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August 23, 2001

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Subject: River Bend Station
Docket No. 50-458
License No. NPF-47
Supplement 2 to Proposed Emergency Plan Change

References: 1) Letter from Entergy to USNRC, dated June 29, 2000,
"Proposed Emergency Plan Change"
2) Letter from Entergy to USNRC, dated May 8, 2001,
"Supplement to Proposed Emergency Plan Change"

File Nos.: G9.20.6

RBF1-01-0113
RBG-45810

Ladies and Gentlemen:

This letter provides additional information regarding Entergy's Proposed Emergency Plan Change for River Bend Station (RBS). Entergy, as submitted by Reference 1, requested NRC review and approval of changes proposed to the RBS Emergency Plan. Attachment 1 contains a revision to the information provided by Reference 2. Specific changes, identified by revision bars in the margins, were adopted based on our discussion with the NRC during the May 10, 2001, meeting at NRC Headquarters. Attachment 2 contains, for information only, a revised copy of the proposed marked-up RBS Emergency Plan. If you have any additional questions, please contact Mr. Michael Bakarich at 225-336-3310 or Mr. Gregory P. Norris at (225) 336-6391.

Very truly yours,

A handwritten signature in black ink that reads "Rick J. King".

RJK/gpn
attachment (2)

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ATTACHMENT 1

TO

LETTER NO. RBF1-01-0113

LICENSE NO. NPF-47

ENERGY OPERATIONS, INC.

DOCKET NO. 50-458

NRC'S REQUEST FOR ADDITIONAL INFORMATION

The following information is additional justification to extend augmentation times for NUREG-0654 Table B-1 responders and emergency response facilities. River Bend's initial submittal requested an augmentation time of 60-90 minutes. River Bend would like to clarify the intent of the 60-90 minute time period by indicating that designated Table B-1 emergency staff augmentation will be required to respond within 75 minutes while the remainder respond in 90 minutes. In addition, RBS has set a goal of 45 minutes for Emergency Response Facilities to become operational if minimum staffing is onsite. If offsite, it is the goal of the Emergency Response Facilities to become operational in 90 minutes. Section 13.3.5.1 and Table 13.3-17 of the Emergency Plan are being revised to reflect these changes. This clarification is based on the NRC's previous approval of Grand Gulf's augmentation submittal as well as previous discussions with the NRC. These proposed Emergency Plan changes are an addendum to the changes previously submitted via RBF1-00-0034 on June 29, 2000 and are hereby submitted for NRC staff review and approval as required by 10CFR50.54(q) and 50.4.

The sections below, I-VI, respond to NRC requests for clarification.

I. General Information Needed:

1. *How are the words "activation", "staffing", "available", "augmentation", "operational", "fully operational", "functional", and "fully functional" defined relative to the RBNSEP? Explain how they relate to the proposed Table 13.3-17 and time goals associated with emergency response facility (ERF) activation, staffing, augmentation, operational/functional capability, and/or fully operational/functional capability.*

RBS currently defines "activation" and "operational" in its Emergency Implementing Procedures (EIPs). To avoid confusion, the augmentation time is being separated from the activation time. The terms "augmentation", "activation", and "operational" are being added to Section 13.3.1.1 of the proposed Emergency Plan revision as follows:

Augmentation – Actions taken to support on shift personnel or the Emergency Response Organization (ERO).

Activation – The process of assembling personnel, verifying equipment operability, and making a facility ready to support the emergency response.

Operational – Status of an emergency facility declared by the appropriate facility manager upon determining that the facility is adequately staffed and equipment is set up and available to perform the emergency functions assigned to that facility. The definition and use of "operational" meets the intent of the use of the term "fully operational" in NUREG 0737.

In addition, Table 13.3-17 is being revised to correspond with NUREG-0654, Table B-1. The proposed revision includes the Major Functional Areas and Emergency Tasks listed in Table B-1 and shows the ERO positions responsible for these tasks, along with their augmentation capabilities. It is important to note that River Bend's on-shift staff has always been above the minimum required by NUREG-0654 (Reference Section 13.3.5.1 of the Emergency Plan). This additional staffing provides assurance that key functional tasks such as classifications, offsite notifications, dose assessment, and protective action recommendations can be performed initially without additional augmentation of personnel.

All RBS emergency response facilities (OSC, TSC, and EOF) are activated at an Alert, Site Area Emergency, or General Emergency. To clarify the time goals associated with Emergency Response Facility (ERF) activation, the following will be added to Section 13.3.5.1 of the Emergency Plan (Activation of the Emergency Organization).

"The shift staffing and augmentation capabilities in the event of an emergency are shown in Table 13.3-17. The expectation is that emergency response personnel will respond as quickly as possible but no later than the maximum times indicated in the Table."

"The emergency response facilities may be activated at any time, and shall be activated at an Alert, Site Area Emergency, or General Emergency declaration. Once activated, the facility shall become operational as soon as possible after declaration of any of these emergency classifications. When facility minimum staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise, it is the goal to be operational in 90 minutes."

This proposed augmentation time should be viewed as a maximum time to respond to an off-hour notification and should not be viewed as a reason for any individual to delay reporting to their assigned facility. The expectation is that each individual reports to his/her assigned facility as soon as possible after being notified of facility activation. During normal work hours, if onsite, personnel would be expected to respond within 45 minutes. It should be noted that staff augmentation (along with ERO activation) can be made at any time the Emergency Director feels the conditions warrant such a decision. (Reference Section 13.3.3.2.2 and Section 13.3.5.2)

2. *How are on-shift and augmentation personnel made aware of RBNS management's expectation that personnel will report as soon as possible after notification of an Alert?*

Members of the Emergency Response Organization are trained to respond to their designated facilities following an Alert classification. The following documents cover activation of the emergency response facilities at the Alert:

Emergency Preparedness Training: Organization and Facilities – All ERO members receive this training to initially qualify for their ERO positions. Training covers the activation of all emergency response facilities. During this training, the class reviews the EP Information Notice that covers pager responsibilities, expectations, and call-out positions. (See EP Information Notice below.)

Emergency Response Organization Tabletop Training – The tabletop lesson plan is covered in each of the emergency facilities prior to a drill. It is required annually for key ERO positions. The tabletop includes a discussion of when the facilities should be operational and references the EP Information Notice which includes a discussion on when and how to respond, as well as, expectations for response. (See EP Information Notice below.)

EP Information Notice – This document is disseminated in the training sessions listed above. It is also available on EP's Web Page for quick reference. The EP Information Notice describes ERO expectations for responding to emergencies. The Information Notice states the following:

"If you fill a position on Dialogics, REPORT TO YOUR FACILITY IMMEDIATELY.

If you are ON DUTY and are told NO POSITION IS AVAILABLE, REPORT TO YOUR FACILITY IMMEDIATELY ANYWAY.

If you are called by Dialogics to fill a position, follow the directions and REPORT TO YOUR FACILITY IMMEDIATELY.

If you are not on duty and your pager reflects Augmentation Drill or Emergency, report to your facility immediately providing that you have not consumed alcohol within the past 5 hours or are otherwise not impaired."

This information is periodically disseminated as reminders to the Emergency Response Organization through Emergency Preparedness Newsletters.

As written in the EP Information Notice, it is River Bend's policy that ALL ERO MEMBERS, not just the duty team, respond to an actual emergency. Guidance is provided through training on how to handle the excess

people that show up in the facilities. Individuals not on duty have been encouraged to carry their pagers at all times when it is practical for them to do so (Reference Site Broadcast October 1999 and Emergency Preparedness News October 1999).

3. *How are on-shift and augmentation personnel made aware of RBNS management's expectation that the OSC, TSC, and EOF should be declared ready to support control room personnel (operational/functional) as soon as possible?*

With the activation of ALL emergency response facilities at the Alert classification, transfer of Recovery Manager and Emergency Director responsibilities can be performed expeditiously. EOF staff members are asked to refrain from contacting the TSC during activation to allow the TSC to become operational as soon as possible, thereby relieving the Control Room of Recovery Manager and Emergency Director duties.

Once the TSC is operational, the EOF can quickly assume the duties of the Recovery Manager so that the TSC can assist the Control Room in mitigating the accident.

