INFORMATION ONLY

CHEMISTRY MANUAL 5.1
EMERGENCY RESPONSE GUIDELINES

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Prepared by: Pam Motter Date: 10/30/96

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DUKE POWER COMPANY OCONEE CHEMISTRY MANUAL

Emergency Response Guidelines

1. Purpose

NOTE:	Five Control Copies and five Information Only copies of this CSM shall be routed to the Emergency Preparedness Team within three (3) working days following any approved changes/modifications.

The purpose of this section of the Chemistry Manual is:

1) to identify members of the Chemistry Emergency Response Organization and their responsibilities; and,
2) provide preplanned responses to emergency situations that may arise.

2. Chemistry Emergency Response Organization

2.1 The positions identified in Enc. 6.1 may be filled by personnel identified in Enc. 6.2.

2.2 The Chemistry Manager, any Chemistry Area Manager or Senior Scientist may serve as the Chemistry Manager in the OSC as identified in Enc. 6.2. During backshift, holidays and weekends the Radwaste shift/coverage person will be the Chemistry Single Point of Contact until relieved.

2.3 A list of alternates for other positions are identified in Enc. 6.2. These personnel may be designated by the Chemistry Manager as essential or non-essential as the emergency condition or event dictates.

2.4 The responsibilities of the Chemistry Emergency Response Organization are contained in Enc. 6.3.

2.5 Once the OSC is activated for emergency response, ALL activities of field teams Prior To, during, and thereafter become the responsibility of the OSC to coordinate and control. Upon the activation of the OSC all chemistry activities currently in progress should be turned over to the OSC for coordination. The turnover should at a minimum include:

- Emergency Job(s) in the field
- Communication capability with the field team
- Emergency equipment out of service/job description
- Status of plant including power availability

If approval to continue is given, an OSC task sheet should be submitted to document the activity(s).

2.6 When calling Chemistry personnel off site (if needed), determine fitness for duty per Enc. 6.4.

2.7 The Chemistry Emergency Response Organization work schedule should be established as the emergency condition or event dictates.

2.8 The Chemistry Emergency Response Organization should use Enc. 6.5 and 6.6 to assist in planning sampling, analysis, and chemical addition activities during an emergency situation.

2.9 If G.O. Chemistry support is needed, they can be contacted per the following:

	4-Digit Pager Code	Office Telephone	Home Phone
Group Call	8095	---	---
R. W. Eaker	8308	382-4373	[redacted]
M. K. Johnson	8313	382-5486	
L. A. Wilson	8320	382-4514	
P. W. Downing	8309	382-7060	
E. J. Haack	8311	382-0811	

3. Chemistry Response to Site Assembly During Normal Working Hours

(Monday through Thursday excluding holidays)

3.1 Chemistry personnel shall assemble at their respective Chemistry office locations as indicated on the back of the security badge. All jobs in progress should be safely secured before reporting. Persons working in protective clothing should leave their work area and go to the appropriate change room. In the change room, they should contact their respective team leader for accountability or their Administrative Specialist at Ext. 3182 or 3856.

3.1.1 Plant conditions (physical, radiological, etc.) may limit or not allow access to the normal Chemistry assembly locations. In these situations, Chemistry personnel may report to any of the four (4) Chemistry Office Areas.

3.2 Each Chemistry Area Manager shall account for all personnel reporting to them (including vendor and General Office personnel) and report this accountability to the Chemistry Manager or Administrative Specialist at 3856 or 3182. Accountability shall include total number accounted for and names of any personnel not accounted for.

3.3 Once accountability has been established one of the Administrative Specialists shall report this to the Security Shift Supervisor at Ext. 2309 or 2359 with her name, section, and number of people assembled. For missing persons, give the number of missing persons and the telephone number from which you are calling. Accountability for Chemistry must be accomplished within 20 minutes.

3.4 Security will call back to get the names of missing persons and available information (time and location last seen).

3.5 When personnel accountability has been completed as part of the Site Assembly, one of the following will occur:

3.5.1 If the Assembly was a test of response time and accountability procedures or if the requirement for an assembly no longer exists, permission to return to normal duties will be given by the Operations Shift Manager/Emergency Coordinator.

