

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-285/89-49

License: DPR-40

Docket: 50-285

Licensee: Omaha Public Power District (OPPD)
1623 Harney Street
Omaha, Nebraska 68102

Facility Name: Fort Calhoun Station (FCS)

Inspection At: FCS, Blair, Nebraska

Inspection Conducted: November 27 through December 1, 1989

Inspector:

Dale A. Powers for
R. A. Caldwell, Physical Security Specialist
Security and Emergency Preparedness Section

1/30/90
Date

Approved:

Dale A. Powers
Dr. Dale Powers, Chief, Security and Emergency
Preparedness Section

1/30/90
Date

Inspection Summary

Inspection Conducted November 27 Through December 1, 1989 (Report 50-285/89-49)

Areas Inspected: Routine, unannounced inspection of the licensee's physical security program. The areas inspected within the physical security program included a followup on previous inspection findings, verification of the licensee's contingency planning to prevent attempted radiological sabotage involving a land vehicle bomb, and access control packages.

Results: Within the program areas inspected, one open item was identified in the area of identification and authorization of hazardous materials entry into the protected area (PA) and the control of the materials while in the PA. Sixteen violations, seven open items, eight licensee event reports (LERs), and one deviation were closed. One technical instruction was also closed. The licensee continues to make progressive improvement in the FCS security program. The Security Upgrade Program is not yet complete, but the scheduled completion date is now March 31, 1990. The new date of March 31, 1990, is a 90-day extension of a previously scheduled completion date of December 31, 1989.

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DETAILS1. Persons ContactedOPPD

- *K. Morris, Division Manager, Nuclear Operations
- *R. Andrews, Division Manager, Quality and Environmental Affairs
- *G. Gates, Executive Assistant to the President, OPPD
- *G. Peterson, Plant Manager, FCS
- *J. Sefick, Manager, Security Services
- *F. Kenney, Supervisor, Security Services
- *H. Ritter, Supervisor, Security Support Services
- *D. Lieber, Supervisor, Security Operations
- *B. Schmidt, Supervisor, Chemistry
- *C. Brunnert, Supervisor, Quality Assurance Operations
- *J. Chau, Manager, Nuclear Licensing and Industry Affairs
- *C. Simmons, Licensing Engineer
- *G. Cook, Nuclear Licensing
- *E. Morris, Security, OPPD
- *B. Kindred, Security, OPPD
- *W. Woerner, Security, OPPD
- *W. Archbold, Security System Specialist
- *J. Foley, Systems Engineer, OPPD
- *R. Acker, Auditor, OPPD
- *F. Smith, Chemistry, OPPD

NRC

- *P. Harrell, Senior Resident Inspector
- *T. Reis, Resident Inspector

*Denotes those that attended the exit interview.

The inspector also interviewed other licensee employees during the inspection. Those employees included members of the licensee's technical and management staffs and members of the security organization.

2. Followup on Previous Inspection Findings and Licensee Event Reports (92701/92702)

(Closed) Violation (285/8817-01): Inadequate Compensatory Measure - The licensee reported the discovery of a Nuclear Watch Officer asleep at his compensatory post. The inspector noted that the licensee increased the frequency of the radio checks, rotated the compensatory posts more often, and designed new perimeter post buildings to assist in preventing this type of violation.

(Closed) Open Item (285/8817-02): Management Effectiveness of the Security Program - The inspector determined that no procedure had been issued on the topic of behavioral observation and the staff had no guidelines in this area. The inspector reviewed the licensee's Personnel Reliability Program (PRP-100), dated February 24, 1989, and determined that the procedure currently provides guidance for personnel behavioral observations.

(Closed) Violation (285/8824-01): Inadequate Compensatory Training - The licensee identified and reported that a compensatory security officer had left his post prior to the rearming of a vital area (VA) door leaving the door locked but unalarmed. The inspector identified the root cause as lack of proper security officer training and insufficient security shift supervision. The inspector observed that the licensee has hired additional security shift supervisors, provided security officer training in this subject area and issued a procedure that requires a specific "hand shake" between a responding or compensatory security officer and the central alarm station/secondary alarm station (CAS/SAS) to ensure that all actions are completed by the compensatory security officer prior to departing a compensated VA door.

(Closed) Open Item (285/8824-03): Security Organization - The inspector identified that: the first line supervisors were inadequately trained, the integration of contract and proprietary security organizations was incomplete, and security personnel morale was low which resulted in a poor attitude affecting job performance. The inspector observed that the licensee has decided to form a total proprietary security organization thereby removing conflict between the contract and proprietary organizations. The inspector also observed that the licensee is now developing recognition and incentive programs for the security organization and providing adequate training to first line supervisors.

