

## **NRR-PMDAPEm Resource**

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**From:** Gratton, Christopher  
**Sent:** Tuesday, June 03, 2014 3:06 PM  
**To:** Westcott, Daniel (Daniel.Westcott@duke-energy.com)  
**Cc:** Broaddus, Doug  
**Subject:** Request for Additional Information - Exemption for conducting annual force-on-force exercises  
**Attachments:** MF3390 FOF RAI .docx

By letter dated January 15, 2014, Duke Energy Florida, Inc., (DEF) requested exemptions to regulatory requirements for conducting annual force-on-force exercises in accordance with the provision of Title 10 of the *Code of Federal Regulations* (10 CFR) 73.5, "Specific Exemption." The exemptions relate to 10 CFR 73, Appendix B, "General Criteria for Security Personnel."

The Nuclear Regulatory Commission (NRC) staff has performed a review of the requested exemption and determined that a request for additional information (RAI) is necessary to complete the staff's evaluation.

The RAI is attached. You may request a conference call to discuss the contents of this RAI with the NRC staff. Please send me an e-mail if you do not need a conference call to clarify the RAI.

Please provide your response by August 1, 2014.

*Christopher Gratton*  
*Sr. Project Manager*  
*PM Crystal River Nuclear Generating Plant*  
*NRR/DORL/LPL 4-2*  
*301-415-1055*  
*Mail Stop O-8G9a*  
[Christopher.Gratton@nrc.gov](mailto:Christopher.Gratton@nrc.gov)

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**From:** Gratton, Christopher

**Created By:** Christopher.Gratton@nrc.gov

**Recipients:**  
"Broaddus, Doug" <Doug.Broaddus@nrc.gov>  
Tracking Status: None  
"Westcott, Daniel (Daniel.Westcott@duke-energy.com)" <Daniel.Westcott@duke-energy.com>  
Tracking Status: None

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(U) REQUEST FOR ADDITIONAL INFORMATION  
(U) EXEMPTION REQUEST TO CERTAIN REQUIREMENTS  
(U) IN APPENDIX B TO 10 CFR 73  
(U) DUKE ENERGY FLORIDA, INC.  
(U) CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT  
(U) DOCKET NO. 50-302  
(U) TAC NO. MF3390

1. (U) Provide the technical bases for how Duke Energy Florida, Inc. (DEF), without the implementation of annual force-on-force (FOF) exercise requirements of a Performance Evaluation Program (PEP), will demonstrate that the performance (i.e., implementation of the fully integrated response capabilities of physical protection systems for detection, assessment, communications, and response - interdiction and neutralization functions) of the required site's protective strategy will meet the performance requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Sections 73.55(b)(1), 73.55(b)(2), 73.55(b)(3)(1)(i), and 73.55(b)(3)(1)(ii).

(U) The exemption requested by the licensee eliminates the PEP's requirements for the demonstration and assessment for fully integrated FOF exercises. A fully integrated FOF exercise consists of planned response effort across various plant disciplines (e.g., local law enforcement agency, security, plant operations, emergency preparedness) to minimize or mitigate the threat. In comparison, drills are limited in scope to various types, such as tabletop drills, timeline drills, limited scope tactical response drills. These limited scope drills use a mockup of the facility, test and validate the timelines and ability of security response personnel to respond to assigned positions, and evaluate the abilities of one or more security personnel (individual, group, or a shift). Therefore, the licensee technical bases must clearly demonstrate how the drills, limited-scope and tactical, will assure implementation of the site's protective strategy for protecting against the design basis threat (DBT). In addition, the demonstration of the adequate implementation of the site protective strategy should provide clear assurance that activities involving special nuclear material (SNM) do not endanger public health and safety and the common defense and security.

(U) Include with the above response, the specifics that address the following:

a. (U) Provide technical bases for how, with the elimination of the annual FOF exercises, DEF can continue to fully demonstrate the effectiveness of the integrated performance for the use of engineered and administrative controls, including the effectiveness of the training of security personnel and the implementation of procedures and policies, for achieving detection, assessment, communications, and security response (interdiction and neutralization) functions to protect against the DBT.

b. (U) Provide the technical bases for how a limited scope drill, including a tactical response drill, that only addresses a portion of the site protective strategy, can demonstrate the fully

integrated performance of a physical protection system and programs capabilities to implement the required high assurance that the Crystal River Unit 3 (CR-3) is protected against all attributes of the DBT (i.e., as defined in 10 CFR 73.1 with specific characteristics established in Regulatory Guide (RG) 5.69).

c. (U) Provide the technical bases for how conducting quarterly drills (e.g., tabletop drills, timeline drills, mockup of the facility, test and validation of timelines and ability of certain security response personnel) provides equivalent demonstrations of the fully integrated performance of all required engineered and administrative controls and implementation of programs and procedures in a full scope FOF exercise. The technical basis should demonstrate that it: (1) meets the requirements of 10 CFR 73.55(b), and (2) has maintained the current licensing bases of the licensee's Updated Safety Analysis Report (USAR), and Emergency Plan (EP), for a reasonable assurance of public health and safety and protection of the environmental by protecting against intentional or malevolent acts (i.e., DBT for spent fuel sabotage).

