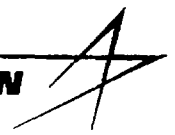


July 20, 2005

LOCKHEED MARTIN



United States Nuclear Regulatory Commission
Region I Material Licensing Section
475 Allendale Road
King of Prussia, PA 19406-1415

MS 16

J-6

2005 JUL 25 PM 1:39

RECEIVED
REGION I

ATTN: Todd J. Jackson, CHP
Senior Health Physicist
Commercial and R&D Branch
Division of Nuclear Materials Safety

CC: Dennis Lawyer (610) 337-5366

SUBJECT: Response for REQUEST FOR ADDITIONAL INFORMATION

REFERENCE: Application for License Renewal
License 37-16268-01 - Amendment 29
Expiration Date: 3/31/05 (application for renewal timely filed)

DOCKET NO: 03010698
CONTROL NO: 136671

Dear Mr. Jackson:

Lockheed is providing additional information to support our application for renewal of license 37-16268-01 as requested in your letter of July 7, 2005.

ITEM 1: - Wrong address and ZIP Code

The street address is "459 Kennedy Drive" and the correct ZIP code is: 18403-1598. We are enclosing sheets from the application information packet which have been revised to show the correct address and zip code.

- Application - section 2 (page 2)

ITEM 2: - Authorized User

We have added Mr. Joseph Trzcinski as an Authorized User (AU) for this license. We are enclosing sheets from the application information packet which have been revised to include information regarding Mr. Trzcinski's qualifications.

- Application - section 7 (pages 5 → 8)

ITEM 3: - Radiation Safety Training

We have revised the training outline in section 8 of our application to include these subject areas. We are enclosing these revised sheets. We have reviewed Lockheed's slide-show presentation to make sure that it includes the required information from these subject areas.

- Application - section 8.1 (pages 10, 11)

136671

NUCLEAR MATERIALS-002

ITEM 4: - Received Dose - Non-Occupational Exposed Personnel

At the Lockheed Martin Archbald facility, non-occupationally exposed personnel are receiving less than 100 mrem in any one calendar year. We are enclosing sheets from the application information packet which have been revised to indicate the 100 mrem per year limit.

- Application - section 10.4 (page 16)

Please contact me at (570) 587-2351 , if you have any further questions concerning this application.

Regards,



John E. Gilchrist - Radiation Safety Officer
c/o James Wildenstein
Facility Safety Manager
Lockheed Martin Corporation
Missiles & Fire Control
459 Kennedy Drive
Archbald, PA 18403-1598

Enclosures:

Revised Application Information Packet	"Application for Renewal of Radioactive Material License - dated 7/20/2005 - pages 2,5-8, 10-11,16
--	--

1 TYPE OF APPLICATION

- Renewal of License # 37-16268-01

2 NAME & ADDRESS OF LICENSEE

Lockheed Martin Corporation
459 Kennedy Drive
Archbald, PA 18403-1598

3 LOCATION(S) OF USE

Lockheed Martin Corporation
459 Kennedy Drive
Archbald, PA 18403-1598

4 LICENSE CONTACT

John E. Gilchrist (Contract RSO)
Tremont Tech
522 Layton Road; Clarks Summit, PA 18411
570-587-2351 (Phone)
570-587-2351 (fax)
tremont-tech@worldnet.att.net (email)

7 INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY PROGRAM

7.1 RADIATION SAFETY OFFICER

- The Radiation Safety Officer for this license is John E. Gilchrist .
 - John Gilchrist is a consultant RSO, who reports to Mr. James Wildenstein - Facility Safety Manager for the Lockheed Martin Corporation - Archbald, PA facility.
 - Mr. Gilchrist has been approved as a consultant RSO by Lockheed Martin Corporation management, and has the authority to act for the company in matters related to radiation safety at the Archbald, PA facility.
 - John Gilchrist resides about 8 miles from the Archbald, PA facility, and can respond within 15 minutes. He is on-call 24 hours per day.
 - Mr. Wildenstein, or Edward Lubash, Lockheed Martin's safety engineer, can respond immediately to any issues which arise at the Archbald, PA facility.
 - Mr. Gilchrist has commitments to other clients, but can devote the time required to perform the RSO duties at the Archbald, PA facility (approximately 5 hours per month on average).

7.2 AUTHORIZED USER

- The Authorized User for this license is Joseph Trzcinski .
 - Mr. Trzcinski joined the company as a test engineer at the Archbald facility in 1973.
 - For the last 15 years, Mr. Trzcinski has been assigned the task to gather leak-test swabs on the Am241 source capsule in the nuclear test area. In addition, he works along with the RSO to move the source capsule from the cabinet to the storage barrel in the nuclear test area and re-position the source capsule within the cabinet.
 - He has received Radiation Safety training, which was conducted every two years. This training is described in section 8.1 of this application.
 - In addition, he has received hands-on training from the RSO in performing his assigned duties regarding the AM241 source capsule.

