ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-458
License No.:	NPF-47
Report No.:	50-458/98-01
Licensee:	Entergy Operations, Inc.
Facility:	River Bend Station
Location:	5485 U.S. Highway 61 St. Francisville, Louisiana
Dates:	February 10 to 13, 1998
Inspector(s):	Gail M. Good, Senior Emergency Preparedness Analyst, Team Leader Michael E. Murphy, Reactor Engineer Thomas H. Andrews, Emergency Preparedness Analyst Michael C. Hay, Radiation Specialist
Observer:	John C. Edgerly, Reactor Engineer
Approved By:	Blaine Murray, Chief, Plant Support Branch Division of Reactor Safety
Attachment:	Supplemental Information

EXECUTIVE SUMMARY

River Bend Station
NRC Inspection Report 50-458/98-01

A routine, announced inspection of the licensee's performance and capabilities during the full-scale, biennial exercise of the emergency plan and implementing procedures was performed. The inspection team observed activities in the control room simulator, technical support center, operations support center, and emergency operations facility.

Plant Support

- Overall, performance was generally very good. The control room (CR), technical support center (TSC), and emergency operations facility (EOF) successfully implemented all assigned emergency plan functions. Performance in these facilities was very good.

- The CR crew's performance was very good. Operators promptly responded to plant events and applied proper mitigating actions. The initiating emergency event was properly classified. Corresponding offsite agency notifications were correct, and timely. CR briefings were frequent, structured, and interactive. Normal CR communications, both internal and external, were very good. Confusion about who was coordinating and directing operations response teams or individuals could have affected personnel accountability (Section P4.2).

- The TSC staff's performance was very good. The facility was promptly activated in an orderly fashion. Event classifications were made in a timely manner using the proper emergency action levels. Notifications to NRC were accurate and timely. Protective actions for onsite personnel were very good. Tasks and priorities were not clearly tracked. Habitability surveys were frequently performed but did not include all areas (Section P4.3).

- The Operations Support Center (OSC) staff's performance was satisfactory. Due to the potential impact on mitigation efforts, the failure to promptly and properly dispatch inplant response teams was identified as an exercise weakness. It took up to an hour to dispatch several teams, and some teams, including a high priority team, were canceled before the teams could be dispatched. Work team order documentation was incomplete and would have hampered event response reconstruction. Habitability controls were properly implemented. Team tracking status boards were not always maintained and could have affected personnel accountability. Good ALARA practices were demonstrated by radiation protection personnel assigned to assist work teams, although one team did not use proper contamination controls (Section P4.4).

- The EOF staff's performance was very good. Facility activation was timely and controlled, although there were no precautions taken for personnel who traveled from the site to the EOF during simulated severe weather conditions. Management oversight was very good. Facility briefings were comprehensive and made a positive contribution to facility performance. With one relatively minor exception, offsite agency notifications

were correct and timely. Dose assessment and field team control activities were well managed and performed to support protective action recommendations. Protective action recommendations to offsite authorities were correct and timely. Interactions with offsite response team members were open and informative (Section P4.5).

- The exercise objectives were appropriate to meet emergency plan requirements. The initially submitted scenario was not acceptable because it was too similar to the 1996 exercise scenario (two of four events were the same). Appropriate actions were taken once the concerns were raised. The final exercise scenario was sufficiently challenging to test onsite emergency response capabilities (Section P4.6).

- The critique process was identified as a program strength and was significantly improved when compared to the 1996 biennial exercise self critique. The evaluation team identified several important areas in need of correction/improvement (Section P4.7).

IV. Plant Support

P4 Staff Knowledge and Performance in Emergency Preparedness

P4.1 Exercise Conduct and Scenario Description (82301 and 82302)

The licensee conducted a full-scale, biennial emergency preparedness exercise on February 11 and 12, 1998. The exercise was conducted to test major portions of the onsite (licensee) and offsite emergency response capabilities. Day 1 consisted of plume pathway elements, and Day 2 consisted of ingestion pathway elements. During Day 1, the licensee activated its emergency response organization and all emergency response facilities. The Federal Emergency Management Agency evaluated the offsite response capabilities of the state of Louisiana and West Feliciana, East Feliciana, Pointe Coupee, West Baton Rouge, and East Baton Rouge Parishes. The Federal Emergency Management Agency will issue a separate report.

