

**From:** Santos, Cayetano  
**Sent:** Tuesday, June 15, 2021 9:01 AM  
**To:** Vogtle PEmails  
**Subject:** FW: VEGP Unit 4 Operator Licensing Exemption DRAFT  
**Attachments:** VEGP Unit 4 Operator Licensing Exemption DRAFT.pdf

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**From:** Leighty, Steven <sleighty@southernco.COM>  
**Sent:** Monday, June 14, 2021 4:34 PM  
**To:** Santos, Cayetano <Cayetano.Santos@nrc.gov>  
**Subject:** [External\_Sender] VEGP Unit 4 Operator Licensing Exemption DRAFT

Tanny,

As discussed earlier today, please find attached the draft exemption for the Vogtle Unit 4 Operator Licenses. This is in support of our presubmittal discussion. Please let me know which date would be best for scheduling the presubmittal meeting.

Thanks,

**Steve Leighty | Southern Nuclear**  
Licensing Manager | Vogtle 3&4  
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**Southern Nuclear Operating Company**

**ND-21-0427**

**Enclosure 1**

**Request for Exemption from Operator Written Examination and Operating Test for Unit 4  
Licenses**

**(This Enclosure consists of 10 pages, not including this cover page)**

## 1.0 Summary Description

Pursuant to 10 CFR 55.11, "Specific Exemptions," Southern Nuclear Operating Company (SNC) requests, on behalf of the current Vogtle Electric Generating Plant (VEGP) Unit 4 licensed operator candidates listed in Enclosure 2, an exemption from the requirement of 10 CFR 55.33(a)(2), "Written examination and operating test," and 10 CFR 55.31(a)(3) which requires submitting a written request that the written examination and operating test be administered. In lieu of the requirement for submitting a written request that the written examination and operating test be administered and passing the requisite written examination and operating test, current VEGP Unit 3 licensed operators (VEGP Unit 4 license operator candidates) request the previous written examinations and operating tests taken for VEGP Unit 3 licensure be applied for the initial application for a license for the essentially identical VEGP Unit 4.

## 2.0 Detailed Description

Passing the requisite written examination and operating test is a requirement for approval of an initial application for a license as specified in 10 CFR 55.33, "Disposition of an initial application." 10 CFR 55.33(a)(2) states, in part, "These examinations and tests determine whether the applicant for an operator's license has learned to operate a facility competently and safely, and additionally, in the case of a senior operator, whether the applicant has learned to direct the licensed activities of licensed operators competently and safely." Written tests for operators and senior operators contain a representative selection of knowledge, skills, and abilities needed to perform the operator's respective duties. Representative samples of items to be tested on a written examination, for operators and senior operators, are provided in 10 CFR 55.41 or 10 CFR 55.43, respectively. Operating tests require the applicants to demonstrate an understanding of and the ability to perform the actions necessary to accomplish their duties. A representative sample of items to be tested during the operating tests is provided in 10 CFR 55.45.

The candidates in Enclosure 2 were instructed using training material that met the guidance in Nuclear Energy Institute (NEI) 06-13A, "Template for an Industry Training Program Description." The criteria in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors; Final Report," was used to prepare written examinations and operating tests as required by 10 CFR 55.40, Implementation. In conjunction with NUREG-1021, NUREG-2103, "Knowledge and Abilities Catalog for Nuclear Power Plant Operators," was utilized to ensure content-valid examinations and tests. The Commission approved the content of all administered written examinations and operating tests.

