

| Company                     | Section | Title                        | Part                   | Rev. Date | Page # |
|-----------------------------|---------|------------------------------|------------------------|-----------|--------|
| Nucor – Crawfordsville Mill | 2.A     | Radiological Instrumentation | Portable Survey Meters | 10/3/17   | 3 of 3 |

### General Radiation Survey Form

|  |                                    |                                  |
|--|------------------------------------|----------------------------------|
| Kind of Survey:<br><i>Post Incident Survey</i>                                       | Location:<br><i>Geluline Entry</i> | Item:<br><i>DMC Gauge</i>        |
| Purpose of Surveys:<br><i>Determine post incident radiological conditions of saw</i> |                                    |                                  |
| Company Name / Address:<br><i>Nucor Steel Indiana 47933</i>                          |                                    | RM License #:<br><i>XN000400</i> |

|                 |                              |
|-----------------|------------------------------|
| Survey Diagram: | View / Direction: <i>N 9</i> |
|                 |                              |

|  |                        |                             |   |                                |                                |
|--|------------------------|-----------------------------|---|--------------------------------|--------------------------------|
| Device Make:<br><i>DMC</i>   | Model:<br><i>AM-5A</i> | Serial #:<br><i>BS10303</i> | Source Model:<br><i>AMERSHAM AMC 19</i> | Serial #:<br><i>2421LV</i>     | Manf. Date:<br><i>11-20-92</i> |
| Manufacturer Name / Address:<br><i>Data Measurement Corp. Gaithersburg, MA</i> |                        |                             |   | Manf. License #:<br><i>N/A</i> |                                |

|                           |
|---------------------------|
| Supporting Details:       |
| <i>See attached email</i> |
|                           |
|                           |
|                           |
|                           |
|                           |
|                           |

|                                |                       |  |                           |                                |                               |  |  |
|--------------------------------|-----------------------|--|---------------------------|--------------------------------|-------------------------------|--|--|
| Survey By: <i>Becky Mumper</i> |                       | Survey Date/Time:<br><i>9/10/18 8:15</i>   |                           | Housing Type:<br><i>CFrame</i> |                               | Process Type:<br><i>Gauge</i>                                |  |
| Meter Make:<br><i>LMI</i>      | Model:<br><i>19+3</i> | Serial #:<br><i>89414</i><br><i>157156</i> | Probe Make:<br><i>LMI</i> | Model:<br><i>44-9</i>          | Serial #:<br><i>PR 169170</i> | Calibration Date:<br><i>Dec 8/28/19</i><br><i>Dec 3/1/19</i> |  |

## Aker, Shawn (NSIN)

---

**From:** Becky Mumper <rmumper@chaseenv.com>  
**Sent:** Monday, September 10, 2018 10:00 AM  
**To:** 'Craig Eisenberg'; 'Daniel G Hoover'; Aker, Shawn (NSIN)  
**Subject:** Galv Line Gauge Incident  
**Attachments:** IMG\_8069.jpg; IMG\_8070.jpg; IMG\_8071.jpg; IMG\_8073.jpg; IMG\_8074.jpg; IMG\_8075.jpg; IMG\_8076.jpg; IMG\_8077.jpg; IMG\_8078.jpg; IMG\_8079.jpg; IMG\_8080.jpg

All,

Here are some brief details from me that may be needed when notifying the NRC. Just sending this quick email so I can get started training. Let me know if I'm missing any info and I'll address it when I can.

Instruments used for surveys:

LMI 19 # 89414, cal due 8/28/19

LMI 3 #157156 w/ 44-9 PR169170, cal due 3/1/19

The gauge label is in one of the attached pictures for that info.

Bkgd reading: 4 microR/hr

Highest reading on contact with gauge: 420 microR/hr (0.42 mR/hr)

1 ft reading: 35 microR/hr

Performed leak test and took a reading of the swab with the LMI 3 - all readings were at background (40 cpm).

