

Medical Electrical Installations

Checklist for Radiographers and MPEs

Clinical Use of Medical Location:

- The Trust's Electrical Safety Group should decide on the risk grade for a new or refurbished room. Include possible future uses
- This includes assessing the need for Medical IT socket-outlets.
 - However, don't fit Medical IT without good justification because it is very expensive.
- Requirements for a UPS also needs similar consideration.
- Record the decision (as per HTM 16.36).
- Use the new risk grades in HTM not GN7.

Check:

- The contract wording as per the suggested wording in training course PowerPoint and quote HTM. (Use references below)
 - This includes:
 - EPO buttons.
 - The EBB.
- That the supplier quotes the required maximum power requirements (120kVA for an 80KW generator) and the maximum mains resistance. Note - if the mains cables are too small you won't get the maximum mA!
- That somebody checks the adequacy of the local existing earth cable for refurbished rooms if a new earth isn't being installed.

Socket-outlets and USB charging:

- Count up how many socket-outlets of each type are required.
- If you want USB charging in risk Group A areas only use those built to IEC 60601 but as the build quality is high, fitting these (sparingly) may help reduce failures. These must be stand-alone and not within a socket-outlet.
- Consider installing a cleaner's socket-outlet using a unique identifier such as the colour of the socket-outlet.
- Consider if a mobile x-ray unit will be used in the Location as it may need an allocated circuit (numerous reasons).

Supplementary Equipotential Bonding (SEB) (extra separate earth wire):

- Use SEBs where required and make sure the cables are kept nearby or with the medial device. Battery powered devices don't need an SEB cable.

DEXA and all Dental x-ray:

- Be aware that DEXA scanner rooms should be argued as a group C or B risk (group 1 in GN7) because the table top is an applied part as stated in IEC 60601 as with all medical radiological patient tables. However, the EBB only needs to be a single stud in a small box. (The fact they are delivered with a plug doesn't help).
- The wording in table A710 in BS7671 should really read Medical Radiological Equipment (instead of Radiological Diagnostic and Therapy Room) to put this issue beyond doubt. (point this out to Estates).

Training:

- Train staff on the Medical IT alarm indicators (difficult with frequently changing staff).

Testing:

- Regular testing is required by HTM 06-01
- Consider independent inspection of an installation or produce a test protocol that the installer fills in. On "Medical Locations" test sheets, it says tested to BS7671 and above.
- Always test the supply and earth connections every time a mobile scanner etc is brought onto site.

Relevant Paragraphs in HTM 06-01

- 4.11 – 4.30 Assessment process
 - noting 4.22 specifically lists some radiology rooms as Grade A risk
- 13.18 The Equipotential Bonding Busbar - consider the number of busbars because radiology equipment has a number of earth cables.
- 15.15 Alarm indicator training
- 15.21 Extension lead use (none in Groups 1/2).
- 15.28 Identification of Medical IT socket-outlets.
- 15.45 Mobile X-ray unit plugs.
- 15.53 Liaison.
- 15.54 Supplier to provide mains supply power and impedance values.
- 15.59 – 15.63 Emergency Power Off.
- 16.36 Record the decision for the Medical Location Group
- 17.74 – 17.77 Testing.