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MEMORANDUM FOR: Thomas R. Decker, Chief Emergency Preparedness Section

FROM:

Alphonsa Gooden, Radiation Specialist Emergency Preparedness Section

SUBJECT: V. C. SUMMER RADIATION EMERGENCY PLAN REVIEW, REVISION 20, DOCKET NO. 50-395

I. Background

On October 30, 1987, South Carolina Electric and Gas Corporation (SCE&G) submitted for review changes incorporated as Revision 20 to the Summer Radiation Emergency Plan. Revision 20 included a significant number of administrative changes resulting from title changes, reassignment of responsibility, changes in reporting chain, grammatical changes, emergency action level (EAL) changes, Protective Action Recommendation, relocation of the Operational Support Center, changes to the fire protection and detection system, and the seismic monitoring system. The following are examples in the category of administrative changes that neither diminish or improve the effectiveness of the Emergency Plan and deserve no further considerations: the title of Emergency Planning Coordinator was changed to Emergency Coordinator; responsibility for the chemistry and plant performance program was assigned to the Manager of Technical Support (previous responsibility provided engineering and technical assistance to assure the safe and efficient operations of the plant); reporting authority for the Shift Engineer (previously known as Shift Technical Advisors) was changed from the Manager, Technical Support to the Manager, Operations; and a grammatical change was made to the event classification from Site Emergency to Site Area Emergency.

II. Substantive Changes

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A. Section 3.0, Summary of Emergency Planning Logic

Page 12, Second Paragraph, 7th Line Down

This section was changed to include the activation and staffing of the news media area for the Site Area and General Emergency Classification. The previous statement read "for the Site Area and General Emergencies, the Emergency Operations Facility and the Operations Support Center will be activated and staffed." The revised statement reads "for the Site Area and General Emergencies, the Emergency Operations Facility and the News Media area will be activated and staffed."

Comment: This change is a plan update/correction that has no affect on plan effectiveness.

Thomas R. Decker

B. Section 4.1, Emergency Classification System

1. Page 21, Table 4-1, Summary of Emergency Action Levels

The numerical sequence for the detection method used to identify initiating condition Number 8 for the Notification of Unusual Event Class was changed. Previously three methods were given. As a result of the change, two methods are shown; one method has two subunits.

<u>Comment</u>: This change is strictly a numerical change, the detection methods used are as previously described. Plan effectiveness is not affected by this change.

2. Page 27, Table 4-1, Summary of Emergency Action Levels

More detailed information was included under the detection method for the initiating condition number 17 for the Alert emergency action level involving an earthquake greater than the OBE level. Previously, a very general statement vas made regarding the seismic annunciator in detecting the event. This change provides very specific information regarding which seismic monitoring equipment is used for detection. In addition, a specified time for observation of event was added.

<u>Comment</u>: The additional information included under the detection method for this event is considered a plan improvement item that increases the effectiveness of the Plan.

3. Page 32, Table 4-1, Summary of Emergency Action Levels

Under the examples of initiating conditions for the Site Area Emergency FALs, a time allowance was placed on one of the initiating conditions. The change involved initiating condition no. 11 for the Site Area Emergency class. The previous wording read "most or all annunciators lost and plant transient initiated or in progress." The revised statement stipulates that: "most or all annunciators and plant computers lost for more than 15 minutes and plant transient initiated or in progress."

<u>Comment</u>: This change is considered a decrease in the effectiveness of the Emergency Plan. The time allowance of more than 15 minutes is inconsistent with the federal guidance in NUREG-0654, Pare 1-13, Item 12. Furthermore, the 15 minute time allowance for verification of the incident could result in the plant being in an unanalyzed condition that may subsequently compromise plant safety. The aforementioned condition results in a major loss of emergency assessment capability to the Control Room personnel. <u>*Note:</u> This matter was discussed on 11/4/87 with the licensee's Emergency Coordinator (Mark Counte). The licensee representative indicated that the basis for the inclusion of 15 minutes into the EAL was to prevent unnecessary actions (i.e., notification and activation of licensee, state/local, and federal response organizations) for a short-lived or spurious events (less than 15 minutes in duration). Mr. Counts further stated that a typographical error is included as evidenced by the word "plant computers." Counts indicated that the intent was the loss of annunciators and the Control Room computers. The TSC computers for making accident assessment and monitoring plant status are considered to remain operational during this event.

