

LEAKAGE REDUCTION PROGRAM SUMMARY REPORT

DETROIT EDISON COMPANY

EMMI-2 POWER PLANT

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SUMMARY REPORT
FOR
FERMI-2 POWER PLANT
LEAKAGE REDUCTION PROGRAM

INTRODUCTION

Both the Feral 2 Technical Specification, Paragraph 6.8.5.1 and Feral 2 UFSAR, Section 5.2.7.8 require a Leakage Reduction Program. This program was developed to reduce and maintain leakage to as-low-as-practical levels from systems outside the primary containment that could or would contain highly radioactive fluids during and after a serious transient or accident. This report is the summary of results of all systems governed by this program.

PROGRAM DESCRIPTION

Each system was visually inspected to identify leakage into secondary containment out of components such as valve stems, pump seals, relief valve discharge lines, drains, vents, instrument loops, flanges and thread fittings. All leakage was noted and maintenance orders were initiated as required. In addition to the Leakage Reduction Program, many of these systems are also tested as part of the 10CFR50, Appendix J program.

TEST METHODS

The test method was based on the system normal operating medium either liquid or gaseous. Liquid systems that could contain radioactive liquids during or after an accident were placed into normal operation or a test mode. During these test conditions, systems were walked down and visually inspected. Leaks were measured by either collection into a graduated cylinder or by counting drops per unit of time to a standard volume. For gas systems a makeup flow rate test was used. Systems were isolated and pressurized to 56.5 psig. After a stabilization period, a flow rate was recorded and while the system was at test pressure all mechanical fittings were snooped and checked for leakage.

With both the liquid and gas tests where leakage was noted, corrective action was taken as warranted to reduce the leakage from each source. Once the corrected maintenance was completed, the system was again put into its test condition and rechecked for leakage. This methodology will ensure that leakage is reduced to the lowest practical level. Test results are shown on Table 1.

The total as found water leakage was 1640.23 ml/min with an as left leakage of 58.73 ml/min which results in a net reduction of 1581.5 ml/min resulting from corrective maintenance. The total as found air leakage was 59.26SCFH with an as left leakage of 5.85SCFH which results in a net reduction of 53.41SCFH through corrective maintenance.

TABLE #1

SUMMARY OF LEAKAGE REDUCTION PROGRAM RESULTS

SYSTEM	PROCEDURE	WATER LEAKAGE		ATR LEAKAGE		NET REDUCTION
		AS FOUND	AS LEFT	AS FOUND	AS LEFT	
Control Rod Drive	43.106.02	6.3 ml/min	6.3 ml/min	40+SCFH	1.825CFH	38.185CFH
High Pressure Coolant Injection	43.202.01	1559.5 ml/min	3ml/min			1556.5 ml/min
Core Spray Div I	43.203.01	1.28 ml/min	1.01 ml/min			.27 ml/min
Core Spray Div II	43.203.05	0.45 ml/min	0.45 ml/min			0.0 ml/min
Residual Heat Removal Div I	43.204.01	5.73 ml/min	5.73 ml/min			0.0 ml/min
Residual Heat Removal Div II	43.204.02	27.1 ml/min	12.1 ml/min			15.0 ml/min
Reactor Core Isolation Cooling	43.206.01	20 ml/min	20 ml/min			0.0 ml/min
Standby Gas Filter	43.404.01	Within Tech Spec. Penetration Limits				
Primary Containment Monitoring Div I	43.408.02			11.955CFH	0.865CFH	11.090CFH
Div II				1.405CFH	0.855CFH	0.550CFH
Thermal Recombiner Div I	43.409.01			3.0415CFH	0.115CFH	2.9265CFH
Div II				0.7595CFH	0.105CFH	0.6545CFH
Reactor Water Clean-up	43.707.01	19.87 ml/min	10.14 ml/min			9.73 ml/min
Post Accident Sampling	43.714.01	0 ml/min	0 ml/min	2.115CFH	2.115CFH	0
Process Sampling	43.714.02	0 ml/min	0 ml/min			0
Total		1640.23 ml/min	58.73 ml/min	59.265CFH	5.855CFH	1581.5 ml/min 53.415CFH