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Foreword

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Security of industrial installations traditionally has been oriented toward protection of a given facility against theft and acts of malicious mischief or vandalism, except where the nature of the work at a given facility required protective measures against compromise of proprietary information or materials, or safeguarding of information or materials associated with sensitive national defense and security matters. In addition, some industrial activities are of potential hazard to casual intruders and security measures are necessary to protect the owner against liability claims.

The safety measures employed to avoid the creation of hazards to offsite members of the public in potentially hazardous industries, such as certain chemical manufacturing operations, and in the nuclear power industry, have not normally been considered to be directly associated with industrial security programs. However, recent trends of violence and coercion by certain subcultures of modern society have served to emphasize the close relationship between the health and safety considerations for the offsite public and the need for augmented industrial security measures.

In 1977, the Nuclear Regulatory Commission made extensive revisions to Title 10, "Energy," of the Code of Federal Regulations, Part 73, "Physical Protection of Plants and Materials," that increased the requirements for security of nuclear power plants. This standard is a revision of American National Standard Industrial Security for Nuclear Power Plants, ANSI N18.17-1973 (ANS-3.3), and reflects the changes as described in revisions to 10 CFR 73, since 1973.

The intent of the standard is to prescribe measures to prevent an act of sabotage against a nuclear power plant that would result in the release of radioactivity that could impact the health and safety of the public. This is defined as "Radiological Sabotage." Just what amount of radioactivity is required to adversely impact the health and safety of the public is subject to much conjecture. There are limits prescribed in the facility Technical Specifications, and in 10 CFR, Part 20, "Standards for Protection Against Radiation," and 10 CFR 100, "Reactor Site Criteria." Then there is that amount of radioactivity that is perceived by the public to be harmful. Good management practice is to keep releases to as low a level as overall safety, economics, and public relations require. There are some locations in the plant where an act of sabotage, if committed, could cause a release of radioactivity of minor or no consequence as compared to that associated with a major accident as covered in 10 CFR 100. Considering these two variables, levels of release and numbers of locations, it is difficult to define a level of security which would prevent only that release that would adversely impact the health and safety of the public. The intent of this standard, therefore, is to minimize the likelihood of acts of sabotage that may result in releases of radioactivity below that defined by 10 CFR 100, and to prescribe measures which have an objective of providing high assurance protection against acts of sabotage which could result in releases of radioactivity compared to that defined by 10 CFR 100. These levels of release are those associated with the protected area and vital area, respectively. The same reasoning is used in designating vital equipment.

It is very important that the design for security receive equal consideration as that for operation and maintenance in the design stage of a nuclear power plant. If security requirements are not properly coordinated during the design stage, interferences may result that will be difficult to cope with after the design is fixed. Consideration of access control for both personnel and material is essential. The fire protection pro-

gram and the emergency plan requirements must also be considered in designing for security.

To protect against the insider threat, a comprehensive screening program is described in the standard. The depth of screening required is similar to that presently required for government security clearances, but the screening is to be implemented by industry. It is intended that the screening, as indicated, will be performed unless prohibited by law. In a number of instances, information needed to implement the screening can be obtained only through permission of the individual being screened. This permission should be required of the individual. Where laws prohibit the obtaining of the specified information in certain areas, a more in-depth investigation in other areas is recommended to compensate for this. It is not intended that an individual screened to the requirements of this standard would require rescreening in moving from one job or employer to another. Screening results are transferable upon certification by the appropriate management representative in the employee's former organization. Break periods in employment of more than a few months should be investigated to the extent necessary to assure the validity of the prior screening.

With this depth of screening and continued observation it is considered that a detailed physical search of personnel and their possessions is unnecessary. For those screened to the requirements of the standard, only a search with a metal detector is required. Those not screened to the requirements are to be searched for firearms, explosives, and incendiary devices. It is only where there is a suspicion that an individual may be attempting to bring some unauthorized device or material into the protected area that a search involving patdown or disrobing is required. Disrobing is a suitable alternative, as it may be more acceptable to an individual who objects to a hands-on contact patdown.

Definitions in 10 CFR 73 are written to cover facilities licensed for processing and transportation of special nuclear material as well as nuclear power plants. The definitions herein may vary from definitions in the Code of Federal Regulations for clarity or to relate them only to a nuclear power plant.

The standard does not specify the quality assurance requirements for the electrical systems and components of security equipment. It is anticipated that this will be specified by the Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Suggestions for improvement of this standard will be welcome. They should be sent to the American Nuclear Society, 555 N. Kensington Ave., La Grange Park, Illinois 60525.

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