APR 04 1985

Docket: 50-285

Omaha Public Power District
ATTN: R. L. Andrews, Division Manager-
Nuclear Production
1623 Harney Street
Omaha, Nebraska 68102

Gentlemen:

Enclosed is a copy of a memorandum from the Federal Emergency Management Agency (FEMA) to the NRC dated February 26, 1985, and the FEMA evaluation report for the s.ates and local agencies response for the October 24, 1984, exercise at Fort Calhoun Station.

As stated in our memorandum to you dated January 25, 1985, we request your continued cooperation with state and local agencies during the training and the remedial drill scheduled to be conducted prior to May 10, 1985, as necessary to correct the Category A deficiency. We will forward the FEMA evaluation of the remedial drill to you upon receipt from FEMA. Based on the review of the FEMA report and determination on the status of the Category A deficiency, the NRC will determine if further actions under our regulations are appropriate in this matter.

We also encourage your attention to the FEMA concern in regard to exercise scenario support of offsite field team response and decision making process for the administration of KI. Please cooperate with the offsite agencies in scenario development so that testing of all of the major elements of offsite plans and preparedness will be completed.

If you have any questions concerning this matter, please contact J. B. Baird at 817-860-8185.

Sincerely,

"Original Signed By:"

D. R. Hunter, Chief
Reactor Project Branch 2

Enclosures:
1. FEMA Memo dated 2/26/85
2. Exercise Evaluation

cc (see next page)

RIV:EPS	EP&RPB	D:DRS&S	C/PSB	C/RPB2	AI 85-176
JBBaird/lt	REHall	RLBangart	DMHunnicutt	DRHunter	
4/2/85	4/3/85	04/04/85	4/3/85	4/3/85	

AO's not RIV

cc w/enclosures:
W. G. Gates, Manager
Fort Calhoun Station
P. O. Box 399
Fort Calhoun, Nebraska 68023

Harry H. Voigt, Esq.
LeBoeuf, Lamb, Leiby & MacRae
1333 New Hampshire Avenue, NW
Washington, DC 20036

bcc to DMB (A045) w/enclosures

bcc distrib. by RIV w/FEMA Memo & w/out Exercise Evaluation:

RPB2	Resident Inspector	R. D. Martin, RA
EP&RPB	Section Chief (RPB2/A)	R. L. Bangart
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Federal Emergency Management Agency

Washington, D.C. 20472

FEB 26 1985

MEMORANDUM FOR: Edward L. Jordan
Director, Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission

FROM: Richard W. Krimm
Assistant Associate Director
Office of Natural and Technological
Hazards Programs

SUBJECT: Exercise Report of the October 24, 1984, Exercise of the Iowa and Nebraska Offsite Radiological Emergency Preparedness Plans for the Fort Calhoun Nuclear Power Station

Attached is one copy of the Exercise Report of the October 24, 1984, joint exercise of the offsite radiological emergency preparedness plans for the Fort Calhoun Nuclear Power Station. This was a full participation exercise for the Iowa and Nebraska State and local governments. The report, dated January 9, 1985, was prepared by Region VII, Federal Emergency Management Agency (FEMA).

We have added some clarifying information which became available after the exercise report was completed. As indicated in the Category "A" Deficiency 1, on page 50 of the exercise report, the personnel of the ambulance services covering Harrison and Pottawattamie Counties do not have adequate training and equipment to allow them to fulfill the terms of their Letters of Agreement (LOA) and provide the required assistance to the counties in the event of of a radiological accident at the Fort Calhoun Station(NUREG-0654, II,A.3,C.4). This deficiency originally stemmed from the absence of LOA's. However when the LOA's were obtained, the ambulance services signed them contingent upon the provision of adequate training and equipment. FEMA Region VII reports that as of January 17, 1985, the ambulance personnel have not received adequate training, but the Region and the State of Iowa have agreed that the personnel will receive an additional 4 hours of training. In addition, the Region is requiring a satisfactory remedial drill prior to May 10, 1985, as a condition to removal of the Category A deficiency. When the FEMA Region VII report on the remedial drill is received and reviewed by us, we will send you the FEMA determination.

~~8503040412~~ 2pp

We would like to bring to your special attention a problem with the scenario which prevented adequate testing of certain offsite elements. The lack of releases of noble gases and radioiodines in the scenario inhibited testing of field teams and of the decisionmaking process for the administration of KI (See pages 26,43,48 and 59 for appropriate references). These elements have not yet been completely tested at the Fort Calhoun site. Since the July 1985 exercise at Fort Calhoun will be the fifth exercise, it is important that the next scenario drive an exercise which will complete the successful testing of all major elements of the offsite plans and preparedness. We would appreciate your support with the utility in ensuring that an adequate scenario is developed.

FEMA Region VII will provide a copy of this report to the States of Iowa and Nebraska and request a schedule of corrective actions. As soon as we receive and analyze the response, we will send you our determination.

If you have any questions, please contact Mr. Robert S. Wilkerson, Chief, Techonological Hazards Division, at 287-0200.

Attachment
As Stated

EXERCISE EVALUATION

October 24, 1984, Exercise of the Radiological Emergency Response Plans of the State of Nebraska, Sarpy and Washington Counties, and the State of Iowa, Harrison and Pottawattamie Counties for the Omaha Public Power District's FORT CALHOUN NUCLEAR POWER STATION at Blair, Washington County, Nebraska

January 9, 1985

Federal Emergency Management Agency

Region VII

92pp

PATRICK J. BREHENY
Regional Director

911 Walnut Street
Kansas City, MO 64106

EXERCISE EVALUATION OF THE IMPLEMENTATION OF STATE AND LOCAL RADIOLOGICAL EMERGENCY RESPONSE PLANS

FOR THE

FORT CALHOUN NUCLEAR STATION

Blair, Washington County, Nebraska
Omaha Public Power District, Licensee

EXERCISE CONDUCTED
October 24, 1984

PARTICIPANTS:

State of Iowa
County of Harrison
County of Pottawattamie

State of Nebraska
County of Sarpy
County of Washington

(All affected jurisdictions participated)

prepared by

Federal Emergency Management Agency
Region VII

January 9, 1985

CONTENTS

ABBREVIATIONS AND ACRONYMS

ANL	Argonne National Laboratory
BLUEBIRD	Nebraska State Patrol Mobile Emergency Communication Center
CD	Civil Defense
CRUSH	Nebraska Civil Defense Portable Operations Center (Field Command Post)
DOT	U.S. Department of Transportation
EARO	Emergency Assessment and Recovery Operations
EBS	Emergency Broadcast System
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	U.S. Environmental Protection Agency
EPZ	Emergency Planning Zone
FAA	Federal Aviation Administration
FCNPS	Fort Calhoun Nuclear Power Station
FCP	Iowa: Forward Command Post (Logan EOC) Nebraska: Field Command Post (CRUSH)
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
HCEOC	Harrison County (Ia) Emergency Operations Center
HPCI	High pressure coolant injector
IAC	Information Authentication Center
IDOT	Iowa Department of Transportation
INEL	Idaho National Engineering Laboratory
ING	Iowa National Guard
ISDH	Iowa State Department of Health
ISP	Iowa State Patrol
KI	Potassium Iodide
LOCA	Loss of Coolant Accident
MRC	Media Release Center
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654, FEMA-REP-1, Rev. 1 (1980).
ODS	Iowa Office of Disaster Services
OPPD	Omaha Public Power District
PAG	Protective Action Guidelines
PCEOC	Pottawattamie County (Ia) Emergency Operations Center

EXERCISE SUMMARY

An exercise of the plans and preparedness for off-site radiological response was conducted for the Fort Calhoun Nuclear Power Station near Blair, Nebraska, on October 24, 1984. Following the exercise, a preliminary evaluation was made by a 24 member, Federal observation team. A briefing for exercise participants and the general public was held on October 25, 1984, at the Federal Building in Council Bluffs, Iowa. The evaluation, deficiencies, and recommendations related to this exercise are presented in this report.

