U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-315/92019(DRSS); 50-316/92019(DRSS)

Dockets No. 50-315; 50-316 Licenses No. DPR-58; DPR-74

Licensee: Indiana Michigan Power Company
1 Riverside Plaza
Columbus, OH 43216

Facility Name: D. C. Cook Nuclear Power Plant, Units 1 and 2

Inspection At: D. C. Cook Site, Bridgman, Michigan

Inspection Conducted: November 9-11, 1992

Inspector: H. Simons — H. Simons — 11/19/92 Date

C. Cox — 11/20/92 Date

A. Markley — 11-19-92 Date

R. Paul — 11/20/92 Date

Accompanying Personnel: J. Isom
D. Draper
D. Hartland

Approved By: J. W. McCormick-Barger — J. W. McCormick-Barger, Chief
Emergency Preparedness and
Non-Power Reactor Section — 11/24/92 Date

Inspection Summary

Inspection on November 9-11, 1992 (Reports No. 50-315/92019(DRSS); 50-316/92019(DRSS))

Areas Inspected: Routine, announced inspection of D. C. Cook's emergency preparedness exercise involving review of the exercise scenario (IP 82302), and observations by seven NRC representatives of key functions and locations during the exercise (IP 82301).

Results: No violations or deviations were identified; however, five exercise weaknesses were identified. The Shift Supervisor (SS) in the control room simulator failed to declare an Unusual Event as was required by the emergency plan (Section 5a). The SS failed to properly implement the emergency plan and initiate the activation of the EOF at the Alert (Section 5a). Overall, there

was a lack of adequate command and control in directing the onsite emergency response efforts (Section 5a). The emergency response teams were not dispatched in a timely manner (Section 5c). The post accident sampling team failed to demonstrate their capability to perform post accident sampling and analysis within three hours from the time a decision was made to obtain a sample (Section 5d). Finally, concerns associated with the use of proper contamination controls were identified. This concern will be tracked as an inspection followup item (Section 5d).

DETAILS

1. NRC Observers and Areas Observed

H. Simons, Control Room Simulator (CRS), Emergency Operations Facility (EOF)
J. Isom, CRS
D. Draper, Technical Support Center (TSC)
A. Markley, Operational Staging Area
D. Hartland, TSC
C. Cox, EOF
R. Paul, field monitoring teams

2. Persons Contacted

E. Fitzpatrick, Vice President, Nuclear Operations
A. Blind, Plant Manager
K. Baker, Assistant Plant Manager, Production
L. Gibson, Assistant Plant Manager, Projects
R. Krieger, Emergency Preparedness Coordinator
S. Colvis, Corporate Emergency Preparedness Coordinator
J. Sampson, Operations Superintendent
R. Heydenburg, Computer Services

The personnel listed above and others attended the NRC exit interview on November 11, 1992.

The inspectors also contacted other licensee personnel during the inspection.

3. General

An announced, daytime exercise of the licensee's Emergency Plan was conducted at the D. C. Cook Plant on November 10, 1992. The licensee received an exemption from full participation with the state and counties; therefore, this was a utility only exercise. The exercise tested the licensee's emergency response organization's capabilities to respond to an accident scenario resulting in a simulated minor release of gaseous radioactive effluents. Attachment 1 describes the scope and objectives of the exercise. Attachment 2 summarizes the exercise scenario.

4. General Observations

The licensee's response was coordinated, orderly and generally timely. If scenario events had been real, the actions taken by the licensee would have been sufficient to mitigate the accident and permit state and local authorities to take appropriate actions to protect the public's health and safety.

5. Specific Observations (IP 82301)

a. Control Room Simulator (CRS)

The control room simulator (CRS) was used to drive the exercise and provided for a realistic response to scenario events by the operators. The exercise began with Unit 2 in the last 15 minutes of a 72 hour limiting condition for operation (LCO) due to a centrifugal charging pump being out of service. The Shift Supervisor (SS) began making preparation for the controlled shutdown of Unit 2 and properly began the shutdown when the LCO had expired. The SS failed to recognize that these conditions warranted an Unusual Event (UE) declaration per the emergency plan. The failure to declare an UE is considered an Exercise Weakness (Item No. 315/92019-01 and 316/92019-01).

Subsequently, the controllers prompted the SS to declare the UE to preserve the scenario timeline. The SS did an excellent job monitoring the emergency action levels after this declaration. He also did a good job initiating notifications to the emergency response organization and the offsite agencies.

