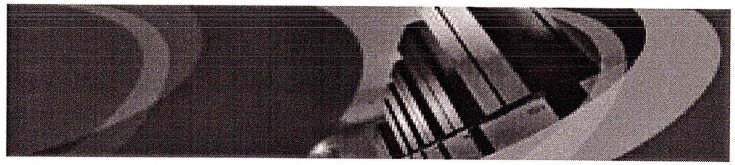

Lightning Protection Materials Specialist

To be a member of a small team concerned with Research & Development into Lightning Arrestor Connectors (LACs) and associated technologies suitable for use in nuclear weapon systems. The purpose of this post is to develop a detailed understanding of Lightning Arrestor technologies, including plasma physics, high voltage breakdown mechanisms through materials, rutile particle and similar material properties, varistor technologies and high voltage test techniques.

Discipline	Science - Material Science
Employment Basis	Full Time
Location	Aldermaston
Salary Range	£21,000 to £26,000
Job Reference	27/07/01/652151

Key accountabilities

- To develop an understanding of Lightning Arrestor functionality
- To liaise with UK contractors/universities and US counterparts to obtain information on Lightning Arrestors and associated technologies and to utilise this information in the production and validation of theoretical models
- To produce experimental designs of Lightning Arrestors and establish requirements for piece parts and associated processes. To arrange manufacture and delivery of parts and jigs as appropriate.
  To perform assembly operations of experimental Lightning Arrestors and their components. This will involve handling small parts and preparation of materials in a clean facility
- To design, fabricate and operate specialist computer controlled test equipment and high voltage test equipment to measure key parameters. To design and build custom test modules and test jigs per specific application requirements
- To undertake Lightning Arrestor, component and material testing at specialist lightning test facilities.

To collate test data. To develop statistical analysis techniques of results to demonstrate that the component meets the stringent high reliability requirements of nuclear weapons. To present findings at integration groups, US counterparts, UK academia, AWE peer groups and senior management

- To undertake Lightning Arrestor trigger material processing, characterisation and analysis
- To maintain a watching brief on world developments in lightning protection techniques and technologies. To recommend procurement and testing programmes as appropriate to further AWE understanding of such technologies

- To assist the task manager in identifying work programmes and associated costs in preparation of annual bids
- To ensure safe working laboratory conditions are in place through compliance of all laboratory practise with relevant health and safety legislation

Responsibilities

- To ensure that I understand and apply my responsibilities with regard to the Company's Environment, Health, Safety, Security and Quality Standards

Qualifications

- Degree or equivalent in a physical/material science or related discipline
- Nominated Person (Electrical) Specialist
- Manual Handling
- Fire fighting
- Resuscitation

Knowledge

- General knowledge of lightning effects and principles of protection
- Detailed knowledge of material properties
- Detailed understanding of plasma physics
- Manufacturing and assembly techniques such as vacuum processing and metal/ceramic brazing
- Background understanding of reliability and statistical analysis
- UK Health and Safety Legislation
- Corporate Safety Procedure
- Ability to learn Corporate Safety Procedure

Experience

- Practical experience of dielectric materials fabrication techniques

Skills

- Basic workshop engineering and experimental skills
- Attention to detail as applied: to making components, jigs, testing and analysis of test results
- Use of PC tools: word processing, spreadsheets, databases, and drawing
- Good verbal and written communication skills

Behaviours

- Mature and structured approach to all health and safety issues
- Fluent and unambiguous in exchange of information at all levels
- Working effectively with others towards common goals
- Clear and concise communication of ideas to others in the team

Special Requirements

Willing and able to occasionally travel both overseas and in the UK

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