TSC members are trained on the importance of relieving the Control Room of Recovery Manager and Emergency Director functions as soon as possible. The TSC section of the tabletop lesson plan states:

"Several positions will need to turn over control to the EOF. They are the Emergency Director, Radiation Protection Coordinator, Chemistry/Core Damage Assessment Coordinator, Reactor Engineer, and Communicator. These communications are to be made after activation steps are completed so that this does not hold up the facility from becoming operational. The initial goal of the TSC is to become operational and relieve the Control Room of the RM/ED duties as soon as possible. The EOF should not contact the TSC until the TSC is operational to allow them to complete turnover from the Control Room."

In addition, ERO teams practice this concept in each Site Drill/Exercise.

4. *Table 1 in Attachment 1 shows that over 70% of the RBS responders can respond within 50-65 minutes. Discuss the extent of the use of cross training to enable filling key functions for those who are able to respond within approximately 60 minutes.*

Table 1, Attachment 1 shows that approximately 68 to 73% of the ERO could respond within about 70 minutes if weather conditions are favorable.

Indeed this is a large portion of the total ERO, but RBS does not track personnel domiciles by ERO position. Therefore, although some of the critical positions may have sufficient personnel within the majority who could respond within about 70 minutes, some may not and will need the additional time up to 90 minutes.

Cross training personnel who live near the site to fill more than one position is impractical for the following reasons. First, the cross training and the tracking of that training would place an additional burden on the site organization and personnel. Personnel residing in close proximity of the plant would require additional training and examination, therefore, assuming a disproportionate responsibility in filling ERO positions. Personnel living farther from the plant would not have to take the additional training/examination. They would also be relieved of their rotational emergency response duties if they were unable to meet the restrictive augmentation times.

Second, employee qualifications and personnel experience are the primary criteria that should be used for the selection of ERO personnel. When the assignment of ERO duties must factor in the home location of the selected individuals, it unnecessarily limits the available pool size from which the ERO is staffed. Personnel available for the ERO pool that live in areas with higher population density such as Baton Rouge would not be utilized in filling ERO positions if home location is a factor.

II. Additional Information - Delay Activation of OSC, TSC, and EOF

1. *Explain how the functions of the OSC and TSC would be accomplished if the augmentation goals for the OSC and TSC were extended from 60-90 minutes.*

Section 13.3.6.1.1 of the Emergency Plan indicates that the primary functions of the TSC are:

- "1) To assist operations personnel in the Main Control Room in mitigating an accident and in returning the reactor to a safe condition by providing engineering, technical, and management support."
- "2) To coordinate all onsite emergency response activities and exchange information on plant parameters with the Recovery Manager in the EOF. Plant systems data are available to accomplish these functions."

In addition to these primary functions, the TSC is activated at the declaration of an Alert and performs the functions of the EOF until the

EOF is operational. Note, the EOF is also activated at the Alert level which allows for early transfer of functions from the TSC.

Section 13.3.6.1.2 of the Emergency Plan indicates that the OSC is the coordination area for onsite Radiation Protection personnel, Chemistry technicians, Maintenance technicians and personnel needed to conduct fire fighting, search and rescue, first aid, etc.

10CFR50.47(b)(2) requires that "adequate staffing to provide initial facility accident response in key functional areas is maintained at all times". To comply with this regulation, River Bend Station has identified key functional areas as tasks that on-shift personnel should be able to perform at all times without augmentation of additional personnel. These tasks include:

TASK	RESPONSIBLE FACILITY (prior to EOF being operational)
Classification and declaration of an event	TSC
Offsite agency notification	TSC
Offsite dose assessment and issuance of protective action recommendations	TSC
Offsite radiological surveys to support dose assessment calculations	OSC/TSC
In-plant surveys	OSC
Core/Thermal Hydraulics evaluations	TSC
Maintenance troubleshooting and repair activities	OSC

These key functional tasks are discussed below:

Classification and declaration of an event - The Shift Manager is responsible for the initial evaluation of any abnormal or emergency situation, as well as the safe and proper operation of the plant. He will make use of all means at his disposal, including instrumentation, equipment, instructions, and personnel, to determine the magnitude of an accident and whether or not a potential hazard to the health and safety of onsite personnel or the public exists. If it is determined that an emergency condition or situation does exist, the Shift Manager shall assume the responsibilities and authority of the Recovery Manager (EOF) and Emergency Director (TSC) until relieved of those responsibilities by a member of the RBS Emergency Response Organization assigned that duty. Shift Managers receive annual training and demonstrate their ability to adequately perform classifications in drills/exercises, as well as Simulator sessions. The Shift

Technical Advisor (STA) is also trained in the classification procedures and provides peer checking for the Shift Manager.

Offsite Agency Notification - The initial Communicator for any event is a Nuclear Equipment Operator (NEO) from the on-shift crew. River Bend Station has committed to having 4 NEOs onshift versus the two required by NUREG-0654, Table B-1. NEOs are responsible for activating Emergency Response Organization pagers and notifying the State and local agencies of an emergency. This individual also serves as the Emergency Notification System (ENS) Communicator until the TSC/Control Room (CR) Communicator arrives and relieves him of this responsibility. Note, the TSC/CR Communicator is paged for all emergency classifications and immediately reports to the Control Room to assume NRC notifications. Individuals filling this position on the ERO are licensed or certified senior reactor operators (SROs).

With improved technology, some of the burden is taken off of the Communicator. These improvements were discussed in detail in our initial proposal and are summarized below:

Computerized Paging System - Members of the Emergency Response Organization are assigned alphanumeric pagers that are activated using a computerized paging system. The paging system can be activated by the Communicator within minutes. The system initiates a global page and pages/calls in alternates as needed. In the event the computerized paging system is not operating, the backup system uses the standard plant paging system which can also initiate a global page. Both systems use regular dial telephone service for accessing the systems and activating paging sequences.

Computerized Notification System - State and local agencies are notified via a computerized notification system. Once the message is typed in and transmitted, the state and local agencies begin receiving printouts at their locations. This system contains links to the dose assessment program so that release information does not have to be entered manually. This ensures up-to-date meteorological and radiological information is submitted.

In an effort to increase their proficiency, NEOs receive annual hands-on training on the activation of ERO pagers and operation of the computerized notification system. Their ability to perform these tasks is demonstrated during drills/exercises.

Offsite dose assessment and issuance of protective action recommendations - At the onset of an event, the on-shift Chemistry Technician would report to the Control Room to perform dose calculations. The preferred input for offsite dose calculations is installed Process Monitoring Systems and Area Radiation Monitoring Systems. Area monitors are used to provide indications of localized radiological hazards within the plant while the process monitors indicate more widespread hazards. In some cases, the process monitors provide automatic system isolations at elevated radiation levels to prevent releases of radioactive materials to the environment. Both of these systems provide information necessary to initiate the appropriate emergency procedures, as well as continuing assessment during an accident. These systems are linked to a computer-based radiation monitoring system (DRMS) which provides the following outputs on CRTs located in the Main Control Room, OSC, TSC, and EOF.

- Readout displays for current status of all radiation and airborne radioactivity monitors
- Trend displays for each monitor channel for the following averages
 - 4 hours of 10-minute increments
 - 24 hours of 1-hour increments
 - 28 days of daily increments
- List of all pertinent data base parameters for each channel
- List of all pertinent data base parameters for each monitor
- Listing of group displays
- Group displays of an operator-defined group of channels
- Alarm group display of channels in alarm
- List of logs selectable for printout on the console printer

These outputs, along with confirmatory information obtained from offsite assessment equipment, will enable emergency response personnel to continuously assess any risks to the public due to actual or potential radioactive releases and recommend appropriate actions based on the protective action guidelines as established by the Environmental Protection Agency Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (EPA-400-R-92-001). The radioactivity levels from DRMS can be immediately transferred into the offsite dose calculation software. Due to the addition of the dose assessment program, on-shift staffing can maintain the dose assessment function with little impact on overall accident response. Shift Managers are trained to evaluate the dose calculation results and plant conditions in performing dose assessments and determining

protective action recommendations (PARs). A PAR Flowchart is used to assist the Shift Manager in his evaluation.

Offsite radiological surveys to support dose assessment calculations - Onshift Radiation Protection Technicians are currently required to be able to perform in-plant and onsite radiological surveys in addition to the shared Protective Actions (In-Plant) Radiation Protection emergency tasks in Table B-1. Offsite surveys may also be performed, as needed. However, these offsite surveys are not needed during the initial stages of an event since all expected release pathways are monitored release points and (plume tracking) surveys will most likely not be performed during the early phases of an accident. During the initial time frame (first 15 minutes out to and including 90 minutes) of an accident, in-plant radiation monitoring instrumentation would be used since radiological release instrument data is easily obtained. If instruments become unavailable, onsite surveys are adequate for plume tracking and offsite dose assessment purposes.

