

**GUIDELINE FOR THE EVALUATION OF
DENTAL X-RAY EQUIPMENT**



**WASTE MANAGEMENT
& RADIATION CONTROL**

GUIDELINE FOR THE EVALUATION OF DENTAL INTRAORAL 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 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 dental x-ray equipment guidelines for the documentation necessary to demonstrate to the Director that x-ray equipment satisfies the regulatory standards under clinical use conditions.

Intraoral 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 station or stations (mAs stations if mA is not a technique factor that can be chosen) used clinically.
- 3) mA/mAs linearity is satisfied.
- 4) the timer, if present, is accurate for those time values most frequently used.
- 5) timer linearity is satisfied.
- 6) exposures are reproducible.
- 7) means shall be provided to limit the x-ray field.

DENTAL PANORAMIC X-RAY EQUIPMENT PERFORMANCE AND CALIBRATION

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

- 1) adequate total filtration is present.
- 2) exposures are reproducible.
- 3) timer is accurate within 10 percent of the control setting in the absence of manufacturers specifications.

DENTAL CEPHALOMETRIC 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 station or stations (mAs stations if mA is not a technique factor that can be chosen) used clinically.
- 3) mA/mAs linearity is satisfied.
- 4) the timer is accurate for those time values most frequently used.
- 5) timer linearity is satisfied.
- 6) exposures are reproducible.