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NL-23-0555
10 CFR 73.5

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U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Southern Nuclear Operating Company
Edwin I. Hatch Nuclear Plant Units 1 and 2
Joseph M. Farley Nuclear Plant Units 1 and 2
Vogtle Electric Generating Plant Units 1, 2, 3 and 4
Request for Exemption from Physical Barrier Requirement

Ladies and Gentlemen:

In accordance with the provisions of 10 CFR 73.5, Southern Nuclear Operating Company (SNC), hereby requests a permanent, partial exemption from the requirements of 10 CFR 73.2, "Definitions," for Edwin I. Hatch Nuclear Plant (HNP) Units 1 and 2, Joseph M. Farley Nuclear Plant (FNP) Units 1 and 2, and Vogtle Electric Generating Plant (VEGP) Units 1, 2, 3, and 4. The regulation at 10 CFR 73.2 requires, in part, that fences for a physical barrier be topped by three or more strands of barbed wire or similar material on brackets angled inward or outward between 30 and 45 degrees from the vertical. An exemption is requested since not all protected area physical barrier fencing sections meet this requirement.

The enclosure to this letter presents SNC's detailed basis for the exemption. Supporting information is contained in an Attachment and Figures 1 through 8.


The figures contain security-related information (SRI), also referred to as sensitive unclassified non-safeguards information (SUNSI); therefore, SNC requests that these be withheld under the provisions of 10 CFR 2.390.

This letter contains no regulatory commitments.

SNC requests NRC staff approval of the requested exemption within a year of the submittal to restore compliance of the affected physical barriers.

If you have questions, please contact Amy Chamberlain at 205-992-6361.

Respectfully submitted,



R. Keith Brown
Regulatory Affairs Director
Southern Nuclear Operating Company

Enclosure: Request for Exemption from Physical Barrier Requirement

Attachment: Affected Site Locations

Figures: **[Withheld Information]**

1. Farley Figure F1
2. Farley Figure F2
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4. Hatch Figure H1
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6. Vogtle Figure V1
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8. Vogtle Figure V3

cc: Regional Administrator, Region II
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Enclosure to NL-23-0555

(This Enclosure consists of 6 pages, including this cover page)

1.0 PURPOSE

In accordance with 10 CFR 73.5, "Specific exemptions," Southern Nuclear Operating Company (SNC) requests a permanent partial exemption from the provisions of 10 CFR 73.2, "Definitions," for Edwin I. Hatch Nuclear Plant (HNP) Units 1 and 2, Joseph M. Farley Nuclear Plant Units 1 and 2, and Vogtle Electric Generating Plant Units 1, 2, 3, and 4 (VEGP). The request relates solely to a requirement for fences in the definition of a physical barrier. The regulation specifies, in part, the following attribute for fencing as a physical barrier:

Physical barrier means:

- (1) Fences constructed of No. 11 American wire gauge, or heavier wire fabric, topped by three strands or more of barbed wire or similar material on brackets angled inward or outward between 30 and 45 degrees from the vertical, with an overall height of not less than eight feet, including the barbed topping;

2.0 BACKGROUND

During the exit meeting held at VEGP Unit 4 on March 3, 2023, related to inspection of the Special Nuclear Material Physical Protection Program (SNMPPP) using Inspection Procedure 81431, *Fixed Site Physical Protection of Special Nuclear Material of Low Strategic Significance*, the lead NRC Region II inspector provided SNC with an issue of concern, based on review of the VEGP Physical Security Plan (PSP) Version 18-VEGP-2 and supported by walkdown, regarding a potential noncompliance of portions of a VEGP Unit 1-3 physical barrier with the definition of a physical barrier as found in Code of Federal Regulations 10 CFR 73.2. Specifically, the inspector identified that portions of the barrier in question did not meet the regulatory definition in that strands of barbed wire atop the barrier did not meet the requirement to be angled inward or outward. In multiple locations, the barbed wire atop the physical barrier is currently oriented vertically. A walkdown of the entire physical barrier, including co-located facilities, was conducted by the VEGP Site Security department to identify the extent of condition. Upon review of the issue by cognizant personnel, it was determined that the other SNC commercial nuclear facilities, HNP and FNP, have similar barrier configurations in multiple locations. As a result, the HNP Site Security and FNP Site Security departments conducted walkdowns of the entire physical barrier, including co-located facilities, to determine the extent of condition at their respective sites. A listing of affected locations at each site is provided in the Attachment to this letter.

