

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-244  
License No: DPR-18

Report No: 50-244/97-08

Licensee: Rochester Gas and Electric Corporation (RG&E)

Facility: R. E. Ginna Nuclear Power Plant

Location: Ontario, New York 14519

Dates: May 27-30, 1997

Inspector: Gregory C. Smith, Sr. Security Inspector

Approved by: Michael C. Modes, Chief, Emergency Preparedness,  
Safeguards Branch, and Incident Response Center  
Division of Reactor Safety

9707220132 970716  
PDR ADOCK 05000244  
Q PDR

## EXECUTIVE SUMMARY

### **R. E. Ginna Nuclear Power Plant NRC Inspection Report No. 50-244/97-08**

The licensee maintained a generally effective security program. The alarm station operators were knowledgeable of their duties and responsibilities, and protected area detection equipment satisfied the NRC-approved Physical Security Plan (the Plan) commitments. As an addition to the inspection, the UFSAR initiative, Section 3.2 of the Plan, titled "Physical Barriers," was reviewed. The inspector determined that the protected area physical barriers were installed and maintained as described in the Plan. The inspector also reviewed the licensee's Vehicle Barrier System and Bomb Blast Analysis using Temporary Instruction 2515/132, "Malevolent Use of Vehicles at Nuclear Power Plants." The inspector's review of the Vehicle Barrier System disclosed that the vehicle barriers deployed outside the outer isolation zone could not prevent the use of a vehicle to gain entry to the protected and vital areas because there were openings in the barrier large enough for a vehicle to get through, approximately 1200' of the barrier could be defeated by the removal of nylon ties, and the blast analysis for certain vital areas was performed using distances that were greater than the actual distances from the vital areas to the vehicle barrier.

The failure of the vehicle barrier to be able to prevent the malicious use of a vehicle to gain entry to the protected and vital areas was identified as an apparent violation.

## Report Details

### **S1 Conduct of Security and Safeguards Activities**

#### a. Inspection Scope

The inspector reviewed the security program during the period May 27-30, 1997. Areas inspected included: alarm stations and communications, protected area (PA) detection equipment, PA barriers and the vehicle barrier system. The purpose of this inspection was to determine whether the licensee's security program, as implemented, met the licensee's commitments in the NRC-approved security plan (the Plan) and NRC regulatory requirements.

#### b. Observations and Findings

Alarm station operators were knowledgeable of their duties and responsibilities and PA detection equipment and barriers satisfied the Plan commitments. Problems noted in the vehicle barrier as detailed in Section S8.1 of this report resulted in an apparent violation.

#### c. Conclusion

The inspector determined that the licensee was generally conducting its security and safeguards activities in a manner that protected public health. An apparent violation was identified as a result of weakness in the vehicle barrier system.

### **S2 Status of Security Facilities and Equipment**

#### **S2.1 Protected Area (PA) Detection Aids**

#### a. Inspection Scope

Conduct a physical inspection of the PA intrusion detection systems (IDSs) to verify that the systems are functional, effective, and meet the Plan commitments.

#### b. Observations and Findings

On May 1, 1997, the inspector determined, by observation and selected testing, that the IDSs were functional and effective, and were installed and maintained as described in the Plan.

#### c. Conclusion

The PA IDSs met the Plan commitments.

## S2.2 Alarm Stations and Communications

### a. Inspection Scope

Determine whether the Central Alarm Station (CAS) and Secondary Alarm Station (SAS) are: 1) equipped with appropriate alarm, surveillance and communication capability, 2) continuously manned by operators, and that 3) the systems are independent and diverse so that no single act can remove the capability of detecting a threat and calling for assistance, or otherwise responding to the threat, as required by NRC regulations.

### b. Observations and Findings

Observations of CAS and SAS operations verified that the alarm stations were equipped with the appropriate alarm, surveillance and communications capabilities, as described in the Plan.

Interviews with CAS and SAS operators found them knowledgeable of their duties and responsibilities. The inspector also verified through observations and interviews that the CAS and SAS operators were not required to engage in activities that would interfere with their assessment and response functions, and that the licensee had exercised communications methods with the local law enforcement agencies as committed in the Plan.

### c. Conclusion

The alarm stations and communications met the Plan commitments and NRC requirements.

## S8 **Miscellaneous Security and Safety Issues**

### S8.1 Vehicle Barrier System (VBS)

#### General

On August 1, 1994, the Commission amended 10 CFR Part 73, "Physical Protection of Plants and Materials," to modify the design basis threat for radiological sabotage to include the use of a land vehicle by adversaries for transporting personnel and their hand-carried equipment to the proximity of vital areas and to include the use of a land vehicle bomb. The amendments require reactor licensees to install vehicle control measures, including vehicle barrier systems (VBSs), to protect against the malevolent use of a land vehicle. Regulatory Guide 5.68 and NUREG/CR-6190 were issued in August 1994 to provide guidance acceptable to the NRC by which the licensees could meet the requirements of the amended regulations.

