

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-454; 50-455
Licenses No: NPF-37; NPF-66

Reports No: 50-454/960010(DRS); 50-455/96010(DRS)

Licensee: Commonwealth Edison Company

Facility: Byron Nuclear Generating Plant, Unit 1 and 2

Location: 4448 North German Church Road
Byron, IL 61010-9750

Dates: October 21-25, 1996

Inspector: G. Pirtle, Physical Security Inspector

Approved by: James R. Creed, Chief, Plant Support Branch 1
Division of Reactor Safety

EXECUTIVE SUMMARY

Byron Nuclear Generation Plant NRC Inspection Report 50-454/96010, 50-455/96010

This announced inspection included a review of the Access Authorization program and the Vehicle Barrier System. Temporary Instruction 2515/127 "Access Authorization" and Temporary Instruction 2515/132 "Malevolent Use of Vehicles at Nuclear Power Plants" were used for inspection guidance. The regional physical security inspector also reviewed corrective actions for previous security inspection findings.

No violations or deviations were noted. Implementation of those portions of the "Access Authorization" rule that applied to the Byron site were implemented in accordance with regulatory requirements and performance was good. The features and structures that form the Vehicle Barrier System (VBS) met the design characteristics established by the NRC. The vehicle barrier components and the location of the barrier were as described in the revised summary description of the VBS submitted by the licensee to the NRC in February 1996 with a few minor exceptions.

Two unresolved items (URIs) were noted:

- One of the URIs pertained to a memorandum prepared in March 1996 that may have contained safeguards information and was not marked and controlled as such (Section S8.6).
- The other URI pertained to possible inadequate measures in place to prevent circumventing controls in the security badge issue process (Section S1.1.b(1)).

Three inspection followup items were noted pertaining to: (1) a required revision to the Updated Facility Safety Analysis Report (UFSAR) (Section S1.2.b(1)); (2) a required revision to the security plan which accurately describes the components and location of the vehicle barrier system (Section S1.2.b(1)); and (3) an existing procedure addressed program requirements which have been superseded by installation of the VBS (Section S1.2(b)(3)). These followup items are administrative in nature and not indicative of performance deficiencies. Four of five previous inspection findings were reviewed and closed (Section S8).

Program strengths within the Access Authorization program were noted pertaining to procedural guidance for adjudicating derogatory information (Section S1.1.b(1)) and the training provided for the behavior observation program (Section S1.1.b(4)).

IV. Plant Support

S1 Conduct of Security and Safeguards Activities

S1.1 Temporary Instruction 2515/127 "Access Authorization Program"

a. Inspection Scope (TI 2515/127)

The inspection included an evaluation to determine whether the Access Authorization Program requirements identified in the Byron Security Plan were adequately implemented. This inspection did not evaluate the Commonwealth Edison Corporation implementation of the Access Authorization program. The inspector followed the guidance provided in TI 2515/127 (Access Authorization). The inspection consisted of a selective examination of procedures and representative records, interviews with personnel, and observations of activities in progress.

The inspector also reviewed records and conducted interviews to verify the adequacy of the licensee's program as it pertained to onsite implementation.

b. Observation and Findings

(1) Program Administration and Implementation

In their security plan, the licensee committed to implement all elements of Regulatory Guide 5.66 to satisfy the requirements of 10 CFR 73.56. The licensee had prepared, reviewed, and revised procedures which were adequate to implement major program responsibilities. The procedure guidance consisted of Corporate Nuclear Security procedures and Byron Station Security procedures. Corporate procedure guidance for the access authorization program was generally very good.

Procedure CNSG 509, which pertains to reviewing personal history questionnaires, provides excellent guidance for evaluating derogatory information and other issues and was considered to be a program strength. Conversely, Procedure CNSG 500 does not require a "best effort" check for foreign military service, and Procedure CNSG 503 does not require identity to be verified when administering MMPI psychological testing. The inspector verified however that foreign military service is attempted to be verified when appropriate, and personnel administering the MMPI test by practice establish the identification of personnel taking the test. Therefore, these deficiencies were administrative in nature.

Staffing levels appeared adequate for routine and outage related activities. Other non-security personnel had been designated and trained to administer the psychological testing. All staff interviewed involved in the access authorization process were very familiar with program responsibilities and procedures.

An unresolved item was noted pertaining to controls in place to prevent a lone individual from circumventing the security system. The security badge issuance process was such that one individual had the capability to fabricate the badge, enter data into the biometrics readers, and activate the security badge into the security computer without effective verification or concurrence by another person. The badge issuing process did require concurrence by one of the alarm station operators before the data would be accepted by the security computer system, however, the person providing the concurrence had no requirement to verify any data and the concurrences were routinely completed without any independent verification actions.

