



FN-PAL-031

Offshore Power Systems

5000 Arlington Expressway
Box 5000 Jacksonville, Florida 32211

304-724-7700
Telex 228408

July 19, 1979

Mr. Robert L. Baer, Chief
Light Water Reactors Branch No. 2
Division of Project Management
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland 20852

P. B. Haga
Director
Plant Analysis & Licensing

Re: Docket No. STN 50-437; Effect of Core
Ladle on Reactor Cavity Pressure Analysis

Dear Mr. Baer:

This letter supersedes my letter FN-PAL-039 dated
July 11, 1979 concerning the subject analysis.

In the reactor cavity analyses presented in Section
15.5.3.1 of the Plant Design Report, the net volume in
the reactor sump region is 20,900 cubic feet. This is
the free volume in elements 79 and 82 of the TMD analyses.
The corresponding reactor sump region volume with the core
ladle is calculated to be 20,031 cubic feet. The differ-
ential volume of approximately four percent would have
an inconsequential effect upon the previously calculated
peak pressure (9 psig) in elements 79 and 82 since the
vent areas of 50 ft² from these elements remain unchanged.
Addition of the usual 40 percent margin to the calculated
peak pressure does not result in the limiting pressure for
design of the reactor sump region. The limiting pressure
of 32 psig (at elevation 77 feet in elements 79 and 82)
results from the requirement that the reactor sump region
withstand containment design pressure (15 psig) plus the
hydrostatic head up to elevation 117 feet which would
result from a break at a reactor vessel nozzle. This
limiting design condition is unaffected by the addition
of the core ladle.

Very truly yours,

Dee D. Warren for P. B. Haga

P. B. Haga

/lel

CC: V. W. Campbell
A. R. Collier

424 272

7907270

Boo! SE
1/10 ADD:
P HEARN
W MUSTARD

173