

HOUSTON LIGHTING AND POWER COMPANY
SOUTH TEXAS PROJECT
ELECTRIC GENERATING STATION
PLANT PROCEDURES MANUAL

SAFETY-RELATED

Radioactive Material Control Program

PGP3-ZR-12
Rev. 0
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APPROVED:

PLANT MANAGER

DATE APPROVED

DATE EFFECTIVE

This procedure is not described in the FSAR.

Field changes to this procedure must be approved by the Plant Manager.

1.0 Purpose and Scope

- 1.1 This procedure describes the methods to be used for the control of receipt, storage, transfer, and shipment of radioactive material in the form of calibration sources, new fuel, and contaminated equipment.
- 1.2 Packaging of and preparing shipment records for radioactive waste is the responsibility of the Chemical Operations and Analysis Division and, except where interface with the Health and Safety Services Division is required for surveys of packages and vehicles, will be controlled by approved PCP procedures.

2.0 Definitions

- 2.1 BY-PRODUCT MATERIAL: Any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to radiation incidental to the process of producing or utilizing special nuclear material.
- 2.2 SEALED SOURCE: A radioactive source sealed in an impervious container which has sufficient mechanical strength to prevent contact with and dispersion of the radioactive materials under the conditions of wear and use for which it was designed.

- 2.3 SOURCE: An apparatus or a material emitting or capable of emitting ionizing radiation.
- 2.4 SPECIAL NUCLEAR MATERIAL (SNM): Plutonium, uranium enriched in isotope 233 or 235, and any other material which the NRC determines to be SNM.

3.0 Precautions

- 3.1 All requirements regarding access to restricted areas shall apply while working in posted areas.
- 3.2 Every effort shall be made to maintain personnel exposure as low as reasonably achievable.

4.0 Equipment Required

- 4.1 Sufficient instrumentation shall be available to allow necessary radiation readings to be taken.
- 4.2 Sufficient smear material and counting equipment shall be available to allow necessary contamination assessment.

5.0 Procedure

5.1 Material Receipt

- 5.1.1 Procedure PGP3-ZR-14 (Receipt of Radioactive Material) provides instructions, documentation requirements, and action levels for receiving material at STPEGS.
- 5.1.2 Upon receipt, material will be used, transferred, and/or stored per instruction of Health and Safety Services personnel.
- 5.1.3 Health and Safety Services personnel shall use measures to prevent the spread of contamination during package inspection, unpacking, and surveys,
- 5.1.4 The Radiological Protection Supervisor at STPEGS shall have primary responsibility for ensuring that all regulatory requirements for the handling and monitoring of radioactive material shipments other than radwaste are followed and that required notifications are made in cases of noncompliance.
 - 5.1.4.1 Responsibility for the satisfaction of regulatory requirements for radwaste shipments lies with the Chemical Operations and Analysis Division.

- 5.1.5 Health and Safety Services personnel assigned to perform receipt inspection and survey shall be responsible for:
 - 5.1.5.1 Ensuring that smears are counted and leak test results are entered on the Receipt Records (PGP3-ZR-14-01).
 - 5.1.5.2 Assuring that the Receipt Record (PGP3-ZR-14-01) is completed and routed for approval and filing.
 - 5.1.5.3 Notifying the Radiological Protection Supervisor or his designee in cases of leakage or other non-compliances.
 - 5.1.5.4 Releasing radioactive material to user if conditions are in compliance.
 - 5.1.5.5 Placing package on HOLD and taking necessary precautions to prevent spread of contamination and to protect personnel from radiation and/or contamination in the event of noncompliance.

5.2 Material Transfer

NOTE: PROCESSING, PACKAGING, AND TRANSFER OF RADIOACTIVE WASTE IS CONTROLLED BY THE CHEMICAL OPERATIONS AND ANALYSIS DIVISION. APPROPRIATE PCP PROCEDURES GOVERN COLLECTION, MOVEMENT, AND STORAGE OF WASTE, INCLUDING ON-SITE TRANSFER TO STORAGE AND SHIPMENT OFF-SITE.

- 5.2.1 Contaminated material in use within the controlled area may be moved about using appropriate contamination control precautions such as poly bags, absorbent material, or herculite sheeting.
- 5.2.2 Procedure PGP3-ZR-16 (Transfer of Radioactive Material) describes precautions and Health and Safety Services assistance₂ required for transfer of contaminated ($>1,000$ dpm/100 cm²) or radioactive (>20 mr/hr contact) material.
- 5.2.3 Procedure PGP3-ZR-13 (Movement of Materials Out of Controlled Areas) deals with movement of any radioactive material through "CLEAN" areas to prevent loss, contamination spread, or misuse outside of the controlled area.
 - 5.2.3.1 Any materials or components removed from a radiologically controlled area will be considered and controlled as radioactive material until surveyed and released as non-contaminated.

- 5.2.4 When transferring from one HL&P facility to another HL&P facility, the labeling on the outside of the package and placarding of the vehicle must conform with DOT regulations as outlined in 49 CFR 172.403 and 172.504, and PGP3-ZR-20 (Shipment of Radioactive Material).
- 5.2.5 Health and Safety Services shall survey the transport vehicle prior to and upon completion of the loading process to verify compliance with PGP3-ZR-20 (Shipment of Radioactive Material).
- 5.2.6 Health and Safety Services shall complete all necessary documentation to ensure accountability for the radioactive material transferred from HL&P facilities.