When discovered and discussed with the security staff, corrective actions were implemented which appear to offer an acceptable level of protection to prevent one individual from being able to circumvent the badge issue process. The authorization signatures and badging information on the "Badge Authorization Form" will be verified as proper and correct signatures and signed by the Station Security Administrator (SSA) or designee prior to a badge being entered into the security computer system. The alarm station that concurs with the badge entry request for the security computer will have the original "Badge Authorization Form" and verify the SSA/designee signature before concurring with a request for badge activation. This matter will be monitored as an unresolved item (50-454/96010-01; 50-455/96010-01).

(2) Background Investigations

The inspector determined through interviews that site personnel (security, contractor, and Human Resources) administered and conducted an initial review of completed background investigation data contained in the licensee's security questionnaire. Their review was done to determine if relevant information may have been omitted by individuals that were being processed for unescorted access. Completed security questionnaires and the results of site staff reviews were then sent to the licensee's Corporate security department for additional review and processing. Site personnel also completed fingerprinting for criminal history checks.

(3) Psychological Evaluations

The inspector reviewed the licensee's procedure and practices for completing the required psychological testing and evaluations. The licensee contracted psychological evaluation services to satisfy access authorization program requirements.

The licensee used the Minnesota Multiphasic Personality Inventory II for initial psychological evaluations. The inspector observed that MMPI-2 test booklets were kept in locked file cabinet or controlled office spaces. Interviews with Human Resources and contractor personnel confirmed that tests were proctored by designated licensee and contractor personnel. Test

results were evaluated by the psychological assessment services contracted by the licensee. If necessary, follow-up evaluations were completed by clinical interviews by a licensed psychologist.

The inspector verified through interviews with several personnel who had taken the test and personnel who administered the test that the examinations had been controlled and protected in an adequate manner. Interviews also showed that identity of the person is confirmed before taking the test.

(4) Behavior Observation Program (BOP)

Training for the Behavior Observation Program was considered a program strength. All employees, rather than only the required supervisors, received the same amount of training and were aware of program responsibilities, and objectives of the behavior observation program. The employee assistance program (EAP) opportunities were recognized by personnel interviewed. The EAP had developed a strong reputation of confidentiality for services rendered.

The licensee provided training in behavior observation to all of its site employees (supervisors and non-supervisors) as part of the general employee training program. Interviews with supervisors (who are responsible for BOP implementation) showed that they were aware of employee assistance program elements that were available. Supervisors understood their responsibilities for behavior observation and stated they knew their personnel well enough to be able to identify aberrant behavior. Non-supervisory personnel were also aware of EAP assistance available to them and believed that the assistance would be provided in a confidential manner.

The licensee had also developed a method to monitor contractor personnel who have not used their security badge for 30 or more days and have not been under a behavior observation program during the same period. Not ascertaining activities for licensee personnel who have been away from a BOP for long periods of time is an unresolved item identified during a previous inspection (See Section S8.4 for related information).

Interviews with supervisors and non-supervisors disclosed that they were aware of their responsibility to notify supervision of all arrests that impacted on their trustworthiness and reliability.

(5) Unescorted Access Authorization - Grandfathering, Reinstatement, Transfer, and Temporary

Processing personnel for unescorted access authorization within the criteria for reinstatement, temporary, or transfers is completed and monitored by the corporate security department.

(6) Denial/Revocation of Unescorted Access

Procedures exist for appeal of adverse unescorted access authorization decisions. The appeal process applies to licensee and contractor personnel. The appeal process is administered and monitored by the corporate security department.

(7) Protection of Personal Information

The on site security and personnel staff were aware of the need to protect private and personal information obtained during the access authorization process. Consent forms were completed prior to initiation of the access authorization process.

Individuals applying for unescorted access were advised about the type of records that are produced and retained, where such records are normally retained, the duration of such records, their right to review and correct any information that may be incorrect, and the right to withdraw consent for obtaining records and conducting background investigations.

(8) Audits

The licensee's audits of their access authorization program were of sufficient depth and scope to evaluate the major elements of the program. The audits of the onsite program implementation were conducted at the required minimum frequency. Audit results were well documented.

(9) Record Retention

Access authorization records are retained at the corporate security department.

c. Conclusions

All evaluated elements of the access authorization program required by 10 CFR 73.56 had been effectively implemented. Program strengths and weaknesses were identified as required by the Temporary Instruction.

An unresolved item was noted pertaining to a weakness in the controls to prevent a lone individual from circumventing the security program (security badge issue process).

