Exelon Nuclear

Three Mile Island Unit 1
Route 441 South, P.O. Box 480
Middletown, PA 17057

Telephone 717-948-8000

February 19, 2010
TMI-10-008

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

THREE MILE ISLAND UNIT 1 (TMI-1)
OPERATING LICENSE NO. DPR-50
DOCKET NO. 50-289

SUBJECT: 2009 ANNUAL REPORT

Attached is the 2009 Annual Report for TMI-1. This report is being submitted in accordance with TMI-1 Technical Specifications Sections 6.9.1.B.2 through 6.9.1.B.5 and 6.17. The attachments to this letter contain the following information:

Attachment 1 - Aircraft movement data from the Harrisburg International Airport (per TMI-1 T.S. section 6.9.1.B.2).

Attachment 2 - Leak reduction program test information (per TMI-1 T.S. 6.9.1.B.3).

Attachment 3 - Pressurizer power operated relief valve and pressurizer safety valve challenges (per TMI-1 T.S. section 6.9.1.B.4).

Attachment 4 - Results of specific activity analysis - primary coolant system (per TMI-1 T.S. section 6.9.1.B.5).

A001
NRR

Attachment 5 - Major changes to radioactive waste treatment systems (per TMI-1 T.S. section 6.17)

Sincerely,

Thomas J. Dougherty
Plant Manager

TJD/awm

Attachments

cc: TMI-1 Senior Resident Inspector
Administrator, Region I
TMI-1 Project Manager

ATTACHMENT 1

AIRCRAFT MOVEMENTS AT THE HARRISBURG INTERNATIONAL AIRPORT (HIA)

JANUARY 1, 2009 THROUGH DECEMBER 31, 2009

1. Total Aircraft Movements – 77,528.

2. Estimated total number of movements of aircraft larger than 200,000 pounds – 1289.

   This estimate is composed of two parts, 889 movements of civilian aircraft, and 400 movements of U.S. Government and military aircraft.

ATTACHMENT 2

TECHNICAL SPECIFICATION 6.9.1.B.3
PERIODIC LEAK REDUCTION PROGRAM TEST RESULTS

The results of the TMI-1 2009 periodic Leak Reduction Program Tests, which included visual inspections, are summarized in Table 1. These tests were performed in accordance with the referenced procedures.

TABLE 1
2009 LEAK REDUCTION PROGRAM TEST RESULTS FOR TMI-1

SURVEILLANCE PROCEDURES	PROCEDURE TITLE / DESCRIPTION	DATE OF PERFOR-MANCE	LEAKING COMPONENT I.D.	LEAK RATE AS-FOUND	LEAK RATE AS-LEFT	RESULTING MAINTENANCE UNDERTAKEN
OP-TM-212-215	DH Train A/B VT-2 Exam	10/27/2009	DH-V-15B	0.0013 gph	0	Repacked valve and replaced bonnet gasket
OP-TM-212-217	DH-V-6A to RB Sump Leak Check	11/16/2009	None	0	0	
OP-TM-212-218	DH-V-6B to RB Sump Leak Check	11/16/2009	None	0	0	
OP-TM-212-251	DH/LPI Train A leakage exam DH/LPI Train B leakage exam DH suction piping & BWST leak exam	11/04/2008 10/13/2008 02/15/2009	None	0	0	
OP-TM-211-251	Leak Exam of Make-up Tank area Leak Exam of MU system outside RB Leak Exam of MU system inside RB	08/31/2009 09/03/2009 10/26/2009	MU-V-64A	0.011 gph	0	Tightened packing and verified no leakage
OP-TM-214-253	BS Leakage Exam Train A	08/05/2009	None	0	0	
OP-TM-214-254	BS Leakage Exam Train B	07/18/2009	None	0	0	
1303-11.30	Reactor Coolant Sampling Leak Check	08/25/2009	None	0	0	
The remaining surveillances are Local Leak Rate Tests with results in units of standard cubic centimeters per minute (sccm)						
OP-TM-823-251	LLRT of Purge Exhaust Penetration Valves	01/18/2009	AH-V-1A/B	10591	678	Cleaned valve seat and adjusted seating segments
OP-TM-823-252	LLRT of Purge Supply Penetration Valves	10/18/2009	AH-V-1C/D	4022	4022	

