Duke Energy®

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May 17, 2012

10 CFR 50.54(q)

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

Subject: Duke Energy Carolinas, LLC
McGuire Nuclear Station Units 1 & 2
Docket Nos. 50-369, 50-370
Emergency Plan Implementing Procedure Changes

Enclosed for Nuclear Regulatory Commission (NRC) Staff use and review is a revision to the Emergency Plan Implementing Procedures Index and the following document:

HP/0/B/1009/023 Rev. 007

The above procedure was revised and is being submitted in accordance with the requirements of 10 CFR 50.54(q). This change does not decrease the effectiveness of the Emergency Plan or the Emergency Plan Implementing Procedures.

Questions regarding this submittal should be directed to Ken Ashe, McGuire Regulatory Compliance at (980) 875-4535.

for

Regis T. Repko

Attachments

AX45
NRR

cc: (Two Copies)
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U. S. Nuclear Regulatory Commission
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(w/o attachments)

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DUKE ENERGY

McGUIRE NUCLEAR SITE

EMERGENCY PLAN IMPLEMENTING PROCEDURES

APPROVED: H C Brewer
SAFETY ASSURANCE MANAGER

DATE APPROVED 5/17/12

EPIP Index Page 1	Dated 4/30/2012	Rev. 123
EPIP Index Page 2	Dated 4/30/2012	Rev. 123
HP/0/B/1009/023	Dated 4/30/2012	Rev. 007

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

PROCEDURE #	TITLE	REVISION NUMBER
RP/0/A/5700/000	Classification of Emergency	Rev. 018
RP/0/A/5700/001	Notification of Unusual Event	Rev. 028
RP/0/A/5700/002	Alert	Rev. 028
RP/0/A/5700/003	Site Area Emergency	Rev. 029
RP/0/A/5700/004	General Emergency	Rev. 028
RP/0/A/5700/006	Natural Disasters	Rev. 023
RP/0/A/5700/007	Earthquake	Rev. 020
RP/0/A/5700/008	Release of Toxic or Flammable Gases	Rev. 006
RP/0/A/5700/009	Collisions/Explosions	Rev. 003
RP/0/A/5700/010	NRC Immediate Notification Requirements	Rev. 018
RP/0/A/5700/011	Conducting a Site Assembly, Site Evacuation or Containment Evacuation	Rev. 016
RP/0/A/5700/012	Activation of the Technical Support Center (TSC)	Rev. 038
RP/0/A/5700/018	Notification to the State and Counties from the TSC	Rev. 021
RP/0/A/5700/019	Core Damage Assessment	Rev. 005
RP/0/A/5700/020	Activation of the Operations Support Center (OSC)	Rev. 025
RP/0/A/5700/022	Spill Response Procedure	Rev. 014
RP/0/A/5700/024	Recovery and Reentry Procedure	Rev. 002
RP/0/A/5700/026	Operations/Engineering Required Actions in the Technical Support Center (TSC)	Rev.010
RP/0/B/5700/023	Nuclear Communications (NC) Emergency Response Plan	Rev. 005
RP/0/B/5700/029	Notifications to Offsite Agencies From The Control Room	Rev. 010
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. 004
HP/0/B/1009/006	Procedure for Quantifying High Level Radioactivity Releases During Accident Conditions	Rev. 006
HP/0/B/1009/010	Releases of Radioactive Effluents Exceeding Selected Licensee Commitments	Rev. 006
HP/0/B/1009/021	Estimating Food Chain Doses Under Post-Accident Conditions	Rev. 001

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

PROCEDURE #	TITLE	REVISION NUMBER
HP/0/B/1009/022	Accident and Emergency Response	Rev. 004
HP/0/B/1009/023	Environmental Monitoring for Emergency Conditions	Rev. 007
HP/0/B/1009/024	Personnel Monitoring for Emergency Conditions	Rev. 003
HP/0/B/1009/029	Initial Response On-Shift Dose Assessment	Rev. 009
SH/0/B/2005/001	Emergency Response Offsite Dose Projections	Rev. 006
SH/0/B/2005/002	Protocol for the Field Monitoring Coordinator During Emergency Conditions	Rev. 005
SH/0/B/2005/003	Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release	Rev. 002
SR/0/B/2000/001	Standard Procedure for Corporate Communications Response to the Emergency Operations Facility	Rev. 011
SR/0/B/2000/002	Standard Procedure for EOF Services	Rev. 006
SR/0/B/2000/003	Activation of the Emergency Operations Facility	Rev. 024
SR/0/B/2000/004	Notification to States and Counties from the Emergency Operations Facility	Rev. 016
EP Group Manual	Section 1.1 Emergency Organization	Rev. 022
PT/0/A/4600/088	Functional Check of Emergency Vehicle and Equipment	Rev. 008

FORMS

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

(1) ID No. HP/0/B/1009/023

PROCEDURE PROCESS RECORD

Revision No. 007

PREPARATION

(2) Station McGuire Nuclear Station

(3) Procedure Title Environmental Monitoring for Emergency Conditions

(4) Prepared By* Tara Matheny Tara Matheny Date 4/23/12

(5) Requires NSD 228 Applicability Determination?

☐ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation

☑ No (Revision with minor changes)

(6) Reviewed By* Chris Whitener Chris Whitener (QR) (KI) Date 4/23/2012

Cross-Disciplinary Review By* _____ (QR) (KI) NA CAW Date 4/23/2012

Reactivity Mgmt. Review By* _____ (QR) NA CAW Date 4/23/2012

Mgmt. Involvement Review By* _____ (Ops. Supt.) NA CAW Date 4/23/2012

(7) Additional Reviews

Reviewed By* K. L. Murray Kevin L. Murray Date 4-25-12

Reviewed By* _____ Date _____

(8) Approved By* J.S. Moorhead _____ Date 4/30/2012

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

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification:

☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved* _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

Duke Energy
McGuire Nuclear Station
Environmental Monitoring For Emergency Conditions

Procedure No.
HP/0/B/1009/023

Revision No.
007

Electronic Reference No.
MC0095LY

Information Use

PERFORMANCE

PDF Format

Compare with Control Copy every 14 calendar days while work is being performed.

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* Date

Procedure Completion Approved* Date
**Printed Name and Signature*

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do NOT mark on barcodes.

Printed Date: *04/23/2012*

Enclosure No.: *FULL*

Revision No.: *007*

Procedure No.: *HP/0/B/1009/023*

Revision History (significant issues, limited to one page)

Rev 007 (04/23/12) Step 4.1.3 changed from "Enclosure 0" to "Enclosure 5.1 or 5.2".

Rev 006 (07/25/05)

- Step 4.1.1 changed C&F to Site Services to reflect current station organization.
- Step 4.3 changed boundary survey path due to site road changes.
- Encl. 5.1/5.2 added Note to describe ED operation. Revised ED alarm setpoints.
- Added met data to information to be obtained from TSC Dose Assessor.
- Added item to ensure ESP-2 source is not removed from site.
- Encl. 5.1/5.2 changed travel path for boundary survey due to site road changes.
- Deleted Enclosure 5.11. Met Data is to be obtained from TSC Dose Assessors.

Rev 005 (06/24/02) Deleted Step 4.1.2 for FMT members to be issued pocket dosimeters.

Environmental Monitoring for Emergency Conditions

Information Use

1. Purpose

To provide a systematic method for identifying airborne plumes or liquid effluents, and obtaining field data indicative of the radiation exposure to the general public, following a release of radioactive material.

2. References

2.1 HP/0/B/1009/027 (Operation of ESP-2)

2.2 PT/0/A/4600/088 (Functional Check of Emergency Vehicle and Equipment)

2.3 SH/0/B/2005/002 (Protocol for the Field Monitoring Coordinator During Emergency Conditions)

3. Limits and Precautions

3.1 During drills/exercises, Field Monitoring Team(s) (FMTs) shall **NOT** be required to don respirators. This is to assure safe vehicle operation during drill/exercise. During emergency situations respirator use may be required.

3.2 FMT personnel shall be aware of dose and dose rate alarm setpoints on DMC-2000s used in the field. Dose and dose rate alarms are referenced on RWP 98.

3.3 After the use of any Emergency Kit, a full inventory of that kit is required per PT/0/A/4600/88 (Reference 2.2). The checklist in the kit shall be signed and dated each time the kit is inventoried.

