

**TEXAS UTILITIES GENERATING COMPANY**

SKYWAY TOWER \* 400 NORTH OLIVE STREET, L.B. 91 \* DALLAS, TEXAS 75201

L. F. FIKAR  
EXECUTIVE VICE PRESIDENT

August 14, 1984

TXX-4260

Dockets: 50-445  
50-446

Mr. Thomas A. Ippolito  
Project Director for Comanche Peak  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

COMANCHE PEAK STEAM ELECTRIC STATION  
UNITS 1 AND 2  
ADDITIONAL QUESTIONS RELATIVE TO PROTECTIVE  
COATINGS ALLEGATIONS  
FILE NO. 906.1, 10010

Dear Mr. Ippolito:

Attached find our detailed response to your additional questions relative to protective coating allegation No. 21 (as formalized in your memorandum of July 27, 1984). The balance of our detailed responses will be submitted in the near future.

Please let us know if we can provide any additional information.

Sincerely,

*L. F. Fikar*  
L. F. Fikar

8502210310 850213  
PDR ADOCK 05000445  
S PDR

LFF:pew  
Attachments

TXX-4260

August 14, 1984

QUESTIONS RELATIVE TO ALLEGATION NO. 21

A. Adhesion Tests

At the July 11, 1984 site meeting, CPSES briefed the NRC Coating Allegation Team members on the overall scope of the Coating Backfit Program. R. Tolson (TUGCO) informed the team of a discrepancy in calibrating Elcometers used for the coating adhesion test that was discovered after most of the Backfit Program adhesion tests were completed. This discrepancy would allow in-plant test results to be in error by 200 psi in the non-conservative direction.

CPSES should revise and correct the original adhesion test data based on dead weight calibration records for each Elcometer used to provide the original test data. The corrected data should then be statistically re-evaluated to establish the fraction (%) of total coated area that passes the 200 psi acceptance level with the stated confidence level. This re-evaluated data should be separately reported for: concrete, containment liner and miscellaneous steel. Describe the method and basis for re-constituting the original test data and establishing the confidence level. Also, describe how the area fraction was established.

In providing the above requested information, the following specific information should be supplied.

- a. For each adhesion test sample area in which at least one test reading is below 400 psi, provide:
  1. All test readings for the sample area. If sample area is reworked, give test readings before and after repair.

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QUESTIONS RELATIVE TO ALLEGATION NO. 21

2. PCR numbers for all adhesion tests, the area sampled (e.g., 100 ft<sup>2</sup>), date and Elcometer number.
  3. Calibration readings for that Elcometer at nearest calibration dates before and after testing the sample area.
  4. Corrected readings for the sample area (Field reading - largest positive deviation during calibration period).
- b. For each Elcometer used in the Backfit program, provide a table or curve showing calibration deviations (at the 200 psi point value) as a function of date for the complete Backfit period. In case the instrument zero required adjustment show deviations before and after adjustment.
- c. For each of the three surface types, containment liner surface, concrete surfaces and miscellaneous steel surfaces, provide:
1. Total area and total area tested for adhesion.
  2. Total area which failed the pull test before repair. (Sum of sample areas represented by at least one failed pull test before repair).
  3. Fraction of total area tested which failed the pull test before repair.
  4. Number of sample areas tested and average number of tests per sample area.

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QUESTIONS RELATIVE TO ALLEGATION NO. 21

5. Using the pull test data after correcting for instrument bias (calibration), provide a statistical evaluation of the fraction of the painted area failing the adhesion test, not including the exempted area. Where calibration data are not available, assume an instrument bias of 200 psia. Provide the standard deviation associated with the estimate of the fraction of the total painted area which failed the pull test, based on the corrected data. Construct a 95% upper confidence limit for the proportion of the area which would fail the pull test.
6. Describe how the sample areas (.e.g., grids) were selected. Indicate the degree to which the spots actually tested were representative of each sample area.
7. For each item on the Coating Exemption Log involving an area of 1000 ft.<sup>2</sup> or more, describe in detail the method of estimating the area. Provide the total exempted area for each of the three main types of surface.

B. Dry Film Thickness Tests

For each of the three surface types, provide:

1. Total area tested for DFT (a) of primer, and (b) of complete coating systems.

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QUESTIONS RELATIVE TO ALLEGATION NO. 21

2. Total area which failed the DFT test before repair (a) of primer and (b) for complete coating system.
3. Fraction of total area tested which failed to meet DFT specifications before repair (a) for primer and (b) for total coat.
4. Number of sample areas tested and average number of DFT tests per sample area (a) for primer and (b) for the complete coating system.

Response:

A) Adhesion Tests

A copy of the pertinent information from the CPSES file relative to the calibration matter for the Elcometer is attached. The results of our statistical analysis were submitted in response to Question III.D.11 and III.D.12 transmitted by our letter No. TXX-4225 dated July 16, 1984. As you will note in reviewing the attached information, recomputation of the overall results of the backfit records did not significantly alter the earlier conclusions. It should also be noted that our research leading to this response has revealed that the failure rate previously documented for the Unit 1 liner plate (excluding the Elcometer calibration matter), was in error in the conservative direction. There were no recorded readings for the liner below 200 psi and thus the adhesion failure rate for the liner is the same as that previously reported for concrete.

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QUESTIONS RELATIVE TO ALLEGATION NO. 21

Consistent with the intent of this question, the backfit records for the Unit 1 liner have been analyzed taking into account the documented variances from the calibration records for the Elcometers. The results of these calculations are summarized in the attached memo from C. R. Levine to R. G. Tolson dated August 10, 1984.

Responses to your specific comments or questions are as follows:

a) Copies of the PCR records were provided with our letter No. TXX-4225, dated July 16, 1984.

- 1) All test readings are reflected on the PCR records previously supplied. Test readings are not available for repair areas.
- 2) See the previously supplied PCR records.
- 3) Calibration records were supplied with our letter No. TXX-4225, dated July 16, 1984.
- 4) See our general comments, above.

b) Copies of the plotted calibration records discussed in our meeting of July 11, 1984 are attached.

c) This information is not available. Our best answers to these ~~type~~ questions were provided in response to Questions III.A.4, III.D.11 and III.D.12 transmitted by our letter No. TXX-4225, dated July 16, 1984.

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August 14, 1984

QUESTIONS RELATIVE TO ALLEGATION NO. 21

Relative to question C.6, the test frequency is established in the backfit inspection instructions supplied with our letter No. TXX-4225, dated July 16, 1984. (See response to Question III.A.1). Dolly locations were randomly selected by the QC inspectors within the prescribed test area. The test results are representative of the areas tested.

Relative to question C.7, a copy of the Coatings Exempt Log was supplied with our letter No. TXX-4225, dated July 16, 1984 and in response to your questions on Allegation No. 3 (TXX-4249, dated August 10, 1984). Areas shown were based on drawing takeoffs or physical measurements.

B) Dry Film Thickness Tests

This information is not available. Statistical analyses were furnished to you at the close of our meeting on July 11, 1984.

1516  
TUQ-1918

TEXAS UTILITIES GENERATING COMPANY

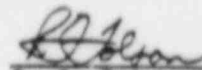
OFFICE MEMORANDUM

To J. T. Merritt Glen Rose, Texas January 18, 1984  
Subject Comanche Peak Steam Electric Station  
CP 84 06

The attached form documents a deficiency recently verbally reported to the NRC. Please assign an engineer to evaluate this deficiency working directly with the undersigned to resolve this problem.

We need to jointly determine by February 6, 1984, if this deficiency is formally reportable under 10CFR50.55(e).

Thank you for your cooperation.



