



Bentley K. Jones
Director, Nuclear Organizational
Effectiveness
Harris Nuclear Plant
5413 Shearon Harris Road
New Hill, NC 27562-9300

919.362.2305

DEC 13 2016

10 CFR 50.54(q)(5)

Serial: HNP-16-120

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

Shearon Harris Nuclear Power Plant, Unit 1
Docket No. 50-400/Renewed License No. NPF-63

Subject: Summary of 10 CFR 50.54(q) Evaluation

Ladies and Gentlemen:

As required by 10 CFR 50.54(q)(5), Duke Energy Progress, LLC, is providing a summary of a 10 CFR 50.54(q) evaluation. Enclosure 1 provides the summary of the associated 10 CFR 50.54(q) evaluation. Enclosure 2 contains a copy of the revised Emergency Plan implementing procedure.

This submittal contains no regulatory commitments. Please refer any questions regarding this submittal to Jeffrey Robertson, Manager, Regulatory Affairs, at (919) 362-3137.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bentley K. Jones', with a stylized flourish at the end.

Bentley K. Jones

Enclosures: 1 - Summary of 10 CFR 50.54(q) Evaluation
2 - Copy of Revised Emergency Plan Implementing Procedure

cc: C. Jones, NRC Senior Resident Inspector, HNP
M. Barillas, NRC Project Manager, HNP
C. Haney, NRC Regional Administrator, Region II

Harris Nuclear Plant
Summary of 10 CFR 50.54(q) Evaluation

EPM-400, Public Notification and Alerting System, was revised to incorporate changes that required evaluation by the 10 CFR 50.54(q) process. A list of the evaluated changes made by this revision is provided below.

Section(s)	Change Description
Step 5.1.3.3.a	Revised to delete the second sentence "The NC [North Carolina] Department of Emergency Management composes and provides the test message to the National Weather Service."
Step 5.1.3.3.b	Added new step stating, "Provide a test message for the National Weather Service to use for the test."
NOTE for Step 5.1.5.1.e (renumbered to Step 5.1.5.2)	Deleted "NOTE: The report provides listings in three categories: TAR [Tone Alert Radio] Customers Within Five Miles, Non-TAR Customers Within Five Miles, and TAR Customers Outside Five Miles."
Step 5.1.5.1.e.(1) (renumbered to Step 5.1.5.2.a)	Deleted last bullet "The number of customers in the review that is performed in close proximity to the annual test should be approximately the same as the number of customers provided in the annual battery replacement mailing list. This number might not be exactly the same, depending on when the mailing list was received and the latest update."
Step 5.1.5.3	Added new step "On a weekly basis, perform a review of new residential tone alert radio accounts from the Customer Information Management (CIM) System. The CIM is the database for tone alert radio accounts that is maintained by the Customer Service Center."

Section(s)	Change Description
Section 5.2.2	<p>Revised from:</p> <p>5.2.2 System Shutdown</p> <p>NOTE: The preferred method for shutting down and/or restarting the system is to do a controlled shutdown by shutting down all open applications and then restarting. This may not always be possible. For example, if the system “locks up”, then [then] the only option may be to power off then power on.</p> <ol style="list-style-type: none"> 1. Ensure operator is logged in with System Manager level password. 2. Press the “ESCAPE” button on the keyboard. 3. Minimize the screen to allow access to the Windows Task Bar at the bottom of the screen. 4. Close down the open applications and respond to the prompts. <ol style="list-style-type: none"> a. MODBUS b. InTouch Windows Viewer c. Microsoft Excel d. Any other open applications 5. Select START from the taskbar. 6. Select Log Off and then Log Off again. 7. Select Turn Off Computer. 8. Select the desired option - Stand By, Turn Off or Restart computer. <p>Revised to:</p> <p>5.2.2 System Shutdown/Restart</p> <p>NOTE: The preferred method for shutting down and/or restarting the system is to do a controlled shutdown as described below.. This may not always be possible. For example, if the system “locks up”, then the only option may be to power off then power on.</p> <ol style="list-style-type: none"> 1. Log on if not already logged on. 2. Press the ESC key to hide the Harris Plant title bar allowing you to the Close WindowViewer. 3. Close WindowViewer. 4. Select START on the task bar. 5. Select Log Off. 6. Click the icon in the bottom right of the screen. 7. Select the desired option to Shut Down or Restart computer (whichever you are trying to do).
Step 5.2.11.3.c and Step 5.2.11.4.c	<p>Revised from "...obtain approval signature." to "...obtain approval signature (SRO [Senior Reactor Operator] and Manager EP [Emergency Preparedness])."</p>

Section(s)	Change Description
Step 5.2.11.1.e	Revised from "...for solar powered sirens)" to "...for solar powered sirens C02, C04, C19, C28, W01, W04, W07, W17, W29 and W35)."
Step 5.2.13.1	Revised from "Greater than 16 of the 83 sirens (20% of system), OR All sirens in a single county" to "Siren loss impacts greater than 25% of EPZ [Emergency Planning Zone] population."
Step 5.2.13.2	Revised from "Once the number of out-of-service sirens exceeds sixteen (16) or all sirens in a single county, monitor siren status and inform the Control Room of any changes." to "Monitor siren status and inform the Control Room of any changes."
Step 5.2.13.3	Revised from "HNP [Harris Nuclear Plant] Emergency Preparedness will notify the appropriate County Emergency Management personnel if five (5) or more sirens in the county are to be out-of-service overnight. Once the county is notified of siren problems, monitor siren status and inform the county of any changes." to "HNP Emergency Preparedness will notify the appropriate County Emergency Management personnel if a siren(s) in the county are to be out-of-service for greater than one hour. Once the county is notified of siren problems, monitor siren status and inform the county of any changes."
Step 5.2.18.3.e	Revised from "If multiple sirens are involved, refer to PLP-717..." to "If siren loss impacts greater than 25% of EPZ population, refer to PLP-717..."
Step 5.2.18.3.f	Revised to delete "Selective Signaling System".
Step 5.2.21.2.c.(2)	Revised from "When initiating the CR [Condition Report] in Single Point Entry, select 'YES' when answering the prompt 'Does this condition represent a potential operability/reportability concern?'" to "When initiating the CR, select 'YES' when answering the prompt 'Is this a potential Operability / Reportability issue?'"
Attachment 2 and Attachment 6	Revised to add signature line for SRO approval.
Attachment 4	Revised to add, "(If performing for Post-Maintenance, then all checklist items may not be needed.)."
Throughout Document	Revised terms from "operable" to "functional", "operability" to "functionality", "inoperable" to "non-functional".

Description of Licensing Basis affected by the changes:

NUREG-1038, Safety Evaluation Report Related to the Operation of Shearon Harris Nuclear Power Plant, Units 1 and 2;

- Section 13.3.2.5, Notification Methods and Procedures
- Section 13.3.2.10, Protective Response

PLP-201, Emergency Plan, Revision 3

- Section 4.5.3, Public Alerting, Warning, and Notification

PLP-201, Emergency Plan, Revision 65

- Section 4.5.4, Public Alerting, Warning, and Notification

FEMA ANS Design Report

RIS 2005-02, Clarifying the Process for Making Emergency Plan Changes, Revision 1

Description of how the change to the Emergency Plan still complies with regulation:

Specifically, the changes made in EPM-400 Revision 21 do not change the design or operation of the siren system. The changes:

- added clarifying information to existing procedure steps,
- clarifies the term “operational” vs “functional” as it applies to the siren system,
- added a procedure step to perform a weekly review of the tone alert radio database, and
- revised the reporting criteria for siren system reportability from number of sirens to percentage of population affected in accordance with NEI 13-01.

The changes made in this revision continue to comply with:

10 CFR 50.47.b(5)

10 CFR 50, Appendix E Section IV.D.1

FEMA ANS [Alert and Notification System] Design Report

Description of why the proposed change was not a reduction in the effectiveness of the Emergency Plan:

The effectiveness of Emergency Plan functions are not adversely affected by these changes. The siren system and tone alert radio system will continue to be operated and tested as required to ensure that it remains ready to perform their function. No changes to responsibilities or the timeliness requirements are being made as a result of these changes.

Document Control Desk
Serial: HNP-16-120
Enclosure 2

Harris Nuclear Plant
Copy of Revised Emergency Plan Implementing Procedure

<u>Procedure Number</u>	<u>Title</u>	<u>Effective Date</u>
EPM-400, Revision 21 (67 pages total)	Public Notification and Alerting System	11/14/2016



**R
REFERENCE
USE**

HARRIS NUCLEAR PLANT

PLANT OPERATING MANUAL

VOLUME 2

PART 10

PROCEDURE TYPE: EMERGENCY PROGRAM MAINTENANCE

NUMBER: **EPM-400**

TITLE: **PUBLIC NOTIFICATION AND
ALERTING SYSTEM**

Table of Contents

<u>Section</u>	<u>Page</u>
1.0 PURPOSE	4
2.0 REFERENCES.....	4
3.0 DEFINITIONS	5
4.0 RESPONSIBILITIES	8
4.1. Tone Alert Radio Program	8
4.2. Siren System	9
5.0 PROCEDURE	11
5.1. Tone Alert Radios	11
5.1.1 Preparation of new Tone Alert Radios for Distribution	11
5.1.2 Distribution of Tone Alert Radios [R5]	11
5.1.3 Maintenance of Tone Alert Radios [R5]	12
5.1.4 Public Information on Tone Alert Radios [R2]	13
5.1.5 Tone Alert Radio Program Review	14
5.2. Siren System	15
5.2.1 System Startup	15
5.2.2 System Shutdown/Restart.....	15
5.2.3 System Logon	16
5.2.4 System Log Out	16
5.2.5 Configuring Users	17
5.2.6 Menu Bar Command Buttons	19
5.2.7 Interrogating Sirens.....	30
5.2.8 Routine Siren System Testing [R3].....	31
5.2.9 Non-Routine Testing of Sirens	34
5.2.10 Activation Reports and Alarm Logs	34
5.2.11 Testing Results and Documentation.....	35
5.2.12 Activation of Sirens During an Emergency	36
5.2.13 Out-Of-Service Sirens	37
5.2.14 Sirens Not Powered By Duke Energy.....	38
5.2.15 Corrective Maintenance Testing and Troubleshooting.....	38
5.2.16 Preventive Maintenance.....	38
5.2.17 Siren Response During Major Storms	39
5.2.18 Inadvertent Actuation of the Siren System.....	39
5.2.19 Siren Functionality.....	40
5.2.20 Public Information on Siren System [R2]	41
5.2.21 Documenting Siren System Trouble	42
6.0 DIAGRAMS/ATTACHMENTS	43
7.0 RECORDS	43
Attachment 1 – Siren System Guidelines for Alarm Response	44
Attachment 2 - Siren System Status Report Form	50
Attachment 3 – Silent Test Instructions	51
Attachment 4 – Growl Test Instructions	52

Table of Contents

<u>Section</u>	<u>Page</u>
Attachment 5 –Alert (Full Volume) Test Instructions.....	53
Attachment 6 – Siren System Maintenance Form.....	54
Attachment 7 – Preventive Maintenance Checklist.....	55
Attachment 8 – Preventive Maintenance Checklist Activity Criteria	57
Attachment 9 – Siren Feeders.....	59
Attachment 10 – Siren Locations.....	62
Attachment 11 – Inadvertent Actuation of the Siren System	65

1.0 PURPOSE

1. This procedure provides instructions for the administrative process to maintain the Tone Alert Radio Program.
2. This procedure provides instruction for the process for maintaining, scheduling, testing, documenting, and reporting the performance of the Harris Siren System.

2.0 REFERENCES

1. PLP-201, Emergency Plan
2. AP-617, Reportability Determination and Notification
3. **[R3]** NUREG-0654 FEMA-REP-1 Rev.1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Appendix 3, Means for Providing Prompt Alerting and Notification of Response Organizations and the Population
4. State of North Carolina Division of Emergency Management, North Carolina Emergency Response Plan
5. **[R5]** Emergency Preparedness Commitments for Shearon Harris Nuclear Power Plant identified in Atomic Safety and Licensing Board (ASLB) transcripts
6. AD-DC-ALL-0002, Records Management
7. Customer Service Online Manual – Tone Alert Radio – New Customer
8. Customer Service Online Manual – Tone Alert Radio Replacement
9. WPS-2900 Series High Power Voice & Siren System Operating and Trouble Shooting Manual (Whelen Engineering Company Inc., Form No. 13948)
10. WPS-2900 Series High Power Voice & Siren System Installation Manual (Whelen Engineering Company Inc., Form No. 13947)
11. Progress Energy Harris Plant Public Warning System Operator Guide (Integrated Telecommunications Systems & McCord Communications, February 13, 2007)
12. NGGM-IA-0036, Major Storm Siren Restoration Interface Agreement
13. DST-DEOC-00022 – Harris Tone Alert Radio Program

2.0 REFERENCES (continued)

14. Memorandum from Tony Pilo, May 4, 2004: Nuclear Regulatory Commission (NRC) Exit
15. Harris Nuclear Plant EPZ Siren Acoustic Study, Document Number 190-07-071204-01, Prepared by SAFER Services Corporation
16. Harris Nuclear Plant EPZ Siren Acoustic Study Addendum, Document Number 375-090603-090617-01, Prepared by SAFER Services Corporation
17. PLP-717, Equipment Important to Emergency Preparedness and ERO Response
18. CR 182074, Tone Alert Radio Database Discrepancies

3.0 DEFINITIONS

1. **Activation Point** – Any of eight locations with computers and associated FIU's and radios that can be used to control the siren system. The eight locations are:
 - HNP Emergency Operations Facility (EOF)
 - HNP Admin Building EP Work Area
 - Chatham County EOC
 - Harnett County Warning Point
 - Lee County Warning Point
 - Wake County Warning Point
 - Wake County EOC
 - Wake County Alternate EOC (also known as the Alternate Warning Point)
2. **Alert** - Activation initiated from any activation point resulting in a 3 minute full volume audible steady tone (Civil Defense alert) activation of selected siren(s). Can be initiated for all or any combination of sirens from an activation point. The ability to activate different combinations of sirens is dependent on the access level for each individual activation point. Alert tones can also be initiated locally at individual siren sites, but must be manually stopped when started this way.
3. **Annual Maintenance** - Annual maintenance includes, but is not limited to, a visual inspection of the siren and components, verification of MOSCAD component and radio operability, radio antenna reflectivity, performance testing of siren components, and battery condition checks.
4. **HNP Siren System** - The Harris Nuclear Plant Alert and Notification System consists of eighty three (83) Whelen 2900 series omni directional sirens controlled by a radio based MOSCAD communications system.

