



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

October 31, 2000

Docket No. 99990001

License No. Non-licensee

Nicholas A. Bruno
Vice President and General Manager
American Ash Recycling Corp. of Pennsylvania
1072 Roosevelt Avenue
York, PA 17404

SUBJECT: INSPECTION 99990001/2000007, AMERICAN ASH RECYCLING CORP. OF PENNSYLVANIA, YORK, PENNSYLVANIA AND CITISTEEL USA, INC., CLAYMONT, DELAWARE

Dear Mr. Bruno:

On September 13, 2000, Eric Reber of this office conducted a safety inspection at the above address, and on September 18, 2000, he performed a radiation survey at CitiSteel USA, Inc. The inspection was limited to a review of the circumstances of the discovery of four similar cesium-137 sources in scrap metal shipments that originated from your facility. The findings of the inspection were discussed with you at the conclusion of the inspection. The enclosed report presents the results of this inspection.

Within the scope of this inspection, no violations were identified.

In accordance with 10 CFR 2.790, a copy of this letter will be placed in the NRC Public Document Room and will be accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html>. No reply to this letter is required.

Your cooperation with us is appreciated.

Sincerely,

Original signed by:
Elizabeth Ullrich
John D. Kinneman, Chief
Nuclear Materials Safety Branch 2
Division of Nuclear Materials Safety

Enclosure:
Inspection Report No. 99990001/2000007

N. Bruno 2
American Ash Recycling Corp. of Pennsylvania

cc:

William H. Ehrman, Executive Director

Edward Salsbury, Facility Manager

Robert L. Straw, Director

William E. Belanger, Regional Radiation Specialist

Dana A. LeSage, P.E., Manager, Energy & Environmental Engineering

Commonwealth of Pennsylvania

State of Delaware

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OFFICE	DNMS/RI	N	DNMS/RI	DNMS/RI		
NAME	EReberEHR		Jkinneman JDK			
DATE	10/5/2000		10/25/2000			

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 99990001/2000007
Docket No. 99990001
License No. Non-licensee
Facility: American Ash Recycling Corporation of Pennsylvania
Address: 1072 Roosevelt Avenue
York, Pennsylvania 17404
Locations Inspected: The above address and:
CitiSteel USA, Inc.
4001 Philadelphia Pike
Claymont, DE 19703-2794
Inspection Dates: September 13, 14, 18, and October 5, 2000

Inspector: _____
Eric H. Reber
Health Physicist
date _____

***Original signed by
Elizabeth Ullrich*** ***October 25, 2000***

Approved By: _____
John D. Kinneman, Chief
Nuclear Materials Safety Branch 2
Division of Nuclear Materials Safety
date _____

REPORT DETAILS

Background: Regular commercial and municipal wastes are burned in two incinerators in York, PA and Montgomery Co., MD. Wastes that are burned in these incinerators are received from the county where the incinerators are located and surrounding counties and states. American Ash Recycling Corporation of Pennsylvania (AAR) in York, PA receives incinerator ash from these two facilities and sorts it into groups including ferrous and non-ferrous metals. The ferrous metal is held at AAR's York facility for periods of up to several months until market conditions are favorable for its sale. From August 31, 2000, to September 13, four similar cesium-137 sources were detected in scrap metal shipments that originated from AAR.

The NRC became aware of this event after an NRC resident inspector at Peach Bottom received information regarding an event involving radioactive material at a facility in York, PA. NRC Region I followed up by contacting the Pennsylvania Department of Environmental Protection (PADEP) on September 8, 2000, to obtain further information.

Sources #1 & #2: Two shipments of ferrous metal from AAR triggered radiation alarms when they arrived at Tube City, Inc. in Pittsburgh, PA, on September 1, 2000, and at CitiSteel USA in Claymont, DE, on August 31, 2000. The shipments were returned to AAR's York facility where a consultant employed by AAR surveyed the shipments and identified two radioactive rod sources that were approximately 3.25 inches long and 0.25 inch in diameter. One of the sources had removable contamination of approximately 50,000 disintegrations per minute. No identifying marks were immediately legible on the sources because they had been through an incinerator and had been stored in an outdoor area exposed to the weather. The sources were placed in a plastic bag in a locked safe at the facility. PADEP responded to this event and determined that the radionuclide was cesium-137, approximately 1 to 2 millicuries per rod.

