March 19, 2009

Patricia Schroeder
American Nuclear Society
555 North Kensington Avenue
La Grange Park, IL 60526

Dear Ms. Schroeder:

SUBJECT: ANS-15.17 N-17 COMMITTEE BALLOT

Enclosed is my ballot for ANS-15.17-200x (Revision of 15.17-1981; R2000), “Fire Protection Program Criteria for Research Reactors.” I have voted "Not Approved." Comments on the proposed standard are enclosed.

If you have any questions concerning this ballot, please contact me at 301-415-1127 or by electronic mail at Alexander.Adams@nrc.gov.

Sincerely,

/RA/

Alexander Adams, Jr., Senior Project Manager
Research and Test Reactors Branch A
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Enclosure: As stated

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ADAMS ACCESSION NO.: ML090760785 **TEMPLATE #: NRR-106**

OFFICE	PRTA:PM	PRTA:LA	PRTA:BC	PRTA:PM
NAME	AAdams	GLappert	KBrock	AAdams
DATE	3/17/09	3/17/09	3/19/09	3/19/09

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NRC Comments
On ANS-15.17
Fire Protection Program Criteria for Research Reactors

The scope of the subject standard is to provide criteria for a fire protection program for research reactor facilities and for the reactor safety systems included in those facilities. The only basic requirement established by this standard is to have a fire protection program for the research reactor facility which achieves the objective stated in Section 3, Fire Protection Objective."

Section 3 states "The fire protection objective is to provide a fire protection program which provides for fire prevention and, in the event of a fire, reasonable assurance that safety related systems can perform their required functions and that the defined Loss Prevention Criteria are met."

Section 3 goes on to state, "For the purposes of this document, specific Loss Criteria are determined through consideration of the credible consequences of a fire upon: personnel safety, reactor safety system integrity, other safety-related system requirements, systems, the prevention of radioactive releases, property damage, and program continuity." Appendix A to the standard, paragraph 4.4 provides guidance for establishing Loss Criteria. This paragraph in the appendix infers that this is a facility management function. In addition, the paragraph infers that definitive statement limits such as, "no injury or exposure to the public", are good ways of expressing loss criteria. Absolutes such as these infer zero risk and are not practical or achievable from economical and operational perspective.

The standard, in Section 4, "Fire Protection Program," requires a written description of the fire protection program and it states the description shall include, but not limited to, the items given in paragraphs 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, and 4.8. Paragraph 4.8, "Fire Safety Assurance Program" requires the development of this program in accordance with Section 7.0. In section 7.0, the frequency for assurance inspections and audits and the program reviews are established. In addition, the Section 7.0 paragraphs state what "shall" be reviewed or determined to be adequate. The standard does not establish specific criteria or objectives for determining acceptability or responding to fire protection program weaknesses (e.g., inoperability of facility fire protection features and systems).

In general, in order to establish a fire protection program that provides reasonable assurance reactor safety systems are going to perform their intended function and the health and safety of the public is going to be protected, a set of radiological/reactor safety performance objectives supported by fire safety design/performance criteria should be established by the standard as requirements to be met by the program. Compliance with the radiological/reactor safety performance objectives and how the fire protection program ensures those objectives are achieved and maintained under varying postulated fire conditions is the principle objective of a the reactor facility's fire hazards analysis. The results of the fire hazards analysis forms the basis for the performance that the criteria the facility's fire protection program needs to achieve in order to demonstrate the radiological/reactor safety performance objectives can be met and that there is a basis for concluding that reasonable assurance is achieved with respect to ensuring reactor and radiological safety.

The standard does provide a description of the fire protection components and protection and prevention elements. These descriptions are guidance and lend themselves to being moved to

the Appendix. The standard should establish the appropriate design and performance criteria desired for these fire protection elements. Again, the fire hazard analysis and its supporting methodology should establish the basis for the required fire protection element.

Overall, the standard does not establish clear objectives and criteria, supported by a sound fire hazard analysis methodology, to ensure the level of fire protection provided for a research reactor facility is established on defense in depth principles. Clear objectives and criteria is necessary to ensure that a sound basis can be established, and when independently audited, would conclude that the level of fire protection provides the reasonable assurance needed to ensure the radiological/reactor safety performance objectives, such as safety related systems, can perform their required safety functions during and after a fire event, can be met with margin.

BALLOT OF THE
AMERICAN NUCLEAR SOCIETY
N17 – Research Reactors, Reactor Physics, Radiation Shielding &Computational Methods

Proposed standard's

* Numerical Designation: ***ANS-15.17-200x***
* Version: ***Revision of ANSI/ANS-15.17-1981; R2000***
* Title: Fire Protection Program Criteria for Research Reactors

Vote Closes: Friday, March 20, 2009 **Please indicate your vote:**

Approved ☐

Approved with comments (*Comments Appended*) ☐

Not Approved (*Comments Appended*) X

Indicate by asterisk (*) those comments which require satisfactory resolution to effect change of your vote and designate those comments by number on the comment form.

Not Voting (*Reasons Appended*) ☐

Date_March 17, 2009 **Name Alexander Adams Jr.**_____
[Please PRINT or TYPE]

Signature_____/RA/_____

Please return vote and comments:

Patricia Schroeder
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