Duke Power®
A Duke Energy Company

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December 1, 2003

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Subject: Duke Energy Corporation
Catawba Nuclear Station Units 1 and 2
Docket Nos. 50-413 and 50-414
Emergency Plan Implementing Procedures

Please find enclosed for NRC Staff use and review the following Emergency Plan Implementing Procedure:

SH/0/B/2005/003 Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release (Rev. 000)

SH/0/B/2005/003 replaces the former site procedure, HP/0/B/1009/016, of the same title. The new procedure is a revision of the former procedure that can be used at any of Duke Power's three nuclear sites.

This revision is being submitted in accordance with 10CFR 50.54(q) and does not decrease the effectiveness of the Emergency Plan Implementing Procedures or the Emergency Plan.

There are no new regulatory commitments in this document. By copy of this letter, two copies of the above document are being provided to the NRC, Region II.

If there are any questions, please call Tom Beadle at 803-831-4027.

Very truly yours,

D. M. Jamil

Attachments

A045

xc (w/attachments):

L. A. Reyes
U.S. Nuclear Regulatory Commission
Regional Administrator, Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303

(w/o attachments):

R. E. Martin
NRR Senior Project Manager
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Mail Stop O-8 G9
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E. F. Guthrie
Senior Resident Inspector (CNS)
U.S. Nuclear Regulatory Commission
Catawba Nuclear Site

DUKE POWER COMPANY
CATAWBA NUCLEAR STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

VOLUME I

PROCEDURE	TITLE
RP/0/A/5000/001	Classification of Emergency (Rev. 015)
RP/0/A/5000/002	Notification of Unusual Event (Rev. 036)
RP/0/A/5000/003	Alert (Rev. 039)
RP/0/A/5000/004	Site Area Emergency (Rev. 041)
RP/0/A/5000/005	General Emergency (Rev. 041)
RP/0/A/5000/06	Deleted
RP/0/A/5000/006 A	Notifications to States and Counties from the Control Room (Rev. 016)
RP/0/A/5000/006 B	Notifications to States and Counties from the Technical Support Center (Rev. 016)
RP/0/A/5000/006 C	Deleted
RP/0/A/5000/007	Natural Disaster and Earthquake (Rev. 021)
RP/0/A/5000/08	Deleted
RP/0/B/5000/008	Spill Response (Rev. 021)
RP/0/A/5000/009	Collision/Explosion (Rev. 007)
RP/0/A/5000/010	Conducting A Site Assembly or Preparing the Site for an Evacuation (Rev. 016)
RP/0/A/5000/11	Deleted
RP/0/B/5000/12	Deleted
RP/0/B/5000/013	NRC Notification Requirements (Rev. 029)
RP/0/B/5000/14	Deleted
RP/0/A/5000/015	Core Damage Assessment (Rev. 005)
RP/0/B/5000/016	Deleted
RP/0/B/5000/17	Deleted

DUKE POWER COMPANY
CATAWBA NUCLEAR STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

VOLUME I

PROCEDURE	TITLE
RP/0/A/5000/018	Emergency Worker Dose Extension (Rev. 001)
RP/0/B/5000/019	Deleted
RP/0/A/5000/020	Technical Support Center (TSC) Activation Procedure (Rev. 018)
RP/0/A/5000/021	Deleted
RP/0/B/5000/022	Evacuation Coordinator Procedure (Rev. 004)
RP/0/B/5000/023	Deleted
RP/0/A/5000/024	OSC Activation Procedure (Rev. 012)
RP/0/B/5000/025	Recovery and Reentry Procedure (Rev. 003)
RP/0/B/5000/026	Site Response to Security Events (Rev. 005)
RP/0/B/5000/028	Communications and Community Relations EnergyQuest Emergency Response Plan (Rev. 001)

DUKE POWER COMPANY
CATAWBA NUCLEAR STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

