



## [2.20] Maintenance & Examination of Engineering Controls

The employer's quality assurance programme for equipment should include, as a minimum, the maintenance and inspection schedule recommended by the manufacturer to ensure the equipment operates properly and safely at all times. This would normally include maintenance and examination of any safety and warning features and engineering controls supplied with the equipment and can often be carried out by the supplier (or a qualified service agent). Any safety and warning features etc., fitted after installation of the equipment should be subject to similar inspections and maintenance as required.

**\*In addition**, the employer should establish a programme of in-house inspections of the following features of the equipment:

- *Visual inspection of the X-ray tube head (including a check for signs of leakage of oil, and the presence and condition of any backscatter shield for hand-held equipment)*
- *Stability of any intra oral arm counterbalance*
- *Smoothness of rotational or scanning motion with panoramic, cephalometric or dental CBCT equipment (faults may result in artefacts on radiographs and increased patient doses)*
- *Operation of equipment warning lights indicating "mains on" and "X-rays"*
- *Operation of equipment audible warning of X-rays*
- *Operation of warning lights and legibility of signs outside room entrances*
- *Operation of mains on/off switches and/or emergency stops*
- *Adequacy of the exposure control, including security against unauthorised use*
- *Condition of cabling and connections including power leads and plugs*

All operators should be in the habit of checking daily that these features are in good condition and functioning correctly. Problems should be brought directly to the attention of the RPS or employer and any necessary action taken. The results of these checks should be formally recorded at intervals not exceeding once every six months.

## [6.1] Dental X-ray Equipment Engineers

Dental X-ray equipment engineers often undertake work with dental X-ray equipment, and employers at dental practices should know what is expected of engineers in terms of their arrangements for radiation protection and compliance with the requirements of IRR17.

Typical work undertaken by dental X-ray equipment engineers that is subject to IRR17 includes the following:

- Assisting the dental practice by providing the necessary information (such as adequate room plans, technical details of X-ray equipment) to enable the practice to consult its RPA regarding the planned installation or relocation of dental X-ray equipment.
- Carrying out the installation of dental X-ray equipment, in which case they are responsible for ensuring the critical examination is completed satisfactorily.
- The engineer carrying out the installation may also undertake test exposures as part of the critical examination.
- As the supplier of dental X-ray equipment, they also have a duty to pass on the user adequate information regarding the safe use, testing and maintenance of the equipment.

Public Health England (PHE) and Faculty of General Dental Practice (UK) (FGDP[UK]). Guidance Notes for Dental Practitioners on the Safe Use of X-ray Equipment. 2nd Edition. London, UK: PHE and FGDP(UK); 2020.