Progress Energy

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

PO Box 1551
411 Fayetteville Street Mall
Raleigh NC 27602

Serial: RA-10-020
September 20, 2010

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 / RENEWED LICENSE NO. NPF-63

REQUEST FOR EXEMPTION FROM PHYSICAL SECURITY REQUIREMENTS

REFERENCES:

1. Progress Energy letter from R. J. Duncan II to the Nuclear Regulatory Commission Document Control Desk titled, *Request for Exemptions from Physical Security Requirements*," dated November 30, 2009
2. Progress Energy letter from R. J. Duncan II to the Nuclear Regulatory Commission Document Control Desk titled, *Supplement to Exemption Request from Physical Security Requirements*, dated December 16, 2009
3. Nuclear Regulatory Commission letter from Marlayna Vaaler to Chris L. Burton titled, *Shearon Harris Nuclear Power Plant, Unit 1 – Exemption From the Requirements of 10 CFR Part 73, Section 73.55 (TAC No. ME2827),* dated February 24, 2010

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 an exemption from a specific requirement of 10 CFR Part 73, "Physical Protection of Plants and Materials." The exemption requested would extend the compliance due date for Shearon Harris Nuclear Power Plant, Unit No. 1, for a single measure 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 had to be implemented by March 31, 2010. CP&L achieved compliance with a vast majority of the revised rule by the March 31, 2010, compliance date. In Reference 1, as supplemented by Reference 2, CP&L requested exemptions for additional time to comply with three specific provisions of the revised rule. These exemptions were approved by the NRC via Reference 3.

CP&L has determined that additional time, beyond that previously approved by the NRC in Reference 3, will be required to achieve compliance with one of the provisions. The schedules used in Reference 1 were based on the conceptual design information available at the time of the submittal and regrettably were not fully informed regarding the complexity and scope of the tasks to be performed. The designs are now almost fully developed and the

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discovery phase is essentially complete. As a result, more accurate schedules have now been developed. The additional time is needed due to the complexity of the design and construction of the projects and unforeseen issues involving the work to relocate certain security assets. Additional time, beyond that approved in Reference 3, is therefore requested to complete the necessary security modifications. Additional details regarding the specific provision of the rule for which an exemption is requested, and the length of the exemption 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 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.

CP&L requests approval of this exemption request by December 15, 2010, the compliance date previously approved in Reference 3.

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 September 20, 2010.

Sincerely,

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

RJD/dbm

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

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
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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 Nuclear Regulatory Commission (NRC) 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 were to be implemented by March 31, 2010. Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., 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 selected.

As a result of this extensive evaluation, CP&L determined that the Shearon Harris Nuclear Power Plant, Unit No. 1, (HNP) site would be in compliance with the vast majority of the requirements in the Final Rule within the brief implementation period. Significant efforts were and 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 Multiple Integrated Laser Engagement System (MILES) gear. To address some of the logistical challenges, Progress Energy centrally controls the MILES gear and has voluntarily adopted the Department of Energy standards for issuance of the MILES gear for drills and exercises.

However, CP&L previously determined that implementation of three specific parts of the revised requirements would 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. {

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Upon review of the Final Rule, CP&L identified three projects necessary to achieve

compliance with the Final Rule. These projects were:

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The projects listed above, are a series of significant modifications which, once completed, will provide a robust defensive posture beyond that which would be achieved through minimum compliance with the regulations.

Compliance with the above listed rule provisions was the subject of the November 30, 2009, exemption request (Ref. 1) which was approved by the NRC on February 24, 2010 (Ref. 3). CP&L has determined that additional time, beyond that previously approved by the NRC in Reference 3, will be required to achieve compliance with one of the three items. { } (d)(1) compliance has been delayed due to the complexity of the work, and the existence of safety significant equipment in the work area limiting access to the area.

See Table 1 below for project milestone schedules.

B. Proposed Exemption

CP&L requests an exemption, from the implementation date only, for the item 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 high assurance for the protection of the facility and public from the effects of radiological sabotage. Accordingly, the requested exemption to defer compliance with one provision of 10 CFR 73.55 until November 30, 2011, *"will not endanger life or property or the common defense and security, and are otherwise in the public interest."*

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C. Basis for Exemption

CP&L is seeking an exemption from the previously approved December 15, 2010, compliance date to November 30, 2011, for one provision listed in 10 CFR 73.55 as discussed in Section B. HNP management has approved the plan to perform the modifications necessary to achieve full compliance. This plan has been aggressively pursued, with significant effort expended in order to meet the 2010 dates previously approved; however, a number of issues have significantly hampered the ability to move forward with the plan as described in Reference 1. These issues will be discussed in detail below.

