



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

May 3, 2004
NOC-AE-04001722
STI: 31741298
10CFR50.46

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
10CFR50.46 Annual Report of ECCS Model Revisions

Reference: Letter from D. A. Leazar to NRC Document Control Desk, "Revision to the Year 2002 10CFR50.46 Annual Report of ECCS Model Revisions," dated April 8, 2003 (NOC-AE-03001500)

Pursuant to 10CFR50.46(a)(3)(ii), the South Texas Project (STP) submits this annual report concerning revisions to the accepted Emergency Core Cooling System (ECCS) evaluation model at STP Units 1 and 2.

During 2003, the Small Break LOCA Peak Clad Temperature (PCT) increased from 1578°F (see reference) to 1612°F. The 34°F increase is the result of a PCT penalty, developed by Westinghouse, to address inconsistencies in several drift flux models as well as the nodal bubble rise/droplet fall models. During 2003 no PCT assessments were required for the Large Break ECCS Model. The Large Break LOCA PCT remains at 2136°F (see reference).

2003 SBLOCA PCT Assessment

The NOTRUMP code was updated to resolve some inconsistencies in several drift flux models and the nodal bubble rise/droplet fall models. The changes include:

- 1) Bubble rise and droplet fall models were made consistent with flow link calculations,
- 2) Corrections were made to limits employed in the vertical counter-current flooding models,
- 3) Checking logic was added to correct situations where drift flux model inconsistencies could result (i.e. prevent liquid flow from an all-vapor node and vapor flow from an all-liquid node, and
- 4) A more rigorous version of the Yeh Drift Flux Model was implemented (the previous version of this model was incorrectly restricted to a 50% void fraction limit).

A001

Westinghouse classified the changes as a closely-related group in accordance with Section 4.1.2 of WCAP-13451. The 34°F Small Break LOCA PCT penalty was developed through plant-specific calculations.

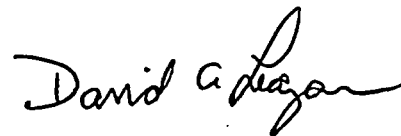
Significance Determination

The 34°F Small Break LOCA PCT penalty is the only PCT assessment for 2003. Since the impact of the changes is less than 50 °F, the penalty is classified as "not significant" as defined in 10CFR50.46. A schedule for reanalysis for the Small Break LOCA is not provided because the revised PCT remains below the regulatory limit and the value of the PCT change is less than 50°F.

PCT Rackups

The acceptance criteria for all models continue to be satisfied. Attachment 1 provides the current ECCS evaluation model PCT rack-ups.

If you should have any questions concerning this matter, please contact Mr. Charles Albury at (361) 972-8901 or me at (361) 972-7795.



David A. Leazar
Director,
Nuclear Fuel & Analysis

jmw/jal

Attachment: 2003 Year-End PCT Rack-ups

cc:

(paper copy)

Bruce S. Mallett
Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Richard A. Ratliff
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

Jeffrey Cruz
U. S. Nuclear Regulatory Commission
P. O. Box 289, Mail Code: MN116
Wadsworth, TX 77483

C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

(electronic copy)

A. H. Gutterman, Esquire
Morgan, Lewis & Bockius LLP

L. D. Blaylock
City Public Service

Michael K. Webb
U. S. Nuclear Regulatory Commission

R. L. Balcom
Texas Genco, LP

A. Ramirez
City of Austin

C. A. Johnson
AEP Texas Central Company

Jon C. Wood
Matthews & Branscomb

ATTACHMENT 1

2003 YEAR-END PCT RACK-UPS

Unit 1 and Unit 2 Large Break LOCA:

2002 / 2003 Year-End Large Break LOCA PCT (see reference)	2136 °F
---	---------

Unit 1 and Unit 2 Small Break LOCA:

2002 Year-End Small Break LOCA PCT (see reference)	1578 °F
--	---------

NOTRUMP Bubble Rise / Droplet Fall and Drift Flux Model Inconsistency Correction	34 °F
--	-------

2003 Year-End Small Break LOCA PCT	1612 °F
------------------------------------	---------