January 8, 1998

Via Facsimile and Regular Mail

Mr. Wade Loo
United States Nuclear Regulatory Commission
Region II, Branch #2
Atlanta, GA

Ref: Additional Information Requested For Completion Of Application for Specific Licensing of Possessing Nuclear Material

Per our telephone conversation on Thursday, January 8, I am forwarding to you the additional information you have requested to complete our application for a specific license to possess and use nuclear material in the Gamma-Metrics Analyzer.

Item #5 -Californium - 252 to be supplied by Frontier Technology Corporation
Cesium - 137 to be supplied by Isotope Product Laboratories

Item #7 - All personnel directly involved with this analyzing device will receive four (4) hours of Radiation Safety Training which will be given at the time of installation.

A copy of my gauge training certificate from Kay-Ray/Sensall along with a copy of the course outline will accompany this letter.

U.S. Steel Mining Company will contract Gamma-Metrics to perform all services, such as installation, initial radiation survey, non - routine maintenance, and leak testing at six-month intervals, on this analyzer.

The initial Radiation Survey will be done at the time of installation and then after the 2.5 year half-life mark point for the Californium sources

Item #9 - Routine weekly, monthly, quarterly, biannual, annual maintenance per manufacturer recommendations will be performed by U.S. Steel Mining Personnel within the scope of their capabilities. Any maintenance activities, routine , non-routine, or otherwise, outside the capabilities of U.S. Steel Mining Personnel will be contracted to Gamma-Metrics. Maintenance Scheduling and Log will be maintained on U.S. Steel Mining Company's Automatic Work Order System.

Item #10 - Radiation Safety Program - "Revised"

10.1 Services Performed by Outside Organization

The device manufacturer, Gamma-Metrics, will be responsible for the installation, initial radiation survey, non-routine maintenance, leak testing and device relocation or removal as necessary. U.S. Steel Mining will arrange for all services involving the sources of this analyzer system to be performed by Gamma-Metrics personnel.

Gamma-Metrics is located at the address which is as follows:

GAMMA-METRICS
5788 Pacific Center Blvd.
San Diego, CA 92121
(619)450-9811

10.2 Controlled Areas

To comply with public dose regulations, the general public can not access the area directly around the shield assemblies without escort from plant personnel. Doses to members of the public are minimized by limiting access time to less than 24 hours. This ensures that doses are well below the 100 mrem/yr limit.

The source access door is posted with a "Caution Radioactive Materials" sign.

10.3 Personnel Monitoring Equipment

The Chute Analyzer has been designed such that the dose levels in the accessible areas of the analyzer during normal operation are below 2 mrem/hr. This includes the area in front of the electronics panel inside of the analyzer. Dose rates are typically less than 0.5 mrem/hr in these areas.

At the highest possible dose levels for the Chute Analyzer, a worker would have to spend greater than 80 total hours per year at the underside of the analyzer before he would receive 10% of the maximum annual dose, or he would have to spend greater than 2500 hours inside of the analyzer. These time periods far exceed those required for normal maintenance of the system. Therefore, the plant has eliminated the need for dosimetry by locating the system in a place where access to this area is not required for maintenance of other plant systems.

10.4 Leak Testing

Upon arrival at U.S. Steel Mining Company, LLC located at Pineville, WV, the sources will be removed from their DOT shipping container for leak testing by GAMMA-METRICS personnel. Appropriate handling precautions will be used and a wipe (smear) test performed as per ANSI N- 542, Appendix A. Acceptability of source leakage is indicated by a removable activity of less than 0.005 microcuries of the appropriate radionuclide. This testing is repeated every 6-months and whenever new sources arrive on site.

10.5 Lock-Out Procedure

The sources of this device are automatically withdrawn to a storage position when there is no material within the analyzer's spout. Access to the interior of the analyzer will be controlled by a locked passage door.

