



MARK B HORTON, MD, MSPH  
Director

State of California—Health and Human Services Agency  
California Department of Public Health



ARNOLD SCHWARZENEGGER  
Governor

July 10, 2008

Ms. Charlotte Engstrom  
Vice President and General Counsel  
General Atomics  
P. O. Box 85608  
San Diego, CA 92186-9784

SUBJECT: GENERAL ATOMICS – AMENDMENT 172.

RELEASE OF BUILDING 30/31 PHASE IV ROOMS, BUILDING 30/31  
PHASE V ROOMS, AND UNDERGROUND DRAIN LINE PIPING OF  
BUILDING 31 ASSOCIATED WITH A FORMER UNDERGROUND LIQUID  
RADIOACTIVE WASTE TANK.

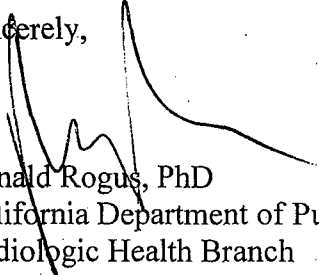
Dear Ms. Engstrom:

Your State of California Radioactive Materials License (number 0145-37) is hereby amended to reflect the release of Building 30/31 Phase IV rooms, Building 30/31 Phase V rooms, and the underground drain line piping of Building 31 that is associated with the former underground liquid radioactive waste tank that had been located outside of Building 31. License condition 13 has been amended to include line items (e), (f), and (g). All other license conditions remain the same.

Enclosed is amendment 172 of your California Radioactive Materials License.

If you have any question regarding this matter, contact me at (916) 440-7971.

Sincerely,



Ronald Rogus, PhD  
California Department of Public Health  
Radiologic Health Branch



Do your part to help California save energy. To learn more about saving energy, visit the following web site:  
<http://www.consumerenergycenter.org/index.html>

Ms. Charlotte Engstrom

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Enclosure:

License number 0145-37, amendment 172.

cc: Ms. Mary Adams  
Fuel Manufacturing Branch  
Division of Fuel Cycle Safety and Safeguards  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Mail Stop E-2-C40M  
Washington, DC, 20555

Keith E. Asmussen, PhD  
General Atomics

**RADIOACTIVE MATERIAL LICENSE**

*Pursuant to the California Code of Regulations, Division 1, Title 17, Chapter 5, Subchapter 4, Group 2, Licensing of Radioactive Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, use, possess, transfer, or dispose of radioactive material listed below; and to use such radioactive material for the purpose(s) and at the places(s) designated below. This license is subject to all applicable rules, regulations, and orders of the Department of Public Health now or hereafter in effect and to any standard or specific condition specified in this license.*

1. Licensee	General Atomics	3. License Number	0145-37	Amendment Number: 172
2. Address	P.O. Box 85608 San Diego, CA 92186-9784	4. Expiration date	January 15, 2015	(2)
Attention:	Keith E. Asmussen, Director Licensing, Safety and Nuclear Compliance	5. Inspection agency	San Diego County Department of Health Services	

**License Number 0145-37 is hereby amended as follows:**

6. Nuclide	7. Form	8. Possession Limit
A. Hydrogen 3	A. Any	A. Not to exceed 30 curies.
B. Any radionuclide with atomic number 3-83 inclusive except: (1) Strontium 90, and (2) Lead 210	B. Any	B. Not to exceed 1 curie for any one radionuclide. Total not to exceed 50 curies.
C. Any radionuclide with atomic number 3-83 inclusive except: (1) Strontium 90, and (2) Lead 210	C. Sealed sources in metal capsules sealed by welding or brazing	C. No single source to exceed 50 curies. Total not to exceed 100 curies.
D. Any radionuclide with atomic number 84 and above except: (1) special nuclear material, and (2) source material	D. Any	D. Not to exceed 500 millicuries for any one radionuclide. Total not to exceed 3 curies.
E. Any radionuclide with atomic number 84 and above except: (1) special nuclear material, and (2) source material	E. Sealed sources in metal capsules sealed by welding or brazing	E. No single source to exceed 6 curies. Total not to exceed 10 curies.
F. Source material	F. Any	F. Not to exceed 5,000 pounds.
G. Special nuclear material (SNM)	G. Any	G. See Condition No. 15 of this license.
H. Special nuclear material (SNM)	H. Sealed sources in metal capsules sealed by welding or brazing	H. See Condition No. 15 of this license.
I. Strontium 90/Yttrium 90	I. Any	I. Not to exceed 300 millicuries total.
J. Americium 241/Beryllium	J. Sealed sources in metal capsules sealed by welding or brazing	J. No single source to exceed 6 curies. Total not to exceed 10 curies.

