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CAROLINA POWER & LIGHT COMPANY  
BRUNSWICK NUCLEAR PLANT

**I**  
Information  
Use

PLANT OPERATING MANUAL

VOLUME XIII

PLANT EMERGENCY PROCEDURE

UNIT  
0



**0PEP-02.6**

***SEVERE WEATHER***

REVISION 7

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NUCLEAR DOCUMENT CONTROL

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## 1.0 PURPOSE

This procedure provides instructions and guidelines for Brunswick Nuclear Plant (BNP) and Emergency Response Organization (ERO) personnel for response to severe weather conditions during a classified emergency.

## 2.0 REFERENCES

- 2.1 OERP, BNP Radiological Emergency Response Plan
- 2.2 OAI-68, "Brunswick Nuclear Plant Response to Severe Weather Warnings"
- 2.3 "Effect of Hurricane Andrew on the Turkey Point Nuclear Generating Station from August 20-30, 1992 (March 1993)"

## 3.0 DEFINITIONS

- 3.1 **Class I Structures** - Class I structures are designed to withstand a sustained wind velocity of 130 to 180 MPH depending on height and to resist the effects of a tornado. BNP Class I Structures include the:
  - Control Building
  - Diesel Generator Building and 4-Day Fuel Oil Tank Vault
  - Drywell and Suppression Chamber
  - Plant Stack
  - Reactor Building
  - Service Water Intake Structure
  - Nitrogen and Off-Gas Services Building (AOG)
- 3.2 **Class II Structures** - Class II structures are governed by the North Carolina Building Code Loadings. These structures include the:
  - Circulating Water Intake and Discharge Structure
  - Admin Building
  - Radwaste Building
  - Shops, Warehouse, and Stock Room Buildings
  - Service Building
  - Turbine Building
  - Water Treatment Building

### 3.0 DEFINITIONS

3.3 **Other Structures** - Structures listed below are governed by the North Carolina Building Code Loadings, and per code are designed to withstand wind velocities of 120 MPH.

- Operations and Maintenance Building (O&M)
- Technical and Administrative Center (TAC)
- Technical Training Center (TTC)
- TSC/EOF Building

3.4 **Hurricane** - Severe storm with winds greater than 73 mph and a well defined low barometric pressure center, called the eye. Hurricanes are rated based on the intensity of the storm. Wind speed and barometric pressure are the key parameters in determining strength.

Category	Pressure (millibars)	Pressure (inches)	Wind Speed (mph)	Storm Surge (feet)
1	> 979	$\geq 28.92$	74-95	4-5
2	965-979	28.50-28.91	96-110	6-8
3	945-964	27.91-28.49	111-130	9-12
4	920-944	27.18-27.90	131-155	13-18
5	< 920	$\leq 27.17$	> 155	> 18

3.5 **Hurricane Advisory** - Information released every six hours whenever a hurricane exists.

3.6 **Hurricane Bulletin** - Information released every three hours whenever a hurricane exists.

3.7 **Hurricane Warning** - A communication from NOAA whenever a hurricane is between 12 and 24 hours from the U.S. coast. This warning applies to an area approximately 50 miles either side of the expected landfall. This warning gives the expected time/location of landfall, as well as the hurricanes size, wind speed, direction, and speed of travel. It may also describe areas where high water, floods, or high waves may be expected.

### 3.0 DEFINITIONS

- 3.8 **Hurricane Watch** - A communication from NOAA whenever a hurricane is between 24 and 48 hours from the U.S. Coast. This watch applies to an area approximately 100 miles either side of the expected landfall.
- 3.9 **National Oceanic and Atmospheric Administration (NOAA)** - Federal agency which predicts environmental changes and conserves/manages coastal and marine resources (National Weather Service, National Ocean Service and National Marine Fisheries Service are NOAA programs).
- 3.10 **Tropical Storm** - A weather disturbance of large size rotating in a counterclockwise direction with wind speeds ranging from 39 to 73 mph, torrential rains and an area of low barometric pressure.
- 3.11 **Tropical Storm Warning** - A communication from NOAA whenever a tropical storm is between 12 and 24 hours from the U. S. coast.

### 4.0 RESPONSIBILITIES

- 4.1 The Shift Superintendent (Control Room Site Emergency Coordinator) is responsible for the site activities in preparation of severe weather. Delegation of the coordination of activities may occur as follows:
  - 4.1.1 Prior to staffing or activation of the emergency response facilities, the normal site organizations report the status of activities to the On-Line Scheduling Superintendent through OAI-68, Brunswick Nuclear Plant Response to Severe Weather Warnings. The On-Line Scheduling Superintendent will provide periodic updates to plant management.
  - 4.1.2 Following emergency response facility staffing, the Emergency Response Manager may be given overall control of storm preparations. The Site Emergency Coordinator (in the TSC) will be responsible for on-site preparations and the Assistant Emergency Response Manager (in the EOF) will be responsible for off-site preparations and logistics support.

#### **4.0 RESPONSIBILITIES**

- 4.2 The Supervisor - Emergency Preparedness is responsible for coordinating with unit managers to ensure ERO staffing requirements are maintained when determining available personnel resources prior to emergency response facility staffing or activation.
- 4.3 The Administrative and Logistics Manager (or Supervisor - Emergency Preparedness when in an Unusual Event) is responsible for coordinating with unit managers to ensure ERO staffing requirements are adequately met when determining available personnel resources.

#### **5.0 GENERAL INFORMATION**

- 5.1 Severe weather preparations may have been taken prior to event classification. Actions prior to implementation of the Emergency Plan are performed in accordance with OAI-68, "Brunswick Nuclear Plant Response to Severe Weather Warnings".
- 5.2 The potential for salt buildup on exposed surfaces and transmission equipment is possible during severe storms producing high winds with minimal rainfall.
- 5.3 If the eye of the hurricane passes over the site, winds and rain will abruptly decrease and a calm will occur for a short period of time after which winds will return from the opposite direction with extreme severity. Personnel should not be allowed out of doors until after the storm has completely passed.
- 5.4 Emergency measures should be maintained until official notification is received that the storm no longer poses a threat to the area.
- 5.5 A meteorological service provider is contracted to notify BNP of National Oceanic and Atmospheric Administration (NOAA) hurricane watch and warning declarations affecting the plant. Additional notifications are made to provide the initiating criteria which triggers the activities for extreme hurricanes.

## **5.0 GENERAL INFORMATION**

- 5.6 The on-site meteorological tower can measure wind speeds up to 100 mph. The tower is rated to withstand 125 mph winds; however, information operability may be lost due to lightning strikes prior to the arrival of severe weather.
- 5.7 Other available sources of storm projection information originating from NOAA are the National Weather Service (NWS) located at the Wilmington Airport, State, and county emergency management agencies, and marine radio frequencies.

## **6.0 PROCEDURE**

### **6.1 Tornado**

For any tornado which has been observed on site, perform the following actions:

- 6.1.1 Instruct all personnel to seek shelter immediately.
- 6.1.2 If conditions warrant the declaration of an Alert or higher classification while a tornado is in the area and the Emergency Response Facilities are not already staffed or activated, consider delaying ERO mobilization until conditions allow safe movement out of doors (Notification of off-site authorities is still required).
- 6.1.3 Direct observers to find a safe location to establish communications and report the status of the tornado.
- 6.1.4 Direct personnel to conduct detailed plant and area surveys following the storm to assess any structural damage or loss of security controls.

### **6.2 Hurricane Warnings**

When a hurricane warning is issued (12-24 hours before wind speeds are projected to exceed 73 miles per hour at the site) perform the following actions:

- 6.2.1 Conduct operator briefings and/or team simulator training to prepare for possible transients and circumstances which may be caused by the storm or storm related system failures. Emphasize the prompt re-establishment of site power.



## 6.2 Hurricane Warnings

- 6.2.2 Order all unnecessary work halted and expedite efforts to complete site preparations in accordance with OAI-68, Brunswick Nuclear Plant Response to Severe Weather Warnings.
- 6.2.3 Identify nonessential personnel who may be advised not to report in upcoming shifts if conditions warrant. Ensure personnel are notified of the off-site point of contact and post storm staging area.
- 6.2.4 Ensure Restoration team members are identified and instructed to attempt to report to the plant after the hurricane warning is lifted and state authorities report that travel is safe.
- 6.2.5 Relocate all nonessential personnel and visitors. Release site personnel in a controlled manner as preparations are completed or as personal circumstances dictate.
  - 1. Coordinate the release of personnel with the Supervisor - Emergency Preparedness (or the Administrative and Logistics Manager if the EOF has been staffed) to ensure Emergency Response Organization staffing requirements for extended operations are addressed.
  - 2. Ensure the release of personnel is far enough in advance of severe weather to allow personnel to arrive safely at their homes and avoid any undue congestion with the general public.
  - 3. Ensure on-site personnel are notified of the off-site point of contact and post storm staging area prior to evacuation.
- 6.2.6 Designate and establish a protected location for storm duty vehicles. Ensure the vehicles are serviced and fueled. Move unnecessary vehicles out of the Protected Area and away from egress routes.

