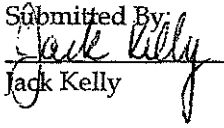
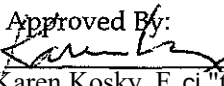


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INTRODUCTION:

The Fermilab Property and Inventory Control Department operates the "Railhead Storage Area" (Railhead) at the north end of the laboratory site. This facility is comprised of three separate areas: 1) South Hardstand; 2) North Hardstand; and 3) Rad Physics Boneyard. Areas 1 and 2 are managed by and under the control of the Property Office. (Area 3, Rad Physics Boneyard, is under the management and control of the Fermilab ES&H Section. The Boneyard area is not included in this procedure.)

The South Hardstand is an unfenced area used for the storage of items which are NOT radioactive and which are, in general, not susceptible to theft.

The North Hardstand is enclosed by a cyclone fence 6 feet high and is topped by three strands of barbed wire overlaid with a coil of razor ribbon. The area is well lighted and routinely patrolled by the site security force.

Within the North Hardstand are three enclosed structures. Two of those structures: 1) The Lundy Barn is unheated and has no electricity and 2) The NEVIS Building is unheated but has electricity. They are intended for the storage of selected materials. The NEVIS building is used to store the NEVIS blocks and lead, some of which is radioactive. The Lundy Barn, and the surrounding fenced area, is available to store materials that are Class 3 or higher. The Lundy Barn area is also used to store materials that require stricter inventory control.

The third enclosure, the Scrap Operations Building, is a heated shop building with full electrical service. It is used for overnight storage of operating equipment assigned at the Railhead.

The remainder of the North Hardstand provides outdoor storage with little or no protection from the elements.

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Items stored in the Railhead are received from all organizational elements of the laboratory. Stored items are classed as one of the following: 1) Restricted storage for future use; 2) Excess to the requirements of the laboratory; 3) Scrap materials or equipment pending sale or other disposition. Material or equipment sold to outside vendors or disposed of through subcontractors is shipped directly from the Railhead to the off-site destination.

PURPOSE:

To establish, institute and incorporate into daily duties procedures that prevent the release of any property which does not meet the radiation standards established in the Fermilab Radiological Control Manual (FRCM), Chapter 4. Also to establish a documented record of activities to demonstrate that these procedures are carried out as part of the routine daily duties of this department.

APPLICABILITY:

These policies and procedures apply to ALL material and property either accepted for storage in the Railhead or shipped off-site from the Railhead. They also apply to all persons assigned to duties at the Railhead and to all persons who require services connected to storage of property at the Railhead.

Exceptions to this policy are not allowed without the direct written approval of the Head of the Business Services Section and the written concurrence of the Chief Safety Officer.

POLICY:

In all operations of the Railhead Storage Facility, every effort shall be made to meet or exceed laboratory standards for the identification, segregation and protection of radioactive material and equipment. To accomplish this, the following policies have been adopted:

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- 1.) Items accepted for storage at the Railhead must have been included on a fully completed and approved Material Move Request (MMR) form (Click here to see form). The items must be surveyed for radiation by the requisitioner immediately prior to acceptance for processing. The survey instrument number and calibration due date must also be included on the MMR. Items will be surveyed again by Railhead personnel with current Material Move Training prior to the storage process at the Railhead.

Note: If any items are found to be radioactive by BSS personnel, the requisitioner might be notified and required to retrieve those items.

At the discretion of BSS personnel, items may not be accepted for scrap, even though they do not meet the FRCM definition of radioactive (e.g. 500 cpm above background with a Bicon Analyst)

BSS personnel will make the final decision on whether items will be accepted through "process knowledge."

- 2.) Items accepted as "scrap for sale or disposition" must also have been included on a fully completed and approved MMR. The items must be surveyed for radiation, and found to be not radioactive by the requisitioner immediately prior to acceptance for processing. The survey instrument number and calibration due date must also be included on the MMR. Items will be surveyed again by personnel with current Material Move Training prior to the storage process at the Railhead.
- 3.) The MMR for all items sent to the Railhead must indicate whether or not the material originated from a Radiological Area. Radiological Areas are defined in 10CFR835. Under the revised suspension policy, a Radioactive Materials Area is no longer classified as a Radiological Area.
 - a) Group 1: Items did **NOT** originate from a radiological area.
 - b) Group 2: Items that are not radioactive, but **did** originate from a Radiological Area.
- 4.) The Railhead has been set up to segregate Group 1 materials from Group 2

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materials, and is posted accordingly. Upon acceptance at the Railhead, the material shall be placed in the appropriate area based upon the MMR.

NOTE: due to size and/or weight considerations of certain items, some co-mingling of Group 2 material, and radioactive material is necessary. BSS has created a map of the Railhead that clearly identifies the location of all materials.

