COLD CATHODE TUBES

METHOD OF HANDLING TUBES NOT SPECIALLY MARKED

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1. GENERAL

1.01 This section describes the method of handling cold cathode tubes that are not specially marked with a magenta (purplish red), 3-bladed, propeller-shaped symbol. The method of handling specially marked cold cathode tubes is covered in Section 024-700-801.

1.02 This section is reissued to add storage and handling information. Revision arrows are used to denote significant changes. The Equipment Test List is not affected.

1.03 The unmarked tubes contain a very minute amount of radioactive material, such as krypton 85 or radium. Although the radiation effect from these tubes in normal use is considered negligible, precautions should be exercised when storing quantities of tubes and when handling broken tubes.

2. APPARATUS

2.01 ***List of Tools, Materials, and Test Equipment:*** The following list of tools, materials, and test equipment is used in this section.

TOOLS	DESCRIPTION
KS-14428 or KS-5637, L1	Tube Extractor
MATERIALS	
(As required)	Rag, such as dust cloth or used cleaning cloth
—	Cotton gloves
TEST EQUIPMENT	
—	▶Geiger Counter Survey Meter (equipped with thin end window)◀

3. STORAGE

3.01 Do not store photographic film within 15 feet of these tubes.

3.02 ▶Cartons of radioactive type cold cathode tubes stacked on the floor for temporary storage shall be protected with an appropriately sized sheet of masonite or other structural material capable of preventing tube breakage due to falling objects. The stack of cold cathode tubes shall not be located within 3 feet of a fixed work location such as test boards or desks.◀

4. HANDLING

4.01 Cold cathode tubes covered by this section represent no radiation hazard in normal use. However, precautions should be observed in the handling of broken tubes and in the disposal of tubes.

4.02 ▶If a tube should fall and break, walk out of that area and wait a few minutes before making an attempt to pick up the broken pieces to prevent inhalation of released dust or vapors.

4.03 Employees that have cuts, abrasions or open sores on exposed parts of their body shall not handle broken radioactive type tubes.◀

4.04 If a broken tube is still in its socket, remove it with the KS-14428 or KS-5637, L1, tube extractor.

4.05 ▶Cotton gloves should be worn when picking up broken tubes. Place parts in a wet rag and dispose of as covered in Part 5.

4.06 Employees who cut themselves in the process of handling broken parts of radium tubes shall immediately rinse the cut(s) in cold water for a minimum of 5 minutes. The wound and hands shall be washed thoroughly with soap and lukewarm water. Rinse thoroughly. Repeat the above procedure three times. Report the injury to the job supervisor who will arrange for an immediate medical appointment with a local physician.

> ***Note:*** A geiger counter survey meter can be used to determine if the cut is contaminated with radiation from radium tubes. Krypton-85 tubes pose no danger of radiation.◀

4.07 Where a defective tube is not broken, remove it with the tube extractor and dispose of it as covered in Part 5.

5. DISPOSAL

5.01 ▶All tubes not specially marked should be returned to:

Western Electric Company
777 N. Blue Parkway
Lee's Summit, Mo 60463
ATTN: Reclamation Organization
Warning: Glass

5.02 Packaging and shipping procedures given in Section 024-700-801 must be followed.

6. REGULATIONS

6.01 The United States Nuclear Regulatory Commission (USNRC) and most states do not require registration of electron tubes containing 30μCi or less of Krypton 85 per tube. If there is any question about registration, the appropriate regulatory body within that state should be contacted.

6.02 The USNRC has no jurisdiction over radium. Most states do require either licensing or registration of all electron tubes containing radium 226 except for the following:

Colorado—5μCi per tube or less
Montana—5μCi per tube or less
New Jersey—1μCi per tube or less.

Although no special license is required for these exceptions, all precautions concerning radium must be strictly adhered to.◀