Onsite and offsite radiological surveys both have the same purpose; to track and measure the radioactive plume. Onsite (plume tracking) surveys can easily be performed by an onshift RP technician performing a survey in the affected downwind sectors from the plant and out to the site boundary. This can be accomplished by having the onshift RP Technician conduct a survey within the protected area (fenced in area) or from roads surrounding the plant. Onsite surveys would take approximately 10-15 minutes to accomplish and any radioactivity detected above background could be communicated to the onshift offsite dose assessment calculation person via radio. Radiological surveys in close proximity to the plant are representative of conditions in the plume since River Bend is a ground level release plant. This survey would provide the earliest indication of a release. It is important to note that the RP Technician performing this emergency task would be in communication via radio at all times with other ERO personnel. This task would not be expected to be a full-time job. Once the onsite survey was complete, the RP Technician could then assist in providing RP coverage as determined by the Emergency Director.

Augmentation of the offsite radiological survey responders in time to deploy in 90 minutes is acceptable based on the onshift capability to perform onsite (plume tracking) surveys and the fact that installed radiation monitors provide rapid indication of a release. Onsite surveys or installed radiation monitors provide

rapid indication of a release of radioactive material and either can be used for offsite dose assessment calculation purposes.

NOTE: The following Emergency Plan definitions were either revised or added to ensure a clear understanding of key terms related to surveys. The definitions are as follows:

Offsite - That area outside the property boundary. For plume tracking survey purposes, it is all areas beyond the property boundary.

Onsite - That area within the property boundary. For plume tracking survey purposes, it is all areas external to the power block out to and including the property boundary.

Plume Tracking Survey - Onsite or offsite surveys performed to support offsite dose assessments which are ultimately used to provide state and local agencies with Protective Action Recommendations.

In-plant surveys - In-plant surveys are performed on an as-needed basis and only when onshift RP personnel provide RP coverage. RP coverage/in-plant surveys will only be performed if radiological conditions cannot be determined by using in-plant instrumentation or if the job to be performed necessitates a survey which would be the case if radiological conditions are unknown.

In-plant radiological monitoring instrumentation provides a means by which radiological conditions can be determined during an emergency thereby reducing the need to send RPs into the plant to obtain radiological data. With the use of the existing radiation monitoring system, sending Radiation Protection Technicians into plant areas would not be an effective use of Radiation Protection resources. The radiological monitoring system ensures that both Radiation Protection and Emergency Response Organization members are kept informed of current and changing radiological conditions. Using this system is more efficient than requiring a Radiation Protection Technician to enter the plant to perform surveys. In-plant radiological instrumentation provides a continuous radiological status of the rooms monitored along with providing local and remote alarms. Performing in-plant surveys in rooms that are instrumented with radiological monitoring systems is contrary to NRC staff guidance in Regulatory Guide 8.8. Installed radiological monitoring systems avoid the need to send Radiation Protection personnel into the plant to collect radiological data. Avoiding unnecessary surveys by using in-plant Area Radiation Monitors (ARMs) satisfies the requirements of

10CFR20.1101(b) since occupational radiation exposure is kept ALARA.

Core/Thermal Hydraulics evaluations - The Shift Technical Advisor (STA) provides advisory technical support to the Shift Manager in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit (Reference Tech. Spec. Section 5.2.2.) As shown in Table 13.3-17, a Reactor Engineer or Technical Advisor is available to augment the staff in 75 minutes and relieves the Shift Technical Advisor of this responsibility.

Maintenance troubleshooting and repair activities - River Bend Station currently staffs one Mechanical Maintenance Repairman/Radwaste Operator and two Electrical Maintenance/I&C Technicians on shift. The Electrical Maintenance/I&C Technicians are trained to perform valve manipulations for basic mechanical tasks and can fill the Mechanical Maintenance Repairman position until relieved. During the initial stages of an event, the major response activities are concentrated on determining the cause of the event and placing the plant in a safe condition through plant manipulations and system alignments. Equipment repairs would rarely be performed in the initial phases of an event, but rather would be performed after the plant is under control. In the unlikely situation that there would be a need for maintenance during the initial phases of an event, the maintenance need would most likely be of a troubleshooting or minor repair nature.

Summary: As noted in our initial submittal, River Bend has committed to an increase in onshift staffing to ensure onshift personnel are capable of performing the key functional tasks during the first 90 minutes of an emergency. The Shift Manager will make use of all means at his disposal, including instrumentation, equipment, instructions, and **personnel** to determine the magnitude of an accident and whether or not a potential hazard to the health and safety of onsite personnel or the public exists (Emergency Plan Section 13.3.3.2.2). Therefore, additional personnel could be requested by the Shift Manager, as needed, for any of the key functional tasks.

River Bend would like to continue to stress that the 90-minute augmentation time is not meant to give an allowance for delaying ERO response. The expectation is that ERO personnel respond immediately and report as soon as possible whenever the Emergency Plan is activated or when directed at the discretion of the Emergency Director. During normal work hours, if onsite, it is expected that all ERO positions would be filled before the 90-minute requirement (within 45 minutes).

Nevertheless, our evaluations have shown that adequate protection of public health and safety can be assured for staff augmentation in excess of 90 minutes if circumstances warrant. Our request for 90 minutes augmentation time is bounded by the evaluation.

2. *Provide a RBNSEP reference or markup that requires activation of the ERFs in the event of an Alert.*

Section 13.3.6.1, "The emergency response facilities are staffed at the designated level of emergency classification as shown in Figures 13.3-7 and 13.3-9." Figure 13.3-9 shows all facilities being activated at an Alert, Site Area Emergency, and General Emergency.

Section 13.3.3.1.2, Alert, "The station will activate all emergency response facilities and the JIC."

Section 13.3.3.1.3, Site Area Emergency, "If not already accomplished, the station will activate all the emergency response facilities including the JIC."

Section 13.3.3.1.4, General Emergency, "All emergency response facilities and the JIC will be activated, if not already activated at a lower level emergency classification."

Section 13.3.6.1.1, Technical Support Center, "In addition to the above primary functions, the TSC is operational at the declaration of an Alert and performs the functions of the EOF during Alert, Site Area and General Emergencies until the EOF is operational." **Note, Emergency Plan statement should read "TSC is activated at the declaration of an Alert". Change submitted as part of this Emergency Plan proposal.**

Section 13.3.6.1.5, Emergency Operations Facility, "The EOF is activated at an Alert or higher level emergency."

III. Additional Information - Augment five additional RP Techs. within 60-90 minutes

NOTE: Table 13.3-17 is being revised to reflect two of eleven RP Technicians augmenting in 75 minutes and the remainder in 90 minutes. This meets NUREG-0654, Table B-1 requirements for 30 and 60-minute responders.

1. *Describe which on-shift personnel would be capable of assessing an*

unmonitored radiological release and directing monitoring teams (i.e., the dose assessment function of the senior health physicist in NUREG-0654, Table B-1) prior to augmentation within 60 - 90 minutes.

Emergency Implementing Procedures (EIPs) require the Shift Manager to dispatch personnel to sample and evaluate for releases of radioactive materials, as necessary, at the Alert, Site Area and General Emergencies. Two RP Technicians are on shift and can perform surveys, as needed. At the initial stages of an event, onsite surveys are adequate for plume tracking and offsite dose assessment purposes. Use of the installed radiation monitoring system and onsite surveys can provide rapid indication of a release of radioactive materials and can be used for offsite dose assessment calculations. These surveys also provide realistic data for dose projections, if needed.

With River Bend's dose assessment program, the Chemistry Technician in the Control Room can easily perform a dose calculation based on field team results. This can be done by simply entering the gamma dose rate and downwind distance to perform the calculation.

In addition, the Digital Radiation Monitoring System (DRMS) can be used by on-shift personnel to assess radiological conditions in various areas of the plant, thereby limiting any possibility for an unmonitored release.