Transported the gauge from the pillar next to the galv line to a cabinet in a nearby electrical room. Placed the gauge in the bottom shelf of the cabinet and secured cabinet with a lock. Posted "Caution Radioactive Materials" sign on cabinet and wrote highest reading on contact with cabinet (20 microR/hr) on sign. Photos of all of these things are attached.

Shawn and Rick Newcomer can hopefully fill in the rest of the details.

Thanks!

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

From: Becky Mumper [<mailto:rmumper@chaseenv.com>]

Sent: Monday, September 10, 2018 9:40 AM

To: Work E-mail <[rmumper@chaseenv.com](mailto:rmumper@chaseenv.com)>

Subject:



**Chase Environmental Group**

200 Sam Rayburn Parkway  
Lenoir City, TN 37771  
(865) 816-6015

**LEAK TEST CERTIFICATE**

**Generator Information**

Client #: 1010  
Issued To: Nucor Steel Corp.  
Crawfordsville Mill  
4537 South Nucor Rd.  
Crawfordsville, IN 47933-7969  
USA

**Sample Information**

Sample#: 1 Location: Galv. Line "A"

|                    |                |                 |                   |
|--------------------|----------------|-----------------|-------------------|
| <u>Sample Date</u> | <u>Manuf.</u>  | <u>Model</u>    | <u>Device #</u>   |
| 9/10/18            | DMC            | AM-5A           | BS 10303          |
| <u>Sampled By:</u> | <u>Isotope</u> | <u>Activity</u> | <u>Source S/N</u> |
| Becky Mumper       | Am-241         | 1.0 Ci.         | 2421 LV           |

Notes: Post-incident Leak Test

**Laboratory Information**

|                       |                |             |                       |
|-----------------------|----------------|-------------|-----------------------|
| <u>R.A. Mumper</u>    | <u>9/17/18</u> | <u>4593</u> | <u>&lt;0.005 µCi.</u> |
| R.A. Mumper, Lab Tech | Lab Date       | Lab #       | Lab Results           |

|                        |   |
|------------------------|---|
| <u>Instrumentation</u> | <u>MDA (37 Bq. = 0.001 µCi.)</u>          |
| Instr #: 102010        | Cs-137: 0.00004 µCi Pu-239: 0.0000027 µCi |
| Det #: PR102462        | Tc-99: 0.00005 µCi C-14: 0.00011 µCi      |

Removable contamination (leak test) analysis was obtained using detection configuration: 48

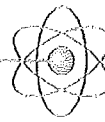
Sample results were less than 0.005 µCi. (<185 Bq.), and will not require regulatory notification.  
All documents, including this certificate, should be maintained on file for agency review.  
Services provided in accordance with Tennessee Radioactive Materials License # R-53008-E19.