Source #3: Radioactive material was detected on September 8, 2000, in another shipment of ferrous metal scrap that originated at AAR when it arrived at Tube City in Pittsburgh. The shipment was again returned to AAR's York facility. On September 13, 2000, representatives from AAR, York County Solid Waste and Refuse Authority (responsible for oversight of the York County incinerator), Montenay York Resource Energy Systems, LLC (operator of York County's incinerator), York County Emergency Management Agency, EPA Region III, PADEP, and the inspector met at the facility. The inspector discussed the licensing of the sources that were recovered as well as disposal options. EPA attended the meeting as the Lead Federal Agency because the sources could not be traced to a specific NRC licensee. An EPA representative indicated that AAR could make arrangements for the disposal of the sources on their own or the EPA could handle the disposal of the sources through the Superfund process. An AAR representative indicated that he would confer with his management regarding the disposal of the sources and meet with the EPA representative the following day. (During a telephone conversation on September 14, 2000, with the inspector, the EPA representative indicated that AAR elected to dispose of the sources on their own. Because it was now clear who would be responsible for the disposal of the sources, PADEP became the lead agency regarding follow up of this event.)

Following the meeting, the shipment of scrap metal that triggered a radiation alarm at Tube City on September 8, 2000, was surveyed by representatives from PADEP, EPA and the inspector. A source similar to the three that had already been identified was isolated. Figure 1 shows the

area of the scrap metal pile where the source was recovered. The source that was recovered was similar to the one shown in Figure 2 (Source #4). The radioactive material is on the end that is slightly smaller in diameter than the rest of the rod at 3 1/8 inch to 3 1/2 inch on the ruler that is pictured. The source was wipe tested and no contamination was found. Like the other three sources, no identifying marks were immediately legible on the source because the outside of the source was heavily corroded. However, an EPA representative scraped away enough of the corrosion to be able to read "CS137" (i.e., cesium-137) stamped on the rod. Because of the inconsistency with which the letters were stamped, the letters may have been stamped by hand. No model serial numbers were identified.

The source was placed in the lead pig in the safe in the Vice President's office (Figure 3). Buckets of coins that were recovered from incinerator ash were placed in front of the safe as shielding. A dose rate of 0.35 millirem per hour was measured at one foot from the shielding in the Vice President's office. A dose rate of 40 microrem per hour was measured at one foot from the wall in an office next to the office where the safe was located.

Source #4: As a precaution, on September 8, 2000, a PADEP representative surveyed the Tube City facility. A fourth cesium-137 source similar to those already identified was located. About 10,000 disintegrations per minutes removable contamination was measured on this source. The source was secured at the facility. A digital image of this source was supplied to the NRC by PADEP (Figure 2).

Survey of CitiSteel USA, Inc., Claymont, DE (CitiSteel): CitiSteel manufactures metal plate from scrap metal that it receives from various sources including AAR. The Exploranium Radiation Detection System at CitiSteel that monitors trucks as they enter the facility (Figure 4) detected a cesium-137 source in a load of scrap from AAR on August 31, 2000. On September 18, 2000, the inspector surveyed the CitiSteel facility to determine if there were sources at that facility that had not been detected by their radiation monitors. A Ludlum Model 19 MicroR meter was used to survey around the bases of large piles of scrap metal similar to that normally received from AAR. No radiation levels above background levels were detected. However, due to the large size of the scrap piles, it is unlikely that a 1-2 millicurie cesium-137 source would have been detected unless it was close to the surface of the piles.

Additional Markings on Sources: On September 20, 2000, a consultant hired by AAR to package the sources for shipment contacted the NRC with additional information regarding the sources. He stated that after cleaning three of the sources at AAR's York facility, the following numbers were read on the sources:

Source A ¹	Source B ¹	Source C ¹
U311 ²	?	U311
CS137	CS13	

B734	B734 ²	B732 ²
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1 - It was not known if the markings on the sources identified by AAR's consultant were from Sources 1, 2, or 3 as identified in this report, therefore the markings are attributed to sources "A", "B", and "C" in this table.

