



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

APR 14 1979

MEMORANDUM FOR: Franz P. Schauer, Chief *FP*
Structural Engineering Branch
Division of Systems Safety

FROM: R. E. Lipinski
Structural Engineering Branch
Division of Systems Safety

THRU: D. C. Jeng, Section A Leader *DJ*
Structural Engineering Branch
Division of Systems Safety

SUBJECT: PROPOSED CHANGE ON SEB POSITION WITH
REGARD TO LOAD FACTOR FOR HYDROSTATIC
PRESSURE IN STRUCTURAL DESIGN

According to our present position in the SRP Sections 3.8.1, 3.8.3, and 3.8.4 (Section 3.8.2 does not address this issue), the hydrostatic pressure due to ground water as well as buoyant forces is included in the dead load and in case of concrete structures a load factor of 1.4 is assigned. Since the lateral soil pressure is affected by the presence of water, it is my opinion that hydrostatic pressure due to ground water should be considered as a part of live load and the load factor assigned should be 1.7 instead of 1.4.

Our present position regarding this issue is consistent with the corresponding subject of the ACI-318, ACI-349 and ACI-359. As you know, many sections of the ACI-349 and ACI-359 are based on the provisions of the ACI-318 and the resolution of my concern regarding proper assignment of a load factor to hydrostatic pressure hinges on obtaining a formal interpretation of the issue from the pertinent ACI-318 Code Committee. In pursuance of this matter, I raised the question with the ACI-318 Code Committee (Attachment 1) and received its formal response letter on the subject issue (Attachment 2). As you can see from the Code Committee's

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Franz P. Schauer, Chief

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letter, they have endorsed my position. I expect that the changes to the ACI-318 Commentary will be followed by revision of the other two codes. I am, therefore, proposing that our present position regarding the lateral pressure due to ground water be changed and the pertinent sections of the SRP be revised to reflect this change accordingly.

R. E. Lipinski

R. E. Lipinski
Structural Engineering Branch
Division of Systems Safety

Attachments: As Stated

cc w/encl:
R. Mattson
J. Knight
A. Ashar
G. Bagchi
V. Noonan
SEB Members

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