



THOMAS P. HARRALL, Jr.
Vice President, Plant Support
Nuclear Generation

Duke Energy Corporation
526 South Church Street
Charlotte, NC 28202

Mailing Address:
EC07H / P.O. Box 1006
Charlotte, NC 28201-1006

704 382 3989

704 382 6056 fax

tpharral@duke-energy.com

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Chief
Rulemaking, Directives, and Editing Branch
Office of Administration
Mail Stop T6-D59
U. S. Nuclear Regulatory Commission
Washington D. C. 20555-0001

Subject: Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC (Duke)
Comments on Proposed Generic Communication; Managing Gas Intrusion
in Emergency Core Cooling, Decay Heat Removal, and Containment
Spray Systems Published in the *Federal Register* (72 FR 29010) on May
23, 2007

The purpose of this letter is to provide Duke comments on proposed Generic Letter
2007-XX, Managing Gas Intrusion in Emergency Core Cooling, Decay Heat Removal,
and Containment Spray Systems as published in the above cited *Federal Register*
notice.

Duke appreciates this opportunity and provides comments in an attachment for
consideration by the NRC staff.

Sincerely,

Thomas P. Harrall, Jr.

Attachment

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**Duke Comments on Proposed Generic Letter 2007-XX,
Managing Gas Intrusion in Emergency Core Cooling, Decay Heat Removal, and
Containment Spray Systems**

Duke Comment 1: In the DISCUSSION section, page 10, the GL suggests that a TS surveillance should address operability prior to the surveillance and during the interval until the next surveillance. (See DISCUSSION section, page 10). SSCs are typically presumed operable when a surveillance is current and acceptance criteria are met and documented. This would be an appropriate consideration for establishing the SR frequency and may be a valid expectation for a TS SR basis document. However, once established, the principle of presumed operability between surveillances should not be challenged.

Duke Comment 2: In the DISCUSSION section, page 11, discussion of pump cavitation should be removed from the document entirely. Cavitation is not relevant to gas intrusion. It is, by definition, the formation and subsequent collapsing of vapor bubbles in a flow stream. Moreover, it is strictly a design issue. Cavitation potential is a function of system geometry, flow rates, pressure, and fluid temperatures. Venting and surveillances for system voids, which are entirely appropriate for gas intrusion, will have no bearing on the potential for cavitation.

Duke Comment 3: If a licensee has no TS SR requirement and no established design criterion (calculated limit on gas quantity) by which to establish acceptance criteria, does the GL require or expect that the limit be determined and surveillance be implemented in the interim while a TS change is processed?

Duke Comment 4: Input from pump vendors will probably be required to determine acceptable limits for entrained gas volumes. Implementation schedules will need to reflect this factor.

Duke Comment 5: In the DISCUSSION section, page 14, the proposed GL states, "the NRC staff will consider justification for not conducting a periodic surveillance or for extending the time between surveillances of certain sections of piping if an addressee considers surveillance to be unnecessary." The GL in a subsequent sentence on the same page states, "An assessment for such plants that (1) acceptably eliminates other means of introducing gas, (2) establishes acceptable verification that the lines are essentially full following a condition that reduces the discharge line pressure, and (3) establishes an operating history confirming that gas has not accumulated will be adequate justification for not conducting surveillances inside containment or at locations that constitute a hazard to personnel performing the assessment." With proper justification by the utility, this specific exemption from surveillance should apply regardless of the physical location.

Duke Comment 6: Venting may release explosive gas mixtures as a result of supersaturated hydrogenated fluid in the primary systems. Accordingly, personnel safety issues may be raised as a result of the new venting requirements. The gas may not necessarily be in the form of a pocket within the piping system but rather may simply release from the fluid when exposed (vented) to atmospheric conditions.