7.3 RADIATION RESUME – JOHN E. GILCHRIST

Name: John E. Gilchrist
Tremont Tech
522 Layton Road
Clarks Summit, PA 18411

Consultant to Lockheed Martin Corporation

A. Principles and Practices of Radiation Protection:

- Radiation Safety Aspects of Isotope Radiography; Amersham/Tech/Ops; Houston, Texas; April, 1988.
- 5-day course which prepares you to calibrate survey meters, change sources, use projectors, conduct leak tests, and do routine maintenance and inspection of sealed source equipment.

B. Radiation Measurement Standardization & Monitoring Techniques & Instruments:

- Radiation Safety Aspects of Isotope Radiography; (See "A" above).
- Formal Course Work at Brooklyn Polytechnic Institute, including "Medical Laboratory Instrumentation".

C. Mathematics & Calculations Basic to the Use & Measurement of Radioactivity:

- Radiation Safety Aspects of Isotope Radiography; (See "A" above).
- Formal Course Work at Rutgers University and Brooklyn Polytechnic Institute, including differential equations, advanced calculus, Physics of Solid State Material, Principles of Solid State Physics.

D. Biological Effects of Radiation:

- Radiation Safety Aspects of Isotope Radiography; (See "A" above).

E. Experience with radiation (actual use of radioisotopes or equivalent experience):

Isotope	Maximum Amount	Where Experience was gained	Duration of Experience	Type of Use
AM241	5 Ci	Weston Controls *, BSK Industries, Lockheed Martin Corp.	28 years	Thickness Gaging & Testing
Fe55	100 mCi	Weston Controls	2 years	Thickness Gaging
Sr90	100 mCi	Weston Controls	3 years	Thickness Gaging
Ces137	150 mCi	Loral Control Systems *, BSK Industries	12 years	Survey Meter Calibration

NOTE: Weston Controls was purchased by and operated under the following names:

- Schlumberger (Weston Controls Division)
- Loral Control Systems
- Lockheed Martin Corporation

- Served as Research & Development Engineer for Thickness Gauging Product Line at Weston Controls for 5 years. In that capacity, experimented with X-ray sources (30 KV, 60 KV, and 120 KV), AM241 and Fe55 Gamma Sources, and Sr90 Beta Source.
- Served in a training capacity assisting Fred Studer (Loral RSO) in various tasks related to the radiation safety program at Weston from May, 1988 until 1989.
- Served as Radiation Safety Officer at Weston Controls (name later changed to Loral Control Systems) from 1989 until 1996. . While at Loral, performed the following functions:
 - Performed radiation Surveys - X-ray, AM241, Fe55, Sr90
 - Performed wipe-tests.
 - Evaluated wipe-test samples
 - Participated in radiation safety training classes as instructor.
 - Loaded AM241 sources into source-holders.
 - Performed pre-shipment checks for Isotope Thickness Gages.
 - Performed in-coming inspection and storage of received sealed sources.
 - Performed calibration of Survey Meters.
- Served as contract engineer to BSK Industries; 4807 Rockside Road; Independence, OH 44131 from 1997 to present. Administered Radiation Safety activities at BSK's Uniondale, PA facility.
 - Performed radiation Surveys - X-ray, AM241
 - Performed wipe-tests.
 - Evaluated wipe-test samples
 - Participated in radiation safety training classes as instructor.
 - Performed calibration of Survey Meters.
 - Assisted in design and testing of source housing device.
 - Prepared applications for radioactive material license amendments and renewals.
- Served as Radiation Safety Officer at Loral Control Systems (name later changed to Lockheed Martin Corporation) on a contract basis from 1996 until present. While at Lockheed Martin Corporation, performed the following functions:
 - Performed radiation Surveys - AM241
 - Performed periodic self-audits
 - Performed wipe-tests.
 - Participated in radiation safety training classes as instructor.

7.4 RADIATION RESUME – Joseph Trzcinski

B. Principles and Practices of Radiation Protection:

- Basic Radiation Safety Training (refresher training given at Lockheed Martin every 2 years - most recent = 2/23/05)

B. Radiation Measurement Standardization & Monitoring Techniques & Instruments:

- Basic Radiation Safety Training (refresher training given at Lockheed Martin every 2 years - most recent = 2/23/05)

C. Mathematics & Calculations Basic to the Use & Measurement of Radioactivity:

- Basic Radiation Safety Training (refresher training given at Lockheed Martin every 2 years - most recent = 2/23/05)
- Formal Course Work at Penn State University, including "Physics".