When the controlled shutdown of Unit 2 began, the Operations Superintendent came to the CRS to observe the shutdown. After the UE was declared the SS took responsibility for the emergency response as the Site Emergency Coordinator (SEC). The Operations Superintendent remained in the CRS and assisted the SS in his duties. However, the licensee's emergency plan organization chart does not specify this position nor does it specify this person's role and responsibilities in the control room.

During the controlled shutdown of Unit 2, there was a loss of all control room annunciators. The SS properly classified this event as an Alert. The operators did a good job trouble shooting the loss of annunciators. The SS also made the prudent decision not to continue the shutdown without the annunciators. However, there was no procedure for the loss of annunciators to guide the operators in responding to such an event.

At the Alert declaration, the emergency plan requires that the Technical Support Center, Operations Staging Area, and the Emergency Operations Facility (EOF) be activated. When the SS declared the Alert, he improperly decided not to activate the EOF. The failure to properly implement the emergency plan and initiate the activation of the EOF at the Alert is considered an Exercise Weakness (Item No. 315/92019-02 and 316/92019-02).

Approximately 45 minutes after the loss of annunciators, the operators recognized that there was a large reactor coolant system leak. They manually tripped the reactor and initiated safety injection. The response by the operators to these events and others was excellent. The SS properly declared a Site Area Emergency. The Plant Manager arrived in the CRS shortly thereafter and received a briefing from the SS on the plant conditions and emergency response efforts. At this time the SS appeared unclear

as to the status of visitor access, the condition of the plant, and evacuation of non-essential personnel.

The control room operators' performance in response to various simulated plant system failures was excellent. The control room team correctly diagnosed all simulated plant system failures in a timely manner. The unit supervisor demonstrated good command and control of the operators. Under his strong supervision, the operators took quick and aggressive actions to mitigate degradation of safety parameters caused by the simulated plant failures. In particular, the inspectors noted quick identification of a loss-of-coolant accident (LOCA), and quick identification and diagnosis of the loss of reactor water inventory outside containment during the post-LOCA recirculation phase. The inspectors observed that control room operators awareness and sensitivity to changes with the various plant parameters and their quick and aggressive actions to mitigate these simulated accidents were a strength.

Additionally, the inspectors noted that the operators implemented their emergency operating procedures well. In cases where mistakes were made, the inspectors noted that these mistakes did not significantly affect the recovery actions and that the operators promptly corrected their errors.

Overall command and control of the emergency response efforts from the control room was weak. The Operations Superintendent performed many of the SEC's tasks which made it unclear who was in charge. The CRS was overcrowded. At one time there were 11 people in the front of the CRS with three people in the back. The SS did not provide any briefings to the CRS staff until after the SAE declaration. The SS did not assign the Shift Technical Assistant (STA) to perform any tasks. Although the STA is in the CRS to independently assess conditions, he is also available to take direction from the SS. After the loss of annunciators it took one hour and 15 minutes to get a repair team to the CRS. No one appeared to take responsibility for getting these teams dispatched in a timely manner. The lack of adequate command and control in directing the emergency response efforts is considered an Exercise Weakness (Item No. 315/92019-03 and 316/92019-03).

No violations or deviations were identified; however, three exercise weaknesses were identified.

b. Technical Support Center (TSC)

The Technical Support Center (TSC) was staffed and activated in a timely manner following the Alert declaration. The TSC Director received a briefing in the control room simulator prior to arriving at the TSC and provided his staff with a plant status upon his arrival. At this time, the SS remained in command and control of the emergency response efforts as the Site Emergency Coordinator. Thus, the efforts of the TSC Director and his staff were in support of the SS in the CRS.

The TSC Director did an excellent job providing briefings to the TSC staff. Communications within the TSC and with the other facilities were good. The only notable exception was when the TSC Director did not become aware of the General Emergency declaration until approximately 20 minutes after the declaration was made. Status boards were accurately and promptly maintained. The plant status board was updated at less than 10 minute intervals. The priority board became somewhat cluttered and difficult to read as priorities changed and updates to the board were made. As a result, the licensee has begun evaluating improvements to the use of the priority board, including possibly grouping priorities by functional areas, such as mechanical, I&C, and chemistry. The response team communicator in the TSC provided briefings to the Operations Staging Area (OSA) on a regular basis.