The consensus of observers was that exercise play permitted the involved response organizations to accomplish most of the exercise objectives presented to the Federal Emergency Management Agency prior to the exercise.

At the time of the exercise the State of Iowa, Office of Disaster Services did not have signed valid letters of agreement with ambulance services covering Harrison and Pottawattamie Counties. The absence of such letters casts sufficient doubt over the ability to protect the health and safety of the residents to create a Class A Deficiency.

However, it should be noted that even without a valid letter the Council Bluffs Fire Department did provide ambulance service with Pottawattamie County as part of the exercise.

Since the exercise (10-24-84) the State has obtained signed letters of agreement with the Council Bluffs Fire Department to cover Pottawattamie County and the Missouri Valley Volunteer Fire Department to cover Harrison County. Both departments signed with the understanding that they would receive the necessary training and equipment.

The Licensee (OPPD) has agreed to provide training and equipment to both fire Departments by January 15, 1985.

functioned well, further enhancing coordination at all levels. Nebraska recently acquired computerized data terminals for transmitting draft messages to the SEOC and Media Release Center. This capability worked effectively and enhanced the speed, accuracy, and physical transmission of information.

Dose assessment was adequately performed by the State at the FCP. Based on EPA guidelines, appropriate protective actions for the plume pathway were promptly determined. Release data provided by OPPD verbally was often inconsistent with hard-copy information provided later. Also, discrepancies in dose projections between the State's and OPPD's models require review and modification.

Direction of the single field monitoring team was performed at the FCP. Although the plume affected only Iowa, the Nebraska team could have been used more efficiently. This could have been accomplished by using forecasts of anticipated conditions.

Field Monitoring Team

A single Nebraska State field monitoring team was deployed during the exercise. The team was activated and mobilized from Lincoln. The field vehicle and all monitoring/sampling equipment were adequate and operational except the sodium iodide scintillation counter and multichannel analyzer. Technical operations demonstrated by the team were good and the team exhibited overall knowledge of proper equipment operation and field procedures.

Radiological exposure control equipment and procedures were good. Appropriate dosimeters, record cards, and KI were available. Additional equipment was available including air tanks, respirators, gloves, boots, and anti-contamination suits. The team members were familiar with the maximum dose allowed and what precautions should be taken if that limit was reached.

Media Release Center (MRC)

The MRC was staffed with representatives from Nebraska's SCDA, Iowa's ODS, and OPPD. Staff mobilization and activation at the MRC was prompt. The States demonstrated a 24-hour capability through duty rosters and double staffing.

Facilities at the MRC were generally adequate, however, the PIOs were assigned separate rooms. Communication equipment was adequate and data terminals and telefax machines were available for hard-copy transmission. There was no single, permanent map indicating the entire EPZ with all sectors. Instead, each State had a separate map indicating only the sectors for that state.

There was no discussion, coordination, or consultation among the PIOs prior to media releases. This was partially the result of separate room assignments. The news briefings were difficult to understand because of the technical terminology. As the exercise progressed, the briefings lagged behind events.

NEBRASKA COUNTY OPERATIONS

Sarpy County Emergency Operations Center (SCEOC)

Activation of the SCEOC took place unannounced and in real time. The local emergency coordinator promptly set up the facility, arranged for telephone installation, and initiated the call-up procedure. The staff at the SCEOC demonstrated many of their basic radiological emergency functions. Management of the SCEOC was minimally adequate with most decisions being made without staff involvement. There were no staff briefings and some staff were not familiar with the plan. Training and exercise experience are needed to allow for demonstration of the full range of emergency responsibilities.

The facilities were very good. Communications by commercial telephone were adequate, but no backup systems were demonstrated. Appropriate maps and displays

The staff demonstrated prompt alert and notification of the public within the prescribed 15-minute period. Also, adequate procedures for the evacuation of mobility-impaired individuals and transporting school children corrects deficiencies identified in earlier exercises. Considerable planning and discussion of recovery/reentry procedures was demonstrated. However, provisions for farmers to periodically reenter evacuated areas to tend their herds need attention.

IOWA STATE OPERATIONS

Iowa State Compensatory Plan

This exercise was conducted under the Iowa State Compensatory Plan (SCP). The basis of the SCP is the assumption by the State of Functions which are normally those of the counties. Under the basic SCP the counties are responsible only for the activation of the siren system upon direction from the State. Inherent in this is the counties' concommitant understanding of their limited roles.

Concurrent with the SCP, the counties are expected to continue to be involved in normal law enforcement, and the Sheriff's departments are acknowledged to possible be involved in supporting evacuation and traffic control.

Iowa State Emergency Operations Center (SEOC)

The SEOC was promptly staffed for the exercise and the participants were knowledgeable of their duties. The Director of ODS was effectively in charge. Staff briefings were held periodically and all policy decisions were based on discussions with appropriate staff members.

The SEOC facilities were very good. All necessary maps and displays were posted. No problems were experienced with the primary communications systems. The administrative hotline was used for all off-site coordination and functioned well. A

be moved back to its original location in an adjacent room. The telecopier experienced transmission problems and could not be relied upon. A backup commercial telephone to Des Moines could not be continually monitored. Much data and information exchange was lost because so many important lines of communication failed.

Dose projections were performed quickly and accurately. The field teams were directed to define the plume. Better communication with the teams would have improved operations as would coordination of team operations with OPPD.

Field Monitoring Teams

Two field teams participated in the exercise. Members of each field team understood the operation of all monitoring and sampling equipment and properly demonstrated their use. The equipment was operationally checked prior to the teams' departure and written SOPs were used for all monitoring, sampling, and measuring activities. The Iowa State Patrolmen accompanying the teams knew the region and easily located the sampling points. The field teams had proper dosimetry and demonstrated proper procedures for reading and recording dosimetry information. Both teams were aware of decontamination procedures for personnel, equipment, and vehicles.

Medical Drill

The emergency response capability of the UNMC was observed during this drill along with an Iowa ambulance service. A hunting accident was simulated during the exercise. Ambulance personnel wrapped the patient in sheets to prevent spread of contamination. The ambulance crew had dosimeters and a survey meter but did not have protective clothing. Radio transmissions between the ambulance and the UNMC were unclear until the ambulance was in close proximity to the hospital. The ambulance driver was unfamiliar with the separate entrance to the emergency room for radiological emergencies.

Harrison County Emergency Operations Center (HCEOC)

Staffing of the HCEOC was in accordance with the State Plan and each member displayed adequate knowledge of their respective roles. Emergency operations management was effective. Briefings were held periodically to update the staff, but more frequent briefings would have been beneficial.

The HCEOC facilities were adequate for extended operations. All necessary maps and displays were available. A separate emergency classification sign would be useful for quick reference. Also it was suggested that the maps be laminated such that the maps could be marked without being permanently defaced.

An administrative hotline was the primary communication link with other locations. A rad hotline also had conferencing capabilities with the EOF, the SEOC, and the FCP. However, the conferencing capability on these lines broke down repeatedly.

The HCEOC fulfilled its role for public alerting. The HCEOC followed the SEOC's directives on siren sounding without engaging in its own decision-making effort. Activation of traffic control points, road blocks, and barricades were promptly coordinated and implemented. Adequate supplies of dosimeters, TLDs, and KI were available for emergency workers. Special evacuation of the mobility-impaired was well-organized and implemented.

Pottawattamie County Emergency Operations Center (PCEOC)

The basic staffing of the PCEOC was in accordance with the State Plan. The staff displayed adequate knowledge of their roles. Other than the State Liaison, round-the-clock staffing was demonstrated. The County CD Director was effectively in charge. Decision making included all appropriate staff members. The Plan was available for reference, however, there were no written checklists or SOPs available.

