

**U.S. NUCLEAR REGULATORY COMMISSION  
REGION I**

**INSPECTION REPORT**

Inspection No. 99990001/2003001

Docket No. 99990001

License No. General License

Licensee: Coates Electrographics, Inc.

Location: 1160A Fahs Street  
York, Pennsylvania 17404

Licensee: Turbon International

Location: 1160 Fahs Street  
York, Pennsylvania 17404

Inspection Dates: April 29 through May 19, 2003 and June 9, 2003

Dates Follow up  
Information Received: May 7, 9, 15, 16, 19, 2003 and June 9, 2003

Inspector:	<b>/RA By John D. Kinneman Acting for:</b>	<b>6/11/2003</b>
	_____ Jenny Johansen Health Physicist	_____ date

Inspector: Approved By:	<b>/RA /</b>	<b>6/11/2003</b>
	_____ John D. Kinneman, Chief Nuclear Materials Safety Branch 2 Division of Nuclear Materials Safety	_____ date

## **EXECUTIVE SUMMARY**

Coates Electrographics, Inc.  
NRC Inspection Report No. 99990001/2003001

On April 29, 2003, a safety inspection was initiated at Tubon International (Tubon), 1160 Fahs Street, York, PA of activities involving the possession of three Kay-Ray/Sensall Model 7062B gauges each containing 10 millicuries of cesium-137. The inspector found that the gauges were located at facilities occupied by Coates Electrographics, 1160A Fahs Street, York, PA. Coates took immediate actions to place the gauges in secured storage until the gauges were transferred on May 14, 2003, for disposal by Thermo Measure Tech.

One apparent violation of 10 CFR 30.3 was identified for possession, use, installation and removal from service of byproduct material contained in gauging devices without a valid specific or general license by Tubon International from the 1997-1998 time period until June 1, 2001.

One apparent violation of 10 CFR 30.3 was identified for possession of byproduct material in gauging devices without a valid specific or general license by Coates Electrographics from June 1, 2001 until May 14, 2003.

## **REPORT DETAILS**

### **I. Background**

#### **a. Inspection Scope**

The inspector reviewed the possession history of three Kay-Ray/Sensall gauges.

#### **b. Observations and Findings**

In 1996, Kay-Ray/Sensall, an Agreement State licensee authorized to manufacture and distribute generally licensed gauges, sold and transferred to Nu-Kote, 1 Imaging Lane, Derry, PA (Nu-Kote), six Kay-Ray/Sensall Model 7062B gauges, each gauge containing 10 millicuries (mCi) of cesium-137. The Nu-Kote facility in Derry was shutdown due to financial difficulties in the 1997-1998 time frame and equipment was sold by a management consulting group. Two gauges (Serial Nos. S96F1211 and S97F1212) were sold to Color Imaging, Norcross, GA, three gauges (Serial Nos S96F1209, S96F1213 and S96C0115) were sold to Turbon International, York, PA and the remaining gauge (Serial No. S96F1210) was transferred to Nu-Kote - International Communication Materials, Inc., Connellsville, PA. Nu-Kote no longer has any facilities in Derry, PA. The activities of Nu-Kote with licensed material will be reviewed in a separate inspection.

Turbon International (Turbon), 1160 Fahs Street, York, PA, received the three gauges attached to equipment. The equipment and gauges were installed in the building where its toner division operated at 1160A Fahs Street, which is behind 1160 Fahs Street. The equipment was not installed by Kay-Ray/Sensall or any other individual licensed to install gauges. On June 1, 2001, Turbon sold its toner division with equipment, including the three Kay-Ray/Sensall Model 7062B gauges, and leased the building at 1160A Fahs Street to Coates Electrographics (See Attachment 1).

#### **c. Conclusions**

The inspector determined that three generally licensed gauges were sold by Nu-Kote to Turbon. Turbon subsequently sold the gauges to Coates

### **II. Organization and Scope of the Program**

#### **a. Inspection Scope**

The organization and scope of the program were reviewed.

