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

Re: McGuire Nuclear Station Unit 1 Docket No. 50-369
McGuire Nuclear Station Unit 2 Docket No. 50-370
Changes to Emergency Plan Implementing Procedures

Attached to this letter is a revised Emergency Plan Implementing Procedure (EPIP) Index and revised Emergency Plan Implementing Procedures. The procedure changes were evaluated pursuant to the requirements of 10 CFR 50.54 (q). These changes do not constitute a reduction in the effectiveness of the emergency plan and the plan continues to meet the requirements of 10 CFR 50.47 (b) and 10 CFR 50 Appendix E. Duke implemented these changes on February 5, 2002. A copy is also being sent to the NRC Office of Nuclear Material Safety and Safeguards as per 10 CFR 72.44 (f). Revision bars in the procedures indicate the procedure changes. The following index and procedure changes have been implemented:

EPIP Index Page 1	SH/0/B/2005/002	Rev. 002
EPIP Index Page 2		
EPIP Index Page 3		

There are no new regulatory commitments in this document. Duke is also supplying two copies of this submittal to the Regional Administrator of Region II. Questions on this document should be directed to Kevin Murray at (704) 875-4672.

Very truly yours,

H. B. Barron

HBB:jcm
Attachments

A 045

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xc: (w/attachment)
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EP File 111

DUKE

McGUIRE NUCLEAR SITE

EMERGENCY PLAN IMPLEMENTING PROCEDURES

APPROVED: 
SAFETY ASSURANCE MANAGER

DATE APPROVED 2/14/02

EPIP Index Page 1
EPIP Index Page 2
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SH/O/B/2005/002

Dated 2/12/2002
Dated 2/12/2002
Dated 2/12/2002
Dated 2/5/2002

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

<u>PROCEDURE #</u>	<u>TITLE</u>	<u>REVISION NUMBER</u>
RP/0/A/5700/000	Classification of Emergency	Rev. 008
RP/0/A/5700/001	Notification of Unusual Event	Rev. 016
RP/0/A/5700/002	Alert	Rev. 016
RP/0/A/5700/003	Site Area Emergency	Rev. 016
RP/0/A/5700/004	General Emergency	Rev. 016
RP/0/A/5700/05	Care and Transportation of Contaminated Injured Individual(s) From Site to Offsite Medical Facility	DELETE
RP/0/A/5700/006	Natural Disasters	Rev. 009
RP/0/A/5700/007	Earthquake	Rev. 007
RP/0/A/5700/008	Release of Toxic or Flammable Gases	Rev. 004
RP/0/A/5700/009	Collisions/Explosions	Rev. 001
RP/0/A/5700/010	NRC Immediate Notification Requirements	Rev. 013
RP/0/A/5700/011	Conducting a Site Assembly, Site Evacuation or Containment Evacuation	Rev. 005
RP/0/A/5700/012	Activation of the Technical Support Center (TSC)	Rev. 019
RP/0/A/5700/013	Activation of the Emergency Operations Facility (EOF)	DELETE
RP/0/A/5700/14	Emergency Telephone Directory	DELETE
RP/0/A/5700/015	Notifications to the State and Counties from the EOF	DELETE
RP/0/A/5700/16	EOF Commodities and Facilities Procedure	DELETE
RP/0/A/5700/17	Emergency Data Transmittal System Access	DELETE
RP/0/A/5700/018	Notifications to the State and Counties from the TSC	Rev. 010
RP/0/A/5700/019	Core Damage Assessment	Rev. 003
RP/0/A/5700/020	Activation of the Operations Support Center (OSC)	Rev. 011
RP/0/A/5700/21	EOF Access Control	DELETE
RP/0/A/5700/022	Spill Response Procedure	Rev. 009
RP/0/A/5700/024	Recovery and Reentry Procedure	Rev. 002
RP/0/A/5700/026	Operations/Engineering Technical Evaluations in the Technical Support Center (TSC)	Rev. 002
RP/0/B/5700/023	Community Relations Emergency Response Plan	Rev. 002
OP/0/B/6200/090	PALSS Operation for Accident Sampling	Rev. 010

