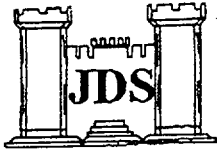


65 FR 55064

9-12-00

⑧



J.D. Stevenson Consulting Engineer

a structural-mechanical consulting engineer

9217 Midwest Avenue • Cleveland, Ohio 44125 • Tel: (216) 587-3808 • Fax: (216) 587-2205

00D49

November 21, 2000

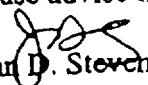
To: H. L. Graves
From: J.D. Stevenson

I would like to comment on Draft Regulatory Guide DG-1098 as a proposed Revision 2 to Regulatory Guide 1.142.

Item 6 of Regulatory Position C has taken exception to some of the load factors used in Section 9.3.1 of ACI 349-97 and, in general, has made them somewhat more conservative and in line with load factor previously presented in Standard Review Plan Section 3.8.

It should be understood that the more conservative load factors of the Standard Review Plan 3.8 and R.G. 1.142, almost without exception, were applied to Category I concrete structures that were not designed using ductile detailing practices since they followed the ACI 318-63 and ACI 318-70 code requirements which did not require ductile detailing. In my experience, the use of ductile detailing requirements, particularly for frame type structures, adds considerably to the cost of such structures. For increased safety margins and uniformed structural performance in response to dynamic loads, all structural engineers would agree that ductile detailing of reinforced concrete structures should be used. However, this cannot be achieved without some considerable additional cost. Because of this increase in cost over past practice, I believe a back fit analysis should be required. However, if the load factors contained in the ACI-349-97 were used, this increase in cost would be offset to a considerable degree by a somewhat lower design load. This use of current ACI-349 load factors would result in less congested and more easily constructed concrete sections which behave in a more ductile manner without a significant increase in cost.

Please advise if you desire any clarification of these comments.


John D. Stevenson

Template
ADM - 013

ER105 - ADM-03
add Ann Beranek (AFB)
Herman Graves