#### **b. Observations and Findings**

Coates Electrographics, Inc., 1160A Fahs Street, York, PA (Coates) makes toner for copier machines. Bill Hoff, Site Manager, Paul R. Clothier, Manufacturing Manager, and

Sheridan Warner, Production Manager, represented Coates during the inspection. Bill Hoff reports to Ian Gammage, President of Coates Electrographics which is headquartered in England. Coates Electrographics is a division of Sun Chemical Corporation. Wes Lucas is President of Sun Chemical.

The Coates representatives were informed that the NRC was conducting a safety inspection of activities involving possession and use of three Kay-Ray/Sensall Model 7062B gauges each containing 10 mCi of cesium-137 purchased by Turbon International in the 1997-1998 time frame, from NU-Kote, 1 Imaging Lane, Derry, PA.

Coates representatives stated that the previous owner of the toner division was Turbon International, 1160 Fahs Street, York, PA (Turbon). Turbon sold the toner business to Coates on June 1, 2001. Coates is located in a separate building in back of Turbon International. Turbon still has facilities and manufacturing at 1160 Fahs Street. The Coates Site Manager, Manufacturing Manager, and the Production Manager (who had previously been employed by Turbon) stated that Claude Aubert had been responsible for the gauges when he worked for Turbon prior to transferring to Coates on June 1, 2001. Mr. Aubert had left Coates's employment in September 2002.

During a June 9, 2003 telephone conversation between Wilhelm Loewel, General Manager of Turbon International and the inspector, Mr Loewel stated that he has been General Manager since June 1, 2001 and had no knowledge that Turbon had possessed the three Kay-Ray/Sensall gauges. He had been contacted by the management of Coates and informed that Turbon had possessed the gauges without a valid license. He further stated that Turbon has not possessed any gauging devices since June 1, 2001, and that he understands that if radioactive material is possessed in the future, an appropriate general or specific license must be obtained..

c. Conclusions

The inspector determined that the three Kay-Ray gauges sold to Turbon were currently possessed by Coates.

### **III. Management Oversight of the Program**

a. Inspection Scope

The oversight of the program was reviewed.

b. Observations and Findings

Both the Site Manager and the Manufacturing Manager indicated that they were not aware that Coates possessed or had ever used any gauges containing radioactive material. The Production Manager (who had been previously employed by Turbon)

stated that there were three gauges stored on the mezzanine of the building and that there was an operating manual for the gauges in Mr. Aubert's old office.

The Production Manager brought the operating manual for the gauges from Claude Aubert's old office to the Site Manager's office. The inspector noted that the manual had a section which covered the NRC requirements for possession of generally licensed gauges. The inspector pointed out the section of the gauge manual outlining the requirements in 10 CFR 31.5 for possession, use, notifications of transfer, etc. for generally licensed gauges.

c. Conclusions

The inspector concluded that only one individual at Coates who was formerly employed by Turbon was aware of the possession and location of the gauges.

#### **IV. Facilities and Equipment**

a. Inspection Scope

The facilities and equipment of the licensee were reviewed.

b. Observations and Findings

The inspector accompanied the Coates representatives to the mezzanine area. Three Kay-Ray/Sensall Model 7062B gauges each containing 10 millicuries of cesium-137 were found, two gauges were in the southwest corner and one gauge was in the southeast corner of the mezzanine. The gauges were not protected by any covering and the toner dust had to be wiped off in order to read labels on the gauges. The shutters on the gauges were closed and locked as verified by the inspector's survey with a Ludlum Model 14C survey meter. The labels stated that the material was generally licensed per 10 CFR 31.5. The Kay-Ray/Sensall Model 7062B gauges were Serial Numbers S96F1209, S96F1213 and S96C0115.

The Coates representatives remove the gauges from the mezzanine and placed them in a locked storage cabinet in locked unused office.

c. Conclusions

Coates placed the gauges in secure storage.