3.5.2 Plant conditions may require activation of the Site Emergency Response Organization. The notification to establish the Technical Support Center (TSC) and Operational Support Center (OSC) should be made over the PA system. The Chemistry Manager/Alternate should then implement the Organization outlined in Enc. 6.1.

3.5.3 Other instructions may be given by the Operations Shift Manager/Emergency Coordinator

4. Chemistry Response to Site Assembly During Backshifts, Weekends, and Holidays

4.1 All Chemistry personnel should assemble at their normal office area or any other Chemistry Assembly point and report their location to the RWF Control Room at ext. 3230. The Radwaste shift/coverage person should account for all Chemistry personnel on site. The accountability should be reported to the Security Shift Supervisor @ 2309 with his name, location, and number of people accounted for including names of any personnel presently not accounted for. All jobs in progress should be safely secured before reporting. Persons working in protective clothing should leave their work areas and go to the appropriate change room. In the change room they should contact the Radwaste shift/coverage person @ 3230.

4.2 When personnel accountability has been completed as part of a site assembly one of the following may occur:

4.2.1 If the Assembly was a test of response time and accountability procedures or if the requirement for an assembly no longer exists, permission to return to normal duties should be given by the Operations Shift Manager/Emergency Coordinator.

4.2.2 Plant conditions may require activation of the Site Emergency Response Organization. The notification to establish the TSC/OSC shall come from the Operations Shift Manager/Emergency Coordinator. The Radwaste shift/coverage person will establish the Chemistry Organization and act as Chemistry Single Point of Contact until relieved.

4.2.3 Other instructions may be given by the Operations Shift Manager/ Emergency Coordinator.

5. Chemistry Response to Site Evacuation Announcement

NOTE:	A Site Assembly alarm will always precede a Site Evacuation Announcement.

5.1 Once the decision has been made to evacuate site personnel, Chemistry management will notify the non-essential Chemistry personnel at each Chemistry Assembly Location.

5.2 Instructions for site evacuation should be obtained through PROFS by the Area Evacuation Coordinator.

5.3 All off-site Chemistry personnel should be contacted by Chemistry management for specific work schedule instructions.

5.4 Site Directive 4.4.1 describes the Site Evacuation/Relocation plans.

6. Enclosures

6.1 Chemistry Emergency Response Organization

6.2 Designation of Essential Chemistry Personnel

6.3 Responsibilities of Emergency Response Organization

6.4 Fitness For Duty Questions for Call Outs (if needed)

6.5 Post Accident Sampling and Analysis Checklist

6.6 Post Accident Chemical Addition Checklist

Enclosure 6.1
Chemistry Emergency Response Organization
(Minimum Staffing)
Sheet 1 of 1

OSC
Chemistry Manager*
(One)
(Phone: Ext. 3495)

OSC
Chemistry Area Manager
(One)
(Phone: Ext. 3858)

OSC
Chemistry Staff Support
(One)

OSC
Chemistry Specialist
(Five)

NOTES: OSC - Operational Support Center - the area in the back of the Unit 3 Control Room is designated as the OSC.

* - 75 minute response time

Enclosure 6.2
Designation of Essential Chemistry Personnel
Sheet 2 of 2

Radwaste	Primary
Cliff Adams	Sherri Williams
Dale Graham	Jake Lamey
Roy Hanks	Dennis Earle
Jac Cashin	Gina Roach
Tony Garland	Charlie Hendricks
Jeff Pearson	Emmie Singleton
Jim Saylors	Dana Gaillard
Mark Sanders	Vivian Howell
Sharon Strickland	Ronnie Tucker

NOTE: Only 5 technicians are required although as many as 7 may respond (includes 2 shift persons (minimum staffing requirements) plus 5 persons to be called by the Community Alert Network System).

Included in the minimum staffing is the requirement that the qualifications of the two shift persons in combination will allow RCS sampling, PALs operation and Appendix R sampling.

Enclosure 6.3
Responsibilities of Emergency Response Organization
Sheet 1 of 3

1. Responsibilities of the CHEMISTRY MANAGER

1.1 Set up the Chemistry Emergency Response Organization for OSC and Chemistry Office. Designate non-essential personnel.