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

<u>PROCEDURE #</u>	<u>TITLE</u>	<u>REVISION NUMBER</u>
HP/0/B/1009/002	Alternative Method for Determining Dose Rate Within the Reactor Building	Rev. 002
HP/0/B/1009/003	Recovery Plan	Rev. 003
HP/0/B/1009/05	Initial Evaluation of Protective Action Guides Due to Abnormal Plant Conditions	DELETED
HP/0/B/1009/006	Procedure for Quantifying High Level Radioactivity Releases During Accident Conditions	Rev. 005
HP/0/B/1009/010	Releases of Radioactive Effluents Exceeding Selected Licensee Commitments	Rev. 006
HP/1/B/1009/015	Unit 1 Nuclear Post-Accident Containment Air Sampling System Operating Procedure	Rev. 003
HP/2/B/1009/015	Unit 2 Nuclear Post-Accident Containment Air Sampling System Operating Procedure	Rev. 003
HP/0/B/1009/016	Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release	Rev. 002
HP/0/B/1009/020	Manual Procedure for Offsite Dose Projections	DELETED
HP/0/B/1009/021	Estimating Food Chain Doses Under Post-Accident Conditions	Rev. 001
HP/0/B/1009/022	Accident and Emergency Response	Rev. 003
HP/0/B/1009/023	Environmental Monitoring for Emergency Conditions	Rev. 004
HP/0/B/1009/024	Personnel Monitoring for Emergency Conditions	Rev. 001
HP/0/B/1009/029	Initial Response On-Shift Dose Assessment	Rev. 005
SH/0/B/2005/001	Emergency Response Offsite Dose Projections	Rev. 001
SH/0/B/2005/002	Protocol for the Field Monitoring Coordinator During Emergency Conditions	Rev. 002
SR/0/B/2000/01	Standard Procedure for Public Affairs Response to the Emergency Operations Facility	Rev. 003
SR/0/B/2000/002	Standard Procedure for EOF Commodities and Facilities	Rev. 002
SR/0/B/2000/003	Activation of the Emergency Operations Facility	Rev. 008
SR/0/B/2000/004	Notification to States and Counties from the Emergency Operations Facility	Rev. 004

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

<u>PROCEDURE #</u>	<u>TITLE</u>	<u>REVISION NUMBER</u>
McGuire Site Directive 280	Site Assembly/Accountability and Evacuation/Containment Evacuation	DELETED
EP Group Manual	Section 1.1 Emergency Organization	Rev. 017
MNS RP Manual:	Section 18.1 Accident and Emergency Response	DELETED
	Section 18.2 Environmental Monitoring for Emergency Conditions	DELETED
	Section 18.3 Personnel Monitoring for Emergency Conditions	DELETED
	Section 18.4 Planned Emergency Exposure	DELETED
PT/0/A/4600/088	Functional Check of Emergency Vehicle and Equipment	Rev. 007

Duke Power Company
**PROCEDURE PROCESS RECORD
 FOR STANDARD PROCEDURES**

(1) ID No. SH/0/B/2005/002Revision No. 002**PREPARATION**(2) Procedure Title: Protocol for the Field Monitoring CoordinatorDuring Emergency Conditions(3) Prepared By Graham Johnson Date 10-15-01

(4) Applicable To:	<input type="checkbox"/> ONS	<input checked="" type="checkbox"/> MNS	<input checked="" type="checkbox"/> CNS
(5) Technical Advisor		<u>G. Ferrell</u>	<u>C.V. Sherry</u>
(6) Requires NSD 228	<input 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 _____ Date _____	By <u>Robert E. Bechtel</u> Date <u>1/15/02</u>	By <u>W. B. Buzinger</u> Date <u>12/11/2001</u>
Cross-Disciplinary Review (QR)	By _____ NA _____ Date _____	By _____ NA <u>RZB</u> Date <u>1/15/02</u>	By <u>G. L. Mitchell</u> NA _____ Date <u>12/11/01</u>
Reactivity Mgmt. Review (QR)	By _____ NA _____ Date _____	By _____ NA <u>RZB</u> Date <u>1/15/02</u>	By _____ NA <u>WAB</u> Date <u>12/11/2001</u>
Mgmt. Involvement Review (Ops. Supt.)	By _____ NA _____ Date _____	By _____ NA <u>RZB</u> Date <u>1/15/02</u>	By _____ NA <u>WAB</u> Date <u>2/12/2002</u>
(8) Additional Reviews	By _____ (QA) Date _____ By _____ Date _____	By _____ (QA) Date _____ By <u>K. L. Murray</u> Date <u>1-31-02</u>	By _____ (QA) Date _____ By _____ Date _____
(9) Approved	By _____ Date _____	By <u>Larue L. Louche</u> Date <u>02-05-02</u>	By <u>J. W. Foster</u> Date <u>12-11-2001</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)

**Duke Power Company
Standard Procedure for Catawba and McGuire
Nuclear Stations**

**Protocol for the Field Monitoring Coordinator
During Emergency Conditions**

Reference Use

Procedure No.