10.6 Emergency Procedures

In the unlikely event of physical damage to the analyzer, an exclusion area will be maintained until the extent of the damage (if any) is determined. If visual examination of the analyzer and source indicates damage to the source, the following will be immediately notified:

- Company Radiation Safety Officer
- U.S. Nuclear Regulatory Commission Regional Office, if applicable
- State Health Department Radiological Health Division, if applicable
- Local Authorities
- Gamma -Metrics
- Company Officials

10.7 Physical Inventory

Physical Inventory will be performed every two (2) years at the time of replenishment of the Californium-252 Sources. The analyzer at initial installation will be operating with two (2) Californium-252 Sources of 19 micrograms each and one (1) Cesium-137 Source of +/- 10 micrograms. After the original Californium-252 sources have decayed over time (half life is approximately two years) they are "replenished" by the addition of another source that will bring the original strength back to the original +/- 40 micrograms. This replenishment continues until the maximum number of six (6) sources has been reached. At this time, the sources will be replaced, such that, the weakest source is removed for return to the manufacturer. Gamma-Metrics is responsible for the disposition of of depleted sources. "Disposition Certificate " will be the documentation for this activity.

Sincerely,

Stanley M. Rose

Stanley M. Rose
Senior Preparation Engineer

SMR:mvp
Attachments

ROSEMOUNT Measurement
Control
Analytical
Valves

Kay-Ray/Sensall, Inc.
1400 Business Center Drive
Mt. Prospect, IL 60056
Tel (708) 803-5100
Telex 62970165
Fax (708) 803-5466

November 3, 1992

Attn: Mr. Stanley M. Rose
U S STEEL MINING CO INC
Pinnacle Creek Road
Pineville WV 24874

Dear Mr. Rose:

Enclosed please find the Certification of Training awarded to you for the successful completion of the Kay-Ray/Sensall Installation and Nuclear Radiation Safety Course presented on October 19, 1992 thru October 23, 1992.

It was our pleasure to present this course to you and trust that it met with your approval. Please feel free to contact us if you have any questions regarding this matter.

Very truly yours,

Lee Gleba
Field Service Administrator

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ROSEMOUNT easurement
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Mt. Prospect, IL 60056
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Telex 62970165
Fax (708) 803-5466

CERTIFICATION OF TRAINING

NAME: Stanley M. Rose
COMPANY: U.S. Steel Mining Company Inc.

The above named individual has successfully completed the **INSTALLATION AND NUCLEAR RADIATION SAFETY COURSE** offered by Kay-Ray/Sensall, Inc., consisting of the following curriculum:

- Principles and practices of radiation protection
- Monitoring radiation levels using Geiger counters
- Radiation exposure limits
- Radiation areas defined
- Calculating radiation levels from known gamma source size and distance
- Calculating dose rates of typical installation
- Leak testing Kay-Ray source housings
- Safety practices required for the use and handling of Kay-Ray source housings
- Installation of source housings demonstration and hands-on installation

The training course also includes discussions on practical applications, installations, leak testing procedures, radiation surveys, and completion of related forms.

Certified on Equipment Models: 7050, 7050B, 7051, 7051B, 7052, 7054, 7060SD, 7062, 7062B, 7062BP, 7062H, 7062P, 7062PH, 7063, 7063S, 7063P, 7063PS, 7063PH, 7064, 7064P, 7067, 7067P, 7069, 7069P, 7080, 7100A, 7100B, 7100CT, 7102, 7103, 7104, 7105, 7106, 7107, and 7108.

Instructor: Ray Parsons
Date: October 23, 1992

Kirk F. Maranto
Field Service Manager

INSTALLATION AND NUCLEAR RADIATION SAFETY COURSE

FOUR AND A HALF DAY COURSE - $820 per student

Kay-Ray/Sensall provides all materials needed for the course, with the exception of calculators, and lunch each day. All other expenses (travel, lodging, other meals, etc.) are to be provided by the student. At the successful completion of this course, each participant is awarded a certificate and letter certifying the nature of the training.

OUTLINE

FIRST DAY: (12:00 NOON TO 5:00 P.M.):
- Lunch
- I Orientation
- II Basic Nuclear Phenomenon

SECOND DAY:
- I Radioactivity
- II Radiation Detection
- III Nuclear Gauging
- IV Dosimetry - Personnel Monitoring

THIRD DAY:
- I Nuclear Radiation Classification
- II Radiation Decay
- III NRC Rules and Regulations
- IV Requirements for Obtaining or Amending NRC License
- V Procedures and Testing
- VI Detailed Discussion
- VII Test

FOURTH DAY: (at Kay-Ray/Sensall Inc.)
- I Hands-on Examples
- II Team Problems
- III Question/Answer Period

FIFTH DAY:
- I Test Review
- II Handler's Responsibilities
- III Installation of Source Housing
- IV Discussion of Customer Specific Installation and Construction