

NUCLEAR REGULATORY COMMISSION  
REGULATORY GUIDE

Notice of Issuance and Availability

The Nuclear Regulatory Commission has issued a guide in its Regulatory Guide Series. This series has been developed to describe and make available to the public methods acceptable to the NRC staff of implementing specific parts of the Commission's regulations and, in some cases, to delineate techniques used by the staff in evaluating specific problems or postulated accidents and to provide guidance to applicants concerning certain of the information needed by the staff in its review of applications for permits and licenses.

Regulatory Guide 1.7, Revision 2, "Control of Combustible Gas Concentrations in Containment Following a Loss-of-Coolant Accident," is being issued in conjunction with recently published amendments to NRC regulations in 10 CFR §50.44 (43 FR 50162) that clarify Commission requirements for controlling combustible gases in the primary containment structure of light-water power reactors under certain accident conditions.

Combustible gas control systems are provided to protect the containment against hydrogen burning or explosion following a loss of primary coolant accident. There are circumstances under which "inerting" of the containment could be required for protection during the time period immediately following the accident and just before effective operation of the combustible gas control system (a period of about two minutes).

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Inerting is a process of adding nitrogen to reduce the concentration of oxygen in the containment atmosphere. This prevents any hydrogen produced or accumulated immediately following a loss-of-coolant accident from reacting with oxygen to cause a fire or hydrogen explosion.

Inerting is required only if a licensee is unable to show that hydrogen would not accumulate to excessive levels or that, if such a situation should occur, it would not affect the plant's safety functions. The NRC staff has estimated that, for all but two of the plants now operating or under construction, inerting the containment would not be needed.

Regulatory Guide 1.7, Revision 2, provides detailed guidance for complying with the new regulations and other related Commission regulations. This guide has been revised as a result of public comment and additional staff review.

Comments and suggestions in connection with (1) items for inclusion in guides currently being developed or (2) improvements in all published guides are encouraged at any time. Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch.

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single copies of the latest revision of issued guides (which may be reproduced) or for placement on an automatic distribution list for single copies of future guides in specific divisions should be made in writing to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Technical Information and Document Control. Telephone requests cannot be accommodated. Regulatory guides are not copyrighted, and Commission approval is not required to reproduce them.

(5 U.S.C. 552(a))

Dated at Rockville, Maryland this 6th day of December 1978.

For the Nuclear Regulatory Commission.

Robert B. Minogue

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Office of Standards Development