(Closed) Violation (285/8847-01): Inadequate Compensatory Measures - The licensee identified and reported in October and November 1988 that posted compensatory security officers were found inattentive to duty. The inspector found that the licensee was employing ineffective specific procedures to assure that the continued effectiveness of the security system was not reduced. The inspector determined that the licensee started in October 1988 a communications contact policy that required radio contact every 15 minutes from the SAS to the posted compensatory officer and reversed the communication contact in March 1989, such that the compensatory officers now initiate the calls each 15 minutes to the SAS. The inspector also noted that high back chairs are installed in the compensatory posts and a 1-hour rotation of compensatory officers was started in March 1989. The licensee also advised all compensatory security officers of their responsibility to report mentally and physically fit for duty and to request relief if feeling fatigued or drowsy.

(Closed) Open Item (285/8847-02): Management Support, Security Program Plan, and Audits - The inspector reviewed the 1988 audit of the security program by an outside consultant. The audit identified 38 Category 1 deficiencies requiring licensee action. The inspector made this an open item pending licensee evaluation and resolution of the deficiencies. Thirty-four of the original Category 1 deficiencies have been satisfactorily resolved, and the four remaining deficiencies are now carried as licensee action items.

(Closed) Open Item (285/8847-03): Power Supply - The inspector identified a lack of licensee awareness for the source of microwave emergency power. This was made an open item pending the licensee's action to install a new microwave system and new security emergency generator. The inspector observed that a new microwave system is installed and a new emergency security generator is installed.

(Closed) Open Item (285/8847-04): Information Notices and Circulars - The inspector confirmed that the licensee had not reviewed two NRC circulars and two NRC Information Notices. The inspector determined that the licensee has received the missing circulars and information notices and has reviewed them for appropriate action.

(Closed) Violation (285/8906-01): Compensatory Measures - The inspector identified an inadequate compensatory measure for an unlocked VA door. An unarmed security officer was posted at an unlocked VA door instead of an armed security officer. The inspector noted that the licensee has changed Safeguards Contingency Procedure No. 4 to require posting of an armed officer as compensation for a degraded barrier. In addition, FCS has employed additional armed security officers and now requires all posted officers to be armed to reduce the potential for this type violation.

(Closed) Violation (285/8910-01): Management Support and Audits - The inspector identified approximately 50 security incident reports that should have been logged and 3 significant safeguards events that should have been reported to NRC in 1 hour. The inspector noted that a consultant's independent assessment of the licensee's loggable and reportable event procedures concluded that inadequate guidance to personnel was a contributing factor. The inspector had concluded that the lack of mid-management involvement in determining the loggability or reportability of security incident reports was not apparent. The inspector determined that more suitable guidance was developed by the licensee's consultant, and the licensee has assigned oversight of the security incident reports to more appropriate mid-level security management.

(Closed) Violation (285/8910-02): Inadequate Protection of Safeguards Information - The inspectors determined that on three separate occasions in 1988 the licensee failed to secure a safeguards container or to place Safeguards Information in the safeguards container.

This violation became Violation I.A. of Enforcement Action (EA) 89-159. EA 89-159 assessed a cumulative civil penalty of \$25,000 (assessed equally among three violations). The inspector determined that the licensee has augmented the protection of Safeguards Information by assigning Safeguards Information coordinators in different departments. The inspector further noted that procedural changes have been made to strengthen the control and safeguarding of Safeguards Information and that extensive training of personnel has been accomplished subsequent to this finding.

(Closed) Violation (285/8910-03): Locks, Keys, and Combinations - The inspector identified through a review of the loggable security events that the licensee identified the failure to maintain positive control of security keys on six different occasions. The repetition of the failure was considered a programmatic failure of the security key system. The NRC staff decided to exercise enforcement discretion for this violation in EA 89-64.

(Closed) Violation (285/8910-04): Access Control Packages - The inspector discovered through a review of the licensee's records that a purse with a suspicious object in it entered the PA before the x-ray monitoring officer could cause a hand search of the purse contents. The licensee had reconfigured the access control badge cubicle and as a consequence of the reconfiguration had not moved the emergency locking control for the turnstiles. Therefore, the x-ray monitoring officer was unable to quickly prohibit entry into the PA. The inspector observed that the licensee has moved the x-ray monitoring officer and the emergency locking control for the turnstiles. There is now adequate response time for the x-ray monitoring officer after he observes a requirement to hand search an article of suspicious nature to lock the turnstiles prior to personnel entering the PA.

