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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

ATTN: Document Control Desk

Subject: Grand Gulf Nuclear Station
Docket No. 50-416
License No. NPF-29
Proposed Emergency Plan Change - Table 5-1 Change, Addendum to GNRO-98/00028 Augmentation Time at NRC Request

Reference: GNRO-99/00058 dated July 15, 1999 from EOI to NRC, Proposed Emergency Plan Change - Table 5-1 Change, Addendum to GNRO-98/00028 Augmentation Time at NRC Request

GNRO-2000/00021

Gentlemen:

We appreciated the meeting held on November 2, 1999, at Grand Gulf and subsequent discussions between station and NRC personnel to address changes and additional information needed to facilitate final reviews of our proposed Emergency Plan Changes. Where the words "as requested by the staff" are used, we are referring to the additional information needed by the staff for their review. As agreed upon in the meeting, this letter includes changes and additional information needed for final NRC reviews. The enclosed proposed Emergency Plan change is an addendum to the changes previously submitted via GNRO-98/00028, 99/00007, and 99/00058 and is hereby submitted for NRC staff review and approval as required by 10CFR50.54(q) and 50.4.

Throughout this submittal, the following words are used in discussions; Operational, Augmentation, and Activation. To avoid confusion, these terms are defined as follows:

> Operational - Status of an emergency facility declared by the appropriate facility manager upon determining that the facility is adequately staffed and equipment is setup and available to perform the emergency functions assigned to that facility (Reference: Section 1.30, GGNS Emergency Plan). The procedures that are used to verify that the facilities are fully operational are:
>
> 10-S-01-29, Operations Support Center (OSC) Operations, Rev. 14
> 10-S-01-30, Technical Support Center (TSC) Operations, Rev. 9
> 10-S-01-33, Emergency Operations Facility (EOF) Operation, Rev. 10

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Activation - Actions taken to staff and setup an emergency facility for operation. Includes notification of emergency personnel, equipment setup and equipment operability testing (Reference: Section 1.2, GGNS Emergency Plan).

Augmentation - Actions taken to support onshift personnel prior to emergency facilities becoming fully operational (Reference: New definition as proposed in this submittal).

We would like to reiterate that our proposed Emergency Plan changes have been evaluated against 10CFR50 Appendix E and 10CFR50.47(b)(2) requirements, specifically "adequate staffing to provide initial facility accident response in key functional areas is maintained at all times..." While meeting these regulations and addressing other NRC guidance documents, we believe that the staffing selection should be driven by needed skills and abilities. We believe that the proposed staffing levels along with the proposed augmentation and facility fully operational times are sufficient to ensure all required actions of the Emergency Plan can be performed in a timely manner and at all times.

Our process to ensure compliance with 10CFR50.47(b)(2) involved identification of key functional tasks that we felt onshift Emergency Response Organization (ERO) personnel should be able to perform at all times[1] without augmentation. The key functional tasks are:

- Classification of an event.
- Declaration of an event.
- Offsite agency notification.
- Dose assessment and issuance of PAR's (protective action recommendations).
- Mitigation of the event.

Table 5-1 emergency tasks were identified which support performance of the above listed key functional tasks, without augmentation completed. After identification of the required emergency tasks, we then identified tasks that would be staffed onshift at all times and those tasks which would require the capability to perform the task by onshift personnel. This necessitated increasing (overstaffing) our committed onshift staffing in Table 5.1 by 50% to ensure onshift personnel were capable of performing the key functional tasks during the first 75 minutes of an emergency. The 50% increase was based on our committed increase of onshift staffing from 10 personnel to 15. [This conclusion is based on the fact NUREG-0654 Table B-1 indicates 10 dedicated on-shift individuals as compared to the 15 dedicated on-shift individuals proposed.] The following discussions and attached justifications provide additional information which should support and facilitate final staff reviews of our proposed Emergency Plan changes.

[1] While staff augmentation is expected within the required time, circumstances such as severe weather conditions may further delay augmentation (e.g., situation similar to the hurricane at Turkey Point). Thus, the GGNS philosophy of ensuring capability at all times.

**Increased Onshift Staffing Offsets**

To offset any potential decrease in emergency capability associated with the increased augmentation and facility fully operational times, specific onshift staffing or capabilities (GNRO-98/00028, Attachment 2, M1 through M7) will be increased. Specifically the following Table 5-1 Emergency Tasks and Emergency Plan changes support this increase in times:

- Committing to increase the onshift communicator staffing from one to two.
- Committing radwaste operator capability as an onshift requirement.
- Committing to increase the onshift I&C staffing from zero to one.
- Deleting footnote denoting mechanical and electrical maintenance as a shared function thus increasing onshift staffing in these areas by one each.
- Committing to increase onsite survey staffing from zero to one.
- Committing to provide the capability to perform onshift dose assessment.
- Committing to provide the capability of core/thermal hydraulics by combining the function with the onshift STA (Shift Technical Advisor)[2].
- Activation of all facilities at an ALERT.

**TSC Augmentation at 75 Minutes**

A change suggested by the staff during a meeting on November 2, 1999 dealt with augmentation of onshift personnel by requiring five select TSC personnel to report at 75 minutes. The purpose of this augmentation is to assist onshift personnel as needed during the initial stages of an event. The following Emergency Tasks will now be required to report and augment onshift personnel in 75 minutes:

- One person to take over Emergency Direction and Control.
- One person to take over Core/Thermal Hydraulics.
- Two persons to assist with Offsite Notifications and Communications.
- One person to take over Offsite Dose Assessment.

This will provide a separation of augmentation and when the TSC is fully operational. See Attachments 1 and 2 for mark-up and justification.

[2] Currently required by GGNS Technical Specification 5.2.2.g and UFSAR 13.1.2.3.8.

**Early Activation of EOF**

Another form of overstaffing, as discussed with the NRC staff during the telephone call on June 29, 1999, includes calling out personnel in an emergency prior to reaching a defined emergency classification. Primarily, the EOF will now be activated at an Alert in the proposed Emergency Plan versus the current requirement to only activate the EOF at Site Area or General Emergency. This early activation and staffing of the EOF is considered a form of overstaffing.

**Operating Shift Can Perform All Critical Functions Before Augmentation**

To support staff approval of the change, we felt it was necessary to discuss the reasons why onshift personnel would not be overwhelmed by too many tasks in the early stages of an event. The justification, as provided in GNRO-98/00028, provides the details necessary to come to the conclusion that onshift personnel will be able to accomplish the necessary tasks for the first 75 to 90 minutes (with the new onshift staffing number of 15, augmentation at 75 minutes, and improved technology) of an event. Justification for each function is as follows:

| Emergency Task/Position | Justification as stated in GNRO-98/00028 | ID# |
|---|---|---|
| • Offsite Dose Assessment | Offsite dose assessment calculations are easily performed by onshift personnel. One trained individual can rapidly perform dose calculations with a user-friendly computerized dose calculation work station available at several locations in the plant and selected emergency facilities. Onshift offsite dose assessment calculations can be performed on demand and as necessary to provide protective action recommendations. | L8 |
| • Offsite radiological Surveys | Delayed augmentation of offsite radiological survey responders is acceptable based on the onshift capability to perform onsite surveys and the fact that there may not even be a need to perform surveys due to installed post accident effluent radiation monitors. Onsite surveys or installed post accident effluent radiation monitors provide rapid indication of a release of radioactive materials and can be used for offsite dose assessment calculation purposes. The Grand Gulf site is surrounded by state roads, some of which are located within the site boundary. Onsite (plume tracking) surveys could include a mix of onsite and offsite locations. Performance of onsite surveys necessitates transversing offsite areas (areas outside the site boundary) in order to get to other onsite survey locations within the site boundary. | L4 |