2. *Describe how the functions of the three senior HPs identified as 30-minute augmentation personnel in Table 13.3-17 are performed by on-shift personnel prior to augmentation in 60-90 minutes.*

EPPOS-3 (Emergency Preparedness Position On Requirement For Onshift Dose Assessment Capability) states that "Nuclear power plant licensees must maintain the capability to perform dose assessment using effluent release information and real-time meteorology at all times. It is the licensee's responsibility to determine which on-shift personnel should perform this task (e.g., operators, HP technicians, chemistry technicians, shift technical advisor, etc.)." At River Bend, the dose assessment function is assigned to an on-shift Chemistry Technician. With the use of a computer-aided dose assessment program, the on-shift dose assessment burden is minimized. This computer program is connected to a PI-Server for live plant data and meteorological information, thus requiring little input from the user. Effluent monitor data, Process Monitor data, meteorological data, core state, and time after shutdown are entered from the PI-Server. The user can always override the computer inputs should he/she have better information. Shift Managers are trained to perform an assessment using the dose calculation results and plant conditions in order to determine appropriate protective action recommendations.

EPPOS-3 indicates that "licensees must be capable of augmenting their staff in order to perform more sophisticated dose assessments within about one hour after declaration of an Alert or higher classification." River Bend has committed to augmenting **three** senior HPs versus the **one** senior HP required by NUREG-0654, Table B-1. The proposed Table 13.3-17 indicates that these individuals will report and augment shift personnel in 75 minutes (within 45 minutes if onsite). The positions counted as senior HP are the Radiation Protection Coordinator (TSC), Radiation Protection Advisor (EOF), and Radiological Assessment Coordinator (EOF). These positions are capable of providing assessment and recommendations for actions to protect personnel and to estimate onsite and offsite radiological impacts, taking into account current and forecast meteorology.

IV. Additional Information - Change augmentation times for other positions in NUREG-0654, Table B-1

1. *Provide additional justification to increase augmentation times for other positions from 60 minutes to 90 minutes.*

EOF Direction & Control - The Recovery Manager provides direction and control in the EOF. The Recovery Manager's responsibilities include offsite agency notification, offsite dose assessment, and issuance of protective action recommendations. These were discussed earlier as part of the key functional tasks to be performed onshift without additional augmentation. The Shift Manager, when initially classifying an emergency condition, will assume the responsibilities of the Recovery Manager as well as the Emergency Director until properly relieved by the designated Emergency Director, who will assume the responsibilities of the Recovery Manager and Emergency Director. Until the EOF is operational, the TSC performs the required functions. Having the EOF staff concurrently with the TSC at the Alert declaration provides for the early transfer of functions from the Technical Support Center. The Recovery Manager and Emergency Director will report as soon as possible to their designated facility (within 75 minutes if offsite) with the goal of the facility becoming operational in 90 minutes (45 minutes, if onsite).

Chemistry/Radiochemistry - River Bend has one Chemistry Technician on shift and augments three additional technicians versus the one required by NUREG-0654. The on-shift technician assists the Shift Manager in accident assessment. As discussed earlier, the Chemistry Technician reports to the Control Room to perform dose calculations using a computerized dose assessment program. This program has greatly minimized the burden of the dose assessment function. Dose calculations can be performed in a matter of minutes. Due to the addition of the dose assessment program, on-shift staffing can maintain the dose

assessment function with little impact on overall accident response. The Chemistry/Core Damage Assessment Coordinator, as part of minimum staffing in the TSC, will report as soon as possible following the declaration of an Alert and take over dose calculations. It is the goal of the TSC to become operational in 90 minutes (45 minutes if onsite).

The Chemistry Technician is also available to support the Shift Manager in performing radiation surveys and obtaining samples, as needed. Chemistry Technicians are trained in the operation of survey instruments.

Technical Support - The Shift Technical Advisor is responsible to the Shift Manager for providing technical support. In this capacity, the STA's

responsibilities would include evaluation of plant status and recommendation of corrective actions to the Shift Manager. The STA also provides advisory technical support to the Shift Manager in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit (Reference Tech. Spec. Section 5.2.2).

Radiation Protection Technicians -

Access Control - In the past, access control was a RP labor-intensive task and dedicated RP Technicians were required to check dose margins, training qualifications, and to ensure workers had read and understood their RWP.

Worker access control is essentially automated since RP work processes have been computerized. Specifically, this includes an RWP (radiation work permit) access control computer system and the Electronic Alarming Dosimeter (EAD) computer system. The RWP access control and EAD computer system work together to provide a fully integrated system allowing workers to sign-in on their RWP and to self-issue EADs. Both systems have been on-line and used by plant workers for several years. Worker dose margins and training qualifications are also automatically verified when the RWP access control system is used by workers. If the worker's dose margin is inadequate or their training is expired, worker's access would be precluded since the access control system would not allow issuance of an EAD. During the log-in process, workers acknowledge their EAD alarm setpoints and that they have read and understand their RWP. The EAD provides the worker with a continuous status of dose received, work area dose rates, and will alarm at preset dose and dose rate alarms. Worker use of EADs facilitates not sending RP Technicians into the plant with all teams to provide RP coverage while preserving the ALARA concept.

Access control is maintained since the worker must obtain an EAD and enter an RWP number (by scanning a barcode) into the access control computer system prior to being allowed access into the Controlled Access Area (CAA). No setup is required for the RWP Access Control Computers so RP Technicians can be used for more critical tasks.

Dosimetry - There are two primary types of dosimetry in use at River Bend: TLDs (thermoluminescent dosimeters) and EADs. In the past, dosimetry issuance was a manual process requiring a number of RP Technicians to zero and issue dosimeters, verify worker training, and verify and track radiation dose margins. With access control computers, EADs are self-issued whenever the worker signs-in on their RWP. During worker self-issuance of the EAD, radiation dose and dose alarm setpoints are assigned to the EAD. The EAD radiation dose and dose rate alarms are automatically assigned from the RWP and are such that workers are precluded from exceeding radiation dose limits while allowing workers to carry out anticipated actions. Worker self-issuance of EADs has eliminated the need for RP Technicians to physically issue dosimetry.

RP coverage - RP coverage will only be performed if the radiological status of a room is unknown and there is a definitive need for emergency workers to enter a room to perform a job. The decision to provide RP coverage may be based on plant radiological conditions as indicated by installed Area Radiation Monitors (ARMs). During the initial stages of an accident, not all areas of the plant would be affected by releases of radioactive materials; therefore, RP coverage would not be required for all areas. If RP coverage is deemed necessary, multiple emergency teams can be covered by the on-shift RP Technicians. In addition to the RP coverage provided by the RP staff, Chemistry and Operations personnel are trained in the use of some portable radiation survey instruments so that certain functions can be performed without the assistance of RP Technicians. If RP coverage is not provided (for entry into areas with low radiological risk or known radiological status), worker protection is ensured since all emergency workers are required to wear EADs (which will alarm at preset dose and dose rate setpoints) and due to the installed ARMs (which alarm locally and remotely at preset dose rates) located throughout the plant. Using ARMs, EADs, and RP coverage when needed is ALARA and complies with 10CFR20.1101(b) yet ensures that critical ERO emergency tasks are performed in a timely manner.

Personnel Monitoring - Personnel monitoring is a minimal involvement RP task for the following reasons. Workers self issue their own EAD whenever they sign-in on their RWP. During worker self-issuance of the EAD, radiation dose and dose rate alarm setpoints are assigned to the EAD which then provide the emergency worker with two levels of monitoring and protection. The EAD radiation dose and dose rate alarms are automatically assigned from the RWP and are such that workers are precluded from exceeding radiation dose limits while allowing workers to carry out anticipated actions. The EAD computer system also verifies worker training and dose margins for each entry. While wearing EADs, workers monitor their dose received and area dose rates. The EADs alarm on dose and dose rate. In the event that their EAD alarms, workers are trained to leave the area and immediately contact RP. Concerning frisking, personnel are required to perform a self-frisk whenever they exit any CAA. No RP involvement is necessary during frisking since workers are trained to perform this task without RP supervision.

V. Additional Information - Deployment Times for Offsite Monitoring Teams

1. *Discuss the time-based sequence of actions needed to have the capability to perform the rapid assessment function of determining the magnitude and location of an actual radiological release following the declaration of an emergency.*

Offsite monitoring teams are activated at the Alert level, along with the Emergency Response Facilities. Upon arrival at the Emergency Operations Facility (EOF), the offsite monitoring teams immediately begin checking equipment and loading their vehicles. Their activation checklist consists of the following:

- Verify offsite team kits are sealed. If seal is missing, make a rapid inventory to ensure that adequate supplies are available for use.
- Determine survey instruments are operable.
- Obtain two air samplers.
- Obtain TLD for each member.
- Obtain Pocket Dosimeters.
- Obtain 2 portable hand-held radios.
- Obtain cell phone.
- Load equipment into vehicle.
- Perform radio check.