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| <b>NRC FORM 241</b><br>(10-2017)   |  | <b>U.S. NUCLEAR REGULATORY COMMISSION</b>  |  | <b>APPROVED BY OMB: NO. 3150-0013</b> <b>EXPIRES: 10/31/2020</b>                 |  |
|  |  | <b>REPORT OF PROPOSED ACTIVITIES IN NON-AGREEMENT STATES, AREAS OF EXCLUSIVE FEDERAL JURISDICTION, OR OFFSHORE WATERS</b><br><i>(Please read the instructions before completing this form)</i> |  |  |  |
| <b>1. Name of Licensee</b> (Person or firm proposing to conduct the activities described below)<br>Chase Environmental Group, Inc  |  | <b>2. Type of Report</b><br><input type="checkbox"/> Initial <input checked="" type="checkbox"/> Change  |  |  |  |
| <b>3. Address of Licensee</b> (Mailing address or other location where licensee may be located)<br>200 Sam Rayburn Parkway<br>Lenoir City, TN 37771  |  | <b>4. Licensee Contact and Title</b><br>Becky Mumper, Radiation Safety Consultant  |  |  |  |
|  |  | <b>5. Office Number</b><br>(865) 816-6015  |  | <b>6a. Work Cell Number</b>  | <b>6. Facsimile Number</b><br>(865) 816-6251 |
| <b>7. E-mail Address</b><br>rmumper@chaseenv.com   |  |  |  |  |  |
| <b>8. Activities to be conducted under the general license given in 10 CFR 150.20</b><br><input type="checkbox"/> Well Logging <input checked="" type="checkbox"/> Leak Testing and/or Calibrations <input checked="" type="checkbox"/> Type of Service: post-incident gauge evaluation<br><input type="checkbox"/> Portable Gauge <input type="checkbox"/> Other (Specify) _____<br>Registered as user of packaging (Certificates of Compliance Numbers) _____<br><input type="checkbox"/> Radiography _____  |  |  |  |  |  |
| <b>9. Client Name and Address</b> (Include county, city, state and zip code)<br>Shawn Aker<br>Nucor Steel Crawfordsville<br>4537 South Nucor Road<br>Crawfordsville, IN 47933  |  | <b>10. Actual physical addr. work location</b> (Street, Number or other location, GPS Coordinates if known)<br>same  |  |  |  |
|  |  | <b>11. Client Work Telephone Number</b><br>Office: (765) 364-1323      Work Cell: _____  |  | <b>12. Work Location Telephone Number</b><br>Office: _____      Work Cell: _____ |  |
| <b>13. Dates Scheduled</b><br>From: 9/10/2018      To: 9/10/2018      Weekends: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  |  | <b>14. Number of Work Days</b><br>1  |  | <b>15. Add</b>   | <b>16. Delete</b>                            |
|  |  |  |  | <b>17. Location Refer. Num. (Assigned by NRC)</b><br>147542                      |  |
| <b>LIST ADDITIONAL WORK SITES ON SEPARATE SHEET(S) TO INCLUDE ALL INFORMATION IN ITEMS 10-17 ABOVE.</b>  |  |  |  |  |  |
| <b>18. List Radioactive Material</b> , which will be possessed, used, installed, serviced, or tested. (Include description of type and quantity of radioactive material, sealed sources, or devices to be used.)<br>DMC AM-5A, Serial 2421LV, 1 Curie Am-241   |  | <b>Model Number</b>  |  | <b>Device Type / Sealed Sources</b>  |  |
| <b>19. Agreement State Specific License</b> which authorizes the undersigned to conduct activities which are the same, except for location of use, as specified in Item 10 above. (One copy of the specific license must accompany the Initial NRC Form 241.)  |  | <b>License Number</b><br>R-53008-E19   |  | <b>State</b><br>TN   | <b>Expiration Date</b><br>5/31/2019          |
| <b>20. CERTIFICATION (Must be completed by applicant)</b><br><b>I, THE UNDERSIGNED, HEREBY CERTIFY THAT:</b><br>a. All information in this report is true and complete.<br>b. I have read and understand the provision of the general license 10 CFR 150.20 reprinted on the instructions of this form; and I understand that I am required to comply with these provisions as to all byproduct, source, or special nuclear material which I possess and use in Non-agreement States or offshore waters under the general license for which this report is filed with the U. S. Nuclear Regulatory Commission.<br>c. I understand that activities, including storage, conducted in non-Agreement States under general license 10 CFR 150.20 are limited to a total of 180 days in calendar year. With the exception of work conducted in off-shore waters, which is authorized for an unlimited period of time in the calendar year.<br>d. I understand that I may be inspected by NRC at the above listed work site locations and at the Licensee home office address for activities performed in non-Agreement States or offshore waters.<br>e. I understand that conduct of any activities not described above, including conduct of activities on dates or locations different from those described above or without NRC authorization, may subject me to enforcement action, including civil or criminal penalties. |  |  |  |  |  |
| <b>Approved by RSO or Management Representative</b> (Printed Name and Title)<br>Chris Echterling, RSO  |  | <b>Signature</b><br>   |  | <b>Date</b><br>9/10/18   | <b>Total Usage - Days to Date</b><br>9       |
| <b>WARNING:</b> False statements in this certificate may be subject to civil and/or criminal penalties. NRC regulations require that submissions to the NRC be complete and accurate in all material respects. 18 U.S.C. Section 1001 makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.   |  |  |  |  |  |
| <b>FOR NRC USE ONLY</b>  |  | <b>Approved by (Typed/Printed Name and Title)</b><br>Michael Reichard, M.P.  |  | <b>Signature</b><br>   | <b>Date</b><br>9/10/18                       |
|  |  | <input checked="" type="checkbox"/> Non-Public <input type="checkbox"/> Sensitive-Security Related MD 3.4 Non-Public a.3   |  | <b>Total Usage - Days to Date</b><br>10  |  |
|  |  | ADAMS ML #   |  |  |  |



