



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 24 1984

RECEIVED
ADVISORY COMMITTEE ON
REACTOR SAFEGUARDS, U.S.N.R.C.

Mr. Jesse C. Ebersole, Chairman
Advisory Committee on Reactor Safeguards
Washington, DC 20555

Dear Mr. Ebersole:

In the August 14, 1984, ACRS letter to Chairman Palladino regarding the final Policy Statement on Engineering Expertise on Shift, you expressed concern with option two of the Policy Statement, i.e., combining the functions of a Senior Operator (SO) and a Shift Technical Advisor (STA) into one dual role (SO/STA) position.

It is our understanding that you believe that the STA would lose his independent, "diverse" perspective in the dual-role position and, therefore, would compromise engineering expertise on shift. Furthermore, you pose an analogy between a separate STA in a nuclear power plant and an independent flight engineer in the cockpit of an airplane. You specifically refer to the lack of the latter as a factor in the Air Florida Boeing 737/14th Street bridge crash.

Following the August 10 meeting of ACRS, the staff undertook background research on the issue of a third person in the cockpit. The following information was received:

- (1) Mr. Rudy Kapustin, in the Bureau of Accident Investigation of the National Transportation Safety Board (NTSB) and the investigator-in-charge of the Air Florida investigation, stated in a phone conversation that the investigation concluded that a third crew member would not have prevented the accident. Safety recommendations made by the NTSB to the FAA following their investigation did not include a recommendation for additional crew members. Mr. Kapustin said there are a few carriers who use a three-member crew as a result of their union agreement.
- (2) On March 5, 1981, President Reagan appointed a task force on aircraft crew complement with the objective of making recommendations to President Reagan on whether operation of the "New Generation" of commercial jet transport aircraft by two-person crews is safe. The task force concluded, as stated in "Report of the President's Task Force on Aircraft Crew Complement" (July 2, 1981), that adding a third crew member would not be justified in the interest of safety and safety-related improvements must come from measures other than enlarging the size of the flight crew. The report also states that jet transports operated by two-member crews have been in domestic use since the mid-60's and during that period there has been a decrease in the number of accidents.

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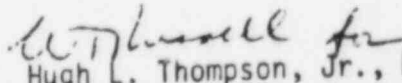
Mr. Jesse C. Ebersole

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Concerning the SO/STA position, the staff believes that although it will be more difficult for the SO/STA to have a "diverse" perspective, there are other positive counter-balancing characteristics. These characteristics are operating knowledge and experience combined with engineering and technical expertise, and greater acceptance by the operating crew which will allow these individuals to better contribute to the safe functioning of the nuclear power plant in both routine and nonroutine circumstances.

I hope the above information satisfies some of your concerns.


Hugh L. Thompson, Jr., Director
Division of Human Factors Safety
Office of Nuclear Reactor Regulation

cc: H. Denton



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August 14, 1984

The Honorable Nunzio J. Palladino
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Palladino:

SUBJECT: ACKS COMMENTS ON THE FINAL POLICY STATEMENT ON ENGINEERING
EXPERTISE ON SHIFT REGARDING THE DUAL-ROLE (SO/STA) POSITION

During its 291st and 292nd meetings, July 12-14 and August 9-11, 1984 the Advisory Committee on Reactor Safeguards considered the proposed Final Policy Statement on Engineering Expertise on Shift. The Committee had previously considered a proposed draft policy statement on "Shift Crew Qualifications" and a proposed rule requiring on-shift engineering expertise and had given its advice in reports dated December 14, 1982 and August 9, 1983, respectively.

The final Policy Statement on Engineering Expertise on Shift provides two alternatives for ensuring that adequate engineering and accident assessment expertise is available to the shift crew. Licensees and applicants may either (1) continue with the Shift Technical Advisor (STA) position or (2) combine the licensed senior operator (SO), often referred to as the SRO, and STA functions into one position. With the latter option, the person in the dual role must be qualified as both an SO and an STA. The person in the dual SO/STA role may be either the shift supervisor or the assistant shift supervisor. These positions now require the same SO license.

We have, in our past reports, endorsed proposals to permit licensees an option to combine the functions of SO and STA in a single member of a shift crew. We continue to endorse that option.

Our intent is to contribute to a long-term upgrading of the quality and educational background of the individuals occupying these critical control room positions. Assuming that the increased qualifications bring higher rewards and status, individuals of higher quality should be attracted to plant staffs.

We also endorse this gradual approach to revising requirements for personnel qualifications. Changes intended to provide for strengthened operating crews over the 30- to 40-year lifetimes of existing nuclear power plants should be made without creating sudden perturbations in existing industry practices that cause an undesirable reduction in the level of operating experience at plants.

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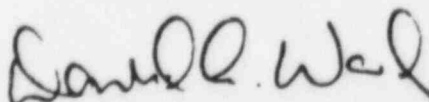
August 14, 1984

We recognize that the bachelor's degree (or an acceptable alternative) is to be a necessary but not a sufficient requirement for both the STA and the combined SO/STA position. Other parts of the total set of requirements for engineering expertise include specific training in accident analysis and diagnosis which has been developed for STAs. In addition, while specified minimum qualifications for an SO, STA, or the combined SO/STA are necessary, they should be evaluated in combination with the additional, important criteria that each licensee uses in selecting individuals for shift supervisory positions.

We believe that the policy statement is useful and appropriate and should be approved.

Additional comments by ACRS Members Jesse C. Ebersole, Harold W. Lewis, and David A. Ward are presented below.

Sincerely,



David A. Ward
Acting Chairman

Additional Comments by ACRS Member Jesse C. Ebersole

I am in disagreement with the option to combine the functions of the SO and the STA in one individual. Some of the current crop of new, green STAs may well have led to the notion that the combined function would be better. Such STAs may have been employed who would fully qualify under the current paper requirements but whose presence in the control room could be more of a detriment than an asset to operational safety.

To quickly focus on the end effects possible with the combined arrangement -- even if the SROs have been given engineering training -- I invite consideration in detail of the NTSB report on the 14th Street bridge aircraft accident. It is rather clear that third party diverse perspectives in the cockpit would have prevented that accident, although that aspect of adequate crew response was not mentioned in the report.

Additional Comments by ACRS Member Harold W. Lewis

It should be noted that in the letter of December 14, 1982, the Committee supported the proposal to permit the option of combining the functions of STA and SO, and went on to suggest that such a combination was preferable. By remaining silent on the issue of preference in this letter, the Committee has left its earlier position intact, but is unwilling to reaffirm it. It would seem more ingenuous to me to either reaffirm or reverse, rather than to obfuscate by silence. I support and reaffirm the preference for the fusing of the two functions.

August 14, 1984

Additional Comments by ACRS Member David A. Ward

While I endorse the option for either a separate STA or a combined STA/SO, as an interim measure, I believe that in the future, it is preferable that the STA position be eliminated and that shift supervisors be required to have engineering degrees. I believe it is preferable to have engineering and analytical ability combined with the authority and leadership exercised by the shift supervisor, rather than to expect another engineer to function as a "back-seat driver" in a plant emergency. In my opinion, in-depth technical support to operating shifts can be more effectively provided by an on-site engineering organization that is always on call than by an individual engineer.

Reference:

Draft memo for the Commissioners from William J. Dircks, Executive Director for Operations, Subject: Final Policy Statement on Engineering Expertise on Shift, transmitted under a memorandum from H. Denton to V. Stello dated July 3, 1984