NOTE:	Appropriate procedures are located in OSC in the identified file cabinet.

1.2 Keep the OSC Coordinator informed of current status of chemistry areas of responsibility.

1.3 Inform OSC Coordinator of any Chemistry Emergency Response Activities initiated prior to the activation of OSC.

1.4 Maintain assessment of the emergency and recovery efforts and identify trends and conditions that have the potential to cause changes in the chemical parameters of the emergency situation.

1.5 Participate in the development of recovery programs in chemistry areas of responsibility.

1.6 Use Enc 6.5 and 6.6 as needed to plan sampling, analysis and/or chemical addition activities.

1.7 If emergency makeup to the SFP using fire trucks is required, per RP/0/B/1000/19 contact EcoloChem at 1-800-446-8094 and request they dispatch a filtration unit with a 5 micron bag filter along with an operator to get the unit set-up and operational.

2. Responsibilities of the RADWASTE SHIFT/COVERAGE PERSON on Holidays, Weekends, Backshift

2.1 Serve as Single Point of Contact for Chemistry until relieved.

2.2 Account and Report for all Chemistry Personnel on-site during a Site Assembly. The accountability should be reported to the Security Shift Lt. @ 2309 and should include name, location, and number of people accounted for including names of any personnel presently not accounted for.

2.3 Upon implementation of the Site Emergency Response, report to the Operational Support Center (OSC) and provide immediate support to the Operations Shift Manager.

Enclosure 6.3
Responsibilities of Emergency Response Organization
Page 2 of 3

NOTE:	Appropriate procedures are located in OSC in identified file cabinet.

2.4 Inform OSC Coordinator of any Chemistry Emergency Response Activities prior to the activation of OSC.

2.5 No persons will need to be called out. One (1) Chemistry Manager/Alternate will always be on duty and will respond when their emergency response pager is automatically actuated. Five (5) technicians/specialists and one (1) area staff support persons will be called out by the automated "Community Alert Network System".

NOTE:	In the event the Community Alert Network System fails or is out-of-service, Call Outs for the five (5) technicians/specialists may be requested. Persons have the responsibility to respond to a call out (Management Procedure "Overtime, Call-Outs and 16-Hour Provision"). Fitness for duty must be determined by asking the questions listed in Enc. 6.4. Two staff persons from the duty list should be paged a second time through the switchboard operator to please report to the OSC.

3. Responsibilities of the CHEMISTRY STAFF SUPPORT

3.1 Keep Chemistry personnel informed of current status of the emergency situation and recovery effort.

3.2 Implement control measures to operate the laboratory during emergency conditions.

3.3 Use Enc. 6.5 and 6.6 as needed to plan sampling, analysis, and/or chemical addition activities.

3.4 Conduct pre-job briefings to:

1) Ensure that employees are sufficiently familiar with the task to efficiently perform it under the anticipated conditions.

2) Ensure that materials, parts, tools, and equipment necessary to perform the task are proper for the job, are readily available, have electric or pneumatic power sources available, and are familiar to workers.

3) Ensure that workers assigned to the task have sufficient remaining exposure to contribute significantly to its completion and that necessary requests for dose extensions are submitted in a timely manner and with proper justification.

Enclosure 6.3
Responsibilities of Emergency Response Organization
Sheet 3 of 3

4) Coordinate work activities with those of other work groups to achieve maximum efficiency in the task as a whole and to minimize th potential for unnecessary exposure due to poor communications or lack of pro planning/scheduling.

4. Responsibilities of CHEMISTRY TECHNICIANS

4.1 Follow applicable emergency procedures unless directed to do otherwise by the "Chemistry Manager".

4.2 Comply with the requirements and special instructions of the applicable Radiation Work Permit (RWP), warning sign or barrier concerning radiation/contamination control unless directed to do otherwise by RP.

4.3 Know the location of radiation sources and their dose rates at the task location or accesses. Utilize low exposure waiting areas where applicable. This information is to be provided by Radiation Protection personnel.

4.4 Ensure that you are sufficiently familiar with the task to efficiently perform it under the anticipated conditions. Pre-job briefings should be conducted to ensure your complete understanding of the job. (Repeat any instructions given.)