3.0 DEFINITIONS (continued)

5. **Central Processing Unit (CPU)** - Computer module in RTUs and FIUs used to execute MOSCAD system programming and commands.
6. **Field Interface Unit (FIU)** - Device used as the information focal point for the siren control system. Coordinates activities between RTUs and other FIUs.
7. **Full Volume Test** – Activation initiated from an activation point resulting in an Alert activation of a siren or sirens. The annual full volume test will test all of the sirens.
8. **Growl** - Activation initiated from any activation point resulting in a 5 second audible activation of selected siren(s). A growl sequence actually begins with a 20 second silent test prior to the audible tone making the total time for the growl sequence around 25 seconds.
9. **Growl Test** - Activation initiated from an activation point resulting in a short duration activation of a siren or sirens.
10. **Interrogation** – Communications test initiated from an activation point to and from each siren to ensure operability or communications.
11. **Menu Bar** – Taskbar at bottom of screen showing seven siren system functions:
 - **Map** – Displays the Map window, which contains a general alarm status for all sites in the system.
 - **Command** – Displays the command screen used to control the sirens.
 - **Status** – Displays the Status screen that shows the individual alarm points for each siren in the system.
 - **AlarmSum** – Displays the Alarm Summary Screen, containing all the individual alarm points for each siren in the system.
 - **Interrogate** – Displays a window containing buttons to interrogate one siren site or a group of sites.
 - **Help** – Displays help information for the current window being displayed.
 - **Operator** – Displays the operator window which allows an operator to log in and out of the system. When logged on with the appropriate access level other screens can also be accessed from this window.

3.0 DEFINITIONS (continued)

12. **MOSCAD - MO**torola **SCADa**. SCADA system developed by Motorola.
13. **Remote Terminal Unit (RTU)** - Interface unit at each siren site used to receive commands from the MOSCAD system and report siren status information to system.
14. **SCADA - Supervisory Control And Data Acquisition**. Computer based system for gathering and analyzing real time data. SCADA systems are used to monitor and control a plant or individual pieces of equipment.
15. **Silent Test** – Activation initiated from an activation point resulting in an inaudible activation of a siren or multiple sirens. Silent testing of the entire siren system is performed weekly (bi-weekly for Alert and Notification System Key Performance Indicator reporting purposes) and on individual sirens for troubleshooting and repair. Silent testing can also be used to indicate operability of sirens.
16. **Tone Alert Radio (TAR)** – weather radio receiver utilized to notify residents within the 5-mile radius of the Harris Nuclear Plant in the unlikely event of an emergency.
17. **Zone** - Area in each county in which sirens are located.

4.0 RESPONSIBILITIES

4.1. Tone Alert Radio Program

1. HNP Emergency Preparedness is responsible for: **[R5]**
 - a. Maintaining a continuing program of public information for the households within the 5-mile radius to familiarize them with the radios and their purpose, including but not limited to:
 - (1) Development and distribution of annual public information documents (such as the Harris View).
 - (2) Ensuring the annual battery mailing and operational pamphlet mailing are accomplished.
 - b. Coordinating the Annual Tone Alert Radio test.
 - c. Reviewing the Tone Alert Radio test and survey results to ensure that radio operability is sufficient to support the Emergency Plan.
 - d. Ensuring the actions required to correct conditions or discrepancies for the Tone Alert Radio Program are performed.
 - e. Ensuring the Tone Alert Radio records are properly maintained.
2. HNP Site Communications is responsible for:
 - a. Reviewing annual public information documents pertaining to the Tone Alert Radio Program.
 - b. Preparing/publishing the Harris View as it pertains to the Radio Program.
 - c. Preparing news release prior to the annual test and distributing to the local news media.
 - d. Periodically updating the operational pamphlet.
3. Duke Energy service personnel are responsible for:
 - a. Preparing Tone Alert Radios for distribution.
 - b. Distributing Tone Alert Radios to "sleeping households" within the 5-mile radius of the Harris Nuclear Plant.
 - c. Maintaining Tone Alert Radios.

4.1 Tone Alert Radio Program (continued)

4. Duke Energy Garner Warehouse personnel are responsible for ordering, receiving and testing of Tone Alert Radios.
5. Duke Energy Customer Service Center (CSC) personnel are responsible for:
 - a. Identifying new residences within 5-mile radius to receive a Tone Alert Radio and generating work requests for radio delivery.
 - b. Maintaining customer records.
 - c. Identifying customers with inoperable radios; generating a work request for delivery of replacement radio.
6. The North Carolina Department of Emergency Management reviews the annual test message and provides the test message to the National Weather Service pursuant to their applicable procedures.

4.2. Siren System

1. HNP Emergency Preparedness is responsible for:
 - a. Maintaining a continuing program of public information for residents and businesses within the 10-mile radius to familiarize them with the siren system and its purpose, including but not limited to, publication of annual public information documents. **[R5]**
 - b. Scheduling/performing siren system testing and coordinating maintenance.
 - c. Performing and documenting the bi-weekly silent and quarterly growl tests.
 - d. Reviewing the siren system testing and maintenance records to ensure that siren operability is sufficient to support the Emergency Plan and that actions for out-of-service conditions were taken.
 - e. Coordinating the annual full volume siren system test.
 - f. Ensuring the documentation and issuance of a report to FEMA on the annual siren operability results.
 - g. Ensuring the Siren System records are maintained as vital records and transmitted per AD-DC-ALL-0002. Refer to section 7.0 for record requirements.

4.2 Siren System (continued)

- h. Providing data for the Alert and Notification System Reliability KPI. The KPI data should include a notation if changes are made to the activation and/or testing methodology for the siren system. The changes will be effective on the first day of the next reporting quarter.
 - i. Initiating work tickets and CRs for siren system failures (See 5.2.21).
- 2. HNP Site Communications is responsible for:
 - a. Reviewing annual public information documents pertaining to the Siren System.
 - b. Preparing and publishing the Harris View as it pertains to the Siren System.
 - c. Preparing news release prior to the annual test and quarterly growl tests and distributing to the local news media.
- 3. HNP Control Room personnel are responsible for review of PLP-717 to determine if NRC notification for a loss of offsite sirens per AP-617 is required.
- 4. North Central Transmission Area Maintenance (NCTA) or contractor responsible for maintenance is responsible for:
 - a. Assisting with siren maintenance when the work requires the use of a bucket truck.
 - b. Performing non-routine testing, when conditions warrant.
- 5. Telecommunications is responsible for performing maintenance and testing, when conditions warrant. Assistance from NCTA may be required if needed to support work at the top of the pole.
- 6. The North Carolina Department of Emergency Management and the 10-mile EPZ counties (Chatham, Harnett, Lee and Wake) are responsible for the actual activation/ monitoring and several aspects of the annual siren test pursuant to their respective procedures.

5.0 PROCEDURE

5.1. Tone Alert Radios

5.1.1 Preparation of new Tone Alert Radios for Distribution

1. Ensure that new Tone Alert Radios are capable of receiving signals from three (3) National Weather Service (NWS) frequencies: **[R5]**
 - 162.550 MHz
 - 162.475 MHz
 - 162.400 MHz
2. Ensure when an order of Tone Alert Radios arrive at the Garner Warehouse they are checked for operation prior to issuance.
3. Ensure instructional stickers are attached to the radio which contain the following information:
 - a. Radio placement in the home.
 - b. Keep receiver plugged in and batteries charged.
 - c. Select the proper frequency for the area.
 - d. Contact number for problems or questions.
4. Issue the Tone Alert Radios to Duke Energy service personnel as needed.

5.1.2 Distribution of Tone Alert Radios [R5]

1. The Duke Energy representative distributing Tone Alert Radios shall be familiar with Tone Alert Radio Program and the operation of the radios.
2. Once a service address is determined to be within the 5-mile radius, a Duke Energy representative will distribute a Tone Alert Radio package when connecting new customers. The package will include the following:
 - a. Tone alert weather radio.
 - b. Batteries for the radio.
 - c. Operational pamphlet on Tone Alert Radios.

5.1.3 Maintenance of Tone Alert Radios [R5]

1. Duke Energy's Customer Service Center will initiate and maintain records for customer issued Tone Alert Radios which includes:
 - a. The name and address to which the radios were distributed.
 - b. The date of the last battery issuance.
 - c. Total number of batteries issued.
2. If a call is received from a customer within the 5-mile radius reporting a problem with a Tone Alert Radio, the Customer Service Center will perform the following:
 - a. Record the customer's name, service address, and phone number.
 - b. Explain to the customer that a replacement Tone Alert Radio will be delivered promptly and that the customer will be notified by telephone from the dispatchers office if an emergency occurs at the Harris Plant prior to the delivery of the new Tone Alert Radio.
 - c. Issue a request to Distribution Engineering & Operations Department and/or the appropriate Operations Center to deliver a replacement for the defective Tone Alert Radio to the customer within a 2 hour time frame.
3. Annual Testing of Tone Alert Radios
 - a. Coordinate an announced annual test of the Tone Alert Radios with the National Weather Service, the four counties and the State.
 - b. Provide a test message for the National Weather Service to use for the test.
 - c. Ensure HNP Site Communications prepares a news release prior to the annual test and distributes the news release to the local news media.
 - d. Arrange for a random survey conducted by an independent contractor immediately following the test to determine the operability percentages. **[R5]**
 - (1) Ensure residents not having telephones are factored in and those individuals will be contacted through a written survey which is mailed to them.
 - (2) The results of the survey provide indication of public acceptance of the Tone Alert Radio Program. Duke Energy commits to maintain operable, at a minimum, 66% of the receivers.
 - (3) Documentation of the test results should include the following:
 - (4) An analysis of the data to determine the operability percentage. The analysis should account for all individuals surveyed.
 - (5) An explanation of how the results were determined.

5.1.4 Public Information on Tone Alert Radios [R2]

1. Public information for Tone Alert Radio use will be included in the Safety Information Brochure, distributed periodically in the Harris View, the Student Safety Information brochure, and the operational radio pamphlet for Tone Alert Radios.
 - a. Annual distribution of the operational pamphlet will include the following information:
 - (1) The purpose of the radios.
 - (2) Operation.
 - (3) Placement in the home.
 - (4) How to request repairs.
 - b. The annual battery mailing to each residence shall include the following:
 - (1) A replacement battery.
 - (2) Instructions about replacing the battery.
 - (3) Operational pamphlets.
 - (4) A letter to the resident announcing the annual test.

5.1.5 Tone Alert Radio Program Review

1. On an annual basis: **[R5]**
 - a. The EP Unit will review Customer Service Center procedures or practices in identifying the need to distribute and maintain records of radios.
 - b. The EP Unit will review the method of Tone Alert Radio distribution to ensure it meets the guidelines of Section 5.1.2.
 - c. The EP Unit will confirm service personnel are properly trained to distribute radios. Ensure the training includes instruction which explains the operation of the radio, including that it is capable of receiving weather alerts.
 - d. The EP Unit will review the customer phone number list. The list will be reviewed in conjunction with the annual test. The random phone survey performed after the test will provide this review.
2. On a quarterly basis, the EP Unit will ensure records are maintained for customers identified as having received Tone Alert Radios to ensure it meets the guidelines in Section 5.1.3:
 - a. The Customer Service Center will provide a Customer Information Management Harris Tone Alert Radio Receiver Report.

The review should include:

 - Battery issue dates are current (date is greater than or equal to the annual battery replacement date) and the number of batteries issued matches the number of radios.
 - Each address in the sections titled “TAR Customers Within Five Miles” and “TAR Customers Outside Five Miles” should have an issue date for at least one radio and one battery.
 - Each address in the sections titled “Non-TAR Customers Within Five Miles” should not have dates for radio or battery issuance.
3. On a weekly basis, perform a review of new residential tone alert radio accounts from the Customer Information Management (CIM) System. The CIM is the database for tone alert radio accounts that is maintained by the Customer Service Center. (CR 182074)

5.2. Siren System

1. The HNP siren system consists of 83 Whelen 2900 series omni directional sirens mounted on wood poles (forty 8-cell sirens and forty-three 10-cell sirens). Of the 83 sirens, 10 are solar powered and the remaining 73 are AC powered. All of the sirens have a battery back-up.
2. The 10 solar powered sirens are – C02, C04, C19, C28, W01, W04, W07, W17, W29 and W35. Solar sirens W04, W17 and W29 have three solar panels each and the remaining solar sirens have one solar panel each.
3. In addition, each solar powered siren has a dual AC/Solar charger to allow for conversion to AC power if this becomes necessary in the future.
4. The system is controlled via activation points consisting of a computer, monitor, printer and a MOSCAD. There are eight activation points: HNP Admin Building EP work area, HNP EOF, Wake County EOC, Wake County Warning Point, Wake County Alternate Warning Point, Harnett County Warning Point, Chatham County EOC, and Lee County Warning Point.

