030-04621

Communications & Power Industries
beverly microwave division

Office of Federal and State Materials and
Environmental Management Programs
Division of Materials Safety and State Agreements
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

September 15, 2011

Dear Sirs,

Please find enclosed two copies of our renewal application for our distribution license 20-02237-03E along with our check for the renewal fee. I have also included a letter from the Commonwealth of Massachusetts stating that our decommissioning funding plan is in place.

If I can be of assistance with your review of the application materials, please call me at extension 282. My e-mail address is Mike.Grabko@cpii.com should this be more convenient.

Sincerely,

Michael Grabko, RSO

150 Sohier Road Beverly, MA 01915-5595 (978) 922-6004 Fax (978) 922-8914

576017

NRC FORM 313 (3-2009)
10 CFR 30, 32, 33, 34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIALS LICENSE

APPROVED BY OMB: NO. 3150-0120 EXPIRES: 3/31/2012

Estimated burden per response to comply with this mandatory collection request: 4.3 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

OFFICE OF FEDERAL & STATE MATERIALS AND
ENVIRONMENTAL MANAGEMENT PROGRAMS
DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
612 E. LAMAR BOULEVARD, SUITE 400
ARLINGTON, TX 76011-4125

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S.NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*

- ☐ A. NEW LICENSE
- ☐ B. AMENDMENT TO LICENSE NUMBER
- ☑ C. RENEWAL OF LICENSE NUMBER **20-02237-03E**

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include ZIP code)*

Communications and Power Industries, LLC
150 Sohier Road,
Beverly, MA 01915

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Same as 2

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Michael Grabko

TELEPHONE NUMBER

(978) 922-6000

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
a. Element and mass number; b. chemical and/or physical form; and c. maiximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES *(See 10 CFR 170 and Section 170.31)*
FEE CATEGORY **03254,03255** | AMOUNT ENCLOSED $ **4,300.00**

13. CERTIFICATION. *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTANED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
Don Coleman,	Don Coleman	9/14/11

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			$		
APPROVED BY				DATE	

ATTACHMENT TO FORM NRC – 313

ITEM 5: Radioactive Material

ELEMENTS AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	MAXIMUM NUMBER OF MILLICURIES WHICH WILL BE POSSESSED AT ANY ONE TIME.
1. Cobalt 60	Co60 in HC1	50 Millicuries
2. Hydrogen 3	Any	9000 Millicuries
3. Hydrogen 3	Foil	400,000 Millicuries
4. Promethium 147	PM147 in HC1	400 Millicuries

ATTACHMENT TO FORM NRC – 313

Item 6: Purposes for which licensed material will be used.

The Beverly Microwave Division of Communications and Power Industries, LLC, manufacturers microwave receiver protector tubes, within the restraints of Commonwealth of Massachusetts Radiation Control Program 105CMR120.104(C) (1) (g), specifically TR, pre-TR, and ATR tubes. These electron tubes are electronic switches that protect various component assemblies in radar systems.

Tube construction may be grouped into three (3) general categories; i.e., cell type, integral cavity or band pass. The cell-type TR tube consists of a capacitive gap enclosed in a glass envelope. Electrodes are brought out through the glass for connecting to an external cavity and the TR tube forming a resonant circuit. The integral-cavity TR tube consists of a metallic, cylindrical cavity with a tuned-capacitive gap, a glass reservoir for the gas fill, and glass-to-metal or ceramic windows. The band pass Tube consists of a section of waveguide with tuned capacitive gaps to cover a broad frequency range. The windows in TR tubes are to allow the passage of rf energy through the tube while maintaining the vacuum integrity of the envelope.

An ATR is a metallic waveguide closed with metal on one end and with a glass-to-metal window on the opposite end. A pre-TR is a metallic waveguide with one or more sealed glass or quartz vials inserted into a metal housing.

TR's, pre TR's, and ATR's are silver soldered to join their various components. Some units are additionally soft soldered. Each unit is constructed to make a vacuum-tight envelope. All TR's,

pre-TR's and ATR tubes are leak checked prior to exhaust on a helium mass spectrometer leak detector. The leak detector is calibrated daily by means of a 9×10^{-8} cc/second standard leak.

