Progress Energy

PO Box 1551
411 Fayetteville Street Mall
Raleigh NC 27602

Attachment 1 to this letter contains SECURITY-RELATED INFORMATION -WITHHOLD UNDER 10 CFR 2.390. Upon removal of Attachment 1 this letter is uncontrolled.

10 CFR 73.5

Serial: RA-09-018
November 30, 2009

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555-0001

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400 / LICENSE NO. NPF-63

REQUEST FOR EXEMPTIONS FROM PHYSICAL SECURITY REQUIREMENTS

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 73.5, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., requests the Nuclear Regulatory Commission (NRC) approve exemptions from specific requirements of 10 CFR Part 73, "Physical Protection of Plants and Materials." The exemptions requested would extend the compliance due date for Shearon Harris Nuclear Power Plant, Unit No. 1, for certain measures required by the revised rule.

The NRC issued a Final Rule for revised security requirements in the Federal Register dated March 27, 2009. Pursuant to the Final Rule, the revised security requirements must be implemented by March 31, 2010. CP&L has performed an extensive evaluation of the Final Rule and will achieve compliance with a vast majority of the revised rule by the March 31, 2010, compliance date.

CP&L has determined, however, that implementation of three specific provisions of the Final Rule will require more time to implement because they involve upgrades to the security system that require significant physical modifications (e.g., the installation of additional intrusion detection equipment, the relocation of certain security assets, and upgrading of uninterruptable power supplies). Additional time beyond the March 31, 2010, date is requested to complete these security modifications. Additional details regarding the specific provisions of the rule for which exemptions are requested, and the length of the exemptions are provided in Attachment 1.

This letter contains the following attachments:

- Attachment 1: Exemption Request for the Shearon Harris Nuclear Power Plant, Unit No. 1 (Contains Security-Related Information – Withhold Under 10 CFR 2.390)
- Attachment 2: Redacted Version of Exemption Request for the Shearon Harris Nuclear Power Plant, Unit No. 1

As noted above, Attachment 1 contains security-related information associated with the physical protection of Shearon Harris Nuclear Power Plant, Unit No. 1, as described in 10

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CFR 2.390(d)(1). Accordingly, CP&L requests that the information contained in Attachment 1 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390.

This letter contains no regulatory commitments.

If you should have any questions regarding this submittal, please contact Ed O'Neil, Director – Nuclear Protective Services, at (919) 546-2151.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 30, 2009.

Sincerely,

R. J. Duncan II
Vice President, Nuclear Operations
Progress Energy, Inc.

RJD/dbm

Attachments:

1. Exemption Request for the Shearon Harris Nuclear Power Plant, Unit No. 1 (Contains Security-Related Information – Withhold Under 10 CFR 2.390)
2. Redacted Version of Exemption Request for the Shearon Harris Nuclear Power Plant, Unit No. 1

c: J. Wiggins, USNRC Director – Office of Nuclear Security and Incident Response
L. Reyes, USNRC Regional Administrator – Region II
USNRC Resident Inspector – SHNPP, Unit No. 1
M. Vaaler, NRR Project Manager – SHNPP, Unit No. 1

Attachment 1 to this letter contains
SECURITY-RELATED INFORMATION -WITHHOLD UNDER 10 CFR 2.390.
Upon removal of Attachment 1 this letter is uncontrolled.

Attachment 2

Redacted Version of

Exemption Request for the Shearon Harris Nuclear Power Plant, Unit No. 1

Shearon Harris Nuclear Power Plant, Unit No. 1

Docket No. 50-400/License No. NPF-63

Request for Exemption from Specific Provisions in 10 CFR 73.55

A. Background

The NRC recently issued a Final Rule for revised security requirements in the Federal Register dated March 27, 2009. Pursuant to 10 CFR 73.55(a)(1) of the Final Rule, the revised security requirements in 10 CFR 73.55 must be implemented by March 31, 2010. Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., has completed an extensive evaluation of these new requirements. This evaluation included a new comprehensive blast analysis for each of Progress Energy's four nuclear sites. The comprehensive blast analysis included consideration of equipment necessary to maintain the four required alarm station functions, consideration of explosives as allowed by the Design Basis Threat (DBT), and research of construction records to determine exact wall construction. Additionally, as resolutions to identified vulnerabilities were evaluated, CP&L's internal adversary team was consulted to assure that thorough resolutions were chosen.

As a result of this extensive evaluation, CP&L has determined that the Shearon Harris Nuclear Power Plant, Unit No. 1, (HNP) site will be in compliance with the vast majority of the requirements in the Final Rule within the brief implementation period. Significant efforts are being expended to comply with the revised rule requirements in the Final Rule. These efforts include: implementation of the new safety/security interface requirements, revising and implementing the Training and Qualification Plan in accordance with the new requirements, revising and implementing the new increased drill and exercise requirements, and resolving the major logistical challenges involved with the increased number of drills and exercises involving the adversary team and MILES gear. To address some of the logistical challenges, Progress Energy plans to centrally control the MILES gear and is voluntarily adopting the Department of Energy standards for issuance of the MILES gear for drills and exercises.