4.5 Ensure that you have sufficient remaining exposure to contribute significantly to the completion of the assigned task.

5 Training for Emergency Response Organization

- Chemistry Manager/Team Leader
  - Annual Chemistry Emergency Response Training
  - Participate in at least 1 drill/2 years
  - Emergency Response Training Module OC-1818

- Staff
  - Annual Chemistry Emergency Response Training
  - Participate in at least 1 drill/2 years

- Technicians
  - Annual Chemistry Emergency Response Training

Enclosure 6.4
Fitness for Duty Questions for Call Outs
Sheet 1 of 1

The following questions MUST be asked to determine Fitness for Duty:

1. Have you consumed alcohol in the last 5 hours?

2. What did you have?

3. How much did you have?

4. Can you perform your job unimpaired?

5. Can you drive?

NOTES:

1. Employees who acknowledge consumption of alcohol within 5 hours must be evaluated by supervision upon reporting to work. Evaluation may be by observation or breathalyzer.

2. IF the answer to the first question is NO, the other questions should NOT be asked.

3. These questions apply to ANYONE being called out to work in the protected area of the plant, regardless of position or whether his/her name appears on a "duty list". Documentation of the phone call is NOT required by the Fitness For Duty "rule". However, if the call out results in a questionable situation, you may want this information documented.

Enclosure 6.5
Post Accident Sampling and Analysis Checklist
(DO NOT USE FOR DOCUMENTATION)
Sheet 1 of 3

Date: _____ Time: _____ Unit: _____

_____ Sample requested by the TSC.

Sample From:

Normal	PALSS	Appendix R
RCS - Pri. Sample Hood _____	RCS "J-Leg" _____	RCS "J-Leg" ____
RCS - Wst. Sample Hood _____	HPI Letdown _____	
LPI - Wst. Sample Hood _____	LPI Pump Disch. _____	

_____ Determine analysis/analyses to be performed and list below:

_____ _____ _____

_____ _____ _____

_____ Initiate OSC Task Work Sheet.

Procedures/Lab Methods to be used:

_____ CP/1/A/2002/01	Unit One Primary Sampling System
_____ CP/2/A/2002/01	Unit Two Primary Sampling System
_____ CP/3/A/2002/01	Unit Three Primary Sampling System
_____ CP/1/A/2002/04C	Operating Procedure for the Post Accident Liquid Sampling (PALS) System
_____ CP/2/A/2002/04C	Operating Procedure for the Post Accident Liquid Sampling (PALS) System
_____ CP/3/A/2002/04C	Operating Procedure for the Post Accident Liquid Sampling (PALS) System
_____ CP/O/A/2002/04E	Reactor Coolant Sampling during An Appendix "R" Accident
_____ LM-O-P003A	Determination of Boron Using the Mettler DL40GP
_____ LM-O-P013	The Analysis of Water Using Dionex 2020I Ion Chromatography
_____ LM-O-P008	The Determination of Hydrogen in Gas Samples using the Carle Gas Chromatograph with the Spectra-Physics Integrator
_____ LM-O-G007	Determination of pH
_____ LM-O-G004	Determination of Gamma Isotopic Activity

Enclosure 6.5
Post Accident Sampling and Analysis Checklist
Sheet 2 of 3

_____ CSM 5.2 Post Accident Procedure Use Guidelines

____ Obtain applicable RIA readings from the Data Acquisition System or Control Room Liason:

RIA	READING	RIA	READING
RIA-4	_____mR/hr	RIA-32	_____CPM
RIA-8	_____mR/hr	RIA-57	_____R/hr
RIA-10	_____mR/hr	RIA-58	_____R/hr
RIA-13	_____mR/hr		

SYSTEM SAMPLING:

____ Notify Operations Liason and RP of support needs.

____ Determine number of Chemistry personnel required for sampling and analysis:

Sampling: _____ Analysis: _____

____ Ensure assigned personnel have sufficient remaining exposure to complete assigned tasks by obtaining Dose Extensions as required.

