U.S. NUCLEAR REGULATORY COMMISSION
STANDARD REVIEW PLAN
OFFICE OF NUCLEAR REACTOR REGULATION

SECTION 2.4.14 TECHNICAL SPECIFICATIONS AND EMERGENCY OPERATION REQUIREMENTS

REVIEW RESPONSIBILITIES

Primary - Site Analysis Branch (SAB)

Secondary - None

I. AREAS OF REVIEW

The purpose of this section of the applicant's safety analysis report (SAR) is to identify the technical specifications and emergency procedures required to implement flood protection for safety-related facilities and to assure an adequate water supply for shutdown and cooldown purposes.

II. ACCEPTANCE CRITERIA

If the hydrologic design bases developed in preceding sections do not necessitate technical specifications or emergency procedures to ensure safety-related plant functions, this section should so state. The balance of this review plan assumes requirements for technical specifications or emergency procedures.

This section will be acceptable if the following are identified:

1. The controlling hydrologic events, as developed in the preceding sections of SAR Chapter 2.
2. The actions to be taken, and the effect of such actions on the protection of safety-related facilities.
3. The appropriate water levels and conditions at which action is to be initiated.
4. The appropriate emergency procedures, and the amount of time required to implement each procedure.

III. REVIEW PROCEDURES

The review procedures consist of comparing the proposed specifications and procedures with the flood protection and water supply design bases derived in the preceding sections, or considered necessary by the staff. Data in, or derived from, the preceding sections are used to estimate the time available to complete any required emergency action (e.g.,

sandbagging, shutdown, installing flood gates and stop logs). This information will also serve to substantiate the water levels and other conditions used to initiate the action. Specific questions on the structural adequacy of protective measures are referred to Structural Engineering Branch, and the general experience of the Corps of Engineers in such situations, as reflected in reports and manuals, is the principal basis for comparison.

IV. EVALUATION FINDINGS

For both construction permit and operating license reviews the findings will consist of a brief statement of technical specifications and emergency procedures and time required to implement flood protection of safety-related facilities and assure an adequate water supply for safety-related equipment. The flood or water levels and other conditions at which action is to be initiated will also be stated. If none are required, the findings will so state.

A sample Operating License statement follows:

"The staff has taken a position that it would be prudent to shut the plant down before water could reach plant grade during severe hurricanes. The applicant has maintained that design of the safety-related facilities includes provision for protection. The staff believes the implementation of emergency procedures, required in the event of severe hurricanes to assure the watertightness of exterior doors and to minimize the possible equipment failure which could occur during such an event (should the applicant's single water barrier design provisions not be adequate), would be extremely difficult from a practical standpoint. The staff, therefore, will require a provision in the plant's Technical Specifications requiring a flood alert, referring to emergency procedures, when water levels exceed elevation 15 feet MSL. In the case of PMH, this would allow a minimum of about 4 hours before water would cross plant grade (some six hours before maximum water levels would be reached) to implement emergency action. Examples of required action are: assuring all exterior accesses are closed and sealed, adequate diesel fuel oil supplies are protected, sandbagging of vulnerable areas may be undertaken, and any necessary emergency equipment is available and operational. The weather conditions during such a situation would be severe (high winds, rain, the likelihood of tornadoes in the area, etc.), but implementation of outdoor emergency procedures are considered reasonable if accomplished before maximum storm conditions occur.

"The applicant has installed a control room water level alarm that is activated when the water level in the intake canal reaches elevation 17.5 feet MSL. The staff will require the same technical specification to necessitate an orderly plant shutdown upon activation of the alarm. The requirement is prudent in view of the single line of defense inherent in the water barriers installed by the applicant. Failure of such barriers with the reactor at or near operating levels would allow a very limited time, during extreme weather conditions, for plant operating personnel to prevent a major accident. No other technical specification provisions are considered necessary for hydrologically-related events."

V. REFERENCES

Data and information presented in, or derived from, previous Standard Review Plans in the 2.4 series provide the basic reference material for this section.

SRP 2.5.1