Call-IN  
Reg # 520290  
#114466670000  
9-11-18

ADVANCED GAUGING  
TECHNOLOGIES, L.L.C.  
QUALITY INDUSTRIAL INSTRUMENTATION



Customer Service Report

P.O. #: \_\_\_\_\_ Date(s): 9/10/2018 Invoice: \_\_\_\_\_

Billing Address: Accounts Payable Department  
NUCOR STEEL - INDIANA  
4537 SOUTH NUCOR ROAD  
CRAWFORDSVILLE, INDIANA  
47933

Equipment Location: ☒ Same  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact Name: RICK NEWCOMER Title: C.M. ELECTRICAL MAINTENANCE

As Found Condition: CUSTOMER REPORTS SOURCE HOUSING DAMAGED BY COIL.  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action Taken: REPLACED SOURCE HOUSING FROM CUSTOMER'S SPARES.  
VERIFIED OPERATION OF GAUGE AND PERFORMED LEAK TEST  
WITH SATISFACTORY PRELIMINARY RESULTS.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Remaining Actions: NONE REQUIRED  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| QTY | P/N | DESCRIPTION | PRICE | EXTENSION |
|-----|-----|-------------|-------|-----------|
|     |     |             |       |           |
|     |     |             |       |           |
|     |     |             |       |           |
|     |     |             |       |           |
|     |     |             |       |           |
|     |     |             |       |           |
|     |     |             |       |           |

|   | BILLABLE | WARRANTY |
|---|----------|----------|
| On-Site                                   | 2.0H     |          |
| Other Service                             |          |          |
| Pro-Rated <input type="checkbox"/> Travel | 8.0H     |          |
| Total Hours                               | 10.0H    |          |
| Total Parts                               |          |          |
| Laboratory Fees                           | \$79.00  |          |
| Air Fare or Shipping                      |          |          |

[Signature] Service Technician  
[Signature] Customer

Total \$ 2,069.00 U.S.

8430 Estates Court, Plain City, Ohio 43064-8015 USA  
(614) 873-6691 (Phone) (614) 873-6770 (Fax)  
[www.AdvGauging.com](http://www.AdvGauging.com) [Service@AdvGauging.com](mailto:Service@AdvGauging.com) (E-mail)  
(Original to Customer, photocopy to A.G.T. Accounting Department)

Date: 8/10/2018

Line #1 GALVANIZE LINE ENTRY

Gauge Model/Serial IRM/115150 BOTTOM

Source Model/Serial AM-SA/2421LV

Isotope AM-241

Activity 1 CURIE

☐ System Startup

- ☐ Dose Rate Survey
- ☐ Site Survey
- ☐ Training

☐ Semi-Annual Inspection

Shutter Operation:

- ☐ Normal
- ☐ Not Normal
- ☐ Not Applicable
- ☐ Source in Storage

Shutter Indicator Operation:

- ☐ Normal
- ☐ Not Normal
- ☐ Not Applicable
- ☐ Source in Storage

☒ Sealed Source Integrity

Test In Accordance With:

- ☐ U.S.N.R.C.
- ☒ Agreement State
- ☐ C.N.S.C.
- ☐ Mexico

Preliminary Test Results:

- ☒ Satisfactory
- ☐ Not Satisfactory
- ☒ Sent to Lab for Final Analysis

☐ Calibration

- ☐ N.I.S.T. Traceable External
- ☐ External Samples
- ☐ Internal Samples
- ☐ Zero and Infinity