SH/0/B/2005/002

Revision No.

002

Electronic Reference No.

MP0070R4

Protocol for the Field Monitoring Coordinator During Emergency Conditions

1. Purpose

To describe a systematic field monitoring method for sampling and identifying airborne plumes or liquid effluents in order to obtain field data indicative of the radiation exposure to the general public following an unplanned release of radioactive material.

2. References

2.1 Site specific procedures for emergency environmental monitoring:

CNS - HP/0/B/1009/004, Environmental Monitoring for Emergency Conditions Within Ten Mile Radius of CNS

MNS - HP/0/B/1009/023, Environmental Monitoring for Emergency Conditions

2.2 EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents

2.3 Site specific emergency phone directories:

CNS - CNS Emergency Phone Directory

MNS - RP/0/A/5700/014, Emergency Telephone Directory

3. Limits and Precautions

3.1 Field Monitoring Team environmental sampling performed during emergency conditions does not replace or substitute for normally required environmental monitoring.

3.2 During any drill or emergency, personnel safety and safe operation of the vehicle is of primary concern.

3.3 Potassium Iodide (KI) tablets used for reducing radioiodine thyroid uptake are most effective if taken approximately two hours before an exposure is likely to occur. **IF** any member or members is likely to receive in excess of 25 rem thyroid dose (such as being in a 10 rem/hour iodine dose rate for 2.5 hours without a GMRI respirator) the Radiation Protection Manager (RPM) may direct field monitoring team personnel to ingest one KI tablet. This should concur with notification of Duke Power medical authority that KI is prescribed for emergency response individuals.

4. Procedure

4.1 Field Monitoring Team (FMT) Activation

- 4.1.1 Establish the number of survey teams that will be available for field monitoring.
- Contact the TSC to determine the status and availability of field teams.
- 4.1.2 **IF** the site has not activated field teams, discuss with the Dose Assessors the need for team activation.

NOTE: The Field monitoring Coordinator (FMC) may request additional survey vehicles if emergency conditions warrant. Designations for these vehicles are displayed in Enclosure 5.1.

- 4.1.3 **IF** emergency conditions dictate, notify personnel at an alternate station for additional field monitoring support.
- 4.1.4 **IF** possible, ensure that at least one Field Monitoring Team (FMT) member from the affected station is on each FMT.
- 4.1.5 Obtain an Emergency Planning map for the affected station.

4.2 Field Monitoring Team (FMT) Communications

- 4.2.1 Ensure the EOF Base Radio is set as follows:
- For MNS, Black Box Selector Switch to "A" **AND** Radio Line Selector to Position "1".
 - For CNS, Black Box Selector Switch to "D" **AND** Radio Line Selector to Position "2".
- 4.2.2 Establish radio communications with each available field team.
- 4.2.3 Maintain open radio communications with each FMT.

NOTE: Telephone numbers are displayed in Enclosure 5.2 (Telephone Numbers).

- 4.2.4 **IF** radio communications become inoperable, utilize telephone communications as a back-up.

- 4.2.5 Provide only pertinent, general information when using the radio.
- 4.2.6 Communicate over the radio during a drill or exercise by beginning each transmission with "THIS IS A DRILL, THIS IS A DRILL".

NOTE: The phonetic alphabet is displayed on Enclosure 5.5 (Phonetic Alphabet).

- 4.2.7 Transmit information using the phonetic alphabet.
 - 4.2.8 Follow Federal Communications Commission (FCC) guidelines at all times when using the radio for communication with the FMTs.
- 4.3 Locating and Tracking the Plume**
- 4.3.1 Form field monitoring teams to perform environmental plume surveys.
 - 4.3.2 Dispatch FMTs after vehicles and equipment have been confirmed operational.
 - 4.3.3 Estimate which meteorological sector or sectors may appear to be affected by the plume according to predominant wind direction AND wind speed.

NOTE: Major roadways delineate major territories surrounding the plant. Either all or a portion of the sections would be expected to be affected to some degree by radioactivity released from the plant. Major roadways are therefore utilized to provide access to suspected regions (outer edges, leading edge(s), centerline) of the plume as necessary.

- Major roadways on the EPZ map are identified by numerical designations and responsibility level (federal, state, county, or city) designations.
- Selected roadways on the EPZ map are identified by a specific name, rather than a numerical responsibility designation.
- Predetermined sampling locations are denoted by a red text oval on the EPZ map. The sampling point designator indicates the protective action zone the point is in and the mileage from the plant. For example, locations are designated in the format.