(Closed) Violation (285/8910-05): Compensatory Measures - The inspector observed that many examples of inadequate compensatory measures were reported by the licensee over an 18-month period. The NRC staff decided to exercise enforcement discretion for this apparent violation in EA 89-64.

(Closed) Deviation (285/8910-06): Deviation From Licensee Commitment - The inspector determined that the licensee had removed the alarms for Auxiliary Building roof hatches on January 6, 1989. The licensee had previously committed to having installed the alarms in a response to a violation identified in NRC Inspection Report 50-285/86-17. The NRC staff withdrew this deviation because the licensee submitted a 10 CFR 50.54(p) change in March 1989 to the Physical Security Plan (PSP).

(Closed) Open Item (285/8916-01): Management Support - The inspector noted that three key supervisory positions in the security organization were vacant. The Manager of Security Services, Supervisor of Nuclear Security Operations, and Supervisor of Security Support Services were filled by consultants and a Senior Security Officer. The Manager of

Security Services and the Supervisor of Security Support Services were filled May 16, 1989, and the Supervisor of Nuclear Security Operations was filled June 1, 1989. All vacancies were filled by OPPD personnel.

(Closed) Open Item (285/8916-02): Detection Aids - Vital Areas - The inspector observed that potential vulnerabilities to circumvent the alarm system existed at two different locations. Both vulnerabilities were the consequence of the licensee using mesh steel cages to provide security for the auxiliary steam driven pump and the raw water pumps. The mesh steel cages provided means for persons outside the mesh steel cages to immobilize the alarm circuitry by pushing the palm switches from the exterior of the cage. The inspector observed that the licensee has installed palm switch covers over the palm switches identified as potential vulnerabilities by the inspector and two other palm switches identified by the licensee organization as potential vulnerabilities. These covers prevent circumvention of the alarm system by immobilizing the alarm system from outside the cage.

(Closed) Unresolved Item (285/8922-05): Access Control-Packages - The FCS resident inspector in reviewing an event where the licensee discovered a visitor's lunch box containing four cans of beer about to enter the PA discovered that the licensee did not routinely inform visitors of the prohibition of illegal drugs or alcohol within the PA. The inspector observed that all visitors are now provided a printed handout listing prohibited items and that random hand searches of x-rayed materials are also performed.

(Closed) Violation (285/8931-01) and (Closed) LER (285/89-S04): Access Control-Packages - The inspector followup on LER 89-S04 of June 8, 1989, determined that a .22 caliber weapon and nine boxes of ammunition did enter the PA by way of the warehouse. The inspector determined that the security officer allowing entry of this contraband was inattentive or unknowledgeable of what constitutes factory sealed packages. The NRC staff in EA 89-159 classified this violation as a Severity Level III violation because the incident was considered a significant violation of NRC access control requirements. Since this violation was: 1) discovered by OPPD and promptly reported; 2) resulted in prompt and comprehensive corrective action; 3) was not a willful violation or indicative of a breakdown in management controls; and 4) was not reasonably preventable by the licensee's action in a previous regulatory concern, the NRC staff did not propose a civil penalty. The inspector, during this inspection period, determined that: 1) FCS has an enhanced remedial training program to assist security officers in identifying factory sealed packages from other sealed packages; 2) FCS has a color x-ray at the Materials Warehouse Access Portal to assist the security officers in searching both factory sealed and other sealed packages; 3) FCS routinely performs a performance task appraisal of security officers' activities which

includes the search function; and 4) FCS Security Operating Procedure was changed to require all packages addressed to individuals to be opened even if factory sealed.

(Closed) Violation (285/8931-02) and (Closed) LER (285/89-S05): Protection of Safeguards Information - The inspector found that the licensee had failed on at least three occasions to ensure that Safeguards Information was protected against unauthorized disclosure. The NRC staff in EA 89-159 assessed a \$25,000 civil penalty for multiple examples of significant failings in this area. The NRC staff adjusted the base value of the civil penalty because of other factors including the fact that OPPD had discovered and reported the failings in this area. The inspector, during this inspection, determined that OPPD has implemented program changes to reduce the probability of future failings in this area. The inspector observed that: 1) Safeguards Information coordinators have been assigned to each department within the OPPD organization where Safeguards Information is stored or used; 2) advisory signs are now posted on all safeguards containers where Safeguards Information is stored; 3) security officers routinely check the safeguards containers immediately after normal working hours to determine the integrity and securing of the safeguards containers and the materials in the office spaces; 4) Safeguards Information cover sheets are now placed on the top of Safeguards Information to identify and prevent oversight of unattended materials; and 5) specialized training was given to Safeguards Information coordinators.

