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Design of Nuclear Safety-Related Structures for Impactive and Impulsive Loads using ACI CODE-349 and ASME Section III, Division 2 Provisions—Guide

Reported by ACI Committees 349 and 359



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PREFACE

This guide is the work of the ACI 349/359 Task Group on Impulsive and Impactive Loading that established a proposal of updated design provisions for both ACI CODE-349 and ASME BPVC Section III, Division 2. The provisions of this guide are nonbinding on ACI CODE-349-23 Appendix F or ASME BPVC Section III, Division 2:2011 and may change if implemented.

This guide gives the genesis of the provisions that are proposed to be incorporated into these code documents and further explains why these provisions were adopted. Furthermore, the primary mandate of this guide was to align both aforementioned codes and to bring these codes up to date with current industry practices, using current references for the provisions of both code documents. This guide serves as an independent report of the task group's work to the code committees. This guide is issued as a detailed commentary to the provisions of ACI CODE-349-23 Appendix F or ASME BPVC Section III, Division 2. The language of ACI CODE-349-13 and ASME BPVC Section III, Division 2:2011 form the starting point for the proposed nonbinding revisions already incorporated in the first two columns of this guide. The last column does not provide proposed changes but provides explanations of why such changes are proposed.

Keywords: blast; hard impact; impact; impulse; nuclear structure; perforation; scabbing; soft impact; structural analysis; structural design.

