



CANBERRA

July 27, 2015

US Nuclear Regulatory Commission, Region 1
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713

Br. 2

Attention: Commercial and R&D Branch
Division of Nuclear Material Safety

SUBJECT: **Expedited License amendment request**

REFERENCE: Docket No. 030-08562
Control No. ~~579209~~ *dmf*
License No. 06-15099-01

Canberra Industries, Inc. would like to request an expedited amendment to USNRC License number 06-15099-01 due to the critical business need noted below as item 1 and 2:

- 1) Canberra Industries requests the addition of Uranium-238 to Item 6.I. due to changes in 10CFR40.22 and at the request of our source supplier, Eckert and Ziegler (supporting document #1). U-238 was removed from our license during the renewal process in 2012. The explanation of the removal was specified in a letter dated March 25, 2012 and signed by Betsy Ullrich.
- 2) Under Item 6.G. Canberra Industries would like to request an increase in the maximum amount of possession of Pu-239 to 0.15 microcuries
- 3) Remove William Russ as an Authorized user under condition 11A
- 4) Add Kara Morris as an Authorized User under Condition 11A. Kara has been an employee at Canberra Industries for the past 8 years and served as a trained supervisor of licensed materials under condition 11B of our current license. Kara's training and resume are attached as supporting documents #2 and #3

Should you have any questions, please do not hesitate to get in touch with the Radiation Safety Officer, William Roch at 203-639-2431.

Sincerely,
Canberra Industries, Inc.

John G. Tamburro
Vice President and General Counsel

Enclosures: As stated.

Notice of regulatory change: NRC10CFR40 Source Material

On 27 August, 2013 new regulations regarding possession and distribution of Source Material (natural uranium, depleted uranium, and thorium) will go into effect. Specifically, for Eckert & Ziegler Isotope Products (EZIP) customers, the affected regulation is 10CFR § 40.22 Small quantities of source material. The rule modifies the existing possession and use requirements of the general license for small quantities of source material to better align the requirements with current health and safety standards.

There are two primary changes for possession of Source Material under the § 40.22 Small Quantities general license that might disrupt your purchase from EZIP:

- 1) The revised general license is limited to thorium and **uranium in their natural isotopic concentrations and depleted uranium**. This differs from the previous § 40.22, which allowed possession of any naturally occurring isotopes of uranium and thorium in any isotopic concentration.
 - a. This means that possession of separated thorium isotopes, e.g. Th-228, Th-230 will need to be specifically licensed.
- 2) Under the revised § 40.22, the general licensee is limited to possession of less than 1.5 kg (3.3 lb) of uranium and thorium at any one time and 7 kg (15.4 lb) per calendar year for all uranium and thorium that is in a dispersible form or has been processed by the general licensee.
 - a. The limits for solid, non-dispersible source material are 7 kg (15.4 lb) total uranium and thorium at any one time – this limit must include any inventory of dispersible source material. The general licensee is limited to the receipt of no more than 70 kg (154 lb) of solid, non-dispersible uranium and thorium per calendar year (once again, including the inventory of dispersible source material).

The majority of changes in 10CFR40 involve licensing the initial distribution of source material. One of the requirements of the distribution license is that EZIP submit reports on any general licensee that purchases more than 50 grams of source material during a single calendar quarter. This report would contain the name and address of the general licensee to whom source material was distributed; a responsible agent, by name and/or position and phone number, of the general licensee to whom the material was sent; and the type, physical form, and quantity of source material transferred.

For complete details on the Source Material regulation changes, go to

<http://www.regulations.gov>

search for Docket ID NRC–2009–0084.



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This is to certify that as of September 14, 2011, **Kara Morris** is designated to use, or to supervise the use of, license material, as described in Canberra Industries USNRC License Number 06-15099-01, Condition 11B, at 800 Research Parkway, Meriden, Connecticut, and at temporary job sites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulatory use of licensed material or under a reciprocity agreement anywhere in the United States where the U.S. Nuclear Regulatory Commission does not maintain jurisdiction for regulatory use of licensed material.