(Closed) Violation (285/8931-03) and (Closed) LER (285/89-S06) and (Closed) LER (285/89-S08): Compensatory Measures - Two LERs, 89-S06 and 89-S08, involving the failure of required posting of security officers at VA portals were followed up by the inspector. The inspector determined that the failures appeared to be repeated examples of failing to provide adequate compensatory measures as identified in NRC Inspection Report 50-285/89-10. The NRC staff in EA 89-159 removed the citation for these two events addressing the criteria of Section V.G.1. of the Enforcement Policy as follows: 1) both are classified as Severity Level IV violations; 2) both violations were reported; 3) corrective measures were taken and neither incident was willful; and 4) these violations could not reasonably be expected to have been prevented by the licensee's corrective action for a previous violation.

(Closed) Violation (285/8933-03): Access Control-Personnel - The FCS resident inspector discovered that an NRC employee whose general employee training (GET) qualifications had expired was granted unescorted access to the facility. Such is contrary to the PSP. The inspector determined that the licensee is blocking badges from being revalidated when individuals have not been GET requalified. On November 8, 1989, Standing Order Procedure SO G-85, Central Processing (Initial and Requalification) was issued to proceduralize the processing of persons for unescorted access to FCS. In addition to this action the licensee now places red cards in the badge card slots at the badge issuance racks to identify those personnel failing to renew required qualifications to enter FCS PA.

(Closed) Violation (285/8935-01): Access Control-Vehicles - The FCS resident inspector observed on September 6, 1989, a van containing food stuffs enter the PA without being adequately searched. Specifically, the inspector observed that the entire vehicle contents were being treated as Category III Material. products for human consumption, exempt from search at the PA perimeter because the search would render the food unusable or contaminate the food. The NRC staff in EA 89-159 categorized this as a Severity Level IV violation because a limited search had been made, the driver's access was authorized, and he was escorted. The inspector observed during this inspection that the cafeteria food truck containing both exempt and non-exempt material is now being properly searched.

(Closed) LER (285/88-S14): Fitness For Duty - The licensee reported on December 21, 1988, that a reactor operator had tested positive for the THC metabolite during a pre-employment drug screening at another location. The inspector determined that the licensee complied with all requirements of the PSP and fitness for duty policies of NRC. The resignation of the reactor operator was accepted effective December 30, 1988. Subsequent to the reactor operator's resignation, during January 3 to February 1, 1989, the individual was a patient at the Eppley Treatment Center, Omaha, Nebraska, for chemical dependency. The individual successfully completed the treatment process as reported by correspondence dated May 3, 1989, and signed by the senior counselor at the Eppley Treatment Center. On April 15, 1989, the licensee proceduralized the Personnel Reliability Program and Fitness For Duty Program (PRP/FFD) which allows an OPPD employee confirmed with a positive test result to be suspended for 14 days and referred to the Employee Assistance Program for counseling and assessment. The PRP/FFD requires that if ever a second confirmed positive test result is received during an individual's employment with OPPD, that person shall be terminated. The reactor operator was rehired in May 1989. The PRP/FFD program requires that all employees who undergo a counseling or rehabilitation program for illegal drug use or alcohol abuse be subject to followup testing at least once every month for 4 months following reinstatement, and at least once every 3 months for the next 2 years and 8 months. The inspector determined that the licensee has followed the requirements of the OPPD PRP/FFD program since rehiring this individual with a confirmed first time positive test result.

(Closed) LER (285/89-S01): Compensatory Measures - The licensee reported on March 1, 1989, that a security officer was discovered asleep at his compensatory post. This event was described as an apparent violation for inadequate compensatory measures in NRC Inspection Report 50-285/89-16. The NRC staff decided to exercise enforcement discretion for this violation in EA 89-64 because the licensee was undergoing a security upgrade and measures being implemented at the time of the event had not had sufficient time to bring about constructive results.