There are several issues which have delayed the work to this point, and/or impacted the projected schedule, such as the discovery of Unit 1 safety related conduit and dedicated Safe Shut Down (SSD) equipment within the vicinity of the construction area in Unit 2, and the complexity of the design and construction of the projects. These issues were revealed as the design evolved from the conceptual state to a detailed design state.

Project Overview

The work necessary to achieve full compliance includes several significant plant modifications. A summary of the physical modifications required includes:

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A schedule for these projects is summarized in Table 1 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 warranted 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.

Extensive design work has been completed to this point. Although the majority of the designs are not 100 percent complete, they have progressed to the point where further major discovery is not expected. CP&L has been working very closely with the engineering vendor preparing the detailed design packages for these projects, and has called upon industry experts for third party reviews for certain aspects to ensure a quality design meeting

all regulations.

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} Additional time, beyond that previously approved, is needed due to the complexity of the work and the existence of safety significant equipment in the work area limiting access to the area.

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The conceptual design assumed direct outside access to allow construction of the { } (d)(1) Due to the existence of the safety related conduits and SSD equipment, this direct outside access route has not been available due to design basis tornado and missile considerations. The room is protected from tornado missile strikes by a large metal plate that blocks the entrance to the area from outside. Normal access to the area is through a small door approximately five feet tall. This access path is restricted to people and small objects due to the size of the door and the restricted pathway to the area. Secondary access paths to the area are available through the main control room and through the Unit 1 switchgear rooms. Routing major construction activities (i.e., a large number of personnel and large components and materials) through either secondary access path was considered an undue risk to operational safety. Therefore, CP&L is pursuing a design solution that will allow both temporary and ultimately permanent direct outside access to the area by utilizing lower wind and pressure loads as allowed by Regulatory Guide 1.76, *Design-Basis Tornado and Tornado Missiles for Nuclear Power Plants*, Revision 1. This has required an extensive design and review effort that was unforeseen at the conceptual design stage. The design effort is nearing completion to allow temporary access from the outside.

Once the design is approved, the exterior missile protection plate will be removed and fitted with hinges to allow for expedient reinstallation of the missile protection in the event of severe weather. Temporary access to the area from the outside will then be available to support major construction activities. Temporary access is scheduled to be available in October.

In an effort to move the project forward while outside access is being addressed, limited work has been performed in the area. A sanitary waste line serving the Operations restroom has been relocated. The original route of the pipe conflicted with construction activities inside the { } (d)(1) The final tie-ins for the line will be made in the near future. The walls and floors have been prepared for the construction of the { } (d)(1) This included drilling holes for rebar dowels and scarifying the surfaces. Conduit and communication cable, which are interfering with the construction of the

concrete wall forms, are also being rerouted. Construction has started on a structural platform that will be used to allow material to be transported into the area once outside access is gained. The work to route the normal power supply to the { } (d)(1) will also start soon. This includes servicing and installing a new breaker as well as the work to install new conduit and pull the new cable.

The design discovery phase is essentially complete; therefore, there is confidence that the project scope is fully understood and no further significant design changes are expected. The schedule is now developed such that the sequence of tasks can be itemized and detailed to allow for a more refined view of the construction process. Therefore, CP&L has high confidence that the revised compliance dates requested will be met.

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, at Progress Energy facilities as well as in the industry, 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 optimum planning and execution to better assure personnel industrial 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 project.

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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 extension beyond the previously approved compliance date. 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. Temporary Compliance Measures Considered in Lieu of a Second Exemption

CP&L considered other options for achieving temporary compliance with the one provision of the Final Rule by the previously approved compliance date before seeking this exemption. Options considered are discussed below. However, for the reasons provided below, these temporary compliance measures were rejected.

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E. 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 further defer the compliance date from March 31, 2010, as specified in 10 CFR 73.55(a)(1), to November 30, 2011, for one specific provision 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 provision 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 November 30, 2011, for 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.

