APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-298/84-08 License: DPR 46

Docket: 50-298

Licensee: Nebraska Public Power District
P. O. Box 499
Columbus, Nebraska 68601

Facility Name: Cooper Nuclear Station (CNS)

Inspection At: Cooper Nuclear Station, Brownville, Nebraska

Inspection Conducted: May 14-17, 1984

Inspectors: Charles A. Hackney — 6/11/84
Charles A. Hackney, Emergency Preparedness Analyst (Team Leader) — Date

Clyde E. Wisner — 6/11/84
Clyde E. Wisner, Public Affairs Officer — Date

Charles A. Hackney for — 6/11/84
Tom Lonergan, Battelle Pacific Northwest Laboratories — Date

Charles A. Hackney for — 6/11/84
Jeffery Pappin, Battelle Pacific Northwest Laboratories — Date

Charles G. Wachner for
Jay MacLellan, Battelle Pacific Northwest Laboratories — Date 6/11/84

Charles G. Wachner for
Jim Jamison, Battelle Pacific Northwest Laboratories — Date 6/11/84

Approved:

J. B. Baird
J. B. Baird, Chief, Emergency Response and Preparedness Staff — Date 6/11/84

J. P. Gaudon
J. P. Gaudon, Chief, Reactor Project Branch 1 Project Section A — Date 6/11/84

Inspection Summary

Inspection Conducted May 14-17, 1984 (Report 50-298/84-08)

Areas Inspected: This routine, announced inspection of emergency procedures at CNS involved 185 inspector-hours which include onsite inspector-hours for the emergency exercise and coordinated meetings with the licensee, the Federal Emergency Management Agency, and state and local agencies.

Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

Principal Licensee Personnel

*G. A. Trevors, Division Manager, Quality Assurance
*P. V. Thomason, Division Manager, Nuclear Operations
*L. L. Roder, Administrative Services Manager
*R. E. Wilbur, Division Manager, Nuclear Services
*A. C. Morgan, General Office Emergency Planning Coordinator
*K. Wire, CNS Operations Manager
*P. R. Windham, CNS Emergency Planning Coordinator
*D. A. Whitman, Technical Staff Manager
*G. Smith, Senior Quality Assurance Specialist
*C. R. Goings, Regulatory Compliance Specialist

NRC

*D. Dubois, Senior Resident Reactor Inspector

Other Organizations

M. Carroll, Federal Emergency Management Agency

*Denotes selected key personnel attending the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Open Item (80-298/8307-01): The licensee provided off-shift operators to participate in the exercise. The licensee's response appeared adequate.

(Closed) Open Item (50-298/8307-02): The licensee's personnel appeared to have completed their checksheets and kept a chronology of events as they occurred. The licensee's response appeared adequate.

3. Emergency Exercise

The CNS annual emergency exercise was initiated on the evening of May 14, 1984, and terminated at approximately 10:00 p.m. on May 14, 1984. The exercise was again started at 4:00 a.m. on May 15, 1984, and terminated at 2:36 p.m. on May 15, 1984.

a. Pre-exercise Activities

Prior to the annual emergency exercise, an NRC Region IV inspector met with the scenario objectives committee in Kansas City, Missouri. There were representatives from the Federal Emergency Management

Agency, Environmental Protection Agency, Federal Drug Administration, and representatives from the states of Missouri, Iowa, and Nebraska.

Due to having been scheduled for training, the NRC inspectors did not attend the pre-exercise observers and controllers' meeting.

The exercise scenario included the following events:

- Stand-by gas treatment system problem
- Unusual pH and water chemistry
- Turbine building steam line break
- Stuck open safety valve
- Main steam isolation valve stuck open
- Loss of stand-by gas treatment system
- Elevated radiological release

The above scenario caused the activation of the licensee's technical support center (TSC), operational support centers (OSC), emergency operations facility (EOF), general office emergency center (GOEC), and the media response center (MRC). The scenario conditions permitted the states and counties to exercise their emergency plans.

b. Exercise Observation

During the conduct of the licensee's exercise, NRC inspectors made detailed observations of the activation and augmentation of the emergency organization; activation of the TSC, OCSs, EOF, MRC, and GOEC and of the actions of emergency response personnel during the operation of these emergency response facilities. The following activities were observed:

(1) Classification and assessment of the scenario events

(2) Direction and coordination of the emergency response

(3) Notification of licensee personnel and offsite agencies of emergency-related information

(4) Communications and information flow and record keeping

(5) Assessment and projection of radiological data and development of protective action recommendations