☐ Preventive Maintenance Checks

- ☐ System Performance Satisfactory

Line \_\_\_\_\_

Gauge Model/Serial \_\_\_\_\_

Source Model/Serial \_\_\_\_\_

Isotope \_\_\_\_\_

Activity \_\_\_\_\_

☐ System Startup

- ☐ Dose Rate Survey
- ☐ Site Survey
- ☐ Training

☐ Semi-Annual Inspection

Shutter Operation:

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- ☐ Not Normal
- ☐ Not Applicable
- ☐ Source in Storage

Shutter Indicator Operation:

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- ☐ Source in Storage

☐ Sealed Source Integrity

Test In Accordance With:

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Line \_\_\_\_\_

Gauge Model/Serial \_\_\_\_\_

Source Model/Serial \_\_\_\_\_

Isotope \_\_\_\_\_

Activity \_\_\_\_\_

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- ☐ U.S.N.R.C.
- ☐ Agreement State
- ☐ C.N.S.C.
- ☐ Mexico

Preliminary Test Results:

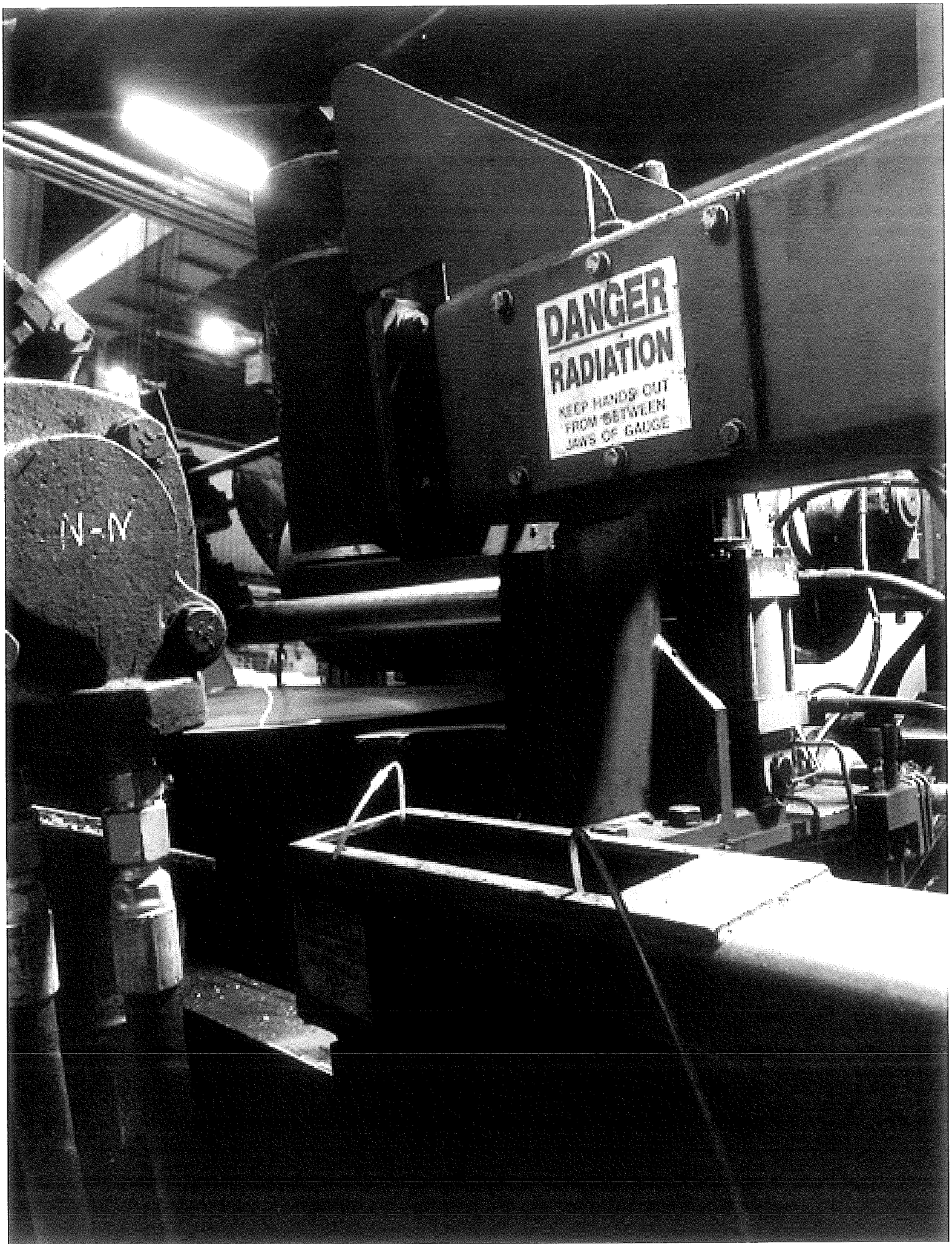
- ☐ Satisfactory
- ☐ Not Satisfactory
- ☐ Sent to Lab for Final Analysis

