

JOB DESCRIPTION

POST TITLE	Senior Radio Frequency Engineer		
DIVISION/DEPARTMENT	Technical / Radio Frequency		
REPORTS TO	Head of Radio Frequency Group	GRADE	4

AIM

To provide a high degree of senior technical support to the RF group focussing in particular on low level RF and electronics. To provide a leading role in the development of a new digital LLRF system and to develop and maintain the present analogue LLRF system. To support the operation of the RF plant; including management of all aspects of assigned technical projects.

ACCOUNTABILITIES

1. Senior level contribution to the overall work of the RF Group
2. Responsible for Storage Ring (SR) Low level RF (LLRF), and associated equipment
 - a. Management of all aspects of the LLRF
 - b. Characterisation, maintenance, and operation of SR LLRF
 - c. Day-to-day checks and performance analysis
 - d. Spares holding and availability
 - e. Safety and statutory inspections
 - f. Ensuring that drawings are accurate and up-to-date
 - g. Ensure state of the art performance and reliability is maintained
 - h. Manage future development of LLRF
 - i. Carry out calculations, design and comparison of theory and measurement of the existing system and any full or part upgrades.
 - j. Ongoing review of performance against current and new requirements
3. Responsible for Booster LLRF systems
4. Take leading role in the development of new Digital LLRF (DLLRF) system.
5. Contribute to the Characterisation and documentation of the high power amplifier systems and cavities.
6. Responsible for providing Operating instructions and training for the Operating Team for LLRF, DLLRF and associated equipment.
7. Responsible for maintaining a capability in Electronic circuit and RF system modelling and design within the RF Group;
 - a. Development and Maintenance of overall system model for characterisation, system improvement and fault finding
 - b. Oversee or carry out electronic and RF design including quality control
 - c. Technical development and support of members of the SR RF group
8. Contribute to the accelerator physics studies of the Diamond accelerators, with particular emphasis on RF related effects
9. On-call support of the RF plant (day/night)
10. Presentation of Diamond RF systems to the wider synchrotron community
11. Responsible for technical and contractual supervision of supply contracts as allocated
12. Responsible for ensuring safe working practices, relating to the maintenance and operation of

the SR and Booster LLRF and DLLRF. This includes developing procedures and monitoring that people are working safely.

13. To carry out additional tasks and responsibilities as nominated by the Group Leader
14. Comply with, and where appropriate contribute to the development of, Diamond Health and Safety procedures and policies

Other requirements

Occasional travel on company business, usually within the UK and with occasional overnight stays.

Occasional shift work, for machine development and in support of regular operations.

A knowledge of and interest in the physics of particle accelerators and the ability to undertake further study into their operation

Because of the changing nature of our business your job description will inevitably change. You will, from time to time, be required to undertake other activities of a similar nature that fall within your capabilities as directed by management.