## 6.2 Hurricane Warnings

6.2.7 Consider sandbagging areas which may be susceptible to flooding, using Attachment 1, Flood Protection: Sandbag Dikes.

1. Sandbag the following areas, as indicated below, for any hurricane.

- a. TSC/EOF Training Bldg: 22' - 0" elevation
- b. Turbine Bldg. Entrances: 22' - 0" elevation
- c. 4160 BOP Switchgear Area: 22' - 0" elevation
- d. DG Bldg. Roll-Up Door  
(inside of door only): 3' above floor
- e. Radwaste Bldg. Doors  
(loading dock area): 26' - 0" elevation
- f. North & South Breezeway  
Entrances: 26' - 0" elevation
- g. Control Bldg. HVAC Room: 1' above floor (approximately  
one (1) row of sandbags)
- h. EHC Rooms: 22' - 0" elevation

2. Resources for constructing sandbag dikes are described in OAI-68, Brunswick Nuclear Plant Response to Severe Weather Warnings.

6.2.8 Approximately three hours prior to projected wind speeds exceeding 73 miles per hour on site:

- 1. Staff the Emergency Response Facilities and call in other personnel as necessary. As a minimum, a second shift of personnel which meet the minimum staffing requirements of the emergency response facilities should be maintained on site for ERO responsibilities, and at least two crews of Fire Brigade personnel are on site to support post hurricane activities.
- 2. Brief Emergency Response personnel on the storm, safety precautions, expected duties, and potential hazards.

### 6.3 Extreme Hurricanes

6.3.1 Additional precautions may be necessary for Category 4 and 5 hurricanes. Hurricanes meeting the following criteria will result in worse case storm surge water levels:

1. Classification as a Category 4 or 5 Hurricane (sustained winds greater than 130 MPH).

AND

2. Propagation speed greater than or equal to 35 MPH.

6.3.2 Seal communications and electrical equipment and boxes which may be susceptible to excessive wetting or immersion with plastic and tape.

6.3.3 Establish an emergency medical treatment area in the EOF/TSC/Training Building and in the plant and announce the locations. Ensure medical support and adequate supplies are staged and available at this area.

6.3.4 Prestage sufficient supplies and equipment (such as; tools, control point supplies, survey and sampling instruments, dosimetry, flashlights, radios, batteries, fire extinguishers, voltage testers, rope, bedding etc.) in easily accessible occupied locations.

6.3.5 The O&M Building will not be habitable during Category 4 or 5 hurricanes. The Emergency Repair Director and staff should be located in a safe area inside the Control Building or in the TSC/EOF Building.

1. A safe OSC location can be established in the Auxiliary Operators office in the back panel area of the Control Room. Consumable and other EP related items should be transported from the normal OSC when the decision to relocate is made.

### 6.3 Extreme Hurricanes

2. Overflow for personnel and prestaged equipment can be located across from the Operations office area in the Radwaste 47' area.
3. Additional resources and staging areas are available in the Operations office area and on the turbine deck floor and engineering offices. Since these areas are susceptible to wind damage they will only be considered available on a situational basis (for example, post storm recovery activities).

**NOTE:** Recommend pre-staging approximately three (3) people in the Diesel Generator Building and two (2) in the Service Water Building, if conditions warrant. Also, consider staging one (1) or two (2) engineers in the Control Room prior to hurricane arrival to provide support in locating and eliminating grounds.

6.3.6 Personnel should be prestaged in vital areas, such as the Diesel Generator Building, Service Water Building, and Reactor Building. Considerations should include:

1. Ensuring adequate preparations for tools, equipment, supplies, and personal items are made at remote locations prior to the storm.
2. Discussions of the responsibilities and actions (such as load shedding and ground isolations) taken in the event of loss of communications with the plant.
3. Isolation of the Halon Systems (including battery backup power) in occupied areas.
4. Installation of life lines between operating areas of the plant in case personnel must be sent to or evacuate from an area during high winds.
5. Placement of vehicles outside the TSC and power block for movement of personnel if necessary.

6.3.7 Discuss responsibilities and contingencies for overall command and control with ERO managers in the event intra-facility communications become impacted.

### **6.3 Extreme Hurricanes**

6.3.8 Consider performing the following steps as final preparations are completed:

1. Collect radioactive sources from buildings not designated as Class 1 structures and store in a protected area.
2. Direct the venting of the Hydrogen and Oxygen tanks.
3. Ensure all remaining on-site personnel are in a safe location and accounted for.
4. Direct closed circuit television to be placed in a continuous recording mode to collect historical visual data.
5. Suspend operator rounds, Fire Watches, and outside security safeguards activities as conditions dictate. Evaluate 10CFR50.54(x) applicability.
6. Determine if RCA gates can be opened to allow safer access for personnel.
7. Establish an access path from the power block to the Service Building through the Unit #2 Laydown (for example, Unit #2 Turbine Laydown Area through EHC Room, continuing through Heater Drain Pump Room to the Breezeway).
8. Manually switch TSC/EOF load to diesel generator prior to hurricane force winds.

6.3.9 If there is a loss of power to the TSC/EOF Building and TSC/EOF diesel generator capability, evaluate information in Attachment 2, TSC/EOF Power Supply Alternatives.

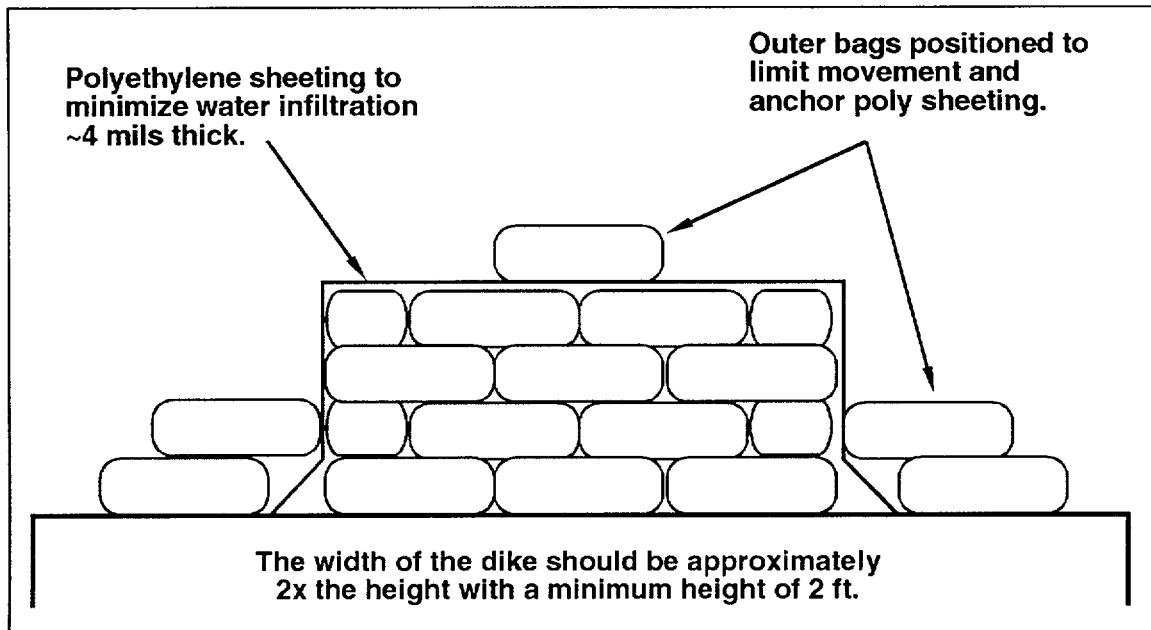
### **6.4 Restoration Following Severe Weather**

Restoration from a severe weather emergency may be coordinated by establishing a restoration organization similar to the Recovery Organization described in the BNP Radiological Emergency Response Plan, as necessary, and by using Attachment 3, Severe Weather Restoration Guidelines. Restoration may be conducted irrespective of an emergency classification.