(6) Performance of offsite and onsite radiological survey teams

(7) Maintenance of security and access control

(8) Accountability of onsite personnel

(9) Management of accident recovery operations

(10) Emergency first-aid medical treatment

The NRC inspectors noted that the licensee's activation and augmentation of the emergency organization, activation of the onsite emergency response facilities, and actions and use of these facilities were generally consistent with their emergency response plan and implementing procedures. The NRC inspectors also noted the following areas where the licensee's activities were thoroughly planned and efficiently implemented:

- Effective team effort by the control staff and offsite notifications from the control room
- Timely shift augmentation and offsite radiological team dispatching
- Adequate TSC interface with the control room and the EOF
- TSC status boards updated and trends indicated
- Excellent security control to the site area and the EOF
- Periodic briefings by the principal players in the TSC and the EOF
- Post-accident sampling system adequately demonstrated
- Offsite monitoring teams checked equipment prior to being dispatched
- Offsite monitoring teams demonstrated good knowledge of sample locations
- Offsite monitoring teams used ALARA techniques during and after plume location
- Licensee and state interface
- Excellent post-accident and recovery organization planning
- Timely and effective use of the Station Operation Review Committee
- The GOEC was operational in a timely manner

- The GOEC director was under control and maintained effective control of the GOEC during the incident exercise.

The NRC inspectors' findings in areas for licensee improvement were as follows (the licensee also identified most of these areas in their initial observer/controller critique):

- Control room personnel did not recognize the significance of several abnormal values for plant chemistry radiological parameters; e.g., abnormal pH values and radioiodine were reported as 3.5 Ci/cc instead of 3.5 μCi/cc, and the value was not questioned for 0.5 hours.

- Staff could not interpret what was meant by the activity level exceeding 310 μCi/gm, not including iodine spike.

- Observers/controllers spent too much time discussing data and plant parameters with the control room personnel.

- TSC encountered accountability problems during the initiation of the incident. Access and egress not well controlled for the TSC.

- Emergency director was not generally informed of state's action on protective action recommendations.

- Emergency director not informed of background information resulting in offsite protective action recommendations.

- Conflicting information for protective action recommendations in EOF, TSC log, and TSC status board.

- EOF status boards did not have dose projections.

- EOF director's status boards incorrectly updated. The board did not reflect protective action recommendations, status of state actions, and adequate station status.

- EOF noise level high during exercise.

- Civil Defense radio too loud and radio communicators added to EOF noise level.

- Offsite radiological monitoring teams did not demonstrate the use of instruments capable of detecting 10^{-7}μCi/cc radioiodine in the field.

- Dose projection technician was using handwritten procedures. Information had been extracted from approved procedure.

- Offsite monitoring team had sample labeling and identification problem.
- Media response center very inefficient and understaffed.
- Security inadequate and not identified at the MRC.
- Rumor control did not identify information as an exercise and general response to inquiries was inadequate.
- Media Response Center (MRC) spokesperson was not given sufficient licensee data and state status concerning protective action recommendations and state's response.

c. Exercise Critique

The NRC inspectors attended a post-exercise critique on May 16, 1984, during which the controller and observers discussed their observations of the exercise. The following day, May 17, 1984, the NRC inspectors attended a post-exercise briefing for the licensee's management and selected general office staff. The May 16, 1984, critique was more detailed and discussed weaknesses which were more compatible to those weaknesses observed by the NRC inspectors. The licensee indicated that an area for improvement would be evaluated and appropriate action taken.

4. Exit Meeting and NRC Critique

Prior to the exercise, an NRC inspector reviewed selected personnel training records. The personnel training records reflected that one employee had been onsite for approximately 10 months and had not completed emergency preparedness training. Further discussions revealed that the individual was in the operations group and may be assigned emergency response functions. Persons should not be assigned any emergency task until all emergency response training has been completed. Management agreed to expedite training according to a schedule which had recently been established.

Following the licensee's self-critique, the NRC inspectors met with selected key licensee representatives listed in Section 1. The team leader summarized the observations made during the exercise and discussed the areas described in Section 3.b.

The licensee was informed that no violations were observed; however, the final decision for any violation or deviation would be made by NRC Region IV management.

The licensee's performance demonstrated that they could implement their emergency plan and emergency plan implementing procedures in a manner which would adequately provide protective measures for the health and safety of the public. Licensee management acknowledged the NRC findings and indicated that appropriate action would be taken regarding the identified improvement areas.