

**RPR 29A CYCLOTRON RADIOCHEMISTRY LABORATORY EVALUATION CHECK LIST**  
**(Use in addition to RPR 50A.)**

RU Name: \_\_\_\_\_ RU #: \_\_\_\_\_ Date: \_\_\_\_\_

Building: \_\_\_\_\_ Rooms: \_\_\_\_\_

<b>EVALUATION CRITERIA</b>		<b>YES</b>	<b>NO</b>
<b>Surveys:</b>			
1.	Daily contamination surveys performed?	( )	( )
2.	Daily surveys of lab area?	( )	( )
	a. Exposure rates measured?	( )	( )
	b. Wipe surveys performed?	( )	( )
3.	Unrestricted areas included during weekly surveys?	( )	( )
4.	Records maintained and contain required information? (Date of survey, plan of areas surveyed, action levels, detected dose rate in mrem/hr or removable contamination in dpm/100 cm <sup>2</sup> , survey instrument used, serial number, calibration date, surveyor initials.)	( )	( )
5.	Areas decontaminated if 2000 dpm/100 cm <sup>2</sup> ?	( )	( )
6.	Incoming package surveys?	( )	( )
	a. Exposure rates?	( )	( )
	b. Wipe surveys?	( )	( )
	c. Records maintained and contain required data? (Date of survey, survey meter used, radiopharmaceutical, activity received (mCi), exposure rate (mR/hr) at package surface and 1 meter, contamination measurement (dpm/100 cm <sup>2</sup> ), scaler used, count time, efficiency, counts, surveyor initials.)	( )	( )
7.	Outgoing package surveys?	( )	( )
	a. Exposure rates?	( )	( )
	b. Wipe surveys?	( )	( )
	c. Records maintained and contain required data? (Date of survey, survey meter used with calibration date, radiopharmaceutical, activity (mCi), exposure rate (m R/hr) at package surface, contamination measurement (cpm based on 6600 dpm/300 cm <sup>2</sup> ), scaler used with calibration date, count rates, surveyor signature.)	( )	( )

**Waste Disposal:**

1.	Hold for decay methods adequate (decay of 10 half-lives)?	( )	( )
2.	Records of disposals maintained and contain required data? (Date of disposal, date material was stored, radionuclides disposed, survey instrument used, serial number, calibration date, background dose rate, highest dose rate measured at surface, name of disposer.)	( )	( )

**Dose Calibrator:**

1.	Daily constancy check performed?	( )	( )
	a. Records maintained and contain required data?	( )	( )

## EVALUATION CRITERIA

YES NO

- (Dose calibrator model and serial number, identity of radionuclide in check source, date of check, activity measured, checker initials.)
2. Annual accuracy tests performed? ( ) ( )  
a. Records maintained and contain required data? ( ) ( )  
(Dose calibrator model and serial number, model and serial number of check source, identity of radionuclide in check source and its activity, date of test, results of test, signature of on-site RSO.)
3. Quarterly linearity tests performed? ( ) ( )  
a. Records maintained and contain required data? ( ) ( )  
(Dose calibrator model and serial number, calculated activities, measured activities, date of test, signature of on-site RSO.)

### Radiopharmaceutical Use:

1. Unit dosage (prescription) records maintained and contain required data? ( ) ( )  
(Supplier, radiopharmaceutical name, lot number, expiration date, radionuclide, name of nuclear medicine procedure, prescribed dosage, activity of dosage, date and time of dose calibration, pharmacist's initials.)
2. Multidose vial records maintained and contain required data? ( ) ( )  
(Radionuclide, radiopharmaceutical name, date of receipt or preparation, date and time of initial assay, amount in mCi and ml, supplier or kit manufacturer, initials of preparer, disposal method and date.)
3. Syringe and vial shields used when dosages prepared? ( ) ( )
4. Syringes and syringe shields containing radiopharmaceuticals labeled with required data? ( ) ( )  
(Radiopharmaceutical name, name of nuclear medicine procedure to be performed.)
5. Vial radiation shield containing a vial labeled with radiopharmaceutical name? ( ) ( )

### Calibration and Reference Sources:

1. Sources requiring leak tests? ( ) ( )  
a. Additions? ( ) ( )  
b. Deletions? ( ) ( )
2. Other check sources? ( ) ( )  
a. Additions? ( ) ( )  
b. Deletions? ( ) ( )
3. Quarterly inventory performed? ( ) ( )  
a. Records maintained and contain required data? ( ) ( )  
(Model and serial number of source, radionuclide and its nominal activity, location of source, signature of onsite RSO.)

### Interlock/Emergency Power off: (tested at least once quarterly)

1. Shield interlock tested twice annually by Cyclotron Staff ( ) ( )  
(Will be tested twice a year during quarters not serviced by GE)  
Last Date of Interlock test: \_\_\_\_\_
2. Emergency Power Off interlocks tested twice annually by GE Service Reps ( ) ( )  
(Will be tested twice a year during regular bi-annual service)

## EVALUATION CRITERIA

YES NO

Last Date of Interlock test: \_\_\_\_\_

### Radiation Area Monitors: (tested at least once quarterly)

- |   |     |     |
|---|-----|-----|
| 1. Audible alarms work properly on all area radiation monitors? | ( ) | ( ) |
| 2. Visual alarms work properly on all area radiation monitors?  | ( ) | ( ) |

### Stack Radiation Monitor: (calibrated annually)

- |   |     |     |
|---|-----|-----|
| 1. Calibrated annually? [Date of calibration: _____]  | ( ) | ( ) |
| 2. Stack Monitor Files reviewed daily (on days of operation) by Cyclotron staff.<br>(Radiological Health notified immediately of any unexpected results.) | ( ) | ( ) |
| 3. Stack Monitor files reviewed quarterly by Radiological Health.   | ( ) | ( ) |