## **V. Material Receipt, Use, Transfer, and Control**

### **a. Inspection Scope**

The receipt, transfer, use, and control of the gauges were reviewed.

### **b. Observations and Findings**

Case Resolution RCODE 64837 (ADAMS Accession No. ML030640639) indicates that three Kay-Ray/ Sensall Model 7062B gauges were sold and transferred to Turbon Products USA from NU-Kote- International Communication Materials, Inc. in 1997 or 1998. This was confirmed in telephone conversation with Claude Aubert, a former Turbon employee, during a telephone call in June 2002.

The Production Manager (who had previously been employed by Turbon) stated that he believed that in the 1997-1998 time frame that the gauges came directly from Nu-Kote to Turbon mounted on toner vessels. Kay-Ray/Sensall personnel were not involved in the installation of the vessels or gauges at Turbon. He further stated that the gauges were later removed from the toner vessels by maintenance personnel.

During a telephone conversation with Mr. Hoff and Mr. Warner on May 8, 2003, Mr. Warner stated that he personally removed the gauges from the toner vessels prior to June 1, 2001 when Coates Electrographics took over the toner division. He was employed by Turbon International when the gauges were removed and placed in the mezzanine storage area. He stated that the shutters on the gauges were closed and locked when he removed the gauges from the vessels.

### **c. Conclusions**

The inspector concluded that the gauge manufacturer or other authorized licensee was not involved in the transfer of the generally licensed gauges from the Nu-Kote, Derry, PA facility to Tubon in York, PA and subsequently to Coates in York, PA.

10 CFR 30.3 requires, in part, that except for persons exempted, no person shall possess or use byproduct material except as authorized by a specific or general license issued pursuant to Title 10, Chapter 1, Code of Federal Regulations.

The general license granted in 10 CFR 31.5 did not apply since the gauges were not received by Turbon or Coates from one of the specific licensees described in 10 CFR 31.5(b)(1) or through a transfer from a general licensee made pursuant to 10 CFR 31.5(c)(9), since the gauges did not remain in use at a particular location. In addition, Turbon did not possess a specific license issued by the Commission. Therefore, an apparent violation of 10 CFR 30.3 applies to the possession of the gauges by Turbon and Coates from the 1997-1998 time period to May 14, 2003.

## **VI. Radiation Surveys**

### **a. Inspection Scope**

The performances of leak tests and the proper operation of the on-off mechanism on the gauges were reviewed. The inspector performed surveys of the gauges.

### **b. Observations and Findings**

No records for testing the proper operation of the on-off mechanism or for the testing of the gauges for leakages were found. The Production Manager stated he did not recall anyone ever leak testing the gauges since they were purchased from Nu-Kote in 1997-1998.

In an e-mail dated May 15, 2003 (See Attachment 4 ), Coates stated that on May 14, 2003, Thermo Measure Tech leak tested the three Kay-Ray gauges at the Coates site and then packaged and shipped the gauges to Thermo Measure Tech, Round Rock, TX. Thermo Measure Tech's leak test showed no contamination at or above 0.005 microcuries of removable contamination.

The inspector surveyed all the gauges using a Ludlum Model 14C survey meter, NRC 23174G calibrated September 11, 2002. The radiation levels were 2.8 millirem/hr at the shutter and 2.0 mR/hr at other surfaces of the gauges.

Sealed Source Device Registry Safety Evaluation No. IL-8118-D-829-B indicates that the typical radiation level at the shutter surface would be 29 millirem per hour with a 100 mCi Cs-137 source in the gauge with the shutter closed. The inspector calculated that with a 10 mCi source the exposure would be 2.9 millirem/hr at the shutter surface. If the person who removed each gauge from the vessel took 10 minutes to do so, the person would have received about 0.5 millirem exposure, if the closed shutter end of the gauge were pointed in the person's direction for a total exposure of about 2 millirem. The individual who removed the gauges states that he took care to assure that the shutter was closed when he removed the gauges, so this is a reasonable estimate of the exposure for that operation.