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K. Californium 252	K. Sealed sources in metal capsules sealed by welding or brazing	K. No single source to exceed 0.6 curie. Total not to exceed 7 curies.
L. Uranium, depleted	L. Solid metallic	L. Not to exceed 10,000 pounds.
M. Uranium, natural or depleted	M. Any	M. Not to exceed 6,000 pounds.
N. Any radionuclide resulting from fission of SNM	N. Contamination on equipment	N. Not to exceed 10 millicuries total.
O. Uranium 235	O. HTGR fuel samples, unirradiated	O. Not to exceed 100 grams.

**9. Authorized Use**

- A. - K. To be used for research and development as defined in 17 CCR Section 30100, manufacturing, calibration or testing of instruments, installation into and removal from devices, storage, or distribution or transfer to persons authorized to receive the licensed material pursuant to the terms and conditions of specific licenses issued by the NRC or Agreement State.
- L. To be used for storage or as a shielding component.
- M. To be used as a shielding material or for coating operations, or for research and development as defined in 17 CCR Section 30100.
- N. To be used incidental to packaging, storage, maintenance, and repair of contaminated equipment.
- O. To be used incidental to storage.

**LICENSE CONDITIONS****10. Radioactive material shall be used only at the following locations:**

- (a) 3550 General Atomics Court, San Diego, CA
- (b) 11222 Flintkote Avenue, San Diego, CA
- (c) 4949 Greencraig Lane, San Diego, CA
- (d) 7386 Trade Street, San Diego, CA
- (e) 12889 Gregg Court, Poway, CA
- (f) Temporary job sites of the licensee in areas not under exclusive (see Condition 22) federal jurisdiction throughout the State of California.

**11. This license is subject to an annual fee for sources of radioactive material authorized to be possessed at any one time as specified in Items 6, 7, 8 and 9 of this license. The annual fee for this license is required by and computed in**

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accordance with Title 17, California Code of Regulations, Sections 30230-30231 and is also subject to an annual cost-of-living adjustment pursuant to Section 100425 of the California Health and Safety Code.

12. Radioactive material may be used only by, or under the supervision of, individuals designated by the Radiation Safety Committee.
13. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 7, 8 and 9 of this license in accordance with the statements, representations, and procedures contained in the documents listed below. The Department's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
  - (a) The letter CAL-4023, dated September 19, 2006, signed by Keith E. Asmussen, PhD, Director, Licensing, Safety and Nuclear Compliance, with attached "State of California Radioactive Material License 0145-37 Broad Scope Type A Renewal Application," dated September 2006.
  - (b) The letter CAL-3942, dated November 6, 2005, signed by Keith E. Asmussen, PhD, Director, Licensing, Safety, and Nuclear Compliance, regarding General Atomics' implementation of increased controls for certain radioactive materials in quantities of concern.
  - (c) The letter CAL-4051, dated January 16, 2007, signed by Keith E. Asmussen, PhD, Director, Licensing, Safety and Nuclear Compliance, with attachments, regarding a request for a new use location.
  - (d) The letter CAL-4098, dated June 22, 2007, signed by Keith E. Asmussen, PhD, Director, Licensing, Safety and Nuclear Compliance, with attached General Atomics' "Final Radiological Survey Report for Building 2 Former Diazyme Laboratories," dated June 2007, regarding release of Building 2 Former Diazyme Laboratories to unrestricted use and deletion from license.
  - (e) **The letter CAL-696-3404, dated September 6, 2001, signed by Keith E. Asmussen, PhD, Director of Licensing, Safety, and Nuclear Compliance, with attached General Atomics' "Final Radiological Survey Report of Building 30/31 – Phase IV Rooms for Release to Unrestricted Use," dated September 2001 and the letter CAL-3940, dated November 30, 2005, with enclosures, signed by Keith E. Asmussen, PhD, Director of Licensing, Safety, and Nuclear Compliance, with attached General Atomics' "Final Radiological Survey Report of Building 30/31 – Phase IV Rooms for Release to Unrestricted Use," dated September 2001, revised November 2005, regarding release of Building 30/31 – Phase IV rooms to unrestricted use and deletion from license.**
  - (f) **The letter CAL-696-3342, dated March 22, 2001, signed by Keith E. Asmussen, PhD, Director of Licensing, Safety, and Nuclear Compliance, with attached General Atomics' "Final Radiological Surveys of the Building 30 – Phase V Rooms for Release to Unrestricted Use," dated March 2001 and the letter CAL-3892, dated July 20, 2005, with enclosures, signed by Keith E. Asmussen, PhD, Director of Licensing, Safety, and Nuclear Compliance, regarding release of Building 30/31 – Phase V rooms to unrestricted use and deletion from license.**
  - (g) **The letter 696/CAL-4151, dated December 20, 2007, signed by Keith E. Asmussen, PhD, Director of Licensing, Safety, and Nuclear Compliance, with attached General Atomics' "Final Radiological Survey Report of the Underground Drain Line Pipe Associated with the Former Building 31 Underground Liquid Radioactive Waste Tank," dated December 2007, regarding release of Building 31 underground drain line pipe to unrestricted use and deletion from license.**
14.
  - (a) The Radiation Safety Officer in this program shall be Laura Q. Gonzales, MS.
  - (b) The Chairperson of the Radiation Safety Committee shall be Junaid Razvi, PhD.