Each unit is exhausted to a vacuum in the range of 50×10^{-3} Torr to 5×10^{-7} Torr depending upon the tube type and its construction. The units are again leak checked on the exhaust system. The tubes are then backfilled to a pressure in the range of 2 to 50 Torr. The various gasses used in filling the tubes and the gas pressures are determined by the electrical requirements of the device. After exhaust and fill, the tubes are sealed off by means of a glass seal or a cold-flow metal seal. The exhausted tubes are electroplated for electrical and esthetic reasons and overplated with a noble metal or a chemical coating to prevent corrosion.

Each tube is subjected to electrical testing. Additionally, each tube is subjected to a shelf test. These tests will detect leakers that might be capable of releasing by-product material. In the design evaluation or qualification of a tube, they are subjected to one or more of the following tests: vibration, shock, salt spray, and humidity, high and low temperature. These environmental tests are designed to simulate the most severe conditions that a tube will encounter in normal use. The tests also serve to confirm that radioactive material could not become detached nor released from the tube envelope.

Pre-TR's, TR's and ATR tubes perform their functions by the ionization of their gas fills to produce an electrical discharge under the incidence of rf energy. To perform their functions properly it is necessary that the ionization occur rapidly. Free electrons in the region of the discharge are required to initiate the ionization. These tubes are normally surrounded by light-tight enclosures and are surrounded by fairly massive pieces of metal; therefore, naturally occurring photoelectric, high energy cosmic or gamma particle radiation cannot be depended

upon for the source of these required free electrons. Radioactive isotopes are incorporated in the tubes to secure these free electrons.

6.1 Cobalt 60

Cobalt 60, in the form of cobaltous chloride, has been used for many years in electron tubes as the source of free electrons. The cobalt as received from a licensed source is purchased or diluted to strength of 1 millicurie per 200 milliliters of water solution. From 0.15 to 0.85 microcuries of Cobalt 60 is applied to the inside surface of the tube at a point nearby the place where the discharge will occur. The water is evaporated and subsequent operations cause a metallurgical attachment of the cobalt to the metal or glass surface. In TR tubes, 0.15 microcuries is applied to the tip of the igniter electrode and the water evaporated prior to assembly into the tube. The cobalt is applied by means of a micro syringe enabling control of the quantity applied, thus controlling the strength of the cobalt in each tube. The amount applied per tube is dependent upon the physical size of the tube; i.e., the larger the tube, the more cobalt used. In no case is more than one (1) microcurie per tube used.

6.2 Tritium

Tritium (H^3) in the form of tritiated foils welded to metallic rods is used as a source of free electrons in receiver protector tubes. The foils will be purchased precut and certified as to their activity by a licensed vendor. The foils will be attached to a supporting structure by spot welding. The supporting structure will be soft soldered into the tube body or mechanically attached to the tube structure by means of a metallic cold flow. Either method is to ensure a vacuum thigh envelope. These structures are designed such that the heat transferred to the tritiated area will be kept to a minimum. During processing, temperatures will be held to a

maximum of +125°C to minimize the evolution of tritium as a gas. Under no case would more than 150 millicuries per receiver protector be used.

6.3 Promethium 147

The Promethuim 147 is to be used as a source of free electrons in electron tubes; i.e., TR, ATR, and pre- TR tubes. In addition to the above mentioned tubes, certain pre-TR tubes utilize a glass or quartz cylinder mounted through the E-plane of waveguide sections. These cylinders are filled with a gas intended to ionize under the incidence of rf energy, thus reducing rf power incident upon the following TR tube. These cylinders are electrodeless. In order to ensure ionization of the gas at the first application of rf energy, free electrons must be present inside the cylinder. Radioactive material is the source of these electrons. Conventional electrodeless cylinders utilizing Cobalt 60 as an ionization source, with activity levels of less than one microcurie, are known to require 5 to 50 pulses of rf energy before breakdown occurs.

To ensure that the discharge will occur with or near the incidence of the first rf energy pulse, it is necessary to increase the numbers of free electrons in the discharge region. Twenty-five to thirty microcuries activity will be required in the cylinders. To use Cobalt 60 as the source of this ionization would create a potential radiation hazard. The cylinders have a wall thickness of approximately 0.020 inches; thus little or no shielding of the gamma radiation would result from the envelope size or material.