4. Procedure

4.1 Field Monitoring Team (FMT) Activation and Dispatch

4.1.1 Upon activation of the Emergency Response Organization, report to the OSC.

- Form two teams to perform initial surveys for plume boundary. **IF** necessary dispatch additional beta/gamma monitoring teams.
- Drivers for Field Monitoring Vehicles are provided by Site Services. Ensure that each team has a driver prior to leaving the OSC.

- Personnel **NOT** trained for emergency response may assist a trained Radiation Protection Technician to do surveys and/or drive emergency vehicles.

- Communicate team assignment to the OSC RP Supervisor, or qualified designee.

4.1.2 The OSC RP Supervisor, or qualified designee, shall brief at least one member of each FMT on current plant conditions (plant status, release in progress, emergency classification).

4.1.3 Following the plant status brief from the OSC RP Supervisor, obtain current meteorological data using the guidance in Enclosure 5.1 or 5.2.

4.1.4 **WHEN** directed, make preparations for dispatch by completing pre-dispatch portion of Enclosure 5.1 (Sample Van) or Enclosure 5.2 (Survey Vehicle).

- The Radiation Protection Manager can elect to dispatch FMT's at his/her discretion.

4.1.5 Follow FMC direction concerning protective dress requirements according to existing conditions per RWP-98.

4.2 Field Monitoring Team (FMT) Communications

4.2.1 Maintain open radio communications with the FMC. **IF** the radio becomes inoperable, telephone:

TSC Dose Assessment 875-4976

FMC at EOF (704) 382-0735/0736

RP Sample Van 1 (cellular phone) 534-1563

RP Sample Van 2 (cellular phone) 534-1564

4.2.2 Provide pertinent, general information. Do **NOT** provide detailed, specific plant information.

4.2.3 During a drill, repeat the statement, "This is a drill", or, "This is an exercise message", with each radio transmission using the proper radio call signs (Base - WQC700, Mobile -KA82138).

4.2.3.1 The Base Station must give the radio call sign with each transmission.

4.2.3.2 The field teams do **NOT** have to use the radio call sign when addressing the Base Station. The field teams must give the radio call sign when addressing other field teams.

4.2.3.3 For any backup sampling vans from other stations, the call sign shall be preceded by the station name (example "Oconee sample van 1").

4.2.3.4 Vehicles drawn from the McGuire garage that are designated as beta/gamma survey teams shall use 'alpha, bravo, charlie, and delta' designations during radio messages.

4.2.3.5 **WHEN** transmitting vital information, use repeat back method of communications and the phonetic alphabet.

4.2.3.6 Follow FCC guidelines for radio communications at all times.

4.3 Locating and Tracking the Plume

4.3.1 Begin plume boundary identification by monitoring dose rates while traversing east and west of the site (≈ 0.5 miles), traveling on owner controlled roads only.

4.3.1.1 East of site - travel from the Hwy. 73 (stoplight) entrance to the MOC to the end of the discharge canal fishing area.

4.3.1.2 West of site - travel from the MOC parking lot to Cowan's Ford Dam Parking Lot.

4.3.1.3 Communicate location to the TSC and/or EOF when plume edge is identified. Any change in background dose rate shall be assumed to indicate plume edge. Communicate changes in dose or count rates immediately.

4.3.1.4 Do **NOT** enter the plume unless directed by the FMC.

4.3.2 Be prepared to take full direction from the Field Monitoring Coordinator (FMC) at the EOF, when that position is prepared to do so.

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

A. Major roadways on the EPZ map are identified by numerical designations and responsibility level (federal, state, county or city) designations.

B. Selected roadways on the EPZ map are identified by a specific name, rather than a numerical responsibility designation.

4.3.2.2 Each predetermined sampling location is denoted by a red text oval on the map. The sampling point designator indicates the protective action zone the point is in and the mileage from the plant.

A. The FMC should use the points as landmarks when directing the teams.

B. The point locations can be read directly from the map or from the directions in Enclosure 5.6.

4.3.2.3 While enroute and at sampling locations, report the maximum radiation level, and location of plume boundaries to the FMC.

4.3.2.4 Record radiation dose rates and sample results on Enclosure 5.7.

4.3.2.5 Once a release has occurred, close vehicle windows and place ventilation off or on recirculation to minimize contamination until the plume area is identified.

4.3.2.6 Ensure that count rate meter is on and is monitored during transport to sampling locations.

4.3.2.7 **IF** any equipment becomes inoperable, notify the FMC and await further instructions.

4.3.2.8 Record plant status update information on Enclosure 5.8.

4.3.2.9 Verify worker classification changes on RWP with changes in plant conditions.

4.3.2.10 Record any or no exposure received and turn in dosecards upon returning to site. Submit dosecards as record for all drills and exercises.

CAUTION: Park vehicles completely off the road when sampling and use emergency flashers and the strobe while stopped.

Wear reflective vests when leaving a vehicle parked on the roadside for sampling. Vests are stored in the rear section cabinet with protective clothing.

4.4 **WHEN** directed, collect additional environmental samples, including but **NOT** limited to: air samples, smears of surrounding areas, integrated dose over a period of time with TLDs, vegetation, sediment, water, and milk, as requested by the FMC. Label and save each for analysis. FMTs may also be requested to retrieve and replace environmental air samplers and/or TLDs.

4.4.1 To collect a vegetation sample, use the shears to cut enough broad leaf vegetation to fill a 12"x12" poly bag.

4.4.2 To collect a soil sample, estimate one square foot of soil and dig out one inch deep.

4.4.3 To collect a water sample, fill a one gallon cubitainer. For differences in elevation, or samples that are difficult to obtain, use the limnological sampling equipment (see Enclosure 5.3).

4.4.4 To perform a contamination survey, take smears on stationary, horizontal surfaces, e.g. mailboxes, gas pumps, etc., Do **NOT** perform contamination surveys on automobiles!

4.4.5 To collect an air sample:

NOTE: Be aware of terrain during air sampling or surveying (i.e., windbreaks formed by landscape or vegetation) which could inhibit acquiring representative samples.

4.4.5.1 Position sample van air sampling port in the direction of the plant.

4.4.5.2 Load Particulate and Charcoal (P&C) cartridge into P&C holder.

4.4.5.3 Remove the cover from the air sampling port.

4.4.5.4 Insert P&C holder into the sample port to ensure outside air is sampled.

4.4.5.5 Start air sampler and run for required time. (Normal air sample is 5 minutes at 2 CFM).

4.4.5.6 Stop the air sampler.

4.4.5.7 Remove P&C holder from the air sampling port.

4.4.5.8 Replace cover on air sample port.

4.4.5.9 Move van to a low background area.

4.4.5.10 **WHEN** van is no longer in the plume, purge the P&C by permitting 15 ft^3 of air to flow through the sample cartridge. (7.5 minutes @ 2 cfm)

4.4.5.11 Remove the P&C from the P&C holder.

4.4.5.12 Separate the P&C.

4.4.5.13 Label particulate and charcoal and retain the particulate filter for gamma spec analysis.

4.4.5.14 Count the air sample charcoal cartridge, document and report results using Reference 2.1.

4.4.5.15 Retain the charcoal cartridge for further analysis.

4.5 FMT Turnover

4.5.1 FMTs shall be relieved as directed by the FMC.

4.5.2 Provide turnover to the relief FMTs, using Enclosure 5.10.

4.5.3 Turn in all data sheets to the FMC as directed.

4.5.4 After being relieved, report to a counting facility designated by the FMC for a post-job BBA.

5. Enclosures

5.1 Sample Van FMC Checklist

5.2 Survey Vehicle FMT Checklist

5.3 List of Designated Limnological Sample Points

5.4 Detailed Guide to All TLD Sample Locations

5.5 List of Designated Milk Sample Locations

5.6 Directions for Predetermined Survey/Sampling Locations

5.7 Field Monitoring Survey Data Sheet

5.8 Periodic Status Update for Field Monitoring Teams

5.9 Vehicle Refueling

5.10 FMT Turnover Checklist

SAMPLE VAN FMT CHECKLIST

PRE-DISPATCH

☐ Ensure that current plant status and meteorological information has been obtained.

☐ Obtain Emergency key set (#905 and 906) from Security at the PAP. Proceed to the equipment storage area (Room 158 of the Administration Building) and unlock the equipment storage locker.

NOTE: Emergency EDs are in Autonomous Mode.

☐ Obtain the following equipment: Normal issue TLD, electronic dosimeter (DMC-2000) and a dose card. Sign in on RWP-98. Ensure the DMC-2000 is on and has been re-zeroed. ED alarm setpoints are 1000 mRem/hr (dose rate) and 500 mRem (accumulated dose).