- 5.) BSS maintains the authority to refuse additional radioactive materials if the background radiation levels exceed 4,000 cpm with a Bicron Analyst at the north fence line, or 2500 cpm in the scrap sorting area.
- 6.) Weekly radiation "snoop surveys" shall be conducted covering selected areas of the Railhead Storage Area.
- 7.) Shipments, designated as scrap, on vendor's trucks destined for disposition off-site must be surveyed for radiation and certified as meeting the Fermilab Radiation Policy guidelines for radiation limits.
- 8.) All radiation surveys must be conducted by personnel with current Material Move Training. Radiation surveys must be performed using calibrated radiation detection equipment, that is appropriate for the particular survey being performed.
- 9.) All radiation surveys and snoops performed by BSS personnel shall be formally documented. This documentation shall include:
 - a.) Date of survey
 - b.) Instrument Calibration Due Date
 - c.) Name and ID number of surveyor
 - d.) Radiation Survey Instrument number and type
 - e.) Background Radiation Reading
 - f.) Location at which the survey was conducted
 - g.) Reason for survey:
 1. Routine "snoop", scheduled weekly survey
 2. Pre-shipment certification

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RESPONSIBILITIES:

- 1.) Administration, management, and enforcement of these procedures are the responsibility of the Supervisor of the Property Management Office.
- 2.) Day-to-day implementation of the procedures is the responsibility of the Material Specialist assigned to the Railhead Storage Area and to any employee who may be assigned to act on the specialist's behalf.
- 3.) Radiation surveys are the responsibility of the person who certifies whether or not the material is radioactive on the MMR form (Click here to see form).
- 4.) Certification for off-site shipment is the responsibility of the person who signs the MMR as "Procurement Approval."

PROCEDURE I:

Routine Radiation "SNOOPS":

A radiation "snoop" survey of selected areas of the Railhead storage area will be conducted every week. This survey will concentrate on the scrap processing area and shall include the review and re-check of different areas/boundaries throughout the Railhead.

Responsibility:

Conducting routine radiation snoops of the Railhead Storage Area is the responsibility of the Material Specialist or any employee who may be assigned to act on the specialist's behalf assigned to the Railhead.

Documentation:

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All surveys shall be documented using the Property Office Radiation Survey database. A completed "Weekly Radiation Snoop Survey Report" (copy attached) will be submitted every week to the Property Office Supervisor. A copy will also be sent to the Business Services Section Radiation Safety Officer.

PROCEDURE II:

Arrival of Empty Vendor Gondola:

When a driver arrives to drop off an empty gondola, before proceeding to the Railhead, the gondola must successfully pass through the Vehicle Monitoring System. After the gondola has passed through the detector, at a speed less than 5 mph, the read-out panel will be checked for an alarm. This panel is located inside the scale house. One of two situations will then occur:

- 1.) No alarm. Once it has been verified that the truck/ gondola has been properly surveyed and no radioactivity has been detected, the driver may proceed to the Railhead to drop off the empty gondola.
- 2.) Alarm. Once the radiation alarm has been activated, determine if the alarm is valid.

NOTE: A false alarm can occur due to the higher background radiation levels in the area and non-uniform shielding of the load. A false alarm can be confirmed from the printout, which will indicate radiation levels that are in the range of 19% to 36% above background.

If a false alarm cannot be confirmed, verify that the detector is working properly and the alarm is valid by surveying the truck/ gondola again with the Vehicle Monitoring System. Observe the graph at the bottom of the printout. This printout will display the approximate location in the gondola for the area suspected to be radioactive. This area should be further investigated with another hand-held instrument survey. Drive through the detector again. If no radioactivity is detected, the vehicle may then proceed to the Railhead. If another alarm occurs, inform the driver to return the gondola to the vendor.

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After going through the Vehicle Monitor System the truck/ gondola will be accompanied by a member of the Property Office to site 40. A Radiological Control Technician (RCT) from the Hazard Control Technology Team will perform a hand-held survey of the gondola. This survey will be documented on RW Form #04. If this survey indicates that the gondola might be radioactive, the driver will be informed and asked to return the gondola to the scrap recycler. If no radioactivity is found, the truck / gondola can proceed to the railhead.

Responsibility:

The Material Services Foreman or any member of the Property Office who may be assigned to act on the Foreman's behalf, is responsible for verifying that the empty gondola passes successfully through the Vehicle Monitoring System.

Documentation:

The Material Services Foreman, or any member of the Property Office who may be assigned to act on the Foreman's behalf, and the driver, will both sign the Scrap Shipment Form confirming the empty gondola has successfully passed through the Vehicle Monitoring System. This will also be indicated on the driver's manifest. All documentation pertaining to the requirements in this procedure will be attached to the shipping order PIC form (Click here to see PIC shipping form) after the gondola is full and sent back to the vendor.