## **7.0 RECORDS**

Documentation generated from implementation of this procedure should be forwarded to the Supervisor - Emergency Preparedness for submittal to Document Services for retention.

ATTACHMENT 1  
Page 1 of 1  
**Flood Protection: Sandbag Dikes**



**Side View of a Typical Sandbag Dike**

**NOTES:**

1. The location of dikes placed along walls shall be chosen to limit obstruction to equipment and components mounted on those walls.
2. Dike size and placement should be determined by field personnel based on the availability of sandbags and labor. Dike dimensions should be similar to those shown above.
3. Position sandbags used to protect doors on a side that will maintain building access. Consider constructing a dike in the shape of a horseshoe around the door if time and resources allow.

ATTACHMENT 2  
Page 1 of 1  
**TSC/EOF Power Supply Alternatives**

In the event of a loss of off-site power to the TSC/EOF Building, and loss of the TSC/EOF emergency diesel generator, evaluate the following:

1. If it is necessary to obtain an additional power source, consider using a portable diesel generator tied in at the permanent diesel feeder cable.  
NOTE: A possible source on site may be use of the SSFPC emergency diesel generator.
2. Prioritize communications capability using the following information. Coordinate activities with Telecommunications to shed loads to conserve power. For example, if priority is to use Selective Signaling, then conserve power by shedding PBX system.

TSC / EOF EQUIPMENT	BATTERY CAPABILITY
Fax Machines	No Battery Back-up
* Siren Computer	8-12 Hours (Separate UPS Battery System)
Emergency Lights	2 -3 Hours
** PBX Phone System, Sel. Signaling, Decision Line & Hotline	8 - 12 Hours

**NOTE:**

- \* If the siren computer in the EOF loses power, the counties will continue to have capability to sound the sirens. The siren computer Field Int. Unit (FIU) is located in the Microwave Building and has an emergency generator.
- \*\* PBX phones in the Control Room operate from a system in the Telecommunications Building which has a battery capability of approximately 14 hours. The Telecommunications Building also has its own back-up gas generator. PBX phones in the TSC/EOF operate from a system in the TSC/EOF Building, and these phones have a battery back-up capability of approximately 8 hours.



ATTACHMENT 3  
Page 1 of 5  
**Severe Weather Restoration Guidelines**

Damage to safety-related portions of the plant are expected to be relatively minor due to their design. The majority of the Restoration efforts are expected to involve the restoration of the nonsafety-related portion of the plant; off-site emergency preparedness issues; and assistance to employees and their families. Prompt coordination with the CP&L Corporate offices and other CP&L plants for support and resources is essential. Perform the following and complete Attachment 4, Plant Equipment Status List:

- 1 Coordinate and direct the conduct of an initial survey of all site areas. Hazards such as weakened structures and piping, damaged power lines and electrical equipment, chemical or other type spills, and the absence of normal fire fighting capabilities are likely following a severe storm. Instruct close attention be paid to the chlorine car or spent fuel casks stored outside the Protected Area.
- 2 Inspect the Caswell Beach Pumping Station, intake canal, and diversion structure for damage/debris.
- 3 Coordinate and direct the conduct of a radiological survey of all site areas. Radiological surveys of outside areas may be required prior to granting full access to the Protected Area. Post or re-post radiation and contamination area boundaries as necessary.
- 4 Dispatch teams as soon as possible following storm passage to search for missing personnel and provide aid to trapped or injured personnel as necessary.
- 5 Re-establish communications with the applicable off-site organizations to report the status of the plant and personnel.
- 6 Re-establish fire protection and security measures as soon as the situation has been evaluated and conditions allow. Remove, rope off, or otherwise resolve unsafe conditions in and around the site.
- 7 Review existing conditions, outline the issues to be resolved, and develop a Issues/Strategies Package which will form the basis of the Restoration Plan. Issues which should be considered in the formation of the package may include:

ATTACHMENT 3  
Page 2 of 5  
**Severe Weather Restoration Guidelines**

- **ON-SITE RESTORATION:**

NOTE:

If the decision is made to leave the site partially mobilized through hurricane season, perform the following:

- return all equipment required for normal operations to designated storage areas (for example, EMS boxes and oxygen boxes) and the defibrillator should be returned to the O&M First Aid Room;
- procure additional equipment, as necessary, to avoid depletion of supplies for normal operation; and
- if sand-bags are left in designated locations, ensure they are safely stacked away from doors/entry-ways, but accessible for storm preparations.

- **RESTORATION OF EQUIPMENT**

- Restore adequate on-site/off-site communications as soon as possible.
- Interview Operations concerning operability of instrumentation/equipment needed to support EALs and operability of ERDS.
- Interview E&RC concerning normal environmental monitoring sampling equipment (TLDs).
- Perform electrical inspection of equipment which was exposed to the storm's environment prior to re-energizing.
- If restoration of equipment is necessary for reactor safety, and time does not permit a full cleaning and inspection, station a watch in a safe location to report any abnormal operation.
- Attempt to procure and utilize replacement equipment as an alternative to a detailed clean and inspect.
- Electrical equipment may require a fresh water rinse following exposure to a severe storm. Rain associated with hurricanes usually contains high concentrations of salt.

ATTACHMENT 3  
Page 3 of 5  
**Severe Weather Restoration Guidelines**

- RESTORATION OF EQUIPMENT (Cont'd)
  - Restore meteorological monitoring capabilities as applicable.
  - Pump out rattlespaces, manholes and other low-lying areas where water has collected.
  - Restore combustible material staged for the storm to appropriate locations.
- CLEANUP AND RESTORATION SUPPORT
  - Use of a helicopter service for survey or transport of equipment and samples.
  - Procurement of debris clearing equipment such as: dump truck, front end loader, bull dozer, mobile crane, back hoe, motor grader, fuel and service truck, and general purpose flatbed.
  - Road-clearing activities by CP&L line crews.
  - Procurement of additional fuel oil for plant and clean-up equipment. Consider methods to expedite acceptance of fuel oil deliveries.
  - Procurement of marine service equipment, such as a canal dredge and pile driver.
  - Procurement of land service equipment, such as open top, drop frame, enclosed, and refrigerator trailers and tractors.
  - Procurement of rail service personnel and equipment.
  - Procurement of temporary structures, such as inflatable, mobile modular and Kelly buildings, laundry, shower and hygiene, and portable toilets, and tents.
  - Procurement of post and chain link security fence equipment.

ATTACHMENT 3  
Page 4 of 5  
**Severe Weather Restoration Guidelines**

- **OFF-SITE EMERGENCY PREPAREDNESS SUPPORT**
  - **OFF-SITE COMMUNICATIONS**
    - Perform tests of communications systems to State/counties.
    - Conduct pager test for Emergency Response Organization (ERO) personnel.
  - **EMERGENCY FACILITIES**
    - Conduct inventories of emergency equipment, as needed, using OPEP-04.2 and OPEP-04.6.
  - **INTERVIEWS**
    - Interview Letter of Agreement Agencies in the BNP Radiological Emergency Response Plan to verify capability to support BNP.
    - Interview County Emergency Management personnel concerning capability to support BNP, based on BNP Radiological Emergency Response Plan and NUREG-0654/FEMA-REP-1.
    - Interview State Emergency Management personnel concerning support capabilities.
  - **RETURN SIREN SYSTEM TO SERVICE**
    - Interface with C&OS Storm Center to prioritize power restoration to sirens.

Assign individuals to perform visual inspections of each siren for damages.

ATTACHMENT 3  
Page 5 of 5  
**Severe Weather Restoration Guidelines**

- RETURN SIREN SYSTEM TO SERVICE (continued)
  - Coordinate repairs with Telecommunications and Transmissions personnel.
  - Perform rotation test and growl test of individual siren with an assigned observer at each location site.
  - Test communications between County operations consoles and sirens.
- **PEOPLE SUPPORT**
  - SITE PERSONNEL SUPPORT
    - Transport of food and water to the site.
    - Purchase of propane grills for on-site personnel to cook.
    - Location of offsite living quarters for plant personnel, such as mobile homes, motels, and apartments.
    - Acquisition of rental cars and cellular phones for employee transportation and communication.
  - EMPLOYEE/DEPENDANT SUPPORT
    - Identify a point of contact, message center, and assembly area for separated families.
    - Assistance in emergency shelter, temporary housing, and home restoration.
    - Supplies and transportation for families of site personnel.
    - Assistance and support in locating missing persons.
    - Assistance for areas such as home repair, moving, and storage.
    - Financial/Insurance counseling and assistance.
    - Day Care Centers for child care to support personnel return to work.
    - Return to work plan.
  - OTHER
    - Assign personnel to County EOCs to provide liaison, if appropriate.
    - Present self-assessment results to FEMA Assessment Team, if requested.

