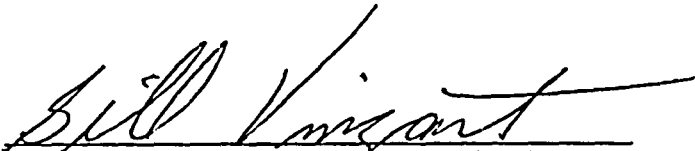


PROCEDURE: Penn E&R/HPM/M-5-2

Check Source Accountability
Former Kaiser Aluminum Specialty Products Facility
Tulsa, Oklahoma

REVISION: 01

EFFECTIVE DATE: JUNE 2004


APPROVED BY: J.W. Virzant, Project Manager

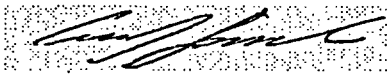
DATE: 6-15-04

PROCEDURE: Penn E&R/HPM/M-5-2

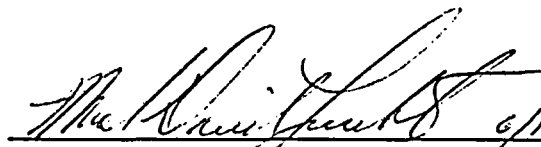
Check Source Accountability

REVISION: 1

EFFECTIVE DATE: June 2004

 6/15/04

Prepared by: Date:
Andrew J. Lombardo
Civil & Environmental Consultants, Inc.

 6/15/04

Approved by: Date:
M. David Tourdot
Vice President – Radiological Services

Health Physics Manual

Penn E&R
359 North Gate Drive Suite 400
Warrendale, PA 15086
724/934/3530

Procedure: Penn E&R/HPM/M-5-2

Title: Check Source Accountability

1.0 PURPOSE

The purpose of this procedure is to ensure that the check sources that are used for daily instrument checks are kept under positive control.

2.0 DEFINITIONS

Positive control: The ensurement that access to sources is restricted.

Check source: Sources of radiation that are used to periodically assure the operation of calibrated instruments.

3.0 PREREQUISITES/PRECAUTIONS/LIMITATIONS

- 3.1 This procedure is only to be implemented on sealed sources that do not fall under the exempt quantities limits set by 10 Code of Federal Regulations (CFR) 39.35.
- 3.2 Sealed sources that only emit alpha particles require leak testing every 3 months.
- 3.3 Sealed sources that are neutron, beta, gamma, or a combined alpha emitter require leak testing every 6 months.
- 3.4 It is recommended that the surveying individuals handling the sealed source wear surgeons' gloves or forceps. The natural oils that are released by the human body can, over time, degrade the finish of the electroplated isotopes. Also, a build up of oil may cause inaccuracy when using the sealed sources as check sources.

4.0 EQUIPMENT

- Cotton swabs
- DI water
- Sample containers
- Appropriate instrumentation (i.e., gas proportional)
- Surgical gloves
- Forceps

5.0 PROCEDURE

5.1 Accountability

- 5.1.1 All check sources that are to be used for instrument calibration shall be kept under positive control by the on-site employee(s). Positive control on location includes securing sources when not in use, documentation when they are used for calibration checks, and supervision of the check source when it is being used.
- 5.1.2 Physical inventories shall be conducted at least once every 6 months. The inventory findings will be documented.

Health Physics Manual

Penn E&R
359 North Gate Drive Suite 400
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Procedure: Penn E&R/IPM/M-5-2

Title: Check Source Accountability

5.2 Leak Testing

5.2.1 Establish Background

5.2.1.1 Background will be established by following the guidance provided by the manufacturer. Be sure to use a dampened cotton swab for determining background. This will ensure that the counting of the surveys contains the same geometry as the background counting.

5.2.1 Surveying Sealed Sources

5.2.1.1 Record all information that accompanies each particular sealed source (i.e., serial number, isotope, origin date, responsible person, decay method, date, time, and survey interval).

5.2.1.2 Dampen a cotton swab and survey the source. The survey is done by swabbing all edges, seams, and openings where it may be possible for the sealed source to "leak" or breakdown.

5.2.1.3 Only one swab is usually required per source. However, this may vary due to the physical dimensions of some particular sources.

5.2.1.4 After swabbing is complete, each swab is placed in a labeled sample container until it is counted on the appropriate instrument to ensure that the source has retained its physical integrity.

5.2.1.5 Record all information obtained from counting the swabs.

5.2.1.6 If elevated readings are obtained from performing a survey on a sealed source the survey may be performed again. If the test reveals the presence of 0.005 microcuries or more of removable radioactive material, the licensee shall remove the sealed source from service immediately and have it decontaminated, repaired, or disposed of in accordance with Nuclear Regulatory Commission guidelines for the disposal of that particular isotope.