Vogtle Units 3&4 are AP1000 standard plants and as such both Units are nearly identical. Specifically, for VEGP Unit 3 and Unit 4, an engineering evaluation for differences between the Units was completed. The digital/electrical differences review consisted of a review of ovation logic and point databases and ovation graphics to identify unit specific differences. Also, a review of instrumentation calculation notes and Plant Control System interface specifications to identify unit specific points was performed. Only minor differences were identified in the Waste Water and Offsite Power Systems, consisting of indication, naming, and the resulting impact to the ovation screens, and a physical difference in that Unit 3 is connected to the 230 kV switchyard and Unit 4 is connected to the 500 kV switchyard. The mechanical component differences review was accomplished by reviewing design changes that are applicable to just Unit 3 or 4, reviewing design changes identified as impacting Standard Operating Procedures, and reviewing the Master

Equipment List. The mechanical component evaluation determined there are no significant mechanical differences between the units. Therefore, Unit 3 and Unit 4 are deemed to be nearly functionally identical. The switchyard arrangement difference is included as part of initial license and continuing training. Additionally, the Training Needs Analysis (TNA) conducted for the unit differences determined that no additional training is required; therefore, no new or modified exam questions, operating scenarios, or job performance measures are needed. The TNA also determined that the differences between the units do not affect the operator's ability to operate each unit safely and competently.

Since VEGP Units 3 and 4 are virtually identical and the Unit 3 licensed operators have already been tested on a written and operating test which also would be applicable to Unit 4, no additional training is required for Unit 3 licensed operators seeking licensure for Unit 4. In addition, upon successfully completing their Unit 3 written examination and operating test, the Unit 4 licensed operator candidates have been enrolled in a Systematic Approach to Training (SAT)-based continuing training program that is applicable to both Unit 3 and Unit 4. The continuing training program curriculum includes training on design and procedure changes.

Accordingly, in lieu of the requirements of 10 CFR 55.33(a)(2) and 10 CFR 55.31(a)(3), current VEGP Unit 3 licensed operators request the previous written examination and operating test taken for VEGP Unit 3 licensure be applied for the initial application for a license for the nearly identical VEGP Unit 4.

The exemption, from the requirements of 10 CFR 55.33(a)(2) and 10 CFR 55.31(a)(3), is being requested on behalf of the licensed operator candidates identified in Enclosure 2 of this letter.

### **3.0 Applicable Regulatory Requirements**

This section provides a summary of regulations applicable to this exemption request.

#### **3.1 Atomic Energy Act of 1954, as amended (42 USC. 2137)**

Section 107, "Operators' Licenses," states, in part, that:

*The Commission shall- a. prescribe uniform conditions for licensing individuals as operators of any of the various classes of production and utilization facilities...*

#### **3.2 10 CFR Part 55, "Operators' Licenses"**

Section 55.31, "How to apply," states, in part, that:

*(a) The applicant shall:*

...

*(3) Submit a written request from an authorized representative of the facility licensee by which the applicant will be employed that the written examination and operating test be administered to the applicant;*

Section 55.33, "Disposition of an initial application," states, in part, that:

- (a) *Requirements for the approval of an initial application.* The Commission will approve an initial application for a license pursuant to the regulations in this part, if it finds that –

...

(2) *Written examination and operating test.* The applicant has passed the requisite written examination and operating test in accordance with § 55.41 and 55.45 or 55.43 and 55.45. These examinations and tests determine whether the applicant for an operator's license has learned to operate a facility competently and safely, and additionally, in the case of a senior operator, whether the applicant has learned to direct the licensed activities of licensed operators competently and safely.

Section 55.40, "Implementation," states, in part, that:

- (a) ... *The Commission shall also use the criteria in NUREG-1021 to evaluate the written examinations and operating tests prepared by power reactor facility licensees pursuant to paragraph (b) of this section.*

- (b) *Power reactor facility licensees may prepare, proctor, and grade the written examinations required by §§ 55.41 and 55.43 and may prepare the operating tests required by § 55.45, subject to the following conditions:*

- (1) *Power reactor facility licensees shall prepare the required examinations and tests in accordance with the criteria in NUREG-1021 as described in paragraph (a) of this section*

...