To secure the required ionization level, CPI uses Promethium 147 in the cylinders. Promethium 147, being a beta emitter, would present no radiation hazard as the glass or quartz envelope would be an effective radiation shield. The Promethium 147 would be purchased from and certified by a licensed facility as a promethium chloride in an aqueous solution. This material will be purchased or diluted to have a strength of 1 to 4 microcuries per microliter.

The Promethium 147 would be applied to the inside wall of the cylinders by means of a microliter syringe. The water would be allowed to evaporate and the cylinders sealed to an exhaust system. The cylinders would be exhausted to a pressure of 1 x 10 $^{-5}$ Torr or less. The units would be tested for leaks. The units would be backfilled to a pressure of approximately 15 Torr of an appropriate gas or gasses. The cylinders will be taken off the pumps by means of a glass seal tip-off, thus making the units sealed devices.

Promethium 147 would be used in other types of electronic tubes when it is necessary to have more activity that that obtained using Cobalt 60, or in passive; i.e., keep-alive-less tubes. In no case would more than 30 microcuries of Promethium 147 be used in any one sealed device.

6.4 Processes and Procedures

All tubes manufactured by CPI are assembled and processed under an ISO 9001 Certified Quality Management System. All operators are trained in the importance of adherence to the documented procedure. A traveler sheet listing each procedure to be performed accompanies each tube or group of tubes. The traveler also specifies the radioactive material to be introduced into the unit.

Procedures and process documentation are audited by the Quality Assurance Department to confirm adherence to the procedure and process. Any deviations are noted and a written corrective action is required.

Our continuous Improvement Process allows any individual to suggest improvements to the process or procedure. Suggested improvements are formalized through the engineer in an Engineering Test and the subject units are tracked by Engineering. Successful testing is followed by an Engineering Change Order. The documentation is updated through the Standards and Documentation Department.

Our Demand Flow Technology System minimizes work in process and hence minimizes the in-process quantity of active materials.

Small lots of assemblies containing active material are built to cover very near term needs. None are built to stock or inventory. This minimizes operator time in the restricted area and helps keep exposure to the lowest possible value.

In all Receiver Protector tubes manufactured by CPI, the radioactive material will be totally within the confines of a vacuum envelope. The method of attachment will be of a mechanical or chemical nature as described above.

Each unit is visually, mechanically and electrically tested prior to shipment. In addition, units are periodically subjected to vibration, mechanical shock or thermal shock. These inspections and tests will detect damage to the tube and will verify the vacuum integrity of the device, thus ensuring that the byproduct material has not become detached or released from the product. Units failing these tests will be separated from those to be shipped. These separated units will be repaired to an "as new" condition or segregated and disposed of through a licensed disposal facility.

Each tube is marked with the company name, tube type designation, serial number and date code of shipment. In addition, tubes containing by-product material are marked with the three-bladed radiation symbol and the activity and chemical symbol of the isotope introduced into the tube; i.e., Co 60 indicating the presence of Cobalt 60. The chemical symbol will appear immediately below the basic markings, to the left of the tube type designation, or if size prevents the above, at any place on the tube where the symbol will be conspicuous, but not interfere with the tube operation. The size of the marking will be such that it is easily readable, but not exceeding the height of the tube type designation characters. The color of the marking will be

the same as the color of the basic tube markings. Each intermediate container and shipping container is marked with the manufacturer's name, type designation, and the requirements of the Department of Transportation code of Federal Regulations. Chapter 49. The symbol will be adjacent to the tube type designation, of a size compatible with but not exceed the height of the tube type designation characters, and of a color matching the basic container marking color.

The tubes manufactured under this specific license for distribution pursuant to 10CFR 30.15 (a)(8) or equivalent Commonwealth of Massachusetts regulations will contain no more than one (1) microcurie of Cobalt 60, 150 millicuries of Tritium or 30 microcuries of Promethium 147 per sealed device. Each device will be marked with the activity introduced at the time of manufacture.

When required by specific contracts, where the Government of the United States or an agency of the Government of the United States is the final customer and in the interest of National Security, we will omit markings and labels as specified in the contract and in conformance with Military Specifications invoked in the contract.

