emergency Planning Manager at 864-885-3301.

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

Very truly yours,



R. A. Jones  
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. James R. Hall  
Rockville, Maryland

(w/o Attachments, Oconee Nuclear Station)  
NRC Resident Inspector  
J. R. Brown, Manager, Emergency Planning

1A045

November 24, 2003

OCONEE NUCLEAR SITE

SUBJECT:     Emergency Plan Implementing Procedures  
              Volume B, Revision 2003-08

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

REMOVE

Cover Sheet Rev. 2003-07

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INSERT

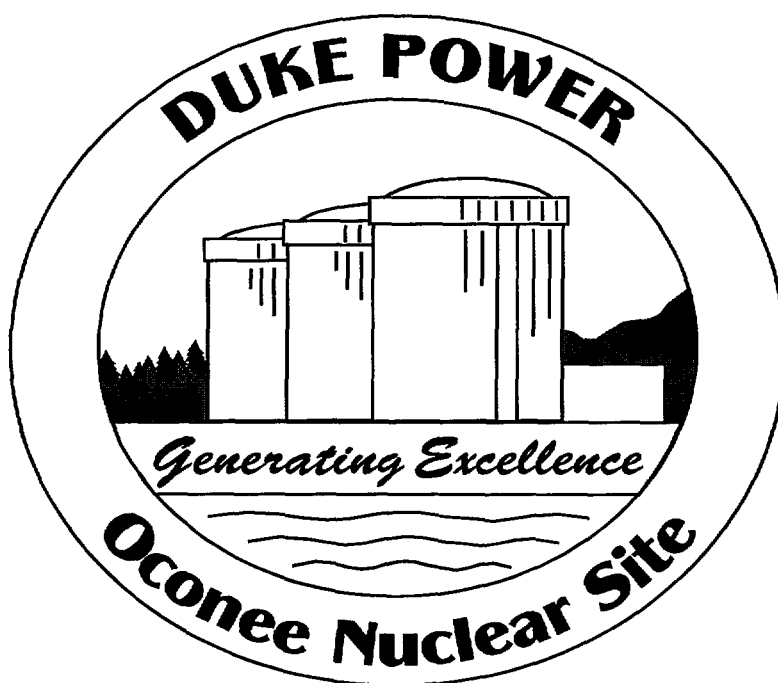
Cover Sheet Rev. 2003-08

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SH/0/B/2005/003, Rev. 000 New Procedure  
(Tab will be sent later), Insert after  
RP/0/B/1000/027

**DUKE POWER**

**EMERGENCY PLAN**  
**IMPLEMENTING PROCEDURES**  
**VOLUME B**



**APPROVED:**

W. W. Foster, Manager  
Safety Assurance

11/24/03

Date Approved

11/24/03

Effective Date

**VOLUME B**  
**REVISION 2003-08**  
**NOVEMBER 2003**

**VOLUME B**  
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CP/1/A/2002/004C	Operating Procedure For The Post Accident Liquid Sampling System (PALSS)	01/10/03
CP/1&2/A/2002/005	Post Accident Caustic Injection Into The Low Pressure Injection System	09/10/03
CP/2/A/2002/004C	Operating Procedure For The Post Accident Liquid Sampling System (PALSS)	01/10/03
CP/3/A/2002/004C	Operation Procedure For The Post-Accident Liquid Sampling System (PALSS)	01/10/03
CP/3/A/2002/005	Post Accident Caustic Injection Into The Low Pressure Injection System	09/10/03
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Safety Services Procedure 2.1	Safety Services Emergency Response Procedure 2.1	03/14/00

# PROCEDURE PROCESS RECORD FOR STANDARD PROCEDURES

Revision No. 000**PREPARATION**(2) Procedure Title: Distribution of Potassium Iodide Tabletsin the Event of a Radioiodine Release(3) Prepared By Shaham Johnson Date 8-19-03

(4)	Applicable To: *	<input checked="" type="checkbox"/> ONS	<input checked="" type="checkbox"/> MNS	<input checked="" type="checkbox"/> CNS
(5)	Technical Advisor	<u>E. J. H. 11/03/03</u>	<u>Dary J. J. 11/03/03</u>	<u>C. J. J. 11/03/03</u>
(6)	Requires NSD 228	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Applicability Determination	YES = New procedure or reissue with major changes NO = Reissue with minor changes OR to incorporate previously approved changes		
(7)	Review (QR)	By <u>C. J. J. 10/21/03</u>	By <u>C. J. J. 10/21/03</u>	By <u>C. J. J. 10/21/03</u>
	Cross-Disciplinary Review (QR)	By <u>Ray Waterman</u> NA <u>8/26/03</u>	By <u>Alan K. Brewer</u> NA <u>10/6/03</u>	By <u>G. M. J. 9/9/03</u> NA <u>9/9/03</u>
	Reactivity Mgmt. Review (QR)	By <u>Col 10/21/03</u>	By <u>Col 10/21/03</u>	By <u>Col 10/21/03</u>
	Mgmt. Involvement Review (Ops. Supt.)	By <u>Col 10/21/03</u>	By <u>Col 10/21/03</u>	By <u>Col 10/21/03</u>
(8)	Additional Reviews	By <u>Rodney B. 10/21/03</u> Date <u>10/21/03</u>	By <u>R. L. Murray 10-6-03</u> Date <u>10-6-03</u>	By <u>10-6-03</u> Date <u>10-6-03</u>
(9)	Approved	By <u>J. J. J. 11/3/03</u> Date <u>11/3/03</u>	By <u>Lane E. J. 10-28-03</u> Date <u>10-28-03</u>	By <u>J. J. J. 11-6-03</u> Date <u>11-6-03</u>
(10)	Use Level	Reference Use		