The exercise scenario was run using the CR simulator in a dynamic mode. The exercise scenario began at 7:51 a.m., with the plant operating at 100 percent power. Normal weekday personnel were available for duties. At the start of the exercise, the area was under a severe thunderstorm and tornado watch with grid perturbations reported due to the weather. The crew was in Abnormal Operating Procedure 0029, "Severe Weather Operation," Revision 12. The low pressure core spray pump was tagged out of service for motor inspection, and Condensate Transfer Pump CNS-P1B was tagged out for replacement of the motor end bearing.

At 8:02 a.m., the CR received telephone notification from a security guard that a tornado had touched down just south of the turbine building and that there was apparent damage to the fire pump house.

At 8:06 a.m., a ground on Condensate Transfer Pump CNS-P1A occurred, but its breaker failed to trip. ACB300, load center feeder breaker, tripped causing a loss of 480VAC NJS-LDCIL. At 8:07 a.m., the shift superintendent declared an alert based on Emergency Action Level 14.3 (tornado touchdown onsite). Plant power reduction, at 10 percent per hour, was in progress due to the deteriorating weather conditions.

At 9:01 a.m., an electrical transient caused a fault on Bus 1NNS-SWG1C which resulted in a trip and lockout of all feeder breakers to the bus. Significant electrical loads affected were Chiller HVN-CHLR1C and 1E22*S004, Division III 4160 volt bus, causing the high pressure core spray diesel generator to start and tie on to the E22 switchgear.

At 10:01 a.m., a condensate line common header pipe weld cracked causing a leak in the turbine building. Reactor feed pumps tripped off, a manual reactor scram was inserted but all rods did not insert, the turbine inadvertently tripped, and alternate rod insertion and standby liquid control both failed. At 10:05 a.m., the TSC declared a site area emergency based on Emergency Action Level 7 (anticipated transient without scram).

Shortly thereafter, the CR operators responded to the first turbine building radiation alarm. As a result, the TSC declared a general emergency at 10:17 a.m. based on a loss of two of three fission product barriers with a potential loss of the third.

At 10:20 a.m., a reactor core isolation cooling steam line break occurred in the steam tunnel at the upstream weld on E51*MOVF064, resulting in a reactor core isolation cooling isolation signal on high main steam tunnel temperatures. The inboard isolation valve failed to isolate which caused a loss of all high pressure feed and a loss of coolant accident pathway from the reactor pressure vessel to the steam tunnel. Radioactivity was released through the turbine building ventilation system with no charcoal or high efficiency particulate air filtration.

At 11:11 a.m., all rods were reported in, and the CR personnel continued to work on the established priorities: recover injection and isolate the leak. At 12:41 p.m., injection was reestablished, and the reactor core isolation cooling system was isolated at 1:10 p.m. to stop the leak. At 1:13 p.m., the CR received confirmation that the release had stopped. The exercise was terminated at 1:41 p.m.

P4.2 Control Room (CR)

a. Inspection Scope (82301-03.02)

The inspectors observed and evaluated the CR simulator staff as they performed tasks in response to the exercise scenario conditions. These tasks included event detection and classification, analysis of plant conditions, offsite agency notifications, internal and external communications, and adherence to the emergency plan and procedures. The inspectors reviewed applicable emergency plan sections and procedures, operations procedures, logs, and notification forms.

b. Observations and Findings

During the exercise, the CR crew quickly recognized, analyzed, and responded to emergency events. The shift superintendent declared an alert within minutes of being informed of the initiating conditions, using the correct emergency action level. Corresponding offsite agency notifications were made within regulatory time limits. The pager system activation (emergency response organization call-out) was promptly activated following the alert declaration. However, the wrong code was used and the resulting activation was for an actual emergency, rather than a drill. When the error was recognized, the shift superintendent immediately ordered another pager system activation with the proper code. The pagers reactivated with the proper drill announcement. A plant wide announcement was also made to advise all personnel of the error.

The CR crew consistently responded to system annunciators using the proper annunciator response procedure. The crew exhibited excellent team work. Normal CR communications, both internal and external, were very good. However, when the tempo of events increased, there were instances when expected three-part communications

were not used, and the target individual was not identified. For example, immediately after the attempt to manually scram and identification of a failure of the plant to scram, several communications had to be repeated or personnel had to request a repeat of the communication. Also, at one point the CR supervisor had to forcefully direct all personnel to "slow down" in order to refocus proper communications techniques.