Such devices will be manufactured and tested to meet all other license criteria and regulations. Manufacturing techniques, methods and processes will be in compliance with our license and applicable regulations. Documentation, other than standard, will be handled by our Security Department.

As a minimum, all such devices will be conspicuously marked with the three-bladed radiation symbol, the isotope contained in the device, and the quantity of byproduct material introduced at the time of manufacture. Such marking will be in conformance with previous descriptions. The device will be labeled with other part numbers or descriptors as required by the procuring agency or Military Specification.

Such devices will be shipped only to the specific customer named in the contract. Under no circumstances will any device in this category be shipped to any other customer or agency. All shipments of devices in this category will be handled by our Security Department.

Item 8: Training for Individuals Working in or Frequenting Restricted Area.

All individuals who have access to the restricted area are provided with training in safe conduct and handling of radioactive materials. This training consists of written and verbal instructions to be read and understood prior to any individual being allowed access to the area.

Each individual who handles byproduct material is given specific training in the particular procedure they will perform. In addition, written instructions for the operations are available on-line near the area where the operation is performed. The written instructions are reviewed to insure that they are accurate and current. The work instructions are controlled through the Standards and Documentation Department.

The area supervisor and Radiation Safety Officers are available at any time to answer questions. Periodic safety meetings are held and radiation safety is a topic at each meeting. An aspect of radiation safety is discussed by the area supervisor or the Radiation Safety Officer to reinforce previous training. Questions are encouraged during these meetings to aid in the understanding of all operators.

All operators are instructed in the potential personal and environmental hazards associated with the use of byproduct material. The instruction takes the form of written documents and discussions at periodic safety meetings.

Item 9: Facilities and Equipment

The Cobalt 60 is purchased in the chemical form of cobaltous chloride, in a hydrochloric acid solution. The purchased solution is 62.5 microcuries in 5 ml dilute HC1. Generally no

more than 3 bottles are on site at one time. The Cobalt 60 is applied to the device using a microliter syringe. The stock bottle of Cobalt 60 is shielded by lead of 2 inch thickness on each side, front, top and bottom to afford further protection to the operator.

9.1 Hydrogen 3 will be ordered in the form of pre-cut tritium titride foils. The foils will be stainless steel backed and will be tritrated to a typical activity of up to 3 curies per square inch. The foils will be spot welded to steel rods. The rods will be mechanically secured into the tube structure by means of a cold-flow metal seal or soft soldered. The activity per device will be 30 to 150 millicuries and the welding and soldering operations will be performed under exhaust hoods vented to the atmosphere outside the building.

9.2 The Promethium 147 is purchased in the chemical form of promethium chloride in a hydrochloric acid solution. The purchased solution has an activity of 1 microcurie per microliter. A microliter syringe is used to apply 30 microcuries activity to the output gap of a TR or to the internal walls of a quartz vial used in pre-TR tubes. The promethium solution will be dried under a infrared heat source before further tube processing.

Item 10: Radiation Safety Program

Byproduct material is applied to tubes in a restricted room that has a negative pressure in relation to the surrounding building. Should the pressure differential fail, an alarm is sounded to warn personnel to cease activities. The attached layout drawing shows the current location of major equipment. Dosimeters badges are worn by certain operators throughout the production area to get an average radiation exposure from all operators. The badges are processed quarterly by an outside facility. The work areas and application areas are surveyed weekly for contamination. The surveying is done by survey meters and wipe tests. The vent lines are air sampled on a weekly basis to determine the effluent contamination to the atmosphere. The areas

where byproduct material is applied to tubes are washed and surveyed on a weekly basis. Logs indicating the amount of time spent in the restricted area are maintained and monitored to determine that excessive time exposures are not encountered by any individual. Operators handling byproduct material are provided with plastic gloves and disposable gowns to avoid contamination. The gloves are disposed of as radioactive waste after each use. Washing facilities are provided to remove possible contamination to exposed skin and monthly urinalysis samples are taken by the operator. Results are distributed to the supervisors and a copy is on file with the Radiation Safety Officer. Should any test result in s reading higher than one-tenth of the allowable limit, the operator is restricted from entering the area until a subsequent urinalysis indicates a return to less than one-tenth of the limit. Protective clothing is provided for use in the weekly routine cleaning operation. All contaminated materials and shrinkage tubes are disposed of through a licensed disposal facility. Decontamination steps will be taken in the general work area when the wipe tests indicate a level of 1,000 dpm per 100 sq cm. Decontamination steps will be taken in the restricted area when the wipe test indicates a level of 22,000 dpm per 100 sq cm.