ATTACHMENT 4  
Page 1 of 1  
**Plant Equipment Status List**

ITEM	RESPONSIBLE ORG	STATUS
Secondary Containment Structural Inspections	BESS/OPS	
Intake Structure	BESS	
Intake Canal General Condition	MM	
Diversion Structural Operability	MM	
Diesel Building	OSC	
7-Day Tank	OPS	
Fire Tanks	OPS	
CST (Both)	OPS	
Mud tank	OPS	
Fire Pump Inspection	OPS	
SAT/Transformer Yard Switchyard	BESS/WATM	
Control Building 70 FT Equipment	BESS	
Security Fencing	Security	
Security Equipment Minimum Requirements	Security	
Stack Structural	BESS	
4 Day Tank Rooms	OPS	
Service Water Building	OSC	
Radiological Boundary	E&RC	
Protected Area Personnel Safety Walkdown		
4 Day Tank AFFF Building	OPS	
Evaluate DC Ground Status	BESS	

## REVISION SUMMARY

Revision 7 of OPEP-02.6 consists of the following changes

- Changed "Murray and Trettel, Inc., to " A meteorological service provider" in Section 5.5.
- Added new Section 7.0, Records, as an enhancement.
- Changed battery capability for siren computer from "12 hours" to "8-12 hours" in Attachment 2, TSC/EOF Power Supply Alternatives.
- Added information in Attachment 3, Onsite Restoration Note, to return defibrillator to O&M First Aid Room (lesson - learned from past hurricanes).



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**OPEP-04.2**

***EMERGENCY FACILITIES AND EQUIPMENT***

REVISION 20

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## **1.0 PURPOSE**

This procedure provides guidance for the maintenance of on-site emergency facilities and equipment. This procedure does not address those areas covered under existing programs such as Fire Protection and Diesel/ Ventilation maintenance procedures. The facilities will include the equipment/material needed for the BNP Emergency Response Organization to adequately respond to an emergency.

This procedure is intended to be performed at a frequency specified for the particular equipment/facility or as needed following an emergency drill, exercise, or event. Although equipment testing is specific, items such as office supplies will be checked to ensure an adequate supply and the numbers listed are suggested quantities. This procedure describes when county/state and NRC should be notified of equipment problems.

In order to provide accurate status of EP equipment included in this procedure, Attachment 2 is to be completed for deficiencies that are noted during prescribed testing or those identified in operation.

## **2.0 REFERENCES**

- 2.1 OPEP-Appendix A, Emergency Response Resources
- 2.2 OPEP-04.6, Radiological Emergency Kit Inventories
- 2.3 Motorola - CP&L MOSCAD Siren System Operators Manual
- 2.4 OPEP-03.1.3, Use of Communications Equipment
- 2.5 OPT-48.1, Public Address System Speaker Test
- 2.6 OPT-93.0, EOF/TSC Building Emergency System Test
- 2.7 OPT-94.0, EOF/TSC Emergency Ventilation System Lineup Verification
- 2.8 OPM-ENG505, Covington Diesel Generator, Model 7123-7305
- 2.9 OPM-GEN008, Covington Diesel Generator Electrical Inspections
- 2.10 OOI-01.07, Notifications
- 2.11 OPT-96.0, ERDS Quarterly Test with NRC
- 2.12 IOI-03.4.1, Unit 1 Control Operator Daily Check Sheets

### **3.0 DEFINITIONS**

#### **3.1 Annually**

At least once per 366 days.

#### **3.2 Biweekly**

At least once every other week.

#### **3.3 EOF**

Emergency Operations Facility

#### **3.4 Monthly**

At least once per 31 days.

#### **3.5 Once per Calendar Year**

Once anytime between January 1 and December 31.

#### **3.6 Quarterly**

At least once per 92 days.

#### **3.7 TSC**

Technical Support Center

#### **3.8 JIC**

Joint Information Center

#### **3.9 OSC**

Operational Support Center

## 4.0 RESPONSIBILITIES

### 4.1 Supervisor - Emergency Preparedness

Emergency Preparedness is responsible to ensure adequate and timely maintenance of the Emergency Facilities and equipment.

### 4.2 Interpath

Is responsible to maintain on-site equipment, including selective signaling, decision line and siren equipment, at the off-site locations.

### 4.3 State/County/NRC Agencies

Are responsible to maintain their radio equipment.

### 4.4 North Carolina Emergency Management (NCEM) Operations Center

The NCEM Operations Center is responsible to initiate the Decision Line test monthly.

## 5.0 INSTRUCTIONS

**NOTE:** Due to the coordination requirements with State and County agencies that are necessary in Emergency Preparedness Programs, some test/surveillances may not occur within the strict periodicity definitions included in this procedure. Scheduling will be done to minimize this occurrence and any surveillance/test performed that exceeds the procedural definition should be noted with information identifying the reason for the deviation. In any case, the tests/surveillance deviations that occur due to coordination problems should not prevent satisfaction of the 3.25 periodicity requirement.

### 5.1 Monthly Communications Test

Communications testing with off-site agencies will be conducted on a monthly basis to coincide with the State Procedures. This will normally be the first Tuesday of each month but may be adjusted (adjusted annually for holiday conflicts).

- 5.1.1 Transmit a test facsimile message (Attachment 5, BNP Fax Test Letter) to all EOCs and warning points and document on Attachment 1. The "Time" should be recorded as time the fax was sent; signature at the completion of the test documents all points acknowledge receipt.

## 5.1 Monthly Communications Test

- 5.1.2 Utilize the Selective Signalling System to simultaneously activate all warning points (Code 10-22). Conduct a roll call to validate operability and document on Attachment 1.
- 5.1.3 Utilize the Selective Signalling System to simultaneously activate all EOCs (Code 10-33). Conduct a roll call to validate operability and document on Attachment 1.
- 5.1.4 Proceed to the EOF for a test of the State Decision Line Phone. This will be initiated by the NCEM Operations Office. Answer the phone to support the test. Verify operability and document on Attachment 1.
- 5.1.5 Conduct a test of the VHF radio(s) from the TSC to the counties. Conduct a VHF radio test from the Control Room to a County. Verify operability and document on Attachment 1. (See OPEP-03.1.3 for use of VHF radios.)
- 5.1.6 Contact the NRC Region II office from both the EOF and the TSC using the telephone number listed in OPEP-Appendix A. This call must not be made from FTS-2000 telephones.
- 5.1.7 Contact South Carolina Bureau of Radiological Health using the telephone number listed in OPEP-Appendix A.
- 5.1.8 Notify the Control Room and inform them that testing of the FTS-2000 Telephone System is in progress and request that Control Room personnel disregard the Emergency Notification System (ENS) phone in the Control Room until notified testing is complete or the ENS telephone rings more than twice.

### CAUTION

Do not leave the ENS phone in the simulator plugged into a live ENS jack. When testing of the ENS phone in the simulator is complete, unplug the phone from the live ENS jack and return it to the simulator booth ENS jack.

- 5.1.9 Conduct testing of the FTS-2000 Telephone System in the EOF and TSC. Document results of testing on Attachment 1. Telephone numbers for ENS and HPN calls to the NRC are posted on the phones and in OPEP-Appendix A. On-Site numbers for calling the FTS-2000 telephones are found in Attachment 1.

## 5.1 Monthly Communications Test

**NOTE:** On occasion, it may be necessary for the NRC Operations Center Duty Officer to delay calling back on the ENS and Health Physics Network (HPN) telephones due to a heavy volume of communications traffic. If the Duty Office cannot call back in a reasonable time, this section of Attachment 1 must be repeated at a later time.

- 5.1.10 Notify the Control Room that testing of the FTS-2000 Telephone System is complete and to no longer disregard rings on the ENS telephone.
- 5.1.11 Report any failures to the Telecommunications (Interpath) Help Desk (see OPEP-APPENDIX A for telephone number). Document each identified equipment problem on a separate Attachment 2.
- 5.1.12 Prior to returning equipment to service, verify operability by testing and document on Attachment 2. Individual telephones in the Selective Signaling System may be tested to determine operability. See Attachment 7, Selective Signalling Individual Location Telephone Numbers, for specific selective signal location numbers.
- 5.1.13 Forward completed documentation to Document Control with "OPEP-04.2" clearly identified on the transmittal form.