4. Page 37 The 4-1, Summary of Emergency Action Levels

Under the Site Area Emergency class, changes were made to the detection method for the initiating condition no. 13.a. For an earthquake greater than safe shutdown earthquake (SSE) levels, the previous detection method was the Reactor Building Foundation Seismic Switch (SSE) exceeded. As a result of the recent change, the following criteria is used as a detection method: (1) Reactor Building Foundation Seismic Switch (OBE) exceeded, or Seismic Event Annunicator (OBE) exceeded; and (2) Observation of the event to last greater than 2 seconds.

Comment: Due to unfamiliarity with seismic monitoring equipment, the licensee was contacted on 11/04/87 to discuss the basis for the aforementioned equipment setpoints. Two members of the licensee's staff (Mark Counts and Bob Whorton) were contacted. According to a licensee contact, there are no designated Safe Shutdown Earthquake (SSE) indicators available. only the indicators for the Operating Basis Earthquake. Both of the detection devices (Reactor Building Foundation Seismic Switch and Seismic Event Annuniciator) are preset to OBE levels. If the OBE levels are exceeded on either device, the event is considered to be greater than the SSE level if the duration of the event as observed by Coutro? Room personnel is greater than 2 seconds. If the duration is less than 2 seconds, the event is considered greater than the OBE Tevel but less than the SSE level; hence the Alert Classification as compared to the Site Area Emergency. The acceleration speeds (vertical or horizontal) or setpoint values provided by the licensee was compared to other Region II licensee's setpoint values for consistency.

Based on the above discussion with licensee personnel, it appears the detection method may have been improved by the addition of the duration for the event. By declaring the emergency class based on the duration of the event and the exceedance of setpoint values, this removes the time delay involved in the evaluation of a strip recorder output before declaring the emergency class.

Note: According to a licensee representative, the NRC (NRR, Geo-Science personnel) is evaluating the current criteria to better define an OBE. In addition, a Generic Letter addressing the OBE exceedance should be completed in the next few months.

5. Page 32-A, Table 4-1 Summary of Emergency Action Levels

Under initiating condition and detection method, an EAL and detection method was added. The EAL involved a transient requiring operation of shuddown systems with failure to trip.

<u>Comment</u>: During the review of changes incorporated as Revision 18, it was noted by the reviewer that the aforementioned EAL was not included under the Site Area Emergency Classification. This item was brought to the attention of the licensee for consideration and inclusion in future plan revisions. Therefore, this addition is consistent with the guidance in NUREG-0654, and the effectiveness of the plan should be enhanced by this addition.

C. Section 5.0, Organizational Control of Emergencies

Page 35, 4th Paragraph Down, Section 5.1, Normal Station Organization

The Manager, Nuclear Protection Services was assigned the additional responsibility of fire protection activities. Previously, the responsibilities assigned to this position included station security, emergency planning, and industrial safety activities.

<u>Comment</u>: This change is considered significant from an administrative and programmatic standpoint. However, this change may enhance the effectiveness of the Plan as a result of a single licensee interface with offsite agencies regarding security, emergency planning, and fire support matters.

D. Section 5.4, Local Services Support

Page 46, 2nd Paragraph

A statement in the second paragraph regarding the location of the Letters of Agreement was changed to reflect the current location. Previously, the updated Letters of Agreement were maintained on file at the Corporate Office by the Emergency Planning Coordinator. The recent change states that, "updated Letters of Agreement will be maintained on file at the plant by the Emergency Coordinator." <u>Comment</u>: This change is a plan update that has no affect on the effectiveness of the Plan.

E. Section 6.4, Protective Actions

1. Page 56, Section 6.4.2.d, Operations Support Center (OSC)

A change was made to this section to reflect the relocation of the OSC. the OSC was relocated from the meeting room of the Service Building to the 448' elevation of the Control Building.

<u>Comment</u>: This change, although significant from a logistical standpoint, will have no affect on plan effectiveness. However, the reviewer considers the location of the Control Room, TSC, and OSC in the same building (Control Building) as an enhancement to the coordination and communication between the emergency facilities.

2. Page 61, Table 6-1, Recommended Protective Actions to Reduce Whole body and Thyroid Dose from Exposure to a Gaseous Plume

Under projected dose (REM) to emergency team workers, the whole body dose limit for performing a life saving mission was reduced from 100 Rem to 75 Rem.

<u>Comment</u>: The reduced dose limit is considered a plan improvement item that enhances the effectiveness of the Plan. This limit is also in accordance with the EPA recommended guidelines.