☐ Calibration

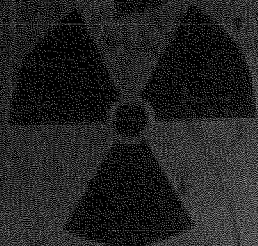
- ☐ N.I.S.T. Traceable External
- ☐ External Samples
- ☐ Internal Samples
- ☐ Zero and Infinity

☐ Preventive Maintenance Checks

- ☐ System Performance Satisfactory







CAUTION - CONTAINS RADIOACTIVE MATERIAL  
DATA MEASUREMENT CORPORATION  
GAITHERSBURG, MD USA

ISOTOPE: AM241      ACTIVITY: 1 CURIE  
SERIAL #: 2421LV      MODEL #: AM-5A

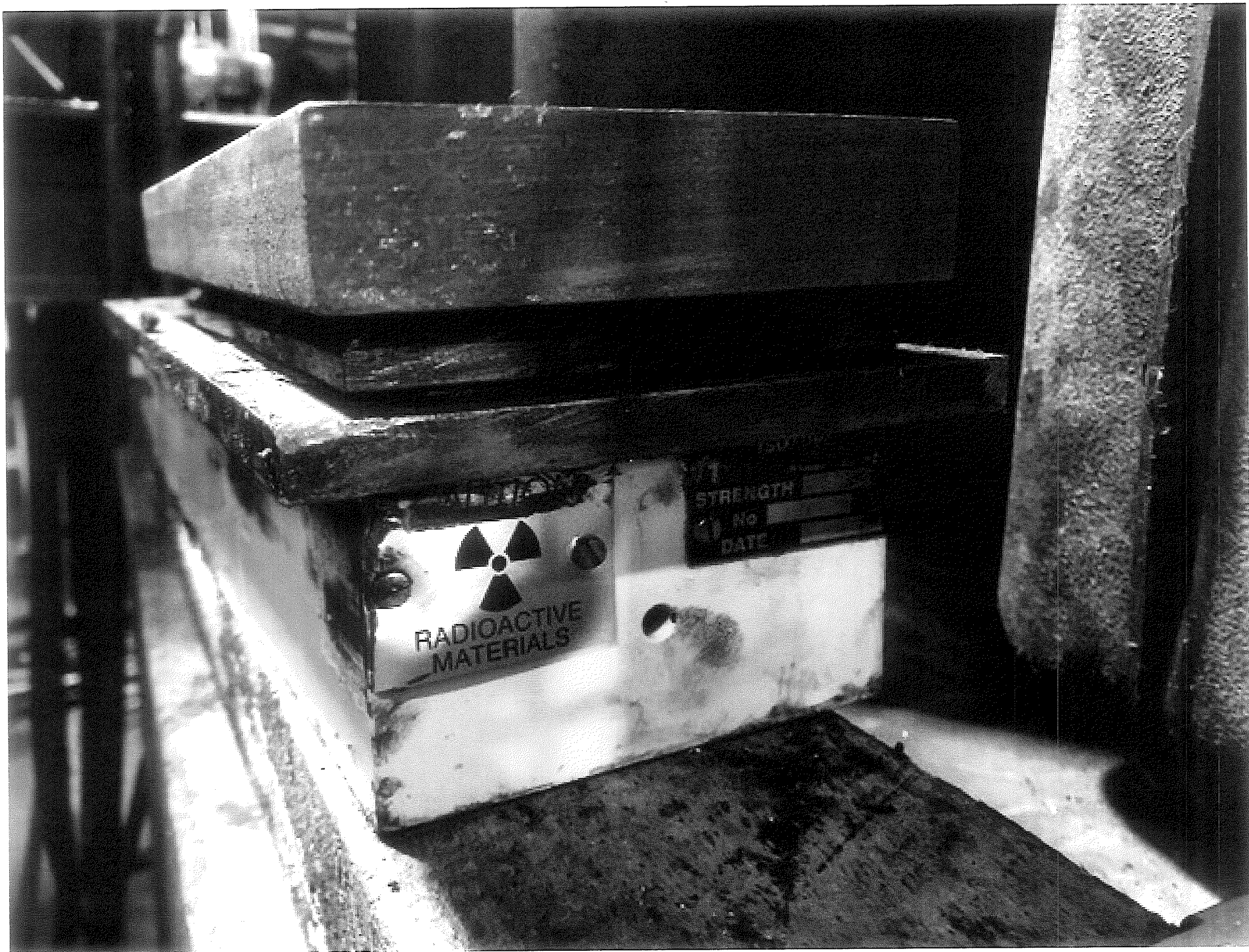
RECEIPT, POSSESSION, USE, AND TRANSFER ARE SUBJECT TO  
GENERAL LICENSE OR EQUIVALENT AND REGULATIONS OF AN  
AGREEMENT STATE OR THE U.S. NRC.