The gamma ray factor for cesium-137 is 3.3 R/mCi-hr at 1 cm from the source. The dose rate calculated at 12 cm from the source with the shutter open is therefore about 230 millirem per hour and at 1 meter from the source would be about 3 millirem per hour. A 1 minute period of exposure while the shutter was open would result in a dose from about 0.1 millirem to as much as 4 millirem depending on how close the individual came to the beam port while the shutter was open.

c. Conclusions

The inspector concluded that the sources were not leaking and that likely exposures to any individual handling the gauges during installation, removal from installation or closing the shutter of a gauge is well below the 100 millirem per year limit for individual members of the public allowed in 10 CFR 20.1301.

## **VII. Radioactive Waste Management**

a. Inspection Scope

The need for proper disposal of the gauges was reviewed.

b. Observations and Findings

During the inspection, the inspector discussed the methods to dispose the gauges in Coates possession. Coates agreed to dispose of the gauges as soon as possible. In a May 7, 2003 e-mail (Attachment 2), a Coates representative informed the inspector that they had signed a purchase order to remove the gauges. In a May 9, 2003 e-mail (Attachment 3), a Coates representative informed the inspector that Thermo Measure Tech would ship the gauges for disposal on May 14, 2003. In a May 15, 2003 e-mail (Attachment 4), a Coates representative informed the inspector that Thermo Measure Tech had packaged and shipped the gauges to their facilities in Round Rock, TX. Thermo Measure Tech, the successor to Kay-Ray/Sensall, holds a State of Texas License Number L03524 to perform such services.

c. Conclusions

The inspector concluded that the gauges had been properly disposed of through transfer to Thermo Measure Tech, an Agreement State licensee.

## **VIII. Exit Meeting**

At the conclusion of the inspection the inspector met with the representatives of Coates Electrographics and discussed the initial findings of the inspection.

In a telephone conversation on May 8, 2003, with a representative of Turbon International, the inspector was informed that any correspondence for Turbon, as a result of the inspection, could be sent to the attention of Wilhelm Loewel, General Manager, Turbon International, 1160 Fahs Street, York, PA 17404. On June 9, 2003, the inspector discussed the findings of the inspection with Mr Wilhelm Loewel of Turbon International.



## **PARTIAL LIST OF PERSONS CONTACTED**

### **Licensee**

Bill Hoff  
Paul R. Clothier  
Sheridan Warner  
Barbara Grossman

Anthony Shaw

Wilhelm Loewel

Coates Site Manager  
Coates Manufacturing Manager  
Coates Production Manager  
Receptionist, Turbon International, via telephone 1-717-843-8916 on May 8, 2003  
Representative of Color Imaging, via phone 1-800-783-1090 on May 15, 2003  
General Manager, Turbon International, via telephone on June 9, 2003

## ATTACHMENTS

Press Release from <http://www.coates.com/elctro/inkton/news/turbon.htm>

## **Sun Chemical Purchases Turbon's Toner Manufacturing Business**

FORT LEE, NJ - June 1, 2001 – Sun Chemical, through its toner manufacturing company Coates Electrographics, announced that it had acquired the bulk toner manufacturing-business of Turbon International Inc., located in York, PA (USA). The announcement was made by Richard Martin, Managing Director, Coates Electrographics.

"While Turbon will cease to manufacture toner powder, it will continue its presence as a market leader in the manufacture, sales and distribution of components, as well as finished products for the printer supplies industry," Mr. Martin indicated. "The arrangement between Turbon and Sun Chemical (through Coates) will build upon the successful relationship that has existed for some time between the two companies, and will provide a continuing supply of high quality bulk toner to Turbon on a worldwide basis," he added.