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

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

(12) Date(s) Performed \_\_\_\_\_  
 Work Order Number (WO#) \_\_\_\_\_

**COMPLETION**

(13) Procedure Completion Verification

- ☐ Yes ☐ NA Check lists or blanks properly initialed, signed, dated, or filled in NA, as appropriate?  
☐ Yes ☐ NA Required enclosures attached?  
☐ Yes ☐ NA Data sheets attached, completed, dated, and signed?  
☐ Yes ☐ NA Charts, graphs, etc., attached and properly dated, identified, and marked?  
☐ Yes ☐ NA Procedure requirements met?

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

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

(15) Remarks (attach additional pages, if necessary)

<p><b>Duke Power Company</b>  <b>Standard Procedure for Oconee, McGuire, and Catawba</b>  <b>Nuclear Stations</b></p> <p><b>Distribution of Potassium Iodide Tablets</b>  <b>in the Event of a Radioiodine Release</b></p> <p><b>Reference Use</b></p>	<p>Procedure No.</p> <p><b>SH/0/B/2005/003</b></p>
	<p>Revision No.</p> <p>000</p>
	<p>Electronic Reference No.</p> <p>SHR000G</p>

## **Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release**

### **1. Purpose**

- 1.1 This procedure provides information necessary to distribute Active Potassium Iodide (KI) tablets to Emergency Response Organization (ERO) personnel in the event of a release of radioiodine resulting from emergency conditions.
- 1.2 This procedure also outlines storage and supply information to assure sufficient quality and quantity of thyroid blocking material.
- 1.3 The level of use for this procedure is "Reference Use".
- 1.4 This procedure is an Emergency Plan Implementing Procedure (EPIP) for MNS, CNS, and ONS. This procedure must be forwarded to the Emergency Planning Group at each site within 3 working days of approval by the responsible group (PIP 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 Radionuclides 1980
- 2.3 BRH Report; Recommendations of Thyroid Blocking EKI, HHS Pub. FDA 81-8158
- 2.4 Radiation Protection Standard Procedure SH/0/B/2001/001, Internal Dose Assessment
- 2.5 Radiation Protection Policy Manual VI-05, Radiation Accident and Emergency Procedures
- 2.6 PIP O-93-701, Distribution of Emergency Plan Procedures
- 2.7 EPA 400-R-92-001, Manual of Protective Action Guides And Protective Actions For Nuclear Incidents
- 2.8 Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergencies, FDA Guidance, November, 2001
- 2.9 Guidance for Industry, KI in Radiation Emergencies, Questions and Answers, FDA, December, 2002
- 2.10 Title 10, Code of Federal Regulations, Part 20 (10CFR20)



### 3. Limits and Precautions

**WARNING:** Persons who are known to be allergic to KI, iodine, or with pre-existing thyroid disease (e.g., Graves disease, thyroid nodules, Hashimoto's Thyroiditis) shall **NOT** receive these tablets.

**WARNING:** Nursing mothers who receive KI tablets shall be advised to use nutrient substitutes (e.g., milk or a formula) for children for the duration of the ten-day tablet use period.

**NOTE:** Best results shall be achieved when KI tablets are administered prior to an exposure or immediately after an exposure (within 2 hours). Administration as late as 24 hours after the exposure is of less value but still significant enough to justify the administering.

### 4. Procedure

#### 4.1 Registration of Personnel

4.1.1 The Radiation Protection Manager shall evaluate the distribution of KI for personnel who meet any of the following conditions:

- Personnel suspected of being in an affected area prior to the detection of a radioiodine release
- Personnel known to have been in an affected area
- Personnel who have a need to enter an affected area

4.1.2 Use Enclosure 5.3 to document the actual or expected DAC-hrs of exposure.

**NOTE:** KI shall be distributed only to prevent a "significant uptake" of radioiodine. A significant uptake is defined as follows:

- That amount of radioiodine taken into the body that would result in a Committed Dose Equivalent (CDE) of 5 rem or more to the thyroid. (Reference 2.8 and 2.9)
- 5 rem CDE to the thyroid is equal to 200 DAC-hrs of iodine exposure. (Reference 2.10)

4.1.3 **IF** the actual or expected DAC-hrs of exposure is equal to or exceeds 200 DAC-hrs, recommend that the personnel take KI.