All of the necessary equipment is either located in a portable locker or nearby for easy retrieval. Once the offsite monitoring teams have completed the steps above, they are considered ready for deployment.

Prior to leaving the EOF, the offsite monitoring teams will receive a briefing which includes the following:

- Wind direction & speed
- Probable exposure rates, if known
- Exposure limits (including turnback threshold)
- First sample location
- Directions to sample location
- Release rate (or imminent)
- KI
- Protective Clothing
- Plant conditions/status
- Verification of respirator qualifications

Offsite monitoring teams are deployed at a General Emergency or when the Emergency Director deems it necessary. After the decision is made to deploy offsite monitoring teams, River Bend expects teams to leave as soon as possible.

In our initial proposal, we indicated that deployment times for offsite monitoring teams would be defined as the time it takes to dispatch the teams upon deciding to deploy them. River Bend's Emergency Plan, Section 13.3.4.2.2.3 currently states that "Deployment times for the offsite teams range from 45 minutes to 1 hour and 30 minutes." It is our goal for the offsite monitoring teams to be ready to deploy as soon as possible but no later than 90 minutes following notification. Section 13.3.4.2.2.3 of the Emergency Plan is being revised to reflect this change.

2. *Provide additional information to justify extending offsite monitoring team(s) deployment times from 45 to 90 minutes (this time does not include up to 30 minutes of augmentation time from the time the OSC and TSC are activated) up to 180 minutes (proposed 60-90 minutes augmentation time plus 45 to 90 minute deployment time).*

Offsite monitoring teams are dispatched from the OSC to the EOF at the ALERT emergency classification. If the personnel were not on-site when such an emergency classification was made, the offsite monitoring teams would be notified and told to report to the EOF. The activation times expected for the ERFs would include the assembling of the offsite monitoring team personnel.

After arrival at the EOF, the personnel would perform their pre-

deployment checklist as provided in the procedure, receive a briefing on the plant/emergency status and could then be deployed. The expectation for deployment is as soon as possible.

Therefore, the offsite monitoring teams are not granted an additional 180 minutes prior to being deployed.

3. *Provide additional information to justify adding the decision to "dispatch the (offsite monitoring) teams upon deciding to deploy them" in comparison to the previous words in the RBNSEP which state that this should be a preplanned decision. It would appear that placing the decision making requirement on the emergency director or a subordinate is contrary to an emergency planning objective to simplify the choice of possible responses so that judgements are required only for viable and useful alternatives when an emergency occurs.*

The change to add the words "dispatch the teams upon deciding to deploy them" was not intended as an additional decision for the Emergency Director or any other ERO personnel. The offsite teams are sent from the OSC to the EOF at the Alert classification in accordance with the emergency planning objective. However, after becoming ready to depart, the teams do not automatically deploy. The Radiological Assessment Coordinator and the Radiation Protection Advisor must consider the status of the emergency, weather conditions, etc. in deciding when to brief and deploy the offsite teams.

This particular requested change is altered by this supplementary information to provide clarity and remove any perceived inconsistency. The wording is changed to indicate that the teams will be ready for deployment as soon as possible but no later than 90 minutes following notification.

VI. Additional Information - Population Density

As stated in 10CFR100.3, low population zone means the area immediately surrounding the exclusion area which contains residents, and the total number and density of residents are such that there is reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident. 10CFR100 does not specify a permissible population density or total population within this zone because evacuation depends on many factors, such as location, number and size of highways, scope and extent of advance planning, and actual distribution of residents within the area. 10CFR100.3 refers to a densely populated center as one containing more than 25,000 residents. A review of the population density around River Bend indicated that the population density had reduced from the 1980 census to the 1990 census. Table 1 shows

the population zones for River Bend Station. Population data is based on the more conservative 1980 census information.

Distance From Centerline	# of Persons
0-2 miles	419
2-5 miles	2,804
5-10 miles	17,688
Total 0-10 miles	20,911

Information from the year 2000 census was not available at the time of the evaluation, but local Chamber of Commerce projections showed an increase of about 500-600 persons by 2004. The population within 2 miles of the plant is small enough so prompt protective actions could be taken by River Bend and appropriate offsite authorities prior to full augmentation and the emergency response facilities becoming operational.

River Bend uses three wind sectors to determine affected areas during an emergency. The sectors with the highest total population from **0- 5 miles** are P, Q, and R. The sectors with the highest total population from **0-10 miles** are K, L, and M. Table 2 shows the populations within these identified sectors corresponding to protective action recommendations. Note, River Bend's minimum protective action recommendation is evacuate the 2-mile radius, evacuate 5 miles downwind, shelter the 10-mile radius, and evacuate schools, institutions and recreation areas in the 5-mile radius.

Table 2		
Distance From Centerline	Number of People*	Location by Sector
0-2 miles	419	All Sectors
2-5 miles	39	K, L, and M
	458	Evacuate 2-mile radius and 5 miles downwind (2-mile radius and Sectors K, L, and M)
	2,004	P, Q, and R
	2,423	Evacuate 2-mile radius and 5 miles downwind (2-mile radius and Sectors P, Q, and R)
5-10 miles	7,095	K, L, and M
	10,318	Evacuate 5-mile radius and 10 miles downwind (5-mile radius and Sectors K, L, and M)
	1,281	P, Q, and R
	4,504	Evacuate 5-mile radius and 10 miles downwind (5-mile radius and Sectors P, Q, and R)

*These population numbers are based on the 1980 census.

ATTACHMENT 2

TO

LETTER NO. RBF1-01-0113

LICENSE NO. NPF-47

ENERGY OPERATIONS, INC.

DOCKET NO. 50-458

FOR INFORMATION ONLY

Summary of Proposed Changes

Emergency Plan Section	Proposed Change
13.3.1.1	<p>Add the following definitions:</p> <p>Activation - The process of assembling personnel, verifying equipment operability, and making a facility ready to support the emergency response.</p> <p>Augmentation - Actions taken to support onshift personnel or the Emergency Response Organization.</p> <p>Operational - Status of an emergency facility declared by the appropriate facility manager upon determining that the facility is adequately staffed and equipment is set up and available to perform the emergency functions assigned to that facility. The definition and use of "operational" meets the intent of the use of the term "fully operational" in NUREG 0737.</p> <p>Plume Tracking Survey - Onsite or offsite surveys performed to support offsite dose assessments which are ultimately used to provide state and local agencies with Protective Action Recommendations.</p> <p>Revise the following definitions:</p> <p>Offsite - That area outside the property boundary. For plume tracking survey purposes, it is all areas beyond the property boundary.</p> <p>Onsite - That area within the property boundary. For plume tracking survey purposes, it is all areas external to the power block out to and including the property boundary.</p>
13.3.4.2.2.1	<p>Change wording based on change to Table 13.3-17. "Table 13.3-17 reflects anticipated reporting times for key personnel."</p>
13.3.4.2.2.3	<p>Revise statement regarding deployment times of offsite teams at 45 minutes to 1 hour and 30 minutes. Offsite teams are to be ready for deployment as soon as possible but no later than 90 minutes following notification.</p>
13.3.4.2.2.4	<p>Change augmentation of eight additional support personnel from 60 to 90 minutes.</p>
13.3.4.2.2.5	<p>Remove reference to 5 RP Technicians in 30 minutes. Referenced Table 13.3-17 for augmentation of RP Technicians.</p>

Summary of Proposed Changes

13.3.5.1	<p>Add the following statement: "The shift staffing and augmentation capabilities in the event of an emergency are shown in Table 13.3-17. The expectation is that emergency response personnel will respond as quickly as possible but no later than the maximum times listed in the Table." "The emergency response facilities may be activated at any time, and shall be activated at an Alert, Site Area Emergency, or General Emergency declaration. Once activated, the facility shall become operational as soon as possible after declaration of any of these emergency classifications. When facility minimum staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise, it is the goal to be operational in 90 minutes.</p>
13.3.5.1	<p>Remove reference to organization being available within 60 minutes during fair weather and light traffic.</p>
13.3.6.1.1	<p>Change statement to read "TSC is activated at the declaration of an Alert". Plan previously stated "TSC is operational at the declaration of the Alert".</p>
Table 13.3-17	<p>Change table to correspond with NUREG-0654, Table B-1. Added Major Functional Area and Emergency Tasks from Table B-1. Added Position Title or Expertise, Location, Onshift number, and Capability in 90 minutes for each of the Emergency Tasks. Revised to accurately depict personnel onshift. Added note indicating that at least one NEO is communicator qualified.</p>
Appendix A	<p>Add STA job description. Add NRC notification to NEO job description.</p>

13.3.1.1 Definitions

The following is a list of terms and their definitions that will be used, as appropriate, in this plan and the Emergency Implementing Procedures:

Accident - An unforeseen and unintentional event and its consequences that may result in an emergency.