| | | |
|---|---|---|
| • In-Plant Surveys | 10CFR20.1101(b) requires the use of procedures, engineering controls, and sound radiation protection principles to achieve occupational doses that are ALARA. Performing in-plant surveys on an as-needed basis in combination with HP coverage and use of in-plant radiation monitoring instrumentation supports this change. | L6 |
| • Core/Thermal Hydraulics | The STA is already required to perform this task onshift as outlined in the GGNS Technical Specifications and Updated Final Safety Analysis Report (UFSAR). | L5 |
| • Electrical Maintenance | Requiring this function onshift at all times allows delay of the 30 minute responder. | M6 |
| • Protective Action Health Physicist | Providing the capability to perform all survey tasks onshift is based on "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.)."[3] Technological improvements in radiological access control, dosimetry, and worker personnel monitoring have all resulted in an increase in the effectiveness of onshift HP resources. Onshift HP resources are now focused on the two most important radiation protection emergency tasks: HP coverage and onsite/offsite surveys. Providing the capability to perform all types of surveys onshift necessary to support worker radiation protection and offsite dose assessment requirements provides reasonable and adequate protection for public health and safety. | L1<br>L3 |

[3] NRC EPPOS-3, FINAL EMERGENCY PREPAREDNESS POSITION (EPPOS) ON ONSHIFT DOSE ASSESSMENT

**Current Operator Shift Staffing**

As requested by the staff, the following table shows current operator shift staffing numbers.

| Titles | OPERATIONS SHIFTS | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | E |
| Shift Superintendent(SRO) | 1 | 1 | 1 | 1 | 1 |
| Plant Supervisor (SRO) | 1 | 1 | 1 | 1 | 1 |
| Shift Supervisor (SRO/STA) | 1 | 1 | 1 | 1 | 1 |
| Reactor Operator | 3 | 3 | 3 | 3 | 3 |
| Non-Licensed Operator | 5 | 5 | 5 | 5 | 5 |
| Radwaste Operator | 2 | 2 | 2 | 2 | 2 |
| **TOTAL** | **13** | **13** | **13** | **13** | **13** |

As indicated by the numbers shown above, operator shift staffing is much higher than our committed onshift staffing numbers as indicated in the GGNS (TS) Technical Specifications and Table 5-1 of the Emergency Plan. This overstaffing of operations shift personnel along with other onshift ERO personnel (chemistry, maintenance, and radiation protection) provides assurance that all of the functions listed in the proposed Table 5-1 will be performed as required by the Emergency Plan. This ability to perform all required emergency functions at all times offsets any delays such as the 75 minute augmentation time of TSC personnel and the 90 minute facility fully operational time.

**Low Population Density of Our Emergency Planning Zone (EPZ)**

One item the staff recommended that we further discuss was the sites actual location in an area with a low population density. The actual population density data of the area surrounding the unit was discussed in a letter (GNRO-95/00083) to the staff dated July 21, 1995 (Recapture of Low Power Testing Period Proposed Amendment to the Operating License); the data in the letter is still valid, therefore it will not be repeated here. The general trend, as stated in the 1995 letter, is that the (0-10 mile radius) population density has actually decreased since the plant was first licensed.

As requested by the staff, the sectors that have the highest population density, as outlined in Table 2-2 of the Emergency Plan, are E, F, G, H. The population densities are as follows on the next page:

| Distance From Centerline | Number Of Persons | Location by Sector |
|---|---|---|
| 0-2 miles | 94 | All Sectors |
| 2-5 miles | 657 | E, F, G, H |
| | 751 | Evacuate 2 mile radius and 5 mile downwind 2 mile radius and Sectors E, F, G, H |
| 5-10 miles | 3362 | E, F, G, H |
| Total 0-10 miles, Sectors E, F, G, H | 4113 | Evacuate 2 mile radius and 10 mile downwind |

It is a given that 10CFR100 encourages remote siting of nuclear power plants hence the low population density in the EPZ. This remote siting often results in a less than desirable living location (i.e., spousal job opportunities, shopping, entertainment, etc.) to support the lifestyle demands of the professional work force that is required to operate these facilities. The remote location of the facility and the fact that many plant personnel have chosen to live some distance from the plant have often made implementing lasting corrective actions to this issue of off-hour mobilization very difficult. As stated previously (GNRO-99/00007), approximately 15% of plant personnel live in or within the immediate surrounding area of Port Gibson, Mississippi. The remaining 85% of the work force live in the more populated areas. Consequently, the assignment of Emergency Response Organization (ERO) duties must factor in the home location of the selected individuals. This often times artificially limits the available pool size from which the ERO is staffed since personnel available for the ERO pool live in areas with higher population density areas such as Vicksburg. For the present 30 minute augmentation emergency tasks, approximately 15% of GGNS employees live within the immediate vicinity. For the present 60 minute augmentation emergency tasks, approximately 73% of GGNS employees live within the expanded area. For present 30 and 60 minute responders to meet their response times extraordinary efforts are required to travel to the site to provide minimal setup time between arrival and and the time facilities become fully operational. Overall, the staff avaliable for ERO functions increases from 15% to 89% for pervious 30 minutes responders and 73% to 89% for previous 60 minute responders, thus resulting in a betterment in the selection of ERO personnel.

**Currently Drilling Onshift Control Room Crews With Reduced Staffing**

To validate the ability to perform the majority of the tasks identified in Table 5-1 without staff augmentation, EP evaluated drills are performed on the Operations Staff using the plant simulator. These drills, which last approximately 90 minutes (excluding the post-drill critique), are performed during the Operations re-qualification period. An average of 20 such drills per year were conducted in the past two years.

During these drills, the Operations Staff is taken from a normal operating condition to an accident condition usually culminating in a General Emergency Classification. During this time, the Operations Staff performs all the functions they would normally be required to perform in an emergency condition prior to the TSC or EOF becoming operational.

Additionally, the staff augmentation provided to the Operations Staff includes only those minimum-staffing personnel expected to be available during a backshift period. Conduct of such standardized drills demonstrates the ability to adequately perform such key functional tasks as event classification, offsite dose assessment\calculations, offsite communications/notifications, accident mitigation, core thermal hydraulics, and team prioritization and tracking.

An additional validation of GGNS's ability to perform the tasks identified in Table 5-1 can be found in NRC Inspection Report 50-416/98-16. During the inspection, the inspectors

conducted walkthroughs with two operating crews using a dynamic simulation on the plant-specific control room simulator. Also, walkthroughs were conducted to evaluate the licensee's ability to:

- Evaluate plant conditions.
- Classify the emergency using the latest procedures.
- Declaration of an event.
- Recommend appropriate protective actions (onsite and offsite).
- Make timely notifications to offsite agencies.
- Perform and evaluate dose calculations.

Conduct of drills was previously discussed in our July 15, 1999 letter (GNRO-99/00058).

From quarterly drills and observations we have concluded that other shared functions proposed in this proposed plan change can be accomplished with shift staffing prior to 75 minute augmentation and facility fully operational 90 minute time.

