

D870812

The Honorable Lando W. Zech, Jr.
Chairman
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: ACRS COMMENTS ON THE ADVANCE NOTICE OF PROPOSED RULEMAKING:
DEGREE REQUIREMENTS FOR SENIOR OPERATORS

During the 328th meeting of the ACRS, August 6-8, 1987, and our 327th meeting, July 9-11, 1987, we discussed SECY-87-101, "Issues and Proposed Options Concerning Degree Requirements for Senior Operators," which was prepared in response to public comments on the proposed rule. Meetings of our Subcommittee on Human Factors were also held on July 15, 1986 and June 24, 1987 to discuss this issue with the NRC Staff. During these meetings, we had the benefit of presentations by the NRC Staff as well as representatives of the Westinghouse Electric, KMC, and Delian corporations. We also had the benefit of the documents referenced.

On May 31, 1986 the NRC published an Advance Notice of Proposed Rule-making (ANPRM) to require all applicants for a Senior Reactor Operator (SRO) license to possess a baccalaureate degree in engineering or physical science after January 1, 1991. Two hundred letters of public comment were received in response to the ANPRM of which approximately 98% indicated opposition to the NRC's proposal.

The nuclear utility industry and the NRC have endorsed a systems approach to performance based training. At the heart of performance based training is a detailed Job and Task Analysis (JTA) which analyzes the many tasks that must be performed to carry out the various jobs of personnel filling positions in nuclear power plants, including the position of SRO. The tasks are further analyzed to determine the various knowledges, skills, and abilities (KSAs) that one must possess to perform the tasks. The analysis continues further to determine whether the KSAs should be obtained through formal education or through specific training in the classroom, in the laboratory, at a simulator, or by self-study.

A number of JTAs have been performed by licensees as part of the conversion to performance based training; analysis of these JTAs has not shown that a college degree is necessary for Senior Reactor Operators to perform the tasks of their jobs to ensure safety of plant operations. A Peer Advisory Panel appointed by the Commission came to the same conclusion in 1982 and recommended against a degree requirement for SROs. We have not been informed of any technical rationale for requiring a degree for SROs at nuclear power plants; we conclude, therefore, that a degree requirement for all SROs is primarily a policy issue.

We strongly support the concept of having engineering expertise on each shift. The Commission's requirement of a Shift Technical Advisor (STA) was a step in that direction. Further, the Commission's provision of

the option to combine the STA function with one of the SRO positions was a step to encourage greater integration of the resulting engineering expertise into shift operations. The Committee endorsed both of these actions. The NRC Staff indicates that the percentage of SROs with a baccalaureate degree in engineering or physical science has increased from 17% in 1980 to 28% in 1987.

We are informed that the primary reasons for considering requiring all SROs in the future to have degrees is to enhance professionalism in reactor operations and to make it more likely that the higher management positions in nuclear utilities will be filled by individuals with plant operations experience. We endorse these purported goals but question whether they will be realized through the proposed indirect approach of requiring degrees of all SROs. We believe there is a more direct approach to achieving these goals than through the proposed rulemaking.

We recommend that the Commission formulate more specifically its concerns and the goals it desires to achieve. The Commission then should meet with appropriate licensee representatives (e.g., NUMARC) to convey the need for increased attention to the areas of concern. The NRC Staff and the licensees should then work to develop solutions, programs, and schedules for implementation of any changes from current practice deemed necessary. We realize that proposed rulemaking is one method to generate sufficient attention to encourage licensee initiative; however, we believe a more direct and less adversarial approach is preferable when the proposed action is not driven by clearly identified public safety concerns.

In summary, although the purported goals of the proposed rulemaking are laudable, we think that the depth of the concern about adverse effects of the proposed rule should be reconsidered; many of the comments were received from individuals who are knowledgeable about personnel considerations in the work place. We recommend a more direct approach to identifying and addressing the Commission's concerns.

Additional comments by ACRS member Glenn A. Reed are presented below.

Sincerely,

William Kerr
Chairman

Additional Comments by ACRS Member Glenn A. Reed

I applaud the ACRS letter and wish to add further support to it. As a person who earned a university engineering degree and one who held an NRC SRO license, I am opposed to the degree requirement for SROs, as in my opinion it is not needed from a job task analysis viewpoint, is not in the interest of licensed personnel morale, is not needed in the interest of best safety of operations, and would lessen the experience qualifications of SRO personnel. I have found that a college degree in engineering or applicable science will probably ensure that an SRO candidate will have an acceptable enough intelligence quotient to be able to take on-site training. However, there is no assurance from the

college degree achievement that the SRO candidate will have the even more important qualifications of mechanical comprehension, logical reasoning, and appropriate personality.

My thirty plus years of hiring and working with licensed operators has convinced me that acceptable performance in a battery of aptitude tests (IQ, mechanical comprehension, logical reasoning, and personality traits), coupled with appropriate experience and training, will provide the best SRO performers and people in overall shift charge. My experience also has convinced me that the Shift Technical Advisor concept that was endorsed some years ago by the NRC can provide the best engineering support, and the best future promotional cross-fertilization into utility top management, and into the vendor design field.

References:

1. SECY-87-101, April 16, 1987, Issues and Proposed Options Concerning Degree Requirements for Senior Operators.
2. Federal Register, Vol. 51, No. 104, Page 19561, Friday, May 30, 1987, Advance Notice of Proposed Rulemaking, 10 CFR Parts 50 and 55, Degree Requirements for Senior Operators at Nuclear Power Plants.
3. Comments pertaining to the Advance Notice of Proposed Rulemaking - Degree Requirements for Senior Operators, KMC, Inc., September 29, 1986.

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