2 - Numbers that were not clearly legible.

Attempts to identify sources: Figure 2 and information about markings on the sources were forwarded to the Sealed Source and Device Group in the NRC Office of Nuclear Material Safety and Safeguards, and licensees who may have possessed sources similar to those found. However, the manufacturer, model number or licensee who originally possessed the sources had not been identified as of the date of this report.

Disposal of Sources: During a telephone conversation on October 5, 2000, with the inspector, the Vice President and General Manager of AAR indicated that three of the sources are currently being stored in the safe in his office and that one of the sources is being stored at Tube City in Pittsburgh. He stated that AAR is working with a consultant on the disposal of the sources and that they will dispose of the sources when a disposal permit is issued by South Carolina and their procedures for shipping the Tube City source to AAR's York facility are approved by PADEP.

PARTIAL LIST OF PERSONS CONTACTED

American Ash Recycling Corporation of Pennsylvania

Nicholas A. Bruno, Vice President and General Manager

York County Solid Waste Authority

William Ehrman, Executive Director
 Norman C. Clooser
 Clarence Nace
 Dave Vallero
 Frank Kovacs
 Jon Beuschlein
 Ellen O'Connor
 Doug Jasitt
 Bob Kamlos

PADEP

James Kopenhaver
 Howard Sher
 Joseph A. Kozlosky

Montenay York Resource Energy Systems, LLC

Ed Salsbury, Facility Manager
John McCurdy

York County Emergency Management Agency

Robert L. Straw, Director

EPA

Bill Belanger
Chris Wagner
Mike Zickler
Libby Levy

Citisteel USA, Inc.

Dana A. LeSage, Manager, Energy & Environmental Engineering



Figure 2 - Area of ferrous scrap where source was recovered



Figure 2 - Source recovered at Tube City, Inc.



Figure 3 - Source storage area



Figure 4 - Exploranium Radiation Detection Monitors

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NRC OPS CTR H00

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09/07/00 11:02:46

(202)267-6392->

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NATIONAL RESPONSE CENTER - FLASH FAX
GOVERNMENT USE ONLYGOVERNMENT USE ONLY***
DO NOT RELEASE this information to the public without
permission from the NATIONAL RESPONSE CENTER 1-800-424-8802

Incident Report # 541326

INCIDENT DESCRIPTION

xReport taken by: CIV JONES at 10:19 on 07-SEP-00
Incident Type: FIXED
Incident Cause: UNKNOWN
Affected Area:
The incident occurred on 06-SEP-00 at 16:00 local time.
Affected Medium: LAND SOIL

REPORTING PARTY

Name: DAVID ALLARD
Organization: PA DEP
Address: POB 8469
HARRISBURG, PA 171058469

PRIMARY Phone: (717)7872480
Type of Organization: STATE GOVERNMENT

SUSPECTED RESPONSIBLE PARTY

Name: UNKNOWN

XX

Type of Organization: UNKNOWN

INCIDENT LOCATION

1072 ROOSEVELT AVE. County: YORK
YORK, PA
AMERICAN ASH RECYCLING CO.

RELEASED MATERIAL(S)

CHRIS Code: NCC Official Material Name: NO CHRIS CODE
Also Known As: SCESIUM-137
Qty Released: 2 MILCURIE(S)

DESCRIPTION OF INCIDENT

THE CALLER STATED THAT THERE IS A RADIATION RELEASE. A CINARATOR AT
A RECYCLING RECEIVED TWO CS-137 THAT SAT OFF A RADIATION ALARM.

