

FNPP-0-ETP-4384
May 12, 1992
Revision 0

FARLEY NUCLEAR PLANT
ENGINEERING TECHNICAL PROCEDURE
FNPP-0-ETP-4384

SERVICE WATER PUMP
DEFORMATION MONITORING RADIATION

S
A
F
E
T
Y

R
E
L
A
T
E
D

Approved:

BJ Casey
Manager - Systems Performance

Date Issued: 5-27-92

SP DEC/ETP-162/21

UNCONTROLLED COPY
CAUTION: This Copy is
not maintained current
Do Not Use in Safety
Related Activity

9408110166 940729
PDR ADOCK 05000348
F PDR

SYSTEMS PERFORMANCE TEST RESULTS SUMMARY REPORT

Section I Test Description

Title: Service Water Pond Deformation Monument Readings

Procedure Number: FNP-0-ETP-4384

Revision Number: 0

Start Date: _____ Completion Date: _____

Section II Test Results, Evaluation and Recommendations

- ☐ Test satisfactory (test results recommended for approval)
- ☐ Test unsatisfactory (explain below, as needed)
- ☐ All data sheets and other test data are attached.
- ☐ All test data steps and data sheets have been completed and signed off.
- ☐ Other disposition as recommended below.

Remarks:

Performed By: _____

Date: _____

Section III Systems Performance Supervisor's Review

Comments: _____

Approved: _____

Date: _____

The Provisions of AP-24 are not applicable.

FNP-0-ETP-4384

Page 1 of 1

FARLEY NUCLEAR PLANT
ENGINEERING TECHNICAL PROCEDURE
FNP-0-ETP-4384

SERVICE WATER POND
DEFORMATION MONUMENT READINGS

1.0 Purpose

This procedure specifies the testing required to obtain data for recording the horizontal and vertical movements of monuments at the Service Water Storage Pond. The provisions of FNP-0-AP-24 are not applicable.

2.0 Acceptance Criteria

- 2.1 The Data recorded is reviewed on-site to ensure that the deformation monument readings have been obtained correctly and transferred to diskette. Otherwise, no quantitative acceptance criteria exist.

3.0 References

- 3.1 Wild Model No. T-2000 total station Operating Instructions.
- 3.2 Wild Model No. NA3000 Level Operating Instructions.
- 3.3 Toshiba Model No. T1600 Portable Computer Operating Instructions.
- 3.4 Wild Model No. GIF-10 REC Module Reader Operating Instructions.
- 3.5 Zeiss Model No. NI-1 Level Operating Instructions.
- 3.6 Hewlett Packard Model No. HP-71 Hand Held Computer Operating Instructions.
- 3.7 Wild Model No. GRE-3 Data Collector Operating Instructions.
- 3.8 Farley Nuclear Plant Deformation Measurements (Level Loops) listing.

4.0 Test Equipment, Special Tools and Materials

- 4.1 Wild Model T-2000 Total Station supplied by PGTS-Civil.
- 4.2 Wild Model No. NA3000 Level supplied by PGTS-Civil.
- 4.3 Toshiba Model No. T1600 Portable Computer supplied by PGTS-Civil.

- 4.4 Wild Model No. GIF-10 REC Module Reader supplied by PGTS-Civil.
- 4.5 Zeiss Model No. NI-1 Kevek syookued by PGTS-Civil.
- 4.6 Hewlett Packard Model No. HP-71 Hand Held Computer supplied by PGTS-Civil.
- 4.7 Wild Model No. GRE-3 Data Collector supplied by PGTS-Civil.

PGTS 5.0 Precautions and Limitations

- 5.1 Approval of the Test Supervisor is required prior to performing procedure sections or steps out of sequential order. Supervisor approval shall be documented on the data sheet.
- 5.2 IF a procedural step that required documentation is purposely not performed, and is not required, THEN "N/A" (Not Applicable) shall be entered in the sign off space. IF the procedure or controlling work order does not provide specific instructions for "Not Applicable" steps, THEN the Test Supervisor will N/A the step not performed, document in the margin by the step the reason for the step being not applicable, and provide his signature and the date.
- 5.3 Steps of the procedure with a designator (described below) in the left margin denote the requirement for the individual performing the step to provide his signature and date on the data sheet.
 - 5.3.1 Designator PGTS, APCo Power Generation Service.
 - 5.3.2 Designator SP, Systems Performance.

