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L. V. MAURIN
President Nuclear Operations

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Mr. Robert L. Tedesco
Assistant Director of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Waterford SES Unit No. 3
Docket No. 50-382
Resolution of Hydrology Branch Concerns

In SER Section 2.4.2.3, the Hydrological and Geotechnical Engineering Branch (HGEB) outline a potential problem dealing with the availability of the installed sump pumps in the dry cooling towers during intense precipitation events. These pumps are required to prevent immersion of safety related equipment in the area, yet are not seismic Category I.

Therefore, in order to satisfy the HGEB's concern that a pump be available for a Standard Project Storm (SPS) coincident with an OBE (Operating Basis Earthquake), we will provide a portable pump. We have calculated that a pump of 100 gpm capacity with sufficient head to pump over the cooling tower wall is sufficient to ensure that SPS flooding in the cooling tower area does not impact safety related equipment. (Attached is a discussion demonstrating that 100 gpm will be adequate.) This pump will be stored within the Nuclear Plant Island Structure (NPIS) so as to minimize the impact on the pump of an OBE. In addition, the pump will be stored on pallets placed away from any non-seismic Category I equipment which could fall and damage the pump. Furthermore, this pump will be included in the equipment surveillance testing program. The testing will include a demonstration at least once per refueling that the pump will circulate water.

As part of our emergency procedures, we will include provisions for switching the power supply of the installed pumps to the emergency bus within 1/2 hour of a loss of offsite power and provisions for emplacing the portable pump within 6 hours of a seismic event if the installed pumps fail.

These procedures, as well as details of the testing program, will be available prior to fuel load.

Very truly yours,

L. V. Maurin
LVM/RMF/pmw

cc: E. L. Blake, W. M. Stevenson, S. Black, R. Gonzales

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UHS FLOOD PREVENTION
PORTABLE EMERGENCY PUMP CAPACITY

Since the depth of water in the UHS area is 1.62 ft. at the end of 6 hours with no pumping, it is not necessary to provide a pump with enough capacity to instantaneously handle the maximum subsequent rainfall intensity. If it is sized to handle the average rainfall rate of hours 7 through 12, the maximum depth could rise to 1.66 feet, and would drop back to 1.62 ft. again at the end of 12 hours and continue to drop thereafter.

Since the PMP is 30.7 in. for 6 hr. and 34.6 in. for 12 hr., and the SPS is being conservatively taken as 60% of the PMP, the total rainfall in hours 7 through 12 is 2.34 in. The average rate of water inflow is 100 gpm. Assuming the maximum rate of rainfall is 38% of 2.34 in. in one hour, this is equivalent to 225 gpm. If a 100 gpm pump is used, the 125 gpm deficit for one hour results in only a 0.04 ft. increase in depth. Thus the 100 gpm capacity is sufficient to prevent flooding of the MCC grounding bus if the pump is activated within 6 hours.

If no pumps are in operation for the first 12 hours of the SPS, the water level would rise to 1.83 ft. Activation of the 100 gpm emergency pump at 12 hours would still be adequate to prevent flooding of the vertical bus at 1.90 ft. above the floor.