Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

Mark O. Medford
Vice President, Engineering & Technical Services

October 24, 1994

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Gentlemen:

In the Matter of the	)	Docket Nos.	50-259	50-327
Tennessee Valley Authority	)		50-260	50-328
			50-296	50-390
			50-391	

BROWNS FERRY NUCLEAR PLANT (BFN), SEQUOYAH NUCLEAR PLANT (SQN), AND WATTS BAR NUCLEAR PLANT (WBN) - PHYSICAL SECURITY PLAN - REQUEST FOR EXEMPTION FROM 10 CFR 73.55(d)(5) (WBN TAC NOS. M63657 AND M63658)

In accordance with the provisions of 10 CFR 73.5, "Specific Exemptions," TVA is requesting an exemption for BFN, SQN, and WBN from that portion of 10 CFR 73.55 (d)(5), which states that "[a]n individual not employed by the licensee but who requires frequent and extended access to protected and vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area which must be returned upon exit from the protected area . . . . . ." Prior to fuel load at WBN, TVA is proposing to install and certify a hand geometry biometrics system that provides for a nontransferable method of identification and which obviates the need for returning the badge upon leaving the protected area. The hand geometry system, in conjunction with the individual's photography identification badge, would be used to monitor access to the site protected areas. Under this system, the physical characteristics of the individual's hand are registered with the associated number badge, thus ensuring that the identification badge could not be compromised after being taken offsite. Following approval of the exemption, TVA also plans to institute this system at SQN and BFN sites in late 1995.

This proposed exemption has been discussed with members of the NRC staff. In view of the expected performance associated with the biometric system, TVA has begun initial steps to procure and install equipment as well as develop the necessary procedures and training associated with this security upgrade. In order to minimize any cost and schedule impacts, TVA requests your approval of this exemption request as soon as possible and would greatly appreciate WBN approval by December 31, 1994. TVA has estimated that this exemption would have a cost savings of approximately $400,000 per year at each site. The enclosure provides the basis and justification for this exemption request. If you should have any questions, please telephone Patrick Carier at (615) 751-2687.

Sincerely,

Mark O. Medford

Enclosure
cc (Enclosure):
Mr. D. E. LaBarge, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

NRC Resident Inspector
Browns Ferry Nuclear Plant
10833 Shaw Road
Athens, Alabama 35611

NRC Resident Inspector
Sequoyah Nuclear Plant
2600 Igou Ferry Road
Soddy Daisy, Tennessee 37379

NRC Resident Inspector
Watts Bar Nuclear Plant
Route 2, Box 700
Spring City, Tennessee 37381

cc: Continued on page 3

cc (Enclosure):
Mr. P. S. Tam, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Mr. J. F. Williams, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Director of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

ENCLOSURE

INTRODUCTION

TVA requests, in accordance with the provisions of Title 10 CFR Part 73.5, "Specific Exemptions," an exemption from certain requirements of 10 CFR 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Radiological Sabotage" for BFN, SQN, and WBN. Specifically, TVA requests an exemption from the portion of 10 CFR 73.55(d)(5) which states that "[a]n individual not employed by the licensee but who requires frequent and extended access to protected and vital areas may be authorized access to such areas without escort provided that he receives a photograph badge upon entrance into the protected area which must be returned upon exit from the protected area. . . . ."

This exemption is requested to allow the use of a hand geometry biometrics system to control unescorted access into the protected area of BFN, SQN, and WBN, while allowing individuals to retain photograph identification badges and take them offsite.

CURRENT SITUATION

TVA had planned to control unescorted access into WBN through the use of a photograph on a badge/keycard. Unescorted access into BFN and SQN is currently being controlled through the use of a photograph on a badge/keycard (during the remaining discussion, the term "badge" will be used to mean the combination of a photograph badge and key card). Currently, positive identification of personnel authorized and requesting access to the protected area is established by security personnel stationed at each entrance making a visual comparison of a photograph badge and the individual requesting access. Badges are not allowed to be taken offsite and are issued, stored and retrieved at each entrance/exit location.