**Normal Working Hours--Facility Fully Operational**

During the meeting with the staff on November 2, 1999, it was agreed that during normal working hours, it is expected that all facilities would be fully operational before 90 minutes. Specifically, new words were added to the proposed Emergency Plan that would require facilities to be fully operational no later than 45 minutes with onsite personnel and no later than 90 minutes if personnel were offsite. It is important to note that our evaluations have demonstrated that adequate protection of public health and safety can be assured for delays in staff augmentation up to and longer than 90 minutes if circumstances warrant. We continue to stress that ERO personnel will not be allowed to delay their response and thus delay augmentation or the time for facilities to be fully operational. The expectation is that ERO personnel respond immediately and report to their assigned facilities as soon as possible as warranted by the Emergency Plan or when directed at the discretion of the Emergency Director. The proposed Emergency Plan reflects this expectation since the time that facilities are to be fully operational will be as soon as possible (without delay).

**Conclusion**

The proposed changes were evaluated against the criteria of 10CFR50.47, 10CFR50, Appendix E, and other NRC guidance documents. The proposed changes support the proposed augmentation time of 75 minutes and facility fully operational time of 90 minutes. Increasing the required onshift staffing levels and capabilities results in a betterment in the protective measures onshift personnel can provide in the event of a radiological emergency which offsets any perceived reductions. Increasing the augmentation time to 75 minutes with facility fully operational time of 90 minutes addresses 10CFR50.47(b)(2) requirements for timely augmentation. Providing increased onshift staffing/capability to perform Table 5-1 key functions for initial facility accident response also ensures compliance with 10CCFR50.47(b)(2) and 10CFR50 Appendix E.

Once approved we will validate the proposed changes specified below by drills and analysis, within a period of four years. The four-year period will begin 120 days upon receipt of this change from the NRC, at which time the proposed plan change will be fully implemented. Implementation means all training and procedures are complete and we are in full compliance with the Emergency Plan. Within a year of implementation, all details of drill methodology and emergency task analysis will be prepared and agreed upon with the NRC staff. The following items are proposed to be tested during conduct of selected routine drills or exercises to ensure that:

- Shared Emergency Tasks, performed by shift personnel assigned other duties, can be performed.
- All non-shared Emergency Tasks can be performed.
- Augmentation and facility fully operational times are reasonable.
- Onshift ERO personnel can function unaugmented for the first 75 minutes of an event.

The scope of drills will be limited to testing to ensure that Emergency Tasks can be performed. If it is determined that some Emergency Tasks cannot be adequately performed by shift personnel, during the drill periods, the site corrective action process will be used to correct the issue and compensatory measures will be taken.

A task analysis will be performed in conjunction with the drills. The measurement tool for conduct of the analysis will be the ability of onshift personnel to perform the key functional tasks (previously identified in July 15, 1999 letter to the staff, GNRO-99/00058) which are:

- Classification of an event.
- Declaration of an event.
- Offsite agency notification.
- Dose assessment and issuance of PAR's (protective action recommendations).
- Mitigation of an event.

The methods and actions taken to perform these key functional tasks will be documented and used in the report of our drill and analysis results. Input for the analysis can be from drills, exercises, interviews, and table tops with affected personnel. After conduct of the drills and analysis, a report will be prepared and submitted to the staff to support issuance of guidance to the industry. The submittal will also request approval of the Emergency Plan by requesting the removal of the four year allowance as discussed above.

It is possible, after fours years, that the staff deems that the proposed changes are inappropriate and restoration is required. The Table 5-1 functions that would require restoration to pre-approval status, would be the functions of Offsite Surveys, Inplant Surveys, and Radiation Protection Protective Action HP's.

This change has been reviewed and approved by the onsite Plant Safety Review Committee. Attachment 1 includes a mark-up of the proposed Table 5-1 in the Emergency Plan illustrating the desired changes. Attachment 2 provides the justification for each change provided in Attachment 1. Attachment 3 is a clean copy of Table 5-1 and reflects all proposed Attachment 1 changes. Attachment 4 is a composite mark-up of all previous and currently proposed Emergency Plan changes.

For questions or comments, please feel free to contact Jerry Roberts at (601) 437-6710. We appreciate the cooperation and attention of the staff on this matter and look forward to working with the staff on this change since this change is critical to ongoing organizational improvements planned.

Yours truly,

JCR/MJL

attachments:

1. Mark-Up of Revised Proposed Emergency Plan Pages
2. Justification for Revision to Emergency Plan Table 5-1
3. Proposed Emergency Plan Table 5-1 Revised Information Incorporated
4. Composite Mark-Up Of Revised Proposed Emergency Plan Pages Reflects All Mark-Ups Pages From This Change and the Previous Submittals

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April 6, 2000
GNRO-2000/00021

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GGN PLANT LICENSING (replaces LCTS/RPTS)

# ATTACHMENT 1 TO GNRO-2000/00021

# MARK-UP OF

# REVISED PROPOSED EMERGENCY PLAN PAGES

## 1.0 DEFINITIONS

This section provides definitions which include various terms that are unique or given connotations that differ from normally accepted usage. The list below includes terms used throughout this Emergency Plan along with the definitions that are applied to these terms.

1.1 Accident - An unintentional or unexpected event resulting in radiological exposure or physical injury to individuals and/or physical damage to property.

1.2 Activation - Actions taken to staff and setup an emergency facility for operation. Includes notification of emergency personnel, equipment setup and equipment operability testing.

INSERT "D" A23

1.3 Affected Persons - Individual(s) who have been radiologically exposed or physically injured as a result of an accident to a degree requiring special attention, e.g., protective actions, decontamination, first aid, or medical services.

1.4 Alarm - An indication of abnormal plant conditions and/or equipment status.

1.5 Alert - An emergency classification in which events are in progress or have occurred that involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the Environmental Protection Agency (EPA) Protective Action Guideline exposure levels.

1.6 Annual - As used for scheduling purposes, means that the event will be scheduled no later than 12 months after the previous event's original schedule date. If the event is not completed within 15 months of the previous events original schedule date, it will be considered late.

1.7 Assessment Action - Those actions taken during or after an accident to obtain and process

5.4.2 Emergency Director

The Emergency Director is responsible for the onsite emergency response and performs the following actions during the course of the emergency:

* a. Assess and classify the emergency situation, especially where a real or potential hazard to offsite persons or property exists. (The Offsite Emergency Coordinator assumes this responsibility once the EOF is declared operational.)

b. Make operational decisions involving the safety of the plant and its personnel and make recommendations to the Control Room Personnel. In the event of security emergencies, he should evaluate each security related incident and activate only those support groups and facilities that are needed, regardless of the emergency classification, so as to minimize the risk to personnel.

* c. Notify and recommend protective actions to authorities responsible for offsite emergency measures. (The Offsite Emergency Coordinator assumes this responsibility once the EOF is declared operational.)

d. Implement the GGNS Emergency Plan through the use of specific Emergency Plan Procedures.

e. ~~Activate the Emergency Organization as required~~. (The Offsite Emergency Coordinator assumes this responsibility once the EOF is declared operational.)

f. Notify and inform the offsite support officials of pertinent facts and development.

g. Request assistance from Federal and State agencies if required. (The Offsite Emergency Coordinator assumes this responsibility once the EOF is declared operational.)

h. insert C A22

* These items are not to be delegated

The order of succession for the Emergency Director position is:

1. Shift Superintendent (interim)

A20 requests additional Resources as deemed necessary up to and including activation of the Emergency Organization as required.

Radiological Assessment Dose Calculator A21

5.4.19 ~~TSC / EOF Dose Calculator~~

Radiological Assessment A21

The ~~TSC / EOF~~ Dose Calculator reports to the Radiation Protection Manager at an Alert classification and the Radiological Assessment Coordinator at a Site Area Emergency or General Emergency classification. The ~~TSC / EOF~~ Dose Calculator performs radiological dose projection activities and provides assistance to the Radiation Protection Manager or Radiological Assessment Coordinator in radiological assessment and developing Protective Action Recommendations.