5.2.1 System Startup

1. Turn on, or verify on, the computer, monitor, and printer.
2. On completion of startup the screen will display “**NO OPERATOR LOGGED IN !!! PLEASE LOG IN !!!**” Go to section 5.2.3 for login instructions.

5.2.2 System Shutdown/Restart

NOTE: The preferred method for shutting down and/or restarting the system is to do a controlled shutdown as described below.. This may not always be possible. For example, if the system “locks up”, then the only option may be to power off then power on.

1. Log on if not already logged on.
2. Press the ESC key to hide the Harris Plant title bar allowing you to the Close WindowViewer.
3. Close WindowViewer.

5.2.2 System Shutdown/Restart (continued)

4. Select **START** on the task bar.
5. Select **Log Off**.
6. Click the icon in the bottom right of the screen.
7. Select the desired option to Shut Down or Restart computer (whichever you are trying to do).

5.2.3 System Logon

CAUTION

An activation point should not be left unattended while logged on with a user that allows siren activations.

1. Select **OPERATOR** from the menubar.
2. Select **LOG IN** from the Operator window.
3. Enter user name and select **OK** or press **ENTER**.
4. Enter password and select **OK** or press **ENTER**.
5. User name and access level will appear on the right side of the Operator button.

5.2.4 System Log Out

NOTE: If a new user logs in while another user is logged in, the previous user is automatically logged out.

1. Select **OPERATOR** from the menu bar.
2. Select **LOG OUT** from the Operator window **OR** log in as a different user.

5.2.5 Configuring Users

NOTE: User configuration may only be created or edited by persons with System Manager status in the system (access level 9999).

1. Creating a New User
 - a. While logged on, press the **ESC** key.
 - b. In the top left corner of the screen Select **SPECIAL > SECURITY > CONFIGURE USERS**. The Configure Users Window will open.
 - c. Delete the name seen in the **USER NAME** field.
 - d. Enter the new user name.
 - e. Delete the password seen in the **PASSWORD** field.
 - f. Enter the new password.
 - g. Delete the number in the **ACCESS LEVEL** field.
 - h. Enter the desired access level from the following table:

Access Level	Title	Description	Special Access
9999	System Manager	Highest security access level. Provides the operator with access to all of the functionality provided within this application including but not limited to viewing all of the screens, acknowledging alarms, and activating the sirens.	Siren Command Logger Screen System Manager Screen Windows XP or Window 7 Environment Configure Users <Alt> key enabled <Ctrl-Esc> enabled <Windows> key enabled
6000	Operator Access	Operator can view most screens, acknowledge alarms, and activate sirens.	Siren Command Logger Screen
1000	View Only	Operator can only view most screens and acknowledge alarms, but cannot activate sirens.	None
0	No Operator	User is locked on the No Operator Logged In screen and has no additional navigation privileges.	None

- i. Select **ADD**

5.2.5 Configuring Users (continued)

2. Modifying Existing User Information
 - a. While logged on, press the **ESC** key.
 - b. In the top left corner of the screen Select **SPECIAL > SECURITY > CONFIGURE USERS**. The Configure Users Window will open.
 - c. Select the user name from the **USER NAME** list.
 - d. Modify the password and/or access level as desired.
 - e. Select **UPDATE**
3. Deleting an Existing User

CAUTION

NEVER delete all system managers (system level 9999) from the user list. No one will be able to configure users or have full access to the system if this is done.

- a. While logged on, press the **ESC** key.
- b. In the top left corner of the screen Select **SPECIAL > SECURITY > CONFIGURE USERS**. The Configure Users Window will open.
- c. Select the user to be deleted from the **USER NAME** list.
- d. Select **DELETE**.

5.2.6 Menu Bar Command Buttons

This section describes the menu bar buttons and their functions. The menu bar is located on the bottom left of the screen. There are six buttons on the menu bar: Map, Command, Status, AlarmSum, Interrogate and Operator. The function of each is described in the following sections.

1. Map

The MAP button displays the 10 mile EPZ map of the siren system. The general location of each siren is displayed as an icon with the siren number in the center. The pink ring around each siren is the estimated 70 dB audio coverage for that siren. The dotted line is the 60 dB audio coverage.

- a. The following color coding information is displayed on each siren icon and can also be referenced on the map by selecting the **LEGEND** button:
 - (1) **SOLID GRAY** ring – Site is not active
 - (2) **SOLID GREEN** ring – Siren Site status Normal/Acknowledged
 - (3) **SOLID RED** ring – Siren Site status Alarm/Acknowledged
 - (4) **BLINKING RED/YELLOW** ring – Siren Site status Alarm/Unacknowledged
 - (5) **BLINKING GREEN/YELLOW** ring – Siren Site status normal/Unacknowledged (i.e. status reported is an alarm, but returned to normal prior to acknowledge)
- b. The **Siren Locator** on the Map screen can be used to locate a single siren on the map. Simply click on the “**Show Site 00**” button, enter the desired siren number and click OK or Enter. This input supports numbers 1-83, C01-C16, C18 – C31, H01-H10, L01-L08, and W01-W35. Click “**Show All**” to show all of the sirens.
- c. The Map screen also provides the operator with access to the **Site List** pop-up window for further location descriptions for each site. The operator can scroll up and down through the list of sites. To assist the operator in finding a particular site, the operator may click on the **GO TO SITE...** button and enter the site number to be found. This input supports numbers 1-83, C01-C16, C18 – C31, H01-H10, L01-L08, and W01-W35.
- d. The Map screen also shows activation status from each of the eight (8) Siren Central Computers as well. That is, activation status from any of the Siren Central Computers will appear on the Map screen letting the operator know something is going on at one of the other facilities.

5.2.6 Menu Bar Command Buttons (continued)

2. Command

The Command button provides access to the different screens for activating the sirens.

- a. The different Command screens are accessed by first clicking the **Command** button on the Menu Bar and then clicking the **INDIVIDUAL SITES IN ZONE** or the **ZONE ACTIVATION** button in order to view the appropriate screen to activate the siren or sirens.
- b. **INDIVIDUAL SITES IN ZONE** – brings up the Command Screen for individual counties. From this screen, the operator can activate individual sirens, multiple sirens or all sirens in the selected county.
 - (1) **Clear Select** – Clears previously selected sirens and commands before activation. As a good precaution, this should be selected prior to selecting sirens to be tested.
 - (2) **ALL (county name)** – Selects all of the sirens in the county.
 - (3) **ALERT** – Results in a 3 minute full volume activation of the selected siren(s).
 - (4) **GROWL** – Results in a 5 second full volume activation of the selected siren(s) following a 20 second silent test.
 - (5) **SILENT TEST** – Results in a 20 second inaudible activation of the selected siren(s).
 - (6) **START** – Sends the selected command to the selected siren(s).
 - (7) **STOP** – Sends a stop command to all sirens.
 - (8) **Training Toggle** – Initiates a training session. This button puts the system into training mode. An identical command screen is shown. The operator can select sites and command, but none of the actions are transmitted to the sites.

5.2.6 Menu Bar Command Buttons (continued)

- c. ZONE ACTIVATION – brings up the Command Screen for all zones. From this screen, the operator can activate sirens in an entire county, combination of counties, or all counties. Individual siren sites cannot be activated from this screen.
- (1) **Clear Select** – Clears previously selected sirens and commands before activation. As a good precaution, this should be selected prior to selecting sirens to be tested.
 - (2) **ALL SITES** – Selects all of the sirens in the system.
 - (3) **Individual County** – Selects all of the sirens in the county or counties.
 - (4) **ALERT** – Results in a 3 minute full volume activation of the selected siren(s).
 - (5) **GROWL** – Results in a 5 second full volume activation of the selected siren(s) following a 20 second silent test.
 - (6) **SILENT TEST** – Results in a 20 second inaudible activation of the selected siren(s).
 - (7) **START** – Sends the selected command to the selected siren(s).
 - (8) **STOP** – Sends a stop command to all sirens.
 - (9) **Training Toggle** – Initiates a training session. This button puts the system into training mode. An identical command screen is shown. The operator can select sites and command, but none of the actions are transmitted to the sites.

5.2.6 Menu Bar Command Buttons (continued)

3. Status

The **Status** button provides access to the different screens for determining the status of the sirens, FIUs and repeaters. Clicking the **Status** button brings up the STATUS SCREEN SELECT screen.

- a. The ZONE SELECT screen shows the general status of the four (4) siren zones – Chatham County, Harnett County, Lee County, and Wake County. The text color on the county button indicates the status:
 - (1) **Solid black** text - the associated zone has no current alarms and no status remaining to be acknowledged.
 - (2) **Solid red** text - alarms are present but each has previously been acknowledged.
 - (3) **Blinking red/yellow** text - new alarm is present within the zone.
 - (4) **Blinking black/yellow** text - an alarm has been reported but returned to normal prior to being acknowledged.
- b. Clicking on one of the county buttons in the ZONE SELECT box brings up the STATUS SCREEN for the selected county.

The siren status information contains a combination of status and alarms for each of the sirens in the system. The status is color-coded for easy operator identification purposes.

- (1) **Blinking Red/Yellow** - the alarm is still present.
 - (2) **Blinking Green/Yellow** - the alarm was there but has been resolved.
- c. Clicking on any of the buttons in the FIU Status box brings up the FIU Status/Repeater Status screen.
- d. FIU Status Screen

The FIU status is color-coded for easy operator identification purposes:

- (1) **Blinking Red/Yellow** - the alarm is still present.
- (2) **Blinking Green/Yellow** – the alarm was there but has been resolved.

5.2.6 Menu Bar Command Buttons (continued)

e. Other information on the screen:

- (1) **Remote FIU Acknowledge Enabled** - allows the system to provide remote acknowledging capabilities. That is, when an operator acknowledges an alarm on one Siren Central Computer, the alarm is also acknowledged on all of the other Siren Central Computers without any further operator intervention on those computers. A System Manager has the ability to toggle this feature on/off from this screen. The default setting is to allow this remote acknowledging.
- (2) **Auto Computer Time Sync (5:00am)** - is a feature that maintains time synchronization throughout the system. With this feature enabled, the Siren Central Computer will automatically synchronize the co-located MOSCAD FIU clock with the computer clock at 5:00am. With this feature enabled, the System Manager needs only to maintain the clock in this computer in order to keep the rest of the system synchronized*. By default, only the Primary Siren Central Computer at the HNP EOF will have this feature enabled.
- (3) **FIU Transmit 'OK' Interval** - is the amount of time between automatic FIU-to-FIU "heartbeat" checks. The default is 20 minutes which generates a "MOSCAD Comm." fail after 25 minutes of not communicating with one of the other FIUs. A System Manager can adjust this timing knowing that any change made to this parameter will automatically be sent to the other FIUs as it is important for all the FIUs to have the same expected timing for communication.
- (4) The specific county number of sites is displayed as information only (no operator entry).

f. Repeater Status Screen

The Repeater Status is color-coded for easy operator identification purposes:

- (1) **Blinking Red/Yellow** - the alarm is still present.
- (2) **Blinking Green/Yellow** – the alarm was there but has been resolved.

5.2.6 Menu Bar Command Buttons (continued)

- g. Due to the importance of the proper operation of the repeaters, the system monitors the status of the repeaters very closely. The following attributes are associated with individual Repeater status:

MOSCAD Comm.	Indicates the status of the radio communication link between each of the MOSCAD FIUs (FAIL/Normal). The MOSCAD CPU gives the user the ability to switch repeaters, not communicate with sirens.
MOSCAD AC Voltage	Indicates the status of the AC input voltage feeding the MOSCAD power supply (ALARM/Normal).
Repeater On/Off	Indicates the current state of the Repeater (ON/OFF).
General Repeater Alarm	Indicates the current hardware status of the Repeater (FAIL/Normal).
Repeater Fail to Switch	Indicates the Repeater failed to confirm previously requested switch (FAIL/Normal).
Repeater Comm Switch	Indicates the repeater required a switch due to consecutive remote site communication failures (ALARM/Normal).
Repeater Control	Used for manually switching repeaters.
NO Repeater Alarm	Indicates both repeaters are OFF inhibiting proper system-wide radio communication (ALARM/Normal).
Multi-Repeater Alarm	Indicates both repeaters are ON inhibiting proper system-wide radio communication (ALARM/Normal).
Manual Repeater Switch	Used for manually switching repeaters.
Repeater Auto Switch Time	The repeaters can be configured to “switch” (i.e. toggled between active/inactive) automatically based on the Rptr Auto Switch Time .
Comm Fail Auto Switch	Used to automatically switch based on consecutive communication failures which may indicate a failure in the Active Repeater.
Repeater Request	Indicates pending requests to change the active repeater.
Active Repeater	Denotes which repeater is currently active.

5.2.6 Menu Bar Command Buttons (continued)

4. AlarmSum

Clicking the **AlarmSum** button displays the Alarm Summary/Event History screen. The current status will be displayed. Selecting the HISTORY button will display up to 2500 lines of system activities in chronological order including operator initiated commands and incoming information. The information is cleared out based on First in – First out (FIFO) methodology.

