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SOUTHERN COMPANY
Energy to Serve Your World℠

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

Joseph M. Farley Nuclear Plant
Emergency Implementing Procedure

Ladies and Gentlemen:

Enclosed is an uncontrolled copy of a recent revision to a Farley Emergency Implementation Procedure submitted per 10 CFR 50, App. E. As requested, references to telephone numbers have been removed from all uncontrolled copies.

There are no new NRC commitments generated by this correspondence. If you have questions, please advise.

Sincerely,

J. B. Beasley, Jr.

JBB/WHL/sdl

Enclosure: GO-EIP-137 (Rev. 6)

cc: Southern Nuclear Operating Company
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U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator 2 copies
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Mr. T. P. Johnson, Senior Resident Inspector – Farley

A045

ENCLOSURE

Uncontrolled Copy of
GO-EIP-137 (Rev. 6)

FARLEY NUCLEAR SUPPORT

ANS TESTING AND MAINTENANCE

GO-EIP-137

List of Effective Pages

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1 - 14	Rev. 6

Approved:

L. M. Stinson
Nuclear Support General Manager

02/25/03
Date Issued

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ANS TESTING AND MAINTENANCE

1.0 PURPOSE

The purpose of this procedure is to delineate the program to be utilized for ensuring Farley Nuclear Plant (FNP) Alert and Notification System (ANS) sirens and Tone Alert Radio system components are maintained in an operable condition.

2.0 SCOPE

This procedure applies to Information Resources personnel.

3.0 REFERENCES

3.1 Whelen Model WS-4000 Electronic Siren Warning System Instruction Manual

3.2 Whelen Model E-864/M Encoder Instruction Manual

3.3 Memorandum of Understanding Between Alabama Power Company/Southern Nuclear Company and Dothan/Houston County Emergency Management Agency regarding testing of Farley Nuclear Plant Notification System Sirens.

4.0 GENERAL

4.1 An Operational Silent Test will be conducted weekly by the Houston County Emergency Management Agency (HCEMA). An Operational Growl Test of the ANS will be conducted quarterly by the HCEMA and coordinated with the FNP EP Staff.. Silent tests will normally be conducted each Wednesday unless holidays or other business needs/concerns drive the test to an alternate date. Growl tests will normally be conducted on the first Wednesday of each quarter unless holidays or other business needs/concerns drive the test to an alternate date. Results of these tests will be included in NRC Performance Indicator data.

4.2 An Operational Growl or Full Cycle Test will normally be conducted by the HCEMA prior to preventive maintenance being performed on any siren. The Operational Test will consist of either a simultaneous growl or full cycle activation of all three sirens from Houston County. The Full Cycle siren activation will normally be performed on each siren semi-annually during the Spring and Fall quarters. Results of these tests will be included in NRC Performance Indicator data.

4.3 Quarterly preventive maintenance inspections of the ANS will be conducted by Information Resources personnel and documented using attached Figures.

5.0 PROCEDURES

5.1 Quarterly and Weekly Testing

5.1.1 Per the Siren Testing Memorandum of Understanding between APC/SNC and HCEMA, HCEMA shall conduct a "growl" test (or equivalent) on each siren at least quarterly. They shall also conduct a "silent" test of each siren at least every week. Records of all tests and their results will be maintained by HCEMA.

5.2 Preventative Maintenance

The procedures to be used by Information Resources personnel during preventative maintenance inspections are outlined below. Results should be documented using Figures 1 and 2.

CAUTION
Any action which will activate the sirens in the audible mode should be coordinated in advance with the OSS, HCEMA, and FNP EP Staff.

5.2.1 Perform a diagnostic Si Test and check AC, DC, partial, all, and rotor. Verify proper operation of the Houston County main and backup activation controllers.

5.2.2 Verify ANS radio receivers/transmitters for proper parameters to include:

5.2.2.1 Transmitter power/SWR

5.2.2.2 Receiver sensitivity

5.2.2.3 Audio levels

5.2.3 Perform tone generator manual operation test procedures as specified in the Whelen WS-4000 Electronic Siren Warning System Instruction Manual. Prior to performing this test disconnect the speaker drivers. The following functions should be checked: Si Test, Wail, Attack, Public Address, and 3-5 Minute Failsafe Timer. Activate each tone for a brief period (10-15 seconds). Upon completion, reconnect the speaker drivers.

5.2.4 Check the battery charger for proper charging current, charger drop out on PA, and charger drop out on Si Test. Perform a battery full load test using the test resistor bank.

5.2.5 For the batteries, check the standby voltage, load test, vent tubes (ensure they are clear), and clean and lubricate the terminals.

5.2.6 Perform a visual inspection of the speaker cluster, speaker cable, siren case assembly, antenna, batteries (battery "eyes" should be green), rotor assembly level, and inspect and lubricate rotor assembly gear train.

5.2.6.1 To check the rotor assembly level, make a visual inspection of the mounting pole to ensure that it is not leaning. The four mounting bolts on the rotor assembly can be adjusted if necessary to provide some leveling without readjusting the pole. If the leaning is significant, the pole may need to be straightened. The siren coverage range may be reduced if the rotor assembly is not level.