(U) Regulatory Basis:

(U) Regulations in 10 CFR 73.5 state that "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."

(U) 10 CFR Part 73 establishes performance and prescriptive requirements for a physical protection program for a nuclear power plant. The requirements of 10 CFR 73.55(b)(2) through 10 CFR 73.55(b)(11) are applicable for protecting public health and safety and the common defense and security. The performance requirements in 10 CFR 73.55(b)(1) state that "the licensee shall establish and maintain a physical protection program, to include a security organization, which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety."

(U) 10 CFR 73.55(b)(6) requires that licensees establish, maintain, and implement a PEP that complies with the requirements in Appendix B to 10 CFR Part 73, to demonstrate and assess the effectiveness of armed responders and armed security officers to implement the licensee's protective strategy. Appendix B to 10 CFR 73, Section VI.C.3, "Performance Evaluation Program," requires licensees to develop, implement and maintain a PEP that is documented in procedures that describe how the licensee will demonstrate and assess the effectiveness of their onsite physical protection program and protective strategy, including the capability of the armed response team to carry out their assigned duties and responsibilities during safeguards contingency events. The specific requirements for the PEP for annual FOF exercises to demonstrate effective performance are established in Section VI.C.3(b) through Section VI.C.3(m).

2. (U) Provide the technical bases for how CR-3, without the implementation of licensee's annual FOF exercise requirements of a PEP, will be able to assess the implementation of a fully integrated planned response, and allow CR-3 to self-identify and correct potential failures, deficiencies, or other findings for the assurance that requirements of 10 CFR 73.55(b)(1), 73.55(b)(2), 73.55(b)(3)(1)(i), and 73.55(b)(3)(1)(ii) are met.

(U) The NRC framework for reasonable assurance of public health and safety and common defense and security relies on the licensee's implementation of licensing bases. The regulatory requirements for a PEP include the conduct of full scope FOF exercises as a means for CR-3 to assess its performance in the integrated implementation of the detection, assessment, communications (including command and control) and security response required to interdict or neutralize the adversaries tasks or adversaries, respectively. It allows CR-3 to self-identify and correct potential failures, deficiencies, and other findings to provide assurance of public health and safety and common defense and security. The elimination of the fully integrated FOF annual exercises removes a key tool in the capability of the licensee to pro-actively ensure that CR-3 has met its obligations to the NRC and the public. As such, the technical bases needs to address how limited scope or tactical response drill will provide assurance that CR-3 will have the necessary opportunities to self-identify or correct potential failures, deficiencies, and other findings to provide assurance of public health and safety and common defense and security. Include with the above response, the specifics that address the following:

a. (U) Provide the technical bases justifying how the elimination of requirements in Sections VI.C.3(g) and VI.C.3(i) of Appendix B to 10 CFR Part 73, related to post exercise critiques and corrective action, respectively, will not result in unidentified and uncorrected failures, deficiencies, and other findings in performance, plans, equipment, and strategies for the implementation of fully integrated capabilities for security functions required to protect against the DBT.

b. (U) Provide the technical bases justifying how the implementation of Sections VI.C.3(g) and VI.C.3(i) to Appendix B to 10 CFR Part 73 for a limited scope or tactical response drill will allow CR-3 to assess security responses to protect against all postulated coordinated vehicle-borne assaults (e.g., including multipoint attacks, use of diversion, disruption of communications, etc.).

(U) Regulatory Basis:

(U) 10 CFR Part 50 requires that a licensee in possession of an Operating License issued for activities involving SNM do not constitute a risk to public health and safety and do not endanger common defense and security. Part 73 of 10 CFR establishes performance and prescriptive requirements for a physical protection program for a nuclear power plant, as previously described regulatory basis above.

(U) 10 CFR 73.55(b)(6) requires that licensees establish, maintain, and implement a PEP that complies with the requirements in Appendix B to 10 CFR Part 73, to demonstrate and assess the effectiveness of armed responders and armed security officers to implement the licensee's

protective strategy. Appendix B to 10 CFR 73, Section VI.C.3, "Performance Evaluation Program," requires licensees to develop, implement and maintain a PEP. The specific requirements for the licensee's PEP include annual FOF exercises to assess the effectiveness performance. Specific requirements of Sections VI.C.3(g) and VI.C.3(i) address an effective PEP for a licensee to self-identify and apply its corrective action program to correct failures, deficiencies, or other findings to prevent reoccurrences for the assurance of public and safety and common defense and security.