## 5.2 Siren Silent Test

**NOTE:** Refer to Attachment 8 for siren troubleshooting and return to service information.

A silent test of the Early Warning Siren System shall be completed on a biweekly frequency (26 times per year).

- 5.2.1 A silent siren report should printout each day at midnight, if not, demand a report by performing the following:
  - 1. Log onto the siren computer.
  - 2. Click <INTERROGATE> at the bottom of the screen.

## 5.2 Siren Silent Test

3. Click <ALL> to interrogate all sirens.
4. Click <OPERATOR> at the bottom of the screen to initiate commands.
5. Click <MANAGER> on the right side of the screen to obtain report capability.
6. Click <REPORT> on the lower right to print the test report.

5.2.2 Evaluate the Silent Report for failures. "Normal" on the printout in the Radio Communication column indicates acceptable test results.

**NOTE:** Refer to 0OI-01.07, Notifications, to determine if test results should be reported to the Control Room for reportability to the NRC.

5.2.3 Report any failures to Interpath Help Desk (see 0PEP-APPENDIX A for telephone number) and notify the appropriate county. Document each identified equipment problem on a separate Attachment 2, Equipment Repair Form.

1. Notify counties when siren(s) are placed back in service and complete Attachment 2.

5.2.4 Forward the Silent Report printout and copies of Attachment 2 for any failures to Document Control for retention. Clearly identify "0PEP-04.2" on the transmittal form.

## 5.3 Siren Growl Test

A growl test of the Early Warning Siren System shall be completed quarterly (2nd Monday of January, April, July & October). Variation in test days may occur due to holidays or state/county request.

- 5.3.1 Coordinate with counties on an agreed-to test date; and ensure that a news release has been issued by Site Communications, in advance, announcing the date and time of test.

### 5.3 Siren Growl Test

- 5.3.2 Coordinate with Interpath to have a representative present during the test to ensure any siren failing the test can be quickly diagnosed and scheduled for repair; and notify Wilmington South Office of date and time of test.
- 5.3.3 Ensure that each of the following locations have been notified of the test time on the day of the test.
1. Control Room
  2. NRC Resident's Office
  3. Interpath Help Desk
  4. Visitors' Center
  5. Switchboard Operator
  6. Site Communications Office
  7. Wilmington South Office
- 5.3.4 On the test date, have both counties select and perform a growl test from their console.
- 5.3.5 Approximately 10 minutes after test initiation, a report should print at the siren computer. If not, demand a report as per Step 5.2.1.
- 5.3.6 Evaluate the Siren Growl Test Report for failures. Acceptable test results will be identified by a check mark (√) in the "Good Activation" column and "Normal" in the "Communication" column. An acceptable alternative is an observer at the siren site who verified that the siren sounded.



### 5.3 Siren Growl Test

**NOTE:** Refer to 0OI-01.07, Notifications, to determine if test results should be reported to the Control Room for reportability to the NRC.

5.3.7 Report any failures to the Interpath Help Desk (see OPEP-APPENDIX A for telephone number) and the appropriate county. Document each identified equipment problem on a separate Attachment 2, Equipment Repair Form.

1. Notify counties when siren(s) are placed back in service and complete Attachment 2.

5.3.8 Forward the Growl Report printout and copies of Attachment 2 for any failures to Document Control for retention. Clearly identify "OPEP-04.2" on the transmittal form.

### 5.4 Siren Full Volume Test

A full volume test will be conducted on a once per calendar year basis.

5.4.1 Coordinate with counties/state to establish an agreed test date. This may be required during the emergency preparedness exercise with the state agencies.

5.4.2 Ensure that a news release has been issued by Site Communications, in advance, announcing the date and time.

5.4.3 Coordinate with Interpath to have a representative present during the test to ensure any siren failing the test can be quickly diagnosed and scheduled for repair; and notify Wilmington South Office of date and time of test.

5.4.4 Ensure that on the day of the test each of the following locations have been notified of the test time prior to performing the test.

1. Control Room
2. NRC Resident's Office
3. Interpath Help Desk

#### 5.4 Siren Full Volume Test

4. Visitors' Center
  5. Switchboard Operator
  6. Site Communications Office
  7. Wilmington South Office
- 5.4.5 On the test date, have both counties select and perform one separate full volume test or siren "Alert."
- 5.4.6 Approximately 10 minutes after test initiation, a report should print at the siren computer. If not, demand a report as per Step 5.2.1.
- 5.4.7 Evaluate the Siren Full Volume Test Report for failures. Acceptable test results will be identified by a check mark (√) in the "Good Activation" column, an X in the "Rotation" column, and "Normal" in the "Communication" column. An acceptable alternative is an observer at the siren site who verified that the siren rotated at least twice and sounded at full volume for approximately three minutes.

<p><b>NOTE:</b> Refer to 0OI-01.07, Notifications, to determine if test results should be reported to the Control Room for reportability to the NRC.</p>
--

- 5.4.8 Report any failures to the Telecommunications (Interpath) Help Desk (see 0PEP-APPENDIX A for telephone number) and the appropriate county. Document each identified equipment problem on Attachment 2, Equipment Repair Form.
- 5.4.9 Notify counties when siren(s) are placed back in service and complete Attachment 2.
- 5.4.10 Forward the Alert Report printout and copies of Attachment 2 for any failures to Document Control for retention. Clearly identify "0PEP-04.2" on the transmittal form.

#### **5.4 Siren Full Volume Test**

- 5.4.11 In January, prepare and forward to the state of North Carolina and FEMA, a report certifying the successful testing of the Early Warning System sirens in the 10 mile EPZ. The report should state whether or not 90% operability of the system was attained.

#### **5.5 Monthly Pager Test**

- 5.5.1 Initiate a monthly pager test by contacting Security in the SAS and requesting BEN initiation with a code of 8 8 8.
- 5.5.2 Verify from the BEN printout that the ERO minimum staffing positions responded within 15 minutes of BEN initiation.
- 5.5.3 Document results and submit to Document Control for retention.
- 5.5.4 Document any pagers identified as not responding to the pager test on Attachment 2, Equipment Repair Form. Contact Information Technology for repair.

#### **5.6 Quarterly Checklist**

- 5.6.1 Complete Attachment 3, OSC/TSC/EOF/JIC Quarterly Checklist, on a quarterly basis to verify operability and availability of equipment and materials. Administrative supplies will be supplemented as necessary.
- 5.6.2 Complete Attachment 9, JIC Telephone Operability Checklist, to verify operability of telephones in the JIC storage bins. Operability is determined by plugging the phone into a jack and successfully completing a call to another phone.
- 5.6.3 Document equipment problems and resolution on Attachment 2, Equipment Repair Form.
- 5.6.4 Forward documentation to Document Control with "OPEP-04.2" clearly identified on the transmittal form.

## **5.7 Dose Projection/Environmental Monitoring Cabinet Inventory List**

Complete Attachment 6, Dose Projection/Environmental Monitoring Cabinet Inventory List, on at least a quarterly basis. A "spot check" should be conducted following each drill or event to ensure adequate supplies. Forward documentation to Document Control with "OPEP-04.2" clearly identified on the transmittal form.

## **5.8 Miscellaneous Supplies Guide**

Complete Attachment 4, Miscellaneous Supplies Guide (OSC/TSC/EOF/JIC) on at least a quarterly basis to verify necessary supplies are in place. A "spot check" should be conducted following each drill or event to ensure adequate supplies. Forward documentation to Document Control with "OPEP-04.2" clearly identified on the transmittal form.

## **5.9 OPEP-APPENDIX A Review**

A review of OPEP-APPENDIX A will be conducted on a quarterly basis to verify names, phones, and qualification status of individuals listed. Appendix A should be compared to the current ERO Team List. Individuals should be notified to verify office, home, and pager phone numbers. Appendix A will be revised if needed by Emergency Preparedness.

## **5.10 Other Tests**

- 5.10.1 Schedules for testing at prescribed frequencies defined in this procedure will be maintained by Emergency Preparedness.
- 5.10.2 Public Address units in the TSC and EOF are tested per OPT-48.1 on a quarterly basis by Operations.
- 5.10.3 TSC/EOF emergency diesel generator is tested per PMs, ENG505, and GEN008 at prescribed frequencies by Maintenance.