VOLUME II

PROCEDURE	TITLE
HP/0/B/1000/006	Emergency Equipment Functional Check and Inventory (Rev. 055)
HP/0/B/1009/001	Radiation Protection Recovery Plan (Rev. 008)
HP/0/B/1009/003	Radiation Protection Response Following a Primary to Secondary Leak (Rev. 008)
HP/0/B/1009/004	Environmental Monitoring for Emergency Conditions Within the Ten-Mile Radius of CNS (Rev. 028)
HP/0/B/1009/005	Personnel/Vehicle Monitoring for Emergency Conditions (Rev. 016)
HP/0/B/1009/006	Alternative Method for Determining Dose Rate Within the Reactor Building (Rev. 008)
HP/0/B/1009/007	In-Plant Particulate and Iodine Monitoring Under Accident Conditions (Rev. 019)
HP/0/B/1009/008	Contamination Control of Injured Individuals (Rev. 015)
HP/0/B/1009/009	Guidelines for Accident and Emergency Response (Rev. 039)
HP/0/B/1009/014	Radiation Protection Actions Following an Uncontrolled Release of Radioactive Material (Rev. 008)
HP/0/B/1009/016	Deleted
HP/0/B/1009/017	Deleted
HP/1/B/1009/017	Deleted
HP/2/B/1009/017	Deleted
HP/0/B/1009/018	Deleted
HP/0/B/1009/019	Emergency Radio System Operation, Maintenance and Communication (Rev. 010)
HP/0/B/1009/024	Implementing Procedure for Estimating Food Chain Doses Under Post-Accident Conditions (Rev. 002)

DUKE POWER COMPANY
CATAWBA NUCLEAR STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

VOLUME II

PROCEDURE	TITLE
HP/0/B/1009/025	Deleted
HP/0/B/1009/026	On-Shift Offsite Dose Projections (Rev. 005)
SH/0/B/2005/001	Emergency Response Offsite Dose Projections (Rev. 002) (Restricted Change)
SH/0/B/2005/002	Protocol for the Field Monitoring Coordinator During Emergency Conditions (Rev. 002)
SH/0/B/2005/003	Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release (Rev. 000)
OP/0/A/6200/021	Deleted
SR/0/B/2000/001	Standard Procedure for Public Affairs Response to the Emergency Operations Facility (Rev. 004)
SR/0/B/2000/002	Standard Procedure for EOF Services (Rev. 003)
SR/0/B/2000/003	Activation of the Emergency Operations Facility (Rev. 010)
SR/0/B/2000/004	Notification to States and Counties from the Emergency Operations Facility (Rev. 006)

November 19, 2003

To: CNS EPIP Manual Holders:

Please delete the following procedure from your Catawba Nuclear Station Emergency Plan Implementing Procedures Manual:

HP/0/B/1009/016, Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release

This site procedure is being replaced by a new shared procedure (SH/0/B/2005/003) of the same title which can be used at any of Duke Power's three nuclear sites.

E. T. Beadle dg on 11/19/03

E. T. Beadle
Emergency Planning Manager

(R04-01)

Duke Power Company

PROCEDURE PROCESS RECORD FOR STANDARD PROCEDURES

(1) ID No. SH/O/B/2005/003

Revision No. 000

PREPARATION

(2) Procedure Title: **Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release**

(3) Prepared By Graham Johnson Date 8-19-03

(4)	Applicable To:	☒ ONS	☒ MNS	☒ CNS
(5)	Technical Advisor	11/03/03	Dary Jervis	
(6)	Requires NSD 228 Applicability Determination	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
		YES = New procedure or reissue with major changes NO = Reissue with minor changes OR to incorporate previously approved changes		
(7)	Review (QR)	By Capt V. Arp Date 10/21/03	By Capt V. Arp Date 10/21/03	By Capt V. Arp Date 10/21/03
	Cross-Disciplinary Review (QR)	By Ray Waterman NA ____ Date 8/26/03	By Alan L. Brewer NA ____ Date 10/6/03	By Gilley McGraw NA ____ Date 9/8/03
	Reactivity Mgmt. Review (QR)	By ____ NA COL Date 10/21/03	By ____ 10/21/03 NA ACB Date 10/6/03	By ____ NA COL Date 10/21/03
	Mgmt. Involvement Review (Ops. Supt.)	By ____ NA COL Date 10/21/03	By ____ 10/21/03 NA RCG Date 10/6/03	By ____ NA COL Date 10/21/03
(8)	Additional Reviews	By ____ (QA) Date ____ By Rodney Brown Date 08/27/03	By ____ (QA) Date ____ By K. L. Murray Date 10-6-03	By ____ (QA) Date ____ By ____ Date ____
(9)	Approved	By J. J. Twiggs Date 11/3/03	By Lance E. Loveless Date 10-28-03	By J. W. Foster Date 11-6-03
(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*)

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

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™ 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

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

Nuclide	Conc (μCi/ml)		DAC* (μCi/ml)		Expected Exposure Time Hrs		DAC Hours
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