ABANDONMENT/DISPOSAL PROHIBITED UNLESS TRANSFERRED  
TO AGREEMENT STATE OR U.S. NRC SPECIFIC LICENSEES

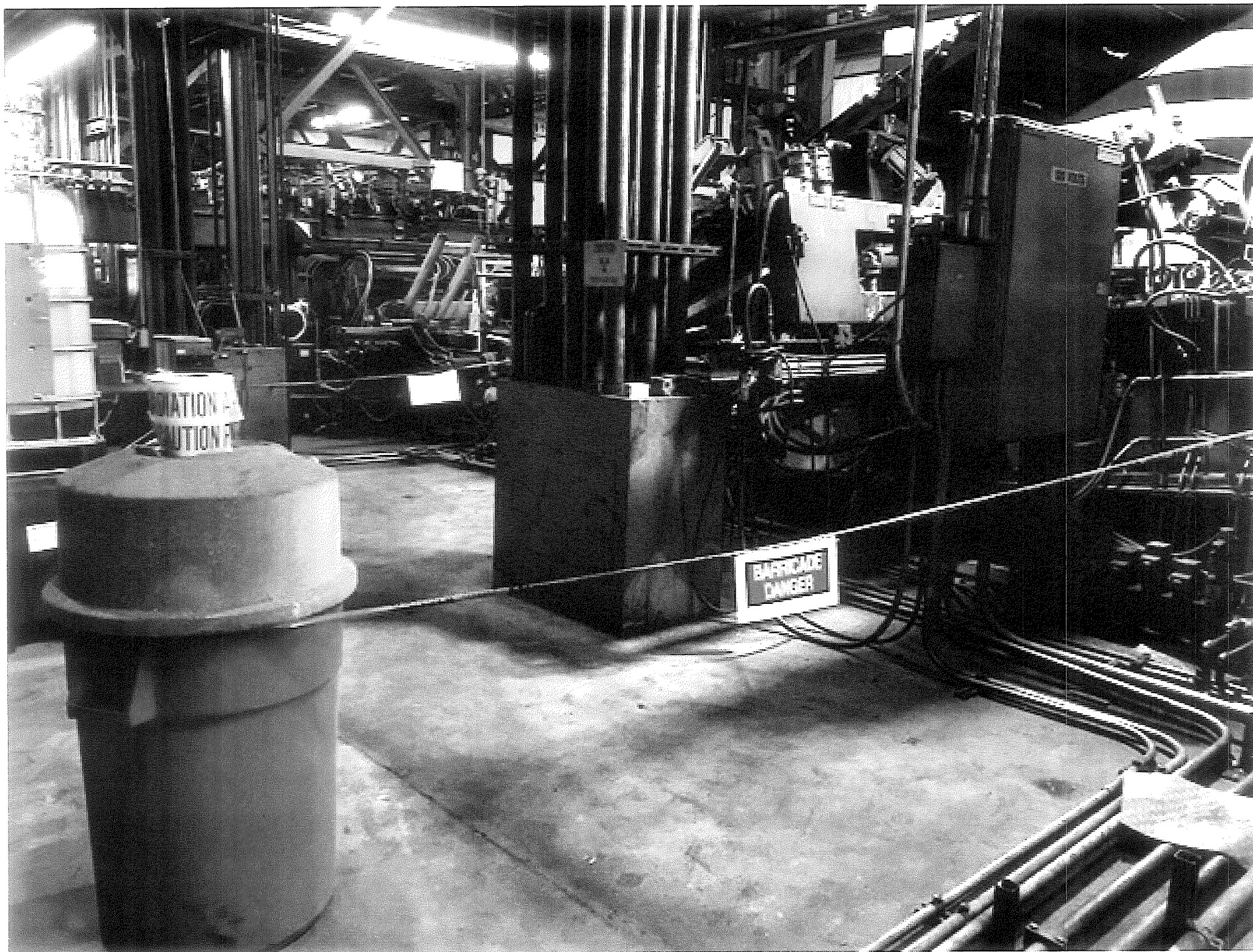
OPERATION PROHIBITED IF ANY INDICATION OF  
FAILURE TO SHIELDING SOURCE CONTAINMENT OR O