Command and control within the TSC was good. The technical staff assessed plant conditions, such as core subcooling margin and containment radiation levels, on a continual basis. In response to high containment water level and the potential for dilution of the reactor coolant, the staff monitored the source range nuclear instrumentation count rate for changing core reactivity levels. The TSC Director frequently consulted with his staff to maintain awareness of changing plant conditions. The inspectors noted one example of conflicting assessments that were provided by the staff which resulted in some confusion. The TSC Director appeared to question the assessment of one staff member, who reported that no core damage had occurred, after another member remarked that containment radiation levels were too high not to have core damage.

The TSC staff also provided a number of good recommendations to the SS and the control room operators. The most notable example was the use of the Emergency Power (EP) transformer to initially energize a bus following isolation of the fault to prevent potential damage to the reserve power transformer.

No violations or deviations were identified.

c. Operations Staging Area (OSA)

Overall, the Operations Staging Area performed adequately. Problems were noted in the effectiveness and efficiency in the performance of OSA functions.

The OSA was declared manned, ready, and habitable at 52 minutes following the declaration of the Alert. The OSA was staffed and activated in an organized manner. The OSA staffing levels were good with an excellent level of radiation protection support. Communication links with the other facilities were quickly established and maintained throughout the exercise.

Plant status and Operations Staging Area Manager (OSM) status boards were well maintained. Some minor problems were noted with the staffing and response team status board and the tracking of some teams. A team of radiation protection technicians (RPTs) responsible for performing initial habitability surveys of the OSA

were not officially tracked as a team. One driver for an offsite monitoring team was not identified as a member of the team and his name remained on the status board indicating he was an available resource.

The OSM conducted periodic briefings in the OSA regarding plant and emergency response team (ERT) status. The frequency of the briefings was usually good; however, a few times there was 45 minutes between briefings. The ERT briefings and debriefings were generally good. On occasion, the OSM appeared too involved in the conduct of these detailed briefings, rather than focusing on coordination with counterparts and other supervisory tasks.

The OSM established a non-aggressive goal of 30 minutes for dispatching ERTs. The ERT dispatch time from the OSA varied between 20 and 72 minutes from the time that the request was received. Nine ERTs were formed and dispatched during the exercise. The following are examples of untimely dispatch of the ERTs:

- The RPT and Chemistry Tech, sent to the Chemistry offices to get the normal Reactor Coolant System (RCS) chemistry data, took 20 minutes to get dispatched.

- The team sent to check the fuses related to the loss of annunciators was given multiple tasks and took 46 minutes to get dispatched.

- The team sent to check problems on the residual heat removal (RHR) system pump took 53 minutes to get dispatched.

- The post accident sample system (PASS) team sent to obtain a sample from the steam generator took 48 minutes to get dispatched.

- The PASS team sent to take an RCS sample from the containment sump took 72 minutes to get dispatched.

- The operations team sent to rack out a breaker, which was a very high priority job, took 36 minutes to get dispatched.

Overall, the average dispatch of all ERTs from the OSA was approximately 40 minutes from the time the request was received. Failure to demonstrate capability to dispatch ERTs in a timely manner is considered an exercise weakness (Item No. 315/92019-04 and 316/92019-04).

No violations or deviations were identified; however, one exercise weakness was identified.

d. Post Accident Sampling Team

The inspectors accompanied one of the PASS teams. Although initial instructions regarding radiological conditions appeared too conservative with respect to turn-back instructions of 800 mr/hr

and accumulated dose of 1 Rem, exposure control for this team was very good. Radiological conditions and accumulated exposures were continually monitored and low dose waiting areas were identified. However, the RPT did not gather radiological information from installed monitoring equipment nor did the RPT advise OSA of radiological conditions encountered en route, as instructed.

Demonstration of knowledge and use of self-contained breathing apparatus (SCBA) equipment was adequate. However, the RPT was unable to demonstrate a negative pressure seal test since the RPT wore a beard. This RPT also did not have his glasses insert for the respirator mask.

The inspectors noted multiple examples of improper contamination controls. All three members of the PASS team were observed rubbing their noses and faces with protective gloves. Two members were observed holding a telephone receiver and protective gloves against their face. One Chemistry Technician (CT) was observed to use the outer portion of the protective clothing hood to wipe sweat from the face with an open mouth. Failure to demonstrate proper contamination controls is an Inspection Followup Item (No. 315/92019-05 and 316/92019-05).

