

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20545

MAY 4 1981

MEMORANDUM FOR: Darrell G. Eisenhut, Director, Division of Licensing

FROM: Stephen H. Hanauer, Director, Division of Human Factors Safety

SUBJECT: STAFFING OF FIRE BRIGADE

My memorandum dated April 9, 1981, stated that DHFS does not consider that the Shift Technical Advisor should be used on the fire brigade. Since the earlier memorandum, the question has arisen as to who on the plant staff may be assigned fire brigade duties.

Appendix R to 10 CFR Part 50 states that the fire brigade leader and at least two brigade members shall have sufficient training in or knowledge of plant safety-related systems to understand the effects of fire and fire suppressants on safe shutdown capability. Use of the Shift Supervisor on the fire brigade is expressly forbidden, although the Appendix notes that possession of an operator's license or equivalent knowledge of plant safety-related systems would be sufficient to assure that the brigade leader is competent to assess the potential safety consequences of a fire.

It is apparent from the wording in the Appendix that licensees are encouraged to designate licensed personnel as fire brigade leaders. Use of licensed personnel on the fire brigade, however, results in decreased coverage of the control room at precisely the time when control room actions may be required to mitigate the effects of the fire. Some balancing of resources is necessary.

The resource problem is most critical on single-unit sites where the total number of personnel on shift is limited, so we shall discuss the staffing for a single unit. We assume a normal minimum staffing pattern of one Shift Supervisor (SRO), two reactor operators (RO), two auxiliary operators (non-licensed), and one Shift Technical Advisor for a single unit station. The Shift Supervisor is properly forbidden to be assigned to the fire brigade since he is in overall charge of the site on a back shift and must be available to supervise site operations. As noted in my earlier memorandum, the Shift Technical Advisor is required on site so that technical expertise can be readily available to the control room during an emergency. Thus, the STA should not be assigned fire brigade duties. It is obvious that the control room operator (operator at the controls) cannot be designated a fire brigade member since he must stay at the control board at all times. Finally, at least one auxiliary operator should be available to respond to directions from the control room in the event his services are needed. In view of the existing minimum staffing patterns at most operating plants, this leaves only the second licensed reactor operator and one of the two auxiliary operators available to perform fire brigade duties.

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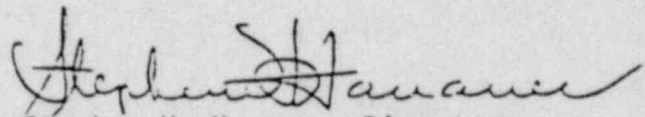
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On July 1, 1982, in accordance with NUREG-0737, licensees will be required to have a second senior reactor operator on each operating shift, stationed in the control room. On balance, we feel that this individual also could be designated a fire brigade member, since his control room duties could be temporarily assumed by the Shift Supervisor.

Also by July 1, 1982, in accordance with NUREG-0654, each shift must have, in addition to the four licensed and two unlicensed operators and the STA, a communicator (who may also provide administrative assistance to the Shift Supervisor), one health physics technician and one radiation/chemistry technician, for a total minimum shift complement of ten people exclusive of the plant security force.

In our view, any of these ten individuals, except for the four mentioned earlier, i.e., Shift Supervisor, Shift Technical Advisor, Control Room Operator, and Auxiliary Operator, are available to serve as members of the fire brigade.



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