In the event that contamination levels exceed the defined action levels, the following procedure will be used to decontaminate the area:

1. Define the contaminated area.
2. Wipe down with moistened towels.
3. Wash with Radio Wash or equivalent.
4. Rinse with moistened towels.
5. Survey the area to ensure decontamination.

In a situation where this procedures is ineffective, a more aggressive approach will be used consistent with the situation and minimal worker exposure.

Wipe samples and bioassay samples are currently analyzed by Mitchell S. Galanek & Associates, Inc., P.O. Box 397, 366 MIT Station, Cambridge, MA 02139. Massachusetts License 13-3021. Badge dosimeter service is provided by Landauer, Inc., 2 Science Road, Glenwood, IL.

The Radiation Safety Officer for the license is Michael Grabko. Mr. Grabko's resume and copies of recent training certificates are attached. The assistant RSO is Vincent Marini. A recent training certificate for Mr.Marini is attached.

Engineering for the use of byproduct material will be provided by Mr. Anthony Andreucci and Mr. Vincent Marini. Resumes for Mr. Andreucci and Mr. Marini are attached.

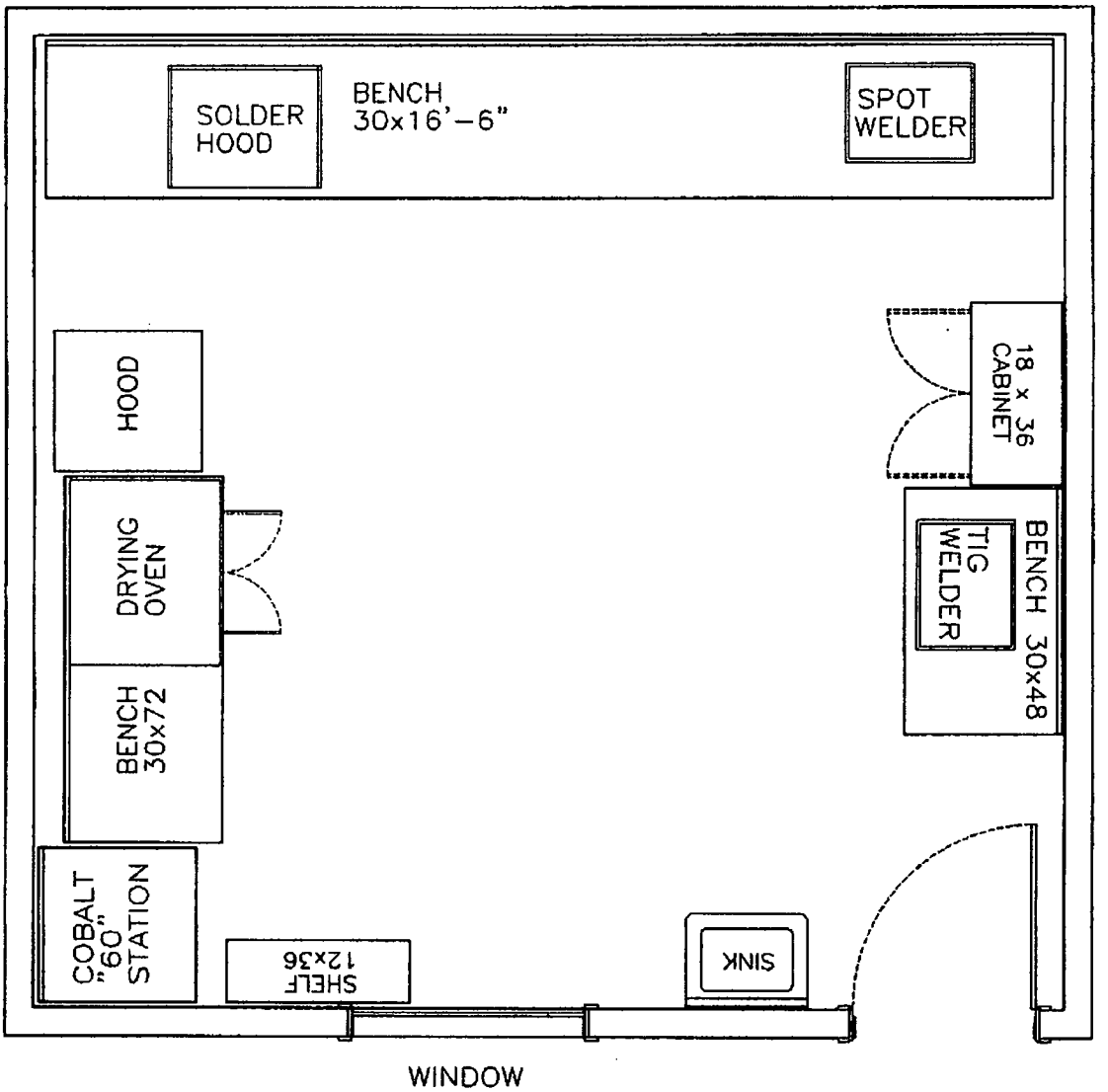
Formal training for shipping requirements is provided by Global Transport Training Services USA, Ltd. A training certificate for Mr. Brian Kohr is attached.