Coates Electrographics will lease a portion of Turbon's York's facility and welcomes into the company the York toner manufacturing team, who bring with them many years of experience and expertise in the field of powder toner development and production. The purchase also includes Turbon's much respected toner technology, which will further strengthen Coates' prominent technical position in the toner marketplace.

The York operation will continue to be headed by Dr. Claude Aubert, a veteran of the toner industry, who will report directly to Ian Gammage, global General Manager of Coates' toner businesses. Through this acquisition, Coates Electrographics continues to grow its position as a leading global toner producer with operations at Midsomer Norton (UK), Dallas, PA, (USA) and York, PA (USA).

Coates Electrographics has been developing and manufacturing liquid, mono-component and dual-component toners for almost 30 years, offering high quality products designed for specific copiers and printers, and supported by close, expert technical liaison. The company is part of the Sun Chemical family, the world's largest manufacturer of high quality printing inks and organic pigments.

With headquarters in Fort Lee, New Jersey, U.S.A.; Watford, England; and Soest, the Netherlands, Sun Chemical owns and operates manufacturing, sales, service and technical facilities throughout North America, Europe, Latin America and the Caribbean. The Sun Chemical family of companies employs more than 14,500 people worldwide and includes such well known names as Coates Lorilleux, Usher-Walker, Gibbon, Hartmann, Kohl & Madden, Heritage and US Ink. In addition, Sun Chemical's joint venture with Eastman Kodak, Kodak Polychrome Graphics, is a world leader in prepress products.

Sun Chemical Corporation in the U.S. and Sun Chemical Limited in England are subsidiaries of Sun Chemical Group B.V., the Netherlands. For more information about Sun Chemical, visit our web site at <http://www.sunchemical.com>.

Attachment 2 to Region I Inspection Report 99990001

**From:** Bill Hoff <Bill.Hoff@coatescri.com>  
**To:** "Jenny Johansen" <jmj@nrc.gov>  
**Date:** 5/7/03 11:42AM  
**Subject:** missing email

Jenny,

Our email has been down for the past couple of days. I never recieved the email you promised me regarding removal of our level sensors by Friday (5-9-03). Would you be so kind as to resend it.

I signed a PO with TN Technologies yesterday for removal of the sensors. I am hoping they will let me know today how quickly they can schedule us.

Thank you,  
Bill Hoff

Attachment 3 to Region I Inspection Report 99990001/2003001

**From:** Bill Hoff <Bill.Hoff@coatescri.com>  
**To:** "Jenny Johansen" <jmj@nrc.gov>  
**Date:** 5/9/03 4:54PM  
**Subject:** FW: Disposal

Jenny,

Hope the email below is enough. They will be here Wed. (5-14-03). At that time I should get the letter of transfer, of which I will forward a copy to you.

Bill

-----Original Message-----

**From:** Ralph Heyer [mailto:ralph.heyer@thermo.com]  
**Sent:** Friday, May 09, 2003 2:58 PM  
**To:** 'bill.hoff@coatescri.com'  
**Cc:** Jon George; Tom Kravet  
**Subject:** Disposal

Bill:

Per our conversation, it is my understanding that a field service technician will arrive at your location next week to remove, package and prepare shipment of gauges back to Thermo MeasureTech for proper disposition. At the time of receipt Thermo MeasureTech will provide you a letter acknowledging receipt of said material and take possession and ownership. At that time you can provide the letter to the NRC.

Should you have any questions, please advise.

Have a Blessed Day!!

Ralph S. Heyer  
Radiation Safety Officer, Process Sensors  
Thermo Electron  
2555 IH-35 North  
Round Rock, Texas 78664  
T: 512.388.9287  
F: 512.388.9333  
www.thermo.com <<http://www.thermo.com/>>

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Thank you for your cooperation!

