

INSPECTION RECORD

Region III Inspection Report No. 030-36618/10-01  
License No. 13-32528-01 Docket No. 030-36618

Licensee (Name and Address):

Plymouth Tube Company  
572 W. State Road 14  
Winamac, IN 46996

Licensee Contact: Bill Kinder - Safety/Manufacturing Excellence Manager  
Telephone No. 574-946-3125 ext. 228

Priority: 5 Program Code: 3120

Date of Last Inspection: 7/11/2005 Date of This Inspection: 6/22/2010  
With continued in-office review until 6/29/10 to evaluate radiation safety officer and personnel dosimetry program

Type of Inspection: ( ) Initial ( ) Announced (X) Unannounced  
(X) Routine ( ) Special

Next Inspection Date: 6/2015 (X) Normal ( ) Reduced

Summary of Findings and Actions:

- ( ) No violations cited, clear U.S. Nuclear Regulatory Commission (NRC) Form 591 or regional letter issued
- ( ) Non-cited violations (NCVs)
- ( ) Violation(s), Form 591 issued
- (X) Violation(s), regional letter issued
- ( ) Followup on previous violations

Inspector Andrew M. Bramnik  
Andrew M. Bramnik, Health Physicist

Date 7/16/2010

Approved Tamara E. Bloomer  
Tamara E. Bloomer, Chief, MIB

Date 7/15/10

**PART I-LICENSE, INSPECTION, INCIDENT/EVENT, AND ENFORCEMENT HISTORY**

**1. AMENDMENTS AND PROGRAM CHANGES:**

<u>Amendment No.</u>	<u>Date</u>	<u>Subject</u>
2	5/20/2008	New RSO (G. Hewitt), Added Possession Limit: One Cs-137 Source not to exceed 5 curies
2	8/4/2006	New RSO (G. Martin)
1	11/17/2004	New RSO (R. Spradlin)
0	7/20/2004	New License Issued

**2. INSPECTION AND ENFORCEMENT HISTORY:**

One previous inspection of this licensee occurred on July 11, 2005. No violations were identified at that time. The 2005 inspection was the first inspection of this licensee.

**3. INCIDENT/EVENT HISTORY:**

None

## **PART II - INSPECTION DOCUMENTATION**

### **1. ORGANIZATION AND SCOPE OF PROGRAM:**

Management Structure:

- Company President
- Hot Mill Administrative Manager
- Radiation Safety Officer (RSO)
- Safety/Manufacturing Excellence Manager
- Environmental Manager

The licensee operated a fixed gauge program with a main facility in Winamac, Indiana, and was authorized to possess and use a device containing one sealed source of cesium-137. At the time of the inspection, the licensee possessed one IMS Model 5301 fixed gauging device which was located on the licensee's hot mill production line. The facility employed approximately 40 hourly individuals, scheduled for two shifts of 10 hour days, four days per week. The facility also employed approximately five maintenance individuals who performed routine maintenance on the gauge, such as cleaning. The licensee called an outside vendor to perform any non-routine maintenance activities. The licensee also retained the services of a radiation safety consultant.

### **2. SCOPE OF INSPECTION:**

Inspection Procedure(s) Used: 87124

Focus Areas Evaluated: Sections 03.01 through 03.07

This inspection included observations of the gauge on the licensee's hot mill production line at their Winamac, Indiana facility. The gauge was secured and posted in accordance with regulatory requirements. The licensee had constructed a barricade approximately seven feet away from the gauge on both sides of the production line to minimize exposure to its employees.

### **3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:**

The inspector took independent survey measurements around and at the surface of the licensee's IMS fixed gauge. No radiation levels were above regulatory limits, and radiation levels were within expected levels at the surface of the gauges. Radiation levels at a barricade the licensee had constructed around the gauge were indistinguishable from background readings.

During the inspection, the inspector noted that the licensee's gauge contained two sealed sources of cesium-137, contrary to the listed maximum possession limit of one sealed source. The root cause of this discrepancy was a mistaken report from a previous RSO in 2008, when the possession limit was added to the license. Although the licensee was technically not in compliance with their possession limit, this was not a violation since the sources within the gauge had not been altered or changed since the license amendment adding that limit. The licensee committed to submit a license amendment request to change their possession limit to "Two sources not to exceed 5 curies each." The amendment request was received by the NRC on July 1, 2010.

#### 4. VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:

Interviews with licensee staff and management revealed that the RSO had unexpectedly left the company on January 29, 2010, and as of the inspection no other individual on-site was qualified to assume the duties as RSO. The RSO had described some of his duties and responsibilities with the Safety/Manufacturing Excellence Manager and Environmental Manager before leaving the company. However, neither individual nor anyone else working on-site had completed a training course that met the requirements in NUREG-1556, Volume 4, in order to be qualified to serve as the RSO.