This function may be performed by onshift personnel and it is also an augmented function.

5.4.20 Radiation Emergency Manager A21

The Radiation Emergency Manager is a focal point for offsite environmental, radiological, and health physics support. He reports directly to the Offsite Emergency Coordinator and is responsible for arranging such support, briefing incoming environmental and radiological personnel and helping them provide assistance to the emergency effort.

5.4.21 Radiological Assessment Coordinator

The Radiological Assessment Coordinator reports to the Radiation Emergency Manager and is responsible for technical direction of the radiological assessment effort that includes offsite dose calculations, offsite radiological monitoring, and environmental sampling activities.

5.4.22 Offsite Monitoring Teams

Offsite monitoring teams are normally dispatched from the EOF and are responsible for conducting offsite radiological monitoring and collecting environmental samples.

TABLE 5-1

## SHIFT STAFFING AND AUGMENTATION CAPABILITIES

| Major Functional Area | Emergency Tasks | Position Title or Expertise | Location | On Shift (e) | Capability for Additions ~~120 Min~~ (e) 90 | |
|---|---|---|---|---|---|---|
| Plant Operations and Assessment of Operational Aspects | Emergency Direction and Control (h)(e)(f) | Shift Superintendent (SRO) | CR | 1 | -- | |
| | | On-Call Manager | CR/TSC | -- | 1 (g) | L9 |
| | | Shift Supervisor (SRO) | CR | 1 (e) | -- | |
| | | Nuclear Operator A (RO) | CR | 2 | -- | |
| | | Auxiliary Operator | CR | 2 | -- | |
| | Firefighting, firefighting communications | Shift Personnel (Operations) | CR | 5 (b)(e) (a) | Provided by Claiborne County / Port Gibson | |
| | Technical Support and Core/Thermal Hydraulics (e)(d) | Shift Technical Advisor | CR | 1 (a)(e) (c) | -- | |
| | Core/Thermal Hydraulics | TSC Coordinator/Operations Coordinator/SRO/STA | TSC/CR | -- | 1 (g) | L9 |
| Notification/ Communication | Offsite Notifications (State, Local, Federal) and maintain communications, Notification of plant On-call emergency personnel | Communicator | CR/TSC | 2 | 2 (g) | L9 |
| Radiological Accident Assessment and Support of Operational Accident Assessment | EOF Direction and Control | Senior Manager | EOF | -- | 1 | |
| | Offsite Dose Assessment | Radiological Assessment | TSC | 1 (b)(e) (a) | 1 (g) | |
| | Chemistry/Radio-Chemistry | Chemist | OSC | 1 | 1 | L9 |
| Plant System Engineering | Technical Support | ~~Electrical Engineer~~ (e) A14 | TSC/OSC | -- | 1 | |
| | | ~~Mechanical Engineer~~ (e) A14 | TSC/OSC | -- | 1 | |
| Repair and Corrective Actions | | Mechanical Maintenance | OSC | 1 | 1 | |
| | | Radwaste Operator | OSC | 1 (b)(e) (a) | 1 (g) | |
| | | Electrical Maintenance | OSC | 1 | 2 | |
| | | I&C Maintenance | OSC | 1 | -- | |

TABLE 5-1

## SHIFT STAFFING AND AUGMENTATION CAPABILITIES

| Major Functional Area | Emergency Tasks | Position Title or Expertise | Location | On Shift (g) | Capability for Additions ~~& 120 Min Total~~ |
|---|---|---|---|---|---|
| Radiation Protection | -Access Control<br>-HP coverage for repair, corrective actions, search and rescue/first-aid, and firefighting<br>-Personnel monitoring<br>-Dosimetry<br>-Surveys(offsite, onsite, and in-plant surveys on as-needed basis only) | Health Physicist | EOF/OSC | 2 | 11 (b) |
| Rescue / First aid | | Rescue and First Aid | OSC | 2 (a) | Provided by Claiborne County / Port Gibson |
| Security | Security, personnel accountability | Security Personnel | | | (See Security Plan) |

Notes:

~~(a) Shift augmentation begins at the declaration of an Alert, Site Area Emergency, or General Emergency.~~ A19

(a) May be provided by Shift Personnel assigned other duties.

~~(c) Not required in Mode 4 or 5 per GGNS Technical Specifications.~~ M8

(b) Must be trained for the Emergency Task being performed.

(c) STA staffing in accordance with GGNS 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 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.

(f) Overall direction of facility response is assumed from the Shift Superintendent(SRO) by the On-call Manager. Upon relief, the Shift Superintendent(SRO) resumes plant operational duties.

A11 A18

(g) These personnel will report and augment shift personnel in 75 minutes L9

90

(c)

M9

This allowance is not applicable during declared emergencies.

advice to the control room and communicate with Emergency Operations Facility (EOF) personnel regarding plant conditions and actions. Communications are also provided with the Control Room, OSC and offsite support agencies.

The TSC area contains approximately 2,250 square feet. The TSC area is large enough to accommodate 25 people, including five NRC personnel, as well as furnishings, data displays, plant reference material, and communications equipment. The TSC is located directly above and overlooking the Control Room on the mezzanine level (EL 177') of the control building. The control building which houses the TSC is designed Safety Class 3. The control building structure is seismic Category I, and is designed to withstand tornadoes and extreme wind phenomena. The TSC is habitable to the same degree as the Control Room for all postulated accident conditions and is served by the Control Room ventilation system.

Emergency lighting is powered by the ESF AC buses, with backup emergency lighting provided by battery pack lighting units.

~~The TSC is required to be activated at the declaration of an Alert, Site Area Emergency and General Emergency. It must be declared operational within approximately 60 minutes following the declaration of an Alert, Site Area Emergency or General Emergency. The TSC performs the function of the EOF until the EOF is adequately staffed and operational.~~

L3 **The TSC may be activated at any time, and shall be activated at an Alert, Site Area Emergency, or General Emergency declaration.** ~~Once activated, the TSC shall become operational within approximately 120 minutes after declaration of any of these emergency classifications.~~ **During emergencies, the TSC will provide**

A16 **for the classification, accident assessment, notification, and dose assessment functions if these functions are unavailable at the EOF or Backup EOF.**

Insert "A"

~~as~~ soon as possible (without delay) but Not later than 90 minutes

L3

7.3.3 Emergency Operations Facility (EOF)

The EOF (Figures 7-4 and 7-5) provides a location from which evaluation and coordination of all licensee activities related to an emergency is carried out. The facility provides information to offsite groups, assesses the impact of the emergency offsite and provides the necessary support to assist the Emergency Organization.

The location for the EOF is in the Energy Services Center approximately 0.6 miles from the GGNS site. Figure 7-6 indicates the location of the EOF in relation to the plant. The EOF has a protection factor of 50 and its own ventilation system. The EOF contains the key technical personnel of the Emergency Organization. Space and communications are provided for federal, State, and local representatives at the EOF. The EOF provides a base of operation for Offsite Monitoring Teams and is the central point for the receipt of field monitoring data.