3. (U) Provide the technical bases justifying how the elimination of training of security personnel provided through conduct of fully integrated FOF exercises, required in Appendix B to 10 CFR 73, Sections VI.C.3(b), VI.C.3(c), VI.C.3(d), VI.C.3(e), VI.C.3(g), VI.C.3(k), and VI.C.3(l), will not result in a decrease in the training of security personnel, and support personnel knowledge, skills, and abilities to integrate the implementation of detection, assessment, communications, and response functions to protect against the DBT.

(U) The specific requirements for the licensee's PEP include annual FOF exercises that not only demonstrate and assess performance, but provide training of security personnel, including the application of and interface with engineered security systems, to perform critical tasks that increase proficiency for effective performance. The request for an exemption to the requirement for annual FOF exercises eliminates the only time when all required security personnel and various plant disciplines receive fully integrated training (i.e., knowledge, skills, and abilities) to perform integrated critical tasks necessary to respond to all attributes the DBT and possible scenarios and pathways of attacks for radiological sabotage. The technical bases should address how CR-3 will achieve the fully integrated training of security personnel and supporting plan personnel to improve proficiency of knowledge, skills, and abilities necessary to perform the required site-specific critical tasks (e.g., as described in RG 5.75, "Training and Qualification of Security Personnel at Nuclear Power Reactor Facilities," Section 3.2, tasks No. 29 through No. 65).

(U) Regulatory Basis

(U) 10 CFR 73.55(b)(6) requires that licensees shall establish, maintain, and implement a PEP that complies with the requirements in Appendix B to 10 CFR Part 73, to demonstrate and assess the effectiveness of armed responders and armed security officers to implement the licensee's protective strategy. Appendix B to 10 CFR 73, Section VI.C.3, requires licensees to develop, implement and maintain a PEP.

4. (U) Provide the technical bases for how the exemptions to the requirements of annual FOF exercises of DEF's PEP, as specified Appendix B to 10 CFR 73, Section VI.C.3, that demonstrate the performance of a physical protection system and program at CR-3 to protect against the DBT will be in the interest of the public. Specifically address why, in the post 9-11 threat environment, that removing requirements that assess and demonstrate performance, and also provides opportunities for self-identifying and pro-actively correcting potential failures and deficiencies and integrated response training, that DEF has adequately implemented physical

protection necessary for the reasonable assurance of public safety and health, will be in the interest of the public.

(U) Regulatory Basis

(U) Regulations in 10 CFR 73.5 state that “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.” The staff must consider environment after the terrorist attacks on September 11, 2001 in the considerations of public interest. The rationale for technical bases for exemptions to requirements that will change or affect the current licensing bases for protection of public health and safety from radiation and common defense and security of the U.S. critical infrastructural must be considered in satisfying the criteria of public interest.

5. (U) Provide any site-specific analyses performed by DEF that considered all the attributes of the DBT, as described in 10 CFR 73.1, for spent fuel sabotage. Specifically, provide any analyses regarding:

(a) (U) Accident sequences and the consequences to public health and safety in the current DBAs and the beyond design basis accidents for CR- 3 are bounding for the DBT for spent fuel sabotage,

(b) (U) Bounding consequence resulting from damage and effects from all attributes of the DBT, if not protected, is sufficiently low enough to not endanger, or constitute undue risk, to public health and safety.

(c) (U) The explosive effects on the spent fuel pool (SFP) analyzed for attributes of the DBT, include characterizing its effects on the radiological source terms, including release pathways, for determining consequences off site.

(d) (U) Confined underwater explosive effects on the SFP considered the maximum hand-carried explosive quantities,

(e) (U) Account for explosive effects of the DBT vehicle-borne explosives account for the SFP, structure housing the SFP, spent fuel racks, and spent fuel assemblies, and system and components relied on for maintaining spent fuel cooling.

(f) (U) The assessment of accident sequences and consequences address the potential for zirconium fires; whether the resulting damage fuel assemblies can be air-cooled; and whether the damage to SFP and spent fuel assemblies could result in accidents and consequences different from those previously analyzed.

(U) The licensing bases captured in the USAR and EP is based on the premise that adequate physical protection is provided through the compliance of 10 CFR Part 73 for protection against the intentional or malevolent acts. The additional information will allow the staff to evaluate fully whether the criterion that exemptions to requirements will not endanger (or constitute risks) to public health and safety can be met and provide the required technical bases for the NRC to consider the exemptions to security requirements on the bases of sufficiently low consequences as the spent fuel decay and/or radiological hazards of material (i.e., source terms) changes over time.

(U) Regulatory Basis

(U) 10 CFR 73.5 states that “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.”