Briefings were frequent, structured, and interactive. However, following the activation of the TSC and OSC, several briefings were conducted to identify field team activities and locations. There was apparent confusion about who was coordinating and directing the operations response teams or individuals (i.e., the CR, TSC, or OSC). As a result, personnel accountability was questionable.

c. Conclusions

The CR crew's performance was very good. Operators promptly responded to plant events and applied proper mitigating actions. The initiating emergency event was properly classified. Corresponding offsite agency notifications were correct and timely. CR briefings were frequent, structured, and interactive. Normal CR communications, both internal and external, were very good. When the tempo increased, there were instances when expected three-part communications were not used, and the target individual was not identified. The initial activation of the pager system was incorrect but did not affect the emergency response. Confusion about who was coordinating and directing operations response teams or individuals could have affected personnel accountability.

04.3 Technical Support Center (TSC)

a. Inspection Scope (82301-03.03)

The inspectors observed and evaluated the TSC staff as they performed tasks necessary to respond to the exercise scenario conditions. These tasks included staffing and activation, accident assessment, NRC notifications, personnel accountability, facility management and control, onsite protective action decisions and implementation, internal and external communications, assistance and support to the CR, and prioritization of mitigating actions. The inspectors reviewed applicable emergency plan sections, procedures, and logs.

b. Observations and Findings

The TSC was staffed and activated in a timely manner. The first responder arrived immediately after the 8:10 a.m. plant announcement for the alert declaration. Upon arrival, responders signed in on the position staffing board. The last "minimum staffing" position was filled at 8:26 a.m., and the last person signed in at 8:31 a.m. The TSC was activated at 8:54 a.m. when emergency director/recovery manager duties were transferred from the CR.

The emergency director requested current meteorological data from dose assessment personnel, because the alert was based on severe weather. Upon learning that the current indications showed 45 mph sustained winds, the emergency director asked security to consider suspending any outside walking patrols and use alternative methods. The emergency director then cautioned against dispatching any personnel outside of the building until the weather abated. The emergency director's actions demonstrated good awareness of conditions and concern for plant personnel protection.

Upon notification from the CR that the reactor scram was not successful (automatic and manual), the emergency director promptly declared a site area emergency using the correct emergency action level. Shortly after the anticipated transient without scram, plant conditions began to degrade: reactor water level was dropping, the core was not subcritical, and there was indication of a leak within the steam tunnel. The emergency director determined that general emergency conditions existed due to a loss of two fission product barriers with a potential loss of the third. The decision was challenged by one of the TSC staff to confirm lost/potentially lost barriers. Based on the emergency director's explanation and the available information, the inspectors determined that the general emergency declaration was performed properly. The questioning attitude of the TSC staff demonstrated good cross checking.

Following the emergency classification upgrade, a communicator simulated the NRC notifications. The information provided was accurate and timely.

Personnel accountability within the TSC was quickly established and maintained throughout the exercise. There were three doors into the TSC envelope: one door led into the computer room area and was not used, another door led into the main TSC work area and was quickly disabled to prevent entry into the center, and the other door had a key-card reader for accountability purposes. Participants used the card reader when entering and exiting the center.

Following the site area emergency declaration, a plant evacuation was simulated. Security personnel performed the procedural actions to determine personnel accountability. Using simulated information, accountability was properly established within 30 minutes of the site area emergency declaration.

The emergency director conducted frequent and comprehensive briefings. The briefings were announced in advance and contained a discussion of priorities. Occasionally, the briefings contained a summary of previous events. Functional area coordinators participated in the briefings.

The emergency director made good onsite protective action decisions and implemented them appropriately. Examples included:

- The decision to make potassium iodide available to workers was made in accordance with procedures. Personnel in the TSC and OSC were told to consider taking potassium iodide before leaving the centers.

- Frequent announcements were made in the TSC and OSC regarding the release in progress, general direction of the plume, and need to avoid affected areas.

- During the planning discussions for the steam tunnel entry, the TSC considered the increased consumption of air from self-contained breathing apparatuses in the high temperature environment. The plans included staging extra air bottles at the location, prior to actually entering the steam tunnel.

