



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

20 Oct 08

MEMORANDUM FOR U.S. NUCLEAR REGULATORY COMMISSION
ATTN: DOCUMENT CONTROL DESK
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
11555 ROCKVILLE PIKE
ROCKVILLE MD 20852

30-3259
71-4888
71-5682

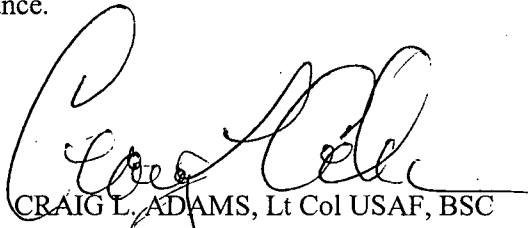
FROM: USAF RADIOISOTOPE COMMITTEE
AFMSA/SG3PB
1400 KEY BLVD. SUITE 400
ROSSLYN VA 22209-1554

SUBJECT: Renewal Request for Quality Assurance Plan for Certificate of Compliance No. 5682 and 4888, USAF License No. 42-23539-01AF, Docket No. 030-03259

On behalf of our permittee (FL-00409-01/00AFP, Docket No. 030-00409), we requested the NRC and the DOT renew the subject Certificate of Compliance (CoC) on 26 Sep 08. The Quality Assurance Plan (QAP) is up for renewal and we are providing this to you as a supplement to the CoC and action as necessary. Attached is supporting information pursuant to the request.

As the holder of the Master Material License (MML), we endorse the AF Technical Applications Center's request for the renewal of the Quality Assurance Plan and believe the final disposition of all radioisotope thermoelectric generators will occur within the fiscal year 2010 timeframe.

A copy of this letter was sent, by email, to Ms. Kimberly Hardin and Ms. Nancy Osgood (NMSS/SFST). Please do not hesitate to speak with either Mr. Mark Talbert or Ms. Joy Powell, directly, on matters associated with the content of the request embodied in their 29 Sep 08 letter to us. However, we would appreciate correspondence be sent to us so that we may coordinate on matters pertinent to the MML. My action officer, Capt Clay Roberts, can be reached at (703) 588-0478, clay.roberts@pentagon.af.mil. Thanks for your assistance.


CRAIG L. ADAMS, Lt Col USAF, BSC
Chief, USAF Radioisotope Committee Secretariat
Air Force Medical Support Agency
Office of the Surgeon General

cc:
AFTAC/SE (Mr. Talbert & Ms. Powell), w/o atch
HQ AFIA/SGI (Lt Col Bias), w/o atch
USNRC, Region IV (Ms. Browder) w/o atch

NMSS01



DEPARTMENT OF THE AIR FORCE
AIR FORCE TECHNICAL APPLICATIONS CENTER

29 SEP 2008

MEMORANDUM FOR AFMOA/SG3PR

FROM: AFTAC/SE

1030 South Highway A1A
Patrick AFB FL 32925-3002

SUBJECT: Renewal of Quality Assurance Program

Certificates of Compliance No. 4888 and 5862

USAF Radioactive Material Permit No. FL-00409-01/00AFP

1. The subject program is due to expire on 31 October 2008. Please submit the program to the Nuclear Regulatory Commission on our behalf (Attachment 1).
2. Please contact Mr. Mark Talbert at DSN 854-4851 or Ms. Joy Powell at DSN 854-3870 if you desire additional information.

Lisa Ann H. Onaga
LISA ANN H. ONAGA, Colonel, USAF
Commander

Attachment:

1. US Air Force Quality Assurance Program

**QUALITY ASSURANCE PROGRAM
FOR TRANSPORTATION OF
RADIOISOTOPE THERMOELECTRIC GENERATORS**

AIR FORCE TECHNICAL APPLICATIONS CENTER
PATRICK AFB, FLORIDA

September 2008

INTRODUCTION

Under the provisions of the United States Air Force Radioactive Material (USAF RAM) Permits No. 030-00409, issued pursuant to the Air Force's Nuclear Regulatory Commission (NRC) Master Materials License No. 42-23539-IAFP, the Air Force Technical Applications Center (AFTAC) is authorized to acquire, receive, store, use, or transfer Radioisotope Thermoelectric Generators (RTGs).

The purpose of this document is to outline the procedures which will be followed to comply with Subpart H of Title 10, Code of Federal Regulations; Part 71 (10 CFR 71) for transportation of Type B quantities of radioactive material and to insure compliance with NRC General License requirements of 10 CFR 71.12 through 71.14. NRC Regulatory Guide 7.10, Establishing Quality Assurance (QA) Programs for Packaging used in the Transport of Radioactive Material was used as a guide in developing this plan.