Activation - The process of assembling personnel, verifying equipment operability, and making a facility ready to support the emergency response.

Alternate Evacuation Point - An alternate egress point that may be used, if necessary, during an Owner Controlled Area Evacuation. The Alternate Evacuation Point from the Protected Area is the South Train Gate.

Alternate Evacuation Assembly Area - A designated area where personnel may assemble for radiation monitoring during an Owner Controlled Area Evacuation. This assembly area is located at the intersection of WFP #7 and the River Access Road.

Assembly Area - A designated point where evacuated personnel may be assembled for radiation monitoring purposes.

Assessment Actions - Those actions taken during or after an accident to obtain and process information that is necessary to make decisions to implement specific emergency measures.

Augmentation - Actions taken to support onshift personnel or the Emergency Response Organization.

Building Evacuation - The withdrawal of all personnel from one building.

Controlled Access Area - The controlled area for River Bend Station will include all areas of the fuel handling building, the reactor building, the reactor auxiliary building, the turbine building, and other areas where access is controlled for the purpose of radiation protection.

Controlled Area - Synonymous with the Controlled Access Area (CAA) in the plant.

Corrective Actions - Those emergency measures taken to ameliorate or terminate an emergency situation at or near the source of the problem in order to prevent an uncontrolled release of radioactive material or to reduce the magnitude of the emergency situation, e.g., shutting down equipment, firefighting, repair, and damage control.

Departmental Procedures - A detailed, pre-established set of instructions which define the steps involved in performing a specific activity.

Drill - A supervised instruction period aimed at testing, developing, and maintaining skills in a particular operation.

Emergency - That situation or condition which may result in damage to property and/or lead to undue risk to the health and safety of the general public and/or site personnel.

Emergency Action Levels (EAL) - Predetermined conditions or values that, when exceeded, require the initiation of certain emergency actions.

Emergency Actions - Those steps taken, as a result of exceeding an emergency action level, to ensure that the situation is assessed and that proper corrective and/or protective actions are taken.

Emergency Classification - A classification that arranges accidents in order of increasing severity and outlines an effective course of action and protective measures to safeguard the public and plant personnel. The four emergency classifications as detailed in Section 13.3.3.1, are as follows, listed in order of increasing severity:

1. Notification of Unusual Event
2. Alert
3. Site Area Emergency
4. General Emergency

Emergency Director - A designated individual, normally located in the TSC, responsible for the supervision and direction of onsite emergency response operations.

Emergency Implementing Procedures (EIPs) - Specific procedures that provide step-by-step actions to implement this plan in order to ameliorate or terminate an emergency event. These procedures are listed in Appendix F.

Emergency Operating Procedures - A pre-established set of instructions that define the actions to be taken by operators in response to abnormal conditions at the station.

Emergency Operations Facility (EOF) - A nearsite facility from which onsite/offsite emergency response and recovery operations are coordinated.

Emergency Operations Facility Manager - The individual at the nearsite EOF who coordinates the activities of the EOF staff during the emergency response.

Emergency Plan - The EOI plan for coping with emergencies at the River Bend Station.

RBS - EP

Emergency Planning Zone (EPZ) - Offsite area surrounding RBS for which planning is conducted to assure that prompt and effective actions can be taken to protect the public in the event of an accident. For the plume exposure pathway, the EPZ has a corresponding radius of approximately 10 miles; for the ingestion exposure pathway, the EPZ has a corresponding radius of approximately 50 miles.

Emergency Response - Those actions taken after an EAL is reached to ensure the safety of personnel, and to return the plant to a safe status. Evacuation Assembly Area East - A designated area where personnel may assemble for radiation monitoring during an Owner Controlled Area Evacuation. This area is located at the intersection of the River Bend Power Station Road and the Training Center West parking lot entrance.

Evacuation Assembly Area West - A designated area where personnel may assemble for radiation monitoring during an Owner Controlled Area Evacuation. This area is located at the Activity Center near the intersection of the River Bend Power Station Road and West Feliciana Parish Road #7 (Powell Station Road/State Highway 965).

Exclusion Area (EA) or Exclusion Zone (EZ) - That area as defined in 10CFR100.3(a) which has a boundary of approximately 3,000 ft from the RBS reactor.

Exercise - An event that tests a major portion or all of the basic elements within the Emergency Plan. This event demonstrates the capability of the emergency organization to cope with an emergency that could result in offsite consequences.

Corporate Office - EOI corporate headquarters, located in Jackson, Mississippi.

Ingestion Exposure Pathway - The EPZ within an approximate 50 mile radius from the station in which the principal exposure is from the ingestion of contaminated water or food such as milk, livestock feed, or vegetables. Depending on the nature and magnitude of the radiological emergency, the duration of potential exposure may range from hours to months.

Joint Information Center (JIC) - A designated area located in the River Bend Station Training Center, adjacent to the Emergency Operations Facility (EOF), where public information is disseminated and press briefings are conducted.

Joint Information Center Director - A designated individual responsible for directing activities at the Joint Information Center (JIC).

Limited Evacuation - The withdrawal of personnel from a single area within a building.

Louisiana Department of Environmental Quality (LDEQ) - The division of the Louisiana Department of Environmental Quality that coordinates the State's technical response to a nuclear facility accident and develops state level recommendations for protective actions. LDEQ is responsible for the development and implementation of the State radiological emergency plan.

Louisiana Office of Emergency Preparedness (LOEP) - The Louisiana State agency responsible for the coordination of general state-level emergency plans and programs. It coordinates all phases of disaster operations including the emergency response of designated State agencies, the Federal Emergency Management Agency and other States when appropriate.

Louisiana Peacetime Radiological Response Plan - State of Louisiana Emergency Response Plan for all radiological emergencies other than nuclear attack in the State and near its borders.

Louisiana Peacetime Radiological Response Plan, River Bend Station

Attachment - One of three attachments to the Louisiana Radiological Response Plan containing information site-specific to the five parishes in the 10 mile plume exposure pathway of the River Bend Station.

Low-Population Zone - That area as defined in 10CFR100.3 (b) which has a boundary 2.5 miles from the River Bend Station reactor.

Main Control Room - The primary area for plant instrumentation and control under the direction of the Operations Shift Superintendent.

Mississippi Emergency Management Agency (MEMA) - The Mississippi State agency responsible for the development of State emergency plans and procedures. MEMA coordinates State and Federal agency response to emergencies and provides for the continuity of technical, administrative and material resources.

Mississippi Highway Patrol (MHP) - In coordination with MEMA, provides notification and warning to the public in the event of an emergency. Assists local officials with evacuation. Provides backup communications; traffic control; access/egress control and radiological monitoring assistance.

Mississippi Radiological Emergency Preparedness Plan (MREPP) - Volume II, Part 3 to the Mississippi Emergency Operations Plan which describes the response organization and capabilities of the State of Mississippi for responding to a radiological emergency.

Mississippi State Department of Health, Division of Radiological Health (MSDH/DRH) - The lead Mississippi State agency for technical response and accident assessment. Provides personnel and equipment for the Radiological Emergency Response Team. Advises State and local officials on the implementation of Protective Actions. Establishes radiological exposure controls.

Offsite - That area outside the property boundary. For plume tracking survey purposes, it is all areas beyond the property boundary.

Onsite - That area within the property boundary. For plume tracking survey purposes, it is all areas external to the power block out to and including the property boundary.

Operational – Status of an emergency facility declared by the appropriate facility manager upon determining that the facility is adequately staffed and equipment is set up and available to perform the emergency functions assigned to that facility. The definition and use of "operational" meets the intent of the use of the term "fully operational" in NUREG 0737.

Operations Support Center (OSC) - A designated area located in the Services Building from which response personnel are dispatched to mitigate an abnormal situation.

Operations Support Center Director - The individual responsible for coordinating all emergency response activities at the OSC.