INCIDENT DETAILS

Building ID:
Type of Fixed Object: OTHER
Power Generating Facility: NO
Generating Capacity:
Type of Fuel:
NPDES:
NPDES Compliance: UNKNOWN

09/07/00 11:03:03

(202)267-6392->

301 816 5151 NRC-MS. TROCINE

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DAMAGES

Fire Involved: NO Fire Extinguished: UNKNOWN
 INJURIES: Hospitalized: Empl/Crew: Passenger:
 FATALITIES: Empl/Crew: Passenger: Occupant:
 EVACUATIONS: Who Evacuated: Radius/Area:
 Damages:

Closure Type	Description of Closure	Hours Closed	Direction of Closure
Air:	N		
Road:	N		Major Artery:N
Waterway:	N		
Track:	N		

Media Interest: NONE Community Impact due to Material: NO

REMEDIAL ACTIONS

SECURED THE AREA
 Release Secured: YES
 Release Rate:
 Estimated Release Duration:

WEATHER

Weather: SUNNY, 70:F

ADDITIONAL AGENCIES NOTIFIED

Federal:
 State/Local: NRC
 State/Local On Scene:
 State Agency Number:

NOTIFICATIONS BY NRC

U.S. EPA III (215)8149016
 NOAA 1ST CLASS BB RPTS FOR PA (206)5266344
 07-SEP-00 10:37
 MD DEPT OF ENV ATTN: A. O'CONNELL (410)9743551
 07-SEP-00 10:37
 PA EMERG MGMT AGCY ATTN:J. BAHNWE (717)6512001
 07-SEP-00 10:37

ADDITIONAL INFORMATION

BILL BELANGER EPA RADIATION HAS BEEN NOTIFIED. / THE STATE OF PA HAS ALREADY BEEN TO THE SITE.

*** END INCIDENT REPORT 541326 ***
 Report any problems or Fax number changes by calling 1-800-424-8802
 PLEASE VISIT OUR WEB SITE AT <http://www.nrc.uscg.mil>

RADIATION Readings - 7 mR/hr @ 1 foot
from unshielded sources.

TELEPHONE CONVERSATION RECORD		
Licensee Name: non-licensee: American Ashland Waste	Date: September 8 2000	Time: 2:30 PM
License No.: NA	Docket No.: NA	Control No.: NA
Licensee Contact: PADEP - John Maher	Telephone No: 717-705-4896	
NRC Contact: Betsy Ullrich	Telephone No: 610-337-5040	
Subject: update on sources found at American Ashland, York PA		
<p>Summary: John Maher was the PADEP responder to American Ashland Waste in York, PA. He got the call around 3:30-4 PM from the HP consultant for Ashland, Dave Baron (a CHP who works for PECO at Peach Bottom).</p> <p>The consultant had bagged the two source in plastic, and placed them in a glass container in a safe at the Ashland facility. John Maher removed them from the safe and the glass container, but did not remove them from the bag based on the consultant's finding smearable contamination earlier. John Maher performed a quick visual inspection of the sources. They are two rods, each about 3.5 " long and 0.25 " diameter, and the source is at one end of each rod. He placed the bag in a shielded lead container which he had brought from the PASEP office, and performed a gamma spec of each source. The gamma spec results clearly indicate Cs-137 as the sole radionuclide. Based on the radiation levels, he estimates the sources are about 2 millicuries each. He was unable to see any markings on the sources or rods. He placed the top on the container as best he could (the container is a bit too small for the sources) and taped the lid down. The shielded container was placed in the safe. Readings on the outside of the locked safe were all less than 2.5 mr/h. The safe was locked and posted, and the keys given to the manager who was informed that the sources should remain locked, and personnel should not move them. He has been in contact with Mick Cickler of the EPA, who told him that they will transfer the sources ASAP to the EPA lab in Las Vegas, where they have properly shielded facilities in which they may be able to more closely examine the sources for markings.</p> <p>American Ashland receives ash from only two incinerators: one in York, PA and one in Montgomery County, MD. The ash is sorted into material suitable to make a cement additive, and ferrous metals that are accumulated until sufficient amount for transfer to a metal recycler. The sources were in a load of material sent for recycling to a facility in Pittsburgh, where the load tripped the radiation alarms. PADEP granted them a DOT exemption in order to return the load to York for evaluation.</p>		
Action Required/Taken: Copy to JDK.		

Late news - a third source found at Pittsburgh facility today - (9/8) - Being returned to York.

Signature: Betsy Ullrich <i>BU</i>	Date: September 8, 2000
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9/6 -