The facilities at the PCEOC were generally too small and limited to support an ongoing response. All necessary maps and displays were posted and kept current. A

1 INTRODUCTION

1.1 EXERCISE BACKGROUND

On December 7, 1979, the President directed the Federal Emergency Management Agency (FEMA) to assume lead responsibility for all off-site nuclear planning and response.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in off-site emergency planning and in the review and evaluation of radiological emergency response plans developed by state and local governments.
- Determining whether such plans can be implemented on the basis of observation and evaluation of exercises of the plans conducted by state and local governments.
- Coordinating the activities of federal agencies with responsibilities in the radiological emergency planning process:
  - U.S. Department of Commerce (DOC)
  - U.S. Nuclear Regulatory Commission (NRC)
  - U.S. Environmental Protection Agency (EPA)
  - U.S. Department of Energy (DOE)
  - U.S. Department of Health and Human Services (HHS)
    - Food and Drug Administration (FDA)
    - Public Health Service (PHS)
  - U.S. Department of Transportation (DOT)
  - U.S. Department of Agriculture (USDA)
  - U.S. Department of the Interior (DOI)

Representatives of these agencies serve as members of the Regional Assistance Committee (RAC), which is chaired by FEMA.

1.2 EXERCISE EVALUATORS

Twenty-four observers evaluated off-site emergency response functions. These individuals, their affiliations, and their exercise assignments are given below.

Observer	Agency[a]	Assignment
F. Au	EPA	Iowa Field Monitoring Team #2
W. Biedenfeld	HHS/PHS	University of Nebraska Medical Center Hospital Iowa Medical Drill
R. Bissell	FEMA	Harrison County (Ia) EOC
W. Brinck	EPA	Iowa Field Team Coordination
M. Browne	DOT	DeSoto National Wildlife Refuge
K. Carder	FEMA	Media Release Center
M. Carroll	FEMA	Harrison County (Ia) EOC
A. Foltman	ANL	Nebraska Field Team Coordination
W. Gasper	ANL	Nebraska Field Monitoring Team Blair Decontamination Center
C. Herzenberg	ANL	Iowa State EOC (Dose Assessment)
T. Hogan	FEMA	Pottawattamie County (Ia) EOC
G. Jacobson	HHS/FDA	Nebraska State EOC
E. Jenkins	FEMA	Iowa State EOC
S. Kinser	FEMA	Washington County (Ne) EOC
S. Kouba	DOE	Iowa Field Monitoring Team #1
R. Leonard	FEMA	Harrison County (Ia) EOC
J. Levenson	ANL	Nebraska Field Command Post (CRUSH) Information Authentication Center
G. McClure	FEMA	Sarpy County (Ne) EOC
E. O'Hare	FEMA	Bellevue (Sarpy Co.) Relocation Center
T. Seidel	FEMA	Media Release Center
R. Stewart	DOI	DeSoto National Wildlife Refuge
R. Sumpter	FEMA	Exercise Overview
L. Welborn	NRC	Emergency Operations Facility
D. Wilson	FEMA	Iowa State EOC

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[a] ANL = Argonne National Laboratory
DOE = U.S. Department of Energy
DOI = U.S. Department of the Interior
DOT = U.S. Department of Transportation - Coast Guard
EPA = U.S. Environmental Protection Agency
FEMA = Federal Emergency Management Agency
HHS = U.S. Department of Health and Human Services
FDA = Food and Drug Administration
PHS = Public Health Service
NRC = U.S. Nuclear Regulatory Commission

was designed to activate the radiological emergency response plans (RERP) for FCNPS and OPPD's corporate radiological emergency response plan through their various levels. Although the scenario accurately simulated operating events, it was not intended to assess all of the operator's diagnostic capabilities, but rather to provide sequences that ultimately demonstrated the operator's ability to respond to events, and that resulted in exercising both on-site and off-site emergency procedures. The exercise demonstrated a number of primary emergency preparedness functions. At no time was the exercise permitted to interfere with the safe operations of FCNPS. The plant management, at its discretion, could have suspended the exercise for any period of time necessary to ensure this goal. Free play was encouraged and the referees interfered only if operator or player action prematurely terminated the exercise or deviated excessively from the drill schedule.

Federal agencies were to be notified during the exercise according to existing emergency response procedures. Federal agencies with radiological emergency preparedness responsibility did not actively participate in the play of this exercise. Federal representatives, however, did act as exercise evaluators.

Exercise objectives included full-scale participation from the states and counties. State activities included the activation of radiological field monitoring teams, participation at the media release center (MRC), and the information authentication center (IAC), and communication and information with the county and OPPD organizations. The Iowa State EOC in Des Moines was activated. The Harrison and Pottawatamie County EOCs were activated to support State response. In addition, the State Forward Command Post was activated. The warning system sirens and Emergency Broadcast System (EBS) notifications for the emergency planning zone (EPZ) were to be activated during the exercise. The State of Iowa in communication to FEMA Region VII dated August 17, 1984 and revised on October 2 identified the following formal exercise objectives to be accomplished at the October 24, 1984, emergency response exercise for the FCNPS.

Media Center (Omaha) Iowa Representation

1. Simulate 24-hour staffing of Iowa reps.
2. Demonstrate proper briefing displays/graphics.
3. Demonstrate role of Iowa Governor's Office in media center.*

Iowa State Forward Post

1. Demonstrate proper understanding of State Compensatory Plan by players involved at the Forward Command Post (will include state players as well as Harrison County staff).
2. Demonstrate adequate graphics.
3. Demonstrate communications to State EOC; simulate/explain communications to schools/hospitals/nursing homes within 10-mile EPZ. (This task to be performed by combination of State/Harrison County personnel at Iowa State Forward Command Post.)
4. Simulate evacuation of affected populace.
5. Simulate access control.
6. Demonstrate notification of mobility-impaired within affected areas. (This task to be performed by combination of State/Harrison County personnel at Iowa State Forward Command Post.)
7. Demonstrate exposure control/provision of dosimeters.
8. Demonstrate KI decision making if appropriate and scenario driven.
9. Demonstrate recovery and reentry discussions and procedures.

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*Iowa Governor's Office has not informed ODS of participation for sure, but will try to secure same.

NEBRASKA STATE OBJECTIVES

The State of Nebraska identified in a letter to FEMA Region VII on August 8, 1984, the following State and local support activities to be demonstrated during the October 24, 1984 exercise of the FCNPS.

1. Deployment and operation of the State Field Command Post to include local and long-range communications.
2. Notification and follow-up contacts with State, Federal, and private agencies having responsibilities under the Nebraska Plan.
3. Reaction times and supporting resources estimates for selected State and Federal agencies.
4. State field radiological monitoring activities, dosimetry, field health hazard assessment, and coordination of protective action recommendations with Governor's Authorized Representative and State EOC. This will include management of team activities, appropriate briefings and information flow. Simulate collection and transport of field samples to State Laboratory. Simulation of State aerial radiological monitoring to roughly define the parameters of the airborne plume and transport of samples to the State lab will also be included.
5. Operational status and functioning of State EOC as well as coordination with agencies and field elements. Includes State EOC interstate coordination. With the exception of the Health Department, Agency representation at the State EOC will be simulated.
6. State EOC requests for and coordination of simulated Federal support under the Federal Radiological Emergency Preparedness Plan (FREPP). Also includes message flow and simulated support by NRC, DOE, and FEMA.

transportation of field samples to laboratories. Simulation of reception and measurement of the samples by laboratories.