6.0 REFERENCES

6.1 10 CFR 39.35, "Leak Testing of Sealed Screens"

7.0 ATTACHMENTS

NA



Form Numbers and Descriptions

Thorium Remediation Project

Form No.	Title	Effective Date	Rev. No.
REC-WP-2-01-1	PERFORMANCE CHECK VALUES	MAY 2004	01
REC-WP-2-01-2	PERFORMANCE CHECK VALUES FOR LUDLUM MODEL 19	MAY 2004	00
REC-WP-2-02-1	MONTHLY STATIC MDC COUNT TIME CALCULATION	MAY 2004	01
REC-WP-2-02-2	MONTHLY BETA MDC COUNT TIME CALCULATION	MAY 2004	01
REC-WP-2-02-3	MONTHLY ALPHA MDC COUNT TIME CALCULATION	MAY 2004	01
REC-WP-2-02-4	MONTHLY GAMMA MDC COUNT TIME CALCULATION	MAY 2004	01
REC-WP-2-03-1	DAILY CHECK LOG LUDLUM 2224 W/ 43-93 DETECTOR	MAY 2004	01
REC-WP-2-04-1	DAILY CHECK LOG LUDLUM 3 W/ 43-93 DETECTOR	MAY 2004	01
REC-WP-2-05-1	DAILY CHECK LOG LUDLUM 19	MAY 2004	01
REC-WP-2-06-1	DAILY CHECK LOG LUDLUM 177 W/ 44-9 DETECTOR	MAY 2004	01
REC-WP-2-07-1	DAILY CHEK LOG LUDLUM 2929 W/ 43-10-1 DETECTOR	MAY 2004	01
REC-WP-2-08-1	DAILY CHECK LOG LUDLUM 2221 W/ 43-5 DETECTOR	MAY 2004	01
REC-WP-2-09-1	LOST OR DAMAGED DOSIMETER REPORT	MAY 2004	01
REC-WP-3-01-1	SURVEY DATA LOG	MAY 2004	01
REC-WP-3-05-1	REMOVABLE ALPHA/BETA SURVEY SAMPLE LOG	MAY 2004	01
REC-WP-4-02-1	AIR SAMPLING DATA & ANALYSIS LOG	JUNE 2004	03
REC-WP-4-02-2	AIR SAMPLING ENVELOPE	MAY 2004	01
REC-WP-4-02-3	PDR DATA & ANALYSIS LOG	JUNE 2004	03
REC-WP-7-01-1	DISCHARGE TO SANITARY SEWER LOG	MAY 2004	01
REC-WP-7-05-1	DAILY BUCKET SCALE VERIFICATION LOG	MAY 2004	01
REC-WP-7-06-1	RAIL CAR INSPECTION FORM	MAY 2004	00
NRC FORM 5	OCCUPATION DOSE RECORD FOR A MONITORING PERIOD	MAY 2004	01
	OUTREACH LABORATORY CHAIN OF CUSTODY	MAY 2004	01
	EQUIPMENT INSPECTION FORM	MAY 2004	01
REC-WP-2-10-1	DAILY CHEK LOG LUDLUM 2221 W/ 44-10 DETECTOR	JUNE 2004	00



**Kaiser Aluminum & Chemical Corp
Thorium Remediation Project**

Procedures and Descriptions

Section	Procedure No.	Title	Effective Date	Revision No.
1	REC-WP-1-01	Procedures	MAY 2004	01
2	REC-WP-1-02	Changes to Procedures	MAY 2004	01
3	REC-WP-1-03	Completion of Forms	MAY 2004	01
4	REC-WP-2-01	Basic Instrument Operation	MAY 2004	01
5	REC-WP-2-02	Instrument MDC Calculation	MAY 2004	01
6	REC-WP-2-03	Ludlum Model 2224 w/ 43-93	MAY 2004	01
7	REC-WP-2-04	Ludlum Model 3 w/ 44-9	MAY 2004	01
8	REC-WP-2-05	Ludlum Model 19	MAY 2004	01
9	REC-WP-2-06	Ludlum Model 177 w/ 44-9	MAY 2004	01
10	REC-WP-2-07	Ludlum Model 2929 w/ 43-10-1	MAY 2004	01
11	REC-WP-2-08	Ludlum Model 2221 w/ 43-5	MAY 2004	01
12	REC-WP-2-09	Dosimeter Issuance and Tracking	MAY 2004	02
13	REC-WP-3-01	Gross Gamma Survey	MAY 2004	01
14	REC-WP-3-02	Personnel Radiation Survey	MAY 2004	01
15	REC-WP-3-03	Entrance or Unrestricted Release Survey	MAY 2004	01
16	REC-WP-3-04	Exposure Rate Survey	MAY 2004	01
17	REC-WP-3-05	Removable Alpha/Beta Survey	MAY 2004	01
18	REC-WP-4-01	Surface Soil Sampling	MAY 2004	01
19	REC-WP-4-02	Air Sampling	JUNE 2004	03
20	REC-WP-4-03	Storage Tank Water Sampling	MAY 2004	01
21	REC-WP-5-01	Check Source Accountability	JUNE 2004	02
22	REC-WP-6-01	Completing Chain-of-Custody	MAY 2004	01
23	REC-WP-7-01	Discharge Water from Holding Tanks	MAY 2004	01
24	REC-WP-7-02	Excavation	MAY 2004	01
25	REC-WP-7-03	Backfill	MAY 2004	01
26	REC-WP-7-04	Loading Vibrating Screen	MAY 2004	01
27	REC-WP-7-05	Loading Rail Cars	MAY 2004	01
28	REC-WP-7-06	Inspecting Rail Cars	MAY 2004	00
29	REC-WP-7-07	Preparation of Rail Car for Loading	MAY 2004	00
30	REC-WP-2-10	Ludlum Model 2221 w/ Model 44-10 Probe	JUNE 2004	00