3.0 PROPOSED EXEMPTION

SNC proposes a permanent partial exemption to 10 CFR 73.2 for FNP, HNP and VEGP to allow fences functioning as physical barriers to be topped by three strands or more of barbed wire or similar material that is vertically oriented, rather than angled, in those locations where such a configuration is necessary to support gate operation, building interface, or effective tensioning. A listing of the currently affected locations at each site, and figures (withheld from public disclosure) showing the affected locations are provided in the Attachments to this letter.

4.0 JUSTIFICATION OF EXEMPTION

10 CFR 73.55 (e) *Physical barriers* states that "Each licensee shall identify and analyze site-specific conditions to determine the specific use, type, function, and placement of physical barriers needed to satisfy the physical protection program design requirements of § 73.55(b)."

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10 CFR 73.55 (e)(3) indicates:

“Physical barriers must:

- (i) Be designed and constructed to:
 - (A) Protect against the design basis threat of radiological sabotage;
 - (B) Account for site-specific conditions; and
 - (C) Perform their required function in support of the licensee physical protection program.
- (ii) Provide deterrence, delay, or support access control.
- (iii) Support effective implementation of the licensee’s protective strategy.”

The following excerpts from of Regulatory Guide (RG) 5.76, Revision 1, “Physical Protection Programs at Nuclear Power Reactors” provide approved guidance in meeting the requirements of 10 CFR 73.55 (e) as informed by 10 CFR 73.2:

Section 4.9.2 (U)

“Where licensees use fencing materials to demarcate the boundary of the protected area and deter unauthorized access, the fencing's construction and installation shall meet the requirements of IO CFR 73.2, "Physical Barrier." Licensees ***should*** (emphasis added) consider the following characteristics:

- (2) (U) Chain link fabric ***should*** (emphasis added) be topped by three or more strands of barbed wire or similar material on brackets (outriggers) angled outward between 30° and 45° from vertical.
- (5) (U) Overall fence height shall not be less than 8 feet including barbed wire topping.”

Section 4.9.3 (U)

“Alternative barriers may be used if the penetration resistance of the barrier is equal to or greater than the chain link fencing described in this section.”

The underlying bases for this exemption are:

1. The majority of fencing credited as a physical barrier at each of the SNC commercial nuclear sites is explicitly compliant with the language contained in the definition of 10 CFR 73.2 in that it is topped with three strands of barbed wire installed at an inward or outward angle. The number of, and relative length of, those locations currently affected as listed in the Attachment constitute a small portion of the physical barrier as a whole. Reference the attached figures for marked-up drawings of each site showing the approximate locations of currently affected areas.
2. The vertical configuration of barbed wire acts in an equivalent manner to visually deter and/or physically impede an attempt to circumvent the associated physical barrier. At no point along the physical barrier does the orientation of the barbed wire impact the penetration times utilized in adversary and responder timelines associated with the

protective strategy, as required by 10 CFR Appendix C and described in each SNC site's Physical Security Plan and applicable procedures, at any of the SNC sites as typical barrier breach methods analyzed in RIS 2003-06, "High Security Protected and Vital Area Barrier/Equipment Penetration Manual", and utilized during routine force-on-force (FOF) exercises circumvent the barbed wire completely. Thus, based on the language in the referenced sections of RG 5.76, R1, as denoted above, a vertical configuration of three stands of barbed wire atop fencing utilized as a physical barrier would meet the alternative barrier allowance in that it provides an equal penetration resistance to three strands of barbed wire installed at an angle. Vertical bracket configuration has no impact to adversary or responder timeliness in the protective strategies.

3. Due to the physical constraints for mounting the barbed wire in the affected locations, the vertical configuration represents an enhancement to the barrier by providing a means to enable the maintenance of sufficient tension in the barbed wire strands. Greater barbed wire tension can be applied when using vertical brackets as opposed to angular brackets on the end of fence runs (typical of gates, sections of barrier adjacent to gates, and sections of barrier adjacent to buildings). This allows the barbed wire to fit more snugly into the mounting slits in the angular brackets throughout the entire strand and therefore, creates a more effective and consistent barrier.

Based on the reasoning outlined above, the current vertical configuration of barbed wire at the top of fencing in those areas identified in the Attachment has no adverse impact on the physical protection program at each site in comparison to barbed wire that would be installed at an angle as indicated in 10 CFR 73.2 definition of a physical barrier. Thus, it is determined that the physical barrier as installed at the affected locations continues to effectively protect against the design basis threat of radiological sabotage and meets the intent of the referenced regulation.

