

# Maine Yankee

RELIABLE ELECTRICITY SINCE 1972

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June 12, 1997  
MN-97-77

JRH-97-161

Region I  
UNITED STATES NUCLEAR REGULATORY COMMISSION  
475 Allendale Road  
King of Prussia, PA 19406

Attention: Mr. Hubert Miller, Regional Administrator

Reference: (a) License No. DPR-36 (Docket No. 50-309)

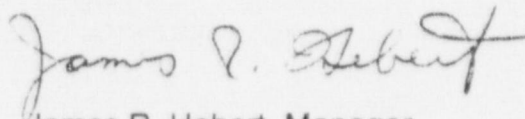
Subject: Annual Personnel Exposure Report - 1996

Gentlemen:

Enclosed is the Maine Yankee Annual Report for 1996 submitted in accordance with Technical Specification 5.9.1.3 A and 5.9.1.3 B.

I trust you find this report acceptable; however, should you have any questions, please contact me.

Very truly yours,



James R. Hebert, Manager  
Regulatory Affairs Department

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Enclosure

c: Mr. J. T. Yerokun  
Mr. Daniel H. Dorman  
Mr. Patrick J. Dostie  
Document Control Desk  
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Mr. Uldis Vanags

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## ANNUAL REPORT

5.9.1.3 Annual Reports covering activities as described below for the previous calendar year shall include:

- A. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions, \* e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling.

The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.

\* This tabulation supplements the requirement of Section 20.407 of 10 CFR Part 20.

Response: Attached please find a table, "Maine Yankee Atomic Power Company Reg. Guide 1.16, Man-Rem Final End of the Year Report for 1996".

*faxed to NRC on 5/29/97*

MAINE YANKEE ATOMIC POWER COMPANY  
REG. GUIDE 1.16 MAN-REM FINAL END OF THE YEAR REPORT FOR 1996

	NUMBER OF PERSONNEL OVER 100 MREM			TOTAL MAN-REM		
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS AND OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS AND OTHERS
REACTOR OPS/SURVEILLANCE						
MAINTENANCE	0	0	0	0.242	0.000	0.359
OPERATIONS	0	0	0	0.072	0.000	0.048
HEALTH PHYSICS	0	0	0	0.040	0.000	0.015
SUPERVISORY	0	0	0	0.020	0.000	0.329
ENGINEERING	1	0	0	1.835	0.000	0.000
ROUTINE MAINTENANCE						
MAINTENANCE	30	0	37	8.141	0.000	10.086
OPERATIONS	28	0	3	9.405	0.000	1.023
HEALTH PHYSICS	16	0	37	3.686	0.000	13.530
SUPERVISORY	2	0	2	0.718	0.000	0.634
ENGINEERING	8	0	1	2.870	0.000	0.675
IN-SERVICE INSPECTION						
MAINTENANCE	0	0	0	0.000	0.000	0.000
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS	0	0	0	0.000	0.000	0.000
SUPERVISORY	0	0	0	0.000	0.000	0.000
ENGINEERING	0	0	0	0.012	0.000	0.051
SPECIAL MAINTENANCE						
MAINTENANCE	2	0	16	1.147	0.000	4.336
OPERATIONS	0	0	0	0.243	0.000	0.122
HEALTH PHYSICS	1	0	5	0.734	0.000	1.227
SUPERVISORY	0	0	4	0.010	0.000	0.877
ENGINEERING	0	0	4	0.152	0.000	0.881
WASTE PROCESSING						
MAINTENANCE	0	0	0	0.000	0.000	0.000
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS	0	0	0	0.000	0.000	0.000
SUPERVISORY	0	0	0	0.000	0.000	0.000
ENGINEERING	0	0	0	0.000	0.000	0.000
REFUELING						
MAINTENANCE	0	0	0	0.050	0.000	0.010
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS	0	0	0	0.000	0.000	0.000
SUPERVISORY	0	0	0	0.000	0.000	0.005
ENGINEERING	0	0	0	0.000	0.000	0.000
TOTALS						
MAINTENANCE	32	0	53	9.580	0.000	14.791
OPERATIONS	28	0	3	9.720	0.000	1.193
HEALTH PHYSICS	17	0	42	4.460	0.000	14.772
SUPERVISORY	2	0	6	0.748	0.000	1.845
ENGINEERING	9	0	5	4.869	0.000	1.607
GRAND TOTAL	88	0	109	29.377	0.000	34.208