17. Limited collection and simulated transportation of environmental surveillance samples for reentry and recovery.

Local Objectives

The following local support capabilities, as listed in appropriate local plans, will be demonstrated:

1. Initial notification receipt and alerting of key people.
2. Communications and coordination with all involved agencies.
3. Activation of local Emergency Operating Centers (EOC) and appropriate use of Emergency Classifications.
4. Coordinated access control and security decision making by selected law enforcement agencies.
5. Increased readiness measures for potential operation at Bellevue/Sarpy County relocation center. This facility will be operated on a training basis but will be subject to observation.
6. Decontamination station operation at Blair to support emergency workers who might be operating in the disaster area and conduct appropriate training.
7. Coordination with IAC/MRC where appropriate of local public information activities. Includes preparations for notification of the public with actual notification being simulated.
8. Provision of fire and rescue support as required by plant.
9. Transport and reception of simulated radiation casualty.
10. Test means for protecting the handicapped and persons whose mobility may be impaired due to such factors as institutional or

C. ALERT

Reactor coolant system leak is sustained. When leak rate exceeds technical specifications the shift supervisor declares an ALERT condition. This will probably occur prior to 0815 hours. No radiation is released. The plant begins a slow power production descent at a rate of 10%/hour. A plant worker is injured while plant evaluation is being accomplished. The worker may be contaminated. The victim is transported to UNMC Hospital in Omaha.

D. SITE AREA EMERGENCY

Between 0930-1015 two steam generator tubes rupture forcing rapid shutdown of the plant from 80% power. A SITE AREA EMERGENCY is declared due to a primary coolant leak rate that exceeds the charging pump capacity. The plant is immediately shut down. This also caused the diesel emergency generators to start. Off-site backfeed of power is restored and generators are shut down. When a fault occurs in the off-site line the diesel generators fail and a fire is caused. Meanwhile, off-site public notifications and warning actions are accomplished. Plant EOF is activated.

E. GENERAL EMERGENCY

In the period 1045-1115 additional safety systems fail. A GENERAL EMERGENCY condition is declared based on the loss of two fission product barriers and the potential loss of a third; all of which threaten the stability of the reactor core. Health hazard assessment activities are initiated by both the plant and State. Necessary simulated protective actions will be initiated on completion of assessment.

1.6 MILESTONES FOR EXERCISE OBJECTIVES AND CRITIQUES

Indicated below are milestones for exercise observations and critiques with scheduled and actual completion dates.

Activity	Scheduled	Actual	Comment
State and licensee jointly submit exercise objectives to FEMA and NRC regional offices	8/10/84	8/8/84 8/4/84 8/17/84 10/2/84	Nebraska OPPD Iowa Iowa Revision
FEMA and NRC regional offices discuss and meet with licensee/ state as necessary and prepare response	8/25/84		
State and licensee scenario developers submit exercise scenario to FEMA and NRC regions for review	9/9/84	8/14/84 9/7/84 9/13/84 10/1/84	OPPD Iowa Nebraska Iowa unacceptable
FEMA and NRC regions notify state and licensee of scenario acceptability	9/19/84		
FEMA and NRC regions develop specific post-exercise critique schedule with the state and advise FEMA and NRC headquarters	9/24/84		
RAC chairman and NRC team leader meet to develop observer action plan	10/9/84		
Meeting in the exercise area, of all federal observers both on-site and off-site to finalize assignments, and give instructions	10/23/84	10/23/84	
Exercise	10/24/84	10/24/84	
FEMA and RAC observers caucus to collate observations. NRC observers also caucus to collate observations	10/24/84	10/24/84	
RAC chairman and NRC team leader meet, as soon after their respective caucuses as practical, to coordinate federal participation in critique	10/24/84	10/24/84	
RAC Chairman and Exercise Team leaders conduct exit interview with state and local governments	10/25/84	10/25/84	
Joint RAC/NRC critique	10/25/84	10/25/84	

Sarpy County

Civil Defense
State Civil Defense Agency
Douglas County - REACT
Bellevue City Administrator
Bellevue Police Department
Bellevue Fire Department
Bellevue Mayor

Washington County

Civil Defense
County Board Chairman
Blair Mayor
Blair City Administrator
County Sheriff
Blair Police Chief
Blair Fire Chief
Public Information Officer
Communications Officer
Public Welfare Director
Health Officer
American Red Cross

and communications. The administrative dedicated line could be fitted with a headset to facilitate continuous monitoring.

Dose assessment and protective action recommendations were coordinated between the SEOC, the FCP, and CRUSH. The FCP, at the EOF, served as the central point for the receipt and analysis of radiological monitoring data received from the field team dispatched by the State.

Coordination between Nebraska and Iowa concerning uniformity of protective action recommendations was demonstrated. This leared up a deficiency noted during previous exercises. Protective action areas were described in terms of familiar boundaries and landmarks thereby making instructions more clearly understandable by local residents. This also satisfied a previous deficiency.

The responsibility for evacuation and access control was a function of the counties. State assistance was available when requested. The Coast Guard was instructed to restrict river traffic on the Missouri River. The FAA was alerted to restrict air space.

As a precautionary measure, dairy cattle within the 10-mile EPZ were placed on stored feed at the Alert stage. Personnel from the State Department of Health, Agricultural, and Cooperative Extension were available to work with farmers, food processers, and other ingestion pathway industries to implement protective actions. Current information and maps were available depicting dairy farms, food processing plants, and produce crop farms. Protective actions pertaining to water supplies in the involved area were not necessary due to the exclusive use of deep wells and closed purification systems.

The use of KI for emergency workers was assessed on three separate occasions but was not recommended based on the lack of a radioiodine release.

The State's media release activities were implemented at the Media Release Center (MRC) and the Information Authentication Center (IAC). The IAC was located at

Coordination of activities and decision making between Iowa and Nebraska was excellent. Each State worked effectively with the other and with the utility. The cooperative effort and information sharing contributed to an overall effective operation.

The space and equipment available for State response personnel at the EOF were adequate for the functions they were to perform and were consistent with the State plan. The facility was comfortable with low noise levels and included sufficient space to avoid crowding.

The emergency staff from the State had unhindered access to the clearly displayed maps, status boards, and charts used by the utility. State personnel displayed all appropriate maps and charts.

Communication equipment included dedicated lines to the utility and the SEOC, commercial telephones, and radio links to the field personnel. Secondary communication lines to all involved operations was via commercial telephone. This is not an acceptable backup. The capability to implement conference calls was available with the SEOC. The administrative hotline used by Iowa personnel to communicate with the State and County EOCs functioned well. Equipped with a speaker phone, it also provided a direct link between the Nebraska staff at the EOF and the Iowa staff in Des Moines. Primary communication systems performed adequately to support the operations.

The SCDA public information officer (PIO) was responsible for drafting press releases to be transmitted to the Media Release Center (MRC). The IAC team drafted messages from the prescripted statements that appear in the plan, adding specific details to suit each different situation. The messages were composed through evaluation of protective action recommendations made by the utility and coordinated by the Director of the SCDA, the PIO, and the utility's operations officer. For specific evacuation and sheltering messages, Iowa was consulted thereby assuring that uniform and consistent information was released. All messages prepared by SCDA and the utility were mutually shared between the two states and were clear and appropriate to the situation.

to reassure the emergency staff and the public. Deployment of the field team should anticipate forecasted weather. It was noted that no attempts were made to ascertain future wind shifts and weather change information through the National Weather Service.

The use of KI for emergency workers was assessed on three separate occasions and was not recommended based on the lack of a radioiodine release.

Deficiencies That Would Lead to a Negative Finding

There were no deficiencies that would lead to a negative finding observed at the Forward Command Post - Information Authentication Center during this exercise.

Deficiencies and Recommendations

1. **Deficiency:** Data provided to the State dose assessment by OPPD orally was inconsistent with hard-copy data (NUREG-0654, II. F.1).

   Recommendation: The reason for the discrepancy should be determined and corrected.

2. **Deficiency:** The dose projections from OPPD's and the State of Nebraska models increasingly diverged with distance from the site boundary (NUREG-0654, II. I.10).

