

AUXILIARY BUILDING REACTOR COOLANT  
SAMPLE SYSTEM EXTERNAL LEAKAGE

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AUXILIARY BUILDING REACTOR COOLANT SAMPLE SYSTEM EXTERNAL LEAKAGE

1.0 SCOPE

This technical instruction will determine the reactor coolant sample system external leakage to the Auxiliary Building. The system will be in operation and pressurized, at which time a visual inspection will be conducted and any leaks will be quantified and repaired if in excess of the acceptance criteria. If a repair is made, a post-maintenance test will be conducted to ensure the integrity of the system's pressure boundary. This instruction will be performed by Mechanical Engineering once a year and the data collected will be recorded in this instruction's data sheet as well as in Data Sheet 1 of TI-31.7.0.

2.0 REFERENCES

DPM N80M4, revised 6/12/81  
NUREG 0578, Item 2.1.6.A

3.0 PREREQUISITES AND TEST EQUIPMENT

3.1 Prerequisites

- 3.1.1 The reactor coolant sample system is in operation per SOI-43.1.
- 3.1.2 The unit is in mode 1, 2, 3, or 4.
- 3.1.3 Schedule support from Operations, Mechanical Maintenance Engineering, and Health Physics.

3.2 Test Equipment

The following test equipment is available for use:

Stopwatch  $\pm \frac{1}{2}$  sec. or better  
Suitable fluid collecting device  
The latest "as-constructed" revision of 47W610-43-3

4.0 PRECAUTIONS

- 4.1 Before entering a radiation, high radiation, or contaminated zone, obtain the assistance of Health Physics.

5.0 INSTRUCTIONS

- 5.1 Obtain the SRO's permission to perform this instruction.
- 5.2 Perform the following valve lineup:
  - 5.2.1 Verify the inlet and bypass valves to the sample bombs are closed.

## 5.0 INSTRUCTIONS (Continued)

- 5.2.2 Open the following valves:  
FCV-43-20, FCV-43-22, FCV-43-23, FCV-43-10, FCV-43-11,  
FCV-43-12, FCV-43-1, FCV-43-2, FCV-43-3
- 5.3 Visually inspect the piping, valves, pumps, heat exchangers, flanges, fittings, and any other components of the system for any signs of external leakage. Use the control diagram as a reference for walking down the system. Any leaks that are found shall be listed by component, location, and leak rate. The leak rate shall be determined where possible by collecting a known volume and measuring the time required to collect it. All this data shall be recorded on the appropriate data sheet. The water collected should be disposed of at the discretion of H.P.
- 5.4 Complete the data sheet with the required information and calculations. If the leak rate is considered excessive--therefore not acceptable--a TR shall be written and the faulty component repaired. This item should be given immediate attention. Steps 5.1, 5.2, and 5.3 are to be reconducted upon completion of the TR to ensure the integrity of the system. The post-maintenance leak rate will be recorded in the applicable space provided on the data sheet. The total system leak rate is not to include the premaintenance leak rate, only the post-maintenance leak rate.
- 5.5 The data package will be kept by the Mechanical Engineering Section until TI-31.7.0 has been completed. Then it may be disposed of.

## 6.0 ACCEPTANCE CRITERIA

The leak rate will vary according to the component and must be considered on an individual basis. Therefore, the acceptance criteria is the leak rate considered to be permissible by Operations, Mechanical Maintenance, and the plant Mechanical Engineering staff.

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TI-31.7.5  
DATA SHEET A  
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REACTOR COOLANT SAMPLE SYSTEM EXTERNAL LEAKAGE

DATE \_\_\_\_\_

UNIT \_\_\_\_\_

Component	Location	Leak Rate	Post-Maintenance Leak Rate	Remarks
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Data Taken By \_\_\_\_\_

Verified by \_\_\_\_\_  
Mechanical Engineer

Total System Leakage \_\_\_\_\_ GPM