☐ Obtain portable instruments (ion chamber and count rate meters) and source check. Survey the area for radiation levels.

☐ Remove portable radios from chargers (one unit for each FMT). Screw in the antenna to the top of the radio. Turn the off/on/volume control switch on the top of the radio until SELF TEST is displayed on the front. **IF** MCGUIRE C17 does **NOT** display after SELF TEST, turn the numbered switch on the top of the radio to position 3 and lock with the locking ring. Ensure that the small toggle switch is set to position "A".

☐ Test the radios using the mobile call sign: **"WQC 700, McGuire Base, this is KA8-2138, portable radio check. Do you copy?"** **IF** McGuire Base does **NOT** respond, perform radio checks with the other sample van using the mobile call sign **"KA8-2138, Sample Van** _____ (other sample van), **this is Sample Van** _____ (your sample van) **portable radio check. Do you copy?"**

IF a radio does **NOT** function, remove it from service by removing the battery. Ensure that the radio is turned off before removing or replacing any battery.

☐ Obtain all other necessary equipment: respirators, ESP-2's and check sources. Obtain canvas bags ESK-1 or ESK-2 (sample van kits). They can be used to carry instruments and respirators. All protective clothing is located in the back cabinet of the sample vans.

☐ One team shall call the TSC Dose Assessor at 875-4976 for the status of any release and current Met Data. Communicate this information to the other teams.

☐ Proceed to the sample vans monitoring portable instruments in transit. Start sample van engines and stabilize inside temperature.

☐ Turn on the sample van radio. The unit will display SELF CHECK and MCGUIRE in sequence. **IF** MCGUIRE is **NOT** displayed after SELF CHECK, press the MODE key until MCGUIRE is displayed.

☐ Test the radios using the mobile call sign: **"WQC 700, McGuire Base, this is KA8-2138, sample van 1 (or 2). Do you copy?"** "IF McGuire Base does NOT respond, perform radio check with the other sample van using the mobile call sign: **"KA8-2138 Sample Van** _____ (other sample van), **this** is Sample Van _____ (your van). **Do you copy?"**

☐ Turn on the cellular phone. Unlock the phone for use by pressing the last three (3) numbers of the cell phone number. Test the phone by calling TSC dose assessment at 875-4976. It may be necessary to move the vans from under the unit high voltage lines to test the cellular phones.

☐ Start the power inverter (located behind the left side of the driver's seat) to the ON position. The air sampler and plug mold strip are now energized. The air sampler is located on the left side arm rest, back seat.

☐ Set up ESP-2's. Perform background and source checks in accordance with HP/0/B/1009/027. Sample vans should perform background and source checks while the van is stationary. Report any problems to the TSC/EOF.

☐ Return source to Room 158 cabinet.

☐ Notify TSC Dose Assessors that pre-dispatch checks are complete and: (circle one)

a. Sample Van _____ (1,2) is proceeding west of the plant to traverse from MOC parking lot to Cowan's Ford Dam parking lot.

b. Sample Van _____ (1,2) is proceeding east of the plant to traverse from Hwy 73 (stop light) entrance to the MOC to the end of the discharge canal fishing area.

c. Sample Van _____ (1,2) is standing by at _____ (location).

UPON RETURNING TO THE SITE:

☐ Ensure mobile van radios are switched off.

☐ Ensure that power inverter is turned to the OFF position.

☐ Perform inventory of protective clothing and emergency equipment per PT/0/A/4600/088. (Notify the RP Staff Scientist of any discrepancies.)

☐ Turn off all instruments and portable radios and place in storage cabinet.

☐ Remove portable radio antennas and place radio into a charging unit.

☐ Ensure that EDs display the calibration date and place in storage cabinet.

☐ Ensure that storage cabinet is closed and locked.

☐ Turn in all relevant surveys and checklists.

☐ Turn in dosecards to DRC.

☐ Return keys to Security at the PAP.

SURVEY VEHICLE FMT CHECKLIST

PRE-DISPATCH

☐ Ensure that current plant status and meteorological information has been obtained.

☐ Obtain Emergency key set (#905 and 906) from Security at the South PAP. Proceed to the equipment storage area (Room 158 of the Administration Building) and unlock the equipment storage locker.

NOTE: Emergency EDs are in Autonomous Mode.

☐ Obtain the following equipment: a normal issue TLD, electronic dosimeter (DMC-2000) and a dose card. Sign in on RWP-98. Ensure the DMC-2000 is on and has been re-zeroed. ED alarm setpoints are 1000 mRem/hr (dose rate) and 500 mRem (accumulated dose).

☐ Obtain portable instruments (ion chamber and count rate meters) and source check. Survey the area for radiation levels.

☐ Remove portable radios from chargers (one unit for each FMT). Screw in the antenna to the top of the radio. Turn the off/on/volume control switch on the top of the radio until SELF TEST is displayed on the front. **IF** MCGUIRE C17 does **NOT** display after SELF TEST, turn the numbered
switch on the top of the radio to position 3 and lock with the locking ring. Ensure that the small toggle switch is set to position "A".

☐ Test the radios using the mobile call sign: **"WQC 700, McGuire Base, this is KA8-2138, portable radio check. Do you copy?"** **IF** McGuire Base does **NOT** respond, perform radio check
with one of the sample vans using the mobile call sign:

"KA8-2138, Sample Van _____ (1 or 2), this is a portable radio check. "Do you copy?"

IF a radio does **NOT** function, remove it from service by removing the battery. Ensure that the radio is turned off before removing or replacing any battery.

☐ Obtain the designated emergency kits ESK-3 or ESK-4 (canvas bags) from the locker. All other necessary equipment is located in the kits.

☐ Proceed to the McGuire Garage by personal vehicle or Sample Van. **IF** obtaining pool vehicles after hours, weekends or holidays, call Security from the Garage gate phone to gain access. The phone number is located on the phone housing.

☐ Notify the TSC Dose Assessor that pre-dispatch checks are complete and; (circle one)

a. Survey Vehicle _____ (alpha, bravo, charlie, delta) is proceeding west of the plant to traverse from MOC parking lot to Cowan's Ford Dam parking lot.

b. Survey Vehicle _____ (alpha, bravo, charlie, delta) is proceeding east of the plant to traverse from Hwy 73 (stop light) entrance to the MOC to the end of the discharge canal fishing area.

c. Survey Vehicle _____ (alpha, bravo, charlie, delta) is standing by at _____ (location)

UPON RETURNING TO THE SITE:

☐ Perform inventory of emergency equipment per PT/0/A/4600/88 (Reference 2.2). Notify the RP Staff Scientist of any discrepancies.

☐ Turn off all instruments and portable radios and place in storage cabinet.

☐ Remove portable radio antennas and place radio into charging unit.

☐ Ensure that ED's display the calibration data and place in storage cabinet.

☐ Ensure that storage cabinet is closed and locked.

☐ Turn in all relevant surveys and checklists.

☐ Turn in dosecards to DRC.

☐ Return emergency key set to Security.

Enclosure 5.3

List of Designated Limnological Sample Points

Mt Holly Intakes - Sector E (South ~ 5 miles)

Sample elevation - 630'

Accessible on Hwy 273, north of Duke Power Mt. Holly Training Center.

Charlotte Intakes - Sector E (South) 5-6 miles

Sample elevation 635' - Unit 1 intake

640 - Unit 2 intake

637' - Unit 3 intake

Accessible by land on SR 2004 (Mt. Holly-Huntersville Road)(Pump Station Road)

LIMINOLOGICAL SAMPLING DIRECTIONS

(1) Pull one of the blue stoppers out of the end of the main tube and attach the wire loop to one of the small pins on the handle tripping mechanism.

(2) Repeat for the other stopper.

(3) Lower the bottle under water keeping the line taut, and drop the weight to strike the tripping mechanism. This will release the cables and close the bottle.

(4) For shoreline sampling when the elevation difference is small, attach one stopper and fill the bottle with water by scooping. The bottle can now be closed and the black nozzle used to empty the sample into a cubitainer.

NOTE: 1. Full lake elevation is 760'.

2. Catawba River spillway elevation (for Charlotte intakes) is 647'6"

This enclosure is meant to provide a guide to one who is **NOT** familiar with the environmental TLD sample route. Appropriate deviations from this sequence and route may be made as necessary.

A. Sample location numbers:

143 - Point of land north of intake pumps.

144 - On the fence, at air sampling site #120, near E.P. Boat House.

145 - On the fence, at air sampling site #121, near guard house at Training and Technology Center.