____ Determine sample transporter to be used and its location.

____ Conduct planning session with Chemistry, RP, and Operations personnel involved in sampling to identify/define specific roles and responsibilities:

____A. Designate Chemistry personnel to perform sampling
____B. Designate Chemistry personnel to support sampling at the RCZ/control point
____C. Identify Chemistry and RP personnel assigned to perform analysis
____D. Determine required respiratory equipment and protective clothing
____E. Determine required equipment to support sampling (eg; radios, sample bottles, flash lights, etc)
____F. Establish Low Dose Waiting Areas/control points
____G. Determine stay-time(s) at PALS Panels

Enclosure 6.5
Post Accident Sampling and Analysis Checklist
Sheet 3 of 3

____H. Determine 'best' route for sample transport

____ Obtain equipment required to support sampling.

____ Obtain keys required for sampling (located in the Chemistry OSC Emergency Procedures Book).

____ Establish and maintain stay-time log at the RCZ/control point.

ANALYSIS:

____ Determine additional RP support required during analysis.

____ Determine need to prepare back-up lab for analysis (RW Facility Lab).

____ Obtain and label carboys for storing/handling liquid waste.

____ Obtain lead shielding and prepare Chemistry lab for analysis.

____ Ensure analytical instruments are standardized prior to use.

____ Ensure sufficient quantities of reagents are available; prepare as needed.

____ Conduct planning session with Chemistry and RP personnel involved in analysis to identify/define specific roles and responsibilities:

____ A. Designate Chemistry personnel required to perform specific analyses
____ B. Determine respiratory equipment and protective clothing requirements
____ C. Use Breathing Air Cylinders and set-up Air Line Header for lab if respiratory equipment is required

Enclosure 6.6
Post Accident Chemical Addition Checklist
(DO NOT USE FOR DOCUMENTATION)
Sheet 1 of 2

Date: _____ Time: _____ Unit. _____

____ Caustic addition requested and authorized by the TSC.

____ Initiate OSC Task Work Sheet.

Procedures to be used:

____ CP/1&2/A/2002/05	Post Accident Caustic Injection into the Low Pressure Injection System
____ CP/3/A/2002/05	Post Accident Caustic Injection into the Low Pressure Injection System
____ CP/0/B/2001/08	Chemical Safety Equipment & Spill Control Response
____ CSM 5.2	Post Accident Procedure Use Guidelines

____ Verify that LPI System is in service and taking suction from the Reactor Building Emergency Sump.

____ Perform calculations listed in Enc. 6.3 of CSM 5.2 to determine quantity of caustic required for addition.

____ Obtain the following applicable RIA readings from the Data Acquisition or the Control Room. Refer to Enc. 6.2 of CSM 5.2 for RIA information.

RIA	READING	RIA	READING
RIA-12	_____ mR/hr	1RIA-32-12	_____ CPM
3RIA-19	_____ mR/hr	3RIA-32-3	_____ CPM
1RIA-32-3	_____ CPM	3RIA-32-5	_____ CPM
1RIA-32-10	_____ CPM	RIA-57	_____ CPM
1RIA-32-11	_____ CPM	RIA-58	_____ CPM

____ Notify RP, Operations, Liaison, and OSC Coordinator of support needs.

____ Determine number of Chemistry personnel required for addition:
Required: _____ (minimum of 2)

____ Ensure assigned personnel have sufficient remaining exposure to complete assigned tasks. Obtain Dose Extensions as required.

Enclosure 6.6
Post Accident Chemical Addition Checklist
Sheet 2 of 2

____ Conduct planning session with Chemistry, RP, Operations, and OSC personnel involved in addition to identify/define specific roles and responsibilities:

- ____ A. Designate Chemistry personnel to perform addition
- ____ B. Designate additional OSC personnel to transport caustic
- ____ C. Designate Chemistry or OSC personnel to support addition at the RCZ/control point
- ____ D. Determine required respiratory equipment, protective clothing, and any additional RP requirements
- ____ E. Determine required equipment to support addition (eg; radios, chemical resistant suits, flash lights, etc.)
- ____ F. Establish Low Dose Waiting Areas/control points (as required)
- ____ G. Determine stay time(s) at caustic addition area (as required)
- ____ H. Identify potential safety hazards to team members (eg; heat stress, caustic spill control, caustic hazards, etc.)

____ Obtain equipment required to support addition.

____ Establish and maintain stay time log at the RCZ/control point (as required).