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SAFEGUARDS REGULATORY EFFECTIVENESS REVIEW

TURKEY POINT NUCLEAR POWER STATION UNITS 3 AND 4

JUNE 1983

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Attachment 1 - Background Information

Attachment 2 - Photographs



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SAFEGUARDS REGULATORY EFFECTIVENESS REVIEW

1.0 OVERVIEW

A Regulatory Effectiveness Review of Units 3 and 4 of Turkey Point Nuclear Power Station was conducted from May 23 thru May 27, 1983. The background and purpose of such reviews appear in Attachment 1. Briefly stated, the main objective of this effort has been to determine if Turkey Point's security program, as implemented, provides the level of protection intended by NRC as expressed in 10 CFR Part 73. In conducting this review, particular attention was focused on methods and procedures employed to protect vital equipment and the impact of the security program on plant safety.

1.1 Site Characteristics

Units 3 and 4 of Turkey Point Nuclear Power Station are Westinghouse pressurized water reactors operated by Florida Power and Light Company. Units 3 and 4 are 693 MWe units licensed in July 1972 and April 1973, respectively. The two units are co-located on a single site with two other fossil fueled electrical generating plants with which the nuclear plants share some non-safety-related systems. The site is located in Dade County, Florida, approximately 11 miles from the town of Homestead. Both units are fueled with standard low enriched uranium LWR fuel. Biscayne Bay serves as the ultimate heat sink for both nuclear units.

1.2 Security Program Description

[REDACTED]

[REDACTED]

2.0 FINDINGS

2.1 Potential Sabotage Vulnerabilites


A potential sabotage vulnerability is a safeguards program deficiency that brings into serious question the licensee's capability to protect against the design basis threat for radiological sabotage. No deficiencies in this category were found at Turkey Point Nuclear Power Station Units 3 and 4.

2.2 Safeguards Program Concerns

A safeguards program concern is an observed weakness in the safeguards program which, while it does not directly increase the risk of radiological sabotage, is considered to be of sufficient significance to indicate a need for prompt remedial action. These concerns are identified below along with possible corrective measures. There may be alternative solutions, however, which are better suited to site conditions.

2.2.1 Perimeter Detection System and Barrier

* Human factors engineering studies indicate that most individuals are incapable of [] effectively for periods much greater than 30 minutes. (See, for example, J. C. Miller & R. R. Mackie, Vigilance Research and Nuclear Security.)



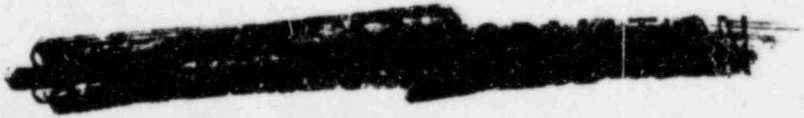
2.2.2 Vital Area Barrier



2.2.3 Maintenance of Security Equipment

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-Although this relatively large number of equipment problems and these deficiencies in repairs that had been completed could have been due to chance, it is suggested that the priority accorded security equipment maintenance and the degree of quality assurance review afforded security maintenance activities be reconsidered. This concern is probably best addressed by increased management attention and improved communication between security and maintenance supervisors.

2.3 General Observations

Observations are relatively minor items that do not require corrective action. However, the team believes the following suggestions could improve the licensee's safeguards program. There may be alternative approaches to those suggested, however, which are better suited to site conditions.

2.3.1 Ear Protection for Security Officers in Defensive Positions

Although the security officers posted in site defensive positions are otherwise well equipped to support an armed response, they are not provided with ear protection. In light of the din that would result from

in such a confined area within a resonating structure, earphone headsets containing ear protection are suggested both to aid in protecting the security officer's health and, more important, to facilitate communications with the defensive positions during and after an armed engagement.

2.4 Notable Safeguards Strengths

Notable safeguards strengths are areas of the safeguards program considered to be particularly effective. These are highlighted to identify good safeguards practices contributing to the overall effectiveness of the program. Items in this category are enumerated below.

2.4.1 Security Force Firearms Familiarization

During the Regulatory Effectiveness Review, the team was quite favorably impressed with site practices that encourage security officers to become proficient in the use of their firearms. In particular, the assignment of to each security officer for both weapons qualification and routine use provides increased assurance that security officers can employ these weapons effectively, should the

need arise. Other site practices that encourage security officers to fire their weapons frequently for familiarization, such as permitting security officers to sign out their weapons for use on the off-site firing range are also beneficial. Through the use of such practices, security officers fire their weapons, for familiarization or qualification, on the average of about

2.4.2 Deployment of Weapons and Ammunition

Another asset in responding to a possible security incident is the

2.4.3 Local Law Enforcement Coordination and Support

The licensee's coordination with the local law enforcement agency

and the massive rapid response available

from this agency were definite strong points. The licensee's efforts to ensure that law enforcement officers are familiar with both the Turkey Point site itself, and the surrounding area should be a significant asset if law enforcement response to a security incident were required.

2.4.4 Protected Area Access Control and Search Procedures

The protected area access control and search procedures at Turkey Point appeared to be both efficient and effective. Personnel searches appeared to be performed effectively and the [REDACTED] was a definite asset.

2.5 Safety/Safeguards Interface Review

In response to the recommendations of the Ad Hoc Committee to Review Safeguards Requirements at Power Reactors, the Regulatory Effectiveness Review was modified to place increased emphasis upon the review of the possible impact of security upon plant safety. The Regulatory Effectiveness Review Team did not find any specific instances in which security could reasonably be expected to have an adverse impact on plant safety. However, the team believes that the following suggestions could further enhance the coordination and cooperation between site security and plant safety in support of the overall goal of safe operation of the plants.

[REDACTED]

2.5.1 Coordination Between Operations and Security

Although the team was quite impressed by the attitude of mutual respect between operations and security personnel, the operations personnel interviewed did not always realize the assistance that the security organization could provide. For example, there might be times when it could be useful to

Obviously, security's involvement in such contingencies must not delay operational response but rather should serve to protect operations personnel and ensure their unhindered freedom of action to mitigate the consequences of component malfunctions.

2.5.2 Security Support During Emergencies

Discussions with security personnel indicated that under certain conditions, they might be reluctant to take actions, considered necessary for plant safety by the site supervisor, if such actions were in conflict with security procedures. To mitigate this attitude, it appears useful to emphasize to both security and operations personnel that, under emergency or off-normal conditions, safe operations of the plant must be of paramount importance to both groups. Thus, [REDACTED]

if necessary for safe operation of the plant, under certain conditions.

2.6 Reduction of Safeguards Regulatory Burden

One of the objectives of the Regulatory Effectiveness Review program is to identify areas in which licensees' safeguards regulatory burden can be eased without significant impact upon security program effectiveness. The following item appears to be in this category. Again, there may be alternative approaches to those suggested which are better suited to site conditions.

2.6.1 Closed Circuit Television (CCTV)