S1.2 Temporary Instruction 2515/132, "Malevolent Use of Vehicles at Nuclear Power Plants"

a. Inspection Scope (TI 2515/132)

Areas examined included the licensee's provisions for land vehicle control measures to protect against the malevolent use of a land vehicle and to determine compliance with regulatory and licensee commitments.

b. Observations and Findings

(1) Vehicle Barrier System

The inspector found that the features and structures that form the Vehicle Barrier System (VBS) met the design characteristics established by the NRC. The vehicle barrier components and the location of the barrier were as described in the revised summary description of the VBS submitted by the licensee to the NRC in February 1996, with a few minor exceptions.

A visual walkdown performed by the inspector confirmed that the general type of vehicle barrier described in the VBS summary description had been installed and that the barrier was continuous.

The drawing within the physical security plan does not accurately describe the location or correct description of the VBS in some instances. For example, the location of the permanent VBS barriers in some locations is not correctly identified on the drawing, the locations of some permanent barriers are identified as natural terrain barriers on the drawing, and the drawing shows only the outer wall of the Main Access Facility (MAF) as part of the barrier system rather than the outer and interior walls of the MAF. This item will be monitored as an inspection followup item (50-454/96010-02; 50-455/96010-02).

A 10 CFR 50.59 Safety Evaluation was performed and documented as a result of installation of the Vehicle Barrier System. The evaluation concluded that installation of the VBS has no impact on the probability of any accident described in the UFSAR. The evaluation also concluded that no unreviewed safety question will result and no technical specification revision will be involved. Section 2.4.2.3 of the UFSAR, which pertains to Probable Maximum Precipitation and Turbine Building Flooding Analyses, have been revised to account for changes in surface water runoff due to the new barrier system. The revision to the UFSAR will be monitored as an Inspection Followup Item (50-454/96010-03; 50-455/96010-03).

(2) Bomb Blast Analysis

Inspector field observations of standoff distances were consistent with those documented in the summary description. The licensee confirmed that

calculation of minimum standoff distance was based on NUREG/CR-6190 or an independent engineering analysis. Eight actual measurements were completed to confirm that the minimum standoff distances, as documented in the summary description, were the actual distances provided by the as-built VBS.

(3) Procedural Controls

The licensee appropriately defined criteria for maintenance, surveillance, and compensating for the VBS in Corporate Nuclear Security Guideline No. 4, "Operational Planning and Maintaining Integrity of Vehicle Barrier Systems (VBS)", Revision 0, dated February 1996. Discussions with the Site Security Administrator, and security staff confirmed that procedures necessary to safely shutdown the units after a bomb blast were reviewed and found to be adequate.

Byron Procedure BXP 200-11 requires certain actions to be taken to address a vehicle bomb contingency. The installed vehicle barrier system supersedes the planning and required actions addressed in procedure BXP 200-11 and the procedure needs to be deleted since such actions are no longer necessary or appropriate. This issue will be monitored as an Inspection Followup Item (50-454/96010-04; 50-455/96010-04).

c. Conclusion

The licensee's provisions for land vehicle control measures met regulatory requirements and licensee commitments. The VBS program was consistent with the summary description submitted to the NRC; installed components were identified in NUREG/CR-6190 or the licensee's engineering analyses; and appropriate procedures had been developed and implemented. The need for some additional administrative actions are being monitored as Inspection Followup Items.

S.8 Miscellaneous Safeguards Issues

8.1 (Closed) Inspection Followup Item No. 50-454/95013-09; 50-455/95013-09:

Security plan revision was required to correctly describe the capabilities of several security components. Revision 48 to the security plan was submitted to address these issues. The review of the security plan revision submittal will be addressed by separate correspondence. This item is closed.

8.2 (Closed) Inspection Followup Item No. 50-454/96006-05; 50-455/96006-05:

Excessive compensatory measures for an inoperative alarm system for the vehicle search area. This inoperative alarm system had compensatory measures in place for several months. The compensatory measures had become the rule rather than the exception. The alarm system has been repaired and has not required excessive compensatory measures since repaired. Compensatory measures for other security equipment components has been very limited since the previous inspection. This item is closed.

- 8.3 (Closed) Inspection Followup Item No. 50-454/96006-06; 50-455/96006-06: The security plan required revision to address several NRC review comments pertaining to the Vehicle Barrier System. Revision 47 of the security plan addressed the review comments requested by the NRC. The review of the security plan revision submittal will be addressed by separate correspondence. Therefore, this item is closed.
- 8.4 (Open) Unresolved Item No. 50-454/96006-07; 50-455/96006-07: This item pertained to the need for licensee employee activities to be reviewed after extended absences from a behavior observation program as required by Regulatory Guide 5.66 which the licensee committed to for implementation of the Access Authorization Program. This issue is still being reviewed by the NRC and therefore remains open. (Refer to Section S1.1.b(4) for related information for contractors)
- 8.5 (Closed) Unresolved Item No. 50-454/96006-08; 50-455/96006-05: This item pertained to the need for the Medical Review Officer (MRO) having to be contacted before fitness-for-duty (FFD) for-cause testing was conducted. The NRC review of this issue has concluded that the licensee's practice of contacting the MRO prior to for-cause FFD testing was acceptable. This item is closed.
- 8.6 During review of the records pertaining to the vehicle barrier system, a memorandum from the Engineering Department dated March 7, 1996, was noted in the file system. The memorandum contained several paragraphs which described what could be considered as vulnerabilities with some components of the VBS, some of which were corrected and some which were not corrected or addressed. The memorandum was not marked and protected as safeguards information.

