

**GUIDELINE FOR THE EVALUATION OF
GENERAL PURPOSE DIAGNOSTIC X-RAY EQUIPMENT**



**WASTE MANAGEMENT
& RADIATION CONTROL**

GUIDELINE FOR THE EVALUATION OF GENERAL PURPOSE DIAGNOSTIC X-RAY EQUIPMENT

DRC Inspection Program Objective

The overall objective of the x-ray inspection program is to reduce the likelihood that individuals will be exposed to unnecessary radiation. In the case of registrants using x-ray equipment in the healing arts, patient exposure is of concern and proper equipment performance is essential. Registrants are required to demonstrate that the equipment satisfies the appropriate regulatory standards for calibration and performance.

Purpose of Guideline

The intent and purpose of this document is to provide users of **general purpose diagnostic x-ray equipment** guidelines for the documentation necessary to demonstrate to the DRC that the x-ray equipment satisfies the regulatory standards under clinical use conditions.

X-ray Equipment Performance and Calibration

The registrant is to document that the following requirements are met:

- 1) Adequate total filtration is present.
- 2) kVp calibration is adequate for the mA stations (mAs stations if mA is not a technique factor that can be chosen) used clinically.
- 3) mAs reciprocity is satisfied.
- 4) The timer, if present, is accurate for those time values most frequently used.
- 5) Exposures are reproducible.
- 6) The x-ray field is collimated and aligns with the image receptor as follows:
 - a) The x-ray and light fields are congruent;
 - b) Light field intensity is adequate;
 - c) If the under table bucky and/or the wall mounted vertical cassette holder is used clinically, the center of the x-ray field can be aligned with the center of the film;
 - d) If the equipment has a clinically used positive beam limiting device (PBL), exposures cannot be made unless the x-ray field is collimated to an acceptable field size;
 - e) When a PBL is not present and the under table bucky is used, the collimator field size indicator is accurate within the regulatory requirements; and
 - f) Appropriate source to image receptor distance (SID) indicators are present to allow positioning of the x-ray source relative to the image receptor in a reproducible manner.