SP/
PGTS 6.0 Prerequisites and Initial Conditions

- 6.1 PGTS-Civil has coordinated work through the General Manager of Nuclear Support at Southern Nuclear.
- 6.2 Performance of this procedure has been scheduled by FNP-SP.
- 6.3 Permission has been obtained from the Shift Supervisors to perform this procedure.

7.0 Instructions

7.1 Calibration

- PGTS 7.1.1 Calibrate the level using the preprogrammed "PEG" check program.

7.2 Testing

- PGTS 7.2.1 Run five (5) level surveys (loops) to determine the vertical displacements of the settlement monuments along the Service Water Storage Pond Dike. Record information on the HP-71 if using the NI-1 level or record on the NA-3000 level if using the NA-3000. See Reference 3.8 for level loop listing.

Acceptance Criteria: Each level loop elevation difference should not exceed the calculated Allowable Elevation Difference as stated below.

Allowable

Elev. Diff. is $< \text{ or } = 0.017 * ((\text{Level Loop Distance in feet} / 5280))^{1/2}$

- 7.2.2 IF the acceptance criteria was met, THEN proceed to Step 7.2.4.

- 7.2.3 IF the acceptance criteria was NOT met, THEN repeat Step 7.2.1 until the acceptance criteria is met (not to exceed 5 attempts). If more than 5 attempts abort the test.

- PGTS 7.2.4 Measure angles from seven (7) control monuments and record on GRE-3 data collector. Each angle is shot (measured) directly and indirectly for an average. This process is conducted 16 times for each angle and a mean is computed. This process is conducted by PGTS-Civil "DEFHOR" computer program.

Acceptance Criteria: 13 or more of the 16 measurements must not be ± 3.5 seconds from the computed mean.

- 7.2.5 IF the acceptance criteria was met, THEN proceed to Step 7.2.7.

- 7.2.6 IF the acceptance criteria was NOT met, THEN repeat Step 7.2.4 until the acceptance criteria is met (not to exceed 5 attempts). If more than 5 attempts abort the test.

PGTS

- 7.2.7 Measure distance from seven (7) control monuments and record on GRE-3 data collector. This process is conducted by PGTS-Civil "DEFDIS" computer program.

Acceptance Criteria: Six repeatable measurements must be obtained for each distance measured. A non-repeatable measurement will have a value of ± 0.00213 feet from the calculated mean of the previous six measurements.

- 7.2.8 IF the acceptance criteria was met, THEN proceed to Step 7.2.10.

- 7.2.9 IF the acceptance criteria was NOT met, THEN repeat Step 7.2.7 until the acceptance criteria is met (not to exceed 12 attempts). If more than 12 attempts abort the test.

PGTS

- 7.2.10 Down Load information onto diskettes and transmit to office.

8.0 Restoration

PGTS

- 8.1 Remove all equipment from the pond area.

SP

- 8.2 Notify the Shift Supervisors that the job is complete.

Data Sheet 1
Deformation for the
Service Water Storage Pond

Step	Description	Signature/Date
5.0	Precautions and Limitations read and understood	PGTS <u> / </u>
6.0	Prerequisites and initial conditions completed/satisfied	PGTS <u> / </u> SP <u> / </u>
7.1.1	Calibrate the level	PGTS <u> / </u>
7.2.1	Run five level loops	PGTS <u> / </u>
Acceptance Criteria: Each level loop elevation difference should not exceed the computed value.		
Allowable Elev. Diff. is $< \text{ or } = 0.017 * ((\text{Level Loop Distance in feet} / 5280))^{1/2}$		
7.2.4	Measure angles from (7) Control Monuments	PGTS <u> / </u>
Acceptance Criteria: 13 or more of the 16 measurements must not be +/- 3.5 seconds from the computed mean.		
7.2.7	Measure distance from (7) Control Monuments	PGTS <u> / </u>
Acceptance Criteria: Six repeatable measurements must be obtained for each distance measured. A non-repeatable measurement will have a value of +/- 0.00213 ft. from the calculated mean of the previous six measurements.		
7.2.10	Down Load information onto diskettes and transmit to office.	PGTS <u> / </u>
8.1	Remove all equipment	PGTS <u> / </u>
8.2	Notify Shift Supervisors of job completion	SP <u> / </u>

Remarks: _____