Between February and March, 2010, the licensee attempted to hire a new individual who would immediately attend a fixed gauge training course for RSO's after joining the company. The licensee intended to amend their license to add this individual as the RSO following her successful completion of the training. However, this individual reneged on the offer of employment shortly before her start date. The licensee hired a different individual to eventually serve as the RSO, and this individual began working on July 6, 2010. However, the next training course the individual could attend would not occur until October 2010.

At the time of the inspection, the fixed gauge was inoperable due to a computer failure caused by a storm the previous day, and licensee personnel were unable to determine if the shutter was open or closed. The inspector verified that the gauge shutter was closed and reviewed the licensee's program. Required leak tests, shutter tests, and physical inventories had all been performed at the proper frequency by the RSO in January 2010, prior to leaving the licensee's employ. During interviews, licensee personnel stated that they did not perform any non-routine maintenance of the gauge, and would contact the RSO, the licensee's consultant, or the manufacturer if there were problems with the unit.

Two violations of NRC requirements were identified during the inspection:

- A. Condition 12.A. of NRC License No. 13-32528-01 authorized a specifically named individual to fulfill the duties and responsibilities of the Radiation Safety Officer (RSO) for the license.

Contrary to the above, between January 30 and June 29, 2010, an individual, specifically authorized by Condition 12.A. of the license to fulfill the duties and responsibilities as RSO, was no longer employed by the licensee and did not fulfill the duties and responsibilities as RSO. Specifically, the licensee failed to amend their license to assign a new RSO for approximately five months following the previous RSO's departure from the company.

This violation had two root causes: (1) The licensee had attempted to hire an individual to serve as the new RSO shortly after the previous RSO's departure. This individual's decision to decline employment with the company significantly extended the period of time when the licensee was operating without a RSO. (2) The licensee was unaware of the requirements an individual needed to serve as the RSO. As such, the licensee was not aware that they could retain a consultant to serve as the RSO.

As corrective actions, the licensee submitted a license amendment request on July 1, 2010, naming Susan Englehardt from the licensee's consultant firm of

Englehardt & Associates, Inc. as the RSO, effective immediately. Once the licensee's newly hired individual completes the necessary training in October 2010, the licensee will submit another license amendment request to name that individual as RSO. The licensee is now fully aware of the training and qualification requirements for an individual to serve as RSO. As part of their long-term corrective actions, the licensee will evaluate having an "assistant" or "backup" individual complete the necessary training to serve as RSO, and will utilize their consultant as needed for any short-term staffing changes. The licensee will also create worker instructions describing the steps and options for changing RSO's and maintain them with their radiation safety documents.

Although a lack of an RSO is normally considered a Severity Level III violation, this violation was categorized as a Severity Level IV violation (Supplement VI). This was based on the circumstances involved, including the licensee's use of a consultant during the time period when no RSO was on-site, the built-in safety features of the licensee's fixed gauge, and the programs performance in not missing any required tests or inventories.

- B. Condition 26 of NRC License No. 13-32528-01 requires, in part, that the licensee conduct its program in accordance with the statements, representations, and procedures contained in its application dated July 6, 2004.

Item 10 "Radiation Safety Program – Occupational Dosimetry" of the application dated July 6, 2004, states, in part, that the licensee will either perform a prospective evaluation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits in Title 10 of the Code of Federal Regulations (10 CFR) Part 20 or provide dosimetry that meets the Criteria in the section entitled "Radiation Safety Program – Occupational Dosimetry" in NUREG-1556, Vol. 4, "Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Fixed Gauge Licenses," dated October 1998.

Contrary to the above, as of June 22, 2010, the licensee failed to either perform a prospective evaluation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits in 10 CFR Part 20 or provide dosimetry that meets the Criteria in NUREG-1556, Vol. 4. Specifically, the licensee had not performed an evaluation demonstrating that dosimetry was not required, and had not issued dosimetry to its employees.

The root cause of this violation was that the licensee was unaware of the requirements in their license application to either complete a prospective evaluation or provide dosimetry. As corrective actions, on June 28, 2010, the licensee completed a prospective evaluation demonstrating that an individual would need to spend over 7100 hours adjacent to the fixed gauge in order to receive, in one year, a radiation dose in excess of 10% of the allowable limits in 10 CFR Part 20. As such, the licensee was not required to provide dosimetry to its personnel. The licensee will maintain this documentation on site, and will continue to emphasize to its employees that non-routine maintenance should only be performed by qualified, outside individuals.

The violation was determined to be of minor safety significance in accordance with the NRC Enforcement Policy. This determination was based, in part, on the results of that evaluation demonstrating the low likelihood of an individual receiving, in one year, a radiation dose in excess of 10% of the allowable limits

5. **PERSONNEL CONTACTED:**

#\*& Bill Kinder – Safety/Manufacturing Excellence Manager  
\*& Christy Perdue – Hot Mill Administrative Manager

Use the following identification symbols:

# Individual present at entrance meeting  
\* Individuals present at June 22, 2010 preliminary on-site exit meeting  
& Individuals present at June 29, 2010 telephone exit meeting

-END-