RELOCATION MAINTENANCE  
BY AGREEMENT STATE  
LICENSEES  
RADIOACTIVE LEAKAGE  
MECHANISM







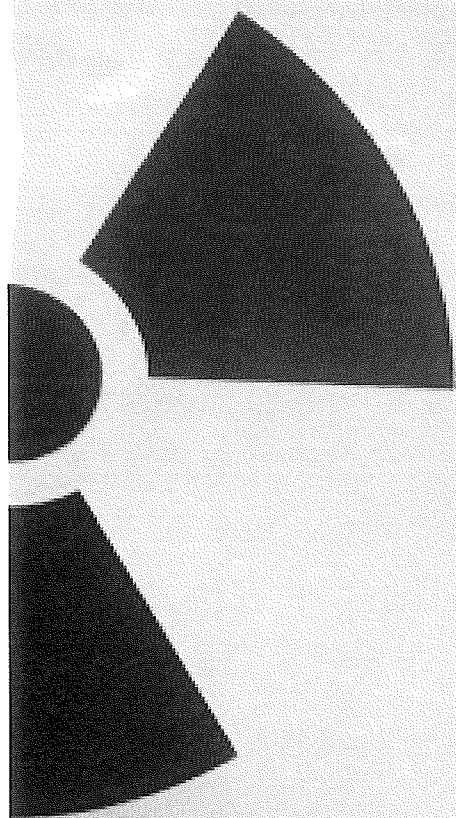








# TION



Highest on-  
contact  
reading:

20  $\mu$ R/hr  
(0.02 mR/hr)

RAM  
9/10/18

# ACTIVE

# RIALS



**From:** [Aker, Shawn \(NSIN\)](#)  
**To:** [Draper, Jason](#)  
**Subject:** [External\_Sender] FW: Nucor  
**Date:** Monday, March 30, 2020 1:05:43 PM  
**Attachments:** [20180917152610238.pdf](#)

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**From:** Aker, Shawn (NSIN)  
**Sent:** Monday, September 17, 2018 4:37 PM  
**To:** kevin.null@nrc.gov  
**Subject:** Nucor

Hello Kevin,

Please see the attached information regarding our incident on 9/10/18. Included is our leak test certification from Chase received today, this was the last piece of information I was waiting on. If you have any questions, please contact me for any additional information.

Regards,

Shawn

card

