

## ANALYTICAL X-RAY MACHINE APPLICATION CHECKLIST

Responsible user: \_\_\_\_\_ Phone: \_\_\_\_\_

Location (Bldg. & Room) \_\_\_\_\_ Installation date: \_\_\_\_\_

<u>Type and use</u> <input type="checkbox"/> Open beam <input type="checkbox"/> Fully enclosed [CX] <input type="checkbox"/> Diffraction [XD] <input type="checkbox"/> Fluorescence [XF] Accessory equipment (powder cameras, goniometers, etc.)	<u>Manufacturer</u> <u>Model</u> <u>Serial No.</u> Control unit: _____ Number of ports available: _____ In use: _____ Target material _____ Max. kVp _____ Max. mA _____ Application date _____
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### FACILITY REQUIREMENTS

“CAUTION – X-RAY EQUIPMENT” (or equivalent) sign at entrance?	<b>Yes</b>	<b>No</b>
“NOTICE TO WORKERS” (NRC form 3) posted conspicuously?	<b>Yes</b>	<b>No</b>

### X-RAY EQUIPMENT REQUIREMENTS

#### **Safety Devices**

Required on open beam units – a device that prevents any portion of the body from entering the primary beam, or a device that terminates the beam if obstructed. **Yes** **No**

**IF “NO”, has exemption been filed?** **Yes** **No**

#### **Signs and Labels**

“CAUTION: HIGH INTENSITY X-RAY BEAM: - on source housing? **Yes** **No**

“CAUTION – RADIATION. THIS EQUIPMENT PRODUCES RADIATION WHEN ENERGIZED”  
 - near switch used to turn on unit? **Yes** **No**

#### **Warning lights or Devices – All Units**

“X-RAY ON” light – near any switch that energizes and near any x-ray port. **Yes** **No**

The warning light(s) **shall** be fail-safe. **Yes** **No**

#### **Additional warning devices required for open beam units**

X-RAY TUBE STATUS, “ON/OFF” – located near the radiation source housing, and at or near the port, if the primary beam is controlled in this manner. **Yes** **No**

Shutter Status “OPEN/CLOSED” – located near each port on the radiation source housing, if the primary beam is controlled in this manner. **Yes** **No**

All warning devices must be fail safe. **Yes** **No**

#### **Ports and Shutters**

Unused ports on radiation source housing **shall** be secured in the “closed” position in a manner that will prevent casual opening, i.e. without the use of tools. **Yes** **No**

On equipment installed after November 1983, open beam units **shall** have ports equipped with a shutter that cannot be opened unless a local component has been connected. **Yes** **No**

### OPERATING REQUIREMENTS

Are written operating procedures available to all users of x-ray equipment? **Yes** **No**

## ANALYTICAL X-RAY MACHINE APPLICATION CHECKLIST (cont'd)

### PERSONNEL REQUIREMENTS

Have all persons operating x-ray equipment received both Institutional Analytical X-Ray and on-the-job instruction and demonstrate adequate knowledge of:

radiation hazards associated with use of equipment;	Yes	No
significance of radiation warning and safety devices;	Yes	No
operating procedures;	Yes	No
symptoms of acute localized exposure;	Yes	No
procedure for reporting actual or suspected exposure?	Yes	No

### Personal Monitoring

For open-beam systems, have personal monitoring devices (ring badges) been issued? Yes    No

If "Yes", are they used in compliance with University requirements? Yes    No

### RADIATION SURVEY EQUIPMENT

#### Radiation survey meter(s) available at facility:

Make/Model: \_\_\_\_\_ Ser. No. : \_\_\_\_\_ Calibration Date: \_\_\_\_\_

Make/Model: \_\_\_\_\_ Ser. No. : \_\_\_\_\_ Calibration Date: \_\_\_\_\_

Upon completion, send this application checklist to:

Technical Safety Office  
Box 8106