   Recommendation: The reasons for these differences should be determined and appropriate modifications made in order to provide uniform calculations and projections.

3. **Deficiency:** Direction and use of the Nebraska State field monitoring team was not efficient. Deployment of the field team was not performed with consideration of potentially changing weather conditions (NUREG-0654, II. I.11).

   Recommendation: Even though the plume's movement was away from Nebraska, the field team could have been used to obtain

use the scintillation counter. A checklist was used to verify the equipment which was contained in the vehicle. According to team members the equipment had been checked and calibrated a couple weeks prior to the exercise. Radiation equipment included a hand-held 0-200 mR/hr survey meter and a 0-50 R/hr full range ionization chamber instrument. Air sampling equipment operated on power from the vehicle and both charcoal and silver zeolite cartridges were available. Additional equipment included plastic jugs for water and milk samples, writing materials, labels for identification, containers, plastic collection bags and a scoop for soil or snow samples.

Technical operations demonstrated by the field team were good. The team exhibited an overall knowledge of proper field procedures and equipment operations. The team was directed to take air samples at each of the various sampling points visited during the exercise. Through discussion, team members demonstrated the knowledge of the proper techniques needed to obtain other types of field samples. The team was very familiar with the surrounding area and had no difficulty in locating preselected sampling points. Field readings were transmitted by radio to the State field team coordinator and dose assessment team at the EOF. Calculations were not performed in the field.

Radiological exposure control equipment and procedures were good. The team members were outfitted with simulated TLDs and two dosimeters (0-200 mR and 0-200 R). Dosimeters were charged, readings recorded, and issued to team members prior to deployment into the field. Readings were taken and recorded every half hour or whenever the team arrived at a new sampling location. A survey meter was kept operational in the vehicle to provide a continuous indication of counting rate, thus providing an indication if they were moving into the plume. KI was available with the supplies in the vehicle, but was not recommended for use during the exercise. The team personnel were familiar with the maximum dose allowed and what precautions should be taken if that limit was reached. This corrects a deficiency that was identified during a previous exercise. Additional protective equipment was available including air tanks with respirators, gloves, boots, and anti-contamination suits.

determined by gross counting. Laboratory procedures were followed correctly using written SOPs. A laboratory procedure manual is in preparation. The handling and analysis of a large number of samples was demonstrated. Thought has been given to the overall sample capability and the types and numbers of samples that would be referred to other laboratories. A commercial telephone was available to transmit analytical data to the EOF.

All equipment listed in the plan was available and functional. In addition, a 22% high purity germanium counter has been added to improve analytical data, an alpha spectrometer system will be in operation by November 1 and a liquid scintillation spectrometer was available in storage at the lab. Procedures were in place for proper maintenance and calibration of equipment at intervals recommended by the manufacturer. There were not sufficient reserves of instruments and equipment to perform all necessary laboratory analyses when units are removed for calibration or repair. Backup capabilities are available through existing agreements with other labs.

Round the clock staffing of the radiological laboratory was demonstrated through the presentation of a duty roster. There appears to be an adequate number of trained and qualified technical staff to support a continuous and complete analytical laboratory. This clears up a deficiency note during the previous exercise.

Deficiencies That Would Lead to a Negative Finding

There were no deficiencies that would lead to a negative finding observed at the radiological laboratory during this exercise.

Deficiencies and Recommendations

1. **Deficiency:** There are no procedures in place for proper disposal methods of field samples following laboratory analysis (NUREG-0654, II. I.8).

hour capability, thus clearing up a previous deficiency noted during an earlier exercise. Another deficiency cited during the last exercise dealt with the number of simulated activities and lack of real demonstrations. The variety of demonstrations provided during this exercise indicated that the personnel were adequately trained and could perform their respective tasks.

Deficiencies That Would Lead to a Negative Finding

There were no deficiencies that would lead to a negative finding at the Dana College Decontamination Center.

2.1.6 University of Nebraska Medical Center and Blair Rescue Squad

Overview

The Blair Rescue Squad provided ambulance service for the transfer of an injured-contaminated individual from the plant to the University of Nebraska Medical Center (UNMC). For demonstration purposes, an individual was transported to the UNMC during the exercise. Radio communications were demonstrated between the ambulance and the hospital. Following the removal of the patient, the ambulance and crew were properly monitored for contamination. The ambulance crew was not provided with appropriate protective equipment. This is an outstanding deficiency from the previous exercise.

The UNMC was fully prepared and equipped to receive injured-contaminated individuals. Several medical doctors and health (radiation) physicists were available and ready to assist. Procedures for dealing with injured-contaminated persons were thoroughly demonstrated. Contaminated areas were isolated from noncontaminated areas and equipment was available for analysis of smears, whole body (internal) measurements and thyroid scans. Overall, the health activities and professional performance at the hospital were excellent.

transmission. Backup communication to State and local EOCs and the EOF via radio was available but not demonstrated during the exercise.

No actual media representatives attended. Two OPPD staffers acted the role of press for the exercise. Demonstration of the media briefing function was hampered by the absence of actual media representatives. Five briefings were held; however, the original hourly schedule was not adhered to. As the exercise progressed, the briefings began to lag considerably behind events. For example, an evacuation was recommended at 1115, but was not announced to the press until 1200. News that the plant's core was no longer overheating reached the MRC at 1411, but was not given out until 1520. News briefings contained technical jargon and featured the licensee's representative simply reading the contents of emergency update messages. The lay press would likely have difficulty understanding this kind of presentation.

There were no discussions before press releases were made. Coordination and consultation among the PIOs was apparently hampered by the separate room assignments. This apparently was contrary to established room assignments. The releases themselves were the only form of information exchange.

The Nebraska staff had a small TV/radio to monitor local broadcasts, but it required installation of a special antenna for operation. No monitoring of broadcasts was done by either OPPD or Iowa. Someone should be responsible for constantly monitoring TV and radio broadcasts for inaccurate information.

Deficiencies That Would Lead to a Negative Finding

There were no deficiencies observed at the MRC that would lead to a negative finding during this exercise.

2.2 NEBRASKA COUNTY OPERATIONS

2.2.1 Sarpy County EOC

Overview

The staff at the Sarpy County EOC (SCEOC) demonstrated many of their basic radiological emergency functions, including activation procedures and use of primary communication links, and 24 hour staffing capability by roster. However, training and exercise experience are needed to allow demonstration of the full range of emergency responsibilities assigned to the SCEOC by the plan. Activation of the EOC took place unannounced and in real time due to a misconception on the part of response personnel as to where the exercise was to take place. However, once apprised of the exercise, the local emergency coordinator promptly set up the facility, arranged for telephone installations, and initiated radio contact with Bellevue City departments. AT&T had to be called in to set up some of the telephones. The facility was ready by about 0900. Call up of staff was begun after the county CD Director arrived. Staffing was not complete but all representatives had arrived by about 1000.

Management of the SCEOC needs improvement. Key decisions were often made by the CD Director without involving the staff. Some staff were not familiar with their role in the plan, and there were no checklists for reference. Distribution of information within the EOC was weak; there were no staff briefings and events were not regularly recorded on the status board. Message handling was adequate, but could be improved by using standardized forms, and recording all messages. Some contacts with the reception center were not properly logged.

The EOC facilities were very good. The room was well lit, quiet, and had enough space and telephones. Maps of evacuation routes and relocation areas were available.

2. Deficiency: Staffing of the SCEOC was not complete according to the plan (NUREG-0654, II. A.4, E.2).

   Recommendation: Additional training and drilling is recommended to ensure those agencies with emergency responsibilities perform their respective tasks.

3. Deficiency: A general lack of exercise-related information was observed at the SCEOC. Other emergency locations did not keep the County informed and the County did not solicit information (NUREG-0654, II. E.1, E.2).

   Recommendation: SCEOC should assume an active role in obtaining regular reports on exercise events if the other emergency locations fail to notify the County.

