1. INTRODUCTION

4. DEFINITIONS / TERMINOLOGY

For the purposes of this Policy the following definitions apply:

X-Ray: X-rays are a form of electromagnetic radiation that can pass through solid objects. For the purposes of this Policy, the term 'X-Ray Sets' will be used which includes:

- DEXA (Dual-energy X-ray Absorptiometry): A type of X-ray that measures bone mineral density (BMD).
- XRD (X Ray Diffraction) and XRF (X-ray Fluorescence): A similar type of X-ray, used to study the structure, composition, and physical properties of materials.[1]

RPA: Radiation Protection Adviser.

RPO: Radiation Protection Officer.

RPS: Radiation Protection Supervisor.

5. DUTIES OF THE UNIVERSITY

Through this Policy, the University establishes management arrangements to ensure X-ray sets are used safely and correctly in accordance with relevant legislation. The University will:

a. Provide adequate resources to ensure X-ray sets are used safely and correctly in accordance with the requirements of the Ionising Radiation Regulations (IRR17) and if x-raying human participants the Ionising Radiation (Medical Exposure) Regulations (IRMER 2017).

b. Appoint a competent Radiation Protection Adviser (RPA) to advise on the use of X-ray sets and associated management arrangements.

c. Ensure competent (staff member) University Radiation Protection Officer and University Radiation Protection Superv nener( )-11(Su)7(pe)-4(rv nO0 t 0 5F2 9 9 Tf1s11 104 re1 14i31 0 aJ(n)4(-3-6(r0t T

6.1 DEXA Sets

In addition to the general requirements above, if using DEXA sets, the appropriate RPS shall:

a. Train personnel in the use of the DEXA set.

b. Carry out periodic, random checks to ensure Operators are:

    - Working within the Local Rules.
    - Maintaining the Supervised Areas correctly and preventing unauthorised access.
    - Providing appropriate information on the risk of X-ray scans to each volunteer and ensuring the Consent Form is completed and signed by the volunteer.

c. Implement and maintain an overview of the record system documenting the use of DEXA scanners (to include the operators name, volunteer ID, date, scan type, scan code, ethics approval reference / unique identifier and other information the RPS considers relevant).

d. Be in attendance during the annual RPA / RPO radiation dose rate survey.

e. Notify the RPA / RPO if the DEXA instruments are moved and / or require a re-commissioning survey.

6.2 Portable XRD / XRF Sets

In addition, to the general requirements detailed in 6 above, the appropriate RPS shall for portable XRD / XRF Sets used in the field:

a. Ensure all associated Risk Assessments and Local Rules consider the specific risks when using such equipment out in the field in a dynamic environment.

b. Ensure personnel are suitably trained in the safe use of the equipment and understand the hazards arising from their use in the field and of the required controls.

c. Monitor arrangements in the field to ensure equipment is used safely and correctly.

7. COLLEGE / PROFESSIONAL SERVICE REQUIREMENTS

Each College and Professional Service, as applicable, is required to:

a. Ensure no X-ray set is purchased or procured without the knowledge and approval of the RPO.

b. Following recommendation by the RPA and/or RPO, appoint an RPS to oversee the day-to-day management and operation of the X-ray sets within their area of responsibility.

c. Implement appropriate management controls for X-ray sets within their area of responsibility as recommended by the RPO / RPS.

d. Implement systems to ensure all sta

8. RESEARCH SUPERVISOR

Research Supervisors are required to:

a. Ensure all work under their supervision has, where appropriate, Ethical Approval by the relevant Ethical Approval Committee before any DEXA scan, or X-ray of a human or animal, takes place.

b. Ensure all DEXA scans undertaken as part of their research are performed by an approved X-ray Operator.

c. Ensure X-ray Operators performing scans on their behalf are aware of and understand the key conditions of the Ethical Approval such as the need to adhere to dose constraints.

d. Ensure all use of X-ray sets is undertaken