During the performance of PASS activities, CTs utilized applicable procedures and contacted OSA management, as necessary, to conduct sampling activities. However, demonstration of PASS activities was restricted due to contamination control and equipment operability concerns. The RPT did not appear to be familiar with PASS sampling methods. The RPT was unaware that several PASS cabinets that were posted with internal contamination labels would require opening to confirm PASS valve lineups. The RPT was also not prepared to control the spread of contamination at the job site. In addition, a portion of the PASS was inoperable. As a result, an extensive amount of simulation was required to perform PASS activities.

Procedure 12 THP 6020 PAS.005 required independent verification of PASS valve and switch lineups. These independent verifications were not performed. Rather, one individual would call out valve and switch positions while the other CT confirmed or simulated system alignment.

The request for a post accident sample was communicated to OSA management at 10:15 hours. This request was redirected for a different sample at 10:30 hours. The PASS team was not dispatched from the OSA until 11:27 hours. Upon dispatch, the PASS team obtained their self-contained breathing apparatus and proceeded to the PASS job site. Upon completion of sampling system lineups, the PASS team initiated the requisite purging of lines and drawing of samples. At 13:04 hours, the controller moved the time clock ahead approximately one hour to 14:04 hours for completion of sample line purging. At this time, the sample was isolated. According to licensee personnel, another 15 minutes were required to remove the sample and restore the system configuration. At this point, the exercise was terminated. Presumably, the licensee would have required an additional 30 minutes to an hour to remove the sample

from the plant, perform analyses, and report results. Estimated time of completion would have been between 14:49 and 15:19 hours. This corresponds to an elapsed time of approximately 4 1/2 to 5 hours from the time the sample was requested.

Failure to demonstrate capability to perform post accident sampling and analysis within 3 hours from the time a decision was made to obtain a sample is an exercise weakness (Item No. 315/92019-06 and 316/92019-06).

No violations or deviations were identified; however, one exercise weakness and one inspection followup item were identified.

e. Emergency Operations Facility (EOF)

Activation of the Emergency Operations Facility was very good. Minimum staffing was established within 48 minutes of the Alert declaration despite the fact that the Shift Supervisor did not intend to activate the facility at that time. The facility was declared operational for communications and dose assessment within one hour of the Alert declaration. As EOF personnel arrived, they assumed their areas of responsibility, reviewed procedures, and activated equipment with little delay.

Turnover briefings were excellent. The EOF Manager and the initial Recovery Manager received good briefings from the CRS personnel and conducted excellent turnover briefings between themselves and the Corporate Recovery Manager when he arrived at the EOF.

Update briefings in the EOF were excellent with the EOF Manager and Recovery Manager working together to provide frequent and informative updates.

Overall dose assessment activities were excellent. The initial director briefed his staff of possible consequences related to existing plant conditions and in particular had them closely monitor for possible leaks associated with the residual heat removal (RHR) system due to previous equipment history. The leader of the dose assessment group immediately identified the RHR leak and associated release path. Briefings and directions to the field teams were excellent.

The decision to go to a General Emergency and recommend an evacuation of the public was very conservative. This decision did not take into account the plant condition involving core damage. Containment monitors indicated very little core damage and the reactor vessel level indication system indicated that core water level had stabilized. While this decision was conservative, the consensus building and discussions related to this decision with the state were very good.

The recovery effort in the EOF was very good. The Recovery Manager developed a short term and long term goals checklist on a board and assigned functional managers to each area for action plan

development. These action plans also considered the impact of an NRC Incident Investigation or Augmented Inspection Team.

No violations or deviations were identified.

f. Field Monitoring Teams

During the exercise, the offsite field monitoring team and the counting vehicle teams were observed.

The teams received a briefing before departing the OSA. This briefing was short and informative including the known radiological conditions at the time. The teams were dispatched, gathered their equipment, and were fully functional before the release began.

The radiation protection technicians (RPTs) were knowledgeable and understood the use of monitoring equipment. The analysis and evaluation of radiological sample data was well done.

The RPTs continuously monitored the environment to detect the plume. They also did an excellent job monitoring their exposure by periodically reading their self-reading dosimeters. The field teams received good directions and communications from the EOF. The field teams encountered some "dead spots" with respect to radio use; however, the team was aware of these problems and compensated well for them.

No violations or deviations were identified.

6. Exercise Objectives and Scenario Review (IP 82302)

The exercise scope and objectives and the exercise scenario were submitted to NRC within the proper timeframes. The licensee adequately responded to the lead inspector's questions pertaining to the scenario.