## **5.10 Other Tests**

- 5.10.4 TSC/EOF ventilation is tested per OPT-93.0 and OPT-94.0 by Maintenance at prescribed frequencies. OPT-93.0 is coordinated by the System Engineer. OPT-94.0 is coordinated by Operations.
- 5.10.5 Radiological Emergency Kits are inventoried by E&RC and Operations at prescribed frequencies per OPEP-04.6.
- 5.10.6 FTS-2000 ERDS telephone lines are tested on a quarterly basis per OPT-96.0 by Information Technology.
- 5.10.7 Control Room FTS-2000 ENS phones are tested monthly per 1OI-03.4.1 by Operations.
- 5.10.8 Test the satellite phone on at least a quarterly basis. Problems experienced should be documented and resolved via Attachment 2, Equipment Repair Form.

## **6.0 RECORDS**

Documentation of the described tests should be retained and sent to Document Control as described in each surveillance.

ATTACHMENT 1  
Page 1 of 4  
**BNP Communications Test**

AGENCY	METHOD OF CONTACT	PERSON CONTACTED	TIME
- Fax test to all WPs & EOCs	Fax	N/A	
- Brunswick County WP	Selective Signalling		
- New Hanover County WP	Selective Signalling		
- State Warning Point	Selective Signalling		
- Brunswick County EOC	Selective Signalling		
- New Hanover County EOC	Selective Signalling		
- NCEM Operations Center	Selective Signalling		
- Coast Guard MSO EOC	Selective Signalling		
- Coast Guard Ft. Macon EOC	Selective Signalling		
- State/County	Decision Line		
- TSC to Brunswick County	VHF Radio		
- TSC to New Hanover County	VHF Radio		
- Control Room to either County	VHF Radio		
- NRC (Region II office) from EOF	Bell System		
- NRC (Region II office) from TSC	Bell System		
- South Carolina Bureau of Radiological Health	Bell System		
Comments:			

ATTACHMENT 1  
Page 2 of 4  
**BNP Communications Test**

**Technical Support Center (TSC)**

**Initials     /     Time**

Notified Control Room of start of FTS 2000 testing

\_\_\_\_\_ / \_\_\_\_\_

ENS (Room 144) call to the NRC completed successfully

\_\_\_\_\_ / \_\_\_\_\_

Person contacted: \_\_\_\_\_

Call from NRC to ENS (Room 144) received successfully

\_\_\_\_\_ / \_\_\_\_\_

ENS (Room 144) call to PMCL (Room 144) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

PMCL (Room 144) call to HPN (Room 143) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

HPN (Room 143) call to ENS\* (Room 149) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

ENS\* (Room 149) to HPN\* (Room 149) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

HPN\*(Room 149) to OCL \*(Room 149) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

OCL\*(Room 149) to RSCL \*(Room 150) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

RSCL\*(Room 150) to ENS (Room 144) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

Notified Control Room that FTS 2000 testing is complete

\_\_\_\_\_ / \_\_\_\_\_

\* Phone may not be plugged into jack. Phone must be plugged into jack prior to test

**FTS 2000 On-Site Phone Numbers:**

Emergency Notification System (ENS)	700-256-0202
Health Physics Network (HPN)	700-256-0206
Management Counterpart Link (MCL)	700-256-0204
Operation Center LAN (OCL)	700-256-0203
Protective Measure Counterpart Link (PMCL)	700-256-0200
Reactor Safety Counterpart Link (RSCL)	700-256-0205

ENS and HPN numbers for contacting the NRC are found in OPEP-Appendix A or posted on the telephones.

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ATTACHMENT 1  
Page 3 of 4  
**BNP Communications Test**

**Emergency Operations Facility (EOF)**

**Initials      /      Time**

Notified Control Room of start of FTS 2000 testing

\_\_\_\_\_ / \_\_\_\_\_

ENS (EOF NRC Room) call to the NRC completed successfully

\_\_\_\_\_ / \_\_\_\_\_

Person contacted: \_\_\_\_\_

Call from NRC to ENS (EOF NRC Room) received successfully

\_\_\_\_\_ / \_\_\_\_\_

ENS (EOF NRC Room) call to RSCL (EOF NRC Room) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

**CAUTION**

Do not leave the ENS phone in the simulator plugged into a live ENS jack.  
When testing of the ENS phone in the simulator is complete, unplug the phone  
from the live ENS jack and return it to the simulator booth ENS jack.

RSCL (EOF NRC Room) call to ENS (in Simulator) call completed successfully

\_\_\_\_\_ / \_\_\_\_\_

ENS (in Simulator) call to EOF HPN (Room 123) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

HPN (Room 123) call to PMCL\* (Room 128) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

PMCL\* (Room 128) call to HPN\* (Room 128) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

HPN\* (Room 128) call to ENS\* (Room 131) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

ENS\* (Room 131) call to OCL\* (Room 131) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

OCL\* (Room 131) call to MCL\* (Room 131) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

MCL\* (Room 131) call to EOF ENS (EOF NRC Room) completed successfully

\_\_\_\_\_ / \_\_\_\_\_

Notified Control Room that FTS 2000 testing is complete

\_\_\_\_\_ / \_\_\_\_\_

\* Phone may not be plugged into jack. Phone must be plugged into jack prior to test



ATTACHMENT 1  
Page 4 of 4  
**BNP Communications Test**

**FTS 2000 On-Site Phone Numbers:**

Emergency Notification System (ENS)	700-256-0202
Health Physics Network (HPN)	700-256-0206
Management Counterpart Link (MCL)	700-256-0204
Operation Center LAN (OCL)	700-256-0203
Protective Measure Counterpart Link (PMCL)	700-256-0200
Reactor Safety Counterpart Link (RSCL)	700-256-0205

ENS and HPN numbers for contacting the NRC are found in OPEP-Appendix A or posted on the telephones.

Comments: \_\_\_\_\_  
\_\_\_\_\_

The communication systems listed above have been tested, problems have been identified on Attachment 2, Equipment Repair Forms, and documentation assembled for retention.

Completed by: \_\_\_\_\_

Date: \_\_\_\_\_

ATTACHMENT 2  
Page 1 of 1  
**Equipment Repair Form**

Person Identifying Problem: \_\_\_\_\_

Equipment Out of Service: \_\_\_\_\_

\_\_\_\_\_

Description of Problem: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Problem Reported To: \_\_\_\_\_

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

EFFECTED AGENCIES CONTACTED:

Name of Contact/Agency: \_\_\_\_\_

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

Name of Contact/Agency: \_\_\_\_\_

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

Name of Contact/Agency: \_\_\_\_\_

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

Name of Contact/Agency: \_\_\_\_\_

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

Explanation of Repair: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Equipment Retested and Restored to Service: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Previously Contacted Agencies Notified: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**Route to Document Control as specified in this procedure.**

ATTACHMENT 3  
Page 1 of 3  
**OSC/TSC/EOF/JIC Quarterly Checklist**

**CORRECT DISCREPANCIES WHICH CAN BE CORRECTED AS THIS CHECKLIST IS BEING COMPLETE. DOCUMENT ALL OTHERS.**

1. Emergency Lighting

Test operation of emergency lights by depressing the "Test" button and verifying both lamps illuminate: (See Note)

Initial/Date

-EOF Command Room	_____ / _____
-Room 128 (EOF)	_____ / _____
-TSC Command Room	_____ / _____
-TSC ERFIS Area	_____ / _____
-Room 138 (TSC)	_____ / _____
-Room 139 (TSC)	_____ / _____
-Room 149 (TSC)	_____ / _____
-Room 150 (TSC)	_____ / _____

2. Clocks

Verify the correct time is displayed and check battery (replace if needed)

-EOF Command Room	_____ / _____
-Room 128 (EOF)	_____ / _____
-TSC Command Room	_____ / _____
-TSC ERFIS Area	_____ / _____
-Room 138 (TSC)	_____ / _____
-Room 139 (TSC)	_____ / _____
-Room 149 (TSC)	_____ / _____
-Room 150 (TSC)	_____ / _____

3. Copiers

Fill paper trays and verify copy quality

-EOF	_____ / _____
-TSC	_____ / _____
-JIC (See OPEP-02.6.29 for location of the 4 copiers at BCC)	_____ / _____

ATTACHMENT 3  
Page 2 of 3  
**OSC/TSC/EOF/JIC Quarterly Checklist**

4. Facsimile/Telecopiers

Fill paper trays and verify correct date and time is displayed

-EOF Outgoing	/
-EOF Incoming	/
-TSC	/
-JIC (See OPEP-02.6.29 for locations of the 4 fax machines)	/

5. Public Address/Intercom System

Verify operability including volume levels in each room. (Replace batteries, if necessary)

-EOF	/
-TSC	/
-OSC	/
-JIC	/

6. Communications Equipment

- Verify operability of automatic ring down phones

- ERM to SEC	/
- CM to CD	/
- SEC to Control Room	/
- Conduct quarterly test of Satellite Telephone	/
- Conduct test of state Environmental Monitoring Team remote radio in the EOF	/
- Conduct test of the Site Environmental Monitoring Team radio and cellular telephone in the EOF	/
- Conduct test of the phone line from the U1 & U2 Remote Shutdown Panels to the TSC	/

7. Equipment

-Check the material condition of all communications headsets	/
-Replace batteries in PI Specialist headsets (JIC)	/
-Check the material condition and readiness of all facility rooms	/
-Verify 10 copies of SPDS large sheets are available (TSC and EOF)	/

**NOTE:** Emergency lighting batteries have a 5-year expected lifetime. Replace with "Sure-Lite", Part #026-117-SP, from Cameron & Barkley.