Approved by : *[Signature]* 5/13/97  
Radiation Protection Manager Date

## ANNUAL REPORT

- 5.9.1.3      B.      The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.2. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up system flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

Response:    See Attached



### Radioiodine Concentrations for October 09, 1996, Reactor Trip

Date	Time	Radioiodine Activity ( $\mu\text{Ci/g}$ )						Reactor Power	Letdown Flow Rate GPM
		I-131	I-132	I-133	I-134	I-135	DEI		
10/9/96	0736	5.03e-03	3.02e-02	2.32e-02	5.01e-02	3.36e-02	1.60e-02	90	95
	0950							Trip	
	1050	6.23e-02	6.78e-02	8.12e-02	5.22e-02	6.79e-02	9.32e-02	0	95
	1150	1.29e-01	8.86e-02	1.25e-01	3.18e-02	8.45e-02	1.74e-01	0	95
	1250	1.40e-01	8.15e-02	1.35e-01	1.75e-02	7.73e-02	1.86e-01	0	94
	1355	1.36e-01	7.65e-02	1.27e-01	8.49e-03	6.94e-02	1.79e-01	0	94
	1450	1.30e-01	7.00e-02	1.15e-01	4.57e-03	5.91e-02	1.68e-01	0	94
	1620	1.21e-01	6.48e-02	1.02e-01	1.48e-03	4.81e-02	1.55e-01	0	95
	1720	1.13e-01	5.87e-02	9.15e-02		4.08e-02	1.44e-01	0	95
	1900	1.03e-01	5.20e-02	7.90e-02		3.08e-02	1.29e-01	0	95
	2200	8.92e-02	4.68e-02	6.66e-02		2.04e-02	1.11e-01	0	93
10/10/96	0200	6.49e-02	3.83e-02	4.62e-02		1.04e-02	7.96e-02	0	110
	0606	5.08e-02	3.66e-02	3.23e-02		5.26e-03	6.12e-02	0	110

Reactor had been at 90% power for 48 hours before the trip. Dose equivalent I-131 exceeded 0.1  $\mu\text{Ci/g}$  for 14 hours and 10 minutes.