The scenario was challenging and included assembly and accountability, post accident sampling, multiple equipment failures and a small release of radioactivity.

No violations or deviations were identified.

7. Exercise Control and Exercise Simulation

Exercise control was good. There were adequate controllers to control the exercise. One minor instance of controller prompting was noted. A controller discussed his expectation for the use of respiratory protection with an inplant team, rather than observing the team and merely advising the team on the extent of simulation to be used.

There was a miscommunication between the control room simulator (CRS) and the Operations Staging Area (OSA) due to over-simulation. A simulated operations team was designated to perform a simulated task. Personnel in the OSA did not understand that a "real" operator would not arrive at the OSA for further instruction. This resulted in confusion

for both the CRS and OSA. The controllers should be more careful to inform players which events are simulated and which are real.

Some problems were noted with over-simulation in emergency response team (ERT) member selection. Three radiation protection technicians (RPTs) and the RP Director were bearded. Another RPT assigned to an ERT was unable to bear the weight of a self-contained breathing apparatus (SCBA) due to a shoulder injury. A chemistry technician (CT) assigned to a post accident sampling team was observed to be wearing a wrist brace. In the event of a real accident, these limitations could have affected ERT response timeliness and capabilities.

No violations or deviations were identified.

8. Exercise Critiques

The licensee's controllers held initial critiques in each facility with participants immediately following the exercise. These critiques were well detailed. The licensee provided a summary of its preliminary strengths and weaknesses prior to the exit interview which were in general agreement with the inspectors' preliminary findings.

9. Exit Interview

The inspectors held an exit interview on November 11, 1992, with the licensee representatives identified in Section 2 to present and discuss the preliminary inspection findings. The licensee indicated that none of the matters discussed were proprietary in nature.

Attachments:
1. Exercise Scope and Objectives
2. Exercise Scenario Summary

ATTACHMENT 1

DONALD C. COOK NUCLEAR PLANT

1992 EMERGENCY PREPAREDNESS EXERCISE OBJECTIVES

OBJECTIVE

A. OVERALL LICENSEE OBJECTIVES

A-1 Demonstrate the ability of the emergency response organization to implement DCCNP Emergency Plan Procedures, the IMPCo Emergency Response Manual and the AEPSC Emergency Response Manual.

A-2 Demonstrate the ability to establish emergency management command and control, and maintain continuity of this function for the duration of the postulated event.

A-3 Demonstrate the ability to establish communications and information flow between DCCNP emergency response facilities and participating offsite agencies.

B. CONTROL ROOM OBJECTIVES

B-1 Demonstrate the ability to recognize symptoms and parameters indicative of degrading plant conditions and to classify degraded conditions as emergencies.

B-2 Demonstrate the ability to initiate notification of off-site authorities and plant personnel.

B-3 Demonstrate communications and information flow to and from the Technical Support Center.

B-4 Demonstrate the ability to transfer emergency authorities and responsibilities form the on-shift emergency organization to the DCCNP emergency response organization.

B-5 Demonstrate the ability to respond to a natural emergency which impacts plant safety.

C. TECHNICAL SUPPORT CENTER OBJECTIVES

C-1 Demonstrate the ability to activate the facility within one hour of declaration of an emergency requiring facility activation.

C-2 Demonstrate the ability to provide analytical assistance and operational guidance to the Control Room.

OBJECTIVE

C. TECHNICAL SUPPORT CENTER OBJECTIVES (cont'd.)

C-3 Demonstrate the ability to coordinate on-site activities in response to the emergency.

C-4 Demonstrate the ability to establish and maintain hard copy communications with the EOF and verbal communications with the EOF, OSA, IAG, ENC and/or JPIC.

C-5 Demonstrate the ability to provide analytical radiological assistance to the OSA and Control Room.

C-6 Demonstrate the ability to obtain data from the OTSC/PSSD system.

C-7 Demonstrate the ability to request emergency response teams from the OSA.

C-8 Demonstrate the ability to designate a second shift for TSC operation.

C-9 Demonstrate the ability to evaluate the results of TSC/OSA habitability surveys and assess the need to evacuate these facilities.

C-10 Demonstrate the ability to recognize degrading plant conditions and classify plant conditions as an emergency.

C-11 Demonstrate the ability to direct the implementation of site assembly and accountability.