R. G. Tolson  
TUGCO Site QA Supervisor

RGT/b11  
Attachment  
cc: D. N. Chapman  
B. C. Scott  
C. T. Brandt  
G. R. Purdy  
M. R. McBay  
J. D. Hicks



# DESIGN/CONSTRUCTION SIGNIFICANT DEFICIENCY ANALYSIS REPORT

I.D. NUMBER 0129

UNIT	CIRCUITRY	SYSTEM	DEFICIENCY	AFFECTED LINES
#2	R.B.	PROTECTIVE CONTACTS	All affected by BREK-IT	1

**Description of Deficiency:**  
 Review of calibration records by QA personnel has <sup>Design</sup> ~~Construction~~ revealed that tolerances (accuracy) used in calibration of the Strometer 106-2 Adhesion Tester have been in error, i.e., in tolerance of 200 psi regardless of scale reading (thus the gauge could be reading 400 psi when the actual reading was 200 psi).

Identified by	Time	Date	TUGG/DA Notified	Time	Date	Format
R. Tolson	0830	1/16/84	—	—	—	Review

**ANALYSIS:**

1. Preliminary engineering analysis indicates safety of plant operations adversely affected had deficiency gone undetected.  YES  NO  
 Explain briefly:  
Recal review required.
2. Deficiency considered significant  YES  NO
- a. Generic implications on other plants  YES  NO
  - b. QA Program Breakdown  YES  NO Possible
  - c. Design per SAR performance criteria  YES  NO N/A
  - d. Construction not as specified and extensive evaluation or repair required to meet design criteria.  YES  NO Not Known
  - e. Construction Deficiency discovered after QC acceptance  YES  NO
  - f. Could deficiency have gone undetected  YES  NO
  - g. System test meets SAR performance criteria  YES  NO
  - h. System test results require extensive evaluation and redesign  YES  NO
  - i. System test failure can be corrected by internal adjustment or replacement with standard component  YES  NO N/A
  - j. Does deficiency require testing and analysis to answer part i above  YES  NO

**CONCLUSION:** TOPRC By: R. Tolson  
 \* Deficiency reported under 10-554a  YES  NO Date: 1/16/84  
Time: 1500

Followup req'd no later than 2/6/84

REF CONTACT	DATE	TIME	TUGG REPRESENTATIVE	I.D. NUMBER
RG Taylor	1/16/84	1520	RG Tolson	CP-84-05

cc: J. E. Morris  
 Functional (M/DC) Name of Supervisor: BC. Scott

UNIT	STRUCTURE/SYSTEM	ITEM/COMPONENT	TAG/ID NUMBER	LOCATION OR ELEVATION	RIR NO
1	Reactor Building	Protective Coatings	Elcometer 106-2 Adhesion Tester	All	-----

NONCONFORMING CONDITION

Calibration tolerances (accuracy) used in calibration of the Elcometer 106-2 Adhesion Tester have been in error and not consistent with the guidelines of the referenced document.

No hold tags applied.

REPORTING PERSONNEL

REFERENCE DOCUMENT: ANSI N45.2 REV 1971 PARA 13.0

REPORTED BY: R. G. Tolson DATE: 1 / 16 / 84

QE REVIEW/APPROVAL: C. T. Brandt *C. T. Brandt* DATE: 1 / 16 / 84

ACTION ADDRESSEE: J. T. Merritt/D. C. Frankum/R. G. Tolson DEPARTMENT: Construction/QA

QE

DISPOSITION: REWORK XXX REPAIR \_\_\_\_\_ USE AS IS \_\_\_\_\_ SCRAP \_\_\_\_\_

Interim Disposition

1. Revise calibration instruction to be consistent with manufacturer's recommendations and ANSI N45.2, Criterion 13.0.
2. Review all adhesion test results and identify any reading of 400 psi or lower. Provide copies of all records within this range to the TUGCO Site QA Supervisor
3. Further disposition, if any, to be determined based on the review conducted per Step 2 above.

ACTION ADDRESSEE

ENG. REVIEW/APPROVAL: R. M. Kissinger *R. M. Kissinger* DATE: 1 / 16 / 84

QE REVIEW APPROVAL: C. T. Brandt *C. T. Brandt* DATE: 1 / 16 / 84

DISPOSITION VERIFICATION & CLOSURE: \_\_\_\_\_ DATE: 1 / 1

COMMENTS:

UNIT	STRUCTURE/SYSTEM	ITEM/COMPONENT	TAG/ID NUMBER	LOCATION OR ELEVATION	RIR NO.
2	Reactor Building	Protective Coatings	Elcometer 106-2 Adhesion Tester	A11	-----

NONCONFORMING CONDITION

Calibration tolerances (accuracy) used in calibration of the Elcometer 106-2 Adhesion Tester have been in error and not consistent with the guidelines of the referenced document.

No hold tags applied.

REPORTING PERSONNEL

REFERENCE DOCUMENT ANSI N45.2 REV 1971 PARA 13.0

REPORTED BY: R. G. Tolson DATE: 1/16/84

QE REVIEW/APPROVAL: C. T. Brandt DATE: 1/16/84

ACTION ADDRESSEE J. T. Merritt/D. C. Frankum/R. G. Tolson DEPARTMENT Construction/QA

QE

DISPOSITION: REWORK XXX REPAIR \_\_\_\_\_ USE AS IS \_\_\_\_\_ SCRAP \_\_\_\_\_

Interim Disposition

1. Revise calibration instruction to be consistent with manufacturer's recommendations and ANSI N45.2, Criterion 13.0
2. Review all adhesion test results and identify any reading of 400 psi or lower. Provide copies of all records within this range to the TUGCO Site QA Supervisor.
3. Further disposition, if any, to be determined based on the review conducted per Step 2 above.

ACTION ADDRESSEE

ENG. REVIEW/APPROVAL: [Signature] DATE: 1/16/84

QE REVIEW APPROVAL: [Signature] DATE: 1/16/84

DISPOSITION VERIFICATION & CLOSURE: DATE: 1/1

COMMENTS:

TEXAS UTILITIES-GENERATING COMPANY

OFFICE MEMORANDUM

To R. G. Tolson Glen Rose, Texas January 19, 1984  
Subject Adhesion Testing with Elcometer 106 - ANSI N512

This is to confirm our conversation on January 19, 1984, regarding the above subject.

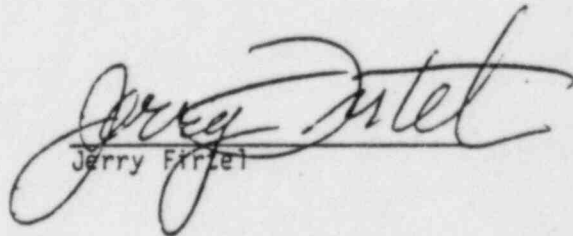
As an alternate member of the ANSI N512 Committee, I took part in the development of the standard. -- The committee consisted of architect/engineers, coating manufacturers, coating applicators and utilities. Considering the diversity of the committee, there had to be a consensus on any and all decisions reached.

Relative to the Elcometer Adhesion Test (Re: para 6.4), the selection of 200 lbs was totally arbitrary. Based on input from the coating manufacturers, it was judged that most epoxy coating systems, or phenolic-epoxy coating systems would pass a 200 lb pull.

It is my understanding that this instrument was selected because it produces a "number." In my opinion, a "cross-hatch" adhesion test based on an ASTM Standard will produce a more accurate adhesion determination than the Elcometer 106. However, since "numbers" as such are not produced, it wasn't selected.

It should be noted that the Elcometer 106 can be considered a laboratory instrument.

Throughout industry (chemical process, refinery, marine, etc.), it is not utilized in the field.