Item 11: Waste Management

All waste is disposed of through a licensed facility. Currently as follows:

ADCO Services
P.O. Box 35
Tinley Park, IL 60477
708-429-1660

Item 10 Layout detail of the room where byproduct material is applied to product.



Restricted Room – Building 5

09/07/11

Approximate Scale = 1'

Michael Grabko

Education:

Northeaster University, Boston, MA
MBA 1992

Boston College, Boston, MA
MS Physical Chemistry 1980

Mansfield State College, Mansfield, PA
BS Chemistry 1975

Radiation Safety: Training

Radiation Safety Associates, Hebron, CT

Health Physics Technician Level 1	5/91
Health Physics Technician Level 2	6/91
Radiation Safety Officer	6/91

Radiation Safety and Control Services, Portsmouth, NH

Radiation Safety Officer	10/94
Advanced Radiation Safety	08/00
Advanced Radiation Safety	9/02
Radiation Safety Officer	6/04
Radiation Safety Officer	6/08

Each course consisted of 40 hours of classroom training.

Byproduct Material Experience

Varian Associates 1979 to 1995

Process Engineer-Practical experience in the use of byproduct material in Receiver protector tubes.

Cobalt 60	15 years
Promethium 147	15 years
Tritium	15 years

Assistant Radiation Safety Officer 1991 to 1995
Assisted RSO in all duties related to byproduct material use, handling and safety matters.

Communication and Power Industries

Radiation Safety Officer 1995 to present
Responsible for all aspects of radiation safety, byproduct material use, license issues and inspections by regulatory bodies

Vincent J. Marini
150 Sohier Rd
Beverly, MA 01938

Education:

Wentworth Institute of Technology, Boston, MA
- BSMET 1994

Wentworth Institute of Technology, Boston, MA
- BSEET 1988

Radiation Safety Training:

Radiation Safety Associates, Hebron, CT 1989
- Fundamentals of Radiation Protection (40 Hours)

Radiation Safety & Control Services, Stratum NH 2006
- Radiation Safety Officers Training (40 Hours)

Radiation Safety & Control Services, Stratum NH 20011
Radiation Safety Officers Training (40 Hours)

Byproduct Material Experience:

Communication & Power Industries 1988 to present
Beverly Microwave Division
(Formerly – Varian Associates)

Senior Mfg Engineer Control Components – practical experience in the use of byproduct material in Receiver Protector Microwave Tubes.

Cobalt 60	23 Years
Promethium 147	23 Years
Tritium	23 Years

Responsibilities Include:

- Assistant to Radiation Safety Officer 2006 to present
- Daily production floor support in assembly and handling of byproduct material
- Design of new products using by product material.
- Generation of assembly prints and procedures on support and use of byproduct material.
- Interfacing with Radiation Safety Officer on production and engineering devices

Anthony Andreucci
08sep11

Education:

Tufts University MSEE 2002		Medford, MA
Northeastern University BSEE 1982		Boston, MA

Byproduct Material Experience

M/A-COM	Burlington MA	1982 to 1992
Herley Industries	Woburn MA	1992 to 1995
CPI	Beverly MA	1995 to present

Production and Design Engineer of Receiver Protectors – Practical experience in the use of byproduct material in Receiver Protector tubes.