SURVEILLANCE PROCEDURES	PROCEDURE TITLE / DESCRIPTION	DATE OF PERFOR-MANCE	LEAKING COMPONENT I.D.	LEAK RATE AS-FOUND	LEAK RATE AS-LEFT	RESULTING MAINTENANCE UNDERTAKEN
MA-TM-244-204A	Penetration 328 LLRT of CA-V-2, CA-V-13, and CA-V-446	11/30/2009	CA-V-2/446 CA-V-13	20 20	20 20	
MA-TM-244-204D	Penetration 307 LLRT of CA-V-189, CA-V-192, and CA-443	12/20/2009	CA-V-192 CA-V-189/443	73 773	73 773	
MA-TM-244-205A	Penetration 348 LLRT of CF-V-2A, CF-V-20A, CF-V-46A	11/13/2009	CF-V-2A CF-V-2A/46A	20 248	20 248	
MA-TM-244-205B	Penetration 349 LLRT of CF-V-2B, CF-V-20B, and CF-V-46B	11/13/2009	CF-V-2B CF-V-2B/46B	244 40	244 40	
MA-TM-244-205C	Penetration 348 LLRT of CF-V-12A and CF-V-19A	11/10/2009	CF-V-12A CF-V-19A	330 1690	330 1690	
MA-TM-244-205D	Penetration 349 LLRT of CF-V-12B and CF-V-19B	11/11/2009	CF-V-12B CF-V-19B	20 59	20 59	
MA-TM-244-206A	Penetration 108 LLRT of CM-V-1 and CM-V-2	10/27/2009	CM-V-1 CM-V-2	266 26	266 26	
MA-TM-244-206B	Penetration 108 LLRT of CM-V-3 and CM-V-4	10/27/2009	CM-V-3 CM-V-4	203 59	203 59	
MA-TM-244-207	Penetration 320 LLRT of DH-V-64 and DH-V-69	11/13/2009	DH-V-64 DH-V-69	124 20	124 20	
MA-TM-244-210A	Penetration 420S/101S LLRT of HM-V-1A & 1B and HM-V-2A & 2B	11/12/2009	HM-V-1A HM-V-1B HM-V-2A HM-V-2B	20 20 20 20	20 20 20 20	
MA-TM-244-210B	Penetration 420S/101S LLRT of HM-V-3A & 3B and HM-V-4A & 4B	11/11/2009	HM-V-3A HM-V-3B HM-V-4A HM-V-4B	20 20 20 20	20 20 20 20	
MA-TM-244-211	Penetration 240 LLRT of HP-V-1 and HP-V-6	10/28/2009	HP-V-1 HP-V-6	66 71	66 71	
MA-TM-244-213A	Penetration 302 LLRT of IC-V-2, IC-V-3, and IC-V-102	11/04/2009	IC-V-2 IC-V-3/102	853 20	853 20	
MA-TM-244-213B	Penetration 333 LLRT of IC-V-4 and IC-V-18	11/09/2009	IC-V-4 IC-V-18	21 20	21 20	
MA-TM-244-213C	Penetration 334 LLRT of IC-V-6 and IC-V-16	11/06/2009	IC-V-6 IC-V-16	70 126	70 126	
MA-TM-244-214B	Penetration 416 LLRT of HR-V-4A/B, HR-V-23A/B, and Flanges	11/11/2009	HR-V-23A/B HR-V-4A/B	40 40	40 100	Removed blind flanges for ILRT at end of outage
MA-TM-244-214C	Penetration 417 LLRT of RB LEAK RATE SUPPLY	11/11/2009	P-417 flanges	20	20	

