



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

SAFETY EVALUATION

FORT CALHOUN-UPGRADING RO AND SRO TRAINING
AND TRAINING TO MITIGATE CORE DAMAGE
ACTION PLAN ITEMS I.A.2.1 AND II.B.4

INTRODUCTION AND SUMMARY

The staff has required an upgrade in Reactor Operator and Senior Reactor Operator training to include enhanced training in heat transfer, fluid flow, and thermodynamics. This is NUREG-0737, item I.A.2.1. The staff has also required training for mitigating core damage through the use of currently installed equipment. This is NUREG-0737, item II.B.4.

The evaluation of the Fort Calhoun upgrade in Reactor Operator and Senior Reactor Operator training, and for the training to mitigate core damage was performed by Science Applications, Inc. (SAI), as part of a technical assistance contract program. The results of the SAI evaluation are reported in the attached SAI Technical Evaluation Report (SAI-186-029-025), dated July 1, 1982.

Based on our review of the SAI Technical Evaluation Report (TER), we conclude that the upgrade in Reactor Operator and Senior Reactor Operator training programs and training to mitigate core damage are acceptable.

EVALUATION

The attached TER provides a technical evaluation of the Fort Calhoun upgrade in Reactor Operator and Senior Reactor Operator training and of the training in the mitigation of core damage. Although this TER concluded that the

subject training was satisfactory, it raised some minor questions which are evaluated in subsequent paragraphs.

The TER noted that no details were provided by the licensee concerning the content of lectures concerning heat transfer, fluid flow, and thermodynamics. The content of lectures given is reviewed routinely as a part of the annual inspection of the operator requalification program. Additionally, examinations given to licensed operators are reviewed annually. These two routine inspections provide a continuing check on the depth and effectiveness of training in this area. Accordingly, the fact that lecture outlines were not evaluated as part of the technical review is not considered to be a problem.

The TER concluded that the licensee's ongoing requalification program contained a total of 130 contact hours of training in heat transfer, fluid flow, thermodynamics, and accident mitigation. This was found acceptable when compared to an 80 contact hour criterion. D. G. Eisenhut's memorandum of September 13, 1982, clarified the requirement for contact hours. This memorandum stated that 80 contact hours were the review criterion for initial training of licensee candidates or initial requalification training of previously licensed operators. It further stated that the training in the subject areas should receive equal emphasis as the other subjects outlined in Appendix A of 10 CFR Part 55. Since the licensee indicated that 130 contact hours had been conducted for initial requalification training and that this same training was applicable to new license candidates, this appears to meet the

requirements for initial training or requalification. The licensee's submittal of a revised requalification training program identified "Heat Transfer, Fluid Flow and Thermodynamics," and "Use of Installed Plant Systems to Control or Mitigate Accidents Involving Severe Core Damage," as subjects covered in licensed operator requalification programs. The licensee's completed and committed actions appear to meet the requirements for initial and follow-on training.

The TER found that the licensee's program for performing control manipulations was satisfactory, although it was noted that "Loss of Instrument Air" could be covered only by classroom lecture. This is considered acceptable.

CONCLUSION

Based on our review of the SAI TER, we agree that the Fort Calhoun upgrade in Reactor Operator and Senior Reactor Operator training and training in the mitigation of core damage are acceptable.

Attachment:
SAI Technical Evaluation Report