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15. The total mass of special nuclear material possessed under this license at any one time or at any one authorized location of use shall not exceed that stated in the following formula: The number of grams of Uranium 235 divided by 350, plus the number of grams of Uranium 233 divided by 200, plus the number of grams of Plutonium (all isotopes) divided by 200, shall not exceed one (i.e. unity).
16. Sealed sources possessed under this license shall be tested for leakage and/or contamination as required by Title 17, California Code of Regulations, Section 30275(c).
17. The following individuals are authorized to collect wipe test samples of sealed sources possessed under this license using leak test kits acceptable to the California Department of Public Health:
  - (a) The Radiation Safety Officer
  - (b) Qualified individuals designated in writing by the Radiation Safety Officer
18. Records of leak test results shall be kept in units of microcuries and maintained for inspection. Records may be disposed of following Department inspection. Any leak test revealing the presence of 0.005 microcuries or more of removable radioactive material shall be reported to the Department of Public Health, Radiologic Health Branch, MS 7610, P.O. Box 997414, Sacramento, CA 95899-7414, within five days of the test. This report shall include a description of the defective source or device, the results of the test, and the corrective action taken.
19. The licensee shall conduct a physical inventory every six months to account for all sealed sources and/or devices received and possessed under the license. Records of the inventories shall be maintained for inspection, and may be disposed of following Department inspection.
20. The licensee shall comply with all requirements of Title 17, California Code of Regulations, Section 30373 when transporting or delivering radioactive materials to a carrier for shipment. These requirements include packaging, marking, labeling, loading, storage, placarding, monitoring, and accident reporting. Shipping papers shall be maintained for inspection pursuant to the U.S. Department of Transportation requirements (Title 49, Code of Federal Regulations, Part 172, Sections 172.200 through 172.204).
21. At least 30 days prior to vacating any address of use listed in Condition 10 of this license, the licensee shall provide written notification thereof to the Department of Public Health, in accordance with Title 17, California Code of Regulations, Section 30256 (b).
22. Before radioactive materials may be used at a temporary job site at any federal facility, the jurisdictional status of the job site must be determined. If the jurisdictional status is unknown, the federal agency should be contacted to determine if the job site is under exclusive federal jurisdiction. A response shall be obtained in writing or a record made of the name and title of the person at the federal agency who provided the determination and the date that it was provided. Authorization for use of radioactive materials at the job sites under exclusive federal jurisdiction shall be obtained either by:
  - (a) Filing an NRC Form-241 in accordance with the Code of Federal Regulations, Title 10, Part 150.20 (b), "Recognition of Agreement State Licenses", or
  - (b) By applying for a specific NRC license.

Before radioactive material can be used at a temporary job site in another State, authorization shall be obtained from the State if it is an Agreement State, or from the NRC for any non-Agreement State, either by filing for reciprocity or applying for a specific license.