- a. Various filters are available using the buttons on the right hand side of the display. These buttons allow the operator to sort the data.
- b. The column headers are defined as follows:
 - (1) Time – The Time column contains the date and time stamp of the particular event. It is displayed in MM/DD/YY HH:MM:SS format.
 - (2) TYPE – The Type column indicates how the data appeared in the display.
 - (a) DSC indicates a discrete (i.e. two-state input) alarm has been reported as an alarm, return to normal, or has been acknowledged.
 - (b) DDE indicates event information has been reported in.
 - (c) SYSTEM indicates a system level status has changed (e.g. operator log-in, access level change).
 - (d) OPR indicates an operator initiated change (e.g. Daily Auto Time Sync from PC).
 - (3) Priority– Indicates the priority assigned to the event.
 - (4) Tag Comment – The Tag Comment column provides the description of the alarm/event.

5.2.6 Menu Bar Command Buttons (continued)

- (5) Value – The Value column indicates the current state of the alarm/event.
 - (a) FAIL – Test or activation failure.
 - (b) NORMAL – Event status returned to normal.
 - (c) ALARM – Event caused an alarm condition.
 - (d) ON – Activation sequence or test is in progress.
 - (e) COMPLETE – Activation sequence or test is complete.
 - (f) STOP – Activation sequence or test has been stopped.
 - (g) INTRUSUION – Intrusion alarm.
- (6) State – The State column indicates the alarm state. There are four (4) possible states:
 - (a) UNACK indicates a new alarm that has not yet been acknowledged
 - (b) ACK indicates an alarm has been acknowledged
 - (c) ACK_RTN indicates an alarm that has returned to normal and has been acknowledged
 - (d) UNACK_RTN indicates an alarm that has returned to normal without being acknowledged.
 - (e) Blue – Represent events (e.g. operator log-ins, siren activation status, etc.).

5.2.6 Menu Bar Command Buttons (continued)

5. Interrogate

Clicking the Interrogate button displays the interrogation screen.

This screen displays all of the sirens and zones. Each site is assigned with its own button including the siren number (Letter-2 digit number format) and MOSCAD Site ID (3 digit number format)

- a. The sirens can be interrogated by:
 - (1) System-wide interrogation - initiated by clicking the **ALL** button.
 - (2) Entire county – initiated by clicking the button for the county to be interrogated.
 - (3) Individual sirens – initiated by clicking the button for the individual siren to be interrogated.
- b. To stop an interrogate cycle, press the **Cancel** button. This stops both user and MOSCAD generated interrogation cycles
- c. The sites are broken up by county and ordered by MOSCAD Site ID. Disabled site buttons (gray text) represent sites that are not active (for example, C-17). If the site has bad communication, and it is active, the text will either flash red/yellow (unacknowledged communication alarm) or be a solid red (acknowledged communication alarm). If the site is active and has good communication, the text is solid black. The current site being interrogated is shown on this pop-up window as well. The user may not see the number of each siren being interrogated due to the fact that the MOSCAD is able to interrogate faster than the computer can read from the MOSCAD.
- d. The **DISABLE INT SCH** button allows the operator to stop the scheduled interrogation schedule. This function is useful when it is desirable to preserve battery power during extended power outages.

5.2.6 Menu Bar Command Buttons (continued)

6. Operator

Clicking the **Operator** button provides access to the log in log out functions and the Logger and Manager screens.

- a. The Log In, Password and Log Out buttons area used for logging into and out of the system.
- b. The Logger button allows access to the Siren Command Logger screen, which keeps track of the last 100 activations (training and real). It may take several seconds to gather the information from the FIU.
- c. Training Mode - Displays whether the system was in training mode when a sequence was activated.
- d. Command Sequence Performed - Displays the sequence that was performed
- e. Sequence Duration - The duration of the sequence (MM:SS).
- f. # Sirens Effected - Displays the number of sirens commanded for the sequence
- g. Sequence # - The unique Sequence # associated with each individual activation (the operator can click on the **Legend** button for further clarification on the Sequence #).
- h. Activation Time - The time (from the MOSCAD FIU) the sequence was activated (HH:MM.SS).
- i. Activation Date - The date (from the MOSCAD FIU) the sequence was activated (MM/DD).
- j. The Manager button allows access to the System Manager Screen.
- k. Siren # - The siren number (C01-C16, C18 – C31, H01-H10, L01-L08, or W01-W35).
- l. MOSCAD ID - The associated MOSCAD Site ID.
- m. Active? – Shows that the site is active or not. The operator can toggle the activation status of a site by clicking on this field.
- n. RTU Config - Current configuration in the RTU (e.g. Whelen).

5.2.6 Menu Bar Command Buttons (continued)

- o. RTU Comm. - The status of the communication between the FIU and RTU.
- p. #Interr Fails - The number of times an interrogation cycle was not completed between the FIU and RTU.
- q. #Interr Retries - The number of times the FIU retried an interrogation with the RTU.
- r. RTU Zoom – Pop-up box that allows the user to view detailed data for the RTU.
- s. RxTime - The time the last communication occurred between the FIU and RTU (HH:MM:SS).
- t. RxDate - The date the last communication occurred between the FIU and RTU (MM/DD).
- u. Reset Diags. – Allows the user to reset the diagnostic data counter for the sirens. Clicking the “0” below the words “Reset Diags” brings up the data entry screen.
- v. Sys Avail – A pop-up window that contains the total system siren availability. The system availability is calculated by taking the number of currently active sites containing no alarms and dividing by the total number of active sites.
- w. Computer Clock – Allows access to the computer clock.
- x. Set FIU Time and Date – Allows the user to synchronize the time and date between the FIU and the central computer. The FIU time is updated with the same time as the central computer. The central computer is the computer used to synchronize the clocks. By default, the EOF computer is the central computer and is set up to automatically synchronize the clocks. If the clocks are synchronized manually, the central computer is the computer that is used for the synchronization.
- y. Cha Report, Har Report, Lee Report, Wake Report, Sys Report – Allows the user to print a status report for a county or the whole system.
- z. Report Enable/Disable – Allows the user to toggle the report buttons on and off.

5.2.7 Interrogating Sirens

NOTE: During periods of extended power outages, the **DISABLE INT SCHEDULE** button can be selected to stop automatic interrogations to increase siren site battery life until power can be restored. Interrogations can still be done manually at longer intervals as desired.

CAUTION

Starting another interrogation cycle before the previous cycle has finished will cancel out the previous cycle. The initial cycle must be complete prior to starting another cycle. The status of a cycle can be determined by viewing the status screen.

1. Select the **Interrogate** button on the menu bar to display the interrogation window. This window displays buttons for all siren sites, zones, FIUs, and repeaters.
2. Select the button for the site, zone, or repeater to be interrogated. Results of the interrogation can be observed by using the **Status** or **AlrmSum** functions on the menu bar.
3. To interrogate a single siren, select the siren to be interrogated in the Single Site Interrogation box. If interrogating several individual sirens, each one has to be done individually.
4. To interrogate all sirens or whole counties, select **All** of the county to be interrogated in the All Sites/Cancel box.
5. To interrogate an FIU or repeater, select the appropriate button in the FIU/Repeaters box.

5.2.8 Routine Siren System Testing [R3]

NOTE: The bi-weekly silent, quarterly growl and annual full volume tests are used for the Alert and Notification System Key Performance Indicator.

CAUTION

When performing a siren test, do not switch screens or perform any other actions until the “WAIT” indication stops flashing and disappears. Performing any other actions before this occurs may cause the system to cancel the activation.

Starting another test cycle before the previous cycle has finished will cancel out the previous cycle. The initial cycle must be complete prior to starting another cycle. The status of a cycle can be determined by viewing the status screen.

1. Routine siren system testing includes:
 - a. The bi-weekly silent, quarterly growl and annual full volume tests.
 - b. The scheduled full system interrogations.
2. Siren system failures need to be evaluated against the reporting criteria in Section 5.2.13.
3. Other testing is performed as specified in this procedure (for example, interrogations, post maintenance testing, etc.).
4. A test is accomplished by initiating the proper test sequence in accordance with the instructions in this procedure.
5. The scheduled siren tests should be conducted such that each location is tested at least one time per calendar year:
[CR 554069 CORR]
 - a. HNP Admin Building
 - b. HNP Emergency Operations Facility
 - c. Wake County EOC
 - d. Wake County Warning Point
 - e. Wake County Alternate Warning Point
 - f. Chatham County Warning Point
 - g. Harnett County Warning Point
 - h. Lee County Warning Point

5.2.8 Routine Siren System Testing [R3] (continued)

6. Sirens can be activated from redundant activation points. In some cases, it may be necessary to initiate a test more than one time or from redundant activation points. This is acceptable as long as the following requirements are met: [Reference NEI 99-02]
 - a. The tests are initiated from the same activation point or any other activation point allowed by the Emergency Plan.
 - b. Actions specifically taken to improve the performance of the test are not allowed. The test results should indicate the actual as-found condition.

Examples of actions that are NOT allowed and DO affect the as found conditions of sirens (not an all-inclusive list):

- Preceding test with an unscheduled test with the sole purpose to validate the siren is functional.
 - Prior to a scheduled test, adjustment or calibration of siren system activation equipment that was not scheduled to support post maintenance testing.
 - Prior to a scheduled test, testing siren system activation equipment or an individual siren(s) unless the equipment is suspected damaged from adverse weather, vandalism, vehicular strikes, etc.
 - Prior to a scheduled test, testing siren system activation equipment or an individual siren(s) unless the equipment is suspected as being non-functional as a result of a computer hardware or software failure, radio tower failure, cut phone line, etc.
7. A test is considered successful if:
 - The activation from any activation point is successful, AND
 - The requirements of step 5.2.11 are met.

5.2.8 Routine Siren System Testing [R3] (continued)

8. Bi-weekly silent test – performed once every two weeks and documented on Attachment 2 or equivalent.
 - a. Performed by HNP Emergency Preparedness personnel or designee.
 - b. Siren system automatically initiates a Silent test at 1100 each Wednesday.
 - c. See Attachment 3 for instructions for manually initiating a silent test.
 - d. EP reviews and documents the results and initiates repairs and CRs as needed.
9. Quarterly growl test - performed once per calendar quarter and documented on Attachment 2 or equivalent.
 - a. Performed by HNP Emergency Preparedness personnel or designee.
 - b. See Attachment 4 for instructions for manually initiating a growl test.
 - c. EP reviews and documents the results and initiates repairs and CRs as needed.
10. Annual alert (full volume) test – performed annually and documented on Attachment 2 or equivalent.
 - a. Performed by Wake County or designee using their Standard Operating Guidelines (SOG).
 - b. EP reviews and documents the results and initiates repairs and CRs as needed.
 - c. The test is documented by HNP Emergency Preparedness on Attachment 2 or equivalent.

5.2.9 Non-Routine Testing of Sirens

1. The EP Unit will test sirens when conditions warrant, such as:
 - a. Ice storms.
 - b. Hurricanes.
 - c. Known power outages.
 - d. Possible problems reported by the Customer Service Center.
 - e. Post maintenance testing.
2. The EP Unit will track siren testing to ensure out-of-service sirens are reported and repaired (See 5.2.21).

5.2.10 Activation Reports and Alarm Logs

NOTE: There are communication logs in each siren RTU that log the last 100 messages received and are transmitted with time and date stamps.

1. Reports are automatically generated after the command sequence has been performed for full county or full system tests.
2. Reports for individual siren tests need to be manually initiated.
 - a. Perform the test (silent, growl or full volume) on the siren or sirens.
 - b. After the test, manually interrogate the siren(s).
 - c. Print the report for that county.
3. Reports and Alarm Logs can be found on the computer hard drive:
 - a. Hit the Escape button.
 - b. Minimize the screen.
 - c. Select My Computer.
 - d. Select Local Disc (C):.
 - e. Select **PRN-H** folder.
 - (1) Select the **Alarms** folder for alarm reports.
 - (2) Select the **Reports** folder for copies of activation reports.

5.2.11 Testing Results and Documentation

1. Test results are indicated in the Siren Activation Status section of the Siren System Status Report (Attachment 2, page 2). A successful test is indicated by the following indications on the report for each siren tested.

NOTE: Full Activation is the preferred result, but a success can also be indicated by a Partial Activation indication. Refer to step 5.2.19 for siren functionality determination.

- a. 'Full Activation' – '√' **OR** 'Partial Activation' – '√' (see section 5.2.19 for siren operability determination)
 - b. 'Command Confirm' – '√'
 - c. 'Last Cmd Fail' – 'ok'
 - d. 'Last Cmd Seq' – The word 'Silent', 'Growl' or 'Alert', depending on which test was performed
 - e. 'Siren AC' – 'ok' ('n/a' for solar powered sirens C02, C04, C19, C28, W01, W04, W07, W17, W29 and W35) – a test can be considered successful if 'Siren AC' is not 'ok' as long as the 'Siren DC' is 'ok'.
 - f. 'Siren DC' – 'ok'
 - g. 'Siren Comm' – 'ok'
 - h. 'RTU Input Voltage' – 'n/a'
 - i. 'RTU Comm' – 'ok'
 - j. 'MOSCAD On Line' – 'ON-LINE'
2. Any other indications should be investigated to determine any action to be taken to repair the sirens.
 3. Documentation for routine siren system test results (bi-weekly silent test, quarterly growl test and annual full volume test):
 - a. Print the Siren System Status Report from the siren computer.
 - b. Complete Attachment 2 - Siren System Status Report Form (Page 1).
 - c. Attach the printed siren report to Attachment 2, sign and obtain approval signature (SRO and Manager EP).
 - d. Make copy of completed Attachment 2 and siren report for ANS KPI.
 - e. Transmit original Attachment 2 and siren report as a vital record.