However, CP&L has determined that implementation of three specific parts of the revised requirements will require additional time since they involve significant physical upgrades to the HNP security system. These changes are significant physical modifications that will benefit the HNP defensive strategy beyond the minimum requirements necessary to meet the new security requirements.

Prior to the issuance of the Final Rule, Progress Energy had embarked on several significant

security improvement initiatives to enhance the fleet's protective strategy, replace aging security equipment, and standardize security systems across the company's four nuclear sites. At HNP, this involves the construction of a new firing range (complete), installation of Owner Controlled Area (OCA) thermal motion detection cameras (complete), replacing the intrusion detection systems, and replacing security card readers, none of which are directly associated with the Final Rule.

Upon review of the Final Rule, CP&L reordered the work and added three projects necessary to achieve compliance with the Final Rule. These projects are:

{ }

Projects 1, 2, and 3 listed above, are significant modifications that will be completed by July 30, 2010, December 15, 2010, and December 15, 2010, respectively. Once completed, they will provide a robust defensive posture beyond that which would be achieved through minimum compliance with the regulations. See Table 1 below for project milestone schedules.

B. Proposed Exemptions

CP&L requests exemptions, from the implementation date only, for the three items listed below. CP&L will maintain the current HNP site protective strategy in accordance with the current Physical Security Plan. The current HNP site protective strategy has been approved by the NRC staff as providing a high assurance for the protection of the facility and public from the effects of radiological sabotage. Accordingly, the requested exemptions to defer compliance with three provisions of 10 CFR 73.55 until July 30, 2010, and December 15, 2010, as described above, *"will not endanger life or property or the common defense and security, and are otherwise in the public interest."*

<u>Item 1</u>

{ }

Item 2

Item 3

C. Basis for Exemptions

CP&L is seeking exemption from the March 31, 2010, compliance date to July 30, 2010, and December 15, 2010, for three provisions listed in 10 CFR 73.55 as discussed in Section B. HNP management has approved the plan to install additional intrusion detection equipment, relocate certain security assets, and upgrade the backup power system. These projects include several significant plant modifications:

A schedule for these projects is summarized in Table 1 below which shows critical milestones.

These plant modifications are significant in scope involving the construction of new facilities, extensive design and procurement efforts, and work with high voltage cabling and the personnel safety risk associated with such work. These modifications warrant a thorough review of the safety security interface and must be coordinated with the Fall 2010 refueling outage. All of these efforts require careful design, planning, procurement, and implementation efforts as discussed below.

Design work has begun for these modifications; however, the designs are currently in the early stages. Therefore, there are many details that have yet to be carefully worked out to support procurement, construction, and operation. The selection of the engineering firm is complete for Items 1 and 2; CP&L is developing the designs for Item 3 in-house. The detailed design package for these projects is in progress. CP&L has expedited the processes to this point by sole sourcing the blast analysis, conceptual design work, and detailed design work thus eliminating the time that would have been required to move through the competitive bidding process.

<u>Item 1</u>

Since the security systems must remain operational, careful coordination during installation of the new equipment is critical to ensure safety and continuous operation of the security systems.

Procurement and construction will begin once the 70 percent design complete stage is reached and will proceed in parallel with the completion of the design work. Approximately

five and one half months will be required to reach the 70 percent design complete stage and approximately two and one half months will be required to complete procurement of the necessary equipment.

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Item 2

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Trenching from the { } to a point at which the { } is a tedious process that requires the highest level of planning and safety oversight and must be performed in a methodical manner to ensure both personnel and nuclear safety are maintained. Approximately three months of design work will be necessary to reach the 70 percent design complete stage at which point duct bank installation can begin.

Excavation and trenching in and around the PA is a slow process which typically involves hand excavating the surface and then vacuuming away the loose dirt to prevent the inadvertent severance of underground power, communications, and piping systems that could disrupt plant operations or security systems. Approximately five months will be required to install the duct banks and route the necessary cabling. Trenching and cable routing will proceed in parallel with the relocation and tie-in of the { } discussed in Item 3 below. Acceptance testing of the new { } IDS and alarm assessment cameras cannot take place until the relocation { } are completed. Once started, acceptance testing will take approximately three weeks.

The installation of fences, IDS, alarm assessment cameras and associated equipment to control the { } will provide an additional layer of protection by creating an isolation zone capable of providing early detection of attempted or actual intrusion before penetration of the PA boundary. Security officers will also be able to fully

utilize the security systems to assess { } alarms consistent with other PA barriers.