146 - Shoreline of discharge canal, below the bridge.

147 - On the fence, at the Training and Technology Center, Environmental Laboratory, behind the QA building, next to the beige aluminum building.

148 - Second utility pole on the right-hand side of Energy Explorium Entrance from Hwy. 73.

149 - Near site fence, 200 feet east of U-2 Access Road on Hwy. 73.

151 - Fence east side inside O.C. (Owner Controlled) Gate #2.

152 - Near railroad tracks west of McGuire main entrance.

153 - Clearing on the left, inside O.C. (Owner Controlled) Gate #4 (S. River Gate).

154 - Edge of river bank, access O.C. (Owner Controlled) Gate #5 (Lower Dam Access).

156 - Top of earthen dam, access O.C. (Owner Controlled) Gate #7.

157 - Williamson access area (on the Mecklenburg Neck) on utility pole just beyond access sign.

158 - End of state maintained Road #2189 (Bethel Church Road).

159 - Anchorage Marine Shipyard at Holiday Harbor Marina.

160 - On the fence, at Anchorage Marine Showroom.

161 - Main power pole at the intersection of Hwy. 21 and Hwy. 73.

162 - First power pole at the intersection of Gilead Road and State Road #2139.

163 - At the intersection of Hambright Road and McCoy Road (State Road #2138).

164 - Power pole at the intersection of Beatties Ford Road and Hambright Road.

165 - Approximately 2 miles down power plant road from River Bend Steam Station.

166 - Water tank across from River Bend Steam Station.

167 - Behind Lucia Volunteer Fire Department.

168 - Power pole at State Road #1511 at Killian Creek.

169 - Last power pole on Kincaid Road.

170 - Second utility pole on right from intersection of Hwy. #73 and State Road #1386.

171 - Utility pole at Triangle Hardware.

172 - Power pole at the residence located at 625 Golf course Ln.

173 - First utility pole on S.R. #1891 intersection with S.R. #2393.

174 - On the fence, at air sampling site #134, near East Lincoln Junior High School.

175 - Utility pole, fifth house on right, Hoyle Road.

177 - On a tree at the residence, 908 Belmarrow Dr.

178 - Duke Power Substation at AmeriSteel Corporation.

180 - Mooresville Water Treatment Plant.

181 - Davidson Water Treatment Plant.

182 - On the fence, at air sampling site #133, at Cornelius substation.

186 - On peninsula beyond MNS fishing access.

187- First gravel road past Energy Explorium.

191 - Fenced pumping station on John Connor Dr.

196 - New Landfarm fence.

197 - New Landfill fence.

198 - Old Landfill fence.

199 - Old Landfill fence at groundwater well MW-1.

B. Directions to sampling locations:

NOTE:	Contact Security at Ext. 4460 to open all O.C. (Owner Controlled) Gates.

Site #144	Located inside the air sampling cage by the HP Boathouse (air site #120)
Site #187	Continue past Energy Explorium and take first right on to a gravel road. The TLD is located inside air sampler cage (air site #195).
Site #186	Proceed toward the Plant to the end of the fishing access. Bear to the right at the site boundary fence, unlock the cable and proceed out on the peninsula. The TLD is on a stake about half way out the peninsula to the right on a stake.
Site #143	Continue out the peninsula to the point where the TLD is located on a stake near the osprey nest site.
Site #145	Heading back toward the guardhouse, the TLD is located inside the cage at the air sampling site #121.
Site #146	Passing the guardhouse on your left, the TLD is located on the left, attached to the backside of the light pole, just after crossing the bridge.
Site #147	Continue forward to main entrance road. Turn into the QA entrance on your left. The TLD is on the chainlink fence beside the brown aluminum building. (A large oak tree is in front of the fence).
Site #148	Continue down entrance road to the fourth light pole on the left. The TLD is on the backside of the utility pole. You'll have to pull over to the right off of the road and allow the other person to pick up the TLD on the left side of the road.
Site #149	Continue on to the stop sign at Hwy 73. Turn right and go to the first clearing on the right. The TLD is located on the site boundary fence.
Site #189	Continue forward on Hwy 73 toward MNS. The TLD is located just off the right side of the road on a stake near a tree with a red painted dot just before transmission lines cross Highway 73.
Site #152	Continue past MNS main entrance for approximately 100 yards to the clearing on your right. The TLD is located between on a stake..
Site #151	Enter MNS main entrance. The TLD is located on the fence by OC gate #2 immediately on the right.

Site #153 Continue into MNS and head toward the setting ponds/land farm area. Circle around the settling ponds and pass the air site (#125) on the left. Proceed to OC gate #4 and approximately 100 feet from the gate is a clearing on the left. The TLD is located on a stake in the clearing.

Site #154 Drive vehicle back around setting ponds toward the land farm area and turn left on the first gravel road and proceed through QC gate #5. Drive to where the road forks. Take the left fork and down the next gravel/dirt road on your right, you may drive directly to the level grassy area near the riverbank edge. The TLD is on a stake near the riverbank edge approximately 3/4 of the way down the length of the rocky bank just past the control monument.

Site #190 Continue along the riverbank follow the tree line away from the river until you see a "dangerous water" sign. Continue forwards approximately 300 yards to the tree with a painted red dot on it. The TLD is on a stake.

Site #156 Drive the vehicle back up the hill toward warehouse #5. Make a left turn just before you get to warehouse #5 and go up toward the intake structures. The road heads toward MNS and then makes a hairpin turn back toward the dam. Drive all the way to the edge of Cowan's Ford Dam and the TLD is located to the left of the cement wall on a stake.

Site #196 Return to Hwy 73 and turn left. Turn right at MNS Garage Access Road and proceed past garage to dirt road on the right. Drive down dirt road past electrical switch yard to the MNS landfarm on the left. The landfarm is fenced in and the TLD is on the fence adjacent to the road. NOTE: TLD #196 replaces old TLD #LF2.

Site #197 Proceed down dirt road to the landfill. The TLD is located to the left of the gate to the landfill.

Site #198 Proceed back toward garage and take dirt road to left. Drive to road ends at old landfill gate. TLD is at top of hill to the right of the gate.

Site #199 Drive through gate to back side of the landfill. You will see a groundwater well (MW-1) near the back gate. The TLD is at MW-1 on a steel post.

Site #191 Return to Hwy 73 and turn right. Drive toward Cornelius and take a left on Jetton Rd. Drive to John Connor Rd. and take a left onto it. Drive a short distance to the CMUD pumping station on the left. The TLD is on the air sampler environmental house inside the fenced pumping station (air site # 192).

Site #158 Return to Hwy 73 and turn left. Proceed to Bethel Church Rd. (SR 2189) and turn left. Proceed to Staghorn Rd. The TLD is located on a utility pole at the intersection of Bethel Church Road and Staghorn Road.

Site #159 Return to Hwy 73. Turn left and make a sharp left turn onto Henderson Rd. Drive to the end of that road. The TLD is on the oak "NRC Tree" by the water.

Site #160 Return to Hwy 73 and turn left. Follow 73 east to Hwy 21 South, turn right and go to the Anchorage Marine Showroom, which will be on the left. The TLD is located on the chain link fence in front of the parking lot.

Site #161 Return to Hwy 73 and turn left. Continue to the intersection of 21 and Sam Furr Rd. The TLD is located on the back of the Energy Explorium sign to the right.

Site #178 Continue on Hwy. 21 (heading south) and go until you intersect with Gilead Road. Turn left onto Gilead Road. Proceed to the intersection of Gilead and Old Statesville Road (Hwy. 115) and turn right. Keep going past North Mecklenburg High School and continue to the "Croft Community" sign (which will be on your right). Immediately after this sign on your right is a dirt road. Turn right and this is the entrance to the Duke Power substation @ Florida Steel Corp. Use a DPC #2 key to gain access down the road. The TLD is on a stake to the left of the road approximately 100 yards past the entrance gate.

Site #163 Return to Hwy.115. and turn left, proceed to SR #2117 (Hambright Road). Turn left (directly in front of Alexander Jr. High School) and proceed to McCoy Rd. (~3.0 miles). The TLD is located on the telephone pole (beside the NRC TLD) at the residence.

Site #164 Turn around on McCoy Rd. then turn right on Hambright Rd. Come to the intersection of Hambright and Beatties Ford Road. The TLD is located on the left side of the road on a telephone pole.

Site #162 Turn right onto Beatties Ford Rd. and proceed to Bud Henderson Rd., turn right. Go to Gilead Rd. and turn right. Proceed to Ranson Rd. (SR #2139, this road is in a sharp curve) and turn left. TLD is on the second pole on the left near an electric fence.

