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240.0 HYDROLOGY ENGINEERING SECTION, HYDROLOGIC & GEOTECHNICAL ENGINEERING BRANCH

Hydrologic Engineering Safety Questions
St. Lucie Plant Unit No. 2
Docket No. 50-389

240.1 (2.4.13) Section 1.9.5 of the FSAR states that hydrologic data for Hutchinson Island is being evaluated and that an amendment to section 2.4 will be filled on or about March 1981. An amendment containing this data has not as yet been received. Please provide the promised information. Additionally, discuss potential effects on plant design basis and/or hydrologic evaluations.

240.2 (3.4) The Safety Evaluation Report (Construction Permit Stage) states that stoplog closures are to be provided to protect the entrances to safety related structures up to elevation +22 ft. MLW. Stoplog closures on the entrances of the Reactor Auxiliary Building and the Fuel Handling Building are shown in Figures 1.2-13 and 1.2-16 of the FSAR. However, they are not discussed or described in other sections of the FSAR dealing with flood protection.

State whether the stoplogs will be provided. If not, justify that they are not needed. Provide analyses of wave runup at all entrances below elevation +22 MLW.

If the stoplogs are to be installed, provide:

a) the bottom elevation of the door openings and the dimensions of the openings secured by the stoplogs.

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b) the time required to place the stoplogs into position.

c) the criteria to be used to determine when and if the stoplogs are to be placed into position.

d) a discussion of the relevant technical specifications.

240.3 (2.4.13) Discuss the hydrologic technical specifications explaining measures to be used to monitor the existing beach dunes and mangrove areas which are relied upon for hurricane protection. Provide the following information:

(a) the means by which storm erosion will be measured and the frequency of such surveys.

(b) the means by which the mangrove areas will be monitored to identify blighted areas and the frequency of such surveys.

240.4 (2.4.13) Justify that the design groundwater level of elevation +16.2 MLW is conservative. Show that the groundwater level resulting from the PMH coincident with intense rainfall on the plant site will not be higher than your design level. Provide details of the analysis including:

a) the antecedant groundwater level assumed to exist before the PMH surge.

b) the contribution to this level from the surge.

c) the contribution to this level from wave runup and coincident precipitation.

240.5 (2.4.13) Provide the groundwater levels assumed to exist coincident with other extreme events (natural and man induced) for calculation of combined loads on safety related structures. Justify your selection of these levels considering the causative events and the frequency of occurrence.

240.6 (2.4.2) Describe the water level and wave climate at the site as a result of the close passage of Hurricane David in September 1979. Describe any wave erosion resulting from the storm and its implication as to existing design basis. Include in your discussion, the source of the data, the accuracy of the data and other pertinent details.

240.7 (3.4) Describe the method of protecting the sheetpile groins and bulkheads from weakening due to corrosion over the life of the plant. If this protection involves periodic inspections, discuss a technical specification stating the frequency of inspection and the criteria for determining the need for corrective maintenance replacement. Specifically state whether the sheetpile bulkhead installed for erosion protection at the nose of the discharge canal is covered with a concrete pile cap. If it is, provide a drawing of the bulkhead as built showing the elevations and thickness of the pile cap.