



*Read Bill
12/11/07*

070-00734
SNM-696

August 24, 2007
696-4123

Mr. Leonard Wert, Jr., Director
Division of Nuclear Material Safety
U.S. Nuclear Regulatory Commission - Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Subject: **Transmittal of Semiannual Effluent Report (2 copies)**
Docket Nos. 50-89, 50-163 and 70-734; License Nos. R-38, R-67 and
SNM-696, Respectively

and

Dr. Ron Rogus (in Duplicate)
State of California
Department of Health Services
Radiological Health Branch, M/S 7610
1500 Capital Avenue
Sacramento, CA 95814-5006

Subject: **Transmittal of Semiannual Effluent Report (2 copies); License 0145-37**

Dear Mr. Wert and Dr. Rogus:

In accordance with 10 CFR 70.59, General Atomics (GA) herewith transmits the required semiannual effluent report for the period January 1, 2007 through June 30, 2007. By copy of this letter, one copy of this report is being forwarded to the Director, Office of Nuclear Material Safety and Safeguards, U. S. Nuclear Regulatory Commission. Additional copies are being sent to the State of California, Department of Health Services.

Table 1 of the report lists data on the radiological gaseous and particulate effluent released to unrestricted areas from our facilities handling radioactive material. The release point descriptions are keyed to the facility names whose relative locations are shown on Figure 1 in the report, a plan view of GA's Main Site and Sorrento Valley sites. Attachment A provides detailed information concerning airborne effluent stack sample results over this reporting period. All airborne releases were well within the allowable State of California and NRC (10CFR20) limits. Table 2 provides the liquid effluent released into the sanitary sewerage system during this report period.

We trust the information provided is satisfactory to meet the requirements for this submission. If you should have any questions regarding this information, please contact Ms. Laura Q. Gonzales at (858) 455-2758, or me at (858) 455-2823.

Very truly yours,

Keith E. Asmussen

Dr. Keith E. Asmussen, Director
Licensing, Safety and Nuclear Compliance

Mr. Leonard Wert and Dr. Ron Rogus
696/CAL- 4123

August 24, 2007
Page 2 of 2

Enclosure: Semiannual Effluent Report for the period January 1, 2007 through June 30, 2007

cc:

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SEMIANNUAL EFFLUENT REPORT

FOR THE PERIOD

January 1, 2007 through June 30, 2007

**Prepared By Edward Rudgers
Reviewed by Laura Gonzales**

August 24, 2007

Semiannual Effluent Report Summary

In accordance with 10 CFR 70.59, GA has prepared the semiannual effluent report for the period January 1, 2007 through June 30, 2007.

Table 1 lists data on the radiological gaseous and particulate effluent released to unrestricted areas from our facilities handling radioactive material. The release point descriptions are keyed to the facility names whose relative locations are shown on Figure 1, a plan view of GA's main site and GA's Sorrento Valley site. Attachment A of the report provides detailed information concerning airborne effluent stack sample results over this reporting period. All airborne releases were well within the allowable State of California and NRC 10CFR20 limits.

Table 2 provides the radiological liquid effluent which was released into a 100 million gallon/day regional sewerage treatment plant. *Note: The only release during this report period was from a tenant (Ferring Research) occupying laboratory space in GA's Building 2.*

Table 1
Gas and Particulate Effluents – January 1, 2007 through June 30, 2007

Release Point (ID)	Effluent	Flow Rate (ft/min)	Stack Area (ft ²)	m ³ /min ⁽⁴⁾	Average pCi/m ³	Total Ci Released ⁽³⁾
TRIGA Reactor Facility (Building 21)						
TM1	MFP	1294	1.46	53.5	0.008 ⁽¹⁾	1.12e-07
TMF	MFP	489	1.5	20.8	0.008 ⁽¹⁾	4.34e-08
					Total	1.55e-07
TMF	Iodines	489	1.5	20.8	0.042 ⁽¹⁾	2.28e-07
Other Facilities						
Bldg 10 HP lab Room 702	Radionuclides Z 3-83	2030	1.1	63.2	0.008 ⁽¹⁾	1.32e-07
<i>Fusion (Bldg 34)</i>	H-3					0.088 ⁽⁵⁾
<i>General atomics Electronic systems Inc.</i>	Kr-85 Xe-133	2300	1.5	97.6	---	0 ⁽²⁾ 3.679
Building 21	H-3					0.20 estimated

⁽¹⁾ Measured - Airborne effluents from selected facilities are monitored. The samples are collected weekly and analyzed using low-level alpha/beta counting systems. The average concentration (pCi/m³) over the six month period is obtained for each release point (alpha and beta concentrations are added). See Attachment A

⁽²⁾ There were no releases during this report period.

⁽³⁾ Ci Released = (181 operating days) (24 hr/day)(60 min/hr) (1e-6 μCi/pCi) (1e-6 Ci/μCi) (# m³/min)(average pCi/m³) Note: Operating days may be different based on dates the ventilation system was shut down.

⁽⁴⁾ Flow rate x stack area (Note: 0.0283 m³ = 1 ft³).

⁽⁵⁾ Calculated based on operating time of the fusion device.

