

June 11, 2003

MEMORANDUM FOR: John N. Hannon, Chief
Plant Systems Branch
Division of Systems Safety and Analysis

FROM: Michael D. Tschiltz, Chief/**RA**/ M. Reinhart for
Probabilistic Safety Assessment Branch
Division of Systems Safety and Analysis

SUBJECT: PEER REVIEW OF RISK-INFORMED SAFETY EVALUATION OF
THE SUPPRESSION CAPABILITY IN THE CABLE SPREADING
ROOM AT ST. LUCIE NUCLEAR POWER PLANT UNIT 1

In a memorandum dated March 19, 2003, DSSA's Plant Systems Branch requested a peer review of the risk-informed safety evaluation of the suppression capability in the cable spreading room (CSR) at St. Lucie Nuclear Power Plant Unit 1. As referenced in ADAMS (Accession No. ML030690222), this risk-informed safety evaluation was performed to closeout the gaseous suppression issues raised in the St. Lucie Regulatory Conference of June 20, 2002, and specifically to determine whether a backfit could be justified for the Halon 1301 gaseous suppression system as installed at St. Lucie Nuclear Power Plant Unit 1.

The scope of the SPSB peer review was focused on evaluating the key risk considerations of the capability of the Halon 1301 suppression system to extinguish a deep-seated fire. The key risk considerations discussed in the risk-informed safety evaluation were: (1) Risk importance of the Cable Spreading Room based on insights from the licensee's Individual Plant Examination for External Events (IPEEE) study, (2) Significance determination of "White" color based on SPSB and SPLB consensus of Phase III Significance Determination Process (SDP) analysis results, and (3) Risk context of fire control versus extinguishment based on deliberations of the NRC Advisory Committee on Reactor Safeguards (ACRS) Subcommittee on Fire Protection Meeting on September 11, 2002.

Attachment: As stated

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Results of SPSB's peer review indicate that: (a) the Phase III SDP outcome of "White" significance, and (b) the opinion of fire risk analysis experts, provide adequate risk information on the significance of a gaseous fire suppression system that controls a fire. The White color characterization (as defined in Inspection Manual Chapter 0612, "Power Inspection Reports") indicates that the issue to be of low to moderate safety significance, i.e., the change in core damage frequency (CDF) due to the finding is less than $1.0\text{E-}5$ per reactor-year. This risk perspective, together with expert opinion on the risk context of fire control versus extinguishment, supports the conclusions in the risk-informed safety evaluation that a backfit of the St. Lucie Unit 1 CSR Halon 1301 is not justified.

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