10 CFR 73.21(b)(3)(i) describes safeguards information to include "portions of safeguards inspection reports, evaluations, audits, or investigations that disclose... uncorrected defects, weaknesses, or vulnerabilities in the system." The licensee's position was that the weaknesses described in the memorandum would be clearly visible and known by a knowledgeable person who had visual observation of the VBS and therefore would not be considered as safeguards information. The unresolved item is whether the information in the memorandum was safeguards information and should have been marked and protected as such. The licensee marked and protected the document as safeguards information pending resolution of this issue. This matter will be monitored as an unresolved item (50-454/96010-05; 50-455/96010-05).

X1 **Exit Meeting Summary**

The inspector presented the inspection results to members of the licensee management at the conclusion of the inspection on October 25, 1996. The licensee acknowledged the findings presented. Actions agreed to by the security staff to address the inspection findings were discussed during the exit meeting.

The inspector asked the licensee whether any materials examined or inspection findings discussed during the exit meeting should be considered as proprietary or safeguards information. No proprietary or safeguards information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee:

E. Campbell, Maintenance Superintendent (Acting Plant Manager)
T. Higgins, Support Services Director
R. Morley, Nuclear Security Administrator
S. Mills, Assistant Site Security Administrator
R. Cassidy, Assistant Site Security Administrator
R. Linboom, Senior Auditor, Site Quality Verification
R. Colglazier, NRC Coordinator
R. Spencer, District Manager, Burns International Security Services, Inc. (BISSI)
M. Mareth, Site Force Manager (BISSI)

INSPECTION PROCEDURES USED

TI 2515/127 "Access Authorization" issued January 17, 1995
TI 2515/132 "Malevolent Use of Vehicles at Nuclear Power Plants" issued
January 18, 1996

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-454/96010-01	URI	Security Badge Issue Process Had Weak Controls to Prevent Circumventing the System.
50-455/96010-01	URI	Security Badge Issue Process Had Weak Controls to Prevent Circumventing the System.
50-454/96010-02	IFI	Security Plan Revision Required to Show Correct Location of the Vehicle barrier System.
50-455/96010-02	IFI	Security Plan Revision Required to Show Correct Location of the Vehicle Barrier System.
50-454/96010-03	IFI	The Updated FSAR Required Revision Because of Installation of the VBS.
50-455/96010-03	IFI	The Updated FSAR Required Revision Because of Installation of the VBS.
50-454/96010-04	IFI	A Procedure Pertaining to the Vehicle Bomb Contingency Needs to be Deleted.
50-455/96010-04	IFI	A Procedure Pertaining to the Vehicle Bomb Contingency Needs to be Deleted.

- 50-454/96010-05 URI A Memorandum May have Contained Safeguards Information and was Not Marked and Protected as Such.
- 50-455/96010-05 URI A Memorandum May Have Contained Safeguards Information and was Not Marked and Protected as Such.

Closed

- 50-454/95013-09 IFI Security Plan Revision Required to Correctly Describe Several Security Component Capabilities.
- 50-455/96013-09 IFI Security Plan Revision Required to Correctly Describe Several Security Component Capabilities.
- 50-454/96006-05 IFI Excessive Compensatory Measures For an Inoperative Alarm System.
- 50-455/96006-05 IFI Excessive Compensatory Measures For an Inoperative Alarm System.
- 50-454/96006-06 IFI Need for a Revision to the Security Plan.
- 50-455/96006-06 IFI Need for a Revision to the Security Plan.
- 50-454/96006-08 URI Medical Review Officer Contact Prior to Fitness-For-Duty Testing.
- 50-455/96006-08 URI Medical Review Officer Contact Prior to Fitness-For-Duty Testing.

Discussed

- 50-454/96006-07 URI Ascertaining Activities for Licensee Employees After Long Absence From Behavior Observation Program.
- 50-455/96006-07 URI Ascertaining Activities for Licensee Employees After Long Absence From Behavior Observation Program.

LIST OF ACRONYMS USED

AA	Access Authorization
BOP	Behavior Observation Program
FFD	Fitness For Duty
IFI	Inspection Followup Item
UFSAR	Updated Facility Safety Analysis Report
URI	Unresolved Item
VBS	Vehicle Barrier System