- (4) *Power reactor facility licensees must receive Commission approval of their proposed written examinations and operating tests.*

3.3 NUREG-1021, Revision 11, "Operator Licensing Examination Standards for Power Reactors; Final Report"

ES-201, "Initial Operator Licensing Examination Process"

Section B, "Background," states, in part, that:

*Title 10 of the Code of Federal Regulations (10 CFR) Part 55, "Operators' Licenses," requires that applicants for reactor operator (RO) and senior reactor operator (SRO) licenses must pass both a written examination and an operating test. The regulation at 10 CFR 55.40(b) allows power reactor facility licensees to prepare the site-specific written examinations and operating tests provided that (1) the facility licensee shall prepare the examinations and tests in accordance with the criteria contained in this NUREG, (2) the facility licensee shall establish, implement, and maintain procedures to control examination security and integrity, (3) an authorized representative of the facility licensee shall approve the examinations and tests before they are submitted to the NRC for review and approval, and (4) the facility licensee shall obtain NRC approval of its proposed written examinations and operating tests. The regulation requires that the license examinations must be developed and administered in accordance with 10 CFR*

55.41, "Written Examination: Operators," and 10 CFR 55.45, "Operating Tests," for ROs, or 10 CFR 55.43, "Written Examination: Senior Operators," and 10 CFR 55.45 for SROs.

ES-202, "Preparing and Reviewing Operator Licensing Applications"

Section B, "Background," states, in part, that:

*In accordance with Title 10 of the Code of Federal Regulations (10 CFR) 55.31(a)(4), an applicant shall do the following:*

*Provide evidence that the applicant has successfully completed the facility licensee's requirements to be licensed as an operator or senior operator and of the facility licensee's need for an operator or a senior operator to perform assigned duties. An authorized representative of the facility licensee shall certify this evidence on Form NRC-398. This certification must include details of the applicant's qualifications, and details on courses of instruction administered by the facility licensee, and describe the nature of the training received at the facility, and the startup and shutdown experience received. In lieu of these details, the Commission may accept certification that the applicant has successfully completed a Commission-approved training program that is based on a systems approach to training [SAT] and that uses a simulation facility acceptable to the Commission under [10 CFR 55.45(b)].*

ES-301, "Preparing Initial Operating tests"

Section B, "Background," states, in part, that:

*To the extent applicable, the operating test will require the applicant to demonstrate an understanding of, and the ability to perform, the actions necessary to accomplish a representative sampling of the 13 items identified in 10 CFR 55.45(a). (All 13 items do **not** need to be sampled on every operating test). In addition, the content of the operating test will be identified, in part, from learning objectives contained in the facility licensee's training program and information in the final safety analysis report, system description manuals and operating procedures, the facility license and amendments thereto, licensee event reports, and other materials that the Commission requests from the facility licensee.*

ES-401N, "Preparing Initial Site-Specific Written Examinations"

Section B, "Background," states, in part, that:

*The ES-401N applies to new reactors licensed under 10 CFR Part 52. The content of the written licensing examinations for ROs and SROs is dictated by 10 CFR 55.41, "Written Examinations: Operators," and 10 CFR 55.43, "Written Examinations: Senior Operators," respectively. Each examination shall contain a representative selection of questions concerning the knowledge and abilities*



*(K/As) and skills needed to perform duties at the desired license level. Both the RO and SRO examinations will sample the 14 items specified in 10 CFR 55.41(b), and the SRO examination will also sample the 7 additional items specified in 10 CFR 55.43(b). ...*

*Except as noted in Section D.1.b of this examination standard, NUREG-2103, "Knowledge and Abilities Catalog for Nuclear Power Plant Operators: Westinghouse AP1000 Pressurized-Water Reactors," ... provide the basis for developing content-valid operator licensing examinations. Each K/A stem statement has been linked to an applicable item number in 10 CFR 55.41 and/or 10 CFR 55.43. Preparing the license examination using the appropriate K/A catalog, in conjunction with the instructions in this NUREG-series report, will ensure that the examination includes a representative sample of the items specified in the regulations.*