Owner Controlled Area - The area within the EOI property boundary.

Owner Controlled Area Evacuation - The withdrawal of nonessential personnel, from the owner-controlled area, which includes the Protected Area, whenever extensive unexpected and uncontrolled hazards exist.

Plume Exposure Pathway - The EPZ within an approximate 10 mile radius from the station in which a radioactive cloud (plume) can expose the population at risk and/or plant personnel to radiation. The duration of potential exposure could range from hours to days. The principal exposure sources for this pathway are:

- a. Whole body external exposure to gamma radiation from the plume and deposited material, and
- b. Inhalation exposure from the passing plume.

Plume Tracking Survey - Onsite or offsite surveys performed to support offsite dose assessments which are ultimately used to provide state and local agencies with Protective Action Recommendations.

Population-at-Risk - Populations within the 10 and 50 mile Emergency Planning Zones.

Primary Access Point (PAP) - The primary point used to control ingress/egress to and from the Protected Area. Personnel accountability is performed at this point during Owner Controlled Area Evacuations.

Projected Dose - The estimated dose that would be received by individuals if no protective actions were taken following a release of radioactive materials.

Protected Area - That area within the perimeter of the RBS security fence.

Protective Action Guide (PAG) - The projected dose level for individuals in the population which warrants taking protective action.

Protective Actions - Those emergency measures taken to prevent or minimize radiological exposures to onsite personnel and the general public.

Radiation Protection Personnel - Personnel who are members of the site Radiation Protection Department and have received extensive training in radiation protection.

Radiological Emergency - An event that results in the loss of control of radioactive materials and that involves a hazard or potential hazard to the health and safety of people or to property.

Recovery Manager - A designated individual responsible for the overall coordination of onsite and offsite emergency response.

Recovery Operations - Those operations taken after the emergency has been terminated to restore the plant as nearly as possible to its pre-emergency condition.

River Bend Parishes - The collective name of the five parishes within the 10 mile EPZ of the RBS. These parishes are: West Feliciana, East Feliciana, East Baton Rouge, West Baton Rouge and Pointe Coupee.

Severe Accident Procedures - Procedures which implement the degraded core accident management actions of the Plant Specific Technical Guidelines

State and Local Hotline - The dedicated telephone system which connects the key emergency response facilities at the RBS with LOEP, LRPD, the 24 hour notification points, and the local emergency operations centers in the five local parishes, MHP, and MEMA.

Technical Support Center (TSC) - An onsite facility in close proximity to the Main Control Room from which the onsite emergency response is coordinated.

Technical Support Guidelines - Guideline to provide a method for support and optimization of the accident management strategies implemented through Severe Accident Procedures.

13.3.4.2.2.1 Plant Operations and Assessment of Operational Aspects

Upon declaration of an emergency, the Shift Manager will assume the responsibilities of Emergency Director and Recovery Manager. Normally two Nuclear Control Operators and two Nuclear Equipment Operators on each shift will have no other duties except to assist in plant operational control from the Main Control Room. A third Nuclear Control Operator and three additional Nuclear Equipment Operators will be available at all times, but collateral responsibilities may require that they assist in repair and/or protective actions. The onshift oversight function provides independent verification of emergency classifications.

Assessment of the plant status and degree of safety degradation will be initially evaluated by the Shift Manager. He will base his evaluation on plant instrumentation and reports from technical personnel making actual examination of equipment.

Shift personnel are considered to be immediately available to respond to the emergency situation and initiate emergency response actions. Other station personnel assigned to the emergency response organization may be offsite at the time of initiating events. Table 13.3-17 reflects anticipated reporting times for key personnel.

The TSC, OSC, and the EOF are manned by designated personnel. The EOF is also manned by federal and state officials, as necessary.

13.3.4.2.2.2 Notification/Communication

Notification of responsible federal, state, and local agencies will be initiated upon the declaration of an emergency by the Shift Manager. Initially, a Nuclear Equipment Operator will be designated as a Communicator to conduct the notification from the Main Control Room using the Notification Procedure.

Upon the TSC becoming operational, the responsibility for notification/communications will shift from the Control Room to the TSC. When the EOF becomes operational, notifications/communications will shift from the TSC to the EOF. Personnel that are assigned to Communicator positions will have technical backgrounds so that they may effectively transmit information.

13.3.4.2.2.3 Radiological Accident Assessment

Upon the occurrence of an off-normal event, the Shift Manager will assess the amount of radiation released and the potential for further releases based upon readouts from installed monitors, in-plant surveys, and samples. A Radiation Protection Technician and a Nuclear Chemistry Technician will be assigned to each shift to support the Shift Manager in performing radiation surveys and obtaining samples as directed.

The fully implemented emergency response organization divides radiological accident assessment into onsite and offsite groups. The onsite group is stationed in the OSC and is under the supervision of the Radiation Protection Coordinator. Nuclear Chemistry Technicians under the coordination of the OSC Director will be available in the OSC to assist in accident assessment. Radiation Protection Technicians can use portable equipment to determine radiation levels and contamination levels from liquid and gaseous releases. Nuclear Chemistry Technicians can provide samples of reactor coolant and containment atmosphere or suppression pool water to analyze for radioisotopic concentrations. Offsite radiation surveys will be directed and the results analyzed by the Radiation Protection Advisor at the EOF. Each offsite team includes two individuals of which at least one is a Radiation Protection Technician. The team is notified using appropriate EIPs. Radiological monitoring equipment for use by offsite dose assessment teams is stored in the EOF. The team will obtain samples in the local area as directed for analysis. The particulate filter and iodine cartridge can be evaluated in the field using portable radiation instruments, or may be returned to the site and analyzed using a multichannel analyzer, at the discretion of the Radiation Protection Advisor. The offsite teams have dedicated vehicles that are radio equipped for communications with the EOF. In addition, portable radios are available for use by the offsite emergency response teams. Readiness for deployment is expected to be as soon as possible but no later than 90 minutes following notification.

13.3.4.2.2.4 Plant Systems Engineering, Repair, and Corrective Actions

A Nuclear Equipment Operator, trained in the operation of the plant radioactive waste system, and an Instrument and Controls Technician are immediately available to perform repair and corrective actions as directed by the Shift Manager.

Depending upon the type and severity of the emergency, a minimum of eight additional support personnel are available onsite within about 90 minutes. The maintenance and repair personnel will operate out of the OSC.

Technical support will be provided by available RBS personnel. The TSC Manager will coordinate the technical support group which will develop plans and procedures to return the plant to a safe status.

13.3.4.2.2.5 Radiation Protection Coverage

Radiation protection coverage will be provided by the Radiation Protection staff. Additional Radiation Protection Technicians are available after notification of a radiological emergency as shown on Table 13.3-17. The Radiation Protection Technicians, working out of the OSC, will perform monitoring, provide radiation protection support, and limit access to radiologically controlled areas. In addition to the radiation protection coverage provided by the Radiation Protection staff, Chemistry and Operations personnel are trained in the use of portable survey instruments. Decontamination of personnel and equipment is under the direction of Radiation Protection personnel in accordance with RBS procedures.

13.3.5 Emergency Measures

EOI utilizes a method for classifying emergencies which results in four distinct classes. Definitions for each class are described in Section 13.3.3. Criteria for classifying emergency situations in each class are described in Table 13.3-1.

An emergency implementing procedure will be initiated on the basis of measured variables and at specified conditions, or at other times specified by either the Shift Manager or the Emergency Director. These implementing requirements are referred to as Emergency Action Levels (EALs). EALs, as discussed in Section 13.3.3.1, are provided in the EIP used in classifying emergencies.

The initial evaluation by the Shift Manager of abnormal conditions and situations, as well as accidents, will result in the initial classification of the emergency and the implementation of the appropriate procedures. The emergency actions will, as appropriate, require notification of the Emergency Director, other emergency organizations and personnel, and reassessment of the conditions and/or situations. As described in Appendix F, the EIPs associated with each emergency classification also apply to higher level emergencies.

Reassessment of the emergency may result in carrying out additional emergency actions, further notification of emergency organizations and personnel, or reclassification.

13.3.5.1 Activation of the Emergency Organization

Notification of the onsite emergency response organization and offsite agencies of an emergency declaration is accomplished in accordance with the EIPs. The EIPs also provide for notification message verification, as appropriate.

The shift staffing and augmentation capabilities in the event of an emergency are shown in Table 13.3-17. The expectation is that emergency response personnel will respond as quickly as possible but no later than the maximum times indicated in the Table.