- 4.1.4 **IF** determination is made to distribute KI tablets for ingestion by ERO personnel, notify the Emergency Coordinator **AND** EOF Director of decision.
- 4.1.5 Complete Enclosure 5.1 for personnel that are to be given KI.
- 4.1.6 Retain completed procedure in Master File.

## 4.2 Distribution of Potassium Iodide

**NOTE:** It is **NOT** mandatory for any person to take or ingest KI tablets.

- 4.2.1 Discard any KI bottles that have loose tops.
- 4.2.2 Discard any KI bottles that are past their expiration date.
- 4.2.3 Discard any tablets that are disfigured or discolored.
- 4.2.4 Advise personnel **NOT** to deviate from the prescribed dosages and dosage rates.
- 4.2.5 Explain that the prescribed dose is one (1) tablet per day for 10 consecutive days.
- 4.2.6 Explain that the bottle of KI that the personnel shall be given contains fourteen (14) tablets. The four (4) unused tablets shall be discarded.
- 4.2.7 Explain that tablets should be taken as close to a 24-hour time period as possible.
- 4.2.8 Issue one (1) bottle containing fourteen (14) KI tablets to each affected personnel.
- 4.2.9 Instruct the personnel to ingest the tablet.
- 4.2.10 Give one (1) package insert to each affected personnel.
- 4.2.11 Return all unopened KI tablets to the emergency kit.

### **4.3 Internal Dose Assessment Following Radioiodine Exposure**

**NOTE:** The maximum iodine concentration in the thyroid is expected to occur approximately 12 hours post-exposure (Reference 2.2).

4.3.1 Schedule all employees receiving KI tablets for a body burden analysis (BBA) approximately 12 hours after the suspected or actual exposure.

4.3.2 Assess the internal dose per Reference 2.4.

### **4.4 Storage and Supply Requirements for KI Tablets**

4.4.1 Replacement KI tablets shall be ordered at least 3 months prior to date of expiration of the current-stock KI tablets.

4.4.2 Upon receiving a shipment of KI, the boxes shall be opened and examined as soon as possible.

4.4.3 Discard any bottles in which the air-tight seal has been broken.

4.4.4 Discard the old KI tablets.

4.4.5 Store the KI tablets in the following manner:

4.4.5.1 Store in an area protected from exposure to light.

4.4.5.2 Store in an area of low humidity.

4.4.5.3 Store in an area where the temperature range is 68 to 77 degrees F.

## **5. Enclosures**

5.1 Potassium Iodide Tablet Distribution Data Sheet

5.2 Package Insert for Thyro-Block<sup>TM</sup> Tablets

5.3 DAC-Hour Determination

Potassium Iodide Tablet Distribution  
Data Sheet

I have been provided written instruction for the use of Potassium Iodide (KI) tablets. I have read these instructions and intend to use KI in accordance with the manufacturer's instructions. My signature below indicates that I acknowledge that any additional guidance for KI use shall be obtained from a medical authority or the Radiation Protection Manager or designee.

RP Badge Number	Printed Name	Signature	Department	Date/Time of Suspected or Projected Exposure	Date & Time of Initial KI Issuance	Date/Time

RP Signature: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Patent Package Insert For

THYRO-BLOCK™

(POTASSIUM IODIDE)

(pronounced poe-TASS-e-um EYE-oh-dyed)

(abbreviated: KI)

TABLETS U.S.P.

IN A RADIATION EMERGENCY. RADIOACTIVE IODINE COULD BE RELEASED INTO THE AIR. POTASSIUM IODIDE (A FORM OF IODINE) CAN HELP PROTECT YOU.

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 20° and 25°C (68°- 77°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 THYRO-BLOCK™ TABLET contains 130mg of potassium iodide.

Other ingredients:

Magnesium stearate, microcrystalline cellulose, silica gel, and sodium thiosulfate

Enclosure 5.2  
Package Insert for Thyro-Block™ Tablets

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**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 salts 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 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. U.S.P) are white round tablets, one side scored, other debossed 472 Wallace, each containing 130 mg potassium iodide. Available in bottles of 14 tablets (NDC 0037-0472-20).

WALLACE LABORATORIES  
Division of  
CARTER-WALLACE, INC.  
Cranbury, New Jersey 08512

**Enclosure 5.3**  
**DAC-Hour Determination**

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<u>Nuclide</u>	<u>Conc</u> <u>(<math>\mu</math>Ci/ml)</u>		<u>DAC*</u> <u>(<math>\mu</math>Ci/ml)</u>		<u>Expected</u> <u>Exposure</u> <u>Time Hrs</u>		<u>DAC</u> <u>Hours</u>
I-131	_____	÷	2E-8	x	_____	=	_____
I-133	_____	÷	1E-7	x	_____	=	_____
I-135	_____	÷	7E-7	x	_____	=	_____

Total DAC-Hrs →

IF total DAC-hrs is 200 or greater, the use of KI is recommended.

RP Signature: \_\_\_\_\_

Date/Time: \_\_\_\_\_

\* DAC per Reference 2.10