D. Biological Effects of Radiation:

- Basic Radiation Safety Training (refresher training given at Lockheed Martin every 2 years - most recent = 2/23/05)

E. Experience with radiation (actual use of radioisotopes or equivalent experience):

Isotope	Maximum Amount	Where Experience was gained	Duration of Experience	Type of Use
AM241	200 milli-curies	Weston Controls *, Loral Control Systems; Lockheed Martin Corp.	15 years	Leak Tests and source capsule re-positioning

NOTE: Weston Controls was purchased by and operated under the following names:

- Schlumberger (Weston Controls Division)
- Loral Control Systems
- Lockheed Martin Corporation

- Served as Test Engineer for the Nuclear Instrumentation product line. In that capacity:
 - Gathered leak-test swabs
 - Relocated Am241 source capsule in the nuclear test area.

8.1 Training Outline - Basic Radiation Safety Training

- I. Course Overview
- II. Nature of Radiation
 - A. X-rays
 - 1. Energy Level
 - 2. Collimation
 - B. Types of Radiation
 - 1. Alpha
 - 2. Beta
 - 3. Gamma
 - 4. X-rays
 - 5. Neutrons
 - C. Atomic Structure
 - 1. Isotopes
 - 2. Radioactive Decay
 - D. Units of Measurement
 - 1. Activity (Curie) (37 billion disintegrations per second)
 - 2. Energy (KEV)
 - 3. Half-Life (hours, days, years)
 - 4. Dosage - Roentgen, RAD (Radiation Absorbed Dose), REM (Rad Equivalent Man), mrem, mrem/hr,
 - 5. SI Units
 - E. Characteristics of Radiation
 - 1. Invisible
 - 2. Ionizing (Biological Damage)
 - 3. Radiation does not cause radioactivity
- III. Radiation Safety
 - A. Radiation vs. Contamination
 - B. Internal vs. External Exposure
 - C. Biological effects of radiation
 - D. (ALARA) - As Low As Reasonable Achievable
 - E. Radiation Dose Limits
 - F. Use of Time / Distance / Shielding to minimize exposure
- IV. Regulatory Requirements
 - A. RSO
 - B. Material Control & Accountability
 - C. Personal Dosimetry
 - D. Radiation Safety Program Audits
 - E. Transfer & Disposal
 - F. Record Keeping
 - G. Performing Surveys
 - H. Posting and Restricted Areas
 - I. Labeling of Containers
 - J. Handling & Reporting of Incidents & Events
 - K. Licensing and Inspection by NRC
 - L. Need for Complete and Accurate Information

- M. Employee Protection
- N. Deliberate Misconduct
- V. Measurement of Radiation
 - A. Survey Meters
 - B. Dosimetry
 - 1. TLD, Luxel
- VI. Health Effects from Radiation
 - A. Acute vs. Chronic
 - B. External vs. Internal
 - C. Whole Body vs. Extremities
 - D. Near Term (Prompt Effects)
 - 1. Death
 - 2. Sickness
 - E. Long Term (Delayed Effects)
 - 1. Genetic Effects
 - 2. Cancer
 - 3. Life Expectancy
- VII. Leak-testing
- VIII. Emergency Procedures
 - A. Close off area
 - B. Notify Radiation Safety Officer
 - C. Evaluate if there has been any exposure
 - D. Notify manufacturer of device
 - E. Notify local NRC regional office (or agreement state office)
- IX. Federal and State Regulations
 - A. General vs. Specific Licensee
 - B. Agreement vs. non-agreement state
 - C. Regional Office Contact Numbers
 - D. Summary of applicable regulations
 - 1. Radiation Worker's Rights and Responsibilities

RECORD OF.....	DESCRIPTION	RETENTION TIME
Transfer	<ul style="list-style-type: none"> • Location • Radionuclide & Activity • Mfg, Model #, S/N • Date of Transfer • Name & Lic # of Recipient 	3 years after transfer
Disposal	<ul style="list-style-type: none"> • Radionuclide & Activity • Mfg, Model #, S/N • Name & Lic. # of Recipient • Date of Disposal • Method of Disposal 	Until NRC terminates license
Important to Decommissioning	<ul style="list-style-type: none"> • Location of nuclides • Records of spills • Other records if spills occurred (CFR30.35-g) 	Until site is released for unrestricted use

10.4 Occupational Dose - Personnel Monitoring

Lockheed Martin Corporation continuously monitors the dose level at the periphery of the fenced-off storage area in the Nuclear test area. These readings show that non-occupationally exposed Lockheed Martin employees working outside this fenced-off area are not likely to receive more than 100 mrem in any one calendar year

Any adult Lockheed Martin Corporation employees who are likely to receive more than 10% of the annual permissible dose listed in 10 CFR 20.1201 are designated as Radiation Workers and are provided with a personnel monitoring device. While opening the source capsule storage cabinet, or performing maintenance, radiation surveys and wipes on device containing licensed material, Lockheed Martin Corporation radiation workers are required to wear a personal dosimetry badge.

- Declared pregnant workers are reassigned so that they do not function as radiation workers for the duration of their pregnancy.
- The personal dosimetry badge uses LUXEL technology.
- Dosimetry badges are returned to the Landauer laboratory at 1-month intervals.
- The RSO will review dosimetry exposure reports monthly and investigate discrepancies immediately.