4. Deficiency: Some messages were not logged or properly followed up (NUREG-0654, II. E.5).

   Recommendation: Message handling could be improved by having message forms made up in advance, and by recording all messages.

5. Deficiency: Backup communication capabilities to other locations were not demonstrated (NUREG-0654, II. F.1).

   Recommendation: Emergency backup communication capabilities should be operational and demonstrated to function in future exercises.

6. Deficiency: EOC staff in general were not kept up to date on exercise events, were not familiar with their roles in the plan, and did not fully participate in decision making at the EOC (NUREG-0654, II. O.4).

   Recommendation: The County should establish a training program. Staff should review their radiological emergency roles,

Deficiencies That Would Lead to a Negative Finding

There were no deficiencies that would lead to a negative finding observed at the Bellevue Relocation Center.

Deficiencies and Recommendations

1. **Deficiency:** There are not an adequate number of monitoring personnel available to process the anticipated volume of evacuees in a timely manner. (NUREG-0654, II. J.12)

   Recommendation: Additional personnel should be trained in radiological monitoring techniques.

2.2.2 Washington County

Overview

The Washington County EOC (WCEOC) had sufficient space and facilities to support the required emergency response functions. Backup electrical power was available but was not demonstrated during the exercise. A status board was prominently displayed and maintained with current significant events. The emergency classification level was posted and updated as needed. All appropriate maps and displays showing the required information were posted.

At the Alert stage, a call from the Nebraska State EOC was received by the Washington County Sheriff's dispatch. The police dispatcher then notified the County Civil Defense Director to activate the EOC. A call down list was used to alert the EOC staff members. It was apparent that they were capable of maintaining a continuous 24-hour operation, presenting a roster to verify this. The staff displayed adequate training and knowledge in their emergency response functions.

Recovery and reentry activities were adequately addressed. Considerable planning and discussion of reentry procedures was demonstrated. One item not addressed in the planning, deals with the provisions for evacuated farmers to periodically enter and leave for necessary chores prior to allowing a total reentry of the populace.

Deficiencies That Would Lead to a Negative Finding

There were no deficiencies that would lead to a negative finding at the Washington County EOC.

Deficiencies and Recommendations

1. **Deficiency:** Permanent record dosimeters were not available for emergency workers at the EOC (NUREG-0654, II. K.3.a).

   Recommendation: Permanent record dosimeters are needed.

2. **Deficiency:** There are no procedures which would allow limited reentry of farm workers for necessary farm work (NUREG-0654, II. M.1).

   Recommendation: Provisions need to be specified for dealing with limited entry of farm workers into evacuated areas for daily chores and farm maintenance.

2.3 IOWA STATE OPERATIONS

This exercise was conducted under the Iowa State Compensatory Plan (SCP). The basis of the SCP is the assumption by the State of Functions which are normally those of the counties. Under the basic SCP the counties are responsible only for the activation of the siren system upon direction from the State. Inherent in this is the counties' concommitant understanding of their limited roles.

also by commercial phone line. This does not constitute an adequate backup system. Other arrangements should be made.

In past exercises there have been no demonstrations of backup communication with the licensee, the EOF, and support hospitals. Neither was it observed during this exercise.

The dose assessment center within the SEOC was staffed and mobilized promptly. Communications were conducted successfully although a number of minor problems developed. These included the telefax machine running out of paper and noise encountered on some phone lines necessitating the use of other telephones.

Dose assessment calculations were performed promptly at the SEOC both on a computer and on a programmable calculator. Dose projections were in reasonable agreement with plant, EOF, and observer calculations.

The field teams were directed by the Field Team Coordinator located at the Harrison County EOC. Appreciable delays in receiving data from the field teams were experienced at the SEOC. The plume appeared to be defined correctly, but the teams may have been able to do this more expeditiously. Data from the field teams was recorded on a field monitoring team status board. In addition it is recommended that data be plotted on a map to facilitate clarity.

Protective action recommendations were based on plant status and emissions, meteorology and estimated evacuation times. Field data was also used. Plume pathway protective actions were coordinated with Nebraska. Protective action decisions were reviewed and updated as conditions changed. The use of KI was discussed and procedures were in place but no recommendation was made for its use because there was no indication of any release of radioiodines. Decision making for ingestion pathway hazards was reported to be the responsibility of the Forward Command Post.

The SEOC was the decision making authority on all alert and notification systems. Sirens were sounded within 15 minutes of the Site Area Emergency declara-

Deficiencies That Would Lead to a Negative Finding

No deficiencies were observed at the SEOC that would lead to a negative finding during this exercise.

Deficiencies and Recommendations

1. **Deficiency:** The location of the reception center was not specified or in the EBS message to the public (NUREG-0654, II. E.5).

   Recommendation: EBS messages should specifically identify the reception center evacuees are to go to.

2. **Deficiency:** Delays were experienced in receiving data from the field monitoring teams (NUREG-0654, II. I.8).

   Recommendation: The delays experienced should be investigated and corrected.

3. **Deficiency:** The scenario did not adequately test decision making regarding administration of KI. (NUREG-0654, II. N.1.a).

   Recommendation: Future scenarios should be designed to permit source term containing radioiodines.

4. **Deficiency:** The use of commercial telephone as a backup to a commercial telephone as the primary communication is not acceptable. (NUREG-0654, II, F.1.a).

   Recommendation: An alternate form of backup communication should be devised.

closer to the coordinator, a short occurred and the line was lost. A rad-data conference line was also used to transmit data. A speaker phone was added early in the exercise and it functioned well. Later the speaker was removed when it was suspected of causing phone line problems. However, by disconnecting the speaker phone, the conference call was lost and one hour was required to reestablish the connection. Using a regular phone handset was inconvenient and this line was not of much use thereafter. A telecopier was also available but transmission problems were experienced and it could not be relied upon. A backup phone was available and contact was with the radiological communicator at the SEOC who relayed the radiological data. However, this line was not continuously monitored in Des Moines. Because so many important lines of communication failed, much data and exchange of information were lost. Very little licensee field data were provided and no attempt was made to coordinate licensee and State field team operations. It is recommended that a direct communication line between the coordinator and field teams be installed and that the many problems experienced with the other communication systems be investigated and corrected.

The foregoing ostensibly implies communication problems of some magnitude. It should be pointed out, however, that while various lines of communication failed, alternatives were always available. At no time was there an inability to call out or in via various lines.

This is not to weaken the recommendation that the entire communications layout should be reviewed and revised. Rather it is to explain that the ability to protect the health and safety of the population was never absent.

Dose assessment was performed quickly and accurately, although the scenario provided few opportunities where it was required. Assessments were received from the licensee and compared and then checked by the SEOC. Teams were directed to define the plume. Better team communication would have improved operations. Coordination of team operations with the licensee would make better use of the resources. Protective

Recommendation: The problems experienced with the communication systems should be investigated and corrected.

2. Deficiency: The scenario did not adequately exercise all of the Iowa objectives with regards to field radiological activity (NUREG-0654, II. N.1.a).

   Recommendation: Future scenarios should be designed to more fully exercise field radiological response.

2.3.3 Field Monitoring Teams

Overview

Field team activation and mobilization was not an exercise objective. According to the participants, a notification procedure is in place so that field team members can be activated and mobilized during both duty and off-duty hours. Two field teams participated in the exercise, a Blue team and a Green team. A handwritten list of equipment used by the field monitoring team was carried in the field team procedure notebook. It is recommended that the list be formalized and made a permanent part of the procedure notebook and the State Plan.

The field teams had the proper radiation monitors, air and environmental sampling equipment to adequately perform their tasks. All equipment used had been calibrated within the past three months, as called for by State procedures. Stickers indicating the last calibration date were affixed to each instrument. Iowa State Patrol vehicles were used by the field teams and although they had sufficient space for the team and equipment, it is questionable if the vehicles could operate over these roads under severe weather conditions. The Iowa State Patrolmen accompanying the teams knew the region well and easily located the sampling locations.

