



STATE OF MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
LANSING

JENNIFER M. GRANHOLM  
GOVERNOR

KIRK T. STEUDLE  
DIRECTOR

April 5, 2010

Mr. Jose Macatangay  
U.S. Nuclear Regulatory Commission, Region III  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532-4352

Dear Mr. Macatangay:

Nuclear Regulatory Commission Control Number 318609  
NRC License Number 21-03039-01

As you requested, enclosed are statements (sent via e-mail) from Justin Foster and Adam Strong confirming the course description and hands-on functions they performed during their training with Troxler Electronic Laboratories, Inc.

If you have any questions or require further information, you may contact me at 517-322-6450.

Sincerely,

A handwritten signature in black ink that reads "Tom Killingsworth".

Tom Killingsworth  
Radiation Safety Officer

Enclosures

TK:clc

cc: Brenda O'Brien  
Richard Endres  
Justin Foster  
Adam Strong

**From:** Justin Foster  
**To:** KILLINGSWORTH, TOM  
**Date:** 4/2/2010 7:42AM  
**Subject:** Non-routine Maintenance Training with Troxler  
**Attachments:** Troxler Agenda.doc

Tom,

As you are aware, Adam Strong and myself attended a 4-day training class on January 25th to 28th at Troxler Electronic Laboratories in Research Triangle Park, North Carolina. We received training for non-routine maintenance performed on Troxler Nuclear Gauges 3440 Series. For your records, attached is a detailed class outline of the hands-on training that we received on each day. If you have any questions please let me know.

Thanks,

Justin Foster  
MDOT Lansing C&T Density Unit  
Statewide Density Specialist  
517-322-5714 office  
517-322-5664 fax  
517-243-3439 cell  
fosterju@michigan.gov

**From:** Adam Strong  
**To:** TOM KILLINGSWORTH  
**Date:** 4/2/2010 7:43AM  
**Subject:** non-routine maintenance training with Troxler

Tom,

As you are aware, Justin Foster and myself attended a 4-day training class on January 25th to 28th at Troxler Electronic Laboratories in Research Triangle Park, North Carolina. We received training for non-routine maintenance performed on Troxler Nuclear Gauges 3440 Series. For your records, attached is a detailed class outline of the hands-on training that we received on each day. If you have any questions please let me know.

Thanks,

Adam Strong  
Lansing C&T Density Unit  
Statewide Density Specialist  
Cell Phone - 517-719-7344  
Office - 517-322-6004  
Fax - 517-322-5664  
Email - [strongadam@michigan.gov](mailto:strongadam@michigan.gov)



Troxler Electronic Laboratories, Inc. - Troxler International, Ltd.  
3008 Cornwallis Road, P.O. Box 12057, Research Triangle Park, NC 27709 - USA  
Telephone: 1.919.549.8861 Telefax: 1.919.549.0761 Web: troxderlabs.com

## Service Training Schedule Michigan DOT January 25-28, 2010

- Monday January 25<sup>th</sup>, 2010

**Morning:**

- Radiation Safety (confirm radiation safety training)
- Received TLD badges for radiation monitoring
- Tour of Service and Calibration facilities

**Afternoon:**

- Working in Service Cell – Focus on 3440 Series Gauges
  - Including but not limited to:
    - Top shell cleaning and removal
    - Removal, cleaning, and weld checking of the Caesium-137 source
    - Removing the scaler and inspecting the gauge seals
    - Battery pack inspection and removal
    - Lower electronics removal
    - Cleaning and greasing of the bearing cavity
    - Proper reinstallation of all previously noted removed components
    - Inspection and realignment of the inner and outer GM tubes as well as the moisture tube
    - Resetting the memory and all functions impacted by doing so

- Tuesday January 26<sup>th</sup>, 2010

**Morning:**

- Continued preventative maintenance and recondition training that began on January 25<sup>th</sup>, 2010.

**Afternoon:**

- Trained on proper testing of electronics with a factory service technician.
  - Including but not limited to:
    - Removal of antiquated EPROM chips
    - Adding EPROM sockets to the gauge motherboards
    - Installing EPROM chips that possess the current software versions
    - Identifying and remedying common electronics issues on 3440 series boards

- Wednesday January 27<sup>th</sup>, 2010

**Morning:**

- Continued electronics testing and diagnosis that began on January 26<sup>th</sup>, 2010

**Afternoon:**

- Repair troubleshooting
  - Common field problems including but not limited to:
    - Issues regarding operating standards
    - Replacing lost gauge constants and why it occurs
    - Using the gauge in manual mode if automatic depth strip malfunctions
- Calibration training hands on started

- Thursday January 28<sup>th</sup>, 2010

**Morning:**

- Continued calibration training hands on
  - Warmed up gauges before calibration
  - Input gauge information into the computer
  - Connected and linked gauge and computer
  - Followed factory calibration procedures
    - Moving source to the depths required on screen to obtain readings on known block densities
  - Downloaded new calibration constants to the gauge

Lunch: Provided by Troxler Electronic Laboratories

**Afternoon**

- Continued calibration training
- Miscellaneous training
- Received factory service and repair manuals and reviewed them with Troxler personnel

Michigan Department  
of Transportation  
2134 (7/93)

# FAX TRANSMITTAL

NOTE: If you do not receive ALL pages, call back as soon as possible.

DELIVER THE FOLLOWING PAGES TO:		FROM:	
NAME <i>Jose Macatangay</i>	PHONE	NAME <i>Tom Killingsworth</i>	DATE <i>4-5-10</i>
FIRM/REGION <i>U.S. Nuclear Regulatory Comm.</i>		DIVISION/REGION <i>MI Dept. of Transportation</i>	
FAX TELEPHONE NUMBER <i>630-515-1078</i>	NUMBER OF PAGES <i>5</i>	TELEPHONE NUMBER <i>517-322-6450</i>	
MESSAGE			

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