5.2.11 Testing Results and Documentation (continued)

4. Documentation for post maintenance testing:
 - a. Print the Siren System Status Report from the siren computer.
 - b. Complete Attachment 6 – Siren System Maintenance Form.
 - c. Attach the printed siren report to Attachment 6, sign and obtain approval signature (SRO and Manager EP).
 - d. Make copy of completed Attachment 6 and siren report and place in the Siren System Maintenance binder.
 - e. Transmit original Attachment 6 and siren report as a vital record.

5.2.12 Activation of Sirens During an Emergency

1. Wake County has the primary responsibility for activating the sirens during an actual emergency in accordance with their SOGs.
2. In the event that Wake County cannot activate the sirens, they can be activated from one of the other EPZ counties, the HNP EOF or the HNP Admin Building EP work area siren computers.
3. Attachment 5 provides instructions for activating the sirens.

5.2.13 Out-Of-Service Sirens

1. HNP Emergency Preparedness will notify the HNP Control Room when:
 - Siren loss impacts greater than 25% of EPZ population are reported as out of service so that the Main Control Room can assess PLP-717 to determine if NRC notification for a loss of offsite sirens per AP-617 is required.
2. Monitor siren status and inform the Control Room of any changes.
3. HNP Emergency Preparedness will notify the appropriate County Emergency Management personnel if a siren(s) in the county are to be out-of-service for greater than one hour. Once the county is notified of siren problems, monitor siren status and inform the county of any changes.
4. HNP Emergency Preparedness will track siren outages until sirens are repaired.
 - a. When a siren is restored to service, the repair is documented on Attachment 6, or similar form.

NOTE: There are communication logs in each siren RTU that log the last 100 messages received and are transmitted with time and date stamps.
--

5. Individual Siren Loss
 - a. Upon a loss of a siren, the EP Unit will review the system history and alarm summary to determine the reason for loss.
 - b. The siren may be interrogated to establish communications or tested to clear the alarm condition. See Attachment 1 for guidelines for troubleshooting and restoration.
6. A follow up report to the NRC may be appropriate for statusing the siren outage or to inform the NRC that all sirens are restored.

5.2.14 Sirens Not Powered By Duke Energy

1. The following sirens are solar powered – C02, C04, C19, C28, W01, W04, W07, W17, W29 and W35.
2. Sirens W21, W31 and W32 are powered by the City of Apex. If the power outage involves these sirens, contact the City of Apex for information regarding the status of those sirens. During office hours, contact the Public Works Department of the City of Apex for information. After hours, contact the Apex City Police Department dispatcher for information. Phone numbers for City of Apex are in EPL-001 Attachment 3.
3. Sirens C14, C15, C20, C22, H06, L01, L02, L03, L04, L05, L06 and L07 are powered by the Central Electric Membership Corporation (CEMC). The contact numbers for CEMC can be found in EPL-001 Attachment 3.

5.2.15 Corrective Maintenance Testing and Troubleshooting

1. Sirens are tested whenever problems occur or when maintenance or troubleshooting is performed to verify functionality. Attachment 1 provides guidance for maintenance and troubleshooting.
2. Corrective maintenance will normally be initiated by contacting the Telecom Helpdesk and initiating a work ticket.
3. The siren manufacturer has approved two models of batteries for the sirens – Interstate Workaholic 31-MHD and Delco S2000. Check with the siren manufacturer before using any other batteries.
4. The results of siren maintenance will be documented on Attachment 6 or equivalent form.
5. Refer to Section 5.2.11 for documentation instructions.

5.2.16 Preventive Maintenance.

1. At least annually, preventive maintenance/testing will be performed at each siren site using a form similar to Attachment 7.
2. The siren manufacturer has approved two models of batteries for the sirens – Interstate Workaholic 31-MHD and Delco S2000. Check with the siren manufacturer before using any other batteries.
3. At a 5 year frequency, elevated visual inspection of the siren heads will be performed [CR 440849].

5.2.17 Siren Response During Major Storms

1. Major storms may cause mass power outages affecting the sirens. HNP Emergency Preparedness will monitor siren power status and work with the appropriate Operations to get power restored to the sirens as required.
2. The sirens have battery back-up. The siren installation vendor (McCord Communications) has provided calculations stating that the batteries will supply enough power to activate the sirens as required for a period of 8 days under ideal conditions (for example, assuming the batteries are in excellent condition and the current draws for each individual component are as specified).
3. Siren problems other than power loss will be reported to the Telecommunications Helpdesk.

5.2.18 Inadvertent Actuation of the Siren System

1. When informed of an inadvertent siren activation during off-normal hours, contact the Main Control Room and inform them of the incident and general direction or location of the actuation, or
2. During normal working hours, contact Emergency Preparedness and inform them of the incident.
3. Main Control Room actions

NOTE: For siren reports, the siren number is the preferred location information. The siren number is located on the siren control box.

- a. Record all available information on Attachment 11.
- b. Contact the State of North Carolina EOC:
 - (1) Inform them of the inadvertent activation.
 - (2) Provide the time of the activation and the general location of the siren.
 - (3) Request that the canned Emergency Alert System (EAS) message goes out to the public.
- c. Contact the Duke Energy Telecommunications Help Desk.

5.2.18 Inadvertent Actuation of the Siren System (continued)

- d. Contact Emergency Preparedness during normal working hours, or the duty EP person if during off-normal hours, and inform them of the situation.
 - e. If siren loss impacts greater than 25% of EPZ population, refer to PLP-717 and AP-617 to determine if the 8-hour condition of reportability for "Loss of Emergency Response Capability" has been exceeded.
 - f. If all sirens in one or more counties have accidentally sounded, notify the State EOC and Warning Point plus the County Warning Points, using the Duke Emergency Management Network (DEMNET) or other available communications system, that an inadvertent actuation of the siren system has occurred and that no emergency exists at HNP. Inform them that the state EOC is sending out an EAS message.
 - g. If informed by Corporate Communications that a press release has been or will be made, refer to PLP-717 and AP-617 for 4-hour NRC reportability under "Off-site Notification has been or will be made".
4. Emergency Preparedness
- a. Upon receiving information that an inadvertent actuation of the siren system has occurred, Emergency Preparedness shall contact the Main Control Room and provide assistance needed to resolve the situation.

5.2.19 Siren Functionality

1. The sirens are considered functional if at least 6 of 8 cells (for 8 cell sirens) and 8 of 10 cells (for 10 cell sirens) are functional with the following exceptions:
 - a. Siren H07 is required to have 9 of 10 cells functional.
 - b. Siren L02 is required to have all 10 cells functional.
 - c. Siren C15 is required to have all 10 cells functional.
 - d. Siren C16 is required to have all 10 cells functional.
 - e. Siren C20 is required to have all 10 cells functional.
2. An functional siren is indicated by:
 - a. A full activation indication. This indicates that all drivers and amplifiers met or exceeded the minimum sound level, **OR**
 - b. The requirements of step 1 above are met. If all drivers/amplifiers did not work, a partial activation indication will result. This needs to be investigated to determine how many drivers/amplifiers worked (see next step).

5.2.19 Siren Functionality (continued)

3. A partial activation indicates that at least one, but not all of the siren's drivers/ amplifiers met or exceeded minimum sound level. The only way to verify how many drivers/amplifiers worked is to observe the red LED test lights at the siren cabinet during a test/activation.
 - a. Send an observer to the siren(s) in question.
 - b. Initiate a silent or growl test and have the observer note how many and which LEDs light up. The test can be initiated locally at the siren or from any of the activation points.
 - c. Refer to Attachment 10 for individual siren functionality determination.
4. The annual functionality of the HNP siren system is considered acceptable when an average of 90% (or greater) of the siren tests for a calendar year are successful.

5.2.20 Public Information on Siren System [R2]

1. Public information on the Siren System will be included in the Safety Information Brochure, distributed periodically in the Harris View, and the Student Safety Information brochure.
2. News releases will be prepared and issued quarterly for the growl test.
3. News releases and information brochures such as Harris View will be prepared and issued annually for the full volume siren test.

5.2.21 Documenting Siren System Trouble

1. A CR is required for siren system issues that meet the following criteria:
 - Meet or exceed the reporting criteria in PLP-717
 - Meet or exceed the significance criteria of AD-PI-ALL-0100
 - Results in an ANS Key Performance Indicator (KPI) failure
 - Require the initiation of a Telecom work Ticket
2. Use the following guidance for responding to siren system alarms.
 - a. Refer to Attachment 1 – Siren System Guidelines for Alarm Response.
 - b. Initiate a high priority Telecom work ticket (Picasso or equivalent system) per the guidance in Attachment 1.
 - c. If work ticket initiated, then initiate a CR per AD-PI-ALL-0100.
 - (1) Describe the adverse condition and include wording for reportability determination. (Operations can use this information for determining reportability requirements).
 - (2) When initiating the CR, select 'YES' when answering the prompt "Is this a potential Operability / Reportability issue?" (This will ensure the CR is routed to the Control Room for reportability determination).
 - (3) Call the Main Control Room to let them know a CR has been initiated for the siren system.
 - d. Initiate an HNP Emergency Preparedness ESOMs log entry.
 - Siren number or component name/description.
 - Problem description.
 - Telecom work ticket number.
 - CR number.
 - Post maintenance test results (when they become available).
 - Time of restoration.

6.0 DIAGRAMS/ATTACHMENTS

Attachment 1 – Siren System Guidelines for Alarm Response

Attachment 2 - Siren System Status Report Form

Attachment 3 – Silent Test Instructions

Attachment 4 – Growl Test Instructions

Attachment 5 –Alert (Full Volume) Test Instructions

Attachment 6 – Siren System Maintenance Form

Attachment 7 – Preventive Maintenance Checklist

Attachment 8 – Preventive Maintenance Checklist Activity Criteria

Attachment 9 – Siren Feeders

Attachment 10 – Siren Locations

Attachment 11 – Inadvertent Actuation of the Siren System

7.0 RECORDS

1. Forward NRC notifications, maintenance and testing forms, and any other documentation produced during the siren outage to HNP Emergency Preparedness.
2. Public Notification and Alerting System documents are vital records and are transmitted according to AD-DC-ALL-0002. These records include:
 - a. Bi-weekly Siren System Silent Tests.
 - b. Quarterly Siren System Growl Tests.
 - c. Annual Alert (Full Volume) Siren System Test.
 - d. Annual Tone Alert Radio Test Results.
 - e. Post maintenance test records.
 - f. Training Records.

Attachment 1 – Siren System Guidelines for Alarm Response

Sheet 1 of 6

Alarm Indication	Comments	Action for Troubleshooting and Repair	Required Test for Restoration
Sensor Activation Status			
Full Activation	Indicates each of the Whelen siren amplifiers on a given siren met or exceeded the minimum operation level.	None	None
Partial Activation	Indicates at least one, but not all of the Whelen siren's amplifiers met or exceeded minimum sound level.	Retest (Silent test as a minimum) with observer at site checking LEDs Initiate a Telecom work ticket to address any failures.	Growl test if siren is repaired
Activation Failure	Indicates neither Full nor Partial Activation status was received following an activation of the siren	Retest (Silent test as a minimum) with observer at site checking LEDs Initiate a Telecom work ticket to address any failures.	Growl test if siren is repaired
Partial Failure	Indicates the siren did not appropriately confirm proper operation of a command as sent by the MOSCAD	Retest (Silent test as a minimum) with observer at site checking LEDs Initiate a Telecom work ticket to address any failures.	Growl test if siren is repaired
Command Confirm	Indicates the siren DID appropriately confirm proper operation of all commands as sent by the MOSCAD during a siren activation	None	None

Attachment 1 – Siren System Guidelines for Alarm Response

Sheet 2 of 6

Alarm Indication	Comments	Action for Troubleshooting and Repair	Required Test for Restoration
Last Command Fail	Indicates the MOSCAD has confirmed receipt of the last command sent from one of the control central computers without conformation of proper operation.	Initiate a Telecom work ticket to address any failures	None
Siren General Alarm Status			
Intrusion	Indicates either the Whelen siren controller cabinet or MOSCAD cabinet was opened, usually for work on siren. Does not affect operability. Note: Unauthorized opening could be vandalism.	Investigate and validate the reason for the intrusion alarm if no known work is being performed on the siren. Initiate a Telecom work ticket if the alarm is due to failure of the detection mechanism	None
Siren AC Status	Indicates the input AC power (i.e. from the local power company) status.	Contact AC power provider to determine if any work is occurring that would interrupt power to the siren. If they are not aware of a problem, ask them to verify that here is power to the siren. If there is no AC power loss local to the siren in progress, initiate Telecom work ticket	Growl test if siren becomes inop due to extended loss (greater than 3 days) of AC for maintaining battery charge
Siren DC Status	Indicates the Whelen siren DC power (i.e. batteries in siren cabinet)	Initiate a Telecom work ticket	Growl test

Attachment 1 – Siren System Guidelines for Alarm Response

Sheet 3 of 6

Alarm Indication	Comments	Action for Troubleshooting and Repair	Required Test for Restoration
	MOSCAD RTU Alarm Status		
Siren Communication	Indicates status of the RS232 communication link between the MOSCAD CPU and the Whelen controller	Initiate Telecom work ticket if alarm does not clear on interrogation	Interrogation Test
RTU Input Voltage	Indicates the status of the input voltage feeding (sourced from the Whelen controller cabinet) the MOSCAD power supply. The siren is non-functional.	Initiate Telecom work ticket	Growl Test
RTU Communication	Indicates the status of radio communication between the MOSCAD FIU and the Siren RTU. The siren is inoperable until the alarm clears.	Initiate Telecom work ticket if the alarm does not clear on interrogation.	Interrogation Test. If failure is due to equipment failure then Growl Test.