Deficiencies That Would Lead to a Negative Finding

There were no observed deficiencies that could lead to a negative finding.

2.3.4 Medical Drill

Overview

The emergency response capability of the University of Nebraska Medical Center (UNMC) was observed during this exercise. The emergency room used at the hospital had a separate air circulation system and waste water retention capability to prevent the spread of contamination. Security procedures restricted access to the emergency room. The plant and the radiological laboratory could be contacted by telephone and the ambulance could be contacted via radio.

A hunting accident was simulated during the exercise. The "victim" was discovered by a field monitoring team who called an ambulance. In the meantime, the field team monitored the "victim" and stated no contamination was present. Although the "victim" was declared not to be contaminated, ambulance personnel wrapped the "victim" in sheets to prevent spread of contamination. The ambulance crew had dosimeters and a survey meter but did not have protective clothing. Radio transmissions between the ambulance and the UNMC were not very clear until the ambulance was only a few miles from the UNMC. This appears to be due to inadequate radio equipment. Upon arrival at the UNMC, the ambulance driver was unfamiliar with the separate entrance to the emergency room for radiological emergencies. Furthermore, hospital security did not recognize the ambulance as a potential radiological emergency until told by the ambulance crew. It may be helpful to have a window sticker on the ambulance to indicate this. The vehicle and crew were then monitored and the patient admitted.

The patient was brought into the isolated emergency room and monitored for contamination. Swabs were taken from the nose and wound and were monitored for

Deficiencies and Recommendations

1. **Deficiency:** Radio communications between the ambulance and the UNMC were not adequate until the ambulance was only a few miles from the UNMC (NUREG-0654, II. F.2).

   Recommendation: The cause of the radio transmission difficulty should be investigated and corrected.

2. **Deficiency:** The ambulance driver was unfamiliar with the entrance to the UNMC emergency room (NUREG-0654, II. L.1).

   Recommendation: Ambulance drivers should be familiar with the proper entrance to use in an emergency. This should be in the training referred to above in No. 1.

2.4 IOWA COUNTY OPERATIONS

The State Compensatory Plan was in operation. Refer to p. xiii.

2.4.1 Harrison County Operations

Overview

The call initiating activation of the Harrison County EOC (HCEOC) was received at 0820 by a commercial telephone call from the Iowa Office of Disaster Services. This call was verified and the rest of the staff was mobilized. The EOC staffing was in accordance with the state plan and the staff displayed good knowledge of their roles. Round-the-clock notification of staff can be achieved by commercial telephone calls or via a pager system. There was no demonstration of a shift change, but this was not an objective of the exercise. (However, there were backup personnel for the Iowa Conservation Commission and the Iowa Dept. of Transportation.)

field verification that the sirens did not sound initially. On a second attempt, it was confirmed that the sirens sounded. When sirens fail to sound in a particular area and the EBS message has been transmitted, EBS should be recontacted and asked to rebroadcast the message when the sirens are activated.

There was good coordination between Iowa Highway Patrol, National Guard, and the Iowa Department of Transportation (IDOT). Activation of traffic control points, road blocks and barricades were promptly ordered. The IDOT also contacted the railroads who participated in the exercise by simulating control of rail traffic. IDOT indicated they had sufficient resources to handle all traffic and access control points. However, the County only had sufficient manpower and vehicles to control access up to a radius of 5 miles before they would need assistance from the National Guard or Highway Patrol. IDOT personnel were issued dosimeters as they were sent into the field. Appropriate and sufficient quantities of dosimeters and TLDs were available for all emergency workers. An adequate supply of KI was available and procedures for its distribution were known, but the scenario did not necessitate its use.

The special evacuation went very well. The HCEOC staff maintained a current list of special needs and mobility-impaired individuals located at schools, hospitals and nursing homes. All individuals in these categories were actually called and later notified when the exercise was over. The use of tone alert radios could increase the efficiency of these notifications. No action was taken relative to ingestion pathway protection as there were no diary farms, food processing plants or water supply points in the affected areas. Activation of the Crawford County reception area was simulated.

Two press briefings were held at the HCEOC to inform the press of the local situation. The press was then referred to the MRC to get an overall picture. The CD Director conducted the briefings since the State Liaison Officer was unavailable at the time. Although the State Liaison Officer is the official media contact person, it may be helpful to include the CD Director during briefings. Briefing packets were available for representatives of the media.

2.4.2 Pottawattamie County Operations

Overview

The call initiating activation of the Pottawattamie County EOC (PCEOC) was received at 0827 from the licensee over a dedicated line to the Sheriff's dispatcher, a 24-hour facility. As this was a dedicated line, the call was not verified. The Pottawattamie County Civil Defense staff was already at the office when this occurred and received duplicate notification that the "exercise had started" from the SEOC; this was received over commercial telephone. The State Liaison Officer was prepositioned in the area and arrived at the PCEOC at 0800. Arrival at this early hour did not allow for the three hour travel time from Des Moines. The Iowa State Patrol and County Sheriff were not prepositioned and arrived at the EOC at 1030. The State Patrol representative did not receive notification to report to the PCEOC from State Patrol District 3 as his procedures specified. He voluntarily reported to the EOC. An up-to-date, written call list for PCEOC staff was available; notification calls were simulated. Basic staffing was completed by 0800. Staff notification was initiated by the communication dispatchers; upon notification, the CD Director completed the EOC staff notifications. The basic EOC staffing was in accordance with the State Plan. The staff displayed good knowledge of their roles. Other than the State liaison, round-the-clock staffing was demonstrated, the CD Director by double staffing and all other agencies operate on a round the clock basis.

The Pottawattamie County CD Director was effectively in charge as is designated in local plans. The small size of the EOC made it possible for all phone conversations and incoming messages to be heard by all of those present. Therefore, briefings were not necessary. Decision making included all appropriate staff members and was done in accordance with the State Plan. The Plan was available for reference; however, there were no written checklists or procedures available for the EOC staff.

Potassium iodide was not recommended for emergency workers, selected populations, or the general population. However, adequate supplies of KI were available for the ambulance provider, Sheriff's office, and the PCEOC. The Pottawattamie County Pharmaceutical Coordinator was responsible for KI storage and distribution. He was on call throughout the exercise (as he is routinely) to consult on this issue had this been requested by the SEOC.

The PCEOC fulfilled its planned role for public alerting. Upon request from the SEOC; the PCEOC sounded the sirens. This was done after the declaration of the Site Area and General Emergency. Because of the problems with the conference line, calls initiating the Site Area Emergency and subsequent siren soundings came from the licensee. The State Liaison Officer made the decision to sound the sirens. At the General Emergency, the SEOC notified Pottawattamie County of the General Emergency and requested sounding of the sirens. In accordance with the State Plan, the Pottawattamie County EOC followed the State EOCs directives on siren activation without engaging in its own level of decision making. Emergency public instructions were not drafted at the PCEOC. The EBS message followed the sirens at the Site Area Emergency by 5 minutes. However, at the General Emergency, the State delayed by 21 minutes in issuing the EBS message after they requested the sirens in Pottawattamie County be activated.

Activation of access control points was promptly ordered and was simulated. Appropriate discussions as to what resources were required, traffic volume and other logistics were conducted by the Iowa State Patrol representative at the PCEOC and his counterpart at the SEOC. According to the EOC staff, personnel and equipment were available to deal with problems encountered in the field. No evacuation took place in Pottawattamie County; however, the EOC had lists of mobility-impaired individuals. Arrangements for transport of those people would be handled by the State FCP at Harrison County.

3. **Deficiency:** Conferencing capability on the commercial telephone was unreliable. It ceased functioning at one point and frequent problems were encountered in receiving transmissions (NUREG-0654, II. F.1.b).