10 CFR 73.5, "Specific exemptions," states that the Commission may grant exemptions from the requirements of the regulations of this part provided specific criteria are met. The requested exemption satisfies these criteria as described below.

1. This exemption is authorized by law.

The Commission has the authority under 10 CFR 73.5 to grant an exemption from the requirements of Part 73 upon proper justification. No law exists that would preclude the changes covered by this exemption request. Additionally, granting of the proposed exemption does not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, granting an exemption is explicitly authorized by law.

2. This exemption will not endanger life or property or the common defense and security.

An exemption to allow barbed wire to be installed in a vertical configuration atop a fence designated as a physical barrier in the site physical protection program does not degrade the purpose of physical deterrence for which the barbed wire is intended, and as a result, has no adverse impact on the site ability to protect against the design basis threats of radiological sabotage or theft or diversion of strategic special nuclear material as delineated in Code of Federal Regulations 10 CFR 73.1. Therefore, in the opinion of SNC, this exemption includes no element that would endanger life or property or the common defense and security.

3. This exemption is otherwise in the public interest.

An exemption to allow barbed wire to be installed in a vertical configuration atop a fence designated as a physical barrier in the site physical protection program has no adverse impact on the site ability to protect against the design basis threats of radiological sabotage or theft or diversion of strategic special nuclear material as delineated in Code of Federal Regulations 10 CFR 73.1. Therefore, in the opinion of SNC, this exemption is outside the purview of public interest.

5.0 ENVIRONMENTAL ASSESSMENT

SNC has determined the proposed exemption meets the eligibility criteria for categorical exclusion of an environmental review in 10 CFR 51.22(c)(25), as the exemption does not represent:

(i) a significant hazard;

Basis: On the basis of the requested exemption being associated with a physical site feature not related to reactor operation or control, having no impact on station operation or any plant systems, structures, or components that are relied upon for accident mitigation, and having no adverse impact on the site physical protection program, it is the opinion of SNC that the proposed exemption does not involve a significant increase in the probability or consequence of a previously evaluated accident, does not create the possibility of a new or different kind of accident from any previously evaluated accident, and does not involve a significant reduction in margin of safety.

(ii) a significant change in the types of, or significant increase in the amounts of, any effluents that may be released offsite;

Basis: On the basis of the requested exemption being associated with a physical site feature not related to the systems, structures, or components that function to limit or monitor the release of effluents, it is the opinion of SNC that the proposed exemption has no adverse impact on the type or amount of effluents that may be released offsite.

(iii) a significant increase in individual or cumulative public or occupational radiation exposure;

Basis: On the basis of the requested exemption being associated with a physical site feature not related to the systems, structures, or components that function to protect the site population and the public from radiological hazards, it is the opinion of SNC that the proposed exemption will have no adverse impact on individual or cumulative public or occupational radiation exposure.

(iv) a significant construction impact;

Basis: On the basis of the requested exemption being associated with a pre-existing physical site feature and not associated with any current or planned modifications to site systems, structures, or components, it is the opinion of SNC that the proposed exemption will have no adverse impact on construction activities.

(v) a significant increase in the potential for or consequences from radiological accidents;

Basis: On the basis of the requested exemption being associated with a physical site feature not related to reactor operation or control, having no impact on station operation or any plant systems, structures, or components that are relied upon for reactor protection or that act as a radiological barrier, and having no adverse impact on the site physical protection program, it is the opinion of SNC that the proposed exemption does not involve a significant increase in the probability or consequence of a previously evaluated accident, does not create the possibility of a new or different kind of accident from any previously evaluated accident, and does not involve a significant reduction in margin of safety.

but does involve:

(vi) (F) safeguard plans.

Basis: The requested exemption is associated with a pre-existing physical site feature that is credited and described in each respective site Physical Security Plan as an attribute of the physical protection program. It is the opinion of SNC that these plans constitute safeguards plans as referenced in 10 CFR 51.22(c)(25).