1. QUALITY ASSURANCE ORGANIZATION

The AFTAC Commander appoints Radiation Safety Officers (RSO) responsible for fulfilling requirements of the QA Program (attachment 1). The primary permit RSO is a Health Physicist; the alternate permit RSO has experience and/or education equivalent to a Health Physicist.

The RSOs report to the Commander. The Commander is recognized as the Permittee for USAF RAM Permit No. FL-00409-00/00AFP, Docket No. 030-00409. The RSO reviews the Radiation Safety Program to include:

- Adequacy of operation procedures, facilities and equipment.
- Procedures for control and inventory of radioactive material.
- Procedures for proper receipt and transfer of radioactive material.
- Maintaining records of training of qualified users.

Records of significant actions of the RSO are maintained at AFTAC. When required, copies are submitted to the Radioisotope Committee (RIC).

2. QUALITY ASSURANCE PROGRAM

The RSO will implement the QA Program through the organization described in paragraph 1. QA Program revisions will not be made without RSO approval. Implementation of the QA Program will insure that all transportation activities involving the RTGs are performed in accordance with (IAW) applicable NRC, Department of Transportation (DOT), and Department of the Air Force Regulations, USAF RAM Permit No. FL-00409-00/00AFP, Docket No. 030-00409, and the specific provisions of the appropriate Certificates or Compliance (COC) and USAF NRC Master Materials License. The QA Program emphasizes control of the administrative and operational matters which are critical to safety. Controls have been established to insure that transportation activities involving the RTGs are conducted IAW the regulations, permits,

licenses and approvals mentioned above. Opening the RTGs to replace thermoelectric modules or perform other repairs is not covered under this program. Activities performed relative to transportation of RTGs include: handling; shipping; and storage.

Prior to engaging in any activity important to safety, all personnel will have had indoctrination or training in that activity.

Packages currently used under this NRC approved QA Program are listed below. Sources are special form radioactive material.

Characteristics of the RTGs at Burnt Mountain				
Teledyne Energy Systems Model No.	Sentinel 25A	Sentinel 25E	Sentinel 25F	Sentinel 100F
Element & Mass No.	Strontium-90			
Chemical/Physical Form	Strontium Titanate			
Initial Activity (Ci)	87,100	72,300-81,100	79,900	244,100
Max Quantity	1 source	7 sources	1 source	1 source
Date of Initial Activity	1968	1969-71	1970	1972
Housing Material	Cast iron	Steel	Aluminum	Aluminum
Weight (lbs)	3,000	4,170	1,400	2,720
Dimensions, height x diameter (inches)	35 x 26	42 x 26	36 x 20	46 x 28
COC No.	4888			5862

3. PACKAGE DESIGN CONTROL

This organization is not involved in the manufacturing or fabrication of packages. The RTGs are designed, and manufactured/fabricated by the manufacturer under an NRC approved QA Program. RTGs shall be maintained in their original design configuration as specified in the manufacturer's drawings and documents. AFTAC shall hold the COCs and maintain all existing drawings, manufacturer documents, and procedures approved in the COC. AFTAC responsibilities are limited to responsibility for completeness, accuracy and maintenance of Safety Analysis Reports, drawings, design records, calculations and operating instructions for transportation packaging with Certificate of Compliance numbers 4888 and 5862.

4. PROCUREMENT DOCUMENT CONTROL

Procurement documents shall reflect that RTGs are authorized by a COC, USAF RAM Permit, and have been manufactured under an NRC approved QA Program. This is limited to hardware items for package maintenance.

5. INSTRUCTIONS, PROCEDURES, AND DRAWINGS

5.1 Quality Assurance Program Procedures

Preparation of package for use prior to and after shipment;

- Packages are visually inspected for damage;
- Required sealed source leak tests and radiation surveys are performed;
- Eye bolts are removed or inserted;
- Package security on pallet and pallet security on vehicle is verified.

Repairs, Rework and Maintenance. Packages are supplied by the manufacturer. Maintenance of the RTGs will be limited to hardware items (nuts, bolts, slings, eye bolts and pallets) and corrosion control measures to the exterior of the package only. Opening the RTGs is not authorized.

Loading and Unloading Contents. This organization does not load/unload radioactive material into or out of RTGs.

5.2 QA Review and Concurrence

This organization is not involved in the manufacturing of packages or packaging. The RTGs are designed, and manufactured/fabricated by the manufacturer under an NRC approved QA Program.

