



The Chemical Company

January 26, 2012

United States Nuclear Regulatory Commission  
Region III  
Nuclear Materials Licensing Branch  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532-4352

Subject: **License Renewal Application**  
License No. 21-00627-02

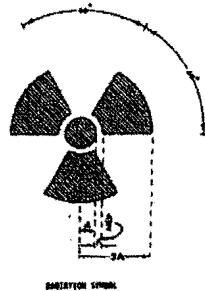
Mr. Frank Tran:

Per your email request on 1/26/12, here are the additional sections of our site Radiation Protection standard which you were referring to in your message:

#### 5.1.1. POSTING AND LABELING REQUIREMENTS

- 5.1.1.1. Each device containing radioactive material shall be labeled with the three bladed radiation symbol (seen at right) and the word "caution" or other appropriate hazard warnings. Existing labeling supplied by the manufacturer may be used to meet this requirement, if appropriate.
- 5.1.1.2. Any area where the radiation level is 5 mrem/hr or greater at least 12 inches away from the source must be posted with a "caution -radiation area" sign.
- 5.1.1.3. Man-ways or other accesses to any vessel or enclosure where a nuclear gauge is used **do not** require posting with signage due to site standards controlling access into such equipment.
- 5.1.1.4. Each unit with nuclear sources must post the NRC form 3, 'notice to employees' in a conspicuous and commonly trafficked area such as on employee or general information bulletin boards.
- 5.1.1.5. Each unit with nuclear sources must post a notice in a conspicuous and commonly trafficked area notifying personnel that the following documents can be found in the EHS central file room:

- A copy of the NRC regulations.
- A copy of the Wyandotte site license and Radiation Protection Program.
- Any notice of violations regarding radiological working conditions.



#### 5.6. STORAGE

- 5.6.1. Devices containing radioactive material shall be stored at a designated secure location within the unit.
- 5.6.2. Storage in a secured area is defined as storage in a locked room or building with the purpose of preventing unauthorized removal of the device. The device



The Chemical Company

and the room or building shall be labeled/posted "CAUTION - RADIOACTIVE MATERIAL."

- 5.6.3. A radiation survey must be performed when gauges are placed in storage to ensure that radiation levels at the perimeter of the area do not exceed 2 mrem/hr

#### 5.8. NUCLEAR GAUGE LOCKOUT

- 5.8.1. Only RSO's or authorized individuals may conduct nuclear gauge lockouts. The RSO has designated a list of authorized employees in the units who are trained and qualified to conduct these activities.
- 5.8.2. The nuclear gauge source holder shall be locked out in the "off" or closed position if any of the following occurs:
- During any manipulation of a density or level gauge, which involves physical movement of the device and/or separation from a pipe or vessel, including installation, relocation or storage; or
  - When individuals are working on or adjacent to a density or level gauge during periods of shutdown; or
  - Prior to removal of a vessel man-way; or
  - Prior to an individual entering a vessel in which such a gauge is located (in addition to meeting all other applicable safe work permit requirements).
- 5.8.3. This lockout procedure is applicable only to nuclear gauges. Consult manufacturer instructions for lockout procedures specific to each gauge. The procedure is as follows:
- 5.8.3.1. Obtain Safe/ Hot Work Permit.
- 5.8.3.2. Locate device to be locked out.
- 5.8.3.3. With the gauge shutter open, place the detector as close to the beam exit surface as possible. This should be your highest contact reading observed. Record reading on the Nuclear Source Survey and Lockout Form or equivalent unit lockout form.
- Warning: Never place your hands or any other body part in the unguarded beam path. Only expose the tip of the probe, if necessary, keeping hands away from beam path at all times.
- 5.8.3.4. Place detector approximately 1 ft. from the source. Record the reading.
- 5.8.3.5. Close the shutter and retake the readings at the same locations. There should be a significant drop in the radiation field intensity measurements (>80%). This indicates that the shutter mechanism is closed. Record these readings on the form.
- 5.8.3.6. If the shutter cannot be closed properly and leakage is present, DO NOT PROCEED. If it can be closed, then continue to the next step.
- 5.8.3.7. Any readings of >10 mrem/hr indicates leakage of the shutter mechanism. Leakage must be addressed before proceeding with the lockout.
- 5.8.3.8. Secure lock on to the source holder and follow unit procedures for completion of the lockout.



The Chemical Company

5.8.3.9. Complete the form and ensure that the following information is recorded:

- Gauge information- Model #, Serial #, Vessel #, etc.
- Monitor information- Model #, Serial #, Cal. Date
- Meter readings at required locations
- Sign and date

5.8.3.10. Keep the form with the master tag sheet while the lockout is in process.

5.8.3.11. Upon lockout completion, retain a copy of the form with the closed tag sheet in the departmental records for one year. Send the original form back to the site RSO.

I have included our Nuclear Source Survey and Lockout Form as a separate attachment. I hope this addresses any concerns you may have with our application. You can reach me at (734) 324-5282 or email me at [derek.hetes@basf.com](mailto:derek.hetes@basf.com) with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Derek Hetes".

Derek Hetes  
Radiation Safety Officer/ EHS Team Member  
BASF- Wyandotte Site

# Nuclear Source Survey and Lockout Form



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## SURVEY PURPOSE *(Complete Nuclear Source Receipt Checklist for receipt of new source)*

Check One:  Lockout Only  Confined Space Entry  Installation  *(Complete Installation Section)*  Removal  *(Indicate storage location)*  
 Other  Describe:  Storage Location

## GAUGE/SOURCE INFORMATION

Manufacturer  Serial #  Plant/Location   
 Model #  Isotope/ Activity  Vessel/ Equip. #

## SURVEY INSTRUMENT INFORMATION

Manufacturer/ Model #  Serial #  Calibration Date

## GENERAL SURVEY DATA/ LOCKOUT RECORD

Shutter Locked? Yes  No

	NA	<input type="checkbox"/>	mR/Hr		NA	<input type="checkbox"/>	mR/Hr
Shutter Open Highest Contact Reading	NA	<input type="checkbox"/>	<input type="text"/>	Reading Inside Vessel (Confined Space only)	NA	<input type="checkbox"/>	<input type="text"/>
Shutter Open Highest 12" Reading	NA	<input type="checkbox"/>	<input type="text"/>	Highest General Area Reading	NA	<input type="checkbox"/>	<input type="text"/>
Shutter Closed Highest Contact Reading			<input type="text"/>	Storage Area Perimeter Reading	NA	<input type="checkbox"/>	<input type="text"/>
Shutter Closed Highest 12" Reading			<input type="text"/>	Reading >10 mR/hr at 12" closed? Yes <input type="checkbox"/> No <input type="checkbox"/>			

*(If yes, investigate to determine source of leakage)*

## INSTALLATION SURVEY DATA *(RSO Authorized Activity Only)*

Visual inspection for any damage/ proper labeling Pass  Fail   
 Gauge/ shutter functions as designed Pass  Fail   
 Leak test completed and results received Pass  Fail

Location Points at 12 inches from Surface: A B C D E<sub>1</sub>/E<sub>2</sub>

Shutter Closed	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	/
Shutter Open	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	/

***(Any Readings >10 mR/hr must be investigated)***

Surveyor:  *(Print)*  *(Signature)*

Date:

