

# **POLICY ISSUE (Notation Vote)**

December 15, 2009

SECY-09-0183

FOR: The Commissioners

FROM: R. W. Borchardt  
Executive Director for Operations

SUBJECT: PROPOSED MODIFICATION FOR INCLUDING QUALITY CONTROL AND  
QUALITY VERIFICATION PERSONNEL WITHIN THE SCOPE OF SUBPART I  
OF 10 CFR PART 26

PURPOSE:

To request Commission approval for a modification to the portion of Staff Requirements Memorandum (SRM) M070417B to include the individuals who perform quality control and quality verification (QC/QV) under the same Subpart I provisions as individuals who perform maintenance functions specified in 10 CFR 26.4(a)(4).

BACKGROUND:

In SECY-06-0244, "Final Rulemaking-10 CFR Part 26-Fitness-For-Duty-Programs," the staff requested Commission approval to issue a final rule amending 10 CFR Part 26. The Commission approved the final rule, with comments, in SRM-M070417B. One comment, quoted below, directed the staff to expand the scope of 10 CFR Part 26, Subpart I, "Managing Fatigue" so that QC/QV activities are subject to the fatigue management provisions.

"The staff should ensure that personnel who actually perform independent quality control/verification (QC/QV) checks under the licensee's NRC-approved Quality Assurance Program are subject to the same Subpart I provisions as operating personnel defined in category § 26.4(a)(1). If staff and OGC determine that this provision of the rule requires re-notice and comment under the APA, staff should issue the final rule without this provision. In that case, staff should separately initiate the additional appropriate noticing for this provision."

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The staff and the Office of General Counsel (OGC) subsequently concluded that the addition of QC/QV activities to the scope of the rule would require re-notice and comment under the Administrative Procedure Act (APA). For that reason, the final rule was issued without this provision, and staff initiated an additional proposed rulemaking to address QC/QV activities.

As part of the proposed rulemaking process, staff initiated development of a regulatory basis for the proposed rule change. To support the regulatory basis, staff sought input regarding the type of plant staff who conduct QC/QV activities under current Quality Assurance Programs. Consistent with the wording of the SRM, staff limited the search for information to the activities proscribed by 10 CFR 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," Criterion X, "Inspection." The staff also performed several technical assessments to serve as the technical basis for the proposed rule.

#### DISCUSSION:

The staff solicited stakeholder input regarding the current structure of plant staff who conduct QC/QV inspections. Results indicated that 80 to 90 percent of licensees have a small group of full time QC/QV inspectors who are supplemented by individuals from the maintenance departments. Therefore, the individuals subject to the hours assigned to the QC/QV inspection function would include both dedicated QC/QV inspectors and the subset of maintenance department personnel who perform inspections under the licensee's approved quality assurance program.

Because of the overlap between inspection functions performed by maintenance personnel and inspection functions performed by the QC/QV personnel, industry representatives requested that the staff consider maintenance work hour controls (for individuals specified in 10 CFR 26.4(a)(4)) rather than operations work hour controls (individuals specified in 10 CFR 26.4(a)(1)) in development of the proposed rulemaking package. The industry stated that this approach would have significant benefit with respect to the ease of implementation while meeting the objective of ensuring that personnel performing the QC/QV function were fit for duty with respect to fatigue.

As part of developing a regulatory basis for a proposed rule, as directed by SRM-M070417B, staff conducted a comparative analysis. The analysis ranked select functions performed by each of the three major groups of individuals already subject to the work hour control provisions in Subpart I (i.e., operations, maintenance and security) and individuals who perform inspection functions<sup>1</sup>. The functions were ranked with respect to how fatigue could potentially degrade performance of each of the functions along the dimensions of attention (vigilance), decision making, problem solving, and the ability to communicate and work as a team. Although fatigue affects individuals in many ways, these four dimensions were selected because they reflect skills sets that are important to maintaining the health, safety and security of the public. These

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<sup>1</sup> The remaining individuals subject to work hour controls – individuals performing health physics and chemistry duties required as members of the onsite emergency response organization minimum shift complement, and individuals who perform duties of a fire brigade member who is responsible for understanding the effects of a fire and fire suppressants on safe shutdown – were not included in this analysis. The work they perform that requires these individuals to be subject to work hour controls is performed primarily during emergency conditions, in contrast to the work activities of the operations, maintenance, security, and inspection personnel that are performed under both normal conditions and emergency conditions. Therefore, the affects of fatigue for these individuals on the four key dimensions cannot be effectively compared to operations, maintenance, security, or inspection functions.

dimensions were emphasized in the previous rulemaking which established Subpart I and work hour controls. The results of the analysis indicate that individuals performing security functions while fatigued would have the highest potential to affect the health, safety, and security of the public, followed by individuals performing operations, QC/QV inspection, and then maintenance functions. The only difference between the potential impact of QC/QV inspection and maintenance functions is that the work of the QC/QV inspectors is not reviewed; however, the QC/QV inspections are themselves a check of the original work and any impact would be the result of an error by both the maintenance and QC/QV inspection functions. Thus, the impact of the maintenance and QC/QV inspection functions is essentially equal.

Based on this analysis the staff believes that the QC/QV inspection functions are aligned with functions performed by maintenance personnel, with respect to the effects of fatigue on the four key dimensions: sustaining attention, problem solving, decision making, and communicating and working as a team. Therefore, the results of the analysis and the current industry practice of supplementing QC/QV inspectors with individuals from the maintenance organization suggest that individuals who perform QC/QV inspection functions should be subject to the same work hour controls as individuals who perform maintenance functions.

Implementing this conclusion would change the Commission's direction for the Part 26 minimum day off requirement for individuals performing QC/QV inspection functions who work 12-hour shifts during normal plant operation and unit outages, as shown in the following table:

**Minimum Day Off Requirements**  
(12-hour shifts)

	Normal Operations	Outages
SRM-M070417B (Operations)	2.5 days off per week	3 days off in each 15 day period
Staff Proposal (Maintenance)	2 days off per week	1 day off per week

**RECOMMENDATION:**

The staff recommends that the Commission approve a modification to a portion of SRM-M070417B to include the individuals who perform QC/QV inspections under the same Subpart I provisions as individuals who perform maintenance functions specified in 10 CFR 26.4(a)(4).

Staff requests that this document be treated as Official Use Only-Sensitive Internal Information, because it contains predecisional information.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The current resource implications do not meet the threshold for review by the Office of the Chief Financial Officer.

*/RA/* by Bruce S. Mallett for

R. W. Borchardt  
Executive Director  
for Operations

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The Office of the General Counsel has reviewed this paper and has no legal objection. The current resource implications do not meet the threshold for review by the Office of the Chief Financial Officer.

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EDATS: NRR-2009-0056

ADAMS Accession No.: ML092810184 \*via e-mail

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