The process for tracking tasks, assignments, and priorities was confusing. The TSC staff used several methods to display tasks, assignments, and priorities within the center. A video link was used to transmit a list of tasks and priorities to the OSC. Tasks and priorities were updated and revised as plant conditions changed. A status board was used to track TSC priorities. A large paper tablet was used to track TSC engineering tasks. Engineering tasks were listed in sequential order as they were assigned. On several occasions, the priorities for the OSC and TSC were not consistent for extended periods. In addition, the lack of a mechanism to link the engineering tasks to the TSC priorities could have led to conflicting priorities.

The TSC staff correctly performed dose assessments and projections. TSC personnel used a 2-hour default release duration time for dose projections. When it appeared that the release duration would exceed 2 hours, dose assessment personnel performed several calculations to determine the release duration that would cause the Environmental Protection Agency protective action guidelines to be exceeded at 10 miles. The result was effectively used to establish/focus equipment repair priorities to terminate the release. The inspectors determined that this was a good use of dose projection capability within the TSC.

TSC habitability surveys, including area radiation surveys, contamination surveys, and air sample measurements, were conducted frequently but were not always properly completed. For example:

- Area radiation and contamination surveys were only performed in occupied areas. Rooms that were not routinely occupied were not surveyed. As a result, contamination could have gone unnoticed.

- The air sampler was placed in the TSC access hallway inside the TSC ventilation envelope but outside the door used for accountability control. Since the location was different than the main TSC work area, the air sample may not have been representative of the TSC environment.

- The air sampler was operated through the exercise with the flow rate showing about 85 liters per minute. The applicable procedure stated that the flow through the charcoal cartridge was to be about 2 cubic feet per minute. Using the licensee's procedure, the indicated flow rate was actually about 3 cubic feet per minute. Since there was no mechanism to adjust the air sampler flow rate, it appeared that the flow indication was simply an indicator that there was air flow through the sampler at the calibrated flow rate. Following the exercise, the

licensee determined that the actual flow rate was about 2 cubic feet per minute and that the indicator was in error. Had the flow rate been as indicated, the air sampling results could have been nonconservative.

c. Conclusions

The TSC staff's performance was very good. The facility was promptly activated in an orderly fashion. Event classifications were made in a timely manner using the proper emergency action levels. Notifications to NRC were accurate and timely. Protective actions for onsite personnel were very good. Precautions were taken for the simulated, severe weather, arrangements were made for additional air bottles for the steam tunnel entry, potassium iodide was authorized, and plant personnel were cautioned to avoid areas affected by the plume. Tasks and priorities were not clearly tracked. Habitability surveys were frequently performed but did not include all areas.

P4.4 Operations Support Center (OSC)

a. Inspection Scope (82301-03.05)

The inspectors observed and evaluated the OSC staff as they performed tasks in response to the scenario conditions. These tasks included functional staffing and emergency response team dispatch and coordination in support of CR and TSC requests. The inspectors reviewed applicable emergency plan sections, procedures, logs, checklists, and forms.

b. Observations and Findings

The OSC was promptly staffed and activated. Activation began shortly after the 8:07 a.m. alert declaration and was completed at 8:54 a.m. The OSC director properly announced the activation to center personnel.

Center briefings were provided on a regular basis by the TSC (via loudspeakers). The briefings appropriately addressed plant parameters, current emergency classification, task priorities, and response team work status. The detail and frequency of the briefings precluded the need for the OSC director to personally conduct regular OSC briefings.

The process used to form and dispatch teams, coupled with the level of activity and the distribution of responsibilities, inhibited the OSC's ability to promptly and properly dispatch response teams. This determination was based on the following observations:

- The OSC director sometimes logged when the TSC notified the OSC to dispatch a repair team. Using the OSC director's log and the corresponding team work order dispatch time, inspectors quantified dispatch times for 6 teams (a total of 16 teams were dispatched). There was insufficient documentation to quantify dispatch times for the other 10 teams. Of the 6 teams that could be quantified, 4 took approximately 53-60 minutes to be dispatched following OSC notification (one may have been 25-57 minutes).

