

Toll Free: 1-800-563-5471  
Accident Reporting: 729-4444

**INSPECTION / OFFICER'S REPORT**

Reference #: 1080091  
Inspection: NOV 28,2016  
MAR 1,2017

MEMORIAL UNIVERSITY OF NFLD  
DEPT OF HUMAN RESOURCES  
ST JOHNS  
NL

Firm #: 4096  
WCC #: 940001  
Tel: 709-737-4615  
Fax: 709-737-2700

A1C-5S7

Worksite: Labrador Institute  
Location: North West River, Labrador  
Employer Co-Chair: Martha MacDonald  
Employee Co-Chair: Krista Oxford  
Worker Rep/Designate: N/A

Employees: 5  
NIC: 8531  
Insp. Time: 1:30PM

**REPORT:**

On November 28, 2016, the undersigned conducted a radiation inspection at the Labrador Institute (LI) North West River Research Station. Assistance was provided by Ms. Krista Oxford (Operations, Facilities & Logistics Coordinator) and Dr. Merline Fonkwe (Research Scientist).

According to Ms. Krista and Dr. Rod Hobbs (MUN Radiation & Biological Safety Officer), LI currently has ownership of 1 provincially-regulated radiation-emitting device. The following information was verified during the inspection:

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[1]  
Registration No.: RER1316071405  
OHS Control ID No.: 0108  
Certificate: Stored with equipment; no. C1405 (2016.09.30)

Manufacturer: Bruker  
Model: Tracer IV-SD (Handheld Tracer XRF Spectrometer)  
Serial No.: T4S2559

Location: Basement (Responsible Party: Dr. Merline Fonkwe)  
Area/Room: Analytical Lab  
Remote Control: Available if connected to laptop. For all work in the Analytical Lab, Dr. Fonkwe intends to use Equipment [1] with a laptop and a Bruker enclosed bench-top stand (set-up was demonstrated during the inspection).

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Equipment [1] did not have an OHS control ID affixed near the main controls, but this was corrected during the inspection.

Although a completed form for annual re-registration of Equipment [1] was received from Dr. Hobbs in October, the registration certificate still bears an expired (red) re-registration sticker at the time of the inspection. The undersigned then followed-up on this and had the sticker sent in December. The employer shall ensure that the sticker is affixed to the corresponding registration certificate.

A whole-body personal radiation dosimeter had been assigned to Dr. Fonkwe, the main user of

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Equipment [1]. However, she has yet started to use the dosimeter, explaining that the preparations to use Equipment [1] have just been finished (i.e. designated area, obtain enclosed bench-top stand, non-destructive testing personnel level 2 training, renewed equipment registration).

As explained to Dr. Fonkwe, the whole-body dosimeter is suitable for the set-up demonstrated, but not for handheld operation (e.g. field work). When handheld operation of Equipment [1] is anticipated, a personal ring dosimeter should be obtained prior to such operations. During handheld operation, use the personal ring dosimeter on the finger that is likely to incur the highest risk.

A radiation protection survey has not been conducted in the recent two years. We currently require that all provincially-regulated radiation-emitting equipment undergo radiation protection surveys at least once every two years. More frequent testing may be specified by the equipment manufacturer or if deemed necessary by the OHS Division. As explained to Dr. Hobbs, if a radiation leakage test is included in the manufacturer calibration performed by equipment manufacturers/certified service providers, then what is needed to complete a comprehensive radiation protection survey is a workplace survey, given that the calibration schedule is compatible.

The operations manual for Equipment [1] was made available. Employees are given access to "Safety Requirements and Guidance for Analytical X-ray Equipment - Safety Code 32" through a link posted in the EH&S section of the university's website, under "X-Ray Safety". Mr. Hobbs provided copies of the recently revised internal X-Ray safety training material and X-Ray safety program/manual during a previous inspection.

One corner of the Analytical Lab has been designated for use of Equipment [1]. Appropriate warning signage and labels were observed.

In total, 1 Order are being issued in conjunction with this report.

Received By: Barbara Buttner

Date: MAR 1, 2017

Position: Associate Director

Time: 9:52AM

Officer's Name: Ivan Cheuk

Cheuk, Ivan

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**ORDER FORM**

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TAKE NOTICE THAT YOU ARE TO COMPLY WITH THE FOLLOWING ORDER(S) ISSUED UNDER AUTHORITY OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, REVISED STATUTES OF NEWFOUNDLAND AND LABRADOR 1990, CHAPTER 0-3 AS AMENDED AND REGULATIONS PASSED PURSUANT THERETO.

**ORDER: 1080091- 01**

**REGULATION:** Radiation Health and Safety Regulations  
19 5- Equipment Construction, Installation & Mai

A supplier or owner of radiation equipment and associate apparatus shall, after it is installed and before operating for routine use and following a change which alters the radiation output, submit a radiation survey report including the inspection of the electrical and mechanical components of that equipment to the director.

**TO WIT:**

The employer shall ensure that radiation protection survey is conducted for the Bruker Tracer IV-SD (S/N: T4S2559). Specifically for this equipment and the set-up used in the Analytical Lab (i.e. with laptop remote control, enclosed bench-top stand, and designated area), a radiation leakage test would suffice. However, additional workplace surveys are recommended.

**This Order shall be carried out on or before: MAR 27, 2017**

YOU ARE TO NOTIFY THE INSPECTOR IN WRITING UPON COMPLIANCE.  
FAILURE TO COMPLY WITH THE ABOVE ORDER(S) IS AN OFFENCE UNDER SECTION 67 OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, RSNL 1990, CHAPTER 0-3 AS AMENDED.

AN ORDER MADE BY AN OFFICER MAY BE APPEALED, IN WRITING, TO THE ASSISTANT DEPUTY MINISTER WITHIN 7 DAYS OF THE ORDER.

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**ORDER FORM**

Toll Free: 1-800-563-5471

Received By: Bonnie Buttner

Position: Associate Director

Officer's Name: Ivan Cheuk  
Cheuk, Ivan

Return Address:  
P.O. Box 8700  
St. John's, NL, A1B 4J6  
Fax: (709) 729-3445

Date: MAR 1, 2017

Time: 9:51AM

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