TU ELECTRIC

Log # TXX-99168
File # 10010
Ref. # 10CFR50.36

July 27, 1999

C. Lance Terry
Senior Vice President
& Principal Nuclear Officer

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
SUPPLEMENTAL INFORMATION FOR
LICENSE AMENDMENT REQUEST LAR-98-006, REVISION TO
STEAM GENERATOR TUBE PLUGGING CRITERIA

REF: TXU Electric[1] Letter, logged TXX-98196, from C. L. Terry to the NRC dated October 2, 1998

Per the referenced letter, TXU Electric proposed to amend Technical Specification 4.0.6, "Steam Generator Surveillance Requirements" which provides tube inspection requirements and acceptance criteria to determine the level of degradation for which the tube may remain in service. The proposed amendment would add definitions required for the F* alternate plugging criterion and it identifies the portion of the tube subject to the criteria. During recent discussions with the NRC staff, TXU Electric was requested to provide a methodology for determining the eddy current NDE measurement uncertainty to be used in conjunction with F*. The requested methodology is provided in Attachment 2 to this letter.

Attachment 1 is the affidavit required for information supporting a license amendment request. In accordance with 10CFR50.91(b), TXU Electric is providing the State of Texas with a copy of this proposed amendment.

This communication contains no new licensing basis commitments regarding CPSES Units 1 and 2.

[1]. TXU Electric was formerly TU Electric. A license amendment request (LAR 99-003) was submitted per TXX-99122, dated May 14, 1999, to revise the company name contained in the CPSES operating licenses.

D029 1/1

Should you have any questions, please contact Obaid Bhatty at (254) 897-5839.

Sincerely,

C. L. Terry

By: Roger D. Walker
Roger D. Walker
Regulatory Affairs Manager

OAB:oab

Attachments: 1) Affidavit
2) Methodology for the Determination of NDE Measurement Uncertainty

cc: E. W. Merschoff, Region IV
J. I. Tapia, Region IV
D. H. Jaffe, NRR
Resident Inspectors, CPSES

Mr. Arthur C. Tate
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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of	)		
	)		
Texas Utilities Electric Company	)	Docket Nos.	50-445
	)		50-446
(Comanche Peak Steam Electric	)	License Nos.	NPF-87
Station, Units 1 & 2)	)		NPF-89

AFFIDAVIT

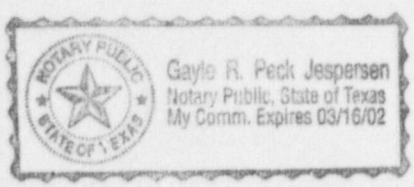
Roger D. Walker being duly sworn, hereby deposes and says that he is the Regulatory Affairs Manager of TXU Electric, the licensee herein; that he is duly authorized to sign and file with the Nuclear Regulatory Commission this License Amendment Request 98-006; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.

Roger D. Walker
Regulatory Affairs Manager

STATE OF TEXAS)
)
COUNTY OF Somervell)

Subscribed and sworn to before me, on this 27th day of July, 1998.

Notary Public



ATTACHMENT

Methodology for the Determination of NDE Measurement Uncertainty

Background

Various NDE techniques which support alternate repair criteria require the measurement of the position or inclination of a detected flaw. The alternate repair criteria typically cite a structurally based flaw length, position or inclination requirement and then allow for an NDE measurement uncertainty. As the applied NDE techniques change, there arises a need to determine the NDE uncertainty. Changes in the applied techniques may involve a change in any essential variable which may affect the NDE measurement. Thus, a methodology which may be generically applied to the determination of the NDE measurement uncertainty is required. The methodology must define the essential variables relative to NDE measurements, test a sample of steam generator tubes, and recommend a logic for the determination of the NDE error involved.

Essential Variables

There are a number of essential variables which can affect the position, length or inclination measurements applied to a flaw. Essential variables which should be considered include:

Probe Type	The probe type being used for a specific measurement can affect the error associated with the measurement. A specific coil configuration may have a specific error based upon field spread, presence or lack of shielding or coil spacing.
Probe Delivery System	The delivery system consists of the probe pusher, the probe pusher motor controlier and the probe delivery conduit. Variations in the type of probe pusher and controller could result in differences in the precision and accuracy of the probe speed. The length and type of the conduit may affect the passage of the probe and may lead to some variations in speed.
Direction of Test	The direction of the test may affect how probe speed varies in the vicinity of geometric changes such as an expansion transition.
Probe Speed	The probe speed may affect the NDE error where the region of interest is near the beginning or end of the test, or where, in the case of rotating probes, the pitch of the test may be affected.
Sampling Rate	The sample rate, in conjunction with the maximum probe speed, may affect the NDE uncertainty.

The degree to which some of these contribute to the NDE error may be determined to be negligible. In such a case, this should be documented.

Samples

The samples selected for testing should be representative of the types of measurements to be made. These may be simulations with variations in the dimensions to be measured: flaw position, flaw length and/or flaw inclination. The simulations should include the expected prominent features which may affect the NDE accuracy (for example: rolled expansions). If the testing is to verify the NDE uncertainties for a specific alternate repair criteria, such as F*, the samples should include samples with artificial flaw dimensions which range from "acceptable" to "repairable". A single sample could be used to obtain multiple measurements. The use of simulations allows for accurate dimensions to be measured by another means (such as replication) for comparison with the NDE measurements.

Methodology of Testing

Testing of the samples should be performed under conditions which are prototypic of the field. The samples will be installed as part of a steam generator mock-up and the probe delivery system(s) used should be of the types used in the steam generator. The lengths of conduit used between the probe pusher and the tubesheet should cover the range typically used. Testing should be performed at the axial and rotational translation speeds used in the field. The ranges of essential variable for the test shall be documented. Each sample would be tested multiple times in order to establish a range of measurements for that sample.

The measurements obtained for the population of samples tested would be used to determine the range and average of the NDE uncertainty for each measurement type. Provided a significant number of measurements are made, a confidence band may be established on the measurement uncertainty. The measurement uncertainties shall be documented along with the essential test variables. The applicability of the NDE uncertainty shall normally be over the demonstrated range of variables. There may be exceptions to this where a variable can be demonstrated to have negligible effect, or that the change in variable would result in a lesser uncertainty. In the case where a variable change would be expected to result in a smaller NDE uncertainty (for example the additional of a probe tensioning device), the larger uncertainty may be applied without any additional qualification. The resultant NDE uncertainty value shall be based upon a 95% confidence of the tolerance limit.