~~The EOF is required to be activated at the declaration of a Site Area Emergency or General Emergency. It must be declared operational within approximately 60 minutes following the declaration of either classification. The EOF may be activated at any time following the declaration of an Unusual Event or Alert. In this case, it must be declared operational within approximately 60 minutes following the start of activation.~~

L3

**The EOF may be activated at any time, and shall be activated at an Alert, Site Area Emergency, and General Emergency declaration. ~~Once activated, the EOF shall be operational approximately 120 minutes after declaration of any of these classifications.~~**

M7 (Alert change)

becomes

INSERT "B"

Communications are provided to the Control Room, TSC, OSC, EIC, ENMC, State and County Emergency Organizations, Federal Agencies, and other support groups.

L3

L3

L3

as soon possible (without delay) but not later than 90 minutes

## INSERT A

Once activated the TSC shall become operational as soon as possible (without delay) after declaration of any of these emergency classifications. When facility staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise offsite personnel shall provide shift augmentation in 75 minutes and be fully operational in 90 minutes.

**L3**

## INSERT B

Once activated, the EOF shall become operational as soon as possible (without delay) after declaration of any of these emergency classifications. When facility staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise offsite personnel shall provide shift augmentation in 75 minutes and be fully operational in 90 minutes.

**L3**

## INSERT C

The Shift Superintendent will resume Control Room duties upon relief by the augmenting Emergency Director when the TSC is declared operational.

**A22**

## INSERT D

X.XX Augmentation - Actions taken to support onshift personnel prior to emergency facilities becoming fully operational.

**A23**

# ATTACHMENT 2 TO GNRO-2000/00021

# JUSTIFICATION FOR REVISION

# TO

# EMERGENCY PLAN TABLE 5-1

# EMERGENCY PLAN CHANGE
# CHANGE CATEGORIES

The following categories were established to aid in the review of our proposed Emergency Plan changes. The wording for each category is similar to that used during our successful conversion to Improved Technical Specifications. Each change noted in the marked-up copy (Attachment 1) of the Emergency Plan has been designated with a capital letter followed by a number. The capital letter and number designators are keyed on the following pages along with an explanation and justification for each proposed change as shown in Attachment 1.

**Less Restrictive Requirement - L**

These changes have been determined to be a decrease in effectiveness of the plan as outlined in 10CFR50.54(q) and therefore require NRC review and approval. These changes require justification and technical basis supporting the conclusion that the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50 continue to be met. These changes most likely are similar to those that have been previously accepted by the NRC at other plants.

**More Restrictive Requirements - M**

These changes are more restrictive than the existing Emergency Plan requirements and result in additional requirements beyond those currently specified in the Emergency Plan.

**Administrative Changes - A**

These changes are editorial in nature or involve the reorganization, reformatting, or rewording of requirements without affecting technical content of the Emergency Plan.

**Relocated Requirements - R**

These changes are relocated within the body of the Emergency Plan. No change is being made to the technical content of the words and the existing requirement is preserved.

During a meeting on November 2, 1999 between the NRC and Grand Gulf personnel, the following changes were agreed upon to aid in final reviews and approval of proposed Emergency Plan. These changes should resolve staff concerns and facilitate approval of the proposed changes outlined in the referenced letters. The category and number scheme used is a continuation of the numbering and categorizations used letters dated March 6, 1998 (GNRO-98/00028) and July 15, 1999 (GNRO-99/00058).

**L9** **Proposal:**
Augment the selected positions at 75 minutes versus current 60 minute augment time. The change is made by addition of footnote (g) to Table 5-1 which will state: "(g) These personnel will report and augment shift personnel in 75 minutes." See attached markup for the five affected positions.

**Governing Regulations:**
10CFR50.47(b)(2) - On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available....

**Justification for Change:**
This change is needed to support staff augmentation at 75 minutes and facility fully operational at 90 minutes. The changes in facility fully operational and TSC augmentation time from current allowances is considered a decrease in the effectiveness of the Emergency Plan. This change was suggested by the NRC during a meeting on November 2, 1999. The 75 minute augmentation time is justified based on the technical basis previously provided for the 120 minute (now 90 minutes) facility fully operational time (page 23 of Attachment 2 to GNRO-98/00028). With the proposed increased committed onshift staffing and capabilities discussed in GNRO-98/00028, key emergency functions can be performed onshift. Shift personnel (discussed Attachment 2 of GRNO-98/00028) are able to provide timely notification and protective action recommendations to offsite personnel. Increasing onshift capabilities to take mitigative and corrective actions further offsets the increased augmentation time.

This 75 minute 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 faculty. The expectation, as denoted in ERO guidance, is that each individual report to their assigned facility as soon as possible after being notified of facility activation. During normal working hours, if onsite, personnel would be expected to respond within 45 minutes. Otherwise offsite personnel will provide augmentation in 75 minutes. It should also 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.

The 75 minute augmentation time is based on the following table and assumes that typical plant personnel (i.e., one living in one of the more populated areas) have a commuting distance of approximately 35-55 miles depending on the location of one's home:

| | | |
|---|---|---|
| Event Classification and Callout | 10 | Minutes |
| Maximum driving time | 60 | Minutes |
| Egress from parking lot to facility | 5 | Minutes |
| Total | 75 | Minutes |

The response timing breakdown listed above is a rough approximation for response to an emergency. Additional times are added to reflect the time needed to classify the event, answer the ERO callout paging system, egress from the parking lot to the appropriate facility. The proposed 75 minute augmentation time is realistic and reasonable for personnel to respond to an emergency yet still addresses 10CFR50.47(b)(2) requirements for timely augmentation. Providing the staffing or capability to perform Emergency Plan Table 5-1 key emergency functions onshift ensures compliance with 10CFR50.47(b)(2).

We believe that the proposed delay in augmentation of onshift personnel is offset by the betterment in the protective measures onshift personnel can provide in case of a radiological emergency. Increased onshift staffing levels and capabilities increases protective measures that can and will be taken during a radiological emergency; therefore, public health and safety interests are preserved.

**L3** **Proposal:**
The L3 wording provided in GNRO-99/00058 for sections 7.3.1 and 7.3.3 is revised by rewording it to state the following:

**7.3.1**
Once activated the TSC shall become operational as soon as possible (without delay) after declaration of any of these emergency classifications. When facility staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise offsite personnel shall provide shift augmentation in 75 minutes and be fully operational in 90 minutes.

**7.3.3**
Once activated, the EOF shall become operational as soon as possible (without delay) after declaration of any of these emergency classifications. When facility staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise offsite personnel shall provide shift augmentation in 75 minutes and be fully operational in 90 minutes.

**Governing Regulations:**
10CFR50.47(b)(2) - On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available....

**Justification for Change:**
This is considered a reword of a previously submitted L3 change and is a staff requested change. The technical basis provided for the L3 change in the previous submittals (GNRO-98/00028) is still valid for this change.

**A14** **Proposal:**
The wording provided in GNRO-98/00028 for Table 5-1 is revised by removal of the engineer words from electrical and mechanical for the major functional area of Plant System Engineering/Technical Support.

**Justification for Change:**
The engineer word is not needed since the wording is already used under the major functional area. This change reflects the same wording usage as presented in NUREG-0654.

**A21 Proposal:**
The title for TSC/EOF Dose Calculator has been retitled "Radiological Assessment Dose Calculator." In addition the sentence: "This function may be performed by onshift personnel and it is also an augmented function." is added to the end of Emergency Plan section 5.4.19.

**Justification for Change:**
This is considered an editorial change and provides clarity that the function of Radiological Assessment as listed in Table 5-1 is adequately described elsewhere in the Emergency Plan. The change is also needed to clearly reflect current practice to allow onshift personnel to perform radiological assessments as needed to support protective action recommendation.