6. DOCUMENT CONTROL

All documents related to the RTG package (e.g., COCs, Shipping and Receiving Procedures, etc.) will be controlled and maintained by the Radiation Safety Officer (RSO). All revisions and changes will be processed through the RSO. He/she will ensure that the latest versions of the documents are on file.

7. CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

Design and fabrication of RTGs are not conducted under this QA Program. Procurement of replacement parts important to safety will be reviewed to ensure appropriate technical and QA requirements are included in purchase orders. Replacement parts shall be purchased from the original vendor or an equivalent qualified supplier. Replacement parts from suppliers not previously identified, as qualified sources will meet requirements equal to the original criteria.

8. IDENTIFICATION AND CONTROL OF MATERIALS, PARTS AND COMPONENTS

Repairs or rework of RTGs will not be conducted under this QA PROGRAM.

9. CONTROL OF SPECIAL PROCESSES

RTGs should require no major repairs necessitating the use of special processes. USAF RAM permit No. FL-00409-00/00AFP, Docket No. 030-00409, does not authorize repair of RTGs.

10. INTERNAL INSPECTION

The RSO shall use a checklist to insure inspections are performed to verify that packages have been marked and labeled, and shipping papers are completed IAW the latest requirements.

11. TEST CONTROL

RTGs are not fabricated under this QA Program. Packages will be visually examined to insure that they conform to the COC package description and that they are in sound condition. Any other tests prescribed by the manufacturer's operation and maintenance manuals will be completed.

Following any maintenance to the package and prior to offering the RTG to a carrier for transport, radiation surveys will be completed to verify shielding integrity.

12. CONTROL OF MEASURING AND TEST EQUIPMENT

USAF RAM Permit No. FL-00409-00/00AFP, Docket No. 030-00409, requires that all radiation survey equipment be in calibration during use.

Calibration of instruments is performed by either an Air Force Precision Measurement Equipment Laboratory (PMEL) under NRC or agreement state license or the manufacturer according to procedures approved by the NRC.

All instruments are calibrated at intervals not exceeding twelve months. A calibration label is affixed to all instruments indicating the date calibrated, due date and calibrator's certification stamp. Air Force reference standards are certified as traceable to the National Institute of Standards and Technology (NIST).

13. HANDLING, STORAGE AND SHIPPING CONTROL

Safety procedures concerning the handling, storage, and shipping of RTGs will be followed. These procedures are performed IAW applicable NRC, DOT and US Air Force regulations, and the manufacturer's operation and maintenance manual. Work instructions will be provided for handling, storage and shipping operations. Shipments will not be made unless all tests, certifications, acceptances, and final inspections have been completed. The manufacturer's operation and maintenance manual will be used as a guide to insure that the requirements of 10 CFR 71.85 and 71.87 are met and that packages are in good condition, adequately secured on the transport vehicle, marked

and labeled IAW DOT regulations and identified by model and package identification numbers.

14. INSPECTION, TEST AND OPERATING STATUS

Inspection, test and operating status of the RTGs will be IAW manufacturer's recommendations and conditions specified in USAF RAM Permit No. FL-00409-00/00AFP, Docket No. 030-00409.

15. NON-CONFORMING MATERIALS, PARTS OR COMPONENTS

RTGs are used as provided by the Manufacturer. Any non-conforming materials, parts or components important to QA will be identified and returned to the vendor or set aside for discard.

16. CORRECTIVE ACTION

The RSO or designated representative will conduct annual evaluation visits to RTG use or storage locations authorized IAW USAF RAM Permit No. FL-00409-00/00AFP, Docket No. 030-00409. The written results of these visits will be provided to applicable headquarters, parent and subordinate units. The report will note any deviations or discrepancies, office of primary responsibility (OPR) for corrective action and abatement date, if applicable. Written response from the OPR is required to provide details of abatement. In addition, the RSO will report significant findings of staff visits to the AFTAC Commander.

17. QUALITY ASSURANCE RECORDS

Records of package approvals (including references and drawings, relating to the use of the packaging) test, audits, personnel training and qualifications, RTG shipments, and compliance inspections will be maintained by the RSO, or his alternate. Descriptions of RTGs, manufacturer's operation and maintenance manuals, and procedures pertinent to RTG activities will also be maintained. Records will be maintained and kept in such a manner as to be identifiable and readily retrievable. Record types and retention items will be kept IAW 10 CFR Part 71.91 (a) and (c).

18. AUDITS

Individuals performing the audits will have not responsibility in the activity being conducted. Audit will be conducted using prepared checklists. Results of the audits will be maintained. Audit reports will be evaluated and deficient areas corrected.