10 CFR 73.55(c)(9) required each licensee to submit to the Commission a summary description of the proposed vehicle control measures by February 28, 1995. The licensee submitted the summary on February 28, 1995 and submitted Revision 1 of the summary on February 29, 1996. The February 1995 summary provided a description of the proposed measures to meet the design goals and criteria of the rule and in the February 29, 1996 submittal of Revision 1 of the summary, stated in part, that the vehicle control measures as implemented on this date provide adequate protection against the design basis explosion and meet the design criteria specified by the rule and NUREG/CR-6190. A March 13, 1996, letter from the licensee to the NRC forwarded Revision 1 to its physical security plan that incorporated the provisions for the vehicle control measures. A NRC letter, dated September 26, 1996, advised the licensee that the changes had been reviewed and were determined to be consistent with the provisions of 10 CFR 50.54(p) and were acceptable for inclusion in the NRC-approved security plan.

This inspection, conducted in accordance with NRC Inspection Manual Temporary Instruction 2515/132, "Malevolent Use of Vehicles at Nuclear Power Plants," dated January 18, 1996, assessed the implementation of the licensee's vehicle control measures, including vehicle barrier systems, to determine if they were commensurate with regulatory requirements and the licensee's physical security plan.

## S8.2 Vehicle Barrier System (VBS)

### a. Inspection Scope

The inspector reviewed documentation that described the VBS and physically inspected the as-built VBS to verify it was consistent with the licensee's summary description submitted to the NRC and was in accordance with the provisions of NUREG/CR-6190.

### b. Observations and Findings

The inspector's walkdown of the VBS and review of the VBS summary disclosed that the as-built VBS was not consistent with the summary description and did not meet the specifications in NUREG/CR-6190.

The summary description stated that the entire site must be protected by either a VBS or natural barrier. The VBS is designed to prevent intrusion of the design basis vehicle into an area by stopping the forward motion of the vehicle. Furthermore, the VBS is located and designed so as to provide adequate standoff distance from exposed vital equipment and structures housing vital equipment necessary to achieve safe shutdown under the postulated design basis explosion.

NUREG/CR-6190 states "The VBS must be capable of resisting vehicle impact and providing continuous protection in all areas where approach by land vehicle is possible." Additionally, VBS are sited to provide sufficient standoff distance from vital area barriers and vital safety-related equipment to minimize damage that could be caused by a vehicle bomb.

During a physical inspection of the VBS, the inspector noted the following:

- On the northwest corner of the VBS there was a 14-foot opening between the end of the VBS and the cliff; on the northeast corner there was an 3-foot opening between the VBS and the cliff; and on the west side of the security building there was an 8-foot opening in the VBS. All of these openings could have provided a path for a vehicle through the VBS.
- Approximately 1200' of the VBS was bollards and cable. The cable was secured to boliards and between the bollards, the cable was supported by support posts. The cable was secured to support posts with nylon ties. When the nylon ties were cut using a pair of pliers, the cable could be laid on the ground negating any benefit of the cable as a barrier. The inspector noted that only part of the cable VBS was able to be monitored by assessment aids.
- The summary description submitted to the NRC contained Design Bases Explosion Evaluations (DBEE). The DBEE for the standby auxiliary feedwater building was based on a standoff distance of 155' from the building to the VBS; however, when the actual field measurements were taken during the inspection, the distance was determined to be 138' from the building to the VBS. The DBEE for the auxiliary building was based on a standoff distance of 230'; however, when actual field measurements were taken during the inspection, the distance was determined to be 225'. The licensee had no DBEE to confirm that the reduced standoff distances were acceptable.

The licensee implemented appropriate short-term compensatory measures for all the weakness in the VBS identified during this inspection and the inspector reviewed the compensatory measures prior to leaving the site. However, the failure of the VBS to be able to prevent the malicious use of a vehicle to gain entry to the protected and vital areas was identified as an apparent violation. (EEI 50-244/97-08-01)

#### **X1 Exit Meeting Summary**

The inspector met with the licensee representatives at the conclusion of the inspection on May 30, 1997. At that time, the purpose and scope of the inspection were reviewed, and the preliminary findings were presented. The licensee acknowledged the preliminary inspection findings.

#### **X2 Review of Updated Final Safety Analysis Report (UFSAR)**

A recent discovery of a licensee operating its facility in a manner contrary to the UFSAR description highlighted the need for a special focused review that compares plant practices, procedures, and parameters to the UFSAR description. Since the UFSAR does not specifically include security program requirements, the inspector compared licensee activities to the NRC-approved physical security plan, which is the applicable document.

While performing the inspection discussed in this report, the inspector reviewed Section 3.2 of the Plan, entitled, "Protected Area Physical Barriers." Based on direct observations, discussions with security supervision and procedural reviews, the inspector determined that the PA barriers were installed and maintained as described in the Plan.

#### PARTIAL LIST OF PERSONS CONTACTED

##### Licensee

J. Widay, Plant Manager  
R. Teed, Supervisor Nuclear Security  
G. Smith, Project Support Administration  
T. Porter, Nuclear Security System Specialist  
M. Greenbury, System Team Engineer  
G. Wrobel, Manager, Nuclear Safety and Licensing  
R. Marchionda, Superintendent Ginna Production  
J. Traynor, Sr. QA Analysis  
J. Hutchkiss, Manager, Mechanical Maintenance  
M. Kuhn, Nuclear Security Operations Coordinator

##### NRC

P. Drysdale, SRI - Ginna