**A22 Proposal:**

Add a new sentence to section 5.4.2 as follows: "h. The Shift Superintendent will resume Control Room duties upon relief by the augmenting Emergency Director when the TSC is declared operational."

**Justification for Change:**

This change is made to coincide with previously submitted change A8 (see GNRO-98/00028) since the current Table 5-1 words imply that two persons would be assigned this task once all facilities are staffed. The relief allowance is discussed in NUREG-0654 and is also described in Section 5 of our Emergency Plan. During the initial stages of an accident, the Shift Superintendent (SRO) is responsible for Emergency Direction and Control (ED&C). The On-Call Manager assumes this duty after the TSC is operational, which then allows the Shift Superintendent (SRO) to perform other operational emergency duties. Addition of the sentence to section 5.4.2 provides additional clarification that the Shift Superintendent is relieved of the ED&C task by augmenting personnel. It also ensures that there is an understanding that the Shift Superintendent (SRO) resumes plant operational duties once relieved of ED&C duties.

**A23 Proposal:**

Add new definition for the word "augmentation" to Section 1.0 of the Emergency Plan.

**Justification for Change:**

The change is needed to provide a clear understanding of what augmentation means as discussed in the proposed plan change. This new definition does not impose any new requirements or commitments and is justified since it provides clarification to the Emergency Plan.

# ATTACHMENT 3 TO GNRO-2000/00021

# PROPOSED EMERGENCY PLAN TABLE 5-1

# REVISED

# INFORMATION INCORPORATED

PROPOSED GG PROPOSED

FSAR

TABLE 5-1

## SHIFT STAFFING AND AUGMENTATION CAPABILITIES

| Major Functional Area | Emergency Tasks | Position Title Or Expertise | Location | On Shift (e) | Capability for Additions 90 Min |
|---|---|---|---|---|---|
| Plant Operations and Assessment of Operational Aspects | Emergency Direction and Control(f) | Shift Superintendent (SRO) | CR | 1 | -- |
| | | On-Call Manager | CR/TSC | -- | 1(g) |
| | | Shift Supervisor (SRO) | CR | 1 | -- |
| | | Nuclear Operator A (RO) | CR | 2 | -- |
| | | Auxiliary Operator | CR | 2 | - |
| | Firefighting, firefighting communications | Shift Personnel (Operations) | CR | 5(a) | Provided by Claiborne County / Port Gibson |
| | Technical Support and Core/Thermal Hydraulics(d) | Shift Technical Advisor | CR | 1(c) | -- |
| | Core/Thermal Hydraulics | TSC Coordinator/Operations Coordinator/SRO/STA | TSC/CR | -- | 1(g) |
| Notification/ Communication | Offsite Notifications (State, Local, Federal) and maintain communications, Notification of plant On-call emergency personnel | Communicator | CR/TSC | 2 | 2(g) |
| Radiological Accident Assessment and Support of Operational Accident Assessment | EOF Direction and Control | Senior Manager | EOF | -- | 1 |
| | Offsite Dose Assessment | Radiological Assessment | TSC | 1(a) | 1(g) |
| | Chemistry/Radio-Chemistry | Chemist | OSC | 1 | 1 |
| Plant System Engineering | Technical Support | Electrical | TSC/OSC | -- | 1 |
| | | Mechanical | TSC/OSC | -- | 1 |
| Repair and Corrective Actions | | Mechanical Maintenance | OSC | 1 | 1 |
| | | Radwaste Operator | OSC | 1(a) | 1 |
| | | Electrical Maintenance | OSC | 1 | 2 |
| | | I&C Maintenance | OSC | 1 | -- |

**PROPOSED** **GG** **PROPOSED**

**FSAR**

TABLE 5-1

## SHIFT STAFFING AND AUGMENTATION CAPABILITIES

| Major Functional Area | Emergency Tasks | Position Title or Expertise | Location | On Shift (e) | Capability for Additions 90 Min |
|---|---|---|---|---|---|
| Radiation Protection | -Access Control<br>-HP coverage for repair, corrective actions, search and rescue/first-aid, and firefighting<br>-Personnel monitoring<br>-Dosimetry<br>-Surveys (offsite, onsite, and in-plant surveys on as-needed basis only) | Health Physicist | EOF/OSC | 2 | 11(b) |
| Rescue / First aid | | Rescue and First Aid | OSC | 2(a) | Provided by Claiborne County / Port Gibson |
| 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 GGNS 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 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.

(f) Overall direction of facility response is assumed from the Shift Superintendent(SRO) by the On-Call Manager. Upon relief, the Shift Superintendent(SRO) resumes plant operational duties.

(g) These personnel will report and augment shift personnel in 75 minutes.

# ATTACHMENT 4 TO GNRO-2000/00021

# COMPOSITE MARK-UP

# OF

# REVISED PROPOSED EMERGENCY PLAN PAGES

# REFLECTS ALL MARK-UPS PAGES FROM THIS CHANGE

# AND

# THE PREVIOUS SUBMITTALS

**GNRO-98/00028**
**GNRO-99/00007**
**GNRO-99/00058**

## COMPOSITE INSERTS

| | |
|---|---|
| **INSERT A**<br>The TSC may be activated at any time, and shall be activated at an Alert, Site Area Emergency, or General Emergency. Once activated the TSC shall become operational as soon as possible (without delay) after declaration of any of these emergency classifications. When facility staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise offsite personnel shall provide shift augmentation in 75 minutes and be fully operational in 90 minutes. During emergencies, the TSC will provide for the classification, accident assessment, notification, and dose assessment functions if these functions are unavailable at the EOF or Backup EOF. | **L3**<br>**A16** |
| **INSERT B**<br>The EOF may be activated at any time, and shall be activated at an Alert, Site Area Emergency, and General Emergency declaration. Once activated, the EOF shall become operational as soon as possible (without delay) after declaration of any of these emergency classifications. When facility staffing can be accomplished with onsite personnel, it is the goal to become operational within 45 minutes. Otherwise offsite personnel shall provide shift augmentation in 75 minutes and be fully operational in 90 minutes. | **L3**<br>**M7** |
| **INSERT C**<br>The Shift Superintendent will resume Control Room duties upon relief by the augmenting Emergency Director when the TSC is declared operational. | **A22** |
| **INSERT D**<br>X.XX Augmentation - Actions taken to support onshift personnel prior to emergency facilities becoming fully operational. | **A23** |
| **INSERT E**<br>For plume tracking purposes it is all areas beyond the site boundary. | **A15** |
| **INSERT F**<br>For plume tracking purposes it is all areas external to the power block out and including the site boundary. | **A15** |
| **INSERT G**<br>X.XX 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 Recommendation. | **A15** |

## 1.0 DEFINITIONS

This section provides definitions which include various terms that are unique or given connotations that differ from normally accepted usage. The list below includes terms used throughout this Emergency Plan along with the definitions that are applied to these terms.

1.1 Accident - An unintentional or unexpected event resulting in radiological exposure or physical injury to individuals and/or physical damage to property.

1.2 Activation - Actions taken to staff and setup an emergency facility for operation. Includes notification of emergency personnel, equipment setup and equipment operability testing.

INSERT D A23

1.3 Affected Persons - Individual(s) who have been radiologically exposed or physically injured as a result of an accident to a degree requiring special attention, e.g., protective actions, decontamination, first aid, or medical services.

1.4 Alarm - An indication of abnormal plant conditions and/or equipment status.

1.5 Alert - An emergency classification in which events are in progress or have occurred that involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the Environmental Protection Agency (EPA) Protective Action Guideline exposure levels.