3.4 NEI 06-13A, Revision 2, "Template for an Industry Training Program Description"

NEI 06-13A was incorporated into the VEGP 3&4 UFSAR, Section 13.2

Section 1.1, "Licensed Operator Training," states, in part, that:

*The Reactor Operator (RO) and Senior Reactor Operator (SRO) training programs, including initial and requalification training, provide the means to train individuals in the knowledge, skills, and abilities needed to perform licensed operator duties... Before initial fuel loading, the number of persons trained in preparation for RO and SRO licensing examinations will be sufficient to meet regulatory requirements, with allowances for examination contingencies and without the need for planned overtime.*

3.5 NUREG-2103, "Knowledge and Abilities Catalog for Nuclear Power Plant Operators"

Section 1.1, "Introduction," states:

*The Knowledge and Abilities Catalog for Nuclear Power Plant Operators: Westinghouse AP1000 NUREG-2103 provides the basis for development of content-valid written and operating licensing examinations for reactor operators (ROs) and senior reactor operators (SROs). The Catalog is designed to ensure equitable and consistent examinations.*

Section 1.2, "Part 55 of Title 10 of the Code of Federal Regulations," states:

*The catalog is used in conjunction with NUREG-1021 "Operator Licensing Examination Standards for Power Reactors." NUREG-1021 provides policy and guidance and establishes the procedures and practices for examining licensees and applicants for RO and SRO licenses pursuant to Part 55 of Title 10 of the Code*



*of Federal Regulations (10 CFR 55). All knowledge and abilities (K/As) in this catalog are directly linked by item number to 10 CFR 55.*

#### **4.0 Technical Justification of Acceptability**

The licensed operator candidates identified in Enclosure 2 have been trained using common AP1000 training material and have passed all portions of a written examination and an operating test for licensing on nearly identical VEGP Unit 3. The content and substance of the licensing examinations and tests given to the currently licensed VEGP Unit 3 operators were developed from a consistent set of AP1000 materials and provide a common basis for evaluating candidates' qualifications with respect to these virtually identical units.

- Training programs were established consistent with NEI 06-13A, "Template for an Industry Training Program Description," for the currently licensed operators in Enclosure 2.
- Training material (e.g., lesson plans, simulator scenarios, operating procedures), for operators at VEGP Unit 3 and Unit 4, was created using common procedures and references provided to the utilities by Westinghouse Electric Company (WEC). Specifically, the training material used for Unit 3 and Unit 4 licensure is common for both units.
- The Unit 4 operator candidates in Enclosure 2 have been trained on Emergency Planning and Conduct of Operations procedures, which are common for both VEGP Unit 3 and Unit 4.
- The content of the examinations and the tests developed by SNC complied with the requirements of 10 CFR 55 and NUREG-1021 and drew from a common set of AP1000 materials (i.e., NUREG-2103). An engineering evaluation of the differences between VEGP Unit 3 and Unit 4 determined the units are nearly functionally identical. A Training Needs Analysis was completed and determined that no additional training is required for the slight differences between VEGP Unit 3 and Unit 4, and no new or modified exam questions, job performance measures, or operating scenarios are needed for Unit 4 licensure; the multiunit K/As (2.2.3 and 2.2.4) of NUREG 2103 are not applicable to VEGP 3 & 4.
- Examinations and tests were developed to assess the knowledge, skills, and abilities needed by operators to perform assigned tasks common to both VEGP Unit 3 and Unit 4.

Subsequent to the successful operating test and written examination, the licensed operators in Enclosure 2 have been enrolled in a SAT-based continuing training program that is applicable to both VEGP Unit 3 and Unit 4. The continuing training program curriculum includes training on design and procedure changes, and is designed to ensure operators maintain proficiency of acquired knowledge and abilities to perform assigned tasks.