Attachment 1 – Siren System Guidelines for Alarm Response

Sheet 4 of 6

Alarm Indication	Comments	Action for Troubleshooting and Repair	Required Test for Restoration
FIU Alarm Status			
MOSCAD Comm	Indicates the status of the radio communication link between each of the MOSCAD FIUs. Sirens cannot be activated from corresponding Activation Point.	Initiate Telecom work ticket if the alarm does not clear on its own or on interrogation.	Interrogate the FIU. If additional assurance of operability is required a Silent Test from the County Activation Point can be performed.
MOSCAD AC Voltage	Indicates the status of power to the AC input voltage feeding the MOSCAD power supply. AC power to the MOSCAD RTU/FIU has failed for greater than 1 minute. Sirens cannot be activated from corresponding County.	Initiate Telecom work ticket if the alarm does not clear on its own or on interrogation.	Interrogate the FIU. If additional assurance of operability is required a Silent Test from the County Activation Point can be performed.

Attachment 1 – Siren System Guidelines for Alarm Response

Sheet 5 of 6

Alarm Indication	Comments	Action for Troubleshooting and Repair	Required Test for Restoration
FIU Alarm Status			
Modbus Comp Com Status	Indicates the status of RS232 link (communication protocol is Modbus) between the Siren Control Computer and the MOSCAD FIU CPU	Initiate Telecom work ticket if the alarm does not clear on its own or if repetitive alarms occur.	None required
Repeater Status Alarms			
MOSCAD Comm.	Indicates the status of the radio communication link between each of the MOSCAD FIUs The MOSCAD CPU gives the user the ability to switch repeaters, not communicate with sirens.	Initiate a high priority work ticket and notify Telecom. Do not attempt to manually switch repeaters when a repeater MOSCAD alarm is present. Do not reboot the siren central computers (HNP EOF or Admin Building) Interrogate the sirens from either the EOF or Admin Building computers to ensure they can be activated.	Interrogate Repeater If additional assurance of operability is required, initiate a Silent Test from the County Console in question.
MOSCAD AC Voltage	Indicates the status of the AC input voltage feeding the MOSCAD power supply.	Initiate Telecom work ticket. AC voltage to repeater has failed. Unit is in service as long as internal batteries last. Repeater is out of service when batteries fail.	None other than ensuring the alarm clears on restoration of power.

Attachment 1 – Siren System Guidelines for Alarm Response

Sheet 6 of 6

Alarm Indication	Comments	Action for Troubleshooting and Repair	Required Test for Restoration
Repeater On/Off	Indicates the current state of the Repeater.	Initiate Telecom work ticket if repeater will not switch to ON when expected. If all repeaters are off or all are on at the same time and cannot be set to only one repeater ON, the system may be non-functional.	Successful manual or automatic repeater switch and satisfactory Silent testing of at least one siren.
Repeater Fail to Switch	Indicates the Repeater failed to confirm previously requested switch.	Initiate Telecom work ticket if alarm cannot be cleared. See repeater On/Off indication for additional instructions.	Successful manual or automatic repeater switch.
Repeater Comm Switch	Indicates the repeater required a switch due to consecutive remote site communication failures.	Initiate Telecom work ticket if alarm cannot be cleared. See repeater On/Off indication for additional instructions.	Successful manual or automatic repeater switch.
No Repeater Alarm	<p><u>CAUTION: Siren activations may be disabled when this alarm is present.</u></p> <p>Indicates all repeaters are OFF inhibiting proper system-wide radio communication.</p>	Initiate Telecom work ticket if the alarm does not clear in a timely manner or on interrogation.	Silent test of system at a minimum.
Multi-Repeater Alarm	<p><u>CAUTION: Siren activations may be disabled when this alarm is present.</u></p> <p>Indicates all repeaters are ON inhibiting proper system-wide radio communication</p>	Initiate Telecom work ticket if the alarm does not clear in a timely manner or on interrogation.	Silent test of system at a minimum.

Attachment 2 - Siren System Status Report Form

Page 1 of 1

Siren Test Performed:

☐ Bi-weekly Silent Test

☐ Quarterly Growl Test

☐ Annual Full Volume Test

Test Performed from Computer at:

☐ HNP Admin Building

☐ Chatham County Warning Point

☐ Wake County EOC

☐ HNP EOF

☐ Harnett County Warning Point

☐ Wake County Warning Point

☐ Lee County Warning Point

☐ Wake County Alternate Warning Point

Test Results: (Attach print out of Report)

☐ Sat

☐ Unsat

☐ Notify MCR (Date/Time): _____ (per 5.2.21)

☐ Notify appropriate County Emergency Management: _____ (per 5.2.13)

☐ Initiate repair ticket: _____ (per 5.2.21)

☐ Initiate CR: _____ (per 5.2.21)

Comments: _____

Performed By: _____
Print Name / Signature

Date: _____

Approved By: _____
SRO Print Name / Signature

Date: _____

Approved By: _____
Manager - EP Print Name / Signature

Date: _____

Attachment 3 – Silent Test Instructions

Page 1 of 1

SILENT TEST

CAUTION

When performing a siren test, do not switch screens or perform any other actions until the “WAIT” indication stops flashing and disappears. Performing any other actions before this occurs may cause the system to cancel the activation.

Starting another test cycle before the previous cycle has finished will cancel out the previous cycle. The initial cycle must be complete prior to starting another cycle. The status of a cycle can be determined by viewing the status screen.

To perform a full system silent test:	To perform a silent test on all of a county:	To perform a silent test on an individual or several individual sirens:
<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select ZONE ACTIVATION4. Select Clear Select5. Select ALL SITES6. Select Silent Test7. Select START8. Collect the report when completed9. Initiate work tickets as necessary10. Evaluate siren failures²	<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select ZONE ACTIVATION4. Select Clear Select5. Select the county to be tested6. Select Silent Test7. Select START8. Collect the report when completed9. Initiate work tickets as necessary10. Evaluate siren failures²	<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select the county that the siren is in from INDIVIDUAL SITES IN ZONE4. Select Clear Select5. Select the siren or sirens to be tested6. Select Silent Test7. Select START8. After the test, interrogate the siren(s)9. Print the report ¹10. Initiate work tickets as necessary11. Evaluate siren failures²

¹ When individual sirens are tested, the report needs to be manually printed. The automatic print function will not work when individual sirens are tested.

² Siren system failures need to be evaluated against the reporting criteria in Section 5.2.13 and documented per Section 5.2.21.

Attachment 4 – Growl Test Instructions

Page 1 of 1

GROWL TEST

CAUTION

When performing a siren test, do not switch screens or perform any other actions until the “WAIT” indication stops flashing and disappears. Performing any other actions before this occurs may cause the system to cancel the activation,

Starting another test cycle before the previous cycle has finished will cancel out the previous cycle. The initial cycle must be complete prior to starting another cycle. The status of a cycle can be determined by viewing the status screen.

Growl Test Checklist: (If performing for Post-Maintenance, then all checklist items may not be needed.)

- ☐ Notify Site Communications, about a week prior to the test, to issue press release and to put the information out to the site.
- ☐ Remind counties of test about a week prior to the test.
- ☐ Prior to the test (the day of or day before), notify the following:
 - ☐ Main Control Room ☐ Security ☐ Jordan Lake Park ☐ Harris Lake Park
- ☐ Make a site PA announcement the day of the test

To perform a full system growl test:	To perform a growl test on all of a county:	To perform a growl test on an individual or several individual sirens:
<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select ZONE ACTIVATION4. Select Clear Select5. Select ALL SITES6. Select Growl7. Select START8. Collect the report when completed9. Initiate work tickets as necessary10. Evaluate siren failures²	<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select ZONE ACTIVATION4. Select Clear Select5. Select the county to be tested6. Select Growl7. Select START8. Collect the report when completed9. Initiate work tickets as necessary10. Evaluate siren failures²	<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select the county that the siren is in from INDIVIDUAL SITES IN ZONE4. Select Clear Select5. Select the individual siren or sirens to be tested6. Select Growl7. Select START8. After test, interrogate the siren(s)9. Print the report ¹10. Initiate work tickets as necessary11. Evaluate siren failures²

¹ When individual sirens are tested, the report needs to be manually printed. The automatic print function will not work when individual sirens are tested.

² Siren system failures need to be evaluated against the reporting criteria in Section 5.2.13 and documented per Section 5.2.21.

Attachment 5 –Alert (Full Volume) Test Instructions

Sheet 1 of 1

ALERT (FULL VOLUME) TEST

NOTE: The annual full volume test is normally conducted by Wake County using their SOGs.

CAUTION

When performing a siren test, do not switch screens or perform any other actions until the “WAIT” indication stops flashing and disappears. Performing any other actions before this occurs may cause the system to cancel the activation.

Starting another test cycle before the previous cycle has finished will cancel out the previous cycle. The initial cycle must be complete prior to starting another cycle. The status of a cycle can be determined by viewing the status screen.

Full Volume (Alert) Test Checklist:

- ☐ Make new signs for the recreation areas (needs to be done several weeks before the test).
- ☐ Notify Site Communications, about a week prior to the test, to issue press release and to put the information out to the site.
- ☐ Remind counties of test about a week prior to the test.
- ☐ Perform a prejob briefing with the counties.
- ☐ Put out signs at the designated areas.
- ☐ Prior to the test (the day of or day before), notify the following:
 - ☐ Main Control Room ☐ Security ☐ Jordan Lake Park ☐ Harris Lake Park
- ☐ Make a site PA announcement the day of the test
- ☐ After the test, pick up all of the recreation area signs.

To perform a full system alert test:	To perform an alert test on all of a county:	To perform an alert test on an individual or several individual sirens:
<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select ZONE ACTIVATION4. Select Clear Select5. Select ALL SITES6. Select Alert7. Select START8. Collect the report when completed9. Initiate work tickets as necessary10. Evaluate siren failures²	<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select ZONE ACTIVATION4. Select Clear Select5. Select the county to be tested6. Select Alert7. Select START8. Collect the report when completed9. Initiate work tickets as necessary10. Evaluate siren failures²	<ol style="list-style-type: none">1. Log on to the Siren computer2. Select Command3. Select the county that the siren is in from INDIVIDUAL SITES IN ZONE4. Select Clear Select5. Select the individual siren or sirens to be tested6. Select Alert7. Select START8. Print the report ¹9. Initiate work tickets as necessary10. Evaluate siren failures²

¹ When individual sirens are tested, the report needs to be manually printed. The automatic print function will not work when individual sirens are tested.

² Siren system failures need to be evaluated against the reporting criteria in Section 5.2.13 and documented per Section 5.2.21.

Attachment 6 – Siren System Maintenance Form

Sheet 1 of 1

Siren Number or Problem Location : _____

Date Problem Found:	
Problem Description:	
Work Ticket Number:	CR Number:
Comments/Problem Resolution:	
Date/Time Tested and Returned to Service:	

Performed By: _____
Print Name / Signature

Date: _____

Approved By: _____
SRO Print Name / Signature

Date: _____

Approved By: _____
Manager - EP Print Name / Signature

Date: _____

Attachment 7 – Preventive Maintenance Checklist

Sheet 1 of 2

SIREN NUMBER _____			
CAUTION			
1. The cover to the Battery Compartment should be kept in place at all times unless the Battery Switch is <u>OFF</u> and the charger is <u>UNPLUGGED</u> . 2. Prior to Battery Load testing, the Battery Switch must be <u>OFF</u> and the charger <u>UNPLUGGED</u> .			
PHYSICAL INSPECTION	SAT	UNSAT	COMMENTS
Safe Access to Site and Siren			
Trees/Brush/Vines			
Signage			
Pole			
Mounting Hardware			
Speaker Cell Assemblies			
AC Service			
Proper Grounding			
Antenna			
Conduit and Connections			
MOSCAD / RTU Cabinet			
Whelen Cabinet			
AC Disconnect Cabinet			
CPU Inspection			
12V DC Batteries			
Wiring Harnesses			

Attachment 7 – Preventive Maintenance Checklist

Sheet 2 of 2

SIREN NUMBER _____

LOCAL OPERATIONAL TESTING	SAT	UNSAT	COMMENTS
MOSCAD Cabinet Intrusion Alarm			
Whelen Cabinet Intrusion Alarm			
Standby Battery Voltage			_____.____ VDC
Under Load Battery Voltage			_____.____ VDC
SI TEST LEDs			
Alert(<10 sec) LEDs			
Audible			
12 VDC Battery Testing			
Radio Frequency Error			
Radio Power Output			
Radio Output Power Reflectivity			

RESTORATION			
AC Power to Site " <u>ON</u> "			
All Cabinet Boxes Closed and Locked			
All Alarms Cleared			
Growl Test Initiated from any activation point			

12V DC Batteries changed out	Yes ____	No ____
CPU Battery changed out	Yes ____	No ____

COMMENTS:

Checklist completed by: _____ Date: _____

Emergency Preparedness review by: _____ Date: _____

Attachment 8 – Preventive Maintenance Checklist Activity Criteria

Sheet 1 of 2

Checklist Activity	Criteria for Satisfactory
Safe Access to Site and Siren	Site can be safely accessed and worked.
Trees/Brush/Vines	Vegetation does not prevent safe and reasonable access to the site or threaten to damage components.
Signage	Siren designation is clear and readable. Sign is not degraded.
Pole	No cracking or bowing should be noted. Pole should be vertical within about 5 degrees. Poles that are not plumb will not provide full coverage
Mounting Hardware	All fittings appear to be tight and in good condition. Pay particular attention to mounting bolts and nuts on siren mounting bracket.
Speaker Cell Assemblies	Plastic parts (black) should have no cracks or damage and no fading from UV. Stainless steel screens should be in place between each pair of cells and be a complete circle
AC Service	For overhead service only. Connections and drip cap in good condition, no interferences on service triplex.
Proper Grounding	As much as possible verify undamaged connections from rod to ground wire to boxes. Ensure connectors are in place and secure.
Antenna	Antenna is horizontal and pointed in general direction of HNP. Mountings and connections appear tight and cable is in good condition where visible.
Conduit and Connections	All conduit and connections are in good condition. All connectors appear tight and sealed appropriately.
MOSCAD / RTU Cabinet	Check all weather stripping and seals. Look for evidence of water leakage or insects. Check that grounds appear intact, particularly to antenna polyphaser. Lubricate lock with graphite.
Whelen Cabinet	Inspect cabinet for damage. Check all weather stripping and seals. Ensure all weep holes are clear. Look for evidence of significant water leakage or insects. Check that grounds appear intact. Lubricate lock with graphite.
AC Disconnect Cabinet	Inspect cabinet for damage. Check all weather stripping and seals. Look for evidence of water leakage or insects. Check that ground appears intact. Ensure disconnect works freely. Lubricate lock with graphite.