  
Jerry Firzel

JF/lp

## TEXAS UTILITIES GENERATING COMPANY

## OFFICE MEMORANDUM

To File Glen Rose, Texas January 26, 1984Subject SDAR CP-84-05

Sample check on Elcometer 106-2 Adhesion Testers

M&TE No. 735 - Serial No. 6162 (old)  
M&TE No. None - Serial No. 29260 (new)

Test performed with Proving Ring at NFS/National Soil Services facility in Dallas, Texas on January 25, 1984 under the direction of the CPSES Construction QA Supervisor. The purpose of the test was to gain an approximate indication of the relative action of old and new gauges and to evaluate data previously obtained at CPSES using a static dead load tester.

Test No. 1 - Set testers at 0, 200, 400 and 600 psi and read applied load on proving ring

<u>Gauge Reading (PSI)</u>	<u>Applied Load, psi</u>	
	<u>Old Gauge</u>	<u>New Gauge</u>
0	0	0
200	127.4	124.0
400	300.2	310.8
600	468	522

Test No. 2 - Set proving ring at 600 psi and read gauges

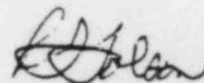
<u>Applied Load psi</u>	<u>Gauge Reading (psi)</u>	
	<u>Old Gauge</u>	<u>New Gauge</u>
0	0	0
600	750	650

File  
TUQ-1927  
Page 2

Test No. 3 - Apply 0, 200, 400 and 600 psi to proving ring and read gauges

<u>Applied Load (psi)</u>	<u>Gauge Reading (psi)</u>	
	<u>Old Gauge</u>	<u>New Gauge</u>
0	0	0
200	230	230
400	500	450
600	750	650

See Attachment A for graphical presentation of results.



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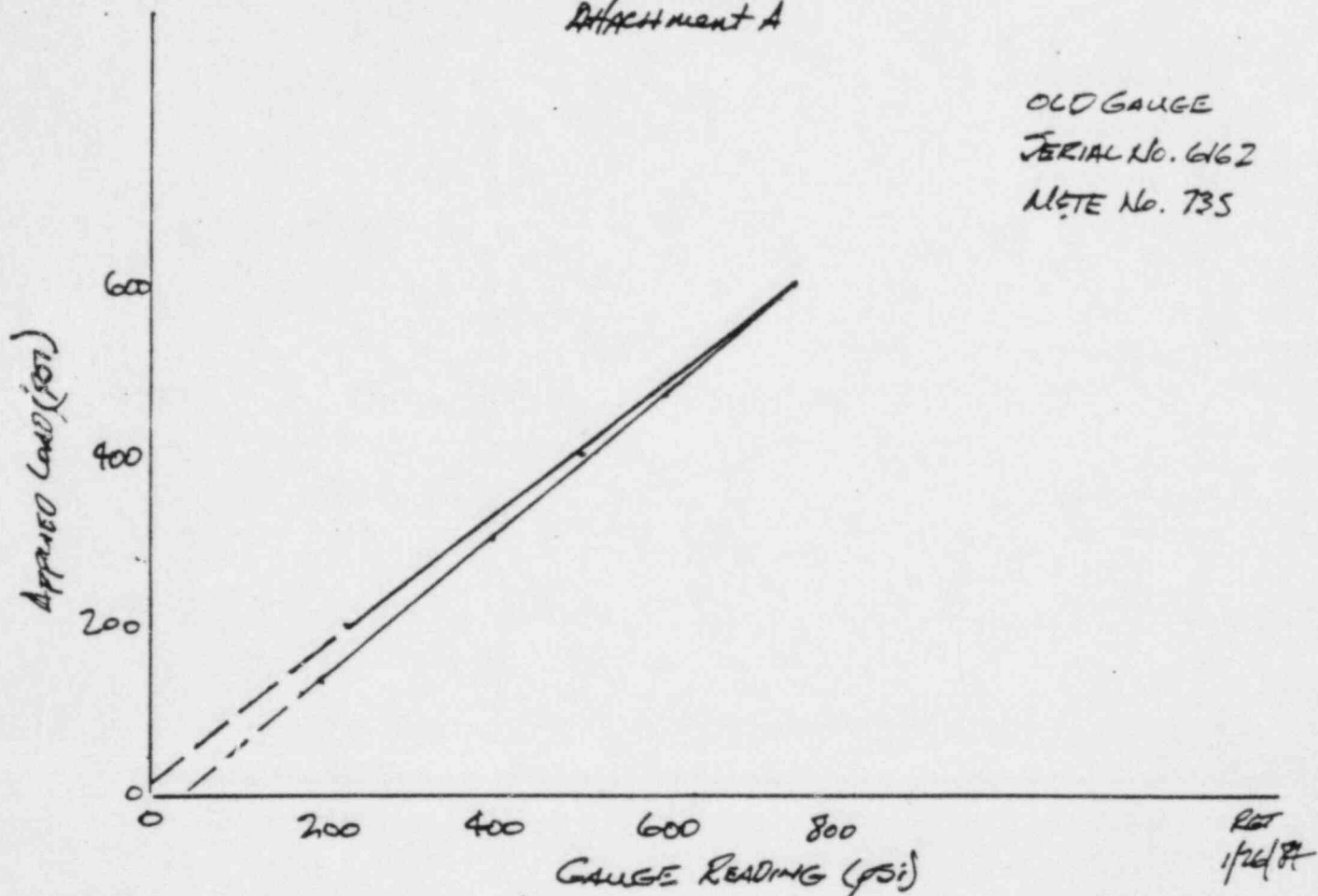
R. G. Tolson  
TUGCO Site QA Supervisor

RGT/b11  
Attachment  
cc: J. T. Merritt  
D. N. Chapman

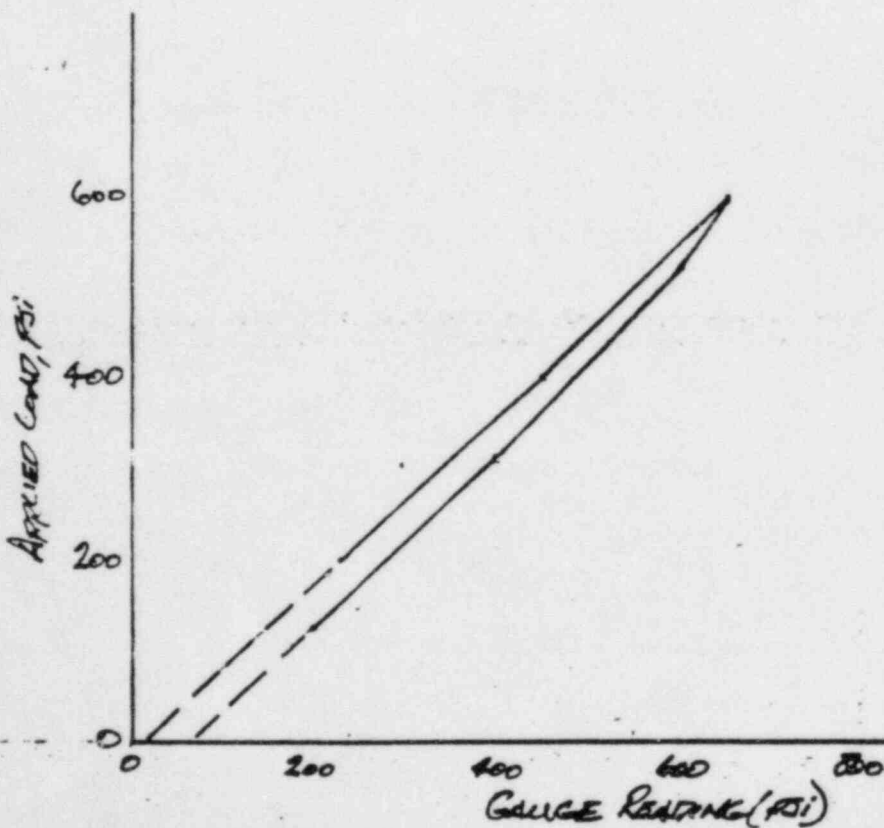
SDAR - CP-84-05

Attachment A

OLD GAUGE  
SERIAL NO. 6162  
NOTE NO. 735



NEW GAUGE  
SERIAL NO. 29260



## TEXAS UTILITIES GENERATING COMPANY

## OFFICE MEMORANDUM

To File Glen Rose, Texas February 13, 1984  
 Subject SDAR CP-83-05  
Elcometer Adhesion Testers

This is to provide a status of the efforts accomplished to date to resolve the subject matter.