PROPOSED SYSTEM

Under the proposed system, each individual who is authorized unescorted access would have the physical characteristics of their hand (hand geometry) registered with their badge number in the access control system. Since no one can use a badge to gain access except the individual whose hand geometry has been registered to that badge, individuals (including TVA employees as well as individuals not employed by TVA, i.e., contractors) would be allowed to keep their badge with them when they depart the protected area. Other access processes, including search function capability, will remain the same. At least one security officer, positioned within a bullet-resisting structure, will be responsible for access control. This system will eliminate the need to issue and retrieve badges at each entrance/exit location and would allow individuals to keep their badge with them when departing the site.

BASIS FOR EXEMPTION

The hand geometry system is superior to the current process because it provides a nontransferable means of identifying people, unlike a photograph on a badge. During the registration process, various hand measurements are made. This forms a template of the user's hand which is stored for later use in the actual verification process. A registered user enters his/her badge into the card reader and places the hand on the measuring surface. The system detects the hand when it is properly positioned and then records an image. The unique characteristics are extracted from this image and then compared with the previously stored template. There is a potential cost savings of approximately $400 thousand per site per year.

The SANDIA report entitled, "A Performance Evaluation of Biometrics Identification Devices" (SAND91--0276 UC--906 Unlimited Release, Printed June 1991) provides credible results regarding biometrics systems. Based on this report and the photo-identification experience gained at SQN and BFN, the small false-accept rate for the hand geometry system is at least equal to or better than the photograph system presently in use at these two sites. Additionally, Florida Power and Light (FP&L) has operated a system, very similar to TVA's proposed system, at their St. Lucie and Turkey Point Plants for the past nine months with an excellent performance record.

ASSURANCE OBJECTIVE

As discussed in American National Standard ANSI/ANS-3.3, "Security for Nuclear Power Plants," identification of individuals authorized access without escort can be accomplished by the use of "...a device that reads fingerprints, hand prints, or some other unique physical feature." Under the proposed system, each individual who is authorized unescorted access will have the physical characteristics of their hand registered with their badge. Visual verification of a photograph badge will be replaced with a hand geometry system which provides for a nontransferable means of identifying individuals, coupled with the use of a badge reader. Other access processes, including search function capability, will remain the same. The process for issuing, retrieving, and storing badges at the entrance stations to the plant will be eliminated. The photo-identification access control process for identifying individuals meets the ANSI/ANS-3.3 criteria. The proposed hand geometry access control process meets the ANSI/ANS-3.3 identification criteria. The biometrics access control system will provide the same high assurance objective regarding onsite physical protection, is not inimical to the common defense and security, and does not constitute an unreasonable risk to the public health and safety.

SYSTEM PERFORMANCE

The hand geometry equipment selected will meet the detection probability of 90 percent with a 95 percent confidence level. Testing conducted by SANDIA National Laboratories (SANDIA report, SAND91--0276 UC--906) demonstrated that the hand geometry equipment possesses strong performance characteristics and is capable of meeting the proposed detection probability and confidence level. Based on the results of the SANDIA report, the successful operation at the FP&L sites, and the current experience gained from SQN and BFN under the current photo-identification system, the false-accept rate for the hand geometry system is at least equal to or better than the current system. In addition, TVA will have a designated process for testing the system on a periodic basis. The Physical Security Plan for each facility will be revised accordingly to include testing of the hand geometry access control system.

GENERAL PERFORMANCE REQUIREMENTS

The performance requirement of 10 CFR 73.55(d)(1) is to ensure that the licensee control all points of personnel access into a protected area. Under the proposed system, TVA will continue to control all points of personnel access into a protected area. TVA believes that the basis for the 10 CFR 73.55(d)(5) requirement that individuals not employed by the licensee receive and return their badges at the entrance/exit, was to ensure that the badges could not be compromised or stolen after being taken offsite, and as a result, unauthorized persons could potentially enter the protected area. Under the proposed system, individuals not employed by the licensee and requiring frequent and extended access would be allowed to take their badges offsite. However, both the badge and hand geometry would be necessary for access into the protected area, and even if a badge were to be compromised or stolen, access would not be provided without the hand geometry of the person registered to the badge. TVA maintains that the proposed system would continue to provide an effective combination of identity verification processes.

The access process will continue to be under the observation of security personnel located within a hardened cubicle who have final control over the release of the entrance turnstiles. A numbered photograph badge identification system will continue to be used for individuals who are authorized access to the protected area without escorts. Badges will continue to be displayed by all individuals while inside the protected area. For the reasons expressed above, implementation of the biometrics access control system will continue to meet the general performance requirements of 10 CFR 73.55(d)(5).