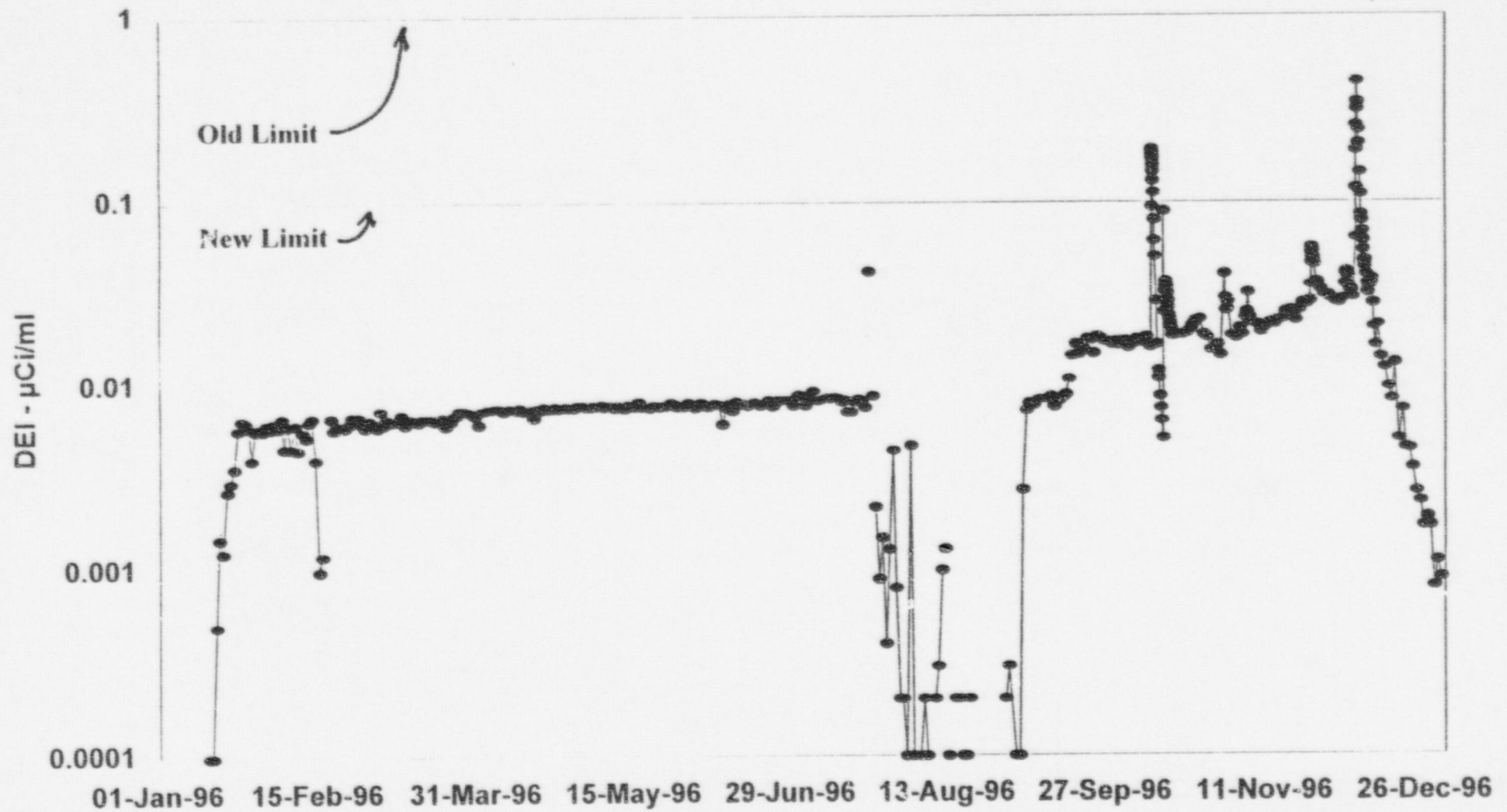
### Radioiodine Concentrations for December 05, 1996, Shutdown

Date	Time	Radioiodine Activity ( $\mu\text{Ci/g}$ )						Reactor Power	Letdown Flow Rate GPM
		I-131	I-132	I-133	I-134	I-135	DEI		
12/5/96	0124	1.43e-02	3.51e-02	3.50e-02	5.68e-02	4.21e-02	2.95e-02	90	112
	2145							Commence Shutdown	
12/6/96	0055	3.71e-02	6.21e-02	6.83e-02	4.90e-02	6.19e-02	6.30e-02	at 15%/hr	125
	0127	7.45e-02	1.11e-01	1.19e-01	5.80e-02	9.57e-02	1.20e-01		125
	0138	1.22e-01	1.54e-01	1.75e-01	6.09e-02	1.23e-01	1.86e-01		125
	0152	1.75e-01	2.03e-01	2.15e-01	6.59e-02	1.50e-01	2.54e-01		125
	0204	2.15e-01	2.33e-01	2.63e-01	6.66e-02	1.69e-01	3.10e-01		125
	0220	2.38e-01	2.45e-01	2.82e-01	5.98e-02	1.82e-01	3.40e-01		125
	0545	3.25e-01	2.13e-01	3.31e-01		1.59e-01	4.35e-01		120
	0945	2.59e-01	1.66e-01	2.37e-01		8.59e-02	3.37e-01		132
	1350	1.90e-01	1.31e-01	1.55e-01		4.34e-02	2.41e-01		125
	1625	1.72e-01	1.29e-01	1.36e-01		2.81e-02	2.15e-01		126
	2015	1.42e-01	1.13e-01	1.00e-01		1.61e-02	1.75e-01		125
12/7/96	0030	1.17e-01	1.11e-01	7.21e-02		8.81e-03	1.41e-01		123
	0435	9.10e-02	9.91e-02	4.91e-02			1.08e-01		123
	0845	7.18e-02	9.56e-02	3.32e-02		2.13e-03	8.43e-02		130
	1234	6.76e-02	9.31e-02	2.93e-02			7.88e-02		128

Reactor had been at 90% power for 48 hours before the shutdown. Dose equivalent I-131 exceeded 0.1  $\mu\text{Ci/g}$  for 31 hours and 8 minutes.