5.3 Material Storage

- 5.3.1 Procedure PGP3-ZR-15 (Storage of Radioactive Material) provides guidance for posting and control of areas where radioactive material is to be stored.
- 5.3.2 The Health and Safety Services Division Manager or his designees have the following responsibilities with respect to the security of stored radioactive material other than radwaste:
 - 5.3.2.1 Designating and establishing radioactive material storage areas.
 - 5.3.2.2 Controlling access for all radioactive material storage areas, and maintaining key control of all locked radioactive material areas.
- 5.3.3 Radioactive material should only be moved into or out of a radioactive material storage area in accordance with the applicable contamination control procedure(s).
- 5.3.4 Temporary storage areas may be established with the approval of the Plant Manager and the Health and Safety Services Division Manager or their designees. Temporary areas must be either in a controlled access area or a secure area that can be locked when unattended or under positive surveillance at all times.

5.4 New Fuel

- 5.4.1 Fuel receipt, control, and tracking is the responsibility of the Nuclear Materials Custodian.

- 5.4.2 Receipt of new fuel assemblies will be followed by Health and Safety Services personnel. Procedure PGP3-ZR-17 (Radiological Monitoring for New Fuel Receipt) delineates specific surveys and documentation required while monitoring fuel inspection and storage.

5.5 Source Control

- 5.5.1 Procedure PGP3-ZR-22 (Inventory, Control, and Leak Testing of Radioactive Sources) describes receipt requirements, documentation, inventory verification, and leak testing techniques to provide surveillance of sources requiring licensee control and to assure their integrity.
- 5.5.1.1 Each licensed source shall be accounted for by a quarterly, physical inventory when initially received and when shipped off-site unless the source is inaccessible (such as a startup sources in a reactor).
- 5.5.1.2 If a licensed source is missing and cannot be located or accounted for, notify the Health and Safety Services Division Manager or his designee at once.
- 5.5.2 Sources being transferred between HL&P facilities or being disposed of are handled under guidance of procedure PGP3-ZR-18 (Disposal and/or Transfer of Sources).
- 5.5.3 Procedure PGP3-ZR-19 (Use of Sealed Sources and Standards) outlines the handling and control of exempt and non-exempt sources and standards used for instrument checks, calibrations, and standards preparation.
- 5.5.3.1 Positive control of all small disc sources and standards shall be exercised with a checkout system whenever a source is to be removed from its storage location for use.
- 5.5.3.2 When a source is checked out and removed from the vicinity of the source storage container, the individual who checked the source out is responsible for the security of that source until it has been checked back in.

5.6 Material Shipment

- 5.6.1 Shipments of radioactive material other than waste will be done in accordance with procedure PGP3-ZR-20 (Shipment of Radioactive Material). This procedure provides labeling and survey instructions as well as shipping limits and documentation data.
- 5.6.2 Radioactive waste processing, packaging, and shipping is performed by the Chemical Operations and Analysis Division under appropriate PCP procedures.
- 5.6.3 Health and Safety Services personnel shall be responsible for leak testing and surveying radioactive material(s) prior to and upon completion of the loading process for shipment.

6.0 References

- 6.1 PGP3-ZR-22 (Inventory, Control, & Leak Testing of Radioactive Sources)
- 6.2 PGP3-ZR-13 (Movement of Materials Out of Controlled Areas)
- 6.3 PGP3-ZR-14 (Receipt of Radioactive Material)
- 6.4 PGP3-ZR-15 (Storage of Radioactive Material)
- 6.5 PGP3-ZR-16 (Transfer of Radioactive Material)
- 6.6 PGP3-ZR-17 (Radiological Monitoring for New Fuel Receipt)
- 6.7 PGP3-ZR-18 (Disposal And/Or Transfer of Sources)
- 6.8 PGP3-ZR-19 (Use of Sealed Sources and Standards)
- 6.9 PGP3-ZR-20 (Shipment of Radioactive Material)

7.0 Support Documents

- 7.1 Addendum 1 - Punchlist

Addendum 1
Punchlist

1. PGP3-ZR-13 (Movement of Materials Out of Controlled Areas) describes limits for release of material from RCAs. This procedure is usable without PGP3-ZR-13.
2. PGP3-ZR-14 (Receipt of Radioactive Material) describes actions taken upon receipt of radioactive material at STPEGS. This procedure is usable without PGP3-ZR-14.
3. PGP3-ZR-15 (Storage of Radioactive Material) describes requirements for maintaining control of stored radioactive material. This procedure is usable without PGP3-ZR-15.
4. PGP3-ZR-16 (Transfer of Radioactive Material) describes methods and controls necessary for the movements of radioactive material within the STPEGS facility. This procedure is usable without PGP3-ZR-16.
5. PGP3-ZR-18 (Disposal And/Or Transfer of Sources) describes procedures required for disposal of non-exempt radioactive sources when no longer needed. This procedure is usable without PGP3-ZR-18.
6. PGP3-ZR-19 (Use of Sealed Sources and Standards) describes methods for handling radioactive sources. This procedure is usable without PGP3-ZR-19.
7. PGP3-ZR-20 (Shipment of Radioactive Material) describes limits and methods used for preparing material (other than waste) for shipment off-site. This procedure is usable without PGP3-ZR-20.
8. PGP3-ZR-22 (Inventory, Control, and Leak Testing of Radioactive Sources) describes the methods and documentation required for maintaining licensed sources. This procedure is usable without PGP3-ZR-22.