- The continuing training program is based on the requirements defined in 10 CFR Part 55 and is accredited through the National Academy for Nuclear Training.
- The continuing training program uses a systematic approach to training to maintain operator proficiency for the major subject areas and topics that define the reactor operator and senior reactor operator qualification programs.
- Enrollment in and passage of the continuing training program ensures operator license candidate knowledge retention is consistent with standards recognized in NRC regulations and NUREG-1021.

In summary, VEGP Unit 3 and Unit 4 have been determined to be virtually identical, and no additional training is required for Unit 3 licensed operators seeking licensure for Unit 4. The written exam and operating test taken by the licensed operators in Enclosure 2 are applicable to VEGP Unit 4. In addition, upon successfully completing their Unit 3 written examination and operating test, the Unit 4 operator candidates have been enrolled in a SAT-based continuing training program that is applicable to both Unit 3 and Unit 4. The results of the VEGP Unit 3 licensing exam and operating test and the continuing training program indicate the candidates in Enclosure 2 have demonstrated the ability to operate the virtually identical VEGP Unit 4 competently and safely. Therefore, crediting the written examination and operating test performed on VEGP Unit 3 is an acceptable alternative to having these candidates reperform the examination and operating test for VEGP Unit 4 licensure.

## **5.0 Regulatory Evaluation**

Exemptions from the provisions in 10 CFR Part 55 are governed by 10 CFR 55.11, "Specific Exemptions." That regulation states:

The Commission may, upon application by an 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 and are otherwise in the public interest.

The requested exemption satisfies the criteria for granting specific exemptions, as described below.

### **5.1 This exemption is authorized by law**

The Commission has the authority to issue the requested exemption. The exemption would not conflict with any provision of the Atomic Energy Act (AEA) or any other law.

Specifically, Section 107 of the AEA states, in part, that the Commission shall (a) "prescribe uniform conditions for licensing individuals as operators of... utilization facilities licensed" by the NRC, and (b) "determine the qualifications of such individuals."

- The Commission has complied with subsection (a) through the promulgation of Part 55 and NUREG-1021. There is nothing in the AEA that prohibits the Commission from granting exemptions from the provisions in Part 55. The previous written examination and operating test successfully passed by the Unit 3 licensed operators is equivalent to any exam and operating test that would be given for Unit 4 licensure. The requirement governing uniformity is unaffected by the exemption request.
- The Commission will comply with subsection (b) through the licensing process for operator candidates at VEGP Unit 4. The requirement governing operator qualifications is unaffected by the exemption request.

Accordingly, this requested exemption is authorized by law.

5.2 This exemption will not endanger life or property

The exemption does not pertain to the design, construction, or operating procedures of VEGP Unit 4. Furthermore, as explained above, the exemption is consistent with ensuring that the operators will be competent and fully trained to safely operate the plant; the content and substance of the examinations and tests given for licensing the current Unit 3 operators in Enclosure 2 is equivalent to any exam and operating test that would be given for Unit 4 licensure. The exemption would allow credit for previously passing equivalent exam and operating test to be applied for Unit 4 licensure. Therefore, the exemption will not endanger life or property.

5.3 This exemption is consistent with the public interest

The proposed exemption from the requirements of 10 CFR 55.33(a)(2) and 10 CFR 55.31(a)(3) would prevent currently licensed VEGP Unit 3 operators, who successfully completed the written examination and operating test on VEGP Unit 3, from having to re-take them before receiving an operator license for VEGP Unit 4. Requiring those candidates who thoroughly prepared and successfully passed the examination and the test to re-take them would be inequitable. The engineering evaluation of the Unit 3 and Unit 4 differences demonstrated that the units are virtually identical, and the Training Needs Analysis of the differences showed no further training is required for the currently licensed Unit 3 operators to be capable of operating VEGP Unit 4 competently and safely. This ensures operation of the facility such that the public health and safety would not be adversely impacted. The exemption further supports the public interest by conserving NRC and licensee resources, while ensuring that operator license candidates satisfy the applicable requirements to obtain operator licenses. The exemption would avoid duplication of efforts, including preparation and approval of another exam, retesting the candidates, and having the regulator conduct an additional examination. The exemption would ensure training department resources were available to meet other site training needs.

