

November 22, 2010

Dear Mr. Gurdziel:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your e-mail message, dated September 25, 2010. In your message, you expressed your concerns with the lack of a 12 hour time requirement for licensed operator requalification simulator operating tests. Specifically, since operating crews work 12 hour shifts, you commented, in effect, that realism would be enhanced by requiring the requalification simulator operating tests to be 12 hours long.

As you are aware, Title 10, Section 55.59 of the Code of Federal Regulations (10 CFR 55.59) requires licensed operators, as a condition of their license, to pass an annual operating test, including a dynamic simulator crew-based operating test. The simulator operating test provides a comprehensive evaluation of the integrated plant knowledge and skills required of licensed operating crews. Notwithstanding the fact that the typical scenario test set of two to three scenarios -- each approximately 60 to 90 minutes in length -- administered to each crew is not required to be administered consistent with the crew's normal 8 or 12 hour operating shift length, the test maintains operational validity, in that, the test assesses the operators' understanding of and ability to perform the actions called for by 10 CFR 55.45(b) consistent with the knowledge and abilities developed by using a systems approach to training per 10 CFR 55.59. The NRC maintains that coverage of the specified items and successful test performance ensures that licensed operators have demonstrated the requisite knowledge and abilities to safely operate the plant. The NRC inspects facility licensee administration of these tests as well as the overall training program requirements specified in section 55.59(c)(1) through (7) as part of the Reactor Oversight Program (ROP).

However, the NRC acknowledges and shares your concerns, that long hours, the demands of shift work, and overall fatigue can affect operator performance. Therefore, the NRC, with extensive stakeholder input, revised 10 CFR 26 and implemented the revised rule in October 2009 to require facility licensees to develop and implement programs and procedures for the management of fatigue. These procedures contain requirements to be followed if an individual makes a self-declaration that he or she is not fit for duty as a result of fatigue, as well as requirements for work hours controls including limits on work hours in a 16, 26, and 72 hour periods, minimum work breaks between successive work periods and fatigue assessments. We believe that adherence to these requirements and proper work hours scheduling by the facility licensee, as called for by 10 CFR 26.205(c), provide reasonable assurance that facility operating crews who have demonstrated their competence with respect to the required 10 CFR 55.59 knowledge and abilities as discussed above will be sufficiently alert and capable of responding to plant events no matter if they occur in hour one or hour eleven of the shift. Moreover, the NRC's resident inspectors, as part of their routine ROP plant status tours look for signs of operator fatigue or impaired alertness and, if evidence of fatigue is identified take action, in concert with the facility licensee, per 10 CFR 26.

In summary, the NRC shares your concern with regard to operator fatigue and training realism. However, the NRC maintains that facility licensees' compliance with 10 CFR 26 and 55 provide reasonable assurance that licensed operators are both knowledgeable and sufficiently alert

such they are able to safely and competently operate the plant during both normal, abnormal, and emergency conditions.

Sincerely,

John J. McHale, Chief **/RA/**  
Operator Licensing and Training Branch  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

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Sincerely,

John J. McHale, Chief **/RA/**  
Operator Licensing and Training Branch  
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Office of Nuclear Reactor Regulation

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