1. Immediately following identification of the problem, Lisa Bielfeldt and Jerry Walker conducted a total review fo all protective coating records generated for the backfit inspection program and provided copies of all records which recorded adhesion values of 400 psi or lower.
2. The undersigned in a parallel effort plotted the calibration records for the Elcometer devices used at CPSES. These plots provided a time vs. applied load history for accomplishing the subsequent reviews.
3. The records provided per one (1) above were reviewed against the calibration record plots from two (2) above by the undersigned. These records were separated into two categories:
  - A. One group which clearly meets or exceeds the minimum adhesion value of 200 psi specified by engineering;
  - B. One group which needs to be examined closer to assure that the specified adhesion value has been verified.

This review may be summarized as follows. Review in one (1) above involved 3897 records.

<u>Total Records Reviewed</u>	<u>Group A</u>	<u>Group B</u>
2133	1601	532

Percentages

A. of Total Population	41.1%	13.7%
B. of Selected Population	75.2%	24.8%

NOTE: Special offsite testing reported via TUQ-1927 confirmed that calibration records available at CPSES provided an accurate baseline for reviewing the records.



4. Discussed the history of ANSI N5.12 (only industry standard available which discusses adhesion testing) with Jerry Firtel with Ebasco who is assisting CPSES in Protective Coating matters. The results of this discussion are summarized in the attached memo from Mr. Firtel to the undersigned.

NOTE: In retrospect and in view of Mr. Firtel's report and the language in the ANSI standard, we would have satisfied our regulatory commitments by simply using the Elcometer "off the shelf". Our incorporation of the Elcometer into the CPSES calibration program should convey a clear message to our critics.

5. Boyce Grier has been checking the reviews conducted by the undersigned and has concurred with the categorization.

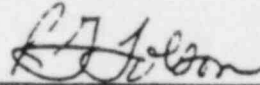
The next phase of our evaluation will include a detailed evaluation of the Group B records. It is anticipated that any questionable adhesion values will be resolved by one of the following methods based on the reviews to date.

1. Detailed evaluation should show the areas of questionable adhesion to be a very small percentage of the total surface area and thus could be added to the exempt log maintained by engineering.
2. In many cases, any questionable readings may be accepted on the basis of averaging.
3. Many of the areas were reflected on Unsat Inspection Reports and thus should have been resolved by rework activities.
4. If deemed necessary, selected retesting could be accomplished using a 500 psi model of the Elcometer rather than the 1000 psi model. If this is done, the test should be stopped at 250 or 300 psi to minimize degradation of the Elcometer. A selected group of people would be involved.

NOTE: Many of the Group B records will be useful in the forthcoming licensing hearings as they will clearly show the lack of supervisory restraint on the inspectors.

File  
Page 2 - TUQ-1937  
February 13, 1984

The second phase of the evaluation will be conducted under the direction of Boyce Grier with the assistance of Quality Engineering and CP Engineering. It is our opinion that this matter will ultimately be determined to be without safety significance and thus not formally reportable.



R. G. Tolson  
TUGCO Site QA Supervisor

RGT/b11  
cc: SDAR CP-84-05 File  
D. N. Chapman  
J. T. Merritt  
B. H. Grier  
J. D. Hicks  
C. T. Brandt  
L. M. Popplewell  
N. S. Reynolds

TEXAS UTILITIES GENERATING COMPANY

SKYWAY TOWER \* 100 NORTH OLIVE STREET, L.B. #1 \* DALLAS, TEXAS 75201

R. J. GARY  
EXECUTIVE VICE PRESIDENT

February 15, 1984  
TXX-4111

Mr. E.H. Johnson, Chief  
Reactor Project Branch 1  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76012

Docket Nos.: 50-445  
50-446

COMANCHE PEAK STEAM ELECTRIC STATION  
PROTECTIVE COATINGS ADHESION TESTER  
QA FILE: CP-84-05, SDAR-129  
FILE: 10110

Dear Mr. Johnson:

On January 16, 1984, we verbally informed your Mr. R.G. Taylor of a deficiency regarding an error in the tolerances used in the calibration of the adhesion tester.

The preliminary analysis indicates this deficiency is not reportable under 10CFR50.55(e), however, we are continuing our evaluation. We anticipate completion by May 15, 1984.

Very truly yours,

  
R.J. Gary

RJG:ln

cc: NRC Region IV - (0 + 1 copy)

Director, Inspection & Enforcement (15 copies)  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

bcc: R. J. Gary  
B. R. Clements  
D. N. Chapman  
R. L. Ramsey  
J. C. Kuykendall  
J. T. Merritt  
D. Frankum  
H. C. Schmidt  
B. S. Dacko  
R. G. Tolson  
R. G. Taylor  
F. B. Shants  
J. B. George  
M. R. McBay  
Teri Smart  
N. S. Reynolds

TEXAS UTILITIES GENERATING COMPANY

SKYWAY TOWER • 400 NORTH OLIVE STREET, L.B. #1 • DALLAS, TEXAS 75201

BILLY R. CLEMENTS  
VICE PRESIDENT NUCLEAR OPERATIONS

May 11, 1984  
TXX-4168

Mr. E.H. Johnson, Chief  
Reactor Project Branch 1  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76012

Docket Nos. 50-445  
50-446

COMANCHE PEAK STEAM ELECTRIC STATION  
PROTECTIVE COATINGS ADHESION TESTER  
QA FILE: CP-84-05, SDAR-129  
FILE NO.: 10110

Dear Mr. Johnson:

On January 16, 1984 we verbally informed your Mr. R.G. Taylor of a discrepancy regarding an error in the tolerances used in the calibration of the adhesion tester. We have submitted an interim report logged TXX-4111, dated February 15, 1984.

We are continuing our evaluation and anticipate completion by August 1, 1984.