1.6 Annual - As used for scheduling purposes, means that the event will be scheduled no later than 12 months after the previous event's original schedule date. If the event is not completed within 15 months of the previous events original schedule date, it will be considered late.

1.7 Assessment Action - Those actions taken during or after an accident to obtain and process

associated with GGNS facilities will perform their tasks in a reliable and trustworthy manner. This is accomplished in part by assuring they are not under influence of any substance, legal or illegal, or mentally or physically impaired from any cause, which in any way adversely affects their ability to safely and competently perform their duties. This policy provides measures for early detection of persons who are not fit to perform their assigned duties.

1.23 General Emergency - An emergency classification in which events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

1.24 Ingestion Exposure Pathway - The process by which a person receives exposure from indirect interaction with the products of a radiological release. This includes receiving direct gamma, beta, and alpha radiation from sources inside the body due to the ingestion of resuspended deposition products, water, crops, milk, etc. that have been subject to the depletion of the radiological release.

1.25 Low Population Zone (LPZ) - As defined in 10CFR100.3, the area immediately surrounding the exclusion area which contains residents, the total number and density are such that appropriate protective measures could be taken in their behalf in the event of a serious accident. The low population zone for the Grand Gulf Site is the area within a 2-mile radius from the plant.

1.26 Media Center - An area designated outside the protected area that provides a location for the media so that communication and information can be disseminated concerning plant conditions and emergency operations.

1.27 Offsite - As used for accountability purposes, any area outside the GGNS protected area.

INSERT E A15

1.28 Offsite Emergency Coordinator - an individual designated the responsibility for the overall emergency response effort and is the central figure for the emergency organization.

1.29 Onsite - As used for accountability purposes, the area within the GGNS protected area.

INSERT F A15

1.30 Operational - Status of an emergency facility declared by the appropriate facility manager upon determining that the facility is adequately staffed and equipment is setup and available to perform the emergency functions assigned to that facility.

1.31 Operations Support Center (OSC) - Location from which onsite non-control room activities are staged and implemented.

1.32 Pathway - Method by which radiological exposure is received.

1.33 Plan - The Grand Gulf Nuclear Station Emergency Plan.

1.34 Plume Exposure Pathway - The process by which a person receives exposure from direct interaction with the products of a radiological release. This includes receiving direct gamma radiation from sources external to the body, both instantaneous and short term due to being in the presence of the products of the release. It also includes direct gamma, beta, and alpha radiation from sources inside the body due to inhalation.

INSERT G A15

1.35 Population-at-Risk - Those persons for whom protective actions are being or would be taken upon implementation of the plan.

1.36 Population Center - A densely populated area with 25,000 or more inhabitants.

1.37 Protective Actions - Those emergency measures taken, either in anticipation of or after a

5.4.2 Emergency Director

The Emergency Director is responsible for the onsite emergency response and performs the following actions during the course of the emergency:

* a. Assess and classify the emergency situation, especially where a real or potential hazard to offsite persons or property exists. (The Offsite Emergency Coordinator assumes this responsibility once the EOF is declared operational.)

b. Make operational decisions involving the safety of the plant and its personnel and make recommendations to the Control Room Personnel. In the event of security emergencies, he should evaluate each security related incident and activate only those support groups and facilities that are needed, regardless of the emergency classification, so as to minimize the risk to personnel.

* c. Notify and recommend protective actions to authorities responsible for offsite emergency measures. (The Offsite Emergency Coordinator assumes this responsibility once the EOF is declared operational.)

d. Implement the GGNS Emergency Plan through the use of specific Emergency Plan Procedures.

e. ~~Activate the Emergency Organization as required.~~ (The Offsite Emergency Coordinator assumes this responsibility once the EOF is declared operational.)

f. Notify and inform the offsite support officials of pertinent facts and development.

g. Request assistance from Federal and State agencies if required. (The Offsite Emergency Coordinator assumes this responsibility once the EOF is declared operational.)

h. INSERT C A22

* These items are not to be delegated

The order of succession for the Emergency Director position is:

1. Shift Superintendent (interim)

Requests additional resources as deemed necessary up to and including activation of the Emergency Organization as required A20

Radiological Assessment Dose Calculator A21

5.4.19 ~~TSC / EOF Dose Calculator~~

Radiological Assessment A21

The ~~TSC / EOF~~ Dose Calculator reports to the Radiation Protection Manager at an Alert classification and the Radiological Assessment Coordinator at a Site Area Emergency or General Emergency classification. The ~~TSC / EOF~~ Dose Calculator performs radiological dose projection activities and provides assistance to the Radiation Protection Manager or Radiological Assessment Coordinator in radiological assessment and developing Protective Action Recommendations.

A21
This function may be performed by onshift personnel and it is also an augmented function

5.4.20 Radiation Emergency Manager

The Radiation Emergency Manager is a focal point for offsite environmental, radiological, and health physics support. He reports directly to the Offsite Emergency Coordinator and is responsible for arranging such support, briefing incoming environmental and radiological personnel and helping them provide assistance to the emergency effort.

5.4.21 Radiological Assessment Coordinator

The Radiological Assessment Coordinator reports to the Radiation Emergency Manager and is responsible for technical direction of the radiological assessment effort that includes offsite dose calculations, offsite radiological monitoring, and environmental sampling activities.

5.4.22 Offsite Monitoring Teams

Offsite monitoring teams are normally dispatched from the EOF and are responsible for conducting offsite radiological monitoring and collecting environmental samples.

TABLE 5-1

SHIFT STAFFING AND AUGMENTATION CAPABILITIES

| Major Functional Area | Emergency Tasks | Position Title or Expertise | Location | On Shift | Capability for Additions | |
|---|---|---|---|---|---|---|
| | | | | | ~~30 Min (a)~~ | ~~60 Min (a)~~ |
| Plant Operations and Assessment of Operational Aspects | | Shift Superintendent (SRO) | CR | 1 | – | – |
| | | Shift Supervisor (SRO) | CR | 1(a) | – | – |
| | | Nuclear Operator A (RO) | CR | 2 | – | – |
| | | Auxiliary Operator | CR | 2 | – | – |
| Emergency Direction and Control (f) | | Shift Superintendent | CR | 1(a) | – | – |
| | | On-Call Manager (~~Emergency Director~~) | CR/TSC | – | – | (g) L3 |
| Notification/ Communication | Offsite Notifications (State, Local, Federal) and maintain communications, Notification of plant On-call emergency personnel | ~~Operations/Plant Systems Engineer/Engineering~~ Technicians Communicator A2 | CR/TSC / EOF A17 | 2 | 1 | 2 L3 (g) |
| Radiological Accident Assessment and Support of Operational Accident Assessment | EOF Director ~~Emergency Control~~ A7 | ~~OSC~~ Senior Manager A11 | EOF | – | – | 1 L3 |
| | Offsite Dose Assessment | ~~Health Physics Supervisor~~ Radiological Assessment A3 | TSC CR/ EOF A18 | 1(a) | 1 | 1 (g) |
| | Offsite ~~Radiological Surveys~~ L1 | ~~Health Physicist/Other as Designated (d)~~ A4 | EOF | -- | 2 L4 | 4 (d) L7 |