**NOTE:** Communications headsets batteries should be changed out annually.

ATTACHMENT 3  
Page 3 of 3  
**OSC/TSC/EOF/JIC Quarterly Checklist**

8. Verify current authentication codes provided by the state are located with the Plant Emergency Procedures in the following facilities: \_\_\_\_\_ / \_\_\_\_\_
- EOF \_\_\_\_\_ / \_\_\_\_\_
- TSC \_\_\_\_\_ / \_\_\_\_\_
- Control Room \_\_\_\_\_ / \_\_\_\_\_
- Simulator Control Room \_\_\_\_\_ / \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The inventories listed above have been completed, discrepancies identified, and actions taken to resolve differences.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

ATTACHMENT 4  
Page 1 of 9  
**Miscellaneous Supplies Guide**  
**(TSC Room 143)**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
24	EXPO dry erase markers (various colors)		
12	Black "Flair Type" markers		
12	Red "Flair Type" markers		
15	Highlighters		
2	Staplers		
2 bx	Staples		
3	Staple Removers		
3 bx	Thumb tacks or push pins		
1	Tape dispenser		
4 rls	Transparent Tape		
1 rl	Masking tape		
1 rl	Duct tape		
2 bx	Small binder clips		
2 bx	Medium binder clips		
2 bx	Large binder clips		
2 bx	Regular paper clips		
1 bx	Rubber bands (Various sizes)		
1 pair	Scissors		
75	Black ballpoint pens		
1	Portable first aid kit		
2	Stenographer pads		
12	Lined pads		
10	Telephone message pads		

ATTACHMENT 4  
Page 2 of 9  
**Miscellaneous Supplies Guide**  
**(TSC Room 143)**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
100	Speed SNAP-A-WAY memos		
10	Logbooks		
5	CP&L telephone directories		
15	ROLM operating instructions		
5	Local telephone directories		
1 ream	Copier paper		
12	Flashlights with batteries		
24	D-cell batteries		
5	Radar lights with batteries		
5	Batteries for Radar lights		
8	AA batteries for microphones		

This inventory has been completed, discrepancies noted, and actions have been taken to restore acceptable quantity.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

ATTACHMENT 4  
Page 3 of 9  
**Miscellaneous Supplies Guide**  
(EOF Room 122)

Minimum Quantity	ITEM	Remarks	Verified (Initials)
24	EXPO dry erase markers (various colors)		
12	Black "Flair Type" markers		
12	Red "Flair Type" markers		
15	Highlighters		
2	Staplers		
2 bx	Staples		
3	Staple Removers		
3 bx	Thumb tacks or push pins		
1	Tape dispenser		
4 rls	Transparent Tape		
1 rl	Masking tape		
1 rl	Duct tape		
2 bx	Small binder clips		
2 bx	Medium binder clips		
2 bx	Large binder clips		
2 bx	Regular paper clips		
1 bx	Rubber bands (Various sizes)		
1 pair	Scissors		
75	Black ballpoint pens		
1	Portable first aid kit		
2	Stenographer pads		
12	Lined pads		
10	Telephone message pads		



ATTACHMENT 4  
Page 4 of 9  
**Miscellaneous Supplies Guide**  
**(EOF Room 122)**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
100	Speed SNAP-A-WAY memos		
10	Logbooks		
5	CP&L telephone directories		
15	ROLM operating instructions		
5	Local telephone directories		
1 ream	Copier paper		
12	Flashlights with batteries		
24	D-cell batteries		
5	Radar lights with batteries		
5	Batteries for Radar lights		
8	AA batteries for microphones		

This inventory has been completed, discrepancies noted, and actions have been taken to restore acceptable quantity.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

ATTACHMENT 4  
Page 5 of 9  
**Miscellaneous Supplies Guide**  
**(JIC Command Room)**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
24	EXPO dry erase markers (various colors)		
12	Black "Flair Type" markers		
12	Red "Flair Type" markers		
15	Highlighters		
2	Staplers		
2 bx	Staples		
3	Staple Removers		
2 bx	Thumb tacks or Push Pins		
1	Tape dispenser		
4 rls	Transparent Tape		
1 rl	Masking tape		
1 rl	Duct tape		
2 bx	Small binder clips		
2 bx	Medium binder clips		
2 bx	Large binder clips		
2 bx	Regular paper clips		
1 bx	Rubber bands (Various sizes)		
1 pair	Scissors		
36	Black pens		
1	Portable first aid kit		
12	Lined pads		
2	Telephone message pads		

ATTACHMENT 4  
Page 6 of 9  
**Miscellaneous Supplies Guide  
(JIC Command Room)**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
1 each ERO position	Logbooks		
4	CP&L Directory		
1	Local Directory		
5 reams	Copier paper		
12	AA batteries		
1 box	News release paper		
5 pks	Post-it Notes		

This inventory has been completed, discrepancies noted, and actions have been taken to restore acceptable quantity.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

ATTACHMENT 4  
Page 7 of 9  
**Miscellaneous Supplies Guide  
(OSC Locker)**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
1	Telephone monitor		
11	Rotm phones		
2	Pushbutton phones		
1	Dry erase marker cleaner solution		
1 box	Kim Wipes		
12	Note pads		
6	Logbooks		
6	CP&L Telephone Directories		
12	Pens		
12	Pencils		
1	Stapler		
1	Procedures - Set of Controlled PEPs		
2	Event Classification sign sets (UE, Alert, SAE, GE)		
2	No Eating/Drinking/Smoking signs		
24	Disposable shavers		
2 cans	Shaving cream		
1	Drop cord		
1	Multistrip		
6	Flashlights with batteries		
12	D-cell batteries		
2	Radar lights with batteries		
2	Batteries for Radar lights		

This inventory has been completed, discrepancies noted, and actions have been taken to restore acceptable quantity.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

ATTACHMENT 4  
Page 8 of 9  
**Miscellaneous Supplies Guide**  
**(JIC Odell Williamson Auditorium)**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
10	Media Handbooks		
1 box	Media Badges		
100	Public Information Brochures		
2	Clipboards		
24	Black Pens		
1 pair	Scissors		
12	Lined Pads		
1	Telephone Message Pad		
12	Dry Erase Markers (various colors)		
8	Highlighters		
2	Staplers		
2 bx	Staples		
2	Staple Removers		
1	Tape Dispenser		
2 rls	Transparent Tape		
1 rl	Duct Tape		
1 bx	Small Binder Clips		
1 bx	Medium Binder Clips		
2 bx	Regular Paper Clips		
1 bx	Rubber Bands		
2	CP&L Directory		
1	Local Directory		
2 reams	Copy Paper		

ATTACHMENT 4  
Page 9 of 9  
**Miscellaneous Supplies Guide**  
**(JIC Odell Williamson Auditorium)**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
2 pks	Post-it Notes		
1 each ERO position	Logbooks		
1	Event Classification Sign sets (UE, Alert, SAE, GE)		

This inventory has been completed, discrepancies noted, and actions have been taken to restore acceptable quantity.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

ATTACHMENT 5  
Page 1 of 1  
**BNP Fax Test Letter**

DATE \_\_\_\_\_

TO: Brunswick County Warning Point  
New Hanover County Warning Point  
N. C. State Warning Point (NC Highway Patrol Communications Center)  
Brunswick County EOC  
New Hanover County EOC  
NCEM Operations Center, Raleigh EOC  
Coast Guard Fort Macon Station EOC  
Coast Guard MSO, Wilmington EOC

FROM: CP&L Brunswick Nuclear Plant

This is a test of the BNP emergency facility telecopier function to off-site agencies. Upon receiving this message, please call \_\_\_\_\_ and leave a voice mail message confirming you received this fax.

