

**NUCLEAR REGULATORY COMMISSION**

**Docket Nos. 50-334, 50-412, 50-346, 50-440**

**FirstEnergy Nuclear Operating Company (FENOC)**

**Exemption**

**I. Background.**

FirstEnergy Nuclear Operating Company (FENOC) and FirstEnergy Nuclear Generation, LLC (collectively, the licensee), are the holders of the following operating licenses: (1) Renewed Facility Operating License No. DPR-66, and No. NPF-73, at Beaver Valley Power Station, Units 1 and 2 (BVPS), issued on November 5, 2009; (2) Renewed Facility Operating License No. NPF-3 at Davis-Besse Nuclear Power Station (DBNPS), Unit No. 1, issued on December 8, 2015; and (3) Facility Operating License No. NPF-58 at Perry Nuclear Power Plant (PNPP), Unit No. 1, issued on November 13, 1986. The licenses provide, among other things, that the facilities are subject to all rules, regulations, and orders of the NRC now or hereafter in effect.

**II. Request/Action.**

Pursuant to 10 CFR 73.5, "Specific exemptions," by letter dated July 19, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17200D139), FENOC requested a specific partial exemption from one physical barrier construction standard described in 10 CFR 73.2, "Definitions" for fences. The Commission requirement for a protected area physical barrier is stated in 10 CFR 73.55(e)(8)(i) which requires, in part, that: "The protected area perimeter must be protected by physical barriers that

are designed and constructed to . . . ” to limit access, etc. The construction standards for a physical barrier are defined in 10 CFR 73.2.

The regulation in 10 CFR 73.2 requires, in part, that fences must be 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. Currently, some of the barbed wire bracketing on top of the protected area physical barrier fencing does not meet this design criteria specified in 10 CFR, Section 73.2.

The requested partial exemption would allow the licensees to configure the bracket topper supporting three strands of barbed-wire or similar material at the vertical orientation (or 0 degrees) only at specific locations along the protected area perimeter fence at each facility, as specified in the licensees’ supplemental letter dated March 16, 2018 (ADAMS Accession No. ML18078A033).

### **III. Discussion.**

Pursuant to 10 CFR 73.5, “Specific exemptions,” the Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

In the request dated July 19, 2017, FENOC states, in part, that brackets on the top of physical barrier fencing are currently oriented vertically on gates, near gates, near interfaces with buildings, and on corners. BVPS, DBNPS, and PNPP have similar configurations while DBNPS has vertical brackets on top of fences near the intrusion detection system (IDS). The FENOC exemption request is limited to specific portions of the protected area perimeter fence where the licensee prefers to orient the bracket topper on the protected area fence at a vertical

orientation, in lieu of the inward or outward, 45 to 30 degree angular construction standard stated in the 10 CFR 73.2.

In Section 4.0 of the submittal dated July 19, 2017, FENOC states that the basis for this exemption is that the vertical configuration of the brackets on and near gates, near interfaces with buildings, on corners, and near the IDS, of the protected area fence does not have an adverse impact on the site protective strategies and will continue to protect against the design basis threat of radiological sabotage. FENOC further states that because the vertical barbed wire will maintain the plant's physical security, the underlying purpose of the regulation is met. The limited protected area fence sections where the configuration does not meet the current regulatory requirement is a small portion of the entire protected area perimeter fence. Consultation of design drawings and protected area site walk-downs estimates this portion to be approximately 6 percent or less for each of the three sites. Finally, in Chapter 6, Section 6.2, of the BVPS, DBNPS, and PNPP Physical Security Plans, the licensee states that the 45 to 30 degree angular requirement for the fence topping may not be met at locations such as gates and buildings.

In the supplemental submission dated March 16, 2018, to NRC staff Request for Additional Information (RAI) No. 2, the licensee stated that the technical basis for the FENOC request for exemption from this requirement is that the vertical bracket configuration is limited to locations on gates, near gates, near interfaces with buildings, and on corners where the licensee prefers to increase the tension that can be applied to the three strands of barbed-wire. The licensee goes on to state that "DBNPS also has vertical brackets in two locations adjacent to the IDS where physical separation clearance is required." In the supplemental submission dated May 2, 2018 (ADAMS Accession No. ML18122A133), to NRC staff request for Follow-up RAI No. 1, the licensee stated that the outward angular fence bracket requirement would interfere with the effective operation of the IDS in that it would result in an unacceptable

frequency of false alarms and would reduce the sensitivity of the detection capability to an unacceptable level.

The licensee further states in the supplemental response dated March 16, 2018, that “other than the DBNPS locations near the IDS, the vertical bracket configuration at the other locations described in the exemption request is preferred to maintain sufficient tension in the barbed wire strands.” The licensee goes on to state that the vertical bracket configuration is preferred because greater barbed wire tension can be applied when using vertical brackets as opposed to angular brackets on the end of fence runs (which includes on top of gates, adjacent to gates, and adjacent to buildings). Angular corner arms do not provide a good tension point in the barbed wire.

