

AP 1001

Three Mile Island Nuclear Station
Special Operating Procedure

SIDE 1

Figure 1001-8

SOP No. E-44
(From SOP Log Book)NOTE: Instructions and guidelines in AP 1001
must be followed when completing
this form.Unit No. 2Date 4-5-79

Revision 1

1. Title In-core Instrumentation - Analysis, Noise2. Purpose (Include purpose of SOP)
Investigate the use of in-core instrumentation to better understand the status of the core. (Used to correlate Noise Analysis to method of data readings)

3. Attach procedure to this form written according to the following format.

A. Limitations and Precautions

1. Nuclear Safety
2. Environmental Safety
3. Personnel Safety
4. Equipment Protection

B. Prerequisites

C. Procedure

Attached

NRC

Generated by G.L. Ziegler Date 4/9/79

Duration of SOP - Shall be no longer than 90 days from the effective date of the SOP or (a) or (b) below - whichever occurs first.

(a) SOP will be cancelled by incorporation into existing or new permanent procedure submitted by 11/1/79 ☐(b) SOP is not valid after 11/1/79 ☐
(fill in circumstances which will result in SOP being cancelled)

6. (a) Is the procedure Nuclear Safety Related?

If "yes", complete Nuclear Safety Evaluation. (Side 2 of this Form) Yes ☐ No ☐

(b) Does the procedure affect Environmental Protection?

If "yes", complete Environmental Evaluation. (Side 2 of this Form) Yes ☐ No ☐(c) Does the procedure affect radiation exposure to personnel? Yes ☐ No ☐

NOTE: If all answers are "no", the change may be approved by the Shift Supervisor. If any questions are answered "yes", the change must be approved by the Unit Superintendent.

7. Review and Approval

NRC 2mm Approved - Shift Supervisor 4/5/79

BFW 11/1/79 Reviewed - List members of PORC contacted 4/4/79

14RA 4/5/79 4/5/79 4/5/79 4/5/79

Approved - Unit Superintendent 4/5/79 4/5/79 4/5/79 4/5/79

8. SOP is Cancelled

Shift Supervisor/Shift Foreman

Date 130 270

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Z-99, Rev 1

In-Core Self-powered Detector and Background 4/4/29
Detector Noise Analysis

Objective: Investigate the use of in-core instrumentation noise analysis to better understand the status of the core.

Procedure:

1. Notify Shift Foreman/Supervisor prior to comm^{work}
2. Hook up noise analysis equipment to self powered in-core neutron detector and background detector signals on Terminal Block in cabinet in cable spreading room. See Table
3. Perform noise analysis on signals
4. Disconnect noise analysis instrumentation from Terminal Block, and reconnect in-core leads into computer cab