Item 3

{ }

The building housing some of the important electrical equipment { } that supports the four functions of the alarm stations will be blast protected to provide additional protection to that equipment. A reinforced concrete wall will be installed outside the affected area. The design will address numerous single act scenarios and substantially improve the margin of safety inside the structure. Design and construction of the reinforced concrete wall will require approximately nine months to complete. This work will be done in parallel with the work to { }

{ }

Significant work is required to complete this facility. Additional ballistic walls must be erected to define a portion of the space for security equipment necessary to maintain the detection and assessment systems safe from single act vulnerability. Further complicating the already complex project is the need to design and construct the new security facility to meet the requirements of { } Facility design and construction will proceed in parallel with the projects to { } discussed below.

The relocation project involves several modifications to the { } for the new facility. These systems are being designed and include technology upgrades which will enhance the defensive capabilities of the security organization. The design, procurement, and construction of the upgraded systems represent the critical path for completing Item 3. Approximately five and one half months are required to reach the design 70 percent complete stage of this modification at which point the design will be complete enough to support procurement and start of construction. Construction will take approximately five and one half additional months before final connections and testing can begin.

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{ Trenching in the PA of nuclear plants requires the highest level of planning and safety oversight and must be performed in a methodical manner to ensure both personnel and nuclear safety are maintained. Excavation and trenching in the PA is a slow process which typically involves hand excavating the surface and then vacuuming away the loose dirt to prevent the inadvertent severance of underground power, communications, and piping systems that could disrupt plant operations. }

CP&L believes those security facilities that are in or near the interior vital areas of the plant are the most effective throughout the range of contingencies for which we must prepare. Relocating the { } deeper inside the PA to a new facility will ensure that HNP is compliant with the single act requirements, and also position security resources in an area well protected from a variety of other threats. The new facility will also be available for future plans { } to further improve HNP's protective strategy.

Summary

CP&L is expending a great deal of effort in the design and planning phases of these projects to ensure a sound safety-security interface.

- Operating experience from the implementation of previous security orders has shown that decisions made within a compressed schedule to meet an aggressive deadline often create unintended consequences that have long-term adverse impacts on the site. Additional time for design and implementation will help to avoid adverse consequences associated with these projects.
- Many activities have to be completed in series while other activities can be accomplished in parallel. Additional time will provide for better planning and

execution to better assure personnel safety and a sound safety-security interface throughout the construction portion of the project.

- The Fall 2010 HNP refueling outage, beginning in October, presents logistical challenges for the projects. Final testing of security systems during the refueling outage would require careful coordination with the many outage activities to assure no adverse impact on the safety-security interface. To better ensure a sound safety-security interface during modification installation, it is prudent for the final acceptance testing to commence at or near the end of the refueling outage when most major outage work has been completed and the majority of supplemental personnel for the outage have exited the site.

These modifications will provide several long term security benefits for HNP:

CP&L believes that the additional time necessary to complete these projects is warranted based on the strengthened security posture that will be achieved through the implementation of these projects.

CP&L believes that the significant scope of the modifications and the time necessary to safely construct and test the modifications justify an exemption to the March 31, 2010, compliance date of the Final Rule. Therefore, CP&L believes that our actions are in the best interest of protecting public health and safety through the security changes that will be instituted.

D. Environmental Assessment

Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., is requesting an exemption for Shearon Harris Nuclear Power Plant, Unit No. 1, (HNP), in accordance with 10 CFR 73.5, "Specific exemptions." The requested exemptions would defer the compliance date from March 31, 2010, as specified in 10 CFR 73.55(a)(1), to July 30, 2010, and December 15, 2010, for three specific provisions of 10 CFR 73.55. The proposed action is needed to allow additional time for the design and

installation of security modifications that are expected to provide long term benefits in security posture and capabilities. In lieu of full compliance with the three provisions of 10 CFR 73.55, as revised on March 27, 2009, CP&L will maintain the current HNP site protective strategy in accordance with the current Physical Security Plan. The current HNP site protective strategy has been approved by the NRC staff as providing a high assurance for the protection of the facility and public from the effects of radiological sabotage.

Deferral of compliance from March 31, 2010, to July 30, 2010, and December 15, 2010, for three specific provisions of 10 CFR 73.55 is a compliance date change only and, therefore, does not result in any physical changes to structures, systems, and components (SSCs) or land use at HNP. Therefore, the deferral of the compliance date does not involve:

- any change to the types, characteristics, or quantities of non-radiological effluents discharged to the environment.
- any changes to liquid radioactive effluents discharged to the environment.
- any changes to gaseous radioactive effluents discharged to the environment.
- any change in the type or quantity of solid radioactive waste generated.
- any change in occupational dose under normal or Design Basis Accident (DBA) conditions.
- any change in the public dose under normal or DBA accident conditions.
- any land disturbance.

Conclusion

There is no significant radiological environmental impact associated with the proposed exemption. The proposed exemption will not affect any historical sites nor will it affect non-radiological plant effluents.

Table 1: Project Schedule Milestones*

* The dates and sequences provided in this milestone schedule are best estimates based on information available at the time the schedule was developed and may change as designs are finalized and construction proceeds. Therefore, these dates and sequences are not considered to be regulatory commitments.

Figure 1: { **}**

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Figure 2, HNP Site Layout

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