Additionally, removing licensed operators from shift to perform duplicative examination and testing could impact the ongoing testing and future operation of Unit 3, while simultaneously challenging operations, training, and NRC resources.

The additional resource expenditure would result in additional costs. Accordingly, to avoid such adverse impacts, the exemption is in the public interest.

Therefore, this exemption is consistent with the public interest.

#### 5.4 Significant Hazards Determination and Environmental Consideration

The proposed exemption has been evaluated against the criteria of 10 CFR 51.22, "Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review." The requested exemption meets the eligibility criteria set forth in 10 CFR 51.22(c)(25).

The requested exemption would allow current VEGP Unit 3 licensed operators to receive credit for previously passed examination and operating test on VEGP Unit 3 to be applied for licensing for the nearly identical VEGP Unit 4. The exemption does not make any changes to the facility or operating procedures and :

- a) does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), in that it does not:
- alter the design, function, or operation of any plant equipment. Therefore, granting this exemption would not increase the probability or consequence of any previously evaluated accident.
  - create any new accident initiators. Therefore, granting this exemption does not create the possibility of a new or different kind of accident from any accident previously evaluated.
  - exceed or alter a design basis or safety limit. Therefore, granting this exemption does not involve a significant reduction in a margin of safety.

Therefore, a finding of "no significant hazards considerations" is justified.

- b) does not involve any changes that would introduce any change to effluent types, affect any plant radiological or non-radiological effluent release quantities, or affect any effluent release paths, or the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. Therefore, it is concluded that the proposed exemption does not involve a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite.
- c) does not affect any plant radiation zones, nor change any controls required under 10 CFR Part 20 that preclude a significant increase in occupational radiation exposure. Therefore, it is concluded that the proposed exemption does not involve a significant increase in individual or cumulative occupational radiation exposure.
- d) does not involve any facility changes or change any construction activities. Therefore, there is no significant construction impact.

- e) does not alter the design, function, or operation of any plant equipment. Therefore, there is no significant increase in the potential for or consequences from radiological accidents.
- f) involves education, training, experience, qualification, requalification, or other employment suitability requirements.

Accordingly, the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(25). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this exemption.

## **6.0 Precedent Exemption**

VEGP Units 3 and 4 previously submitted "Request for Exemption from Operator Written Examination and Operating Test" (ML19030A226 dated December 20, 2018), which was approved by the Commission on May 31, 2019 (ML19126A057). This request is similar; however, it is far less complex, since VEGP Units 3 and 4 are virtually identical and have the same procedures, including those used for Emergency Planning.

## **7.0 References**

1. 10 CFR Part 55, "Operators' Licenses"
2. NEI 06-13A, Revision 2, "Template for an Industry Training Program Description"
3. NUREG-1021, Revision 11, "Operator Licensing Examination Standards for Power Reactors; Final Report"
4. Atomic Energy Act of 1954, as amended, Section 107
5. NUREG-2103, Revision 0, "Knowledge and Abilities Catalog for Nuclear Power Plant Operators: Pressurized Water Reactors Westinghouse AP1000"
6. ND-18-1126, "Request for Exemption from Operator Written Examination and Operating Test, Southern Nuclear Operating Company, Vogtle Electric Generating Plant Units 3 and 4" (ML 19030A226)

**Southern Nuclear Operating Company**

**ND-21-0427**

**Enclosure 2**

**Unit 4 Operator Candidates Requesting Credit for Unit 3 Written Examination and  
Operating Test**

**(This Enclosure consists of 2 page, not including this cover page)**