Very truly yours,

*Billy R. Clements*

BRC:tlg

cc: NRC Region IV - (0 + 1 copy)

Director, Inspection & Enforcement (15 copies)  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

84452+9231 2

bcc: M. D. Spence  
B. R. Clements  
D. N. Chapman  
R. L. Ramsey  
J. C. Kuykendall  
J. T. Merritt  
D. Frankum  
H. C. Schmidt  
B. S. Dacko  
A. Vega  
J. Cummins  
F. B. Shants  
J. B. George  
M. R. McBay  
Teri Smart  
N. S. Reynolds  
R. T. Jenkins

✓ TRECOPY TO S.L. SPENCER - TUGCO OA - DALLAS - OK - LJ  
✓ FILE - SDAR CP - 84 - 05

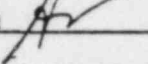
RECEIVED

JUL 24 1984

TEXAS UTILITIES GENERATING COMPANY

OFFICE MEMORANDUM

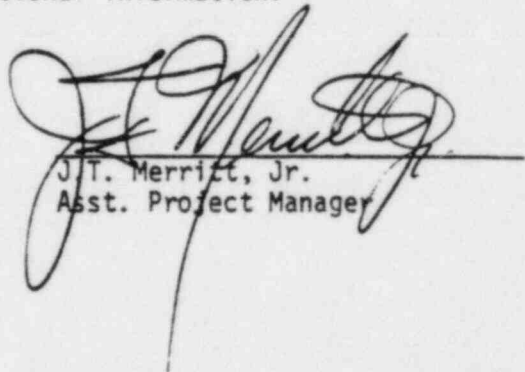
QUALITY ASSURANCE

To A. Vega  Glen Rose, Texas July 24, 1984  
Subject Re: SDAR-CP-84-05 - Calibration of Protective Coating Adhesion Tester

We have concluded our evaluation of the subject SDAR and have concluded that this matter is not formally reportable under the provisions of 10CFR50.55(e). Our basis for this determination includes the following:

- 1) The statistical analyses previously completed of the backfit inspection program are not materially affected by ignoring the reports containing adhesion values which may be affected by the calibration matter. See attached memo from C.R. Levine to R.G. Tolson.
- 2) Our recently completed engineering study of containment sump performance clearly shows that no safety impact on the operation of the plant would occur, even if one assumed that all of the coatings inside the containment were to "fail".

Please advise if we can provide any additional information.

  
J.T. Merritt, Jr.  
Asst. Project Manager

cc: J.B. George  
R.G. Tolson  
M.R. McBay

# TEXAS UTILITIES GENERATING COMPANY

## OFFICE MEMORANDUM

To R. G. Tolson Glen Rose, Texas July 24, 1984


Subject COMANCHE PEAK STEAM ELECTRIC STATION  
BACKFIT INSPECTION PROGRAM  
ADHESION TESTERS

As you are aware, examination of the calibration records suggests that select adhesion testers were not within calibration limits during periods of the backfit program. Consequently, the measurements taken with those testers cannot be reliably used at face value in determining the statistical adequacy of the backfit program. The statistical calculations have been revised and are presented below:

	<u>Original</u>		<u>Revised</u>	
	<u>Failure Rate</u>	<u>95% Confidence Limit</u>	<u>Failure Rate</u>	<u>95% Confidence Limit</u>
Liner	2.30%	97%	3.32%	96%
Concrete	0%	99%	0%	99%
Miscellaneous Steel	0.55%	99%	0.76%	99%

The original calculations are those presented in TUGCO's response to the Brookhaven Report, TXX-4225.

In conclusion, the decision to terminate the backfit inspection program based on statistical calculations is not significantly altered by the exclusion of the questionable adhesion tester readings.

  
C. R. Levine

CRL:pew  
cc: J. T. Merritt, Jr.  
A. Vega  
L. Bielfeldt  
J. Firtel  
T. Kelly



TEXAS UTILITIES GENERATING COMPANY  
SKYWAY TOWER • 400 NORTH OLIVE STREET, L.B. 81 • DALLAS, TEXAS 75201

BILLY R. CLEMENTS  
VICE PRESIDENT NUCLEAR OPERATIONS

July 31, 1984  
TXX-4244

Mr. E.H. Johnson, Chief  
Reactor Project Branch 1  
U.S. Nuclear Regulatory Commission  
Office of Inspection & Enforcement  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76012

Docket Nos.: 50-445  
50-446

COMANCHE PEAK STEAM ELECTRIC STATION  
PROTECTIVE COATINGS ADHESION TESTER  
QA FILE: CP-84-05, SDAR-129  
FILE NO.: 10110

Dear Mr. Johnson,

On January 16, 1984 we verbally contacted your Mr. R.G. Taylor of a deficiency regarding an error in the tolerances used in the calibration of the adhesion tester. We have submitted interim reports logged TXX-4111 and TXX-4168, dated February 15, 1984 and May 11, 1984.

We are continuing our evaluation and anticipate completion by September 1, 1984.

Very truly yours,

*for* *Richard E. Kahler*  
Billy R. Clements

BRC:tlg

cc: NRC Region IV - (0 + 1 copy)

Director, Inspection & Enforcement (15 copies)  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

RECEIVED  
AUG 3 1984  
QUALITY ASSURANCE

bcc: M. D. Spence  
B. R. Clements  
D. N. Chapman  
R. L. Ramsey  
J. C. Kuykendall  
J. T. Merritt  
D. Frankum  
H. C. Schmidt  
B. S. Dacko  
A. Vega  
J. Cummins  
F. B. Shants  
J. B. George  
M. R. McBay  
Teri Smart  
N. S. Reynolds  
R. T. Jenkins

ATTN: BARBARA LANCASTER

TEXAS UTILITIES GENERATING COMPANY

KEYWAY TOWER - 400 NORTH OLIVE STREET, L.B. #1 - DALLAS, TEXAS 75201

BILLY R. CLEMENTS  
VICE PRESIDENT, NUCLEAR OPERATIONS

August 6, 1984  
TXX-4248

Mr. E.H. Johnson, Chief  
Reactor Project Branch 1  
U.S. Nuclear Regulatory Commission  
Office of Inspection & Enforcement  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76012

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Dear Mr. Johnson,

On January 16, 1984 we verbally contacted your Mr. R.G. Taylor of a deficiency regarding an error in the tolerances used in the calibration of the adhesion tester. We have submitted interim reports logged TXX-4111, TXX-4168, and TXX-4244 dated February 15, 1984, May 11, 1984, and July 31, 1984.

We have completed our investigation and concluded that the matter is not reportable under 10CFR 50.55(e). Records supporting this determination are available for your inspector's review at the CPSES site.

Very truly yours,

*Richard E. Keller*  
for Billy R. Clements

BRC:tlg

cc: NRC Region IV - (0 + 1 copy)

Director, Inspection & Enforcement (15 copies)  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

8408160510 1p

# TEXAS UTILITIES GENERATING COMPANY

## OFFICE MEMORANDUM

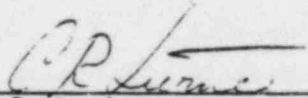
To R. G. Tolson Glen Rose, Texas August 10, 1984

Subject COMANCHE PEAK STEAM ELECTRIC STATION  
INDETERMINATE ELCOMETER READINGS - UNIT 1 LINER

A review of the Unit 1 PCR's was conducted. There were no readings with absolute value below 200 psi. When the Elcometer readings were compared with the calibration history curves, it was determined that fifty-one (51) readings may have been below 200 psi when the full calibration error was applied to the readings. This represents 5.6 percent of the total readings (869) taken.

The indeterminate area was calculated by equating the percentage of readings indeterminate to the percentage of inspected area indeterminate. For example, if 1 of 3 readings was indeterminate, 1/3 of the inspected area was considered to be indeterminate. The indeterminate area on the Unit 1 Liner Plate was calculated to be 5148 square feet or 3.5% of the total liner surface.

Attached is a list of PCR's with indeterminate readings and the calculated area.