Cobalt 60	30 years
Promethium 147	30 years
Tritium	30 years

Responsibilities include:

- Designing of new products using by product material
- Generating of assembly prints and procedures on support and use of by product material
- Interfacing with Radiation Safety Officer on production and engineering devices
- Production support in assembly and handling of byproduct material

Radiation Safety & Control Services, Inc.

Awards this certificate to

Mike Grabko

in recognition of satisfactory completion of our 40-hour

Radiation Safety Officer Training Course

Portsmouth, New Hampshire

June 9 - 13, 2008

Frederick P. Straccia, CHP

Eric L. Darois, CHP

James P. Tarzia, CHP

This course has been approved for 40, Category A, CE credits (reference number NHZ018300[illegible]) by the ASRT Dept. of Education.

NOTE: This class satisfies the Department of Transportation requirements listed in Title 49 CFR parts 172 subpart H and expires three years from the date listed above.

Radiation Safety & Control Services, Inc.

Awards this certificate to

Vincent Marini

in recognition of satisfactory completion of a 40 hour course in

Radiation Safety Officer Training

Portsmouth, NH

June 13-17, 2011

RSCS
Radiation Safety & Control Services

Jennifer A. Collins

RSCS
Radiation Safety & Control Services

Course Instructors: Eric L. Darois, CHP, Gregory M. Babineau, Sr. HP, Frederick P. Straccia, CHP, and Nasser B. Rashifard HP
This course has been approved for 40, Category A, CE credits (reference number NHZ0183001) by the ASRT, 32 CE credits by the AAHP and 4.5 CM Points by the ABIH
NOTE: This class satisfies the Department of Transportation requirements listed in Title 49 CFR parts 172 subpart H and expires three years from the date

Global

Transport Training Services USA, Ltd

CERTIFICATE OF COMPLETION

This is to Certify that

BRIAN KOHR

COMMUNICATIONS & POWDER IND., INC.

Has been successfully trained and tested within the guidelines of

US DOT 49CFR Parts 172 to 180

Including DOT 49CFR Security Awareness Training Part 172.704 (a)(4)

Dangerous Goods

on this

1ST day of October, 2009

Instructor: Frank Abbott

.....