C-12 Demonstrate the ability to evaluate site evacuation routes and determine an appropriate route based on indicated radiological and meteorological conditions.

C-13 Demonstrate the actions required to be taken in the TSC if the emergency involves a breach of the reactor coolant system.

C-14 Demonstrate the ability to bar the PABX.

D. OPERATIONS STAGING AREA OBJECTIVES

D-1 Demonstrate the ability to activate the facility within one hour of declaration of an emergency requiring facility activation.

OBJECTIVE

D. OPERATIONS STAGING AREA OBJECTIVES (cont'd.)

D-2 Demonstrate the ability to assemble, brief and dispatch the following emergency response teams:

a. Damage Control Team
b. Reentry and Rescue
c. Post Accident Sampling Team
d. On-site Radiation Monitoring Team
e. Off-site Radiation Monitoring Team

D-3 Demonstrate the ability to designate a second shift for OSA operation.

D-4 Each emergency response team assembled and dispatched shall demonstrate the following actions as applicable to the team type and mission:

a. Assembly of tools/equipment
b. Preoperation checks of equipment and communications devices.
c. Performance of appropriate radiological precautions.
d. Performance or simulation of team mission.
e. Post-mission debriefing and radiological controls.

D-5 Demonstrate the ability to provide emergency radiological support. As a minimum, the following activities should be demonstrated:

a. Establish of emergency dosimetry and exposure tracking system.
b. Establishment of emergency control points.
c. Performance of habitability surveys prescribed by procedure.
d. Analysis of radiological conditions to be encountered by emergency response teams.
e. Specifications of radiological controls and precautions for emergency response teams.

D-6 Demonstrate the ability to perform offsite radiological monitoring. As a minimum, two teams should be dispatched and direct radiation monitoring as well as airborne radioactivity analysis should be demonstrated.

D-7 Demonstrate the ability to perform onsite radiological monitoring in accordance with applicable Emergency Plan Procedures. This monitoring should include direct radiation surveys and analysis of airborne radioactivity samples.

OBJECTIVE

D. OPERATIONS STAGING AREA OBJECTIVES (cont'd.)

D-8 Demonstrate the ability to obtain post accident samples from the following mediums and complete appropriate chemical and isotopic analysis within three hours of the sample request.

a. RSC Loop
b. Containment Sump
c. Containment Atmosphere

D-9 Demonstrate the ability to respond to a contaminated person. Included in this demonstration, personnel decontamination shall be simulated.

D-10 Demonstrate the ability to obtain environmental samples in accordance with applicable Emergency Plan Procedures. The following samples should be obtained:

a. Vegetation
b. Soil
c. Water

E. EMERGENCY OPERATIONS FACILITY OBJECTIVES

E-1 Demonstrate the ability to activate the facility within one hour of declaration of an emergency requiring facility activation.

E-2 Demonstrate the ability to establish overall command and control of the DCCNP emergency response within one hour of declaration of a site area emergency or general emergency, as applicable.

E-3 Demonstrate the ability to establish and maintain effective emergency communications with each of the following agencies and facilities:

a. State of Michigan
b. Berrien County
c. NRC
d. Technical Support Center
e. Joint Public Information Center
f. Initial Assessment Group

E-4 Demonstrate the ability to establish and maintain hard copy data transmission and reception with each of the following facilities:

a. Technical Support Center
b. Joint Public Information Center
c. State of Michigan EOC

OBJECTIVE

E. EMERGENCY OPERATIONS FACILITY OBJECTIVES (cont'd.)

E-5 Demonstrate the ability to direct Offsite Radiation Monitoring Teams in order to determine the geographical location and radiological magnitude of the postulated plume.

E-6 Demonstrate the ability to designate a second shift for EOF operation.

E-7 Demonstrate the ability to develop protective action recommendations based on projected dose and/or core and containment status.

E-8 Demonstrate the ability to update the State of Michigan on the status of the emergency at 15 minute intervals.

E-9 Demonstrate the ability to respond to inquiries from the TSC, JPIC, IAG, and State of Michigan in a timely manner.

E-10 Demonstrate emergency termination.

E-11 Demonstrate the ability to project the magnitude of offsite dose.

E-12 Demonstrate corporate augmentation of the EOF staff.

E-13 Demonstrate recovery planning associated with emergency termination.

F. PUBLIC AFFAIRS OBJECTIVES

F-1 Demonstrate activation of the Emergency News Center and/or Joint Public Information Center.