  
\_\_\_\_\_  
C. R. Levine  
Project Manager - Ebasco

CRL:pew  
Attachment  
cc: L. F. Fikar  
J. Firtel  
T. Kelly

EBASCO SERVICES INCORPORATED

BY CR DATE 10 Aug 84

SHEET 1 OF 2

CHKD. BY \_\_\_\_\_ DATE \_\_\_\_\_

OFS NO. 2970.001 DEPT. NO. 46X

CLIENT Texas Utilities Generating Company

PROJECT Comanche Peak Steam Electric Station - Unit 1

SUBJECT Backfit Inspections with Indeterminate Readings - Liner Plate

	PCR #	Azimuth		Elevation		Ind. Tests	Ind. Ave.
1	575	0	90	1058	1063	2 of 3	350
2	576	90	180	1058	1063	1	175
3	615	180	225	1050	1058	1	141
4	639	337	0	1034	1050	1	144
5	642	45	67	1034	1050	1	144
6	643	67	90	1034	1050	1	144
7	787	253	262	969	995	1	81
8	788	152	238	950	955	1	169
9	789	32	122	950	955	1	177
10	791	88	118	947	950	1	35
11	792	118	317	947	950	1	234
12	813	107	122	955	969	1	82
13	814	238	253	1001	1006	1	29
14	1529	318	332	912	938	1	143
15	1531	245	254	912	933	1	39
16	1660	345	360	912	938	1	94
17	1766	13	23	912	938	1	63
18	1768	332	337	912	938	1	31
19	1770	0	7	912	938	3	132
20	1799	214	223	912	933	2	78
21	1814	20	58	830	840	1	149
22	1850	20	30	840	855	2	118
23	1851	55	60	840	860	1	39
24	1852	60	78	840	860	1	141
25	1855	337	23	896	906	1	181
26	1862	34	71	933	937	1	58
27	1864	82	91	888	933	1	159
28	1865	23	34	912	937	1	99
29	1941	74	82	888	933	2	345
30	1945	1	7	851	868	1	40
31	1987	14	23	885	896	1	39
32	1990	305	320	955	969	1	82
33	2018	235	254	861	883	1	164
34	2080	236	253	888	895	1	88

EBASCO SERVICES INCORPORATED

BY cal DATE 10 AUG 84

SHEET 2 OF 2

CHKD. BY \_\_\_\_\_ DATE \_\_\_\_\_

OFS NO. 2970.001 DEPT. NO. 868

CLIENT Texas Utilities Generating Company

PROJECT Comanche Peak Steam Electric Station - Unit 1

SUBJECT Backfit Inspections with Indeterminate Readings - Liner Plate

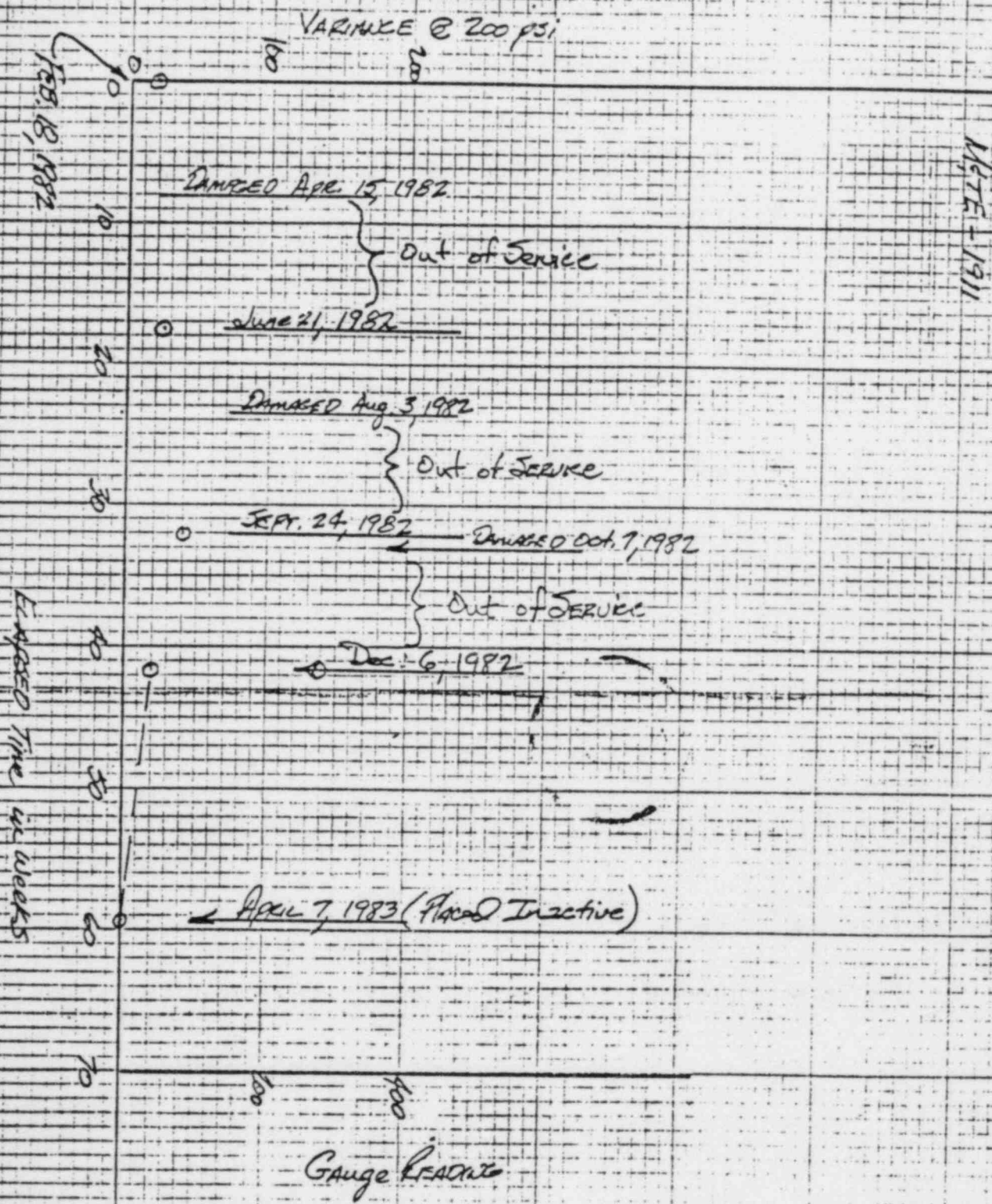
<del>35</del>	RR #	Azimuth	Elevation	Ind't Test	Ind't Area
35	2080	236   255	808   815	1.93	52
36	2085	264   300	808   815	1	49
37	2093	95   134	819   830	1	108
38	2095	339   21	873   881	1	100
39	2097	320   335	955   969	1	82
40	2191	55   62	960   975	1	41
41	2223	55   62	975   995	1	55
42	2225	62   73	925   925	1	86
43	2934	Around	Exempt Hatch	1	35
44	2958	319   337	846   870	1	170
45	3665	283   298	1006   1009	1	27

Totals 51 5148

Total Population 896 145068

% Indeterminate 5.7 3.6

$$\text{Area} = \pi d h = \pi \frac{A2L - A2I}{360} 135 * (h2 - h1) = 1.178 (A2L - A2I) (h2 - h1)$$



Oct. 7, 1982

VARIANCE @ 200 PSI

100 200

NOTE - 2325

ELAPSED TIME IN WEEKS

0  
5  
10  
15  
20  
25  
30  
35  
40

FEB. 16, 1983

MAR. 2

MAR. 16

MAR. 30

APR. 13

APR. 27

MAY 11

MAY 25

JUNE 8, 1983

JUN. 22, 1983 (Placed inactive)

00 00  
Gauge LEADING





VARIANCE @ 200 PSI

FEB. 18, 1982

Apr. 26, 1982 (Damaged)