- Of the 21 "Team Work Orders" initiated by the OSC director, 5 were cancelled prior to the team being dispatched, because the teams were no longer needed. As previously mentioned, 16 teams were dispatched. One of the cancelled teams -- the number one priority -- was ready to leave the OSC 40 minutes after the initial TSC request. The team was cancelled because the CR accomplished an alternate success path.

- The OSC director was actively involved in arranging work team composition. EIP-2-016, "Operations Support Center," Revision 15, Section 4.4, stated that work team composition was the responsibility of the work team facilitator and the OSC manager. Similarly, the OSC director handled communications from inplant work teams, another OSC manager and/or work team facilitator duty. The involvement in team formation and communications inhibited the OSC director's ability to provide direction and control.

- Procedurally required documentation was incomplete and would have hampered event response reconstruction. Section 4.2 of EIP-2-016 stated that the OSC manager was to ensure that OSC team work orders were completed for all dispatched teams. Attachment 1 to EIP-2-016 stated that the OSC director was to ensure that work orders were fully completed for teams that had completed assigned tasks. Inspectors identified the following incomplete work orders:

  (1) Radiation protection briefing/debriefing sections were not completed for 3 of 4 teams that were redirected to perform other tasks while in the field.

  (2) Of the 16 dispatched work teams, 7 work team orders did not include dispatch/return times.

  (3) Of the 16 dispatched teams, 12 work team orders did not indicate that the "OSC Director/Manager Task Briefing" was completed.

The failure to promptly and properly dispatch inplant field teams was identified as an exercise weakness because of the potential impact on mitigation efforts (50-458/9801-01).

Habitability surveys were performed on a regular basis using calibrated instruments. Radiological survey data sheets were reviewed and found to be detailed and comprehensive. Habitability controls implemented in the OSC were very good.

The OSC team tracking status board, maintained by the status communicator, was not always properly maintained and could have adversely affected personnel accountability. Information that was known by the OSC director and/or manager concerning work team status was not always provided to the status communicator. On one occasion, the OSC had to contact the CR to find out the location of an individual. In general, work teams were satisfactorily tracked.

Teams observed in the field used proper protective clothing, minimizing the potential for personnel contamination. In contrast, contamination controls were not always properly performed. Inspectors observed that 3 out of 4 members of a work team, including a radiation protection technician, passed through a radiological step-off pad without frisking. Failing to frisk could spread contamination to an uncontrolled area.

Radiation protection personnel assigned to provide work team coverage exhibited good as low as is reasonably achievable (ALARA) job practices. Radiation protection personnel properly located and informed teams of low dose areas for idle teams/team members.

c. Conclusions

The OSC staff's performance was satisfactory. The center was activated in a timely manner, and briefings were frequent and comprehensive. Due to the potential impact on mitigation efforts, the failure to promptly and properly dispatch inplant response teams was identified as an exercise weakness. It took up to an hour to dispatch several teams, and some teams, including a high priority team, were cancelled before the teams could be dispatched. Work team order documentation was incomplete and would have hampered event response reconstruction. Habitability controls were properly implemented. Team tracking status boards were not always maintained and could have affected personnel accountability. Good ALARA practices were demonstrated by radiation protection personnel assigned to assist work teams, although one team did not use proper contamination controls.

P4.5 Emergency Operations Facility (EOF)

a. Inspection Scope (82301-03.04)

The inspectors observed the EOF's staff as they performed tasks in response to the exercise. These tasks included facility activation, notification of state and local response agencies, development and issuance of protective action recommendations, dose projections, field team control, and direct interactions with offsite agency response personnel. The inspectors reviewed applicable emergency plan sections and procedures, forms, dose projections, and logs.

b. Observations and Findings

The EOF was promptly staffed following the 8:07 a.m. alert declaration. Upon arrival, personnel simulated locking exterior doors, prepared registration forms to log emergency responders, initiated position checklists, established communications with counterparts, and determined facility habitability. Activation steps were completed at 8:57 a.m., and the recovery manager responsibilities (offsite agency notifications, dose assessment/protective action recommendations) were assumed by the EOF at 9:05 a.m. The transfer of responsibilities was conducted in a controlled manner to ensure that key response actions were not overlooked or misunderstood.

