

April 14, 2017

MEMORANDUM TO: Paul G. Krohn, Deputy Director  
Division of Construction Inspection  
and Operational Programs  
Office of New Reactors

Mark S. Miller, Deputy Director  
Division of Reactor Safety  
Region II

FROM: Vonna L. Ordaz, Acting Director **/RA/**  
Office of New Reactors

Catherine Haney, Regional Administrator **/RA/**  
Region II

SUBJECT: CHARTER FOR DECLARATION OF PLANT-REFERENCED  
SIMULATORS AND QUALIFICATION OF COMMISSION-  
APPROVED SIMULATION FACILITIES TO SUPPORT THE  
COLD OPERATOR LICENSING PROCESS

The purpose of this memorandum is to charter an inter-office task team under your shared leadership to enhance the Nuclear Regulatory Commission's (NRC's) cold operator licensing process ("cold licensing process"). Specifically, this charter relates to: a) licensees' declarations of plant-referenced simulators (PRSs), and NRC actions that would follow such declarations, and b) the process for licensees to apply for Commission-approved simulator (CAS) status, and NRC actions upon receipt of such applications. This effort is motivated by the lessons that have been learned to date from the cold licensing efforts at the AP1000 projects at Vogtle and V.C. Summer.

The licensees at Vogtle and V.C. Summer have applied for, and have been granted, CAS status for their respective simulators. However, draft guidance specifying acceptance criteria and detailing the evaluation process used to qualify these simulators as CAS facilities still needs to be finalized. Each licensee will eventually declare their simulators as PRSs, but agency actions in response to these declarations have not been clearly defined. The objective of this team is to develop recommendations to provide clarity in both of these areas.

The enclosed charter has been developed to define the objective, scope, staffing, and timeframe for this effort. The team should provide its recommendations in the form of a written report, consistent with the guidance provided in the attached charter. The team's recommendations will be considered by the Office of Nuclear Reactor Regulation/Office of

CONTACT: Aida Rivera-Varona, NRO/DCIP      Eugene Guthrie, RII/DRS  
301-415-4001                                      404-997-4662

New Reactors program offices, in consultation with regional offices as appropriate, for incorporation into staff guidance documents. While this charter focuses on the PRS and CAS, a separate charter (ML17010A081) captures other near- and long-term recommendations to improve the overall efficiency and effectiveness of the cold licensing process.

Enclosure:

Charter for Declaration of PRS  
and Qualification of CAS Facilities  
to Support the Cold Operator Licensing Process

SUBJECT: CHARTER FOR DECLARATION OF PLANT-REFERENCED SIMULATORS  
 AND QUALIFICATION OF COMMISSION-APPROVED SIMULATION  
 FACILITIES TO SUPPORT THE COLD OPERATOR LICENSING PROCESS:  
 DATE APRIL 14, 2017

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NRO-002

<b>OFFICE</b>	RII/DRS/OB2	NRO/DCIP/HOIB	RII/DRS*	NRR/DIRS
<b>NAME</b>	EGuthrie*	ARivera-Varona*	TGody (MMiller for)	CMiller
<b>DATE</b>	03/20/17	03/17/17	3/24/17	04/05/17
<b>OFFICE</b>	NRO/DCIP	RII	NRO	
<b>NAME</b>	TMcGinty (PKrohn for)	Chaney	VOrdaz	
<b>DATE</b>	03/23/17	03/31/2017	04/14/17	

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## **CHARTER**

### **Declaration of Plant-Referenced Simulators and Qualification of Commission-Approved Simulation Facilities to Support the Cold Operator Licensing Process**

#### Objective

The objective of this Task Team (the “team”) is to formulate and develop cold operator licensing process recommendations for: (1) the steps and activities necessary for a licensee to declare a plant-referenced simulator (PRS), and (2) the application and evaluation process used to qualify a simulation facility as a Commission-approved simulator (CAS).

#### Scope

The team should review regulations governing simulation facilities as well as documents containing simulator technical requirement information that may be used to inform and provide the bases for the simulator declaration process. Examples of pertinent regulation and documents include, but are not limited to: Title 10 of the *Code of Federal Regulations* (10 CFR) Part 55, “Operators’ Licenses;” NUREG-1021, “Operator Licensing Examination Standards for Power Reactors,” Revision 10 and Revision 11; Regulatory Guide 1.149, “Nuclear Power Plant Simulation Facilities For Use In Operator Training, License Examinations, And Applicant Experience Requirements,” Revision 4; American National Standards Institute/American Nuclear Society (ANSI/ANS)-3.5-2009, “Nuclear Power Plant Simulators For Use In Operator Training And Examination;” Nuclear Energy Institute 09-09, “Nuclear Power Plant-Referenced Simulator Scenario Based Testing Methodology,” Revision 1; and Inspection Procedure-41502, “Nuclear Power Plant Simulation Facilities.” These documents should be used as basis for the formulation of recommendations. In addition, the team should review and evaluate previous 10 CFR Part 52-related operator licensing documents, such as Reports on Interaction (ROIs), exemptions, inspection reports, exam materials, multi-office memoranda, audit reports, CAS safety evaluations for Vogtle and V.C. Summer, etc.

In addition to the review of the regulation and documents noted above, the team shall consult industry representatives experienced with simulator testing and inspection requirements, and meet with external stakeholders during development and formulation of recommendations to solicit feedback. The team must provide a basis for each of its recommendations. Finally, the team shall ensure that any recommendations developed as a part of this effort do not result in unintended consequences for the operating reactor licensing program.

#### Tasks

The process for declaring a simulator as a PRS has yet to be completed for the AP1000 simulators at Vogtle and V.C. Summer. In addition, draft guidance developed to specify acceptance criteria and detail the evaluation process used to qualify these simulators as CAS facilities for use in the administration of operating tests still needs to be finalized. Team activities associated with the development of recommendations for PRS declaration criteria shall be given the highest priority (task-1). Once this task has been completed, the team will then focus on the finalization of draft guidance recommendations for the acceptance criteria and evaluation process for qualifying a simulator as a CAS facility. While the aforementioned tasks directly support near-term activities for the cold licensing of operators at Vogtle and V.C. Summer, the resultant recommendations should be applicable to any newly licensed plant.

The following tasks require the development of written interim guidance, including roles and responsibilities for program and regional office staff, necessary to fully and effectively implement the Nuclear Regulatory Commission's (NRC's) cold licensing process. These tasks support ongoing cold licensing activities at Vogtle and V.C. Summer, including the administration of future operating tests and the issuance of operator licenses. Tasks to be completed by the team include:

1. Recommend the steps and activities necessary for a licensee to declare a simulator as a PRS.
  - a. Specify licensee's actions for declaring a PRS.
  - b. Clarify NRC's actions following a licensee's declaration of a PRS.
  - c. Identify the appropriate document(s) in which to locate this information for the long term.
  - d. Consider whether existing ANSI standards for simulators are adequate for the AP1000 design, and what means can be utilized to ensure the process is sufficiently robust for application to any new reactor licensee (e.g., determine whether regulatory guides by new reactor plant type would be a viable option).
2. Recommend generic acceptance criteria and guidance for performing an evaluation to qualify a simulator as a CAS for use in the administration of the NRC exam operating test.
  - a. Leverage the lessons learned in the previously-approved CAS facility safety evaluations for Vogtle and V.C. Summer.
  - b. Evaluate inclusion of IP 41502, "Nuclear Power Plant Simulation Facilities," criteria.
  - c. Identify the appropriate document(s) in which to locate this information.

### Expected Results and Schedule

By September 29, 2017, the team is to provide to the Director of the Office of New Reactors (NRO), the Director of the Office of Nuclear Reactor Regulations (NRR), and the Regional Administrator for Region II, recommendations for actions identified under this charter.

These recommendations should include the identification of changes to existing and/or new guidance documents needed for a licensee to declare a simulator as a PRS and to qualify a simulator as CAS facilities for use in the administration of operating tests. The report(s) should include a summary of conclusions and recommended draft guidance for each recommendation. Significant references should be provided, where appropriate.

The Division of Construction Inspection and Operational Programs (DCIP) Human Performance, Operator Licensing, and ITAAC Branch staff in NRO will use the team's report(s) as the basis for making appropriate changes to operator licensing program guidance documents and processes.

The team will conduct their review and development of recommendations through multiple venues including face-to-face meetings, teleconferences, etc. Team meetings are at the discretion of the team leader. The team leader should also provide progress updates to program offices and Region II management on a periodic basis, as well as concerns or issues that may be identified and may need prompt attention by the program offices. Team member work assignments are at the discretion of the team leader.

### Task Team

The team should have representation from NRR, NRO and Region II. Team members should preferentially have had prior involvement in the AP1000 NRC exams at Vogtle and V.C. Summer or an understanding of the challenges surrounding the implementation of the cold licensing process. Other NRC staff members may be consulted as needed.

The team will use the carrier access code (CAC) A17006, "New Reactors Operator Licensing," for all time spent on this effort.