Out of Service

June 21, 1982

Dec. 6, 1982

FEB. 28, 1983

MAR. 28

Apr. 25

Jul. 19

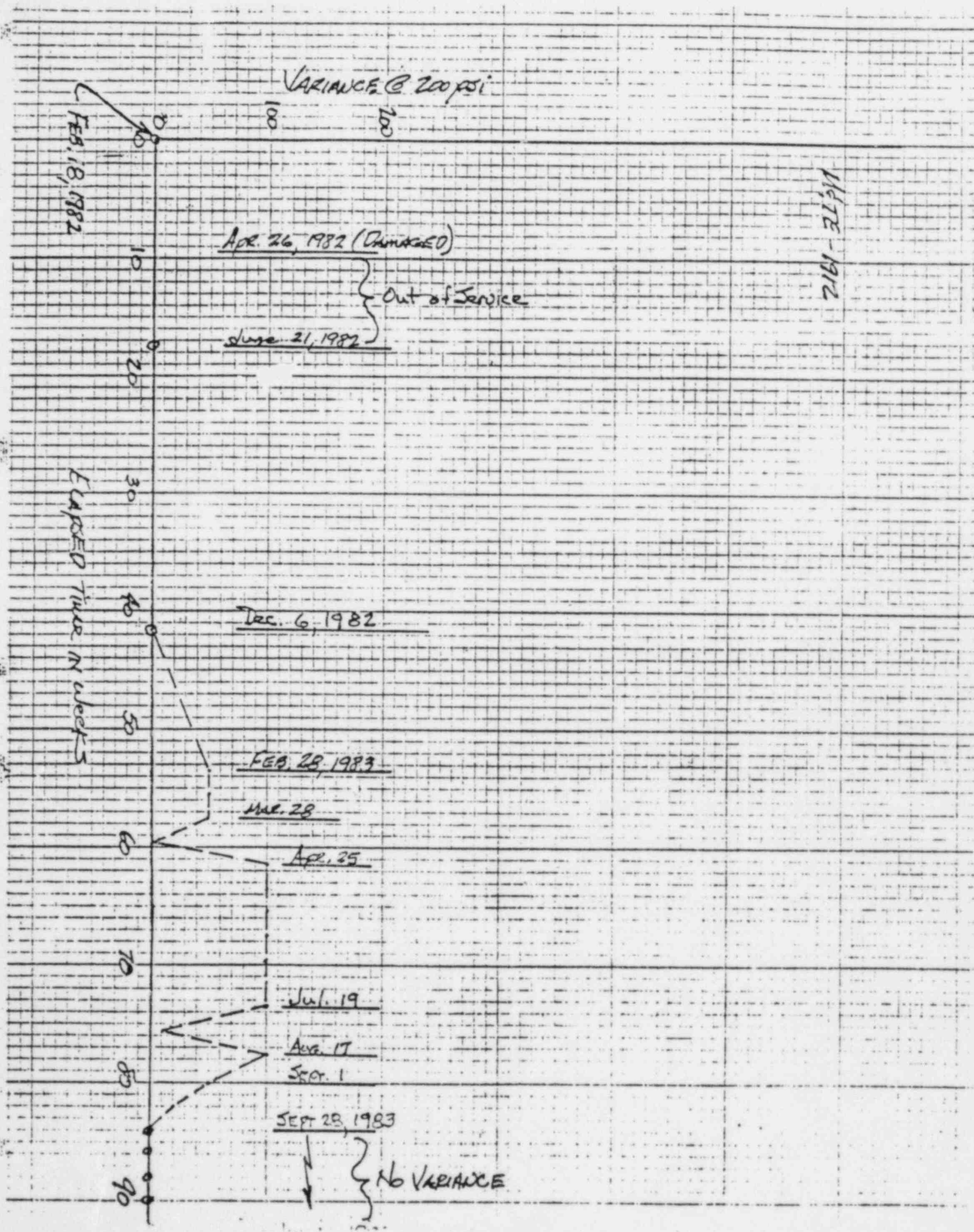
Aug. 17  
SEP. 1

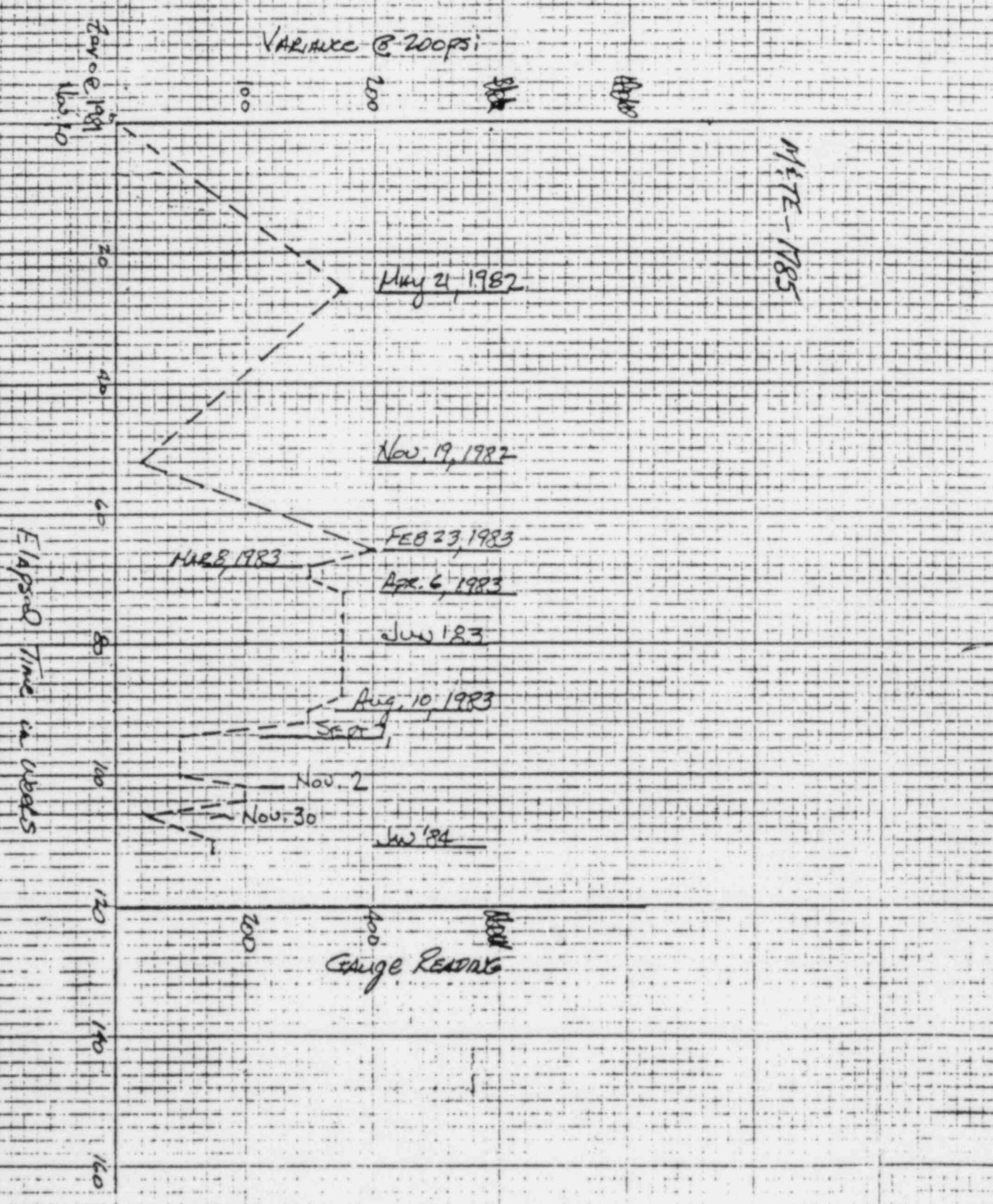
SEPT 28, 1983

No VARIANCE

ELAPSED TIME IN WHEELS

NOTE - 1912





VARIANCE @ 200 PSI

October 22, 1981

MAR 8, 1982

SEPT 2, 1982

Returned for repair on SEPT. 21, 1982

Out of Service

Dec. 15, 1982 (No data, however)