Site #182 Return to Gilead Rd. and turn left. Travel forward over I-77. Turn left onto Old Statesville Road and go to Cornelius. TLD is inside cage at air sampler site #133.

Site #181 Travel on to Davidson water treatment plant. The TLD is on a power pole in the front of the plant.

Site #157 From Davidson water treatment plant, go to stop sign and turn left onto Gamble St. Go one block and turn right onto Jetton St. Follow until road ends, turn left and you will see I-77 to your right. Take I-77 North to exit 33, Hwy. 21N. Turn left. Proceed until you come to Brawley School Rd. (there will be a church on your right just before the intersection where you will be turning left.) Follow Brawley School Rd. which eventually turns into Mayhew Rd. past Mallard Head Country Club until the road dead-ends (~ 8 mi.). The TLD is located on a utility pole in the right rear yard.

Site #180 Go back to intersection of Brawley School Rd. and Hwy 21. Cross straight over 21 towards Mooresville. At Hwy 21N, turn left and continue to Mooresville water treatment plant. The TLD is located on a utility pole to the right of the driveway.

Site #173 Return to Hwy 21-South and turn right. Proceed approximately 1/2 mile and veer to your right to Hwy. 150 west. Proceed past Marshall Station to the intersection of SR 1899 and 150 and turn left. This will be SR 1899 Slanting Bridge Rd. Continue to Keistler's Store Rd. and turn left. Follow this road to Mountain Shore Lane, turn left (across from the two-story beige house). Next turn left onto Glenwood Rd. The TLD is located on the first power pole in the front yard of the first house on the left.

Site #172 Return to Slanting Bridge Rd. Turn left and continue to Hwy. 16. Turn left and go to Fairfield Rd. (~3.3 miles) on the left in the Westport Community and turn left (SR 1389). Take the first left onto North Golf Course drive which turns into Lakeshore Drive. At the intersection of Golf Course Drive and Lakeshore Drive. The TLD is on the utility pole to the right @ 625 Golf Course Dr.

Site #171 Return to Hwy 16-South, turn left. TLD is on the utility pole on the north side of the Triangle Ace Hardware (which will be on the left).

Site #170 Return to Hwy. 16 and turn left. Proceed to the intersection of Hwy. 16 and 73. Turn right onto 73 and turn left onto Little Egypt Rd. The TLD is on the 2nd utility pole on the right.

Site #174 Return to Hwy. 73 and turn left. Go to East Lincoln Jr. High School. The TLD is located in the air sampling cage at air sampling site #134.

Site #175 Return to Hwy. 73 and turn right. Go to Boger City. Hwy. 73 runs into Hwy. 27. Go straight to the first light and turn right on to Buffalo Shoals Rd. Proceed until you come to SR 1332 (Highland Rd.) and turn left. Follow to Hoyle Road on your right and turn right. Go to 208 Hoyle Road. TLD is on the fence beside the house.

Site #168 Return to Hwy. 73 and go back past East Lincoln Jr. High School , take a right on Old Plank Road. Go approximately 5 miles until you cross a bridge. The TLD is located on a utility pole on the right just after crossing the bridge.

Site #177 Return to Hwy 73 and continue to stop light at Hwy.16. Turn right on to Hwy 16 and proceed to Rozzelles Ferry Road (old Hwy.16) and take a right. Rozzelles Ferry turns into Belhaven Blvd. Go to a green Coulwood School sign. Turn right at this sign. This is Kentberry Rd. Continue ~ one block and turn left onto Belmarrow Dr. The TLD is located @ 908 Belmarrow Rd. on a safety light pole at the driveway entrance to the left.

Site #166 Return to Hwy. 16 and turn right. Continue to the Catawba River. After crossing the bridge, turn right at Steam Plant Rd. and follow this road to Riverbend Steam Station. Continue on Horseshoe Bend Beach Rd. to the water tower that is across the road directly in front of the steam station. The TLD is on the fence which surrounds the water tower.

Site #165 Continue down the road, away from Hwy. 16, ~ 1 mile to a real sharp curve in the road. There'll be a dirt area on your left where you can pull over at a barricade. The TLD is on utility pole to the left of the barricade.

Site #167 Return to Hwy. 16. At the light, go straight and proceed to the building at 14522 Lucia Riverbend Highway on the right. The TLD is located on a power pole that supplies the building.

Site #169 Return to Hwy. 16 and turn left. Proceed to Hill's Chapel United Methodist Church on the left. Just past the church is a dirt road (Glover Lane), turn left and go to the end of this road. The TLD is located on a utility pole on the right.

Enclosure 5.5

List of Designated Milk Sample Locations

This enclosure is meant to provide a guide to one who is **NOT** familiar with the environmental milk sample route. Appropriate deviations from this sequence and route may be made as necessary.

MILK SAMPLES

A. Sample location numbers:

139 - William Cook Dairy
138 - Henry Cook Dairy
140 - David Kidd Dairy
141 - Lynch Dairy

B. Directions to sampling locations:

Location #139 William Cook Dairy	Turn left when leaving MNS main entrance and proceed to Oliver Hager Rd. (SR #2142) on your right. Follow road to the large main house. Behind the house is a garage storage area. The milk will be in a refrigerator in the garage area.
Location #138 Henry Cook Dairy	Return to Hwy. 73 and turn left. Proceed to Beatties Ford Rd. (Rd. beside Phillips 73 General Store) and turn left. Follow Beatties Ford Rd. approximately .5 miles to Gilead Rd. Turn left. Follow Gilead Rd. approximately 4 mi. to Ervin Cook Rd. Turn left. Henry Cooks Dairy will be the second dairy on your left, approx. 1 mi. It will be on your left just before the road ends. The milk will be in a refrigerator in the white wooden building on your right.
Location #140 Kidd's Dairy	Return to Beatties Ford Road and make a left. Proceed to Jim Kidd Road (approximately 1.0 miles) and turn right. Proceed approximately .5 of a mile and look for a white house on the right. Follow the dirt road to the rear of the house. The milk sample is taken from the vat located in the block building behind the house.
Location 141 Lynch Dairy	From ASC turn right onto Hwy. 73. Follow Hwy. 73 until it intersects with Hwy. 27. Follow Hwy. 27 into Boger City to SR #1003 (Buffalo Shoals Road) and turn right. The Lynch residence is 5.4 miles on the right (yellow frame house).

Enclosure 5.6

Directions for Predetermined Survey/Sampling Locations

Example: A - 2 - 1
Evacuation Zone / Mile Radius / Sample

A-2-1 From the intersection of Hwy. 73 and Jetton Road (SR2151), go west on Jetton Road 2.0 miles. Turn left onto John Connor Rd. and go 1.0 miles. Turn right on Belle Isle Dr. (SR2331) and go to the end of the road.

A-3-1 From the intersection of Hwy. 73 and Jetton Road (SR2151), go west on Jetton 3.8 miles to dead end.

A-3-2 From the intersection of Hwy. 73 and Jetton Road (SR2151), go west on Jetton Road 2.1 miles to the intersection of Jetton Road and North Beatties Ford Rd. Go to end of road and turn right.

A-3-3 From the intersection of Hwy. 73 and Nantz Road (SR2148), go west on Nantz Road. Go to end of Nantz Road.

A-5-1 Take I-77 north to exit 33, turn left on Williamson Road (SR1109). Turn left on Brawley School Road (SR1100), go west 8.0 miles on Brawley School Road to dead end at water. NOTE: Brawley School Road becomes Mayhew Road at Meckenburg County Line.

A-5-2 From the intersection of Hwy. 73 and Bethel Church Road (SR2189), go north on Bethel Church Road to the end of Bethel Church Road.

A-5-3 From the main plant entrance, go east on Hwy. 73 (6.4 miles) to the intersection of Hwy. 73 and Henderson Road (SR2307).

A-6-1 From the intersection of Williamson Road (SR1109) and Brawley School Road (SR1109), go west 6.9 miles on Brawley School Road. Turn left on Torrence Chapel Road (SR2065), go 0.4 miles. Stop on roadside. NOTE: Brawley School Road becomes Mayhew Road at Mecklenburg County Line. Torrence Chapel Road is the first left after the county line.

B-1-1 One mile from plant on Lake Norman. (WNW)

B-1-2 One mile from plant on Lake Norman. (NW)

B-1-3 One mile from plant on Lake Norman. (NNW)

B-1-4 One mile from plant on Lake Norman. (N)

B-1-5 One mile from plant on Lake Norman. (NNE)

B-1-6 Emergency Boat House and dock.