Although the EOF was staffed promptly, the safety of facility personnel was not considered after the alert was declared due to a tornado touchdown onsite. No special precautions were taken or considered for those personnel who traveled from the site to the EOF, although precautions were taken for onsite and offsite monitoring teams. Under some circumstances (e.g., security events and severe weather conditions), judgement may be needed regarding the decision to activate emergency response facilities.

Management oversight in the EOF was very good. Briefings were frequent and comprehensive. Facility members were given prior notice to prepare, and all facility personnel participated in the briefings. The briefings included input from operations, radiation protection, engineering, administrative, and state personnel. Special emphasis was placed on facility priorities and what effect changing plant conditions would have on EOF activities. As the exercise progressed, briefings included a summary of previous significant events. During periods of relatively low activity, facility personnel were encouraged to review and update individual logs. The recovery manager was also sensitive to noise levels and distractions. On several occasions, the recovery manager limited observer access to the EOF.

Offsite agency notifications for the site area and general emergency were made within the required 15-minute time limit. Short notification message forms were appropriately used for classification and protective action recommendation changes. Long notification message forms were usually issued, as necessary, to convey changes in release status and dose projection data. Inspectors identified two issues concerning the content of the long notification message forms.

- There was a discrepancy between the affected sectors used by the utility and the state which would have been confusing to outside organizations (NRC, media, etc.). The long notification message form for the general emergency (Message 6) indicated that the affected sectors were D, E, and F. The state included Sector G because Scenario 4 included some areas within Sector G. This would be confusing to organizations who would talk to both the state and the utility.

- On one occasion, valuable information was not properly communicated to offsite authorities. Although projected doses based on the actual release duration time (2.5 hours) were appropriately calculated, the information was not included on a long notification message form. Forms issued after the release stopped incorrectly stated that there were no projected offsite doses (all zeros).

Protective action recommendations, identified as scenario numbers (1-27 based on different distances and downwind sectors), were correctly formulated and promptly communicated to offsite authorities. Following the general emergency declaration, a default 2-mile radius/5-mile downwind evacuation was correctly recommended (Scenario 4). When the release rate increased, the recommendation was appropriately upgraded to a 5-mile radius/10-mile downwind evacuation (Scenario 16). As required by procedures, EOF personnel verified that the offsite agencies received the protective

action recommendations and obtained the approved scenario (protective action decision).

Dose assessment and field team control activities were well managed and controlled to support protective action recommendations. Numerous dose projections were calculated based on plant conditions and field team data. There was good coordination between the utility and state offsite monitoring teams, and utility offsite monitoring team doses were closely monitored to determine the need to issue potassium iodide.

However, the radiation protection advisor was not fully aware of procedural provisions for a certain area of responsibility. Specifically, the radiation protection advisor was initially not aware that EIP-2-024, "Offsite Dose Calculations," Revision 17, allowed the use of release duration times greater than 2 hours (Step 6.1.8). As previously discussed, dose projections using the actual release duration time were eventually calculated. The failure to use the actual release duration time could result in incorrect protective action recommendations.

Facility habitability was appropriately monitored during the exercise. When the lock failed on the EOF door and repairs were initiated, the effect on EOF habitability was properly determined. Thermoluminescent dosimeters and pocket ion chambers were distributed to facility personnel during the activation process. Personnel were reminded to read pocket ion chambers during periodic briefings.

Interactions with state response team members who were stationed in the EOF were frequent, open, and constructive. Upon arrival, state representatives were briefed on plant conditions and prognosis. The state's input was solicited during briefings, and changing plant conditions were quickly relayed so that offsite impact could be evaluated.

c. Conclusions

The EOF staff's performance was very good. Facility activation was timely and controlled, although there were no precautions taken for personnel who traveled from the site to the EOF during simulated severe weather conditions. Management oversight was very good. Facility briefings were comprehensive and made a positive contribution to facility performance. With one relatively minor exception, offsite agency notifications were correct and timely. A notification made after the release stopped did not include projected offsite doses. Dose assessment and field team control activities were well managed and performed to support protective action recommendations. However, the radiation protection advisor was not initially aware that the release duration time could exceed the 2-hour default time. Protective action recommendations to offsite authorities were correct and timely. Interactions with offsite response team members were open and informative.