Attachment 4 to Region I Inspection Report 99990001/2003001

**From:** Bill Hoff <Bill.Hoff@coatescri.com>  
**To:** "Jenny Johansen" <jmj@nrc.gov>  
**Date:** 5/15/03 8:45AM  
**Subject:** Kay-Ray Level Sensors

Jenny,

Thermo MeasureTech (i.e. NT Technologies) leak tested the three (3) Kay-Ray Level Sensors yesterday (5-14-03) on our site, then packaged them and shipped them to their plant. It is my understanding that they will certify the transfer of ownership when the sensors are received at their plant. I will forward a copy of this document, along with copies of the leak test certificates, to the NRC when I receive them. The leak tests were good. Copies of their field service reports are attached.

<<Coates report.doc>> <<Coates time.doc>>

Will you require any other documentation beyond that mentioned above?

Sincerely,  
Bill Hoff

**CC:** "Willie Loewel" <loewel@turbon.com>, Paul Clothier  
<Paul.Clothier@coatescri.com>, Ian Gammage <ian.gammage@coates.com>

Field Service Report Summary										Page 1		
<h1 style="margin: 0;">Thermo MeasureTech</h1> <p style="margin: 0;">2555 N. IH-35, Round Rock, TX 78664 (800) 736-0801            (512) 388-9100, Fax (512) 388-9333  <a href="http://www.thermomeasuretech.com">http://www.thermomeasuretech.com</a></p>												
USER		Coates Electrographics-York						JOB 04985				
ADDRESS		1160A Fahs Street						start up <input type="checkbox"/> repair <input type="checkbox"/> training <input type="checkbox"/>		disposal <input checked="" type="checkbox"/> warranty <input type="checkbox"/> other <input type="checkbox"/>		
CITY/STATE		York, PA 17404										
CONTACT		Bill Hoff				PHONE 717 854-3937 X141		incomplete <input type="checkbox"/>		complete <input checked="" type="checkbox"/>		
PURCHASE ORDER			PRODUCT				SERVICE REP			START DATE		
PX29066							R. Winn			5/14/03		
LABOR												
DAY	DATE	PREP ADMIN	TRAVEL R OT		ONSITE TIME IN OUT R OT				MILES	WAIT	WRTY	COMMENTS
SUN												
MON												
TUE	5/13	2	2									
WED	5/14		2				6					
THU	5/15		6									
FRI												
SAT												
TOT												
PARTS												
QUAN	PART NO		DESCRIPTION									
INVENTORY												
RMA 29063												
MANUF		MODEL		SERIAL		ISOTOPE		ACTIVITY (mCi)				
Kay Ray		7062B		S96C0115		Cs-137		10				
Kay Ray		7062B		S96F1209		Cs-137		10				
Kay Ray		7062B		S96F1213		Cs-137		10				
CUSTOMER REPRESENTATIVE												
SIGNATURE						DATE						



Field Service Report Continuation		Page 2 of 2
<p><b>Thermo MeasureTech</b></p> <p>2555 N. IH-35, Round Rock, TX 78664 (800) 736-0801            (512) 388-9100, Fax (512) 388-9333  <a href="http://www.thermomeasuretech.com">http://www.thermomeasuretech.com</a></p>		
DATE	DESCRIPTION OF SERVICE	
5-14-03	<p>Coates Electrographics-York, York, PA.</p> <p>Arrived on site and met with Bill Hoff to prepare for shipment three Kay Ray model 7062B source housings for shipment.</p> <p>Performed leak test type QT/1S on each of the 10mCi, Cs-137 source housings using my TN model 200X survey meter, serial number C201J that was calibrated in July of 2002.</p> <p>One leak test wipe was collected on each of the source heads. The field leak test analysis was performed using procedures approved under the state of Texas Radioactive Material License Number L03524. There was no contamination identified at or above 0.005 microcuries of removable contamination.</p> <p>Prepared the source housings for shipment in one crate on RMA 29063.</p> <p>Call Roadway Express for pick up and delivery to TMT Round Rock, TX.</p>	
<p>SERVICE REPRESENTATIVE</p>  <p>SIGNATURE _____</p>		