F. References:

1. Progress Energy letter from R. J. Duncan II to the Nuclear Regulatory Commission Document Control Desk titled, *Request for Exemptions from Physical Security Requirements*," dated November 30, 2009
2. Progress Energy letter from R. J. Duncan II to the Nuclear Regulatory Commission Document Control Desk titled, *Supplement to Exemption Request from Physical Security Requirements*, dated December 16, 2009
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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, HNP Site Layout

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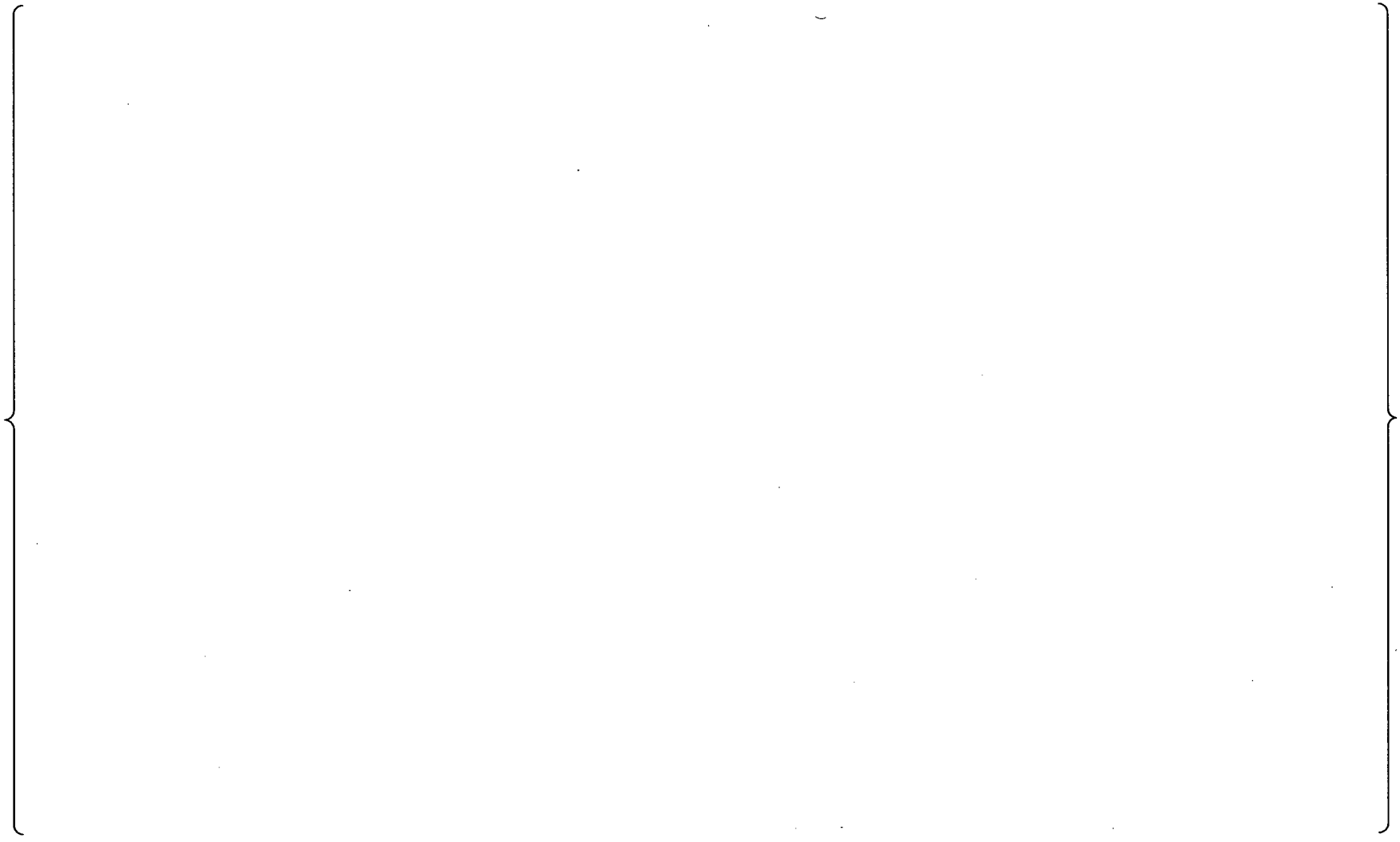
Figure 2, { **}** (d)(1)



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