B-1-7 One and ½ miles from plant on Lake Norman directly east of TTC. (NE)

B-1-8 One and ¼ miles from plant on Lake Norman (NE) at mouth of discharge canal.

B-1-9 One and ½ miles from plant on Lake Norman (ENE).

B-1-10 Bridge over discharge canal on road to TTC.

B-1-11 The intersection of U-2 access road and the road to TTC.

B-1-12 On the roadside of U-2 access road .2 miles off of Hwy. 73.

B-1-13 The intersection of Hwy. 73 and the U-2 access road.

B-1-14 The intersection of Hwy. 73 and the access road to the firing range.

B-1-15 U-1 main entrance.

B-1-16 Right past the bridge on Hwy. 73 over the Catawba River (below the dam).

B-1-17 The east side of Cowans Ford Dam, access through O.C. Gate #5 (lower dam access).

B-1-18 At the intake structure.

B-2-1 2 miles from plant on Lake Norman (NE).

B-2-2 From McGuire main entrance, go east on Hwy. 73 (2.5 miles). Turn left on Terry Lane (SR2255). Go 0.5 miles to the end of Terry Lane (SR2255).

B-3-1 From McGuire main entrance, go east on Hwy. 73 (3.8 miles). Turn left on Norman Island Drive (SR2145). Go to the end of Norman Island Drive.

C-1-1 At the intersection of Hubbard Road and Hwy. 73 turn on Hubbard Road (SR2134) and stop on roadside.

C-1-2 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south 1.3 miles on Beatties Ford Road. Turn right onto Cashion Road (SR2133), go to end of road.

C-2-1 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south 1.3 miles on Beatties Ford Road to the intersection of Beatties Ford Road and Cashion Road (SR2133).

C-2-2 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south 1.5 miles on Beatties Ford Road. Turn right on Stephens Road (SR2132), go .7 miles to dead end at gate.

D-2-1 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south .3 miles on Beatties Ford Road to the intersection of Beatties Ford Road and Gilead Road (SR2136).

D-3-1 From McGuire main entrance go east on Hwy. 73 (3.8 miles) to first stoplight. Cashion's convenience store parking lot on Hwy. 73.

D-3-2 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go .3 miles south on Beatties Ford Road. Turn left on Gilead Road (SR2136), go 1.2 miles to the intersection of Gilead Road and Bud Henderson Road (SR2131).

D-3-3 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south on Beatties Ford Road 2.4 miles to the intersection of Beatties Ford Road and Jim Kidd Road (SR2129).

D-3-4 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south on Beatties Ford Road 3.5 miles. Turn right on Neck Road (SR2074), go 2.4 miles to the intersection of Neck Road and Allison Ferry Road (SR2127).

D-3-5 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south on Beatties Ford Road 3.5 miles. Turn right on Neck Road (SR2074), go 2.4 miles. Turn right on Allison Ferry Road (SR2127), go .7 miles to dead end.

D-5-1 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south on Beatties Ford Road .3 miles. Turn left on Gilead Road (SR2136), go 3.0 miles to the intersection of Gilead Road and Ranson Road (SR2139).

D-5-2 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south on Beatties Ford Road 4.2 miles. Turn left on Hambright Road (SR2117), go 1.6 miles to the intersection of Hambright Road and McCoy Road (SR2120).

D-5-3 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south on Beatties Ford Road 4.2 miles to the intersection of Beatties Ford Road and Hambright Toad (SR2117).

D-5-4 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south on Beatties Ford Road 5.0 miles to the intersection of Beatties Ford Road and Sample Road (SR2125).

D-5-5 From the intersection of Beatties Ford Road (SR2128) and Hwy. 73, go south on Beatties Ford Road 3.5 miles. Turn right on Neck Road (SR2074), go 2.4 miles. Bear to left and continue 0.6 miles. Stop on roadside. Should see entrance to Cowan's Ford Waterfowl Refuge.

E-6-1 From the intersection of Beatties Ford Road (SR2128) and Mt. Holly Huntersville Road (SR2004), go west on Mt. Holly-Huntersville Road to the intersection of Mt. Holly-Huntersville Road and Oakdale Road (SR2042).

E-7-1 From the intersection of Beatties Ford Road (SR2128) and Mt. Holly-Huntersville Road (SR2004), go west on Mt. Holly-Huntersville Road 3.2 miles to the intersection of Mt. Holley-Huntersville Road and Pump Station Road (SR2001).

E-8-1 From the intersection of Beatties Ford Road (SR2128) and Miranda Road (SR2025), go west on Miranda Road to the intersection of Miranda Road and Sunset Road (SR2042).

E-8-2 From the intersection of Mt. Holly-Huntersville Road (SR2004) and Hwy. 16, go south on Hwy. 16 to intersection of Hwy. 16 and Pleasant Road (SR2008).

E-8-3 From the intersection of Mt. Holly-Huntersville Road (SR2004) and Hwy. 16, go west on Mt. Holly-Huntersville .8 miles to the intersection of Mt. Holly-Huntersville Road and Harwood Lane (SR1667) - directly across from Mountainair Road.

E-10-1 From the intersection of Beatties Ford Road (SR2128) and Sunset Road (SR2108), go west on Sunset .7 miles. Turn left on Peachtree Road (SR2019), go 1.3 miles to the intersection of Peachtree Road and Oak Road (SR2027).

E-10-2 From the intersection of Mt. Holly-Huntersville Road (SR2004) and Hwy. 16, go south on Hwy. 16 (1.5 miles). Turn right on Valleydale Road, then make an immediate right (50 ft.) onto Gumbranch Road. Go .7 miles on Gumbranch. Turn left on Cathey Road, go 1.0 miles to the intersection of Cathey Road and Tom Saddler Road.

F-5-1 From the intersection of US21 and Gilead Road (SR2136), go south on US21 (.9 miles) to the intersection of US21 and Mt. Holly-Huntersville Road (SR2004).

F-7-1 From the intersection of US21 and Gilead Road (SR2136), go south on US21 (2.9) miles. Turn right on Alexanderana Road (SR2116), go 1.0 miles to the intersection of Alexanderana Road and Mt. Holly-Huntersville Road (SR2004).

F-8-1 From the intersection of I-77 and Gilead Road (SR2136) - Exit #23, go south to I-77 to the intersection of I-77 and Reames Road (SR2110) - Exit #18.

F-9-1 From the intersection of US21 and Gilead Road (SR2136), go east on Gilead Road .7 miles. Continue straight on Huntersville-Concord Road (SR2426) 3.6 miles to the intersection of Huntersville-Concord Road and Hiwasee (this also may be called Huntersville-Concord Road).

F-9-2 From the intersection of US21 and Gilead Road (SR2136), go east on Gilead Road .7 miles. Continue straight on Huntersville-Concord Road (SR2426) 2.4 miles. Turn right on Asbury Chapel Road (SR2442), go 2.4 miles to the intersection of Asbury Chapel Road and Trails End Road (SR2445).

F-10-1 From the intersection of US21 and Gilead Road (SR2136), go east on Gilead Road .7 miles. Turn right on Hwy. 115, go 2.9 miles. Turn left on Alexanderana Road (SR2457), go .9 miles. Turn left on Eastfield Road (SR2459), to 2.3 miles to the intersection of Eastfield Road and Prosperity Church Road (SR2475).

F-10-2 From the intersection of US21 and Gilead Road (SR2136), go south on US21 5.2 miles. Turn left on Lakeview Road (SR2112), go 1.0 miles. Turn right on Hwy. 115, go .7 miles to the intersection of Hwy. 115 and Victoria Ave. (SR2631) Beachwood Mobile Home Park Road.

G-5-1 From the intersection of US21 and Gilead Road (SR2136), go north on US21 (3.8 miles) to the intersection of US21 and Westmoreland (SR2147).

G-5-2 From the intersection of US21 and Gilead Road (SR2136), go north on US21 (2.3 miles) to the intersection of US21 and Sam Furr Road (SR2145).

G-6-1 From the intersection of US21 and Gilead Road (SR2136), go east on Gilead Road .7 miles. Turn left on Hwy. 115, go 3.7 miles to the intersection of Hwy. 115 and Bailey Road (SR2416).

G-6-2 From the intersection of US21 and Gilead Road (SR2136), go east on Gilead Road .7 miles. Turn left on Hwy. 115, go 1.6 miles. Turn right on McCord Road (SR2427), go .3 miles. Turn right on Hagers Road (SR2438), go .5 miles to dead end.

