Seatt de Mexico

Operation Systems and Procedures

Department: Engineering
Title : Radioactive Material Inspection by R.S. Supervisor
No. : ING-013

Revision : F
Date: November 27, 1995
Use conditions: General

REVISIONS RECORD

REVISION	DATE	DESCRIPTION	REALIZED BY
A	July 26, 1987	Original Document	Luis Eduardo Lopez M.
B	March 20, 1990	Style line models addition	Luis Eduardo Lopez M.
C	April 29, 1991	New structure and contents Amplifying	Elizabeth Tavares T.
D	June 01, 1994	Complete restructure according to the CNSNS instructive	Sergio Chavez
E	April 01, 1995	Format change for procedure SPC-011	Higinio calderon
F	November 23, 1995	Procedure updating to use new source control formats.	Sergio Chavez

Seatt de México
Sistemas y Procedimientos de Operación

Depto: Ingeniería
Título: Inspección de material radiactivo por el encargado de seguridad radiológica
No.: ING-013

Revisión: F
Fecha: Noviembre 27, 1995
Condiciones de uso: General

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Depto. Entrenamiento		Nov 27.95

REFERENCIA

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OBJECTIVE

To indicate the alignments to follow for inspectioning the radioactive material that comes to the plant in radiological security terms.

SCOPE

This document defines the radioactive material inspection by the Radiological Security Responsible.

RESPONSIBILITIES

Is the Radiological Security Supervisor responsibility to do the following alignments for the radioactive material inspection.

References:

*Radiological Security General Regulations.
* Federal Official daily. (Tuesday November 22, 1988)

Definitions:

Inspection.- Exam of the physical and radiological security of a radioactive installation, its systems, equipment, and the operation procedures application, documents and registers.

Material and equipment:

* Cotton Gloves
* Cloth disks for "Frotis"
* Alcohol
* Radiation Measurer Geiger Muller
* SAC-4 Alphas Counter

Caution:

The handling and Inspection of radioactive material will be realized only by trained personnel and equipped of cotton gloves, latex finger covers to avoid pollution of hands.

Directions:

1.- When the transportation vehicle of radioactive material gets to Seatt de Mexico Plant in Chihuahua, the Radiological Security Responsible will verify again the new radiation levels using the radiation measurer Geiger Muellen in:

*Vehicle's cabin for not exceeding 2mR/hr.

*Vehicle closeness for not exceeding 0.5 mR/hr.

The readings obtained should be registered in the FORM-139, raising radiation levels .

2.- Verify the presence of (2) external labels on each side of the trailer box. (See attachment No. 1)

3.- Remove completely the (2) external labels from each side of the trailer box.

4.- Remove the customs lock from the back doors of the trailer's box so the doors can be opened and assured.

5.- The packages containing radioactive material will be inspected by the Radiological Security Responsible, to detect if there's pollution on the surface and external levels of radiation in a period of (3) hours after receiving the material if it is received in normal work time, or in a period of (18) hours if they're received out of work time.

6.- To inspect the packages with radioactive materials the following sequence must be followed:

a) Use cotton gloves to prevent hands pollution.

b) Inspect visually the packages to detect if there's damage; the metal boxes and containers that are inside the boxes, should not be maltreated or damaged. If any damaged is detected, notify immediately to the permisionary and proceed the boxes verification. In case any of the boxes is damaged or there's a radioactive material leak, the Radiological Security Responsible should avoid the access of material, realize an immediate inspection to determine the diffusion grade of boxes pollution, the vehicle and the shipping and receiving areas (take reference of step 7 in this procedure).

c) Verify that the material is very well identified with its radiation labels (see attachment No. 2 in procedure ING-015)

d) Verify the material is correctly assured and wrapped in the shipping pallet to avoid leaks or pressure.

e) Using the Geiger Muller detector, verify that the counting don't exceed 10.0 mR/hr to (1) meter of container, and 200 mR/hr to the surface contact. If the level exceeds the shipment should be returned immediately to the supplier WITHOUT OPENING. If the level doesn't exceed do the next inspection. The levels found should be registered in the FORM-139.

f) Before signing any source receipt in SEATT de Mexico, the Radiological Security Responsible should make sure that the gamma radiation emission coming from the container without opening, is not exceeding the mentioned limits. If any gamma radiation is registered and considered excessive, the shipment should be returned to the supplier.

h) Verify that every shipment contains the test certificate of the radioactive material supplier, in which there must be indicated the sources activity and the leak tests, the radioisotope, physical and chemical form, material and kind of capsulation, mark and model. Attach certificate in the supplier file. (See attachment No. 2)

i) Open the packages with the following caution:

* Open the external wrapping package to take the packing list out.
* Open the interior package and verify that the content is the one detailed in the list, compare requisition and the boxes labels.
* Check the carton boxes are in good conditions.
* Verify that the quantity of radioactive material in the shipment received, is the same as the one described in the material list and check by summarizing this quantity of material plus the existent one don't exceed the unit limit that is allowed to have at any moment in the position licenses and radioactive material use and the transportation one.

7.- Once the boxes with radioactive material have been ~~revised~~ recieved, Proceed to realize the Pollution, leak or frotis test in the place where the material was on the trailer an in the pallet used for packing according to the procedure ING-019, Contamination and Decontamination..

* Fill shipment information on the cloth disks face.
* Wet cloth disks with alcohol.
* Pass cloth disks over the floor surface and the vehicle's walls in an area of 10cm2 of any surface.
* Pass disks by the shipping pallet.
* Verify pollution on cloth disks using alpha counter, having it in TIMED X .1 X 1 minute scales.
* In case the counting is high (from 20 or more counts), proceed its decontamination following procedure ING-019. If the radioactive pollution was more than 4.0 Bq/cm2 (0.1 uCi/cm2) for beta and gamma emissors and for low toxicity alpha emissors, or 0.4 Bq/cm2 (0.00001 uCi/cm2) for the rest of all the alpha emissors, then the decontamination should be done by authorized specialists in the less time possible, being necessary to stop boxes and the vehicle until they are decontaminated or the contamination is less than the values mentioned before. The CNSNS should be notified when any contamination problem is presented so it can be declared that the vehicle is considered safe.
* In case the counting is minimum, continue with this procedure.
* Write the data on the FORM-140, Pollution Test Register.

8.- The packing material of radioactive material, should be inspected to detect possible presence of radiation with the Geiger Muller detector before using it.

A) If they're contaminated, treat them as radioactive waste.
B) If they are not contaminated, use them as industrial waste so they are sent back to the United states of America.

9.- In case everything is correct, send the radioactive material to the clean room area so it can be inspected by quality control, selected in lots and assured in lock boxes.

10.- Every time the radiological security responsible escorts the virgin radioactive material from El Paso Tx. USA to Chihuahua, Chih., Mexico, the trip will be registered in the radioactive material transportation register and daily revision, in which there must be written the following:

* Authorization of the Nuclear Safety an Security National Commission (CNSNS) used for the radioactive material importation.

* quantity of imported radioactive material.
* Number of trailer used in the importation.
* Radiation levels in the trailer's box.
    *Bottom level
    *Cabin level
    *2 meters distance level
    *1 meter distance level
    *Contact level
* Radiation levels in the material's pallet:
    *1 meter distance level
    *Contact level.