S - 10 - 2

Where:

S = Evacuation Zone

10 = Mile Radius

2 = Sample Point #2

- 4.3.4 Direct the FMTs to traverse the appropriate meteorological sector or sectors nearest the station, utilizing major roadways, selected roadways, or predetermined sampling locations, as appropriate.
- 4.3.5 Advise the survey teams to remain aware of terrain during air sampling or surveying (i.e. wind breaks formed by landscape or vegetation) which could inhibit acquiring a representative sample.
- 4.3.6 Advise the survey vehicles to report all dose rates above background.
- 4.3.7 Periodically ask the field team members to report their accumulated dose.
- 4.3.8 Direct each FMT to pre-determined sample locations, as appropriate.
 - Utilize local landmarks and street names to indicate desired sampling location when a pre-determined location is not available or suitable.
- 4.3.9 Advise the FMTs that when possible they should park vehicles completely off the road when sampling AND to use emergency flashers and the strobe if available while stopped.
- 4.3.10 Record each field vehicle's sampling history on Enclosure 5.3, OR in the Field Monitoring Coordinator ERO Facility Log.

- 4.3.11 Direct the field monitoring teams to systematically survey areas by obtaining air samples and/or beta/gamma measurements.
- 4.3.12 Request survey teams to report the maximum radiation level and location of the boundaries while enroute AND while at sampling locations.
- 4.3.13 Request FMT's report the location of plume edges based on instrument readings.
- 4.3.14 Direct the FMT to take an Iodine sample WHEN, but not limited to:
- Fuel rod gap activity release has occurred.
 - Waste gas decay tank rupture has occurred.
 - Any suspected iodine release has occurred.
 - The source of release is unknown AND the FMT is in the presence of measurable activity.
- 4.3.15 Use Enclosure 5.8 (I-131 Dose Calculation Methodology) to convert field team I-131 concentration to CDE thyroid dose rate.
- 4.3.16 Notify FMTs, as appropriate, of changing plant and meteorological conditions that may have an effect on environmental measurements.
- Record meteorological plant status information communicated to FMTs on Enclosure 5.4.
- 4.3.17 Notify FMTs of plant status as reported on the most recent Emergency Notification Form.

4.4 Special Sampling-

NOTE: Sample locations and sample collection methodologies are described in Reference 2.1.

- 4.4.1 **WHEN** plant conditions are considered to be stabilized, direct the field monitoring team to perform special sampling. Special sampling may include, but are not limited to:

NOTE: Do **NOT** take smear samples on automobile.

- Smears of surrounding areas (stationary, horizontal surfaces).
- .Vegetation
- Sediment
- Water
- Milk
- Integrated dose over time using TLDs

- 4.4.2 Instruct teams to exercise care to prevent sample cross contamination.

- 4.4.3 Direct the FMT to include (at minimum) the following information on the each sample container:

- Sample location.
- Sample reference date and time.
- Sample collected by.

4.5 Sample Analysis

- 4.5.1 Direct the field monitoring teams to retain the samples for analysis.

- 4.5.2 Consult with the RPM as to the best sample drop off and storage location.

NOTE: Normally, the samples will be analyzed at the ENRAD Laboratory. However, other laboratories may be used, including MNS, CNS, ONS, or other, as appropriate.

- 4.5.3 Work with the RPM and Laboratory Management to make appropriate arrangements for sample transport for analysis.

4.6 FMT Dose Tracking

- 4.6.1 **IF** conditions are such that any FMT member may receive 500 mrem or greater during the drill or emergency, use Enclosure 5.6 (Field Monitoring Team Radiation Exposure Record) to track the FMT's exposure.
- 4.6.2 Use Enclosure 5.7 as guidance for dose to workers providing emergency services.

4.7 FMT Turnover

- 4.7.1 Coordinate FMT shift relief with the TSC as appropriate.
- 4.7.2 Direct the FMTs to submit all data sheets to Emergency Planning Coordinator.
- 4.7.3 Direct the FMT members to report to a designated counting facility for a post-job whole body count, as appropriate.

5. Enclosures

- 5.1 Field Monitoring Vehicle Designations
- 5.2 Telephone Numbers
- 5.3 Field Monitoring Survey Data Sheet
- 5.4 Meteorological Update for Field Monitoring Teams
- 5.5 Phonetic Alphabet
- 5.6 Field Monitoring Team Radiation Exposure Record
- 5.7 Guidance on Dose Limits for Workers Performing Emergency Services
- 5.8 I-131 Dose Calculation Methodology

Enclosure 5.1
Field Monitoring Vehicle Designations

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Team Call Signs	No. of Members	Transportation
Sample Van 1	2	Emergency Van
Sample Van 2	2	Emergency Van
Alpha	2	Station Vehicle
Bravo	2	Station Vehicle
Charlie	2	Land Vehicle
Delta	2	Land Vehicle

- **IF** teams from both sites are being used, the team's call sign shall be designated with the station name (e.g., McGuire Sample Van 1, Catawba Sample Van 2, etc.)
- Form additional teams as necessary.