5.2.6.2 To inspect the rotor assembly gear train, open the cover on the rotor and check the gear train to see if it needs lubrication. If lubrication is required, use a water-repellent grease.

5.2.7 Annually inspect and lubricate the rotor assembly gear train.

5.2.8 For rotor control, check the siren mode oscillation; north, south, east and west index; clockwise 45° increment index; the counterclockwise 45° increment; and manual clockwise and counterclockwise positioning.

5.2.9 Perform full cycle activation; total run time should exceed 3 minutes. Record run time on Figure 1.

5.2.10 Perform a verification that the UPS devices installed at Houston County are functional:

5.2.10.1 Unplug the AC power to the console power supplies and verify UPS proper operation

5.2.10.2 Unplug AC feed to the UPS siren repeater radio at Houston County EMA and verify UPS proper operation.

5.2.11 Document any corrective maintenance performed and retest as required.

ANS SIREN SYSTEM QUARTERLY TEST

LOCATION

	1001 COLUMBIA	1002 ASHFORD	1003 GORDON
PRE-MAINTENANCE OPERATIONAL TEST			
SI Test Results			
Growl Test Results			
Full Cycle Minutes			

(Note: the full cycle test will normally be performed only in the Spring and Fall –see step 4.2)

VISUAL INSPECTION			
Speaker Cluster			
Speaker Cable			
Siren Case Assembly			
Antenna			
Batteries			
Rotor Assembly Level			
Rotor Assembly Gear Train and Lubrication			

RADIO RECEIVER/TRANSMITTER

	HC EOC	Columbia	Ashford	Gordon	Met Tower
Xmitter Pwr/SWR					
Recv Sensitivity					
Audio Levels					

TONE GENERATOR MANUAL OPERATION**

**(Disconnect speakers prior to performing this maintenance section.)

	COLUMBIA	ASHFORD	GORDON
Si Test			
Wail			
Attack			
Public Address			
3-5 Minute Failsafe Timer			

**Do not forget to reconnect the speakers upon completion.

BATTERY CHARGER

Proper Charging Current			
Charger drop out on PA			
Charger drop out on SI test			

DIAGNOSTIC SI TEST

AC			
DC			
Partial			
All			
Rotor			

BATTERIES	COLUMBIA	ASHFORD	GORDON
Stand by Voltage			
Load Test			
Vent Tubes Clear			
Terminals Clean			

ROTOR CONTROL			
Siren Mode Oscillation			
North Index			
South Index			
East Index			
West Index			
Increment CW 45° Index			
Increment CCW 45°			
Manual CW Positioning			
Manual CCW Positioning			

MAINTENANCE REMARKS

HOUSTON COUNTY
EOC _____

_____

_____

COLUMBIA _____

_____

_____

ASHFORD _____

_____

_____

GORDON _____

_____

_____

METEOROLOGICAL
TOWER _____

_____

_____

PERFORMED BY: _____ _____ _____

DATE: _____ _____ _____

Figure 2

WHELEN QUARTERLY MAINTENANCE CHECK LIST

Inspection Date:

1001 Columbia ____/____/____
1002 Ashford ____/____/____
1002 Gordon ____/____/____

	1001 Columbia		1002 Ashford		1003 Gordon		
	OK	NOT OK	OK	NOT OK	OK	NOT OK	Comment
PHYSICAL INSPECTION							
GENERAL							
1. Mounting Hardware - Observe the speaker cluster, speaker cable, siren case assembly and AC service for any signs of damage or loose mounting hardware.							
2. Conduit Connections - Check all conduit for watertight connection and entrance into siren case assembly.							
3. AC Service - Inspect AC service for damage, blown fuses, degraded (corroded) power connections and integrity of lightning arrestor.							
4. Proper Grounding - Inspect grounding system for AC service, case assembly and pole top equipment. Verify connections and acceptability of earth ground.							
5. Antenna - Observe antenna for damage and proper orientation							
6. Pole Condition - Observe pole installation for any shifting and/or leaning of unit. Units that are not plumb will not direct alerting sounds as intended.							
7. Station Security - Examine entire siren station for any signs of vandalism, forced entry, or vegetation over growth.							