6.0 PRECEDENT

FENOC Fleet-Beaver Valley Power Station, Unit Nos. 1 and 2; Davis-Besse Nuclear Power Station, Unit No. 1; and Perry Nuclear Power Plant, Unit No. 1 – Exemption from the Requirements of 10 CFR Part 73, Section 73.2 (ADAMS Accession Number ML18171A334), approved an exemption from the Commission definition for a physical barrier-fence topper bracket angle to allow the licensee to apply a fence topper bracket angle of zero degrees (or vertical) at a limited number of locations on the protected area fence at each utility, in lieu of the 30 to 45 degree fence topper bracket angle required by NRC definition. While the site-specific details on the limited locations along the fence differ, the overall approach to the exemption's acceptability is the same.

7.0 CONCLUSION

Pursuant to 10 CFR 73.5, SNC is of the opinion that the requested exemption is authorized by law, will not endanger life or property or the common defense and security, and does not have an adverse effect on the public interest.

8.0 REFERENCES

- 10 CFR 73
- Regulatory Guide 5.76, Revision 1, Physical Protection Programs at Nuclear Power Reactors
- Regulatory Issue Summary 2003-06, Revision 0, High Security Protected and Vital Area Barrier/Equipment Penetration Manual
- FNP, Physical Security Plan, Version 18-FNP-1
- HNP, Physical Security Plan, Version 18-HNP-2
- VEGP, Physical Security Plan, Version 18-VEGP-2

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Attachment to NL-23-0555

Affected Site Locations

(This Attachment consists of 5 pages, including this cover page)

FNP

Main Power Block (MPB) Protected Area

Reference Figure F1

1. Termination post west side Personnel Access Portal (PAP)
2. Gate 1B and adjacent support posts
3. Gate 10B and adjacent support posts
4. Corner post
5. Corner post
6. Gate 9B and adjacent support posts
7. Corner post
8. Corner post
9. Gate 7B and adjacent support posts
10. Corner post
11. Gate 6B (current) and adjacent support posts
12. Corner post
13. Support post between turns
14. Corner post
15. Corner post
16. Gate 6B (previous) and adjacent support posts
17. Gate 5B and adjacent support posts
18. Gate 4B and adjacent support posts
19. Gate 3B and adjacent support posts
20. Camera tower post
21. Gate 2B and adjacent support posts
22. Corner post
23. Support post at fence junction
24. Termination post east side of Personnel Access Portal (PAP)

FNP (continued)

Independent Spent Fuel Storage Installation (ISFSI) Protected Area

Reference Figure F2

1. Corner post
2. Corner post
3. Corner post
4. Gate 11A and adjacent support posts
5. Corner post
6. Support post
7. Corner post

Service Water Intake Structure (SWIS) Protected Area

Reference Figure F3

1. Gate 1B and adjacent support posts
2. Corner post
3. Corner post
4. Gate 7B and adjacent support/corner posts
5. Gate 6B and adjacent support posts
6. Gate 5B and adjacent support posts
7. Corner posts (2)
8. Support posts spanning intake
9. Corner posts (2)
10. Gate 4B and adjacent support posts
11. Gate 3B and adjacent support posts
12. Corner post
13. Gate 2B and adjacent support posts
14. Corner post

HNP

Main Power Block (MPB Protected Area

Reference Figure H1

1. Gate 33
2. Gate 22
3. Gate 23
4. Discontinued gate
5. Gate 31
6. Sallyport
7. Termination post south side of I&C Building
8. Gate 17
9. Termination post north side of Warehouse 6
10. Discontinued gate
11. Termination post west of intake structure

Independent Spent Fuel Storage Installation (ISFSI) Protected Area

Reference Figure H2

1. Vehicle gate
2. Personnel gate

VEGP

Main Power Block (MPB Protected Area (Unit 1&2 Campus))

Reference Figure V1

1. Gate 04 and fencing up to termination post at the east wall of the Plant Entry Security Building
2. Termination post at the southern wall of the Plant Entry Security Building
3. Gate 18 (Main PA ISFSI Haul Road)
4. Gates 2A and 2B (Units 1&2 Receiving Warehouse)

Main Power Block (MPB Protected Area (Unit 3&4 Campus))

Reference Figure V2

1. Primary Vehicle Access Point (PVAP) Gate and adjacent fencing.
2. Termination post at the west wall of the Personnel Access Point (PAP) Building
3. Temporary Roadway Gate and adjacent fencing across the Unit3/Unit4 interim boundary
4. Receiving Warehouse Gate and adjacent fencing on Unit 3.

Independent Spent Fuel Storage Installation (ISFSI) Protected Area

Reference Figure V3

1. Vehicle Access Gate
2. Personnel Access Gate