Enclosure 5.2
Telephone Numbers

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Field Vehicle / Location	Telephone Extension
Catawba Sample Van 1	803-372-9021
Catawba Sample Van 2	803-372-9022
Catawba Alpha Station Vehicle	803-372-9023
Catawba Bravo Station Vehicle	803-372-9024
McGuire Sample Van 1	704-534-1563
McGuire Sample Van 2	704-534-1564
Catawba RP Support	8-831-5882
Catawba TSC Dose Assessment	8-831-5881 or 831-8042
FMC at EOF (General Office)	704-382-0736
RP Support (Radio) Catawba TSC	8-831-8182
McGuire TSC Dose Assessment	8-875-4976
Dose Assessment Bridge Line	8-875-4980

- Catawba Emergency Phone Numbers are found in the "CNS Emergency Phone Directory".
- McGuire Emergency Phone Numbers are found in RP/0/A/5700/014, Emergency Telephone Directory.

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[illegible]

Enclosure 5.4
Meteorological Update for Field
Monitoring Teams

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Date: _____ Time: _____
Classification: _____
Wind Speed: _____ mph
Wind Direction from: _____ °
Zones Affected: _____
Information From Emergency Notification Form # _____
Other: _____

Date: _____ Time: _____
Classification: _____
Wind Speed: _____ mph
Wind Direction from: _____ °
Zones Affected: _____
Information From Emergency Notification Form # _____
Other: _____

Date: _____ Time: _____
Classification: _____
Wind Speed: _____ mph
Wind Direction from: _____ °
Zones Affected: _____
Information From Emergency Notification Form # _____
Other: _____

Enclosure 5.5
Phonetic Alphabet

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A - Alpha
B - Bravo
C - Charlie
D - Delta
E - Echo
F - Foxtrot
G - Golf
H - Hotel
I - India
J - Juliett
K - Kilo
L - Lima
M - Mike
N - November
O - Oscar
P - Papa
Q - Quebec
R - Romeo
S - Sierra
T - Tango
U - Uniform
V - Victor
W - Whiskey
X - X-ray
Y - Yankee
Z - Zulu

Enclosure 5.6

Field Monitoring Team Radiation Exposure Record

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TEAM NAME	Sample Van 1		Sample Van 2		Alpha FMT		Bravo FMT		Other FMTs	
Individual's Name										
TLD #										
Time _____ Current Deep Dose Equivalent (SRD or ED Reading)										
Time _____ Subsequent Deep Dose Equivalent (SRD or ED Reading)										
Cumulative Deep Dose at Time _____										
Time _____ Subsequent Deep Dose Equivalent (SRD or ED Reading)										
Cumulative Deep Dose at Time _____										
Total Deep Dose Equivalent For FMT Member										
(Total Deep Dose Equivalent) X (Committed Dose Equivalent SRD Correction Factor) ^a = Total Effective Dose Equivalent										

^a SRD Correction Factor is obtained from the Raddose Printout.

Enclosure 5.7
Guidance on Dose Limits for Workers
Performing Emergency Services

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Dose Limit ^a (rem)	Activity	Condition
5	all	
10	protecting valuable property	lower dose not practicable
25	life saving or protection of large populations	lower dose not practicable
>25	life saving or protection of large populations	only on a voluntary basis to persons fully aware of the risks involved (see Tables 2-3 and 2-4)

^a Sum of external effective dose equivalent and committed effective dose equivalent to nonpregnant adults from exposure and intake during an emergency situation. Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public.

Source: EPA 400-R-92-001

Enclosure 5.8
I-131 Dose Calculation Methodology

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- I. To calculate the CDE Thyroid dose rate from the field team results, us the following formula:

$$\text{CDE Thyroid (mrem/hr)} = \mu\text{Ci/ml} * 1.3\text{E9} \frac{\text{mrem / hr}}{\mu\text{Ci / ml}}$$

Where:

$\mu\text{Ci/ml}$ = I-131 concentration from field team air sample results

1.3E9 = Dose conversion factor, I-131 conc. ($\mu\text{Ci/ml}$) to CDE
Thyroid (mrem/hr) per EPA-400-R-922-001, Table 5-2.