PROCEDURE III:

Pre-shipment Certification Surveys:

As the Railhead personnel are filling the gondola, after it is about one-third full, the Material Specialist or designee will survey the load, if he/she can do so safely. They will then survey the load after it gets about two-thirds full, again if it can perform safely. When the gondola is completely loaded, one last survey of the load will be performed.

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Large Items Not Being put in Vendor's Gondola

Immediately prior to the release and shipment of any item(s) from the Railhead Storage Area to an off-site location, the item(s) shall be surveyed for radioactivity. The survey shall include all items placed on the truck by Fermilab.

Truckload Ready to Leave Site

When the vehicle containing the scrap shipment is ready to leave the Railhead, a member of the Property Office will inform the Hazard Control Technology Team and escort the vehicle to Site 40. At that time, an additional hand held radiation survey will be performed of the entire vehicle by a Radiological Control Technicians (RCTs). Those surveys shall be documented on RW Form #04. If that survey indicates that there may be items in the shipment that are radioactive, the shipment must be sent back to the Railhead and the FESSRSO notified. If no radioactivity is found, the vehicle can then proceed through the vehicle monitoring system immediately prior to leaving the site.

The vehicle monitoring system and the RCT will only be available for use during the hours of 7:00am to 4:00pm. One member of the Property Office must be present during each survey. After the vehicle has been driven through the detector, at a speed less than 5 mph, the read-out panel will be checked for an alarm. This panel is located inside the scale house. One of two situations will then occur:

- 1.) No alarm. Once it has been verified that the vehicle has been properly surveyed, and the scrap shipment has successfully passed through the Vehicle Monitoring System, the driver may then proceed offsite.
- 2.) Alarm. Once the radiation alarm has been activated, determine if the alarm is valid.

NOTE: A false alarm can occur due to the higher background radiation levels in the area and non-uniform shielding of the load. A false alarm can be confirmed from the printout, which will indicate radiation levels that are in the range of 19% to 36% above background.

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If a false alarm cannot be confirmed, verify that the detector is working properly and the alarm is valid by driving through the vehicle monitor again. Observe the graph at the bottom of the printout. This printout will display the approximate location on the truck for item(s) that are suspected to be radioactive. Those item(s) should be further investigated with another hand-held instrument survey. Once those item(s) have been identified, they must be removed. Reload the vehicle and drive through the vehicle monitor again. If no radioactivity is detected, the vehicle may then proceed off-site. If another alarm occurs, the entire load must be taken back to the Railhead and checked with another hand-held instrument survey.

NOTE: Computer monitors have been identified to contain varying amounts of naturally occurring radioactive material. As a result, these particular items are not required to be surveyed by the vehicle monitor before leaving the site. These items shall be individually hand surveyed only and still must meet the criteria for being non-radioactive established in the FRCM Article 411.1.

Internal Reuse

Prior to the release and shipment of any Group 2 metal item(s) from the Railhead Storage Area to an on-site location for reuse, an MMR will be completed and when possible the item will be physically labeled as Group 2 material.

Responsibility:

The Material Services Foreman or any member of the Property Office who may be assigned to act on the Foreman's behalf, is responsible for conducting pre-shipment certification surveys, and supervising the loading and release of the property to be shipped. This person is also responsible for verifying that the vehicle passes successfully through the Vehicle Monitoring System.

Documentation:

The Property office employee that is responsible for the shipment must ensure that all hand-held survey results are documented by filling in the appropriate fields on the Property and Inventory Control Material Move Request (MMR) form (Click here to see PIC shipping form) associated with that shipment. In addition, the Property Office employee, and the vendor must both sign the Scrap

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Shipment Form confirming the vehicle has successfully passed through the Vehicle Monitoring System. This will also be indicated on the drivers manifest. All documentation pertaining to the requirements in this procedure must accompany the shipment off site.

PROCEDURE IV:

Required Reporting

Under DOE Records Schedule 1.5.b. (1), this policy and procedure document, in all its revisions, is to be maintained as a permanent record.

DOE Records Schedule 1.5.b. (1) also requires that all radiation survey reports be maintained on file for a minimum of 75 years. This is to include the pertinent data from the actual snoops or surveys. Results of the Railhead Survey Snoops will be forwarded to the Business Services Radiation Safety Officer on a weekly basis.

Responsibility - Reporting

The responsibility for issuing weekly reports rests with the Property Office Supervisor. The supervisor may delegate this responsibility.

PROCEDURE V:

Training

All Property Office personnel shall receive a copy of this procedure and shall receive a briefing explaining the procedure.

New employees shall receive a copy of this procedure and a basic familiarization session during their initial intake ES&H Supervisors Checklist briefing.

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Responsibility

Training is the responsibility of the Property Office Supervisor.

