

SAFETY GUIDE 17—PROTECTION AGAINST INDUSTRIAL SABOTAGE

A. Introduction

In its Memorandum and Order dated February 20, 1967, in the Florida Power and Light case, the Commission noted that it would expect the staff to assure at the operating license stage that appropriate industrial security measures are provided by an applicant to protect against industrial sabotage in a nuclear power plant. This guide describes a suitable program for protecting against industrial sabotage.

B. Discussion

The following means can be employed to reduce the probability and effects of industrial sabotage: (1) control of access of personnel and material to the plant and plant site, (2) selection of plant operating personnel, (3) monitoring of plant equipment, and (4) design and arrangement of plant features.

1. Control of Access—A program for protection against industrial sabotage includes security measures to prevent access of unauthorized personnel to the plant site, control room, reactor building, other vital buildings, and to equipment within these areas. Control of the extent of access to the plant by the general public, utility employees not part of the regular plant staff, contractor personnel, and unauthorized persons is necessary to reduce the opportunity for sabotage. The control may be achieved by erecting a physical barrier, such as a fence, around the facility and by stationing guards at each point of access. A program for surveillance of the physical barrier (e.g., by roving patrols; closed-circuit television, or intrusion alarms) will assure the continued effectiveness of the barrier.

Adequate control of individuals within the plant site also is important for protection against industrial sabotage. The conduct of persons or groups that are not part of the operating staff should be monitored while they are at the plant site. These measures should include provisions for detecting the unauthorized presence

of individuals in certain areas whether or not these individuals are part of the plant operating staff. For example, it may be prudent for control room personnel to challenge anyone attempting to enter who is not "known by sight" as a person authorized for that area. Procedures for monitoring and controlling the access to the plant and movement of persons within the plant may include badging of employees, signing in and out of visitors, providing escorts for "uncleared" visitors, and challenging the entry of persons attempting to enter vital areas.

Precautions also are necessary to control the passage of unauthorized material to and from the plant site. Procedures which include appropriate searching of packages and briefcases of visitors, and either forbidding the entry of or requiring the inspection of vehicles other than those associated with plant operation are effective means in controlling the flow of unauthorized material to and from the plant.

Persons responsible for physical security at the plant site and at higher management levels should be identified. It should be made clear, for example, whether the ultimate responsibility for security at the plant rests with the plant superintendent or with the senior security officer. In addition, procedures are needed to assure proper coordination between the operating and security staffs. The security measures appropriate for emergency conditions may be significantly different from those for normal operation; therefore, it is important that security procedures be made consistent with the plan appropriate for the plant condition (e.g., emergency security procedures should be consistent with the emergency plan).

The opportunity for industrial sabotage also may be reduced by providing locks on vital equipment. In determining the acceptability of using equipment locks, all relevant safety considerations in addition to sabotage

must be evaluated to assure that overall safety is enhanced by their use.

The availability of a pre-planned course of action in the event of an actual or potential danger is important to controlling access to the plant. Procedures should be developed for dealing with potential dangers, such as bomb threats and civil disturbances, including provisions for timely notification of the proper authorities. To assure an effective physical security program requires continued vigilance. Procedures should be developed for investigation of security incidents and for auditing the security program.

2. *Selection of Personnel*—It is important that utility management select and maintain reliable personnel to protect against industrial sabotage. Management and supervisory attention to the competence and demeanor of engineering and operating staffs is important throughout the lifetime of the plant. To this end, employment standards and practices for selection of competent, well-balanced individuals and procedures for review of employee performance should be established.

An alert staff, cognizant of its responsibility for protection against industrial sabotage, is necessary. Personnel should be trained with regard to plant security, and procedures should be implemented to aid in early detection of unusual behavioral patterns of employees, such as may result from drug abuse.

3. *Monitoring of Equipment*—A program for protection against industrial sabotage includes means for detecting physical changes of the status of critical plant components on a periodic basis during reactor operation. Procedures should be developed and personnel trained to identify equipment that has been disabled or whose status has undergone an unauthorized change. This may be accomplished by use of check lists to ascertain, for example, vital valve positions. Such a procedure would help to assure that unauthorized changes in the positions of a significant number of valves would not remain undetected for long periods of time.

4. *Design and Arrangement of Equipment*—Nuclear reactor power plants should be designed to provide a reasonable assurance that deliberate acts of sabotage will not lead to consequences that could cause undue risk to the health and safety of the public. Design and arrangement of features included to provide safety in depth, redundancy, independence, diversity, and protection against common mode failure also provide protection against industrial sabotage. In addition, the many automatic protection features that provide assurance that operator error or inattention will not result in a dangerous situation also reduce the probability that acts of industrial sabotage will lead to significant fission product releases. Protection against industrial sabotage that is provided over and above that included for other purposes, such as physical separation of redundant components, must be consistent with other safety requirements.

C. Regulatory Positions

Means should be provided in nuclear plants, and procedures should be developed and implemented to reduce the opportunity for and mitigate the effects of successful industrial sabotage. Particular consideration should be given to control of access, selection of personnel, monitoring of vital equipment, and design and arrangement of equipment.

1. *Control of Access*—The means provided to control access by unauthorized persons to the plant site and to vital areas, buildings, and equipment within the nuclear power plant should include:
 - (a) A physical barrier, such as a fence, around the facility;
 - (b) Surveillance of this barrier, such as by roving patrols, closed-circuit television, or intrusion alarms;
 - (c) Guards at each point of access;
 - (d) Locks on vital equipment where consistent with other safety requirements;
 - (e) An organization plan that identifies the persons having line responsibility for security matters;
 - (f) Procedures for monitoring and controlling the access to and from the plant and the movement of persons

within the plant by means, such as badging of employees, signing in and out of visitors, providing escorts for visitors, and challenging the entry of unauthorized persons attempting to enter vital areas;

- (g) Procedures for appropriate searching of visitors;
- (h) Procedures for forbidding the entry of unauthorized vehicles and for searching vehicles entering site;
- (i) Procedures associated with physical security to deal with emergencies at the plant;
- (j) Procedures for dealing with potential dangers, such as bomb threats and civil disturbances, including provisions for timely notification of the proper authorities;
- (k) Procedures for investigation of security incidents and for auditing of the security program.

2. *Selection of Personnel*—The means provided to assure a staff of reliable plant personnel should include:

- (a) Establishment of employment standards and practices that provide for selection of competent, well-balanced individuals;

- (b) Procedures for review of employee performance;
- (c) Procedures for early detection of unusual behavioral patterns of employees, such as may result from drug abuse;
- (d) Training of personnel with regard to plant security.

3. *Monitoring of Vital Equipment*—Means should be provided to monitor the status of vital equipment. Procedures should be developed and personnel trained to identify equipment that may have been disabled or whose status may have undergone unauthorized changes (e.g., a valve closed when it should be open).

4. *Design and Arrangement of Equipment*—Appropriate design features and equipment arrangements should be provided and be consistent with other safety requirements to reduce the opportunity for successful industrial sabotage.

Detailed security measures for the physical protection of the facility against industrial sabotage will be withheld from public disclosure as provided in §2.790 of the Commission's regulations in 10 CFR Part 2.