3. Table 6-3, General Emergency Protective Action Recommendations

This table was completely revised. Visually, there appears to be no consistency between the licensee's PAR scheme and the federal guidance in Information Notice 83-28, Attachment 1. Although the licensee's scheme is more simplified and user friendly, it does not appear to satisfy the PAR scheme found in Information Notice 83-28. The entire left side of the flow chart, which previously included a decision regarding a core melt sequence where significant releases from containment are not yet taking place and large amounts of fission products are not yet in the containment atmosphere, was deleted.

<u>Comment</u>: A licensee representative (Mark Counts) was contacted telephonically on 11/4/87 to discuss the basis for this change and what, if any, coordination with the State and/or local government officials regarding this change. Mr. Counts advised as follows: the left side of Table 6-3 was considered as being repetitive and unnecessary. This was based on the philosophy that in order for substantial core damage to occur or be projected to occur, and result in imminent projected containment failure or releases, then a large fission product inventory in containment should be apparent; Counts further stated that no coordination was done with the State/local representatives regarding the PAR change.

F. Section 7.1, SCE&G Onsite Emergency Centers

Page 62, Section 7.1.2, Operations Support Center

This section was changed to reflect the relocation of the OSC from the Meeting Room of the Service Building to the 448' elevation of the Control Building.

Comment: See comments for Item 1 under Section 6.4.2.d.

G. Section 7.6.2, Fire Protection and Detection Devices

Page 73, Section 7.2.6.e, Detection Devices

This Section was revised to reflect the fire detection and alarm system as being independent from the plant security system. Previously, the fire detection and alarm system shared functions with the plant security system in what was known as the "Integrated Fire and Security System." This system provided redundant alarm information in the Control Room and the Security Office. The location of the fire was printed on a typewriter and displayed on a CRT in the Security Office. The independent fire detection and alarm system provides information only to the main Control Room. When a fire is detected, an audible signal is sounded locally and in the Control Room. The location of the fire is printed on a typewriter and displayed on a CRT.

Comment: This change was discussed with the Emergency Coordinator (Mark Counts) on 11/4/87. Mr. Counts indicated that separation of the two systems (i.e., fire from security) would alleviate system overload possibilities. This matter was further discussed on 11/10/87 with Region II Fire Protection personnel (G. R. Wiseman), who advised that separation of the two systems would be an improvement over the integrated system. According to Mr. Wiseman, in the event problems are experienced with the integrated system, both security and fire watch must be established; with the independent system, unless problems are unique to the fire detection and alarm system a fire watch would not be required, only the security espect would require attention. Therefore, based on conversations with the licensee and NRC Fire Protection personnel, in addition to no regulatory requirement that a backup location to the main Control Room for receiving fire detection information be established, this change is considered a plan improvement item that enhances the effectiveness of the Emergency Plan.

Thomas R. Decker

H. Section 7.6.3, Seismic Monitoring System

Page 73A, First Paragraph

The first paragraph was revised to reflect the current locations of four drum recorders used to detect seismic activity, and the deletion of a central recording station located on a peninsula at Monticello Reservoir.

<u>Comment</u>: This change is considered a plan update with no affect on plan effectiveness.

I. Figure 7-2, Emergency Facilities Communications

This figure was revised to show the deletion of the intercom as a communications system between the Control Room, TSC, and the OSC.

<u>Comment</u>: This change was discussed on 11/10/87 with a licensee representative (Mark Counts). Mr. Counts advised that the intercom system was rarely used. Instead, plant phones were the method of communicating. As a result, communications between the above ERFs will be via the plant speaker phones. Redundancy is available via two way radios and battery provided backup power dedicated to the plant phone system. This change is a plan update with no affect on plan effectiveness.

III. Summary and Conclusion

Based on the review of changes incorporated as Revision 20 to the V. C. Summer Emergency Plan, the reviewer has determined that certain changes were inconsistent with the federal guidance in NUREG-0654, Appendix 1, and Information Notice 83-28, Attachment 1. The inconsistencies involve the summary of emergency action levels (EALs) and the decision matrix for the General Emergency protective action recommendations (PARs).

- The EAL for the Site Area Emergency (Table 4-1, Page 32) includes a time caveat of greater than 15 minutes duration for the loss of all annunciators and plant computers, and a plant transient initiated or in progress before the Site Area Emergency is declared.
- The General Emergency PARs flow chart (Table 6-3) does not consider core melt sequences where significant releases from containment are not yet taking place and large amounts of fission products are not yet in the containment atmosphere.

Thomas R. Decker

If you concur on the above items, the letter to the licensee should reflect the aforementioned inconsistencies.

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Alphonsa Gooden

bcc: C. Banks

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