P4.6 Scenario and Exercise Control

a. Inspection Scope (82301 and 82302)

The inspectors evaluated the exercise to assess the challenge and realism of the scenario and exercise control.

b. Observations and Findings

The licensee submitted the exercise objectives and scenario for NRC review on November 13 and 26, 1997, respectively. The exercise objectives were appropriate to meet emergency plan requirements (reference NRC letter dated December 3, 1997). By letter dated January 22, 1998, the licensee was informed that the exercise scenario was not acceptable. The scenario was rejected, because it was too similar to the 1996 biennial exercise scenario (two of four events were the same). If exercise participants participated in the 1996 exercise, reviewed the corresponding NRC report (50-458/96-07), or were made aware of the outcome during training, response actions could have been affected. It would not be acceptable for exercise participants to have prior knowledge of exercise scenario events. Appropriate actions were taken once the concerns were raised. The final exercise scenario was sufficiently challenging to test onsite emergency response capabilities.

Due to the initial scenario concern, the inspectors reviewed scenarios used in practice drills to ensure they did not include exercise scenario events. Emergency planning personnel provided scenario summaries for two integrated drills and three mini-drills. Although the scenarios were all different and did not include exercise scenario events, the inspectors expressed concerns about the level of pre-exercise training. The preconditioning was greater than normal and initially caused concerns about whether the other teams were as prepared as the exercise team. In response, the licensee explained that the training was necessary because of a recent enhancement involving the CR simulator. The simulator can now be used to display plant data via computer (in lieu of using paper data). Moreover, additional training for the other teams was planned (beginning the week following the exercise). The planned training would include lessons-learned by the responding team and mini-drills driven by the simulator. The licensee's planned actions alleviated the inspectors' concerns.

Inspectors identified one isolated instance of inappropriate controller/participant interaction. A controller showed scenario survey data to a radiation protection technician before the technician earned the data. The technician was not even in the area of concern.

c. Conclusions

The exercise objectives were appropriate to meet emergency plan requirements. The initially submitted scenario was not acceptable, because it was too similar to the 1996 exercise scenario (two of four events were the same). Appropriate actions were taken

once the concerns were raised. The final exercise scenario was sufficiently challenging to test onsite emergency response capabilities.

P4.7 Licensee Self Critique

a. Inspection Scope (82301-03.13)

The inspectors observed and evaluated the licensee's post-exercise facility critiques and the formal management critique on February 13, 1998, to determine whether the process would identify and characterize weak or deficient areas in need of corrective action.

b. Observations and Findings

Post-exercise critiques in the CR simulator, TSC, OSC, and EOF were thorough, open, and self critical. The post-exercise critiques included input from controllers, evaluators, and participants. The lack of participation by state representatives in the EOF detracted from the overall completeness. Participants in all facilities made a sincere effort to identify areas where performance could be improved.

During the February 13, 1998, management critique, the emergency planning manager and lead River Bend Station evaluators presented the preliminary exercise findings. The breakdown of findings was as follows: one area for improvement in the CR/simulator, one potential weakness and four areas for improvement in the TSC, one weakness and four areas for improvement in the OSC, and five areas for improvement in the EOF. The potential weakness in the TSC involved TSC habitability, and the weakness in the OSC involved command and control.

In addition to the River Bend Station evaluators, exercise evaluation was performed by quality assurance personnel, licensee management, representatives from other Region IV sites, and the Entergy peer review group. The peer review group consisted of the three emergency planning managers from the other Entergy sites and representatives from the Entergy Corporate Office. The integrated critique process was considered a program strength. There was a significant improvement when compared to the 1996 biennial exercise self critique. Several important areas in need of correction were identified.

c. Conclusions

The critique process was identified as a program strength and was significantly improved when compared to the 1996 biennial exercise self critique. The process included site evaluators, corporate evaluators, Entergy peer review group, other site evaluators, and management evaluators. The evaluation team identified several important areas in need of correction/improvement.

P5 Staff Training and Qualification in Emergency Preparedness

a. Inspection Scope (82701)

The inspectors reviewed the Updated Safety Analysis Report (USAR), plant access training material, emergency plan, and radiological controls procedures to determine if training requirements and commitments were being met.

b. Observations and Findings

Inspectors noted that Procedure EIP-2-012, "Radiation Exposure Controls," Revision 13, stated that 10 CFR Part 20 occupational exposure limits applied to all members of the emergency response organization, even if they had not received radiation worker training. Although the licensee required all personnel to attend plant access training, which included a brief discussion of radiation, the training did not include a discussion of regulatory limits, instructions for frisking, protection of the embryo/fetus per the declared pregnant female program, etc. Since these topics were only discussed in radiation worker training, inspectors questioned whether emergency response organization members received training consistent with 10 CFR Part 19.12. The NRC intends to pursue this matter as an inspection followup item to determine if Part 19.12 training applies to emergency response personnel who do not normally receive radiation worker training (50-458/9801-02).