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23. All uses of radioactive material under this license shall be conducted in accordance with the user's application to and modifying requirements of the Radiation Safety Committee. The review of intramural applications shall include findings with respect to matters specified in Title 17, California Code of Regulations, Section 30194. Documentation of these findings shall be maintained for Department inspection.
24. The licensee is authorized to calibrate radiation detection instruments for his own use and his affiliated company's use.
25. The licensee is authorized to hold radioactive materials with a physical half-life of less than 90 days for decay in storage before disposal in ordinary trash provided:
- (a) Radioactive waste to be disposed of in this manner shall be held for decay in storage for at least 10 half-lives.
  - (b) Before disposal as normal waste, radioactive waste shall be surveyed to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
  - (c) Generator columns shall be segregated so that they may be monitored separately to ensure decay to background levels prior to disposal.
  - (d) A record of each such disposal permitted under this license condition shall be retained for 3 years. The record must include the date of disposal, the date on which the radioactive material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
26. The licensee shall distribute only sealed sources and/or devices for which a Sealed Source and Device Registry Certificate has been issued by the California Department of Public Health, the U.S. Nuclear Regulatory Commission, an Agreement State or a Licensing State. Sealed sources and/or devices distributed must adhere to the design specifications described in the Sealed Source and Device Registry Certificate. Any changes in the design or specifications of these sealed sources and/or devices require the manufacturer to apply for and receive an amendment to the Sealed Source and Device Registry Certificate prior to distribution. The licensee may distribute sources and/or devices without a Sealed Source and Device Registry Certificate provided the recipient is authorized to possess such items by license condition or applicable state or federal regulations and laws.
27. The licensee is authorized to make changes to procedures in the Radiation Safety Program as described in the letter CAL-4023, dated September 19, 2006, signed by Keith E. Asmussen, PhD, Director, Licensing, Safety and Nuclear Compliance, with attached "State of California Radioactive Material License 0145-37 Broad Scope Type A Renewal Application," dated September 2006, without prior Departmental approval as long as:
- (a) The proposed revision is documented, reviewed and approved by the licensee's Radiation Safety Committee in accordance with established procedures prior to implementation.
  - (b) The revised program is in accordance with regulatory requirements, will not change license conditions, and will not decrease the effectiveness of the Radiation Safety Program.
  - (c) The licensee's staff is trained in the revised procedures prior to implementation, and
  - (d) The licensee's audit program evaluates the effectiveness of the change and its implementation.
28. Radioactive materials shall be used by occupational workers in such a manner that the dose limits specified in Title 10, Code of Federal Regulations, Part 20, Subpart C, Sections 20.1201 through 20.1208 are not exceeded.

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29. The licensee shall monitor occupational exposures to radiation and shall supply and require the use of individual monitoring devices by personnel as required by Title 10, Code of Federal Regulations, Part 20, Section 20.1502 (a).
30. The licensee shall monitor occupational intakes of radioactive material by, and assess the committed effective dose equivalent to, individuals who may have exceeded or are likely to exceed, the limits specified in Title 10, Code of Federal Regulations, Part 20, Section 20.1502 (b). Suitable and timely measurements used for determination of such internal exposures shall be performed as specified by Section 20.1204.
31. In accordance with the California Code of Regulations Title 17, Section 30195.1, the licensee shall maintain an acceptable financial instrument in the amount of \$275,519 that satisfies the requirements outlined in the decommissioning funding plan dated January 2006.
32. Each sealed source manufactured after February 6, 2007 that contains a quantity equal to or greater than Category 1 or Category 2 levels of any radioactive material (i.e. a nationally tracked source) listed in Appendix E of 10 CFR 20, Nationally Tracked Source Thresholds, as published in the November 8, 2006 publication of the Federal Register (71 FR 65685 (Nov. 8, 2006)) shall be assigned a unique serial number. Serial numbers shall be composed only of alpha-numeric characters.
33. **The licensee will provide the Low Level Radioactive Waste (LLRW) reports specified in the California Health and Safety Code section 115000.1(h) to the California Department of Public Health (CDPH) on an annual basis for both shipped and stored LLRW. Alternatively, LLRW shipment information may be provided on a per shipment basis. LLRW shipment information and annual reports shall be mailed to:**

**Attn: LLRW Tracking Program  
California Department of Public Health  
Radiologic Health Branch MS 7610  
P.O. Box 997414  
Sacramento, CA 95899-7414**

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Issued for the State Department of Public Health

Date: July 10, 2008By: 

John G. Fassell, CHP  
Radiologic Health Branch, MS 7610  
P.O. Box 997414  
Sacramento, CA 95899-7414