	1001 Columbia		1002 Ashford		1003 Gordon		
	OK	NOT OK	OK	NOT OK	OK	NOT OK	Comment
SIREN CASE AND COMPONENTS							
8. Siren Case Assembly - Open siren case, interior modular panels and battery compartment. Inspect AC outlet, fuse and surge suppression equipment. Examine system for infiltration of foreign material, rodents or other pests.							
9. Penetration Inspection - Inspect and clean if necessary, all drain holes and vent screens.							
10. Batteries –							
• Observe battery terminal connections and clean if necessary. Reapply silicone coating to battery terminals if necessary.							
• Verify vent tubes clear							
• Observe battery voltage with siren in inactive state. (AC power must be on to system, otherwise system must be powered up to observe meter.) Record Standby Voltage							
11. Harness - Examine all wiring harnesses for chafing. Verify wiring terminations for tightness and wiring connections for proper electrical connection. Replace and correct any corroded or marginal connections. Check antenna for proper connection.							
SPEAKER CLUSTER & POLE TOP EQUIPMENT							
**************************************CAUTION************************************ Any examination of pole top equipment should be performed with siren station audibly disabled. ************************************CAUTION**************************************							
12. Foreign Material Inspection - Inspect speaker/driver assembly for blockage by rodents, pests or other foreign material. Clean if necessary.							
13. Harnesses - Observe any exposed wiring cables or harnesses for chafing.							

	1001 Columbia		1002 Ashford		1003 Gordon		
	OK	NOT OK	OK	NOT OK	OK	NOT OK	Comment
14. Penetration Inspection - Verify that the speaker/driver assembly will allow for drainage of water or moisture collection.							
15. Mounting Hardware - Verify tightness of all mounting hardware							
16. Termination/Connection Inspection - Check speaker/driver assembly wiring terminations and connections at the rotor.							
17. Rotor Lubrication - CONDUCTED ANNUALLY (3rd Quarter) - Verify lubrication of rotor gear train.							
STATION PERFORMANCE TESTING							
**************************************NOTE************************************** **The siren station may be tested on or off line. Off line testing of the system entails disconnecting the speaker drivers from the power amplifiers so as not to disturb the public when verifying tone generator operation. A complete test must, however, include the testing of speaker driver power amplifier operation. This may be accomplished inaudibly with Si-Test[tm]** **************************************NOTE**************************************							
18. Response to Station Address and All Call address programming - • Central Base Station reception and activation on Si-Test or non-tone activation, for individual station address and All Call address selection.							
19. Wail & Attack Activation - Activation of each remote station function, by local control and by remote control. With power amplifiers on or off line, as needed. An examination of each activation function will facilitate verification of related and subsequent system module activations and electrical connections that would be caused by an activation command. Also confirm function time outs.							
• Wail							
• Attack							
• Public Address							
• 3-5 Minute Failsafe							

	1001 Columbia		1002 Ashford		1003 Gordon		
	OK	NOT OK	OK	NOT OK	OK	NOT OK	Comment
**********NOTE********** **If Speaker Drivers were disconnected in the previous tests then they must be reconnected before proceeding with this test procedure** **********NOTE**********							
20. Public Address - With system on line							
• Activation of PA for both local and remote control							
• Verify PA Audio path and proper set up level of microphone volume.							
• Verify AC drop out on PA.							
21. Power Amplifiers							
• Inspect for complete operation with speaker drivers. (Observe LED's)							
Note: Verify AC drop out during silent testing mode. 22. Si-Test[tm] – Station Analysis - Observe and confirm proper diagnostic status of:							
• AC LED							
• DC LED							
• Partial Amplifier LED & Speaker Driver Operation (Disable 1 amplifier to confirm this test)							
• Full Amplifier LED & Speaker Driver Operation							
23. Battery Charger Operation							
• Observe for proper charging operation.							
• Verify AC drop out in PA mode.							
• Verify AC drop out in Si-Test mode.							
24. Batteries							
• Verify voltage stability under load.							
• Perform load test.							
25. Status Encoder							
• Perform a diagnostic Si-Test[tm] of remote station and compare status information with observations at station.							
• Disable 1 speaker and verify return status full indication is "off."							
• Disable AC and verify return status AC indication is "off."							
• Compare battery voltage return status with observed and measured battery voltage.							
26. Radio Receiver/Transmitter							
• Check status encoder DTMF tone level modulation with transmitter.							

	1001 Columbia		1002 Ashford		1003 Gordon		
	OK	NOT OK	OK	NOT OK	OK	NOT OK	Comment
• Check transmitter set up.							
• Verify power output and SWR.							
27. Rotor							
• Activate rotor by local CW or CCW control and observe ammeter. Ammeter should read approximately 3-5 amperes. Higher current indicates a binding of gear train with implied need for lubrication.							
• Exercise rotor through complete CW oscillation. Verify rotor stops at limit, requiring CCW push button to be depressed. Exercise rotor through complete CCW oscillation. Verify rotor stops at limit.							
• By remote control, index rotor to four main compass points, North, East, South and West. Verify proper operation.							
• By remote control, index rotor to CW 45° increment between main compass points. Verify proper operation.							
• By remote control, index rotor to CCW 45° increment between main compass points. Verify proper operation.							
**********NOTE********** **On concluding any examination of the siren station where connectors have been opened and closed, a final radio test by either a Si-Test[tm] or full power command should be performed and the results observed for a complete successful test. The PA audio path should also be audibly verified by sending PA and clearing system. (Listen for audible DTMF "clear" tones.)** **********NOTE**********							
28. During a quarterly maintenance, each base station encoder should be verified as to its operational set up with an FM test set.							

Additional Comments/Notes: