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PROPOSED RULE **PR 55**
(65 FR 41021)

Secretary, U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
Mail Stop O-16C1
Attn: Rulemakings and Adjudications Staff

**SUSQUEHANNA STEAM ELECTRIC STATION
COMMENTS TO PROPOSED RULE TITLED,
"OPERATOR LICENSE ELIGIBILITY
AND USE OF SIMULATION FACILITIES IN
OPERATOR LICENSING"
PLA-5242**

Docket Nos. 50-387
and 50-388

The purpose of this letter is to provide PPL Susquehanna, LLC (PPL) comments on the NRC proposed rulemaking, "Operator License Eligibility and Use of Simulation Facilities in Operator Licensing" (65FR41021), dated July 3, 2000. PPL also endorses the comments to this proposed rulemaking that are being submitted by the Middle Atlantic Nuclear Training Group (MANTG) and the American Nuclear Society Committee 3.5.

This proposed rulemaking will amend in part 10CFR 55.31 and 10CFR 55.45 to allow applicants for operator and senior operator licenses to fulfill a portion of the experience prerequisites for license eligibility by manipulating a plant-referenced simulator as an alternative to use of the actual plant.

PPL's comments to the proposed rulemaking are as follows:

- 1) Section 55.45(b)(3)(i)(A), states in part that "The plant-referenced simulator uses models related to nuclear and thermal-hydraulic characteristics that replicate the core load that exists in the nuclear power unit ...".

Engineering and real time numerical models contain approximations. Generally, neither reproduces physical processes exactly. Therefore, guidance identifying the level of modeling detail required, and a definition for the term "replicate," need to be developed. The level of modeling detail required has to

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coincide with the actual plant's response as seen by the operators. The 1998 ANS 3.5 standard paragraphs 4.1.3.1.3 and 4.1.3.1.4 do not provide any assistance. Additionally, no guidance is provided on rod worth, notch worth, SRM-IRM range performance, axial power distribution, radial power distribution, stored energy, fuel time constant, core coupling, etc. that comprise the actual plant responses that the operator sees. Also, older coarser mesh models are less refined than the more recent wheel-up engineering look-alike models. Therefore, guidance as to what level of modeling detail is acceptable to the NRC needs to be developed.

2) "Discussion of Proposed Rule Change" – *Subpart D – Revision of § 55.31 To Allow Performance of Control Manipulations on the Plant-Referenced Simulator*

Under the "Discussion of Proposed Rule Change" the statement is made in part that "First, recognizing that the simulator may differ to a degree from the referenced unit and to provide experience essentially replicating that obtained from control manipulations on the plant, reasonable measures should be taken to ensure that the simulated reactor core ... represent the actual reactor core that will exist in the plant at the time the applicant is tested for a license." This is a new proposed requirement that is based on a concern the NRC has with existing simulators.

Clear guidance has to be provided for multi-unit sites training on one simulator. Provisions have to be made which allow for training on a simulator that may not exactly replicate the reactor core in each reactor unit. In the "Discussion of Proposed Rulemaking" the term "reasonable measures" is used to presumably allow some flexibility with respect to assuring that the reactor core characteristics will represent the actual reactor core that will exist in the plant at the time the applicant is tested for a license. However, because of the subjective nature of the term "reasonable measures," clarification and guidance as to acceptable types of modeling for "reactor core" simulation needs to be developed.

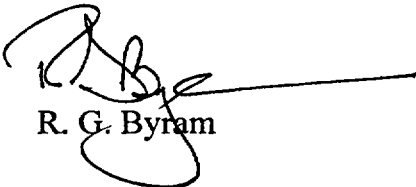
3) "Discussion of Proposed Rule Change" – *Subpart E – Revision of § 55.45 To Remove Current Requirements for Simulator Certification and Routine Submittal of Performance Test Reports*

Under the "Discussion of Proposed Rule Change" the statement is made that "Absent certification, assurance of simulator suitability would be provided through NRC reviews and validation of operating test scenarios, with review of performance test results, and uncorrected modeling or hardware discrepancies, if needed."

Objective guidance should be developed for NRC's review of "uncorrected modeling or hardware discrepancies" since such a review could render the simulator unsuitable for examination. Using existing NRC guidance it is difficult to interpret the real impact of a discrepancy.

Please contact Mr. Robert Kichline at 610-774-7705 if there are questions concerning these comments.

Sincerely,

A handwritten signature in black ink, appearing to be "R. G. Byram", with a long horizontal line extending to the right.

Copy to: NRC Region I
Mr. R. G. Schaaf, NRC Project Manager - OWFN
Mr. S. L. Hansell, NRC Sr. Resident Inspector, SSES