The emergency response facilities may be activated at any time, and shall be activated at an Alert, Site Area Emergency, or General Emergency declaration. Once activated, the facility shall become operational as soon as possible after declaration of any of these emergency classifications. When facility minimum staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise, it is the goal to be operational in 90 minutes.

At RBS individuals for each key position will be alerted of an emergency by an automated notification system. If an individual does not respond to the pager or phone call, alternates for the position will be contacted.

13.3.6 Emergency Facilities

This section of the Emergency Plan identifies, describes, and gives locations of emergency response facilities, support centers, communication systems, assessment facilities, protective facilities, and first aid and medical facilities. Interface among the Onsite and Offsite Emergency Response Facilities is shown in Figure 13.3-18.

13.3.6.1 Emergency Response Facilities

The emergency response facilities are a coordinated group of facilities, separated physically to minimize interference and confusion, and connected by dedicated communication lines to ensure an uninterrupted flow of data and instructions. The emergency response facilities are staffed at the designated level of emergency classification as shown in Figures 13.3-7 and 13.3-9.

The emergency response facilities assure that EOI has the capability to perform the required functions of direction and control, accident assessment (SPDS), communications and notification, onsite and offsite dose assessment (DRMS), interface with state, local, and federal authorities, and recovery and reentry actions. If automated diagnostic functions are not functional in the TSC and EOF adequate secondary measures are provided so that the Emergency Response Facilities can effectively support an emergency.

13.3.6.1.1 Technical Support Center (TSC)

The TSC is the onsite emergency response facility located near the reactor on the third floor of the RBS Services Building inside the Protected Area. The TSC is within close proximity of the Main Control Room to facilitate the interaction between emergency response personnel in both locations. The primary functions of the TSC are as follows:

1. To assist operations personnel in the Main Control Room in mitigating an accident and in returning the reactor to a safe condition by providing engineering, technical, and management support.
2. To coordinate all onsite emergency response activities and exchange information on plant parameters with the Recovery Manager in the EOF. Plant systems data are available to accomplish these functions.

The overall management of the TSC and onsite emergency response activities is under the direction of the Emergency Director. In addition to the above primary functions, the TSC is activated at the declaration of an Alert and performs the functions of the EOF during Alert, Site Area and General Emergencies until the EOF is operational. This includes offsite notification to and communications with state, local, and NRC officials. In addition, Radiation Protection personnel perform offsite dose assessment by using meteorological and radiological data available in the TSC. These dose projections are provided to the States of Louisiana and Mississippi.

TABLE 13.3-17

SHIFT STAFFING AND AUGMENTATION CAPABILITIES

Major Functional Area	Emergency Tasks	Position Title Or Expertise	Location	On Shift (h)	Capability for Additions
					90 Min
Plant Operations and Assessment of Operational Aspects	Emergency Direction and Control	Shift Manager (SRO)	CR	1	--
		Emergency Director	TSC	--	1 (e)
		Control Room Supervisor (SRO)	CR	1	--
		Nuclear Control Operator (RO)	CR	2	--
		Nuclear Equipment Operator	CR	4(k)	
	Firefighting, firefighting communications	Fire Brigade (ROs, NEOs, Security)	CR	5 (a)	Provided by offsite fire department personnel
	Technical Support and Core/Thermal Hydraulics (d)	Shift Technical Advisor	CR	1 (c)	--
Core/Thermal Hydraulics	Reactor Engineer, Technical Advisor	TSC/EOF	--	1 (e)	
Notification/Communication	Offsite Notifications (State, Local, Federal) and maintain communications, Notification of plant On-Call emergency personnel	Nuclear Equipment Operator	CR	1	
		TSC/CR Communicator OR TSC Communicator OR EOF Communicator OR ENS Communicator	CR/TSC/EOF	--	3 (e)
Radiological Accident Assessment and Support of Operational Accident Assessment	EOF Direction and Control	Recovery Manager	EOF	--	1 (e)
	Offsite Dose Assessment	Shift Personnel (Operations)	CR	1 (a)	--
		RP Coordinator OR RP Advisor OR Radiological Assessment Coordinator	TSC/EOF	--	3 (e)
	Chemistry/Radio-Chemistry	Chemistry Technician	CR/OSC	1	3
Plant System Engineering	Technical Support (f)	Electrical Engineer OR Mechanical Engineer OR Engineering Coordinator OR TSC Manager OR Operations Support Coordinator OR EOF Manager OR Engineering Support Advisor OR Technical Advisor OR EOF Engineering Support	TSC/EOF	--	6
Repair and Corrective Actions		Mechanical Maintenance/ Radwaste Operator	OSC	1 (a)	2
					--
		Electrical Maintenance/ I&C Maintenance	OSC	2 (i)	2
					1

TABLE 13.3-17

SHIFT STAFFING AND AUGMENTATION CAPABILITIES

Major Functional Area	Emergency Tasks	Position Title or Expertise	Location	On Shift (h)	Capability for Additions
					90 Min
Radiation Protection	-Access Control -HP coverage for repair, corrective actions, search and rescue, first-aid, and fire fighting -Personnel monitoring -Dosimetry -Surveys (offsite, onsite, and in-plant surveys on as-needed basis only)	Radiation Protection Technician	OSC	2	11 (b) (g) (j)
Rescue / First aid		First Responders	OSC	2 (a)	Provided by support hospitals
Security	Security, personnel accountability	Security Personnel			(See Security Plan)

Notes:

- (a) May be provided by Shift Personnel assigned other duties.
- (b) Must be trained for the Emergency Task being performed.
- (c) STA staffing in accordance with River Bend Station Technical Specification.
- (d) Core/Thermal Hydraulics is part of normal STA duties as listed in the Updated Final Safety Analysis Report and Technical Specifications.
- (e) These personnel will report and augment shift personnel in 75 minutes (45 minutes if onsite).
- (f) Includes Sr. Engineering expertise and Sr. Operations personnel.
- (g) In addition to HP coverage provided by the radiation protection staff, Chemistry and Operations personnel are trained in the use of portable survey instruments.
- (h) These ERO positions may be vacant for not more than 2 hours, in order to provide for unexpected absences, provided action is taken to fill the required position. This allowance is not applicable during declared emergencies.
- (i) Trained in valve manipulation for basic mechanical tasks.
- (j) Two RP Technicians will report as offsite team members in 75 minutes.
- (k) At least one is communicator qualified.

APPENDIX A

EMERGENCY ORGANIZATION JOB DESCRIPTIONS

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SHIFT TECHNICAL ADVISOR

A. LOCATION: Main Control Room

B. FUNCTION AND RESPONSIBILITIES:

1. To provide advisory technical support to the Shift Manager in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit.

TSC/CONTROL ROOM COMMUNICATOR

A. LOCATION: Main Control Room

B. FUNCTION AND RESPONSIBILITIES:

1. To communicate with the Operations Support Coordinator (TSC), Operations Advisor (EOF), Technical Advisor (EOF) and the Status Communicators (TSC & EOF) via the Status Phone to provide the current plant status and actions initiated by the Shift Manager.
2. Initially serves as the ENS Communicator until the TSC is operational.

NUCLEAR CONTROL OPERATORS

A. LOCATION: Main Control Room

B. FUNCTIONS AND RESPONSIBILITIES:

1. Support the Shift Manager in emergency assessment and emergency plant operations.
2. Provide assistance as directed by the Control Room Supervisor to mitigate the effects of the emergency situation.
3. May be assigned responsibilities as Fire Brigade leader, Search and Rescue Team leader.

NUCLEAR EQUIPMENT OPERATORS (Sr.)

A. LOCATION: Main Control Room

B. FUNCTIONS AND RESPONSIBILITIES:

1. Provides plant operational data to the Shift Manager for accident assessment and emergency response operations.
2. Operates plant equipment in support of emergency response and recovery operations.
3. Member of the Fire Brigade, and Search and Rescue Team.
4. A designated NEO acts as Control Room Communicator in notifying State, local and federal agencies until additional support arrives.

COMMUNICATORS

A. LOCATION: Main Control Room, Technical Support Center, and Emergency Operations Facility

B. FUNCTIONS AND RESPONSIBILITIES

1. Perform emergency notification procedures.
2. Maintain contact with offsite authorities and relay appropriate information concerning station status.
3. Relay inquiries from offsite authorities to appropriate emergency response organization members.