Attachment 8 – Preventive Maintenance Checklist Activity Criteria

Sheet 2 of 2

Checklist Activity	Criteria for Satisfactory
CPU Inspection	Check that “config” and “app” lights are illuminated. Verify proper operation of CPU.
12V DC Batteries	Check that batteries in bottom of Whelen cabinet are in good condition. Verify that cases are not cracked and no leakage is evident. Connections appear tight and free from corrosion. Battery terminal connections should be clean and covered with silicon grease.
Wiring Harnesses	Wiring and insulation in good condition. Terminations and connections appear tight and free from corrosion.
MOSCAD Cabinet Intrusion Alarm	Intrusion alarm occurs when cabinet is opened and resets when closed.
Whelen Cabinet Intrusion Alarm	Intrusion alarm occurs when cabinet is opened and resets when closed.
Standby Battery Voltage	Should be ≥ 22 VDC when checked with no siren activity in progress. Maximum charging voltage is 30 VDC. Siren will not activate <19 VDC
Under Load Battery Voltage	≥ 19 VDC with siren audible or SI testing in progress.
SI TEST	On the Whelen cabinet Station Control Panel press CANCEL. Press SI-TEST and observe that all LEDs should light (8 light for an 8-cell siren and 10 lights for a 10-cell siren). A “Burp” sound may be noted at the start of the test.
Alert (<10 sec)	On the Whelen cabinet Station Control Panel press CANCEL. Press ALERT and observe that all LEDs should light (8 lights for an 8-cell siren and 10 lights for a 10-cell siren). A steady tone will be heard. Keep the test duration to a minimum
12 VDC Battery Testing	Battery condition testing. Method to be determined by Telecom and/or EP. Can be traditional load testing, stationary string analyzer testing or other approved method.
Radio Frequency Error	Radio output frequency is within licensed limits.
Radio Power Output	Radio power output is within licensed limits
Radio Output Power Reflectivity	$\leq 10\%$ of rated output power.

Attachment 9 – Siren Feeders

Sheet 1 of 3

Siren #	County	Feeder	Sub-Station	Transmission Line	Ops Center	Transformer #
C01	Chatham	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	N218BH
C02	Chatham	N/A – Solar Powered				
C03	Chatham	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	N264BH
C04	Chatham	N/A – Solar Powered				
C05	Chatham	Moncure	Moncure	Cape Fear Plant Method 115kV	Sanford	U8G11
C06	Chatham	Moncure	Moncure	Cape Fear Plant Method 115kV	Sanford	Z307AC
C07	Chatham	Moncure Industrial	Moncure 115/23	Cape Fear Plant, Method South 115	Sanford	M580AC
C08	Chatham	Moncure	Moncure	Cape Fear Plant Method 115kV	Sanford	Z115AC
C09	Chatham	Moncure Industrial	Moncure 115/23	Cape Fear Plant, Method South 115	Sanford	X392AC
C10	Chatham	Moncure Industrial	Moncure 115/23	Cape Fear Plant, Method South 115	Sanford	X547AC
C11	Chatham	Moncure Industrial	Moncure 115/23	Cape Fear Plant, Method South 115	Sanford	X608AC
C12	Chatham	Moncure Industrial	Moncure 115/23	Cape Fear Plant, Method South 115	Sanford	D696AC
C13	Chatham	Moncure Industrial	Moncure	Cape Fear Plant Method 115kV	Sanford	Z885AC
C14	Chatham	N/A – Powered by CEMC				
C15	Chatham	N/A – Powered by CEMC				
C16	Chatham	Moncure Industrial	Moncure 115/23	Cape Fear Plant, Method South 115	Sanford	Z561AC
C18	Chatham	New Hill	New Hill	Harris Plant Apex US#1 230kv	Cary	CT88AC
C19	Chatham	N/A – Solar Powered				
C20	Chatham	N/A – Powered by CEMC				
C21	Chatham	Northwoods	Pittsboro	Harris Plant Siler City 230kv	Cary	L780AF
C22	Chatham	N/A – Powered by CEMC				
C23	Chatham	Big Woods	Pittsboro	Harris Plant Siler City 230kv	Cary	CS05AF
C24	Chatham	Wilsonville	Green Level	Harris Plant – RTP 230 KV	Cary	A250K
C25	Chatham	New Hill	New Hill	Harris Plant Apex US#1 230kv	Cary	1447K
C26	Chatham	New Hill	New Hill	Harris Plant Apex US#1 230kv	Cary	1078K
C27	Chatham	Wilsonville	Green Level	Harris Plant – RTP 230 KV	Cary	2032K
C28	Chatham	N/A – Solar Powered				
C29	Chatham	Big Woods	Pittsboro	Harris Plant Siler City 230kv	Cary	CS23AF

Attachment 9 – Siren Feeders

Sheet 2 of 3

Siren #	County	Feeder	Sub-Station	Transmission Line	Ops Center	Transformer #
C30	Chatham	Wilsonville	Green Level	Harris Plant – RTP 230 KV	Cary	1598K
C31	Chatham	Wilsonville	Green Level	Harris Plant – RTP 230 KV	Cary	284K
H01	Harnett	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	M030
H02	Harnett	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	L424BH
H03	Harnett	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	J006BH
H04	Harnett	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	K684BH
H05	Harnett	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	11RE40
H06	Harnett	N/A – Powered by CEMC				
H07	Harnett	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	M110
H08	Harnett	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	12F014
H09	Harnett	Duncan	Duncan 230/23	Harris Plant Erwin 230kV	Garner	J060BH
H10	Harnett	South Park	Fuquay	Harris Plant Erwin 230kV	Garner	P268
L01	Lee	N/A – Powered by CEMC				
L02	Lee	N/A – Powered by CEMC				
L03	Lee	N/A – Powered by CEMC				
L04	Lee	N/A – Powered by CEMC				
L05	Lee	N/A – Powered by CEMC				
L06	Lee	N/A – Powered by CEMC				
L07	Lee	N/A – Powered by CEMC				
L08	Lee	Moncure	Moncure	Cape Fear Plant Method 115kV	Sanford	V982AC
W01	Wake	N/A – Solar Powered				
W02	Wake	Harris Plant	New Hill	Harris Plant Apex US#1 230kv	Cary	12688
W03	Wake	Harris Plant	New Hill	Harris Plant Apex US#1 230kv	Cary	7921K
W04	Wake	N/A – Solar Powered (has 3 solar panels)				
W05	Wake	Wilbon	Duncan 230/23	Harris Plant Erwin 230kV	Garner	M872
W06	Wake	Holly Springs	Holly Springs	Harris Plant Wake 230kV	Garner	N993BH
W07	Wake	N/A – Solar Powered				
W08	Wake	New Hill	New Hill	Harris Plant Apex US#1 230kv	Cary	8185K
W09	Wake	New Hill	New Hill	Harris Plant Apex US#1 230kv	Cary	1187K
W10	Wake	Arbor Creek	Holly Springs 230/23	Harris Plant Wake 230kV	Garner	S551BH
W11	Wake	Holly Springs	Holly Springs 230/23	Harris Plant Wake 230kV	Garner	N909BH
W12	Wake	Wilbon	Duncan 230/23	Harris Plant Erwin 230kV	Garner	L869BH

Attachment 9 – Siren Feeders

Sheet 3 of 3

Siren #	County	Feeder	Sub-Station	Transmission Line	Ops Center	Transformer #
W13	Wake	Wilbon	Duncan 230/23	Harris Plant Erwin 230kV	Garner	M408
W14	Wake	Wilbon	Duncan 230/23	Harris Plant Erwin 230kV	Garner	J702BH
W15	Wake	Wilbon	Duncan 230/23	Harris Plant Erwin 230kV	Garner	K283BH
W16	Wake	Rhamkatte	Holly Springs	Harris Plant Wake 230kV	Garner	8CG69
W17	Wake	N/A – Solar Powered (has 3 solar panels)				
W18	Wake	New Hill	New Hill	Harris Plant Apex US#1 230kv	Cary	4165K
W19	Wake	New Hill	New Hill	Harris Plant Apex US#1 230kv	Cary	1394K
W20	Wake	Wilsonville	Green Level	Harris Plant – RTP 230 KV	Cary	CC439
W21	Wake	N/A – Powered by Town of Apex				
W22	Wake	Olive Chapel	Apex	Apex US#1 Cary Regency Park 230kv	Cary	3895K
W23	Wake	Olive Chapel	Apex	Apex US#1 Cary Regency Park 230kv	Cary	1099K
W24	Wake	Arbor Creek	Holly Springs 230/23	Harris Plant Wake 230kV	Garner	S278BH
W25	Wake	Rhamkatte	Holly Springs 230/23	Harris Plant Wake 230kV	Garner	U251BH
W26	Wake	Fuquay	Fuquay	Harris Plant Erwin 230kV	Garner	H140BH
W27	Wake	South Park	Fuquay	Harris Plant Erwin 230kV	Garner	G754
W28	Wake	Needmore	Fuquay Bells Lake	Harris Plant Wake 230kV	Garner	B924BH
W29	Wake	N/A – Solar Powered (has 3 solar panels)				
W30	Wake	Apex North	Apex	Apex US#1 Cary Regency Park 230kv	Cary	7162K
W31	Wake	N/A – Powered by Town of Apex				
W32	Wake	N/A – Powered by Town of Apex				
W33	Wake	Green Level	Green Level	Harris Plant – RTP 230 KV	Cary	A003K
W34	Wake	WIMBERLY ROAD 24KV	Green Level	Harris Plant – RTP 230 KV	Cary	13X857
W35	Wake	N/A – Solar Powered				

Attachment 10 – Siren Locations

Sheet 1 of 3

Siren #	# cells	# cells to be considered functional	North Lat.	West Long.	Location
C01	8 CELL	6	35 34 35.0	78 55 56.2	0.9 miles down Auger Hole Rd, ten right through yellow gate, then 0.2 miles down dirt road.
C02	8 CELL	6	35 35 35.7	78 57 00.9	Located near end of Bartley Holleman Rd. boat landing at yellow gate.
C03	8 CELL	6	35 33 21.0	78 57 11.6	End of Truth Rd.
C04	8 CELL	6	35 32 39.2	78 59 25.8	1.7 miles down Buckhorn Rd
C05	10 CELL	8	35 33 0.9	79 01 24.3	Hwy 42 Cape Fear River boat ramp
C06	8 CELL	6	35 34 28.9	78 59 15.0	2893 NC Hwy 42.
C07	10 CELL	8	35 36 23.9	78 59 31.0	Christian Chapel Church Rd
C08	8 CELL	6	35 34 57.1	79 01 08.3	Near 385 Moncure Flatwood Rd.
C09	8 CELL	6	35 35 54.7	79 02 42.6	By railroad tracks near Cape Fear Plant
C10	8 CELL	6	35 37 55.9	79 01 28.5	4593 Old US1.
C11	10 CELL	8	35 38 34.3	79 00 45.2	Across from 259 New Elam Church Rd
C12	8 CELL	6	35 37 40.1	79 03 06.7	Across from 865 Pea Ridge Rd and Advance Material.
C13	8 CELL	6	35 37 17.9	79 05 10.3	Near address 8160 Moncure Pittsboro Rd.
C14	8 CELL	6	35 38 24.4	79 06 25.3	John Robert Headen Rd off of Moncure Pittsboro Rd.
C15	10 CELL	10	35 38 29.5	79 04 23.2	84 Forest Lakes Estates Drive
C16	10 CELL	10	35 39 50.1	79 02 29.1	Near the intersection of New Elam Church Rd and Pea Ridge Rd.
C17	N/A – siren C17 was not used.				
C18	10 CELL	8	35 41 01.4	79 00 25.4	Across the street from 4272 Beaver Creek Rd.
C19	10 CELL	8	35 41 04.0	79 02 47.1	Jordan Lake - New Hope Overlook Boat Ramp.
C20	10 CELL	10	35 40 24.7	79 05 26.6	Across from 2475 Gum Springs Church Rd
C21	8 CELL	6	35 39 29.5	79 07 53.9	Near 4479 Moncure Pittsboro Rd.
C22	10 CELL	8	35 41 48.5	79 05 42.5	Across from 455 Providence Church Rd
C23	10 CELL	8	35 42 32.0	79 03 30.2	Jordan Lake Vista Point by checkpoint.
C24	10 CELL	8	35 42 25.2	79 00 58.7	Located on Beaver Creek Rd near Ebenezer Rd (near Ebenezer Church Rec Area) - up on hill.
C25	8 CELL	6	35 41 46.4	78 58 44.6	Near Big Oak Drive/Poole Rd intersection
C26	10 CELL	8	35 43 53.6	78 57 46.4	Near 649 Olive Chapel Rd -
C27	10 CELL	8	35 44 09.3	79 00 0.5	Beaver Creek Rd behind Wilsonville General Store.
C28	10 CELL	8	35 44 47.0	79 02 08.0	Parkers Creek campground loop 2.
C29	10 CELL	8	35 44 03.5	79 04 46.5	Near 270 Country Lane
C30	10 CELL	8	35 45 50.5	79 00 14.1	Address 190 Horton Pond Rd.
C31	10 CELL	8	35 46 13.9	78 57 41.4	Near 2274 Hwy 751
H01	8 CELL	6	35 33 06.1	78 55 49.3	Hwy 42 at Eastmill Rd.
H02	10 CELL	8	35 33 24.6	78 53 35.9	Truelove Rd near intersection Truelove Rd and Wade Stephenson Rd
H03	8 CELL	6	35 32 42.6	78 52 05.8	Near intersection Oakridge Duncan Rd and Bakertown Rd (across from 848 Oakridge Duncan Rd).
H04	8 CELL	6	35 31 48.7	78 54 33.0	3450 Cokesbury Rd.
H05	8 CELL	6	35 32 22.8	78 56 14.2	0.4 miles down Clarks Corner Rd.
H06	10 CELL	8	35 30 17.8	78 59 07.2	Near 415 Daniels Creek Rd.
H07	10 CELL	9	35 30 00.1	78 55 41.7	Intersection of River Rd and Jasmine Rd near Raven Rock State Park.