TABLE 5-1

SHIFT STAFFING AND AUGMENTATION CAPABILITIES

| Major Functional Area | Emergency Tasks | Position Title or Expertise | Location | On Shift | Capability for Additions 30 Min (e) | Capability for Additions 60 Min (e) |
|---|---|---|---|---|---|---|
| Radiological Accident Assessment and Support of Operational Accident Assessment | Onsite ~~Radiological Surveys (out of plant)~~ | Health Physicist | OSC | – 1 | 1 | 1 L3 |
| | In-plant Surveys | Health Physicist | OSC | 1 | 1 L6 | 2 |
| | Chemistry/ Radio-Chemistry | Chemist | OSC | 1 | – | 1 L3 |
| Plant System Engineering | Technical Support and Core/Thermal hydraulics (d) A13 | Shift Technical Advisor M5 | CR | 1 (c) M5 | – | – |
| | Core/Thermal Hydraulics | TSC Coordinator/Operations Coordinator/SRO/STA | TSC/CR | – | 1 L5 | – 1 (g) |
| | ~~Electrical~~ Technical Support A14 | ~~Plant Systems Engineer~~ Electrical A14 | TSC/OSC A12 | – | – | 1 L3 |
| | ~~Mechanical~~ | ~~Plant Systems Engineer~~ Mechanical A14 | TSC/OSC A12 | – | – | 1 L3 |
| Repair and Corrective Actions | | Mechanical Maintenance | OSC | 1 M6 | – | 1 L3 |
| | | Radwaste Operator | OSC | 1 (g) | – | 1 L3 |
| | | Electrical Maintenance | OSC | 1 M6 | 1 | 2 L3 |
| | | I&C Maintenance | OSC | – 1 | 1 M6 | – |

## TABLE 5-1

## SHIFT STAFFING AND AUGMENTATION CAPABILITIES

| Major Functional Area | Emergency Tasks | Position Title or Expertise | Location | On Shift | Capability for Additions | |
|---|---|---|---|---|---|---|
| | | | | | ~~30 Min (a)~~ | ~~60 Min (a)~~ |
| ~~Protective Actions (in-plant)~~ Radiation Protection | -Access Control<br>-HP coverage for repair, corrective actions, search and rescue/first-aid, and firefighting<br>-Personnel monitoring<br>-Dosimetry | Health Physicist | OSC<br>EOF | 2(b) | 2 | 2 |
| Firefighting | | Shift Personnel (Operations) | | 5(b) | Provided by Claiborne County / Port Gibson | |
| Rescue / First aid | | ~~Shift Personnel (ie., Computer Support, Maintenance)~~ | | 2(a) | Provided by Claiborne County / Port Gibson (See Security Plan) | |
| Security | Security, firefighting communications, personnel accountability | Security Personnel | | | | |

Notes:

(a) ~~(a) Shift augmentation begins at the declaration of an Alert, Site Area Emergency, or General Emergency.~~

(b) (b) May be provided by Shift Personnel assigned other duties.

(c) ~~(c) Not required in Mode 4 or 5 per GGNS Technical Specifications.~~

(d) ~~(d)~~ Must be ~~Offsite Monitoring Team~~ trained for the emergency task being performed.

(e) (e) STA staffing in accordance with GGNS Technical Specification.

(f) ~~(d)~~ Core/Thermal Hydraulics is part of normal STA duties as listed in the Updated Final Safety Analysis Report and Technical Specifications.

(g) ~~(e)~~ 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.

~~(f)~~ Overall direction of facility response is assumed from the Shift Superintendent(SRO) by the On-call Manager. Upon relief, the Shift Superintendent(SRO) resumes plant operational duties.

advice to the control room and communicate with Emergency Operations Facility (EOF) personnel regarding plant conditions and actions. Communications are also provided with the Control Room, OSC and offsite support agencies.

The TSC area contains approximately 2,250 square feet. The TSC area is large enough to accommodate 25 people, including five NRC personnel, as well as furnishings, data displays, plant reference material, and communications equipment. The TSC is located directly above and overlooking the Control Room on the mezzanine level (EL 177') of the control building. The control building which houses the TSC is designed Safety Class 3. The control building structure is seismic Category I, and is designed to withstand tornadoes and extreme wind phenomena. The TSC is habitable to the same degree as the Control Room for all postulated accident conditions and is served by the Control Room ventilation system. The Backup TSC is located in the Maintenance & Engineering Building.

Emergency lighting is powered by the ESF AC buses, with backup emergency lighting provided by battery pack lighting units.

~~The TSC is required to be activated at the declaration of an Alert, Site Area Emergency and General Emergency. It must be declared operational within approximately 60 minutes following the declaration of an Alert, Site Area Emergency or General Emergency. The TSC performs the function of the EOF until the EOF is adequately staffed and operational.~~

INSERT A

A set of drawings and other records are accessible to the TSC personnel under emergency conditions. The documents include but are not limited to: Plant Technical Specifications, Plant Operating Procedures, Emergency Operating Procedures, and hard copies (stick file) of P&ID's, architectural, electrical one lines, electrical schematics, logic diagrams, and loop diagrams. Radiation Control and Chemistry procedures to be used during an emergency situation are also available.

7.3.3 Emergency Operations Facility (EOF)

The EOF (Figures 7-4 and 7-5) provides a location from which evaluation and coordination of all licensee activities related to an emergency is carried out. The facility provides information to offsite groups, assesses the impact of the emergency offsite and provides the necessary support to assist the Emergency Organization.

The location for the EOF is in the Energy Services Center approximately 0.6 miles from the GGNS site. Figure 7-6 indicates the location of the EOF in relation to the plant. The EOF has a protection factor of 50 and its own ventilation system. The EOF contains the key technical personnel of the Emergency Organization. Space and communications are provided for federal, State, and local representatives at the EOF. The EOF provides a base of operation for Offsite Monitoring Teams and is the central point for the receipt of field monitoring data.

~~The EOF is required to be activated at the declaration of a Site Area Emergency or General Emergency. It must be declared operational within approximately 60 minutes following the declaration of either classification. The EOF may be activated at any time following the declaration of an Unusual Event or Alert. In this case, it must be declared operational within approximately 60 minutes following the start of activation.~~

INSERT B

Communications are provided to the Control Room, TSC, OSC, EIC, ENMC, State and County Emergency Organizations, Federal Agencies, and other support groups.

7.3.4 Backup Emergency Operations Facility (BEOF)

The BEOF (Figure 7-7) is located at the MP&L Baxter Wilson Steam Electric Station in Vicksburg, MS. In the unlikely event that the EOF had to be evacuated, the key EOF

GG
FSAR

90 minutes L3

expected to be within approximately ~~1 hour~~ following notification.

Emergency Plan Procedures have been established that relate the various measured parameters to integrated doses. Provisions have been made for estimating integrated dose from the projected and actual dose rates and for comparing these estimates with the protective action guides.

## 7.7 Protective Facilities

Emergency situations may arise, whether it be man-made or natural causes, which require that protective action be initiated to assure the safety of personnel. Predetermined procedures to be initiated in the event of a fire, tornado, or earthquake are contained within the plant operating procedures. An important consideration in the protection of the Grand Gulf personnel is for the immediate removal of those personnel not essential for the control of the plant. Security Personnel would be examples of those required to remain onsite. In the event of an emergency situation, the appropriate notification is made. Upon notification, all personnel onsite should either assume their prearranged emergency responsibilities or should follow instructions given over the PA system. This permits accountability of personnel before leaving the site or being assigned to an emergency team.

## 7.8 First Aid and Medical Facilities

First aid equipment and facilities at Grand Gulf are available to handle a wide range of emergency situations from minor first aid to transporting a seriously injured individual to an offsite medical facility. Readily available first aid is provided by Health Physics. First aid kits containing items typically needed to care for minor injuries are located in the following areas:

a. Control Room
b. Maintenance Shop