SURVEILLANCE PROCEDURES	PROCEDURE TITLE / DESCRIPTION	DATE OF PERFOR-MANCE	LEAKING COMPONENT I.D.	LEAK RATE AS-FOUND	LEAK RATE AS-LEFT	RESULTING MAINTENANCE UNDERTAKEN
MA-TM-244-215A	Penetration 309 LLRT of MU-V-2A, MU-V-2B, MU-V-3, and MU-V-238	11/06/2009	MU-V-2A/B MU-V-3/238	40 35	73 95	Performed MOV PM's
MA-TM-244-215B	Penetration 323 LLRT of MU-V-18 and MU-V-219	11/09/2009	MU-V-18 MU-V-219	232 20	36 20	Performed AOV PM
MA-TM-244-215C	Penetration 329 LLRT of MU-V-25 and MU-V-26	11/09/2009	MU-V-25 MU-V-26	20 22	20 92	Performed AOV PM
MA-TM-244-215D	Penetration 337 LLRT of MU-V-20 and MU-V-116	11/09/2009	MU-V-20 MU-V-116	328 42	130 42	Performed AOV PM
MA-TM-244-217A	Penetration 346 LLRT of NS-V-11 and NI-V-15	10/29/2009	NS-V-11 NS-V-15	1870 207	1870 207	
MA-TM-244-217B	Penetration 347 LLRT of NS-V-4, NS-V-35, and NS-V-211	11/06/2009	NS-V-4/211 NS-V-35	20 20	20 20	
MA-TM-244-218A	LLRT of Flanged Penetrations 104, 105, 106, 213, and 214	10/20/2009 11/15/2009 12/13/2009 12/13/2009	P-105 P-106 P-213 P-214	75 20 20 20	65 20 20 20	Removed blind flanges for ILRT at end of outage
MA-TM-244-218B	LLRT of Flanged Penetrations 221, 222, 240, 241, and 414	10/27/2009 10/27/2009 10/27/2009	P-221 P-222 P-240/241	20 20 90	20 20 90	
MA-TM-244-222	Penetration 421 & 422 LLRT of RB-V-2A and RB-V-7	11/11/2009	RB-V-2A/7	240	240	
MA-TM-244-223	Penetration 304 LLRT of SF-V-22 and SF-V-23	11/03/2009	SF-V-22 SF-V-23	20 20	20 20	
MA-TM-244-225	Penetration 330 LLRT of WDG-V-3 and WDG-V-4	11/09/2009	WDG-V-3 WDG-V-4	1280 20	20 20	Replaced with new valve
MA-TM-244-226A	Penetration 331 LLRT of WDL-V-303, WDL-V-304, and WDL-V-727	11/10/2009	WDL-V-303 WDL-V-304/727	60 38	60 38	
MA-TM-244-226B	Penetration 353 LLRT of WDL-V-534 and WDL-V-535	11/10/2009	WDL-V-534/535	36	36	
MA-TM-244-227	Penetration 418 LLRT of Equipment Hatch Flange O-rings	10/26/2009	Flange O-rings	138	100	Removed & re-installed Equipment hatch

Note: Local Leak Rate Testing is performed under the Option B provisions of 10CFR50 Appendix J, and the minimum LLRT leakage value used is 20 sccm based on the low end of the calibration range of the flow instrumentation. When no maintenance affecting penetration tightness has been performed, the 'as-found' leakage is also used for 'as-left' leakage.