Terrence W. Schwager
Radiation Safety Officer

Canberra Industries, Inc.
800 Research Parkway
Meriden, CT 06450

Kara E. Morris

Canberra Industries, Inc. – An Areva Company
800 Research Parkway • Meriden, CT 06450 • (203) 279-2141 • kara.morris@Canberra.com

Professional Experience

CANBERRA INDUSTRIES, INC

MERIDEN, CT

Product Manager – Gamma Spectroscopy Software

January 2013 – Present

Manage the Canberra's gamma spectroscopy software and related products (ISOCS production and hardware, teaching laboratory equipment) throughout the product lifecycle, gathering and prioritizing product and customer requirements, defining the product vision, and working closely with cross functional and global teams to support existing and deliver new products to the market place:

- Capture product requirements based on strong application knowledge, market research, sales and customer feedback, and business needs, and realize these to functional product specifications for product development.
- Develop and maintain business cases and ROI for new product offerings and cost estimation for product development. Provide prioritization of resource efforts to maintain project deadlines and milestones.
- Set pricing, develop and maintain specification sheets, and coordinate promotional and launch activities of new and existing products.
- Provide Internal and external new product training, including routine sales and product differentiation presentations to global sales teams and focused technical presentations to service and support teams. Provide high-end demos to key target customers.
- Support Business Development and Global Sales through an in-depth understanding of customers applications needs. Assist with key proposals and provide needed technical differentiation and documentation.
- Point person for internal product communication, requiring strong relationship skills across cross functional and global teams and management by influence capabilities. Successful at identifying resources needed to accomplish tasks.
- Lead the launch of two software releases, including new software product targeted for previously unrealized market opportunity. Developed and launched new product offering utilizing existing products to target new audience. Supervised critical support work of core product offering and maintained communication to internal and external stakeholders.

Research Scientist – Applied Research Group

April 2012 – January 2013

Major Responsibilities/Projects

- ISOCS Site Characterization Service Development – This new service product expands on an established technology product that is limited to new detector sales. The service product expands the market to older detector sales, and requires overcoming technical and logistical challenges. I am the primary lead to develop this product, including market analysis and benchmarking, developing technical tools and training materials, and facilitating product launch.
- ProSpect software development – I am part of a project team to rapidly develop, test, and launch a new and high profile core software application. I provide physics evaluations, development of QA test plans, application test scenarios, and assist with product requirement decisions.
- Customized NDA Systems – Lead Physicist for several challenging Non-Destructive Assay systems. Developed customized calibrations with innovative approaches, performed successful Factory Acceptance Tests, and presented calibration and verification methods to national conferences.
- Support for Detector Performance Estimator development – Worked with team to develop database product designed to enable sales force to be able to better recommend customer solutions with availability of technical data and targeted user interface.
- Participation in Usability working group for new major software – task analysis, customer interviews, wireframe design

Associate Research Scientist – Applied Research Group

August 2009 – April 2012

Major Responsibilities/Projects

- Low Energy ISOCS Verification – collection of data, analysis, and report of comparison of ISOCS transmission ratios at low energies and measured transmission ratios at low energies. Future work includes testing of different geometries.
- ISOCS Characterizations for Production – analyze data, develop detector MCNP model, validate of detector model to measurements, execute computer simulations to create product, and generate report. Assist with maintenance and updating of characterization production software programs and reports. Assist in development of Cal-L product (measurement approach, uncertainty estimates, report).
- Peak-to-Total Measurement & Calibration for Special Engineering Requests (SERF) – Perform measurement, analysis, calibration, and report required to execute SERF. Troubleshoot and modify analysis and calibration approach to increase quality of final product to acceptable levels. Develop procedure for standard execution of future Peak-to-Total SERFs.
- Special Engineering Request Assignments/Physics Support – Focusing on developing an approach and procedure including measurements, analysis of spectra, MCNP simulations, or ISOCS/LabSOCS calculations, and report preparation. Included are TMU studies, shielding effectiveness studies, and efficiency testing of HPGe detectors.
- Physics Laboratory Manager – Coordinate usage of physics Lab space and equipment, maintain inventory and identify lab needs.
- Low Background Steel Evaluations – Perform routine radiation testing of steel test coupons for contaminants. Develop procedure and reports.
- Segmented Gamma Scanner Calibration – Performed transmission calibration and ISOCS MultiCurve Efficiency calibration and performed verification counts.