The licensee's emergency plan stated that all personnel would receive emergency plan/procedure training in plant access and radiation worker training as described in the USAR. The inspectors reviewed the USAR description of the general employee training and compared it to the plant access training content. The USAR stated that the training would include a discussion of Regulatory Guide 8.13 which discusses the effects of radiation on the embryo/fetus. This subject was included as part of the licensee's declared pregnant female program but was not discussed in the plant access training. The inspectors did not have sufficient time to determine if the Regulatory Guide 8.13 subject matter was provided as part of other required training. The NRC intends to pursue this matter as an unresolved item to determine if Regulatory Guide 8.13 training is conducted in accordance with the USAR (50-458/9801-03).

c. Conclusions

One inspection followup item and one unresolved item were identified involving personnel training.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on February 13, 1998. The licensee acknowledged the facts presented. No proprietary information was identified.

The Federal Emergency Management Agency conducted a public meeting in St. Francisville, Louisiana, on February 13, 1998. Representatives from the Federal Emergency Management Agency and NRC provided a brief discussion of preliminary exercise results.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

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M. Bellamy, Director, Site Support
M. Dietrich, Director, Quality Programs
J. Hurst, Senior Emergency Planner
J. Fowler, Manager, Quality Assurance
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M. Jones, Senior Operations Instructor/Emergency Planner
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D. Lorfing, Supervisor, Licensing
W. O'Malley, Manager, Operations
P. O'Neil, Specialist, Licensing
B. Ricketts, Supervisor, Health Physics Shift
W. Spell, Supervisor, Health Physics Shift
J. Waid, Director, Training
T. Wymore, Control Room Supervisor

Other Personnel

A. Morgan, Manager, Emergency Preparedness, Grand Gulf Nuclear Station

NRC

G. Replogle, Senior Resident Inspector

LIST OF INSPECTION PROCEDURES USED

IP 82301	Evaluation of Exercises at Power Reactors
IP 82302	Review of Exercise Objectives and Scenarios for Power Reactors
IP 82701	Operational Status of the Emergency Preparedness Program

LIST OF ITEMS OPENED

Opened

50-458/98001-01	IFI	Exercise weakness - Failure to promptly and properly dispatch onplant response teams (Section P4.4)
50-458/98001-02	IFI	Part 19.12 training for emergency response organization members (Section P5)
50-458/98001-03	URI	Regulatory Guide 8.13 training per USAR (Section P5)

LIST OF ACRONYMS USED

ALARA	As low as is reasonably achievable
CR	Control room
EOF	Emergency operations facility
OSC	Operations support center
TSC	Technical support center
USAR	Updated Safety Analysis Report

LIST OF DOCUMENTS REVIEWED

Emergency Implementing Procedures

EIP-2-001	Classification of Emergencies	Revision 9
EIP-2-002	Classification Actions	Revision 17
EIP-2-006	Notifications	Revision 23
EIP-2-007	Protective Action Recommendation Guidelines	Revision 16
EIP-2-012	Radiation Exposure Controls	Revision 13
EIP-2-014	Offsite Radiological Monitoring	Revision 16
EIP-2-016	Operations Support Center	Revision 15
EIP-2-020	Emergency Operations Facility	Revision 19
EIP-2-024	Offsite Dose Calculations	Revision 17

Other Procedures

AOP-0029	Severe Weather Operation	Revision 12

Other Documents

River Bend Station Emergency Plan, Revision 16

River Bend Station Updated Safety Analysis Report, Section 13.2.2, "General Employee Training," Revision 7, January 1995

EOI-S-LP-GET-PA[illegible].03, "EOI Plant Access Training," October 27, 1997

EOI-S-LP-GET-RWT01.05, "EOI Rad Worker Training," November 5, 1997

Prenatal Information Guide for Radiation Workers (undated)