FEB. 16, 1983

JUN 22, 1983

AUG. 23, 1983

OCT 4, 1983

NOV. 1, 1983

JAN. 10, 1984

ELAPSED TIME IN WEEKS

GAUGE READING

NOTE - 735

Notes:

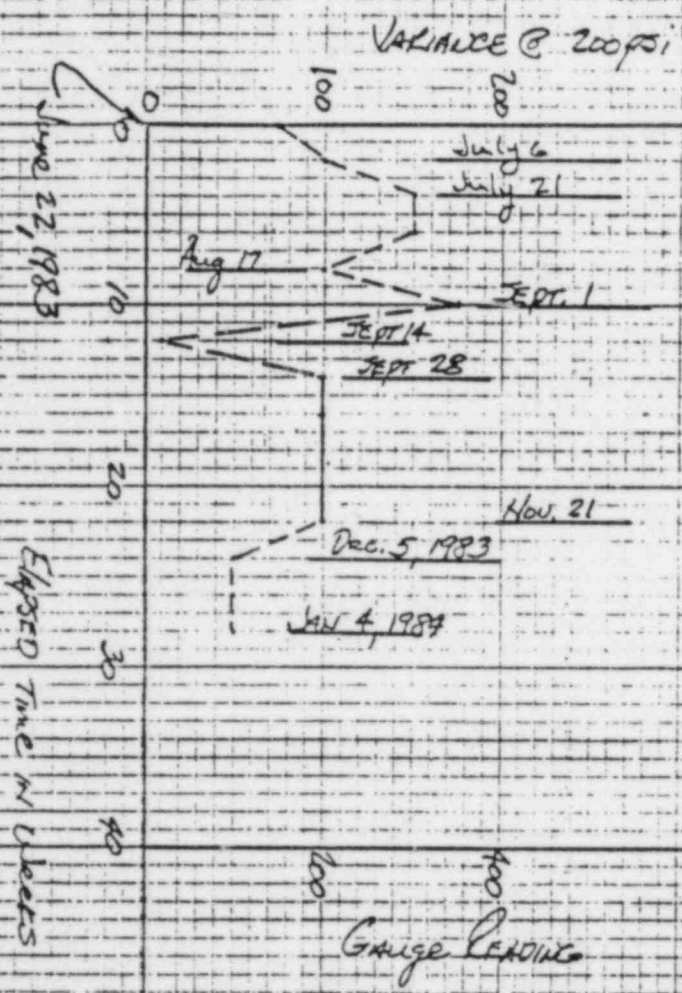
1) Cal. records indicate this address was first "calibrated" on 10/25/1979. From this date until SEPT. 20, 1982 all records show no variance from gauge reading (at these uses no routine use during 1979 to early 1982). Records in the majority of this time frame accuracy have not been plotted.

NOTE - 2342

DATA too skimpy to plot. Items reviewed based on demonstrated compliance with calibration procedure, i.e. items @ 400 psi meet or exceed the minimum adhesion value of 200psi

RJ Olson  
1/21/82

Note Gauge placed OOC on 12/6/82. Originally placed into service on 10/11/82.



NOTE - 2728

VARIANCE @ 200 PSI

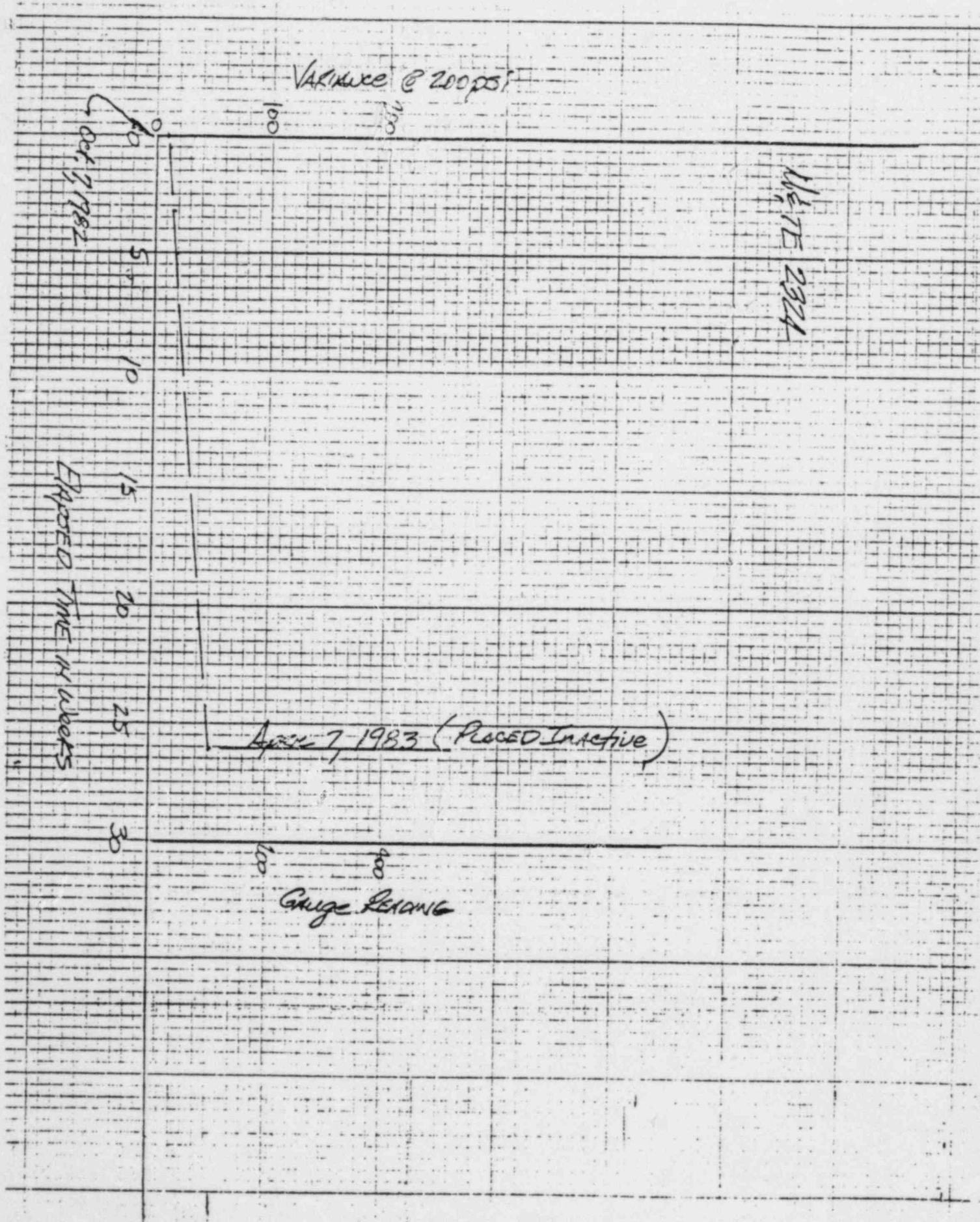
Oct 7 1982

W 7 2324

ELAPSED TIME IN WEEKS

April 7 1983 (Placed Inactive)

Gauge Reading



WTE-0876

VARIANCE @ 200 PSI

VARIANCE @ PSI

Nov 20, 1981

Aug 17, 1985

May 21, 1982

Sept 14  
Sept 28  
Oct 12  
Oct 26  
Nov 9  
Nov 21  
Dec 5

Jan 4, 1984

ELAPSED TIME IN WHEELS

ELAPSED TIME IN WHEELS

Damaged 10/5/82

out of service

Dec. 6, 1982

FEB, 28, 1983

APRIL 11, 1983

May 9

MAY 23

June 6

July 5

Aug 2

Aug. 17, 1983

Note: See school calibration records for history prior to start date. Early records not plotted due to lack of use in the field.