Certificate No: GR03578

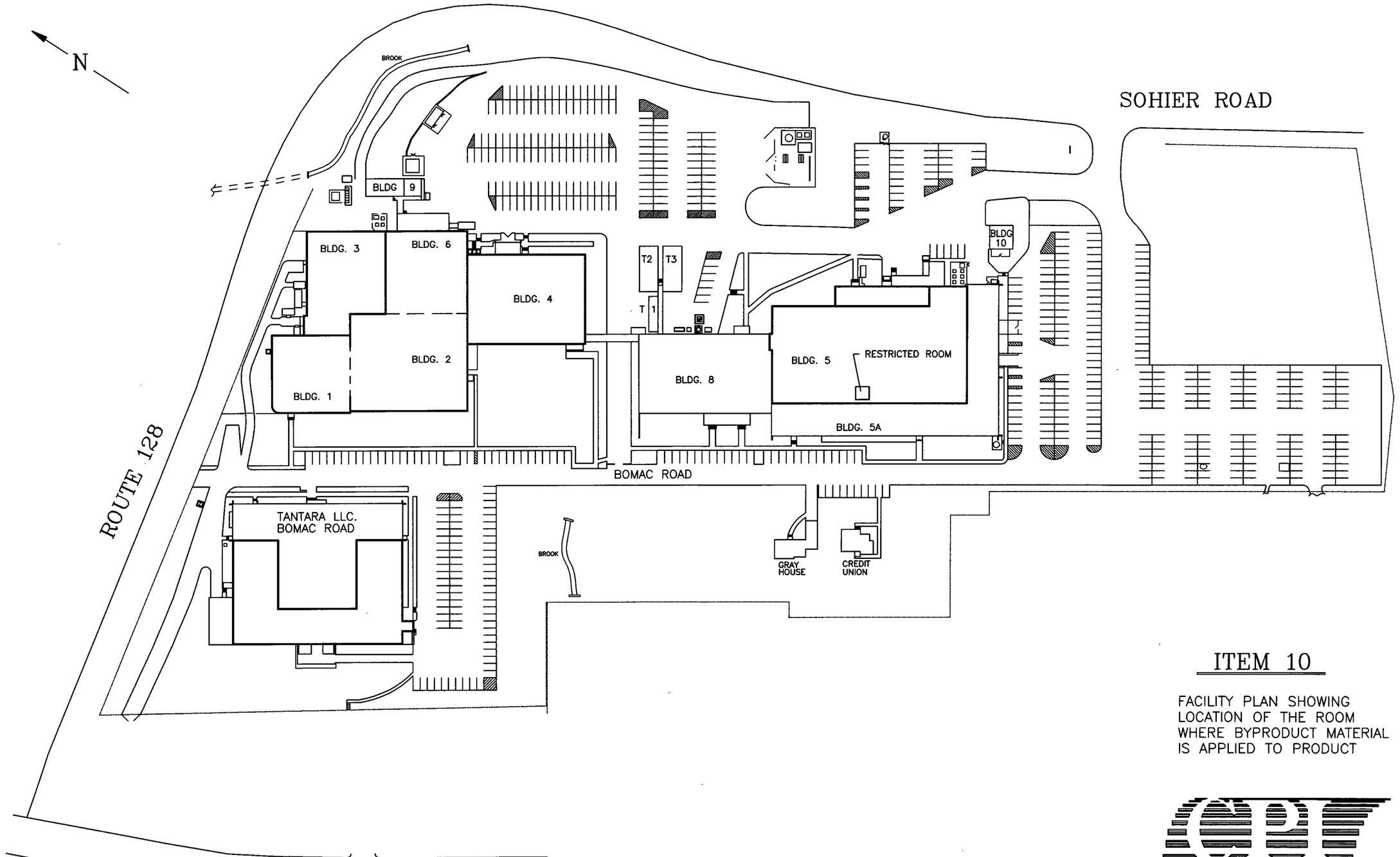
Expiry Date: October, 2012

IATA
DANGEROUS GOODS
ACCREDITED SCHOOL

CNS
An IATA Company

Director.....

GTTS USA
54 Norristown Road
Blue Bell, Pennsylvania 19422
1-888-364-2660
www.gttstraining.com



ITEM 10

FACILITY PLAN SHOWING
LOCATION OF THE ROOM
WHERE BYPRODUCT MATERIAL
IS APPLIED TO PRODUCT

NOT TO SCALE

Communications & Power Industries
beverly microwave division

09/07/11

Approximate Scale: ▬ = 60'

DEVAL L. PATRICK
GOVERNOR

TIMOTHY P. MURRAY
LIEUTENANT GOVERNOR

JUDYANN BIGBY, MD
SECRETARY

JOHN AUERBACH
COMMISSIONER

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
Bureau of Environmental Health
Radiation Control Program
Schrafft Center, Suite 1M2A
529 Main Street, Charlestown, MA 02129
(617) 242-3035 (617) 242-3457 - Fax

October 17, 2008

Michael Grabko
Communications & Power Industries
Beverly Microwave Division
150 Sohier Road
Beverly, Massachusetts 01915

Fax: 978-922-8914

RE: License No. 02-2374
Financial Assurance Requirements

Dear Mr. Grabko:

This is in reference to the latest correspondence, Decommissioning Funding Plan and two Amendments to Standby Letter of Credit No. WALI-Y034035 from UBS AG, all dated in June 2008, in support of financial assurance for decommissioning related to License No. 02-2374. We have reviewed this document and have no further questions at this time.

Based on the information provided in the above referenced document, your organization is presently in compliance with the financial assurance requirements for decommissioning as outlined in 105 CMR 120.125 (C).

Please feel free to call the undersigned at 617-242-3035 x2024 if you have any questions.

Sincerely,

Tony Carpenito
Radiation Control Officer

ACC/acc

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON DC 20555-0001

OFFICIAL BUSINESS

Communications & Power Industries
Beverly Microwave Division
Attn: Michael Grabko, RSO
150 Schier Road
Beverly, MA 01915-5595

10-3-11