CURIE
ENVIRONMENTAL SERVICES

PROCEDURE TO DETERMINE IF AN EXIT SIGN IS DAMAGED OR COMPROMISED

DEFINITIONS

1. Non-Compromised exit sign: An intact exit sign that does not show physical signs of damage to the frame or protective covering, and none of the inner H-3 (tritium) tubes are cracked/broken.
2. Compromised exit sign: An exit sign that has visually broken or rattling tubes; or as determined from the Curie Glow Test procedure below. This is a surcharge item.
3. Damaged exit sign: An exit sign that has significant physical damage to the frame, damage to the protective covering, or any damage that exposes unprotected H-3 inner tubes that may break during shipment. This is a surcharge item.
4. Intact exit sign: An exit sign that is not compromised, damaged or leaking.

TESTING OF ALL EXIT SIGNS TO DETERMINE IF THEY ARE COMPROMISED

1. All exit signs that are not obviously Compromised are required to be tested to determine if any inner H-3 tubes are broken.
2. Were appropriate PPE per your company policy/procedures to avoid spreading potential radioactive material contamination. H-3 loose contamination will remain on the surface of a compromised exit sign so handle with care.
3. The testing may be done in place before removing a sign from service by simply turning off the lights or taking the signs into a dark room and carefully observing if all inner tritium tubes comprising the letters in the word “EXIT”, and any directional arrows on either side of the word “EXIT”, glow.
4. Alternative testing may be done by making a small hole in a fiber board box and placing the box over the exit sign. The exit sign may then be observed and if any inner tubes are not glowing, they are Compromised.
5. Photos of an example glow box along with photos of an exit sign with a hairline crack rendering it Compromised are provided as examples. They are found at Attachment 1.

DETERMINATION

1. Signs meeting the following criteria should be treated as Compromised:
    a. Rattling inside and visually broken inner tritium tubes.
    b. Visual cracks in the plastic (any size crack visible to the eye is considered a crack) unless documented to be Non-Compromised by the Glow Test.
    c. Non-illuminating letters in an otherwise lit sign as determined by the Glow Test.

INTACT EXIT SIGNS (NON-DAMAGED AND/OR NON-COMPROMISED SIGNS)

1. Package per the Curie Tritium (H-3) Exit Sign Return Kit Packaging Instructions

DAMAGED BUT NOT COMPROMISED SIGNS

1. Carefully consider the handling and packaging of Damaged signs based on their condition.
2. Damaged exit signs must be packaged to prevent tritium inner tube damage during shipping. Remedies include placing a plexiglass or cardboard protective cover over exposed tubes. Contact Curie if questions.
3. Based on the condition of the sign double-bagging would be prudent.
4. Each Damaged sign must be "declared" by the Customer/Generator to Curie. Damaged signs must be inventoried separately and noted as DAMAGED with a description in the comments section of the inventory form. A maximum of five damaged signs may be shipped per box.
5. Submit the inventory to Curie for approval.
6. Mark the return kit box "DAMAGED" with a sharpie and in one inch high letters.
7. Undeclared Damaged signs arriving as Compromised will incur the Undeclared Compromised Surcharge.
8. Declared Damaged signs arriving as Compromised will be billed as Compromised.

COMPROMISED SIGNS

1. Handling
    a. Compromised signs require specific handling and packaging.
2. Surcharges
    a. ***All*** *of the following protocols must be followed or* ***surcharges*** *will apply.* See Curie Pricing.
3. Declaration of Compromised Signs
    a. Each Compromised sign must be "declared" by the Generator/Customer prior to shipping to Curie.
    b. *If the* ***declaration*** *is not made timely,* ***surcharges will be assessed****.*

4. Photographs of Compromised Signs
    a. Photographs are required to be taken prior to packaging by the Generator/Customer.
    b. Capture photo showing the overall condition of the sign.
    c. Capture a close-up photo of the data on the label.
    d. Capture a photo of any other identifying markings if the label is missing or illegible.
    e. The photo file name should include the Generator/Customer, Item#, Box# and Compromised Sign.
    f. If more than one sign is Compromised at a location, associate the photographs to each sign. Add to each photo file name a unique number or letter extension and mark each corresponding package accordingly.
    g. Forward the photo(s) to Curie for approval.
    h. *If **photos** are not supplied, **surcharges will be assessed**.*
5. Inventory information
    a. Generator/Customer is to collect inventory data from the compromised signs at the time of removal
    b. Required information can be obtained from labels on the exit sign and recorded on the Curie inventory form.
    c. An inventory for each compromised sign in a package shipped should include the following:
        i. Manufacturer
        ii. Model
        iii. Serial number
        iv. H-3 reference activity
        v. Date of manufacture
        vi. Life rating (as possible): Required only if no activity information is available and put in the comments section.
    d. If label is missing from the sign provide the data as above as possible:
        i. Does the sign look like the same model as others from the same location? Manufacturer and Model can be deduced.
        ii. Does the age of the sign look like the others? Or is it older or newer? Date of Manufacture can be deduced.
        iii. Is there any other identifying markings on the sign?
        iv. In each instance *note* this information. *Do not record as if it is fact.*
        v. This notated information should be recorded in comments column of the inventory spreadsheet.
    e. *If Inventory **data** is not provided to Curie, and Curie has to **open each sign package** to collect the data, **surcharges will be assessed**.*
6. Packaging:
    a. The Compromised sign(s) should be shipped in a kit with no other category of signs. This avoids potential contamination of other signs.

b. Signs must be double-bagged in heavy clear bags of a thickness (3-4 mil) to protect the signs from further damage and contain any H-3 contamination. Clean bags will allow verification of sign information without opening the bags.
c. Standard packaging protocol for radioactive materials requires only that the top of the bag be twisted and folded over once, and then secured with tape around the 'neck' of the bag.
d. Add cushioning material as needed to secure signs in place so as not to be jostled during transportation.
e. Do not package prior to collecting all required inventory data.
f. A maximum of 5 compromised signs may be shipped per package.
g. *If signs are not **packaged** per this procedure, **surcharges will be assessed.***

GENERAL PACKAGING CRITERIA SUMMARY

1. Packaging by Generator/Customer. All exit signs must be handled with extreme care.
2. No more than 10 Non-Compromised signs are to be packaged per box.
3. Package as kit is designed using the provided cushioning material.
4. No more than 5 Damaged signs are to be packaged per box. Each one must be individually double-bagged. Cushioning material must fill the box to prevent movement of the signs during transit.
5. No more than 5 Compromised signs are to be packaged per box. Each one must be individually double-bagged. Cushioning material must fill the box to prevent movement of the signs during transit.
6. Never pack Non-Compromised or Damaged signs with Compromised signs.
7. If Non-Compromised or Damaged signs are packaged with Compromised signs, **significant surcharges will be assessed.**
8. Damaged exit signs may be packaged with Non-Compromised exit signs at the *shippers' risk.* If a Damaged exit sign arrives as Compromised upon receipt at Curie and it was packaged with Non-Compromised signs, **significant surcharges will be assessed**.

If questions, contact customer service at 505.888.9392 or orders@curieservices.com.

ATTACHMENT 1

CURIE ENVIRONMENTAL SERVICES

Rediscovering Innovation
In Radioactive Waste Management

GLOW BOX COMPROMISED SIGN
BOX IDENTIFIER



COMPROMISED EXIT SIGN – STANDARD VIEW & INSIDE GLOW BOX VIEW *(NOTE THE LONG FORWARD SLASH TUBE IN THE "X" DOES NOT GLOW AND HAD A HAIRLINE CRACK UPON DETAILED EXAMINATION*



