

TITLE: Electromagnetic Analyst Expert		PRO-062
REPORTS TO LINE MANAGER: Leader of System Analysis Section, Project Office		
DIRECT EMPLOYMENT: NOT REQUIRED		GRADE RANGE: P2-P3
Date Written: July 2008	Date Revised:	Date Revised:

Purpose:

- To support the Project Office (PO) in matters related to electromagnetic analyses. To Manage and control all electromagnetic analysis activities required in the ITER project, following the needs of component designers, safety groups and other related staff members/groups throughout the ITER project, in order to address all matters related to electromagnetic analyses;
- To coordinate and supervise electromagnetic analyses and R&D activities performed for ITER in the Domestic Agencies.

Major Duties/Responsibilities:

- Performs Electro-Magnetic (EM) analyses of Tokamak components in plasma transient events for the evaluation of the electromagnetic loads, for the definition of the component design loads or for the provision of input boundary conditions for local detailed analyses;
- Prepares and follows up contracts, task agreements and technical specifications for activities related to electromagnetic analyses;
- Provides technical supervision of EM analysis activities;
- Reviews and verifies EM analyses;
- In collaboration with the Physics group, develops interfaces with simulations of plasma transient events (disruptions, VDEs, fast discharge events, etc.) to generate input conditions for engineering analysis of the Tokamak components;
- Develops procedures, programs, macros and software routines to interface EM analysis with structural analyses;
- Develops and improves the interface of analysis software with CAD system;
- Prepares detailed analysis reports;
- Updates and keeps records of the FE models developed inside the ITER Organization and by the supporting agencies;
- Maintains a strong commitment to the implementation and perpetuation of the ITER safety program, values and ethics.

Qualifications and Experience:

- **Education:**
 - University degree, preferably in a technical subject;
 - Good understanding of the basic principle of electromagnetism (having knowledge of nuclear fusion physics and plasma control would be an advantage).
- **Experience:**
 - Minimum of 5 years' experience in the use of FE programs or electromagnetic analysis tools (preference will be given to experience in the use of ANSYS and ANSYS Workbench);
 - Ability to organize and monitor analysis activities and to communicate;
 - Ability to coordinate the work of different teams and to interface with other groups and divisions;
 - Good knowledge of computer usage (super computer, cluster machines, stand alone work station);
 - Openness to collaboration in a multidisciplinary and multicultural environment.
- **Language requirements:**
 - Good knowledge of written and spoken English.

Work Direction and Interfaces:

- Reports to the System Analysis Section Leader within the Project Office;
- Interfaces with all other ITER departments and divisions and maintains communications with other organizations which collaborate with ITER.

Authority/Approval Levels:

This position has authority and approval levels generally defined by the Leader of the SAS for his/her scope of work.

Measures of Effectiveness:

- Successfully supports the System Analysis Section in achieving the defined objectives;
- Successfully provides comprehensive reports and summaries of the performed and revised analyses;
- Successfully provides FE models developed for the analyses;
- Successfully generates and maintains trustworthy, up-to-date information related to the machine technical scope;
- Successfully maintains effective communications with all organizations interfacing with ITER.