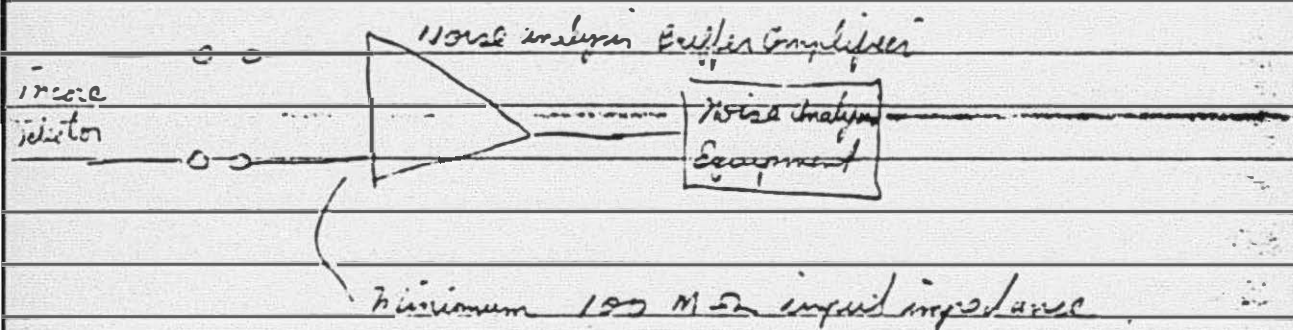


Table 1: In-core Location H-13 & H-8

AP 1001

Three Mile Island Nuclear Station

SIDE 1

Figure 1001-8

Special Operating Procedure

SOP No. 2-44
(From SOP Log Index)NOTE: Instructions and guidelines in AP 1001
must be followed when completing
this form.Unit No. 2Date 4/4/791. Title Incore Instrumentation - Analysis

2. Purpose (Include purpose of SOP)

To take incore measurements to attempt to evaluate
core conditions

3. Attach procedure to this form written according to the following format.

A. Limitations and Precautions

1. Nuclear Safety
2. Environmental Safety
3. Personnel Safety
4. Equipment Protection

B. Prerequisites

C. Procedure

AttachedGenerated by L. Panda / LCP Date 4/4/79

Duration of SOP - Shall be no longer than 90 days from the effective date of the SOP or (a) or (b) below - whichever occurs first.

(a) SOP will be cancelled by incorporation into existing or new permanent
procedure submitted by MAA ☐(b) SOP is not valid after MAA ☐
(fill in circumstances which will result in SOP being cancelled)

6. (a) Is the procedure Nuclear Safety Related?

If "yes", complete Nuclear Safety Evaluation. (Side 2 of this form) Yes ☐ No ☐

(b) Does the procedure affect Environmental Protection?

If "yes", complete Environmental Evaluation. (Side 2 of this form) Yes ☐ No ☐(c) Does the procedure affect radiation exposure to personnel? Yes ☐ No ☐NOTE: If all answers are "no", the change may be approved by the Shift Supervisor. If any questions
are answered "yes", the change must be approved by the Unit Superintendent.

7. Review and Approval

Approved - Shift Supervisor [Signature] 4/4/79Reviewed - List members of PORC contacted [Signature] 4/4/79Approved - Unit Superintendent [Signature] 4/4/79

a. SOP is Cancelled

Shift Supervisor/Shift Foreman

Date

130 272

INCORE INSTRUMENTATIONDATA PROCEDUREBACKGROUND

The incore instruments consist of 52 strings, 7 Rhodium SPND per string plus 1 background SPND and 1 Ca/Al T/C. Each incore detector ~~can~~ is essentially a coaxially coaxial mineral insulated cable. Because of it's construction, cable ~~some~~ characteristics, such as resistance, capacitance, thermoelectricity, may be represent some information of actual core physical condition. It is proposed that output voltage, current, resistance and capacitance readings be taken of each incore detector. This data will be used to ascertain whether a relationship of actual core conditions can be obtained.

Precautions

- A. Notify control prior to disconnecting cabling
- B. Disconnect only 2 incore assembly at a time

Procedure

- A. Obtain access to computer termination cabinets
- B. Notify control, disconnecting INCON #1 (2, 3)
- C. Hook up Keithley ~~Electrometer~~ Electrometer
- D. Read output voltage (millivolts)
- E. Read output current (range unknown)
- F. Place ^{resistor} load on inconn detector load.
Read output current as a function of load
- G. Read cable impedance resistance
- H. Read cable capacitance with Capacitance Tester
- I. Rehook up cable to computer input terminals
- J. Notify control, done
- K. Repeat for other inconn assemblies.

DATA TABLE

Assembly No. 1 | ~~Output Voltage~~ | Output Current | Output Current / Load | Resistance | Capacitance

Detector No. 1

2

3

4

5

6

7

BKGD

T/C

Insert Assembly No. 2

Detector No. 1

2

3

4

5

6

7

BKGD

T/C

Insert Assembly No. 5

Detector No. 1

2

3

4

5

6

7

1300

T/C

130 275

FIG. 1

INTELLIGENT TEST HOOKUP

