

The Secretary of the Commission U. S. Nuclear Regulatory Commission Washington, D.C. 20555

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Attention: Docketing and Service Branch

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March 22, 1989

Gentleman,

I endorse the general policy proposed of requiring all Senior Operators (SOs) to hold a 4 year bachelors degree in engineering, physical science, or engineering technology. There are many reasons for supporting this:

- 1.) A separate STA is often burdened with administrative tasks and is usually not able to stay fully aware of all plant conditions. Also, with the lack of a requirement for the STA to remain in the Control Room or CR Annex, he/she will be generally unaware of the maintenance or last minute abnormalities in case of a reactor event. Either an SRO in the Control Room should possess a 4 year degree or the STA should be required to remain in the CR or the CR Annex. This would be an additional requirement beyond the policy statement of October 1985.
- 2.) There is a general feeling of adversity between plant operations and the plant engineering staff. The operations department personnel are unfamiliar with the restrictions imposed by various codes and standards, as they interfere with and usually preclude the "guick" and "easy" fix or method of operating.

Regulatory Guide 1.8 and ANS-3.1 require plant management to have a 4 year degree. But, most of the people obtained their plant experience in plant engineering, operating only as little as required to maintain a license for a year or two. Perhaps a better method would be to require both time as a supervisor in

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the engineering department as well as significant SO operational time. This way plant management would be assured of both an operational and an engineering background. This type of career path would give station management a broader view of plant operations.

3.) There is no real substitute for the thought processes and maturity gained through 4 years at a university or college. The military does not instill a logical, questioning attitude into its personnel. Neither do utility training programs, which generally serve only to "horse" personnel up enough to pass licensing exams, vice training them to see things with an engineer's critical view.

Licensed Operator Requalification Programs cover LERs and INPO case studies, yet by the time an operator is licensed his thought patterns and attitudes have been preset. Thus, only personnel who attended colleges and universities will be fully trained to use all resources. As a general observation, when operators have problems with plant components, they usually require the engineering department to solve them. This often includes the question of operability of safety equipment and systems.

4.) The negative comments that a degree requirement would block career paths for operators are untrue. Current standards, (Regulatory Guide 1.8, ANS-3.1) require plant management to have 4 year degrees. Thus a degreed SO requirement would open up these positions to senior SOs. I suspect that in many utilities senior station management possesses advanced degrees beyond bachelors degrees. Thus a 4 year degree requirement for SOs would be career enhancing, not career ending.

Overall, I agree with Alternative 1 of the proposed rule and provide the following additional comments: grandfathering: The rule should also specify that after 4 years from the date of the rule, one of the SOs on shift (in addition to the STA) should possess a 4 year degree. This would upgrade the engineering knowledge of the shift. After 10 years, all SOs would be required to have a 4 year degree. This would phase out all grandfathering. The limiting effect of grandfathering is that station management is still required (by current guidelines) to have a 4 year degree.

Regulatory Guide 1.8/ANS-3.1: These references should be revised to require that all SOs have a 4 year degree. In addition, military experience should be limited to a 3 for 1 equivalency. Finally, I propose a "3 + 3 Rule". Plant managers should be required to have served 3 years as a supervisor in the engineering department and 3 years as an SO on shift before they can be assigned to manager positions (as defined in the above references). Plant management currently in those positions would be grandfathered, but all appointments after the date of the rule would have to meet the "3 + 3 Rule", or have an exemption approved by the NRC Regional Office.

Therefore, I fully endorse any rules and/or requirements that would require all SOs to hold a 4 year engineering/physical science degree.

Thank you, William a Krehely William A. Krehely

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