Research Assistant – FAR group**March 2008 – August 2009**

Major Responsibilities/Projects:

- Low Energy ISOCS Characterization Development – collection of measurement data for validation testing, documentation of measurement procedure, equipment and source verification.
- Geometry Composer and ISOCS/LabSOCS 4.0 Software Development, Testing, and Launch Assisting – Computational DLL testing, library updating and testing, G2k Suite User-manual Documentation updating and editing (physics point person), QA Test Plan writing/updating, assisting with Test-Exception and SPR resolutions
- Gamma-matic physics support – measurement, analysis, report preparation
- UniSpec-L/NaI compatibility Physics Testing – measurements, analysis, report preparation
- Genie3.2 developments in Cascade Summing – Collection of data for Software Verification
- BU-Mining Research Effort – Study into feasibility of Laser-Induced Breakdown Spectroscopy in liquid/slurry samples for uranium mining industry

Special Skills – Experience with Radioactive Sources

- Current Source Supervisor on Canberra Industries' Radioactive Materials License under condition 11B
- Maintained active radiation End User status since 2008
- Participated and assisted coordination of Authorized User and End User Training during ISOCS Site Characterization Training
- Experience with solid sealed Gamma sources ranging from $< 1 \mu\text{Ci}$ to $> 400 \text{ Ci}$
- Trained and experienced in the use of Shepard Calibrators
- Experience with Liquid Gamma Sources (Ba-137m Iso-generator)
- Experience with a variety of Neutron, alpha, and beta sources
- Assisted in assessing incoming sources, licensing and reciprocity agreements, working with vendors and Canberra customers to obtain and provide technical information on sources of interest.

Education**UNIVERSITY OF ROCHESTER****Bachelor of Science in Physics, Minor in Mathematics****Rochester, NY**
[REDACTED]**MCDONOUGH SCHOOL OF BUSINESS: GEORGETOWN UNIVERSITY**

- AREVA University Cycle 1 Magellan Course

Offered jointly by AREVA and Georgetown School of Business. Featured instruction on personal and professional management skills, communication skills, business strategies, and overviews of AREVA operations and goals.

Washington, D.C.
[REDACTED]**SOUTHERN CONNECTICUT STATE UNIVERSITY**

- Math 320 – Probability and Statistics
- Marketing 200 – Principles of Marketing

New Haven, CT
[REDACTED]**BENTLEY UNIVERSITY: MCCALLUM GRADUATE SCHOOL OF BUSINESS**

- HF 715: User Experience Bootcamp

Waltham, MA
[REDACTED]**PROFESSIONAL TRAINING COURSES**

- Radiation Detection and Measurements
IEEE Short Course. Led by Professor Glenn Knoll November 2010
- Introduction to MCNP5 & MCNPX June 2008
Offered by Los Alamos National Laboratories. Led by LANL MCNP Team
- Detector Theory and Operations November 2009
Offered internally by Canberra Industries. Led by Warren Western, Ph.D.
- Genie2000 Algorithms Training Lectures November 2008
Offered internally by Canberra Industries. Led by Harold Schwenn, Ph.D.
- Financials for non-Financial People, Communication Skills for Women May 2010
Fred Pryor 1-day Seminars.
- Train the Trainer June 2013
Three Day Training Instructor workshop help by TrainSmart Inc.
- Design for Six Sigma – Yellow Belt Training February 2013
- Conference Attendances: Waste Management 2010 in Phoenix, AZ; Waste Management 2009 in Phoenix, AZ; IEEE 2010 in Knoxville, TN; Women in Nuclear Region II 2010 – “Mini Reactors Might Neutrons” in Oak Ridge, TN; RRCM 2014;

This is to acknowledge the receipt of your letter/application dated

07/27/2015, and to inform you that the initial processing which includes an administrative review has been performed.

06-15099-01 (Amendment)

There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 538571
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.