



M. S. Tuckman
Executive Vice President
Nuclear Generation

February 7, 2001

Mr. David L. Meyer, Chief
Rules and Directives Branch
Division of Administrative Services
Office of Administration
Mail Stop T-6 D59
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Comments on Draft Regulatory Guide DG-1096
"Transient and Accident Analysis Methods"
65FR77934, dated December 13, 2000

Dear Mr. Meyer:

Duke Energy offers the attached comments relative to the solicitation for public comments regarding the Draft Regulatory Guide DG-1096, "Transient and Accident Analysis Methods".

Please address any questions to Jeff Thomas at (704) 382-5826.

Thank you for the opportunity to provide these comments.

Very truly yours,

M. S. Tuckman

Duke Power Company

A Duke Energy Company

EC07H
526 South Church Street
P.O. Box 1006
Charlotte, NC 28201-1006

(704) 382-2200 OFFICE
(704) 382-4360 FAX

RECEIVED

2001 FEB -7 11:11:02

Rules and Directives

65FR77934

12/13/00

①

Template = ADM-013

E-RIDS = ADM-03
Call = A. BERANEK (AFB)
N. Lauben (TOMKI)

Draft Regulatory Guide DG-1096
Duke Comments

1. Although intended to be applicable to non-LOCA transient and accident analysis methods, the motivation for issuing DG-1096 and the content is apparently based extensively on NRC experience with reviewing best-estimate LOCA (BELOCA) evaluation model (EM) submittals. The recommendations and content of DG-1096 are very appropriate to guide future BELOCA submittals and reviews. However, the staff's expectations for non-LOCA EM development and licensing, as stated in DG-1096, are not commensurate with the complexity of the physical phenomena associated with non-LOCA transients and accidents. DG-1096 should be revised and issued as applicable to BELOCA EM development and licensing only. A second regulatory guide that is more appropriate for FSAR Chapter 15 non-LOCA transient and accident analysis methods should be drafted for comment. Much of the content of DG-1096 could be deleted from this proposed second regulatory guide because it is not applicable, or because it is not warranted based on the milder and less complex phenomena associated with FSAR Chapter 15 non-LOCA transients and accidents. The proposed second regulatory guide would also need to state its applicability as being only for best-estimate evaluation models.
2. FSAR Chapter 15 non-LOCA transients and accidents are typically analyzed using evaluation models (using the new DG-1096 proposed definition of evaluation model) consisting of conservative or realistic computer codes and correlations, and requiring conservative assumptions for initial conditions, boundary conditions, and values of key input parameters. This standard method has been accepted by the NRC staff as ensuring an overall conservative analysis result. As stated on the first page of DG-1096, "This regulatory guide is intended to provide guidance on realistic accident analyses, which will provide a more reliable framework for risk-informed regulation and a basis for estimating the uncertainty in understanding transient and accident behavior." This statement is not sufficiently emphasized in the draft guide. It is suggested that the title of DG-1096 be revised to include the words "realistic" or "best-estimate". Further emphasis will provide the necessary distinction between the traditional conservative

transient and accident analysis method, and the "realistic accident analyses" that are the subject of DG-1096. The traditional conservative transient and accident analysis method, which does not need to be revised along the lines suggested in DG-1096 for "realistic accident analyses", should remain fully acceptable to the NRC staff.

3. The guide should not refer to issues such as pressurized thermal shock (p. 7) and severe accidents (p. 11) in the context of evaluation models to avoid confusion. These are beyond the scope of FSAR Chapter 15, and the scope of DG-1096 should be limited to design-basis analyses.
4. By issuing DG-1096, the NRC staff implies that there is insufficient knowledge of or inadequate modeling of the phenomena associated with FSAR non-LOCA transients and accidents. DG-1096 does not provide any specifics or give examples that are the source of the staff's concerns. The industry has extensive experience analyzing these transients and accidents, and it is understood that the important phenomena are known and have been appropriately addressed in the analyses. If the NRC staff has additional information or concerns regarding specific phenomena for a specific FSAR transient or accident, then that additional information could be communicated to the industry through revisions to applicable Standard Review Plan Chapter 15 sections. NRC should communicate any concerns regarding the modeling of particular phenomena in an organization's evaluation model to that organization.
5. The regulatory analysis suggests that following the guidelines contained in DG-1096 for a future non-LOCA evaluation model submittal would actually save effort and cost in the licensing phase. It is agreed that the NRC review effort and cost may be reduced, but the additional cost for an organization to follow the guidelines in DG-1096 for a future non-LOCA evaluation model submittal would far exceed potential savings on the NRC review fee. The cost of following the guidelines is excessive considering the significantly less complex phenomena associated with non-LOCA transients and accidents. The additional cost of following the guidelines will not add significant value or improve safety.

U. S. Nuclear Regulatory Commission
February 7, 2001
Page 4

bxc: M. T. Cash
L. E. Nicholson
G. D. Gilbert
C. J. Thomas
G. B. Swindlehurst
K. S. Canady
ELL