G-8-1 From the intersection of US21 and Gilead Road (SR2136), go north on US21 (2.3 miles). Turn right on Sam Furr Road (SR2145), go 3.9 miles. Turn left on Davidson-Concord Road and continue to intersection of Davidson-Concord Road and Rockey River Road (SR2420).

G-8-2 From the intersection of US21 and Gilead Road (SR2136), go east on Gilead Road .7 miles. Turn left on Hwy. 115, go .7 miles. Turn right on Ramah Church Road (SR2439), go 2.4 miles to the intersection of Ramah Church Road and McCord Road (SR2427).

G-10-1 From the intersection of US21 and Gilead Road (SR2136), go east on Gilead Road .7 miles. Turn left on Hwy. 115, go 2.0 miles. Turn right on Sam Furr Road (SR2145), go 2.7 miles. Turn left on Davidson-Concord Road, go 2.3 miles. Turn right on Rocky River Road (SR2420), go 2.3 miles. Turn left on Shearer Road (SR2418), go 2.6 miles to the intersection of Sherarer Road and Fisher Road (SR2419).

H-6-1 From the intersection of US21 and Hwy. 73, to east on Hwy. 73 .9 miles to the intersection of Hwy. 73 and Hwy. 115.

H-7-1 From the intersection of I-77 and Hwy. 73 (Exit #28), go north on I-77 to the intersection of I-77 and Griffith Street (SR2158) (Exit #30).

H-7-2 From the intersection of I-77 and Griffith Street (SR2158) Exit #30, go east on Griffith Street .9 miles to Sadler Square Shopping Center.

I-7-1 From the intersection of Brawley School Road (SR1100) and Williamson Road (SR1109), go west on Brawley School Road 5.2 miles to the intersection of Brawley School Road and Garden Road (SR1111).

I-7-2 From the intersection of Brawley School Road (SR1100) and Williamson Road (SR1109), go west on Brawley School Road 2.7 miles. Turn left on Isle of Pines Road (SR1113), go 3.4 miles to dead end.

I-8-1 From the intersection of Brawley School Road (SR1100) and Williamson Road (SR1109), go west on Brawley School Road 3.8 miles. Turn right on Chuckwood Road (SR1177), go to end.

I-9-1 From the intersection of Brawley School Road (SR1100) and Williamson Road (SR1109), go west on Brawley School Road 3.8 miles to the intersection of Brawley School Road and Chuckwood Road (SR1177).

I-10-1 From the intersection of Brawley School Road (SR1100) and Williamson Road (SR1109), go west on Brawley School Road 3.2 miles. Turn right onto McKendries Road (SR1115), go 1.6 miles to the intersection of McKendries Road and Lakeview Drive (SR1455).

J-7-1 From the intersection of I-77 and US21 (Exit #33), go west on US21 over I-77 (.2 miles). Turn left on Alcove Road (SR1206), go 1.8 miles. Turn right on Langtree Road (SR1102), go 2.0 miles to entrance Alexander Island.

J-9-1 From the intersection of I-77 and Griffith Street (Exit #30), go east on Griffith Street (SR2158) 1 mile. Turn left on Hwy. 115, go 1.4 miles to the intersection of Hwy. 115 and Midway Lake Road (SR1137).

J-10-1 From the intersection of I-77 and US21 (Exit #33), go west on US21 over I-77 (.2 miles). Turn left on Alcove Road (SR1206) then bear right on Catalina Road (SR1110) go .6 miles. Bear right on Malibur Road (SR1194) go .4 miles to dead end at Cul-de-sac.

J-10-2 From the intersection of I-77 and US21 (Exit #33), go east on US21 (.1 miles). Turn right on Fairview Road (SR1246), go .9 miles. Turn right on Hwy. 115, go .3 miles. Turn left at Faith Road (SR1136), go .8 miles to the intersection of Faith Road and Midway Lake Road (SR1137).

K-9-1 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 6.6 miles. Turn right on Campground Road (SR1373), go 2.8 miles to the intersection of Slanting Bridge Road (SR1373) and Keistler Store Road (SR1899).

NOTE:	Campground Road turns into Slanting Bridge Road at Catawba County Line.

K-9-2 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 6.6 miles. Turn right on Campground Road (SR1373), go 4.8 miles. Turn right on Hwy. 150, go 1.7 miles. Turn right on Kiser Island Road (SR1841), go 3.1 miles to dead end at circle.

NOTE:	Campground Road turns into Slanting Bridge Road at Catawba County Line.

L-1-1 From the McGuire main entrance; go west on Hwy. 73 (.5 miles) to the Cowans Ford Dam.

L-1-2 From the McGuire main entrance, go west on Hwy. 73 (1.4 miles). Turn right onto Cowans Ford Road (SR1395), go .8 miles.

L-2-1 From the McGuire main entrance go 1.4 miles to the intersection of Hwy. 73 and Cowans Ford Road (SR 1395).

L-2-2 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 (0.6 miles). Turn right onto Hagers Ferry Road (SR1393) and go 1.4 miles. Go straight on paved road (Lucky Point) 0.4 miles.

M-1-1 From the McGuire main entrance, go west on Hwy. 73 (0.9 miles) to the intersection of Hwy. 73 and Caswell Road (SR1578).

M-2-1 From the McGuire main entrance, go west on Hwy. 73 (2.3 miles). Turn left onto Killian Road (SR1396), go 2.2 miles. Stop on roadside of railroad crossing.

N-2-1 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 (.6 miles). Turn right onto Hagers Ferry Road (SR1393), go 1.4 miles. Go left onto Hager's Ferry Road (SR1393), go 1.6 miles to where pavement ends residence 8886 Hager's Ferry Rd.

N-3-1 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 (.6 miles). Turn right onto Hagers Ferry Road (SR1393), go .9 miles to the intersection of Hagers Ferry Road and - Nixon Heights, Lane (SR 1568).

N-3-2 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 (2.1 miles). Turn right on Unity Church Road (SR1439), go .3 miles. Turn right on Graham Road, go 1.6 miles to end of road.

N-4-2 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 (2.1 miles). Turn right on Unity Church road (SR1439), go 2.4 miles to Beatties Ford Access Area.

N-5-1 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 (3.2 miles). Turn right on Lakeshore Drive (SR1456) go 1.3 miles. Turn right on Island View Court (SR1495) go .1 miles to dead end.

O-3-1 From the intersection of Hwy. 73 and Hwy. 16, go south on Hwy. 16 (2.0 miles). Turn left on Sifford Road (SR1397), go 1.2 miles to the intersection of Sifford Road and Mac Lane (SR 1710).

O-4-1 From the intersection of Hwy. 73 and Hwy. 16, go south on Hwy. 16 (1.2 miles). Stop on roadside at Hills Chapel United Methodist Church.

O-4-2 From the intersection of Hwy. 73 and Hwy. 16, go south on Hwy. 16 (.6 miles) to the intersection of Hwy. 16 and Pilot Knob Road (SR1394).

O-5-1 From the intersection of Hwy. 73 and Hwy. 16, go south on Hwy. 16 (2.2 miles). Turn right on Old Plank Road (SR1511), go 1.0 miles. Stop on roadside past bridge.

P-5-1 From the intersection of Hwy. 73 an Hwy. 16, go west on Hwy. 73 (1.5 miles) to the intersection of Hwy. 73 and Little Egypt Road (SR1386).

P-5-2 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (1.5 miles). Turn right on Little Egypt Road (SR1386), go 1.9 miles. Turn right on Optimist Club Road (SR1380), go about .6 miles. Stop near creek.

P-6-1 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (3.6 miles). Turn right on Schronce Road (SR1385). Go to intersection of Schronce Road (SR1385) and Ingleside Farm Road (SR1383).

P-6-2 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (1.5 miles). Turn right on Little Egypt Road (SR1386), go 3.2 miles to the intersection of Little Egypt Road which is now St. James Church Road - SR1380) and Kidville Road (SR1381).

P-6-3 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 (4.9 miles). Turn right on Webb's Chapel Road (SR1379), go 1.6 miles to the intersection of Webb's Chapel Road and Burton Road.

P-8-1 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (5.3 miles). Turn right on Beth Haven Church Road (SR1360), go 1.4 miles. Stop on roadside past bridge.

P-8-2 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (2.5 miles). Turn right on Ingleside Farm Road (SR1383), go .1 mile and bear left 3.2 miles more. Turn right on Beth Haven Church Road (SR1360), go 1.3 miles. Turn right on Forney Hill Road (SR1373), go .7 miles. Stop on roadside passed bridge.