   Recommendation: The problems encountered with the conferencing capability should be investigated and rectified.

4. **Deficiency:** Backup communication was a commercial telephone. This is not adequate when the primary means is also a commercial phone line. (NUREG-0654, II.F.1).

   Recommendation: Provide a backup communication system different from the primary mode.

5. **Deficiency:** The EOC was inadequate with regards to size, furnishings, and communications capabilities required for an ongoing response (NUREG-0654, II. H.3).

   Recommendation: A new EOC facility is currently under construction. The completion of the new facility should be a top priority.

6. **Deficiency:** The scenario did not provide an adequate opportunity to test KI decision making at the PCEOC (NUREG-0654, II. N.1.a).

   Recommendation: Future scenarios should be designed to test all objectives at a location.

7. **Deficiency:** At the General Emergency there was a 21 minute delay of the EBS message after the sirens were sounded (NUREG-0654, Appendix 3B).

   Recommendation: Since the EBS message should follow the sounding of the sirens by no more than 15 minutes, the reason for the delay should be investigated and corrected.

emergency networks. Also, updates on emergency conditions, weather, protective actions, evacuation routes, and relocation centers should be forwarded regularly. Such calls should not be "simulated," as they were during this exercise.

Emergency information brochures were available in the brochure rack at the Refuge headquarters and at the visitor center. A brochure was also posted on the bulletin board at the boat launch/beach.

Refuge staff were equipped with pocket dosimeters and had three CDV-715 survey meters however the batteries were dead. No permanent record dosimeters (TLDs or film badges) or potassium iodide tablets were available at the Refuge.

Deficiencies That Would Lead to a Negative Finding

There were no deficiencies that would lead to a negative finding observed at the DeSoto National Wildlife Refuge during this exercise.

Deficiencies and Recommendations

1. **Deficiency:** Communications with state and local response agencies were limited by equipment and procedural problems.

   Recommendation: Since the Refuge includes parts of both Iowa and Nebraska and is very close to the Fort Calhoun site, the Refuge should have two-way radio communications on each States' emergency network. The Refuge Manager should get regular reports on emergency conditions, or at least be able to monitor emergency radio traffic.

NUREG Element	RAC Recommendation Corrective Action	State (S)/County (C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	NEBRASKA OPERATIONS					
F.1	**Forward Command Post - Information Authentication Center** 1. **Deficiency:** Data provided to the State dose assessment by OPPD orally was inconsistent with hard-copy data. **Recommendation:** The reason for the discrepancy should be determined and corrected.					
I.10	2. **Deficiency:** The dose projections from OPPD's and the State of Nebraska models increasingly diverged with distance from the site boundary. **Recommendation:** The reasons for these differences should be determined and appropriate modifications made in order to provide uniform calculations and projections.					

NUREG Element	RAC Recommendation Corrective Action	State (S)/County (C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	Radiological Laboratory					
I.8	1. **Deficiency:** There are no procedures in place for proper disposal methods of field samples following laboratory analysis. **Recommendation:** Disposal procedures should be developed to insure proper and safe elimination of contaminated samples.					
	University of Nebraska Medical Center and Blair Rescue Squad					
I.	1. **Deficiency:** The Blair Ambulance Rescue Squad new was not provided with radiation protection equipment. **Recommendation:** All appropriate radiation protection equipment should be provided to rescue squads and ambulance services involved in the transport of injured-contaminated individuals.					

NUREG Element	RAC Recommendation Corrective Action	State (S)/County (C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	NEBRASKA COUNTY OPERATIONS					
	Sarpy County EOC					
A.2.a	1. **Deficiency:** Protective actions including the activation of the congregate care shelter and placement of roadblocks were not coordinated among the SCEOC staff. **Recommendation:** Future exercises should be conducted such that protective measures will be taken if, and when directed by the SCEOC so that coordination, decision making, and timing can be evaluated at the SCEOC.					
A.4 E.2	2. **Deficiency:** Staffing of the SCEOC was not complete according to the plan. **Recommendation:** Additional training and drilling is recommended to ensure those agencies with emergency responsibilities perform their respective tasks.					
E.1 E.2	3. **Deficiency:** A general lack of exercise-related information was observed at the SCEOC. Other emergency locations did not keep the County informed and the County did not solicit information. **Recommendation:** SCEOC should assume an active role in obtaining regular reports on exercise events if the other emergency locations fail to notify the County.					

NUREG Element	RAC Recommendation Corrective Action	State (S)/County (C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	Bellevue Relocation Center					
J.12	1. **Deficiency:** There are not an adequate number of monitoring personnel available to process the anticipated volume of evacuees in a timely manner. **Recommendation:** Additional personnel should be trained in radiological monitoring techniques.					
	Washington County					
K.3.a	1. **Deficiency:** Permanent record dosimeters were not available for emergency workers at the EOC. **Recommendation:** Permanent record dosimeters are needed.					
M.1	2. **Deficiency:** There are no procedures which would allow limited reentry of farm workers for necessary farm work. **Recommendation:** Provisions need to be specified for dealing with limited entry of farm workers into evacuated areas for daily chores and farm maintenance.					

NUREG Element	RAC Recommendation Corrective Action	State (S)/County (C) Response (ACTION)	Proposed Completion Date	FEMA Evaluation of State/County Response	Response Adequate (A) Inadequate (I)	Remedial Action Complete (C) Incomplete (I)
	Field Command Post					
F.1.b	1. **Deficiency:** The problems encountered with the administrative conference line, the rad-data conference line, and the telecopier caused much data and exchange of information to be lost. **Recommendation:** The problems experienced with the communication systems should be investigated and corrected.					
N.1.a	2. **Deficiency:** The scenario did not adequately exercise all of the Iowa objectives with regards to field radiological activity. **Recommendation:** Future scenarios should be designed to more fully exercise field radiological response.					
	Medical Drill					
A.3 C.4	1. **Deficiency:** The ambulance services covering Harrison and Pottawattamie Counties do not have adequate training and equipment to allow them to fulfill the terms of the letters of agreement and provide the required assistance in Pottawattamie and Harrison Counties in the event of a radiological accident at the Fort Calhoun Station. **Recommendation:** Required training and equipment must be provided.					

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F.1.b	2. **Deficiency:** The location of the administrative hotline caused it to be unstaffed for periods of time. **Recommendation:** It is recommended that the telephone be relocated or a staff person assigned to continuously monitor it.					
G.4.g	3. **Deficiency:** Some EOC staff members had not received copies of the state plan. **Recommendation:** All EOC staff members should be given personal copies of the plan.					
	Pottawattamie County Operations					
E.1	1. **Deficiency:** The state liaison officer was prepositioned and arrived at the EOC at the start of the exercise. This was unrealistic since the early arrival did not allow for the three hour drive from Des Moines. **Recommendation:** In future exercises precautions should be taken to prevent prepositioning of participants so that activation and staffing can be better evaluated.					

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N.1.a	6. Deficiency: The scenario did not provide an adequate opportunity to test KI decision making at the PCEOC. Recommendation: Future scenarios should be designed to test all objectives at a location.					
App. 3H	7. Deficiency: At General Emergency there was a 21 minute delay of the EBS message after the sirens were sounded. Recommendation: Since the EBS message should follow the sounding of the sirens by no more than 15 minutes, the reason for the delay should be investigated and corrected.					
	DESOTO NATIONAL WILDLIFE REFUGE					
	1. Deficiency: Communications with state and local response agencies were limited by equipment and procedural problems. Recommendation: Since the Refuge includes parts of both Iowa and Nebraska and is very close to the Fort Calhoun site, the Refuge should have two-way radio communications on each States' emergency network. The Refuge Manager should get regular reports on emergency conditions, or at least be able to monitor emergency radio traffic.					