



JOC-VN-190

Job title: Erosion Deposition Scientist

To assist Erosion Deposition Group with the installation and removal of long term samples in JET and to help co-ordinate distribution of samples for material migration and fuel retention studies as defined by the current work programme WPJET2. The appointment will end on 31st December 2017.

Background

Long term samples are periodically removed and replaced from JET for the study of material migration and fuel retention within the framework of the EUROfusion JET2 Work Programme (JET2WP). This includes a wide variety of items from standard tiles from areas of interest to specially prepared tiles with surface markers and specially designed devices to study specific topics such as ITER mirrors or the physics of material migration to remote areas or dust. The JET Erosion Deposition Group (EDG) is responsible under the new JET Operating Contract (NJOC) for ensuring that the required items are removed, dismantled and distributed for subsequent processes such as cutting and surface analysis.

The group liaises with planning, engineering, procurement, inspection and analysis groups to ensure that replacement samples or devices are available in time for installation. In addition, the group prepares work procedures and risk assessments and undertakes refurbishment and replacement of components in areas designated for the control of beryllium and radiation contamination to replace components. The next sample removal activity (shutdown) will take place in 2016 and the appointed secondee will be expected to participate fully in the refurbishment/replacement activities in the JET Beryllium Handling Facility (BeHF). Supervision of technical staff as well as hands-on work may be required. Once samples have been removed the appointed secondee will be expected to assist with the distribution of samples for analysis and help ensure compliance with regulations on shipment of contaminated materials.

Main responsibilities

Due to the proximity of the appointment to the next shutdown in 2016 the appointed secondee should expect to take on many of the following responsibilities:

1. Assist the Group Leader with organising removal/replacement of long term samples.
2. Ensure safety and procedural documentation is in place for long term sample replacement.
3. Undergo training to become a beryllium and non-classified radiation worker and be willing to work in areas designated for the handling of contamination components from JET. This will include training for work in pressurised suits, ventilated hoods and respirators.
4. Assist with refurbishment and replacement activities in the JET Beryllium Handling Facility (BeHF).
5. Photography and documentation of samples and processes within the BeHF.

6. Coordinate distribution of samples to European Associations participating in the analysis activities of the JET2 WP. This task will require familiarity with regulations related to the shipment of radioactive and beryllium contaminated materials.

Special Features

Although the primary responsibility is with the long term samples, the Plasma Boundary Group functions as a team and the secondees may be asked to assist with operation and/or maintenance of other systems for which the group is responsible.

Desirable qualifications, aptitudes and experience

1. A good degree in physics or engineering, and preferably a PhD, with several years of experience in a technical research environment.
2. Willingness to train as a beryllium and non-classified radiation worker and to work in areas designated for the handling of contamination components from JET is essential.
3. Ability to work to the requirements set out by safe systems of work is essential.
4. Ability to work within a team.
5. Due to the proximity of the appointment date to the requirement to work on shutdown activities, previous experience as a beryllium or radiation worker, or other responsible work in challenging environments is highly desirable.
6. Aptitude and experience of practical/hands on work relevant to dealing with the technical challenges of sample replacement is needed.
7. A proven ability to write clear procedural documentation in English is required.
8. Willingness to work early/late shifts if required.
9. Knowledge of general tokamak physics sufficient to understand the context of the work.
10. The ideal candidate will have practical experience of a range of surface analysis methods which complement the work of the EDG.

Notes

1. The JETWP2 work programme currently does not envisage sample removal after the JET DT experiments hence the current vacancy will end on 31st December 2017.
2. Participation in the JET scientific programme related to the surface diagnostics is possible. Support for this work would come from the sending Research Unit and be limited to 20% of working time.
3. Publications are encouraged, both through the sending Research Unit, and, for work directly linked to this post, through NJOC.
4. Primary supervision will be by A.Widdowson.
5. There will be no direct staff or financial responsibility.
6. Work on hardware systems must comply with the CCFE safe system of work.

For more information contact: Anna Widdowson, Erosion/Deposition Group Leader via e-mail: anna.widdowson@ccfe.ac.uk

Applications through the Head of Research Unit to the NJOC Senior Manager, Tim Jones by July 24th 2015.

Note that candidates who are not EU nationals will need to obtain a visa to work in the UK. CCFE can provide advice on the issues involved and candidates are recommended to investigate before interview.