Attachment 10 – Siren Locations

Sheet 2 of 3

Siren #	# cells	# cells to be considered functional	North Lat.	West Long.	Location
H08	10 CELL	8	35 30 19.9	78 52 43.0	On Smith Prince Rd 0.3 miles from intersection of Christian Light and Smith Prince Rd
H09	8 CELL	6	35 32 01.6	78 51 00.7	7391 Rawls Church Rd.
H10	8 CELL	6	35 33 1.4	78 48 47.1	11609 Hwy 401- south of Fuquay.
L01	10 CELL	8	35 31 04.8	78 59 53.5	477 Round Fish Rd.
L02	10 CELL	8	35 30 35.9	79 01 40.4	Near 4749 Buckhorn Rd.
L03	10 CELL	8	35 32 4.8	79 03 23.8	Across from 6851 Poplar Springs Church Rd.
L04	8 CELL	6	35 34 10.4	79 03 34.0	Near intersection of Lower River road and Cletus Hall Rd.
L05	10 CELL	8	35 33 00.3	79 05 9.6	Turn on dirt/gravel road at 3730 Lower Moncure Rd. -siren on the right about 1/4 mile down that road.
L06	10 CELL	8	35 35 46.4	79 04 22.4	Near 4877 Lower River Road.
L07	10 CELL	8	35 34 48.5	79 06 36.6	Located behind gate just before the bridge off of Rod Sullivan Road near Sanford Airport.
L08	10 CELL	8	35 36 51.1	79 07 16.8	Near 6083 Deep River Rd.
W01	8 CELL	6	35 38 04.0	78 59 11.4	On dirt road near Triangle Brick Plant (1.4 miles down gravel road).
W02	8 CELL	6	35 37 43.7	78 57 35.3	Located at HNP behind sewage treatment plant.
W03	8 CELL	6	35 38 39.0	78 56 38.3	Located on Shearon Harris Road by Met Tower.
W04	8 CELL	6	35 36 30.1	78 56 23.1	Hollemans Crossroads boat landing.
W05	8 CELL	6	35 35 30.60	78 54 41.9	Cass Holt Road (dirt/gravel part of road).
W06	10 CELL	8	35 36 53.2	78 54 57.3	Hollemans Crossroads cemetery.
W07	8 CELL	6	35 38 15.0	78 55 00.4	Off of New Hill Holleman Rd near Ironrod Way (behind yellow gate G018)
W08	10 CELL	8	35 40 33.4	78 56 44.7	Across from 3916 Old US 1.
W09	10 CELL	8	35 40 10.3	78 54 27.7	Across from 4312 Friendship Rd.
W10	8 CELL	6	35 39 28.5	78 52 23.6	Holly Springs New Hill Road.
W11	10 CELL	8	35 37 45.4	78 51 58.6	Avent Ferry Rd near Braxton Village entry
W12	10 CELL	8	35 35 48.6	78 53 00.9	Intersection Cass Holt Rd and Brownwood Drive.
W13	8 CELL	6	35 34 51.3	78 51 57.7	6600 Buckhorn Duncan Road
W14	10 CELL	8	35 34 37.8	78 49 58.1	2320 Fleming Road
W15	10 CELL	8	35 36 29.7	78 50 16.7	5737 Spence Farm Rd
W16	10 CELL	8	35 38 53.4	78 49 51.1	516 Lee Street by water tower.
W17	8 CELL	6	35 41 08.9	78 53 19.6	Woodcreek Rd (0.8 miles from Friendship Rd intersection). Near PE gate G066.
W18	8 CELL	6	35 42 0.5	78 54 14.8	7608 Humie Olive Rd.
W19	10 CELL	8	35 42 12.9	78 56 27.6	Intersection of New Hill Olive Chapel Rd and Barker Rd.
W20	10 CELL	8	35 44 39.2	78 55 23.8	Near Intersection of Hwy 64 and Goodwin Rd
W21	8 CELL	6	35 43 21.	78 54 08.8	Apex Barbecue Road about ½ way between Kelly Rd. and Olive Chapel Rd. (Town of Apex pole address is 7320 Apex BBQ Rd).
W22	10 CELL	8	35 42 28.0	78 51 40.5	Near 1049 Irongate Dr.
W23	8 CELL	6	35 41 19.8	78 51 45.4	Woodcreek Rd (3.1 miles from Friendship Rd intersection).
W24	8 CELL	6	35 40 32.6	78 50 00.5	Highway 55 across from Arbor Creek Subdivision.
W25	8 CELL	6	35 36 54.6	78 48 42.4	Intersection Hwy 55 and Wade Nash Rd.

Attachment 10 – Siren Locations

Sheet 3 of 3

Siren #	# cells	# cells to be considered functional	North Lat.	West Long.	Location
W26	10 CELL	8	35 35 33.7	78 47 57.4	Action Park near intersection of Action Drive and Wake Chapel Rd.
W27	8 CELL	6	35 33 54.1	78 48 02.3	Intersection of Sewer Plant Rd. and Bowling Rd.
W28	10 CELL	8	35 37 40.4	78 46 42.5	Near intersection of Hilltop Needmore Rd and Sunset Lake Rd..
W29	8 CELL	6	35 40 32.6	78 47 40.2	Intersection of Kildaire Farm Rd and Holly Springs Rd.
W30	8 CELL	6	35 42 24.6	78 48 17.1	Near intersection of 1010 rd./Smith Rd.
W31	8 CELL	6	35 43 31.8	78 49 58.8	1040 Investment Blvd. (town of Apex pole address is 1030 Investment Blvd)
W32	10 CELL	8	35 44 10.1	78 51 49.7	Intersection of Hwy 55 and Olive Chapel Rd (town of Apex pole address 800 Hunter Street).
W33	10 CELL	8	35 45 33.6	78 53 3.9	7200 Jenks Road
W34	8 CELL	6	35 46 08.4	78 55 37.5	Near 625 Wimberly Rd
W35	10 CELL	8	35 39 35.0	78 58 22.0	Bonsal Rd just beyond railroad tracks.

Attachment 11 – Inadvertent Actuation of the Siren System

Sheet 1 of 1

Date _____

Time _____

Name and phone number of caller: _____

Location of caller: _____

NOTE: If this is a report of a siren activation, request a description of the siren location or the direction the sound is coming from.
--

Siren Number if known: _____

Description of event: _____

Offsite Notifications Made: _____

Call received by: _____

EP individual contacted: _____

Revision 21 Summary		
Rev. 21 processed with PRR: 1976704 PRRs Incorporated: 733886, 19511287, 1974487, 1976704, 1983453, 1993632, 1995141, 1998060, 2025412, 2039413 ECs Incorporated: 296271		
Throughout procedure, updated procedure references due to new fleet procedures superseding old Progress Energy procedures.		
[PRR 709298] This PRR will be cancelled as it was incorporated in a previous revision to add CR initiation per AD-PI-ALL-0100.		
[PRR 733886] Attachment 4 revised to add "(If performing for Post-Maintenance, then all checklist items may not be needed.)".		
[PRR1951287] Attachment 2 revised to correct step number referencing.		
[PRR 1974487] Section 5.2.11 step 3.c and step 4.c revised from "...obtain approval signature." to "...obtain approval signature (SRO and Manager EP)." Attachment 2 and Attachment 6 revised to add signature line for SRO approval.		
[PRR 1976704, EC 296271] Section 5.2.18 step 3.f revised to delete "Selective Signaling System"		
[PRR 1983453] Throughout revised terms such as "operable" to "functional", "operability" to "functionality", "inoperable" to "non-functional".		
[PRR 1993632] Section 5.1.3 step 3.a revised to delete the 2nd sentence "The NC Department of Emergency Management composes and provides the test message to the National Weather Service." Section 5.1.3 step 3.b is a new step stating "Provide a test message for the National Weather Service to use for the test."		
[PRR 1995141] Section 5.2.11 step 1.e revised from "...for solar powered sirens)" to "...for solar powered sirens C02, C04, C19, C28, W01, W04, W07, W17, W29 and W35)"		
[PRR 2039413] Added reference 2.0.18 for CR 182074. Renumbered 5.1.5.1.e as 5.1.5.2, and 5.1.5.1.e(1) as 5.1.5.2.a. Deleted 5.1.5.1.e (old number) NOTE "The report provides listings in three categories: TAR Customers Within Five Miles, Non-TAR Customers Within Five Miles, and TAR Customers Outside Five Miles." Deleted 5.1.5.1.e(1) (old number) last bullet "The number of customers in the review that is performed in close proximity to the annual test should be approximately the same as the number of customers provided in the annual battery replacement mailing list. This number might not be exactly the same, depending on when the mailing list was received and the latest update." Added 5.1.5.3 "On a weekly basis, perform a review of new residential tone alert radio accounts from the Customer Information Management (CIM) System. The CIM is the database for tone alert radio accounts that is maintained by the Customer Service Center. (CR 182074)"		
[PRR 2039772 partially incorporated] Deleted Attachment 2 sheet 2 which showed a sample report.		
Updated instructions for initiating a CR due to computer program change. Section 5.2.21 step 2.c(2) revised from "When initiating the CR in Single Point Entry, select 'YES' when answering the prompt "Does this condition represent a potential operability/reportability concern?" " to "When initiating the CR, select 'YES' when answering the prompt "Is this a potential Operability / Reportability issue?" "		

Revision 21 Summary

[PRR 2025412] Updated criteria per NEI 13-01 for siren loss:

Section 5.2.13 step 1 revised from "Greater than 16 of the 83 sirens (20% of system), OR All sirens in a single county" to "Siren loss impacts greater than 25% of EPZ population"

Section 5.2.13 step 2 revised From "Once the number of out-of-service sirens exceeds sixteen (16) or all sirens in a single county, monitor siren status and inform the Control Room of any changes." To "Monitor siren status and inform the Control Room of any changes. "

Section 5.2.13 step 3 revised From "HNP Emergency Preparedness will notify the appropriate County Emergency Management personnel if five (5) or more sirens in the county are to be out-of-service overnight. Once the county is notified of siren problems, monitor siren status and inform the county of any changes. " To "HNP Emergency Preparedness will notify the appropriate County Emergency Management personnel if a siren(s) in the county are to be out-of-service for greater than one hour. Once the county is notified of siren problems, monitor siren status and inform the county of any changes. "

Section 5.2.18 step 3.e revised from "if multiple sirens are involved, refer to PLP-717..." to "If siren loss impacts greater than 25% of EPZ population, refer to PLP-717..."

[PRR 1998060] Revised Section 5.2.2

From:

5.2.2 System Shutdown

NOTE: The preferred method for shutting down and/or restarting the system is to do a controlled shutdown by shutting down all open applications and then restarting. This may not always be possible. For example, if the system "locks up", then the only option may be to power off then power on.

1. Ensure operator is logged in with System Manager level password.
2. Press the "**ESCAPE**" button on the keyboard.
3. Minimize the screen to allow access to the Windows Task Bar at the bottom of the screen.
4. Close down the open applications and respond to the prompts.
 - a. MODBUS
 - b. InTouch Windows Viewer
 - c. Microsoft Excel
 - d. Any other open applications
5. Select START from the taskbar.
6. Select Log Off and then Log Off again.
7. Select Turn Off Computer.
8. Select the desired option - Stand By, Turn Off or Restart computer.

To:

5.2.2 System Shutdown/Restart

NOTE: The preferred method for shutting down and/or restarting the system is to do a controlled shutdown as described below.. This may not always be possible. For example, if the system "locks up", then the only option may be to power off then power on.

1. Log on if not already logged on.
2. Press the ESC key to hide the Harris Plant title bar allowing you to the Close WindowViewer.
3. Close WindowViewer.
4. Select START on the task bar.
5. Select Log Off.
6. Click the icon in the bottom right of the screen.
7. Select the desired option to Shut Down or Restart computer (whichever you are trying to do).