APPENDIX 3J

LOT 10 SPECIFICATION
DEXA SCANNERS AND ASSOCIATED OPTIONS AND RELATED SERVICES

1. Introduction

1.1. This Lot is for the supply of dual energy X-Ray absorptiometry (DEXA) bone densitometers utilising enhanced X-Ray radiation to measure bone density scanning and used for the determination of bone loss in a patient. A DEXA system will incorporate a densitometer with a patient table and user workstation and is used primarily for assessment of the spine, hip and extremities.

1.2. The core product line within this Lot is a Dual Energy Xray Absorptiometry scanner (Bone Densitometer).

1.3. Product line(s) must be supplied with a minimum 7 year expected lifecycle under proper use and maintenance.

2. DEXA System

2.1. A bone densitometer must be able to determine bone mineral density using collimated X-Rays in a fan and/or pencil beam. To be used in conjunction with a detector/patient table and a workstation to create a DEXA system.

2.2. The system must be supplied with patient positioning and patient holding aids as required to prevent movement and ensure reproducibility and accuracy.

2.3. The system must incorporate an emergency stop button for use by the operator.

2.4. The system must be suitable for wipe cleaning with proprietary disinfecting fluids and/or alcohol wipes.

2.5. The densitometer must as a minimum, have the following features:

2.5.1. The reproducibility of the peak X-Ray energies must be at least 1kVp (peak kilo voltage).
2.5.2. The accuracy of the kVp X-Ray energies must be no greater than +/- 15%.
2.5.3. The scan area must be at least 190cm x 60cm.
2.5.4. The pixel size must be no greater than 1.0mm x 0.5mm.
2.5.5. The X-Ray output must be adjustable to account for patient size.
2.5.6. The DEXA system must have sufficient X-Ray output to accommodate the anterior and posterior of a patient of up to 50cm in depth.
2.5.7. The distance between the X-Ray source and the patient table must be a minimum of 22cm.
2.5.8. The maximum effective dose for PA lumbar spine study must not exceed 0.05 millisieverts.

2.5.9. The precision of the quantitative output must be equal to or better than 1%.

2.6. The patient table must have the following features:
- 2.6.1. The patient table must be at least 1.9 metres long.
- 2.6.2. The patient table must be at least 0.6 metres wide.
- 2.6.3. The maximum height of the patient table must not be more than 0.8 metres from the ground.
- 2.6.4. The table must be able to support at least 150kg.
- 2.6.5. The table must be sealed to prevent the ingress of bodily fluids.

2.7. The workstation must have the following features:
- 2.7.1. Tabulated data and images of the scan must be displayed to the operator.
- 2.7.2. Analysis software must be able to provide comparative analysis to previous scans and be able to export data.
- 2.7.3. Operating platform must be able to accept data input from legacy equipment.
- 2.7.4. The system software must have the ability to report:
  - 2.7.4.1. Bone mineral content.
  - 2.7.4.2. Bone mineral density.
  - 2.7.4.3. Standardised bone mineral density.
  - 2.7.4.4. Automatic area.
  - 2.7.4.5. T-score.
  - 2.7.4.6. Z-score.