Table 2

**Liquid Effluents
January 1, 2007 through June 30, 2007**

Tenant (Ferring Research) located within GA's Building 2
Released H-3 0.2052 mCi on 5/3/07 into GA's Main Site Sewerage System

Running Average Report
 Detail By Sampling Site
 Units = pCi/m³

ATTACHMENT A

PAGE 1 OF 7

Site Code: TMF Group I.D. 12

Month	Year	Highest Value		Weighted Average		Lowest Value	
		Alpha	Beta	Alpha	Beta	Alpha	Beta
JAN	2007	0.001	0.011	0.001	0.005	0.001	0.003
FEB	2007	0.002	0.008	0.001	0.005	0.000	0.003
MAR	2007	0.002	0.019	0.001	0.011	0.001	0.004
APR	2007	0.002	0.019	0.001	0.011	0.000	0.004
MAY	2007	0.001	0.008	0.001	0.005	0.000	0.003
JUN	2007	0.001	0.009	0.001	0.005	0.001	0.003

Site Average:
 Average Of
 Site Data For:

6 Months	0.002	0.012	0.001	0.007	0.001	0.003
Last 3 Months Only	0.001	0.012	0.001	0.007	0.000	0.003

** Printed data values are monthly calculated values.

Running Average Report
 Detail By Sampling Site
 Units = pCi/m³

ATTACHMENT A
 PAGE 2 OF 7

Site Code: TM1 Group I.D. 12

Month	Year	Highest Value		Weighted Average		Lowest Value	
		Alpha	Beta	Alpha	Beta	Alpha	Beta
JAN	2007	0.002	0.011	0.001	0.006	0.000	0.002
FEB	2007	0.001	0.008	0.001	0.005	0.000	0.002
MAR	2007	0.001	0.011	0.001	0.008	0.001	0.005
APR	2007	0.001	0.009	0.001	0.007	0.001	0.005
MAY	2007	0.002	0.010	0.001	0.006	0.000	0.003
JUN	2007	0.002	0.011	0.001	0.007	0.001	0.004

Site Average:
 Average Of
 Site Data For:

6 Months	0.002	0.010	0.001	0.007	0.001	0.004
Last 3 Months Only	0.002	0.010	0.001	0.007	0.001	0.004

** Printed data values are monthly calculated values.

Running Average Report
 Summary By Group
 Units = pCi/m3

ATTACHMENT A

PAGE 3 OF 7

Group I.D. 12

Site Code	Begin Mo	Begin Yr	End Mo	End Yr	# Mo	Average Highest Value		Average Weighted Average			Average Lowest Value	
						Alpha	Beta	Alpha	Beta	Alpha	Beta	
TM1	01	**	06	**	6	0.002	0.010	0.001	0.007	0.001	0.004	
TMF	01	**	06	**	6	0.002	0.012	0.001	0.007	0.001	0.003	
Group Average: Average Of Site Averages For:												
6 Months						0.002	0.011	0.001	0.007	0.001	0.003	
Last 3 Months Only						0.002	0.011	0.001	0.007	0.001	0.004	

** Printed data values are averages of data processed.

Running Average Report
 Summary By Group
 Units = pCi/m3

ATTACHMENT A

PAGE 4 OF 7

Group I.D. 23

Site Code	Begin Mo	End Yr	# Mo	Average Highest Value		Average Weighted Average		Average Lowest Value	
				Alpha	Beta	Alpha	Beta	Alpha	Beta
HLAB	01	** 06	** 6	0.003	0.016	0.001	0.007	0.000	0.003
Group Average: Average Of Site Averages For:									
6 Months				0.003	0.016	0.001	0.007	0.000	0.003
Last 3 Months Only				0.003	0.015	0.001	0.006	0.000	0.004

** Printed data values are averages of data processed.

Running Average Report
 Detail By Sampling Site
 Units = pCi/m³

ATTACHMENT A
 PAGE 5 OF 7

Site Code: HLAB Group I.D. 23

Month	Year	Highest Value		Weighted Average			Lowest Value	
		Alpha	Beta	Alpha	Beta	Alpha	Beta	
JAN	2007	0.004	0.032	0.002	0.011	0.000	0.002	
FEB	2007	0.001	0.006	0.000	0.004	0.000	0.002	
MAR	2007	0.002	0.015	0.001	0.008	0.000	0.003	
APR	2007	0.002	0.015	0.001	0.006	0.000	0.005	
MAY	2007	0.003	0.015	0.001	0.006	0.000	0.003	
JUN	2007	0.003	0.015	0.001	0.005	0.000	0.003	

Site Average:
 Average Of
 Site Data For:

6 Months	0.003	0.016	0.001	0.007	0.000	0.003
Last 3 Months Only	0.003	0.015	0.001	0.006	0.000	0.004

** Printed data values are monthly calculated values.

Running Average Report
 Detail By Sampling Site
 Units = pCi/m3

ATTACHMENT A
 PAGE 6 OF 7

Site Code: TMFI Group I.D. 22

Month Year	Highest Value		Weighted Average		Lowest Value	
	**	Gamma	**	Gamma	**	Gamma
JAN 2007		0.047		0.038		0.017
FEB 2007		0.071		0.048		0.027
MAR 2007		0.046		0.037		0.020
APR 2007		0.045		0.041		0.035
MAY 2007		0.065		0.047		0.038
JUN 2007		0.042		0.038		0.034
Site Average:						
Average Of						
Site Data For:						
6 Months		0.053		0.042		0.029
Last 3 Months Only		0.051		0.042		0.036

** Printed data values are monthly calculated values.

Running Average Report
 Summary By Group
 Units = pCi/m3

ATTACHMENT A
 PAGE 7 OF 7

Group I.D. 22

Site Code	Begin Mo	Begin Yr	End Mo	End Yr	# Mo	Average Highest Value ** Gamma	Average Weighted Average ** Gamma	Average Lowest Value ** Gamma
TMFI	01	**	06	**	6	0.053	0.042	0.029
Group Average: Average Of Site Averages For:								
6 Months						0.053	0.042	0.029
Last 3 Months Only						0.051	0.042	0.036

** Printed data values are averages of data processed.