ATTACHMENT 3

PRESSURIZER POWER OPERATED RELIEF VALVE AND PRESSURIZER SAFETY VALVE CHALLENGES IN 2009

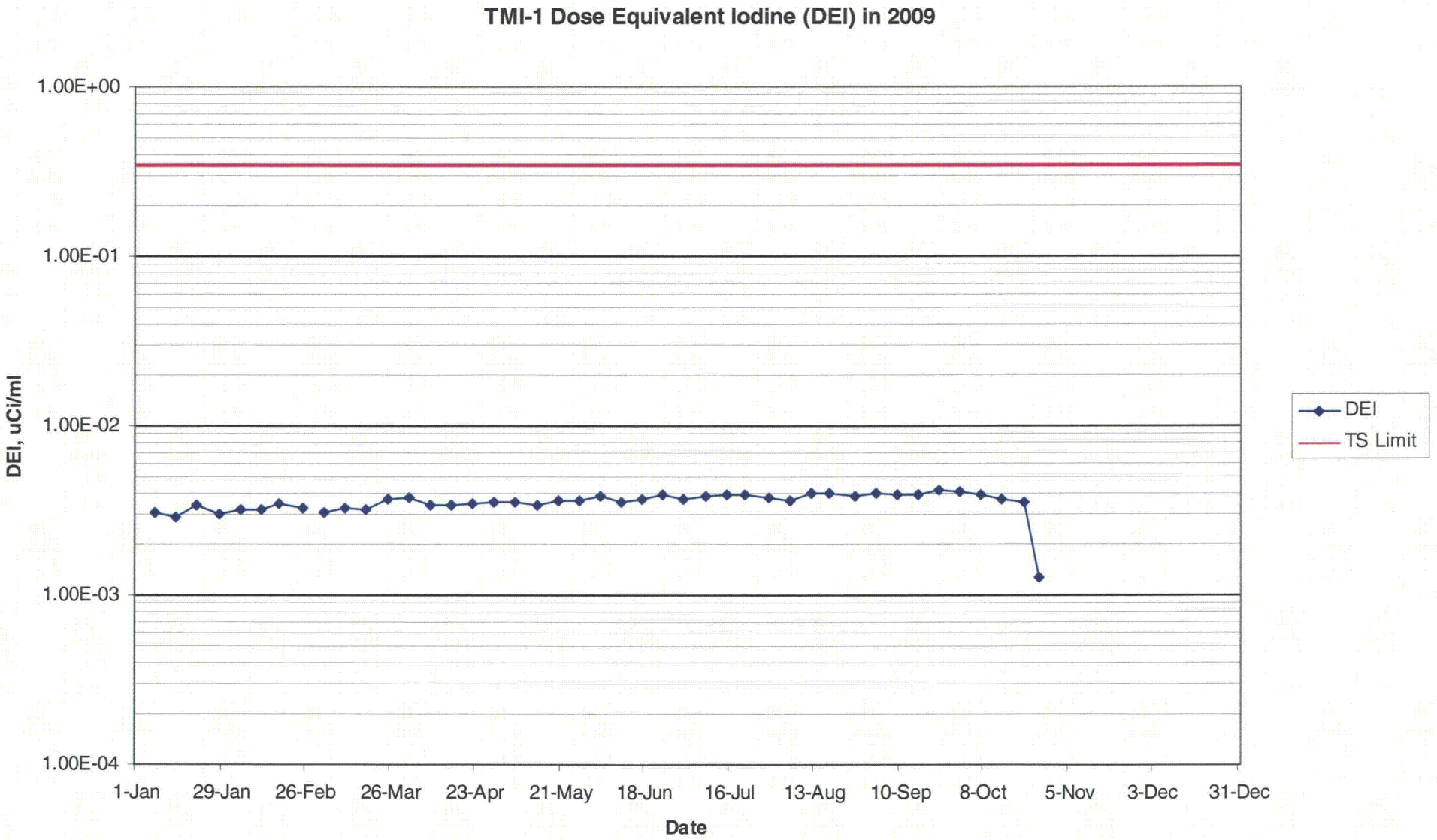
There were no challenges to the pressurizer power operated relief valve (PORV) or either of the two pressurizer (PZR) safety valves during the entire calendar year of 2009.

A review of the Reactor Coolant System (RCS) pressure indication trend data concluded that the RCS pressure operated well below the PORV set point of 2450 psig, and both PZR safety valve set points of 2500 psig throughout the calendar year of 2009. Therefore no challenges to the PORV or PZR safety valves occurred during 2009.

ATTACHMENT 4

RESULTS OF SPECIFIC ACTIVITY ANALYSIS-
PRIMARY COOLANT SYSTEM

Technical Specification 6.9.1.B.5 requires annual reporting of certain information regarding the results of specific activity analyses in which the primary coolant exceeded the limits of Technical Specification (TS) 3.1.4.1. The limits of TS 3.1.4.1 were not exceeded at TMI-1 at any time during the year 2009. The figure of RCS activity for 2009 shows that the limit of 0.35 microcurie/gram dose equivalent I-131 (DEI) was not exceeded in 2009.


TMI-1 Dose Equivalent Iodine (DEI) in 2009
1.00E+00
1.00E-01
1.00E-02
1.00E-03
1.00E-04
DEI, uCi/ml
1-Jan
29-Jan
26-Feb
26-Mar
23-Apr
21-May
18-Jun
16-Jul
13-Aug
10-Sep
8-Oct
5-Nov
3-Dec
31-Dec
Date
DEI
TS Limit

ATTACHMENT 5

MAJOR CHANGES TO RAD WASTE TREATMENT SYSTEMS

Technical Specification Section 6.17 requires reporting of "Major Changes to Radioactive Waste Treatment Systems." Major changes are interpreted to mean changes that would alter how the system functions or changes that would affect operational exposures, offsite dose rates or integrated doses. There were no major changes to the liquid, gaseous, or solid radioactive waste treatment systems at TMI-1 during the year of 2009.