

|  |                      |                             |
|--|----------------------|-----------------------------|
| <b>TITLE:</b> Interlock Systems Engineer   |                      | CHD-051                     |
| <b>REPORTS TO LINE MANAGER:</b> Head of CODAC & IT Division<br>Department for CODAC&IT, H&CD and Diagnostics |                      |                             |
| <b>DIRECT EMPLOYMENT:</b> NOT REQUIRED   |                      | <b>GRADE RANGE:</b> P3 – P4 |
| <b>Date Written:</b><br>June 2008  | <b>Date Revised:</b> | <b>Date Revised:</b>        |

**Purpose:**

ITER will have a high-reliable protection of investment system to interlock the actions of 90-120 Plant Systems. These are organized in two layers: a local layer of self protection designed into each Plant System and a centralized layer for those combinations of Plant Systems conditions that are dangerous, even though each Plant System may be within its own safety limits. A smaller, probably hard-wired, safety system will complement the interlock system. The candidate will contribute to all the hardware and software activities linked to the developments of the central interlock systems.

**Major Duties/Responsibilities:**

- Is responsible for the hardware and software of the central interlock systems;
- Is responsible for the definition of the interfaces with all the plant systems, the ranking of the interlocking functions and the development of procedures for system integration;
- Contributes to the preparation of technical specifications for the call for tenders and the evaluation of technical solutions;
- Is responsible for the technical follow-up of contracts for the realization of the systems;
- Is responsible for the local commissioning and the preparation of the integrated commissioning;
- Maintains a strong commitment to the implementation and perpetuation of ITER safety program, values and ethics.

**Qualifications and Experience:**

- **Education:** Master's Degree or equivalent University Degree in Science or Engineering
- **Experience:**
  - At least 5 years of practical experience in a research or industrial environment with a similar scope of work;
  - At least 5 years of practical experience in highly reliable and available protection systems;
  - Good knowledge of IEC 61508 and related standards;
  - Good knowledge and practical experience in functional safety analysis;
  - Good knowledge of integration of large systems;

- A clear understanding of the problems linked with the control system of a large facility and the integration of heterogeneous industrial subsystems is required;
- An ability to work in an international environment should be demonstrated;
- Some experience in managing contracts would be an asset.
- **Language requirements:** Good working knowledge of spoken and written English is essential.

**Work Direction and Interfaces:**

Reports to the Division Head (DH) for CODAC & IT.

**Authority/Approval Levels:**

Has authority and approval levels defined by the DH for his/her scope of work.

**Measures of Effectiveness:**

- Successfully establishes interfaces with all the plant systems;
- Successfully establishes the list and the ranking of the interlocking functions;
- Prepares within the set time limits the documentation for the call for tender;
- Successfully prepares for the installation of the systems on ITER;
- Successfully prepares and carries out the local systems' commissioning.