F-2 Demonstrate the ability to conduct media briefings.

F-3 Demonstrate the ability to respond to actual or simulated inquiries from media representatives.

F-4 Demonstrate the ability of rumor control personnel to respond to simulated inquiries from the general public.

F-5 Demonstrate the ability to monitor media transmissions and respond to inaccurate information being transmitted by the media.

F-6 Demonstrate the ability to designate subsequent shifts for JPIC operation.

F-7 Demonstrate coordination of news announcement content with State and County representatives.

ATTACHMENT 2

COOK NUCLEAR PLANT

EMERGENCY RESPONSE EXERCISE

VI. EXERCISE NARRATIVE SUMMARY

INITIAL CONDITIONS

* Unit 1 at 100% power
* No equipment out of service.
* Unit 2 at 100% power
* "E" Centrifugal Charging Pump out of service due to failure of high speed bearings in speed increaser. There is 15 minutes left in the 72 hour Action Statement. It is projected that the pump will be back in service in the next two hours.

NARRATIVE

The simulated events begin to unfold at the beginning of the day shift on November 10, 1992. At approximately 0815, an **UNUSUAL EVENT** is declared due to the expiration of an LCO on the East Centrifugal Charging Pump and the resultant initiation of a Reactor shutdown.

Approximately one-half hour later, at about 97% power, a breaker trips that causes the loss of all control room annunciators. An **ALERT** is declared since the annunciator loss exceeded 30 seconds.

Just over an hour into the event, an RCS leak develops which causes a reactor trip, safety injection and containment spray actuation. A **SITE AREA EMERGENCY** is declared.

At two hours, the annunciators are returned to service. The emergency core cooling system is placed on recirculation phase. An electrical fault on the East centrifugal charging pump causes a blackout to occur on the 4kv bus T21D. CD diesel generator starts, but has to be tripped because of load and speed swings caused by the fault.

A leak develops on the West RHR pump suction strainer which causes an offsite release to occur.

TIMELINE:

REAL TIME	SCENARIO TIME	EVENT/CONDITION
0800	00:00	Initial Conditions
0815	00:15	Begin Reactor Shutdown Time Expired on LCO, **UNUSUAL EVENT** is declared.
0825	00:25	Prompt an Unusual Event (if not already done at T+00:15)
0840	00:40	Power supply breaker trips, causing all annunciators in the Control Room to be lost.
0845	00:45	"E" CCP clearancy returned to Control room
0851	00:51	Stabilize power because annunciators lost. **ALERT** is declared.
0855	00:55	Prompt an Alert (if not already done at T+00:40)
0857	00:57	AEO finishes clearance
0900	01:00	"E" CCP returned to service.
0905	01:05	RCS leak occurs (approx. 175 gpm)
0911	01:11	Safety Injection and Phase A Containment Isolation occur.
0915	01:15	Phase B containment isolation occurs and containment spray is actuated. **SITE AREA EMERGENCY** declared.
0922	01:22	Safety Injection is reset and both Diesel Generators are stopped.
0925	01:25	Prompt SAE if not already done by T+01:15.
0940	01:40	Annunciators returned to service.

1008	02:08	Train "B" ECCS placed in recirculation phase.
1030	02:30	Fault occurs on East CCP causing loss of Train A power. CD diesel starts and is tripped due to load/speed swings. West RHR pump suction strainer develops approximately 200 gpm leak.
1043	02:43	Level High 1 Sump Alarm in "W" RHR pump room.
1044	02:44	Level High 2 Sump Alarm in "W" RHR pump room.
1046	02:46	Level High 3 Sump Alarm in "W" RHR pump room.
1134	03:34	Cross tied 600v buses
1136	03:36	CCP breaker is racked out removing fault on bus T21D allowing power restoration to Train A equipment.
1157	03:57	T21D bus returned to service.
1158	03:58	Return Train "A" pumps to service: 1. "E" ESW 2. "E" CCW 3. "E" RHR 4. "E" CTS 5. "N" SI
1202	04:02	Removed "W" RHR and "W" CTS pumps from service. Closed ICM-306 "W" CTS and RHR pump suction valve closed to stop leak.
1208	04:08	Level High 3 RHR Pump Room Sump Alarm clears.
1228	04:28	Level High 2 RHR Room Sump alarm clears.
1230	04"30	Level High 1 RHR Room Sump alarm clears.
1300	05:00	Offsite release begins to decrease.