# RCS Dose Equivalent I-131

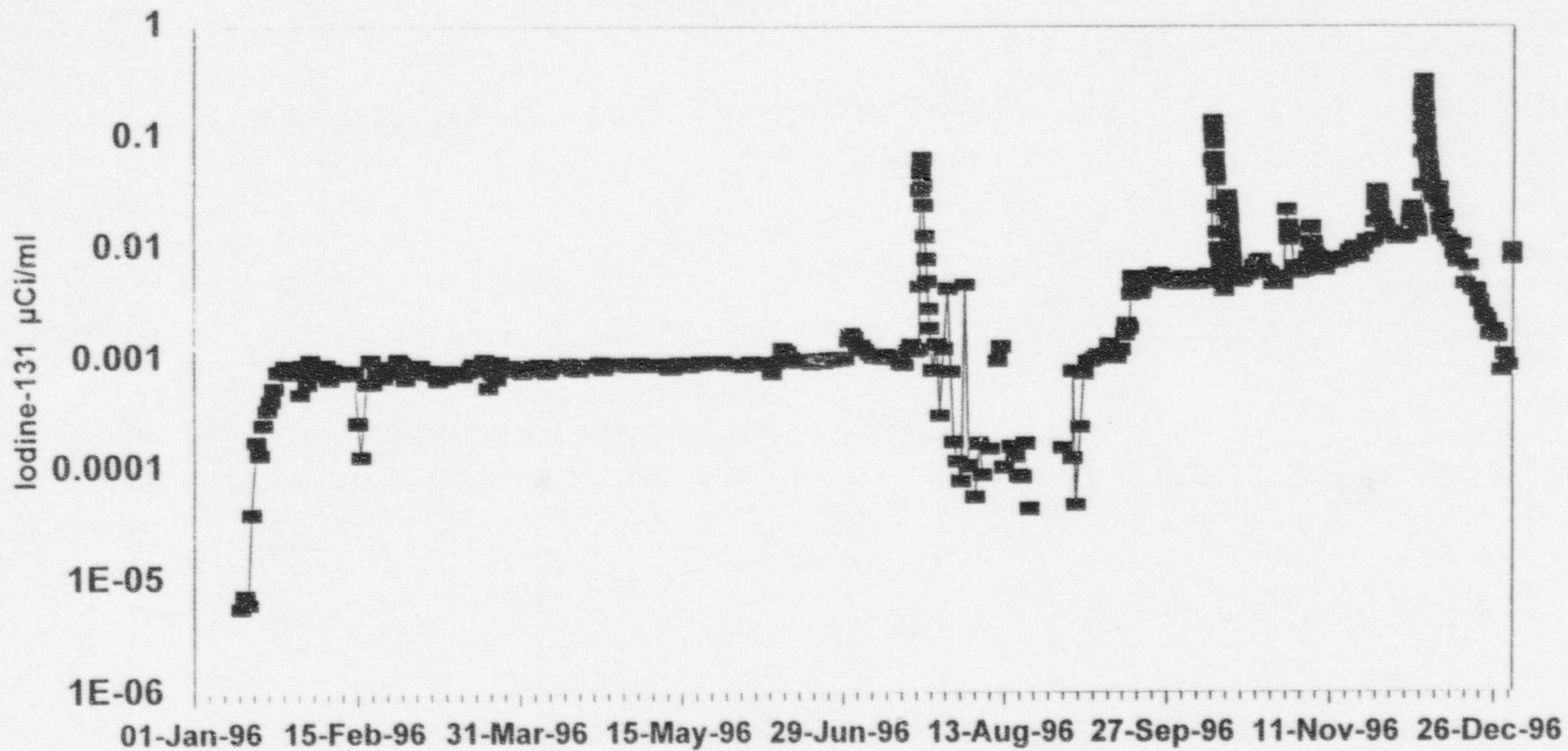
Cycle 15





# RCS Iodine-131

Cycle 15





RCS BIX  
I-133