(Closed) LER (285/89-S03): Access Control-Vehicles - The licensee reported on May 1, 1989, that a substance suspected to be marijuana was discovered in the passenger's jacket of a vendor vehicle searched at the PA perimeter. The inspector determined that the licensee: 1) denied access to the vehicle and both passengers; 2) seized the contraband and turned it over to the local law enforcement authorities; and 3) placed the names of the alleged offenders on the FCS Denied Access List.

(Closed) Temporary Instruction (2515/102): Land Vehicle Bomb Contingency Procedures Verification - NRC Generic Letter 89-07 "Power Reactor Safeguards Contingency Planning For Surface Vehicle Bombs" requested licensees to develop safeguards contingency procedures to address the possibility of a land vehicle bomb. The inspector verified that the licensee's safeguards contingency procedures addressed the possibility of receiving a warning from NRC about a land vehicle bomb threat. The inspector determined that the licensee has taken steps to assure that the needed equipment to implement short-term contingency measures would be available.

(Closed) Violation (285/EA89159-IIB) and (Closed) LER (285/89-S07): Compensatory Measures - The licensee reported in LER 89-S07 that a security officer was discovered asleep on a perimeter compensatory post. In the Enforcement Conference for Inspection Report 50-285/89-31, this licensee event was discussed in detail and the NRC staff issued a Severity Level IV for this violation. The inspector determined that the licensee has taken constructive action to reduce the probability of this event recurring by establishing: a policy of relief without recrimination for security officers requesting relief at compensatory posts, a requirement that the security shift supervisor assure performance through continual visual and radio communications, and completing the Security Upgrade Project as quickly as possible thereby allowing permanent relief from these recurring duties.

3. Physical Security Program (81700)

The inspector reviewed certain elements of the licensee's physical security program in order to determine adequacy and compliance with the NRC-approved PSP. Evaluations and determinations are based primarily on observations of activities and interviews with security personnel. The following paragraphs describe the inspection findings in the program area inspected.

Access Control - Packages

The inspector reviewed the on-site control of sabotage-related materials and equipment. On October 16, 1989, the FCS resident inspector discovered eight CADWELD cartridges inside the PA in an area that provided no control over the cartridges. During this inspection, the inspector followed up the finding of the resident inspector.

The inspector determined that a CADWELD is an exothermic powder capable of producing a violent reaction if moisture is present when the material is ignited, and inhalation of high concentrations of freshly formed oxide fumes formed as a consequence of a CADWELD burning can cause an influenza like illness termed metal fume fever. CADWELD materials require an ignition temperature in excess of 450°C (850°F) to start a reaction and are self igniting above 1750°F. When ignited, the CADWELD is self-propagating producing hot molten materials with temperatures in excess of 2000°C (4000°F) and a localized release of smoke.

FCS Standing Order Procedure SO-G-70, "Chemical Control," requires that: chemicals shall be issued only to the authorized users indicated on the Approved Chemical List, except that any chemical may be issued and shipped off site; when a chemical is issued to the PA, warehouse personnel will fill out and attach the proper color coded Restricted Use Classification Label to each container; supervisors shall ensure that employees using the chemical are knowledgeable of the chemical control requirements; chemicals be taken only into those areas and utilized in those applications for which they are approved; and upon completion of work activity, the authorized user shall store the chemical so that it is not used except for approved applications.

The inspector determined that the person storing the eight CADWELDS in the PA, found in the northeast area of the PA by the FCS resident inspector, was not an authorized user on the Approved Chemical List. The eight CADWELDS did not have color coded Restricted Use Classification Labels attached. The person leaving the CADWELDS in the PA stated he was unaware of the requirement to store the CADWELDS so that they would not be used except for approved applications. Warehouse personnel stated that they had not issued the CADWELDS. The FCS Plant Chemist stated that he exerted no control over materials that were to be stored in exempt areas of the PA. Construction areas have been deemed exempt from the Chemical Control Program by the FCS Plant Chemist.

The FCS PSP requires all packages and material for delivery into the PA be checked for proper identification and authorization. The inspector determined that the security officers on duty on December 1, 1989, could not identify a CADWELD #115 cartridge when presented to them.

The inspector believes a significant weakness in the control and entrance of hazardous materials to FCS exists as it relates to the identification and authorization activities of the Security Organization and the Chemical Control Program. This is an open item pending further NRC review of this matter. (285/8949-01)

No violations or deviations were identified in this program area.

4. Exit Interview (30703)

The inspector met with the senior resident inspector and licensee representatives denoted in paragraph 1 on December 1, 1989, and summarized the scope and findings of the inspection as presented in this report.