Thank you

\_\_\_\_\_  
CP&L Brunswick Plant  
Emergency Preparedness Unit

ATTACHMENT 6

Page 1 of 2

**Dose Projection/Environmental Monitoring Cabinet Inventory List**

Minimum Quantity	ITEM	Remarks	Verified (Initials)
2	Staplers		
2	Staple Removers		
1 box	Staples		
1	Scientific Calculator		
1	Drawing Compass		
12	Pens		
12	Pencils		
4	Dry-Erase Markers		
4	Fine-line Markers		
1 ream	Copier Paper		
6	Lined Pads		
1 box	Carbon Paper		
3	Rulers (long/regular size)		
4 rolls	Transparent Tape		
1 box	Paper Clips		
6	Highlighters		
2	Flashlights		
4	D Cell batteries		
1	Extension Cord		
3	Multi-Outlet Strips		
2	Logbooks (Dose Proj. Coord/EMTL)		
1	Computer Mouse		
1	Computer Keyboard		
1	CPLDOSE Program Diskette		



## ATTACHMENT 6

Page 2 of 2

**Dose Projection/Environmental Monitoring Cabinet Inventory List**

<b>REFERENCE MATERIALS</b>	<b>Verified (Initials)</b>
Reg. Guide 1.109 (October 1977)	
Binder containing the following: *NUREG / CR-3011, "Dose Projection Considerations for Emergency Conditions at Nuclear Power Plants" (1983) *Stone and Webster Radiological Conseq. *NRC Accident Source Term	
Technical Basis for CPL Dose (March 1995)	
Meteorology and Atomic Energy (1968)	
Handbook of Health Physics and Radiological Health, Third Edition	
NUREG / CR-2298, USDOE, "Measurement of Release of Rad. Xenon, Krypton, and Iodine from UO <sub>2</sub> at Typical Light Water Reactor Conditions and Comparison with Release Models", November 1981	
Rad. Decay Data Tables (2 copies), 1981	
NUREG / CR-2260, NUS 3854, "Technical Basis for Reg. Guide 1.145, Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants", 1981	
NUREG / CR-2907, "Radioactive Materials Released from Nuclear Power Plants, Annual Report 1993"	
NUREG 0771, "Regulatory Impact of Nuclear Accident Source Term Assumptions" (1981)	
NTIS Workbook of Atmospheric Dispersion Estimates (1970)	
Manual of Protective Action Guides and Protective Actions for Nuclear Incidents - EPA (1992)	
NUREG / CR-1918-ORNL/NUREG-79, "Dose Rate Conversion Factors for External Exposure to Photons and Electrons (August 1981)	
Plant Emergency Procedures (PEPs)	

This inventory has been completed, discrepancies noted, and actions have been taken to restore acceptable quantity.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

ATTACHMENT 7

Page 1 of 1

**Selective Signaling Individual Location Telephone Numbers**

1. Warning Points (WPs)

Brunswick County	10-87
New Hanover County	10-89
State	10-86

2. Emergency Operations Centers (EOCs)

Brunswick County	10-95
New Hanover County	10-96
State Operations Center	10-93
Coast Guard MSO (Wilmington)	10-97
Coast Guard T. Macon	10-92

3. BNP Locations

Control Room	10-82
EOF	10-84
TSC	10-83
PBX Room (Rm 136)	10-85

4. Group Numbers

All Warning Points	10-22
All EOCs	10-33
All Warning Points & EOCs	10-44
All BNP Locations	10-55

# ATTACHMENT 8

Page 1 of 1

## Siren System Guidelines for Troubleshooting and Restoration

On receipt of various alarms, completion of repair work, or restoration to service for other reasons, the following should be used as a guideline for appropriate testing to determine if the siren is fully operable and available.

**NOTE:** The appropriate county Emergency Management Agency should be notified and give approval prior to any growl testing or daytime rotation testing.

Indication	Comments	Required Test
<b>Sensor Alarms</b>		
Master Current Sensor	Indicates the chopper motor has no power. The siren will not produce sound.	Growl Test
Master Current Sensor with False Activation	If these alarms occur together with no other indications of problems, the alarm is probably due to local electromagnetic interference (nearby radios, thunderstorms, etc.). No damage to the siren is likely to have occurred.	Interrogation (Silent Siren) Test
Rotation	This could indicate the siren did not rotate or it has a bad rotation sensor. Required testing following repair is the same in either case.	Rotation Test
Pressure	This alarm indicates the siren failed to produce sound or has a bad pressure sensor. Required testing following repair is the same in either case.	Growl Test
<b>Siren Alarms</b>		
Activation Failure	This alarm could indicate any of several problems from communications failure to equipment failures. Other alarms may indicate what caused the failure.	Growl Test Rotation Test
Partial Failure	This alarm will be associated with one or more of the Siren Sensor Alarms. Test as required by the Sensor Alarms.	Test for appropriate Sensor Alarms
False Activation	This alarm will be associated with one or more of the Siren Sensor Alarms. Test as required by the Sensor Alarms.	Test for appropriate Sensor Alarms
Intrusion	Indicates MOSCAD cabinet has been opened, usually for work on siren. <b>Note:</b> Unauthorized opening could be vandalism.	None
Site AC Voltage No damage to siren	Site power has failed. Power is lost due to a loss of power to the surrounding area with no reason to suspect damage to the siren.	Interrogation Test
Site AC Voltage with other Alarms	Site power has failed. Other parts of the system are indicating problems or power loss due to nearby lightening strike, high winds, or other severe weather.	Growl Test Rotation Test
<b>MOSCAD Alarms</b>		
RTU AC Voltage No other alarms	AC power to the MOSCAD cabinet has failed. No other damage to the siren is suspected.	Interrogation Test
RTU AC Voltage With other alarms	AC power to the MOSCAD cabinet has failed. Other alarms are present prior to power failure or do not clear after.	Growl Test Rotation Test
RTU Communication No other alarms	Communication between the Field Interrogation Unit (FIU) and the siren Remote Terminal Unit (RTU) has failed.	Interrogation Test
RTU Communication With other alarms	Communication between the Field Interrogation Unit (FIU) and the siren Remote Terminal Unit (RTU) has failed.	Test for appropriate Sensor or other alarm
RTU Battery	The MOSCAD Backup battery has failed. This battery does not affect operability as site AC power is required to activate the siren. The battery only maintains the MOSCAD components.	None required or, if desired, Interrogation Test

ATTACHMENT 9  
Page 1 of 2  
**JIC Telephone Operability Checklist**

Location (per OPEP-02.6.29)	Phone	Comments	Verified (Initial)
A. JIC Command Room			N/A
Table A	754-9741		
	754-9721		
	754-9742		
Table B	754-8766		
	754-8781		
	Polycom Speakerphone (Soundstation)		
Table C	754-8753		
Table D	754-9784		
	754-9795		
	754-9833		
	754-9730		
	754-9842		
	754-9778		
	754-8813		
	754-8785		
Table E	754-9765		
Table F	754-9949		
	754-9933		
	754-9912		
	754-9806		
	754-9827		
	754-9820		

ATTACHMENT 9  
Page 2 of 2  
**JIC Telephone Operability Checklist**

Location (per OPEP-02.6.29)	Phone	Comments	Verified (Initial)
Table G	754-8824		
Table H	754-9677		
	754-9667		
	754-9688		
	754-9668		
Table J	754-9664		
	754-9665		
	754-9661		
	754-9662		
Table K	754-8745		
	754-8720		
	754-8702		
	754-8707		
Cell Phones	619-0747		
	619-0745		
B. Odell Williamson Auditorium			N/A
	754-9966		
	754-8842		
	754-8854		
	754-8901		
	754-8911		
	754-9866		
	754-9994		

This operability checklist has been completed, discrepancies noted, and actions have been taken to restore acceptable quantity.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## REVISION SUMMARY

Removed the reference to "30" minimum staffing positions from the monthly pager test instructions. Minimum staffing requirements are specified in the activation procedure for each Emergency Response Facility.