In the supplemental submission dated March 16, 2018, in response to NRC staff RAI No. 3, the licensee stated that the vertical bracket configuration has no impact to adversary or responder timelines in the protective strategies for the FENOC fleet. This is due to site-specific evaluations that determined the limiting perimeter barrier fence scenarios are most similar to a configuration illustrated in Regulatory Issue Summary 2003-06, or the use of mechanical breaching utilizing the same configuration. The licensee also stated that whether or not the fence toppings are vertical or angled makes no difference to the protective strategy limiting timelines.

**A. The Exemption is Authorized by Law**

This exemption would allow the application of a 0 degree (or vertical/upward) fence topper bracket angle at specific locations at BVPS Units 1 and 2, DBNPS, and PNPP. As stated above, 10 CFR 73.5 allows the NRC to grant exemptions from the requirements of 10 CFR part 73. The fence topper bracket angle that will be applied at BVPS, DBNPS, and PNPP

does not conform to the fence topper bracket angle of inward or outward, between 30 and 45 degrees that is explicitly defined in 10 CFR 73.2; however, the NRC staff has determined that the construction standard applied at each of the three facilities and as described in the Chapter 6, Section 6.2 of the BVPS, DBNPS, and PNPP Physical Security Plans does not negatively impact the capability of the physical protection program at each facility meet the requirements of 10 CFR 73.55(b). Therefore, granting the licensee's proposed exemption would not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Accordingly, the granting of the partial exemption request from the requirements of 10 CFR 73.2 is authorized by law.

**B. The Exemption Will Not Endanger Life or Property**

The objectives of 10 CFR 73.55(e) for physical barriers and the construction standards for fences contained in the 10 CFR 73.2 definition are to ensure that licensees provide physical barriers that are adequately designed and constructed to perform their intended physical protection program function. Further, all other construction materials and components required for a fence as defined in 10 CFR 73.2 are currently in place and are maintained at the affected FENOC facilities as stated. In addition, the level of protection offered by the requested bracket configuration has been accounted for by the licensee as part of the facility physical protection program. Finally, based on the above discussion, the NRC staff has concluded that the use of physical barriers as described in the BVPS, DBNPS, and PNPP security plans would provide adequate protection against the design basis threat of radiological sabotage, if effectively implemented. Therefore, the NRC staff has determined that this exemption would not endanger life or property.

**C. The Exemption Would Not Endanger Common Defense and Security**

The partial exemption would allow the licensee to apply a fence topper bracket angle of

0 degrees (or vertical) at specific locations in lieu of the required inward or outward angle of 30 to 45 degrees. In Section 4.0 of the submittal dated July 19, 2017, the licensee states that the vertical configuration of the brackets on and near gates, near interfaces with buildings, on corners, and near the IDS, of the protected area fence does not have an adverse impact on the site protective strategies and will continue to protect against the design basis threat of radiological sabotage. Because the vertical barbed wire will maintain the plant's physical security, the NRC staff finds that the underlying purpose of the regulation is met. The licensee is required to develop and maintain a physical protection program that maintains the capability to detect, assess, interdict, and neutralize all threats up to and including the design basis threat of radiological sabotage. Therefore, the NRC staff has determined that this exemption would not endanger common defense and security.

**D. Exemption is otherwise in the public interest**

Based on its evaluation of licensee's request for an exemption to allow vertical barbed wire fence toppings in limited protected area sections (on and near gates, near interfaces with buildings, on corners, and near the IDS) as described in the licensee's submission dated March 16, 2018, the NRC staff has determined that the partial exemption would maintain the physical security of the sites and would not have an adverse effect on public interest. Therefore, the NRC staff has determined that this exemption is otherwise in the public interest.

**E. Environmental Considerations**

In accordance with 10 CFR 51.31(a), the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment as discussed in the NRC staff's Finding of No Significant Impact and associated Environmental Assessment published in *Federal Register* on September 4, 2018 (83 FR 44914, 83 FR 44923, and 83 FR 44927), the NRC staff finds that the proposed exemption would not

significantly affect plant safety, would not have a significant adverse effect on the probability of an accident occurring, and would not have any significant radiological and non-radiological impacts. Therefore, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action

## **V. Conclusion**

Accordingly, the Commission has determined that pursuant to 10 CFR 73.5, the exemption is authorized by law, will not endanger life or property, is consistent with the common defense and security, and is otherwise in the public interest. Therefore, the Commission hereby grants FENOC a partial exemption from the requirements of 10 CFR 73.2 for a fence bracket to be angled inward or outward between 30 and 45 degrees, to allow the fence bracket angular orientation of 0 degrees (or vertical/upward) at BVPS, DBNPS, and PNPP at only those locations specifically identified by the licensee in the supplemental response dated March 16, 2018, to NRC staff RAI No.1, explicitly, "site layouts with the locations and descriptions of the protected area physical barrier fencing sections topped with vertically-oriented brackets containing barbed wire or similar material are provided in Figures 1, 2, and 3 for BVPS, DBNPS, and PNPP, respectively." All other construction and design requirements apply to the specified locations as stated in 10 CFR 73.2. Additionally, all construction and design requirements for a physical barrier as stated in 10 CFR 73.2, remain applicable to all other facility locations not specified in Figures 1, 2, and 3, for BVPS, DBNPS, and PNPP, respectively as specified in the supplemental response to NRC staff RAI No. 1, dated March 16, 2018.

Dated at Rockville, Maryland, this 6th day of September 2018

For the Nuclear Regulatory Commission.

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