



Duke Power Company
A Duke Energy Company

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September 22, 2000

U. S. Nuclear Regulatory Commission
Washington D.C. 20555
ATTENTION: Document Control Desk

Subject: Duke Energy Corporation
Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 414
Topical Report DPC-NE-3002-A, Revision 4

- Reference: 1) Letter, Duke Energy Corporation to U.S.
Nuclear Regulatory Commission, ATTENTION:
Document Control Desk, Dated April 19, 2000,
SUBJECT: Topical Report DPC-NE-3002-A,
Revision 4
- 2) Letter, Duke Energy Corporation to U.S.
Nuclear Regulatory Commission, ATTENTION:
Document Control Desk, Dated August 24,
2000, SUBJECT: Topical Report DPC-NE-3002-A,
Revision 4

In Reference 1 and supplemented in Reference 2, Duke Energy Corporation submitted proposed Revision 4 to Topical Report DPC-NE-3002-A, *UFSAR Chapter 15 Transient Analysis Methodology*. Revision 4 specifies a three minute operator response time for depressurizing the primary system and for initiating safety injection termination following a steam generator tube rupture related to offsite dose. Following the submittals referenced above, the NRC asked additional questions on the proposed change to the operator response times. These questions were discussed in a Duke/NRC telephone conference call held on September 19, 2000. This conference call identified the need for additional changes to be included in the proposed Revision 4. These additional changes clarify the differences between McGuire and Catawba in regard to responding to the steam generator tube rupture event. The necessary clarifications have

A001

U. S. Nuclear Regulatory Commission
September 22, 2000
Page 2

been made and are included on the attached revised mark-up of Page 7-9 of Topical Report DPC-NE-3002-A. Following NRC approval of the proposed Revision 4, Duke will reissue this document in final form and submit it to the NRC in accordance with the guidance of NEREG-0390.

Duke is maintaining the originally requested approval date for this topical report revision. Approval is requested concurrent with, or prior to, the approval of a forthcoming related Catawba license amendment request that will revise the steam generator tube rupture licensing basis.

Please address any questions to J. S. Warren (704) 382-4986 or G. B. Swindlehurst (704) 382-5176.

Very truly yours,



M. S. Tuckman

Attachment

xc w/Attachment:

L. A. Reyes, Regional Administrator
U. S. Nuclear Regulatory Commission
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Atlanta Federal Center
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Mr. C. P. Patel, Project Manager (CNS)
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Mr. D. J. Roberts
NRC Senior Resident Inspector
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U. S. Nuclear Regulatory Commission
September 22, 2000
Page 3

bxc:

w/Attachment

G. B. Swindlehurst
C. J. Thomas
G. D. Gilbert
T. Baumgardner
M. H. Chernoff
K. E. Nicholson
T. K. Pasour (2)
J. S. Warren
ELL

- Identify and isolate ruptured steam generator consistent with assumptions in WCAP-10698 (Reference 5), 15 minute minimum delay (credit).
For Catawba, isolate the
- ~~Isolate~~ failed open steam line drains upstream of the main steam isolation valves. This action occurs 10 minutes after the ruptured steam generator is identified.
- Isolate the steam supply to the turbine-driven auxiliary feedwater pump from the ruptured steam generator after identification of the ruptured steam generator. An operator action delay time of 30 minutes is assumed (credit).
- Isolate failed open steam line PORV on the ruptured steam generator with an operator action delay time from when it should have closed normally. The delay times assumed are 10 minutes for control room and 30 minutes for local operation (credit).
(Catawba) (McGuire)
- Manually control auxiliary feedwater to maintain zero power steam generator levels (nominal).

(Catawba)

Using the steam line PORVs, initiate natural circulation cooldown of the primary system after identification of the ruptured steam generator. Operator action delay times of 15 minutes for control room action and 45 minutes for local action are assumed (credit).

For McGuire, initiate

(McGuire)

- initiate depressurization of the primary system using the pressurizer PORVs to terminate break flow 10 minutes after the primary system is 20°F subcooled at the ruptured steam generator pressure (credit). For Catawba, this action is initiated 3 minutes after the primary system is 20°F subcooled (credit).

7.2.2.4 Control, Protection, and Safeguards System Modeling

Reactor Trip

A reactor trip occurs on either low pressurizer pressure or manual operator action at 20 minutes. A negative uncertainty is applied to the low pressurizer pressure trip setpoint to delay reactor trip. The overtemperature ΔT trip function is not credited.

Pressurizer Pressure Control

This control system is assumed to be in manual and therefore is not modeled. Operator action is assumed to energize the pressurizer heaters and control the PORVs. Pressurizer spray is not available for the duration of this transient.

Pressurizer Level Control

This control system is assumed to be in manual and therefore is not modeled. Operator action is assumed to maximize charging flow.

- Initiate SI termination 3 minutes after completing the depressurization of the primary system (credit).