P-8-3 From the intersection of Hwy. 73 and Hwy. 16, go north on Hwy. 16 (7.8 miles) to the intersection of 16 and SR1373 (Campground Road or Slanting Bridge Road). Turn right on this road and go about 1.8 miles to the intersection of SR1373 and Pineridge Drive (SR1375).

P-10-1 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (6.8 miles) to the intersection of Hwy. 73 and Amity Church Road (SR1362).

P-10-2 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (2.5 miles). Turn right on Ingleside Farm Road (SR1383), go .1 miles and bear left 3.2 miles more. Turn right on Beth Haven Church Road (SR1360), go 2.8 miles to the intersection of Beth Haven Church Road and Mundy Road (SR1349).

Q-6-1 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (2.5 miles). Turn right on Ingleside Farm Road (SR1383), go .1 mile bear right and go 1.7 miles more. Turn left on Old Plank Road (SR1511), go .6 miles to the intersection of Old Plank Road and Mariposa (SR1412).

Q-8-1 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (5.3 miles). Turn left on Brevard Place road (SR1360), go .1 mile. Turn left on Old Plank Road (SR1511), go 1 mile. Turn right on Mt. Zion Church Road (SR1404), go 1.9 miles. Stop on road side pass the bridge.

Q-8-2 From the intersection of Hwy. 73 and Hwy. 16, to west on Hwy. 73 (5.3 miles). Turn left on Brevard Place Road (SR1360), go .1 miles. Turn left on Old Plank Road (SR1511), go 1.0 miles to the intersection of Old Plank Road and Mt. Zion Church Road (SR1404).

Q-10-1 From the intersection of Hwy. 73 and Hwy. 16, go west on Hwy. 73 (5.3 miles). Turn left on Brevard Place Road (SR1360), go 3.4 miles to the intersection of Brevard Place Road and Paysour Road (SR1361).

R-3-1 From the main entrance to McGuire go west on Hwy. 73 (2.3 miles). Turn left on Killian Road (SR1396), go 3.4 miles. Stop on roadside (just past Gaston County sign).

R-5-1 From the intersection of Hwy. 73 and Hwy. 16, go south on Hwy. 16 (7.2 miles). Turn left on Horseshoe Bend Beach Road (SR1912), go 2.0 miles. Stop on roadside passed curve.

R-5-2 From the intersection of Hwy. 73 and Hwy. 16, go south on Hwy. 16 (7.2 miles). Turn left on Horseshoe Bend Beach Road (SR1912), go 1.0 miles. Stop on roadside.

R-5-3 From the intersection of Hwy. 73 and Hwy. 16, go south on Hwy. 16 (7.2 miles) to the intersection of Hwy. 16 and Horseshoe Bend Beach Road (SR1912).

R-5-4* From the intersection of Hwy. 73 and Hwy. 16, go south on Hwy. 16 (4.1 miles) to the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905).

S-7-1* From the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905), go west on Stanley-Lucia Road 2.0 miles. Stop on roadside at Macedona Church parking lot.

S-7-2* From the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905), go west on Stanley-Lucia Road 1.1 miles. Turn right on Alexis-Lucia road (SR1820), go 1.6 miles to intersection of Alexis-Lucia Road and Old Lowesville Road (SR 1907).

S-8-1* From the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905), go south on old Hwy. 16 (2.0 miles). Turn right on Hwy. 273, go to the intersection of Hwy. 273 and Sand Ford Road (SR1918).

Directions for Predetermined Survey/Sampling Locations

S-8-2* From the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905), go west on Stanley-Lucia Road 3.2 miles. Go left at curve and continue 1.5 miles to the intersection of SR1935 and Old NC 27 (SR1923).

S-8-3* From the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905), go west on Stanley-Lucia Road 3.2 miles. Go left at curve and continue .7 miles to the intersection of Stanley-Lucia Road and Sandy Ford Road (SR1918).

S-8-4* From the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905), go west on Stanley-Lucia Road 1.1 miles. Turn right on Alexis Lucia (SR1820), go 2.2 miles to the intersection of Alexis-Lucia Road and Mariposa Road (SR1902).

S-9-1* From the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905), go west on Stanley-Lucia Road 1.1 miles. Turn right on Alexis Lucia Road (SR1820), go 2.2 miles. Turn left on Mariposa (SR1902), go 1.5 miles. Turn right on Airport Road (SR1903), go .6 miles to the intersection of Airport Road and Hwy. 27.

S-10-2* From the intersection of old Hwy. 16 and Stanley-Lucia Road (Blacksnake Road-SR1905), go south on old Hwy. 16 2.0 miles. Turn right on Hwy. 273, go 4.7 miles to the intersection of Hwy. 273 and N. Main Street.

NOTE: Old Hwy. 16 (Lucia Riverbend Hwy.) can be reached by turning right at the intersection of Hwy. 16 and Lucia Riverbend Hwy. which is 4.1 miles south on 16 from the Hwy. 73 and Hwy. 16 intersection.{*}

Enclosure 5.7

Field Monitoring Survey Data Sheet

Time	Team	Zone	Mile	Location	Beta	Gamma	Air [$I-131$ equivalent, $\mu Ci/ml$]	Special

Enclosure 5.8

Periodic Status Update for Field Monitoring Teams

Date	Time	Emergency Classification	Wind Speed mph	Wind Direction from °	Zones Affected	Other Information

1. Pull in at the fueling island located at the McGuire Garage. The garage is located on the right side of the access road to the McGuire switchyard.

2. Place the special refueling key in the pump control station. The control station is located on a vertical steel beam which is located between the gas pump and the diesel pump.

3. Remove the key, and follow the instructions as they appear on the control station. The instructions include:

   a. Enter the vehicle's mileage.

   b. Enter the pump being used; 1 for gas, and 2 for diesel.

   c. Enter your social security number.

4. Remove the nozzle, turn the pump on, and refuel the vehicle.

5. **WHEN** finished, turn the pump off, and return the nozzle to the pump.

The refueling pumps are opened 24 hours per day, 7 days a week. The McGuire Garage has personnel working in the garage from 7:30 AM to 12:00 AM Monday through Friday. Call Security from the garage gate phone to gain access to the pumps after hours or on weekends or holidays.

IF oil, antifreeze, or windshield washer fluid is needed, see McGuire Garage personnel.

FMT Turnover Checklist

Enclosure 5.10
FMT Turnover Checklist
HP/0/B/1009/023
Page 1 of 1

—— 1. Copies of Enclosure 5.3 from HP/0/B/1009/027.

—— 2. Latest copy of Enclosures 5.7 and 5.8 from HP/0/B/1009/023.

—— 3. List sampling van or emergency kit supplies needed.

_____

_____

_____

_____

_____

_____

—— 4. List Inoperable Equipment.

_____

_____

_____

_____

—— 5. List any Sampling Problems.

_____

_____

_____

_____

Activity Description and References: BLOCK 1

HP/0/B/1009/023 Rev 7 (Environmental Monitoring for Emergency Conditions) was revised to correct a typographical error. The reference to Enclosure 0 was changed to Enclosure 5.1 or 5.2.

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3

☒ The change is editorial or typographical

☐ The change is not editorial or typographical

Change Type: BLOCK 4

☐ The change does conform to an activity that has prior approval

☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
☐ §50.47(b)(2) – Onsite Emergency Organization
☐ §50.47(b)(3) – Emergency Response Support and Resources
☐ **§50.47(b)(4) – Emergency Classification System***
☐ **§50.47(b)(5) – Notification Methods and Procedures***
☐ §50.47(b)(6) – Emergency Communications
☐ §50.47(b)(7) – Public Education and Information
☐ §50.47(b)(8) – Emergency Facility and Equipment
☐ **§50.47(b)(9) – Accident Assessment***
☐ **§50.47(b)(10) – Protective Response***
☐ §50.47(b)(11) – Radiological Exposure Control
☐ §50.47(b)(12) – Medical and Public Health Support
☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
☐ §50.47(b)(14) – Drills and Exercises
☐ §50.47(b)(15) – Emergency Responder Training
☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment
Record the commitment or commitment reference: _____

☐ The activity does not involve a site specific EP commitment

Results: BLOCK 7		
☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation ☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation		
Preparer Name: William Marc Mulkey	Preparer Signature: William Marc Mulkey	Date: 4/25/2012
Reviewer Name: **Renard O. Burris**	Reviewer Signature: RB	Date: 4/25/12