| **TITLE: Analyst for Seismic and Global Dynamic Analyses** | | PRO 018 |
|---|---|---|
| **REPORTS TO LINE MANAGER:** Head of System Analysis Section, Project Office | | |
| **DIRECT EMPLOYMENT: NOT REQUIRED** | | **GRADE RANGE: P3 ~P4** |
| **DATE WRITTEN:** October 17, 2006 | **DATE REVISED:** October 25, 2006 | **DATE REVISED:** December 6, 2006 |

**Purpose:**

Support the System Analysis Section (SAS) of the Project Office (PO) in matters related to the seismic and dynamic analyses of building and ITER components.

**Major Duties/Responsibilities:**

- Perform seismic analyses of tokamak components to:
  - characterize the dynamic behavior of the system;
  - verify the component structural integrity;
  - define the support and interface loads in seismic events;
  - define the relative movements of tokamak components;
  - define the accelerations of components for the verification of the component itself and for the design and analyses of attached equipment.
- Perform seismic analyses of the building to:
  - characterize the dynamic behavior of the building including soil-structure interactions effects;
  - study the effects of seismic isolators;
  - verify the building structural integrity;
  - define the building acceleration and spectra at different floor level for the definition of the design input loads for components inside the building
- Perform dynamic analyses of the major tokamak components under transient electromagnetic loads (plasma disruptions, plasma VDEs, magnet fast discharge, etc.) to:
  - characterize the dynamic behavior of the components;
  - define the support and interface loads in transient electromagnetic loads;
  - define the relative movements of tokamak components;
  - define the accelerations of components for further verification of the component itself and for the design and analyses of attached equipments;
  - define the dynamic amplification factors to be used for static analyses.
- Provide technical supervision of seismic and dynamic analysis activities provided by DA's.
- Review and verify analyses performed by other divisions and by DA's.
- Prepare detailed and summary analysis reports.
- Contribute to the update and record of the FE model developed inside the ITER Organization and by the DA's)..
- Maintains a strong commitment to the implementation and perpetuation of ITER values, ethics and safety at work.

**Qualifications Required:**

- Some years of experience in the analyses of components of large (scientific or industrial) projects.
- Experience in using finite element programs.
- Knowledge of the ITER design, configuration, procedures.
- Knowledge of engineering aspects of the design and analysis of the main tokamak systems.
- Capability of working in a team and interfacing with other groups and divisions.
- Openness to collaboration in a multi-disciplinary and multi-cultural environment.
- Fluent in English. Possibility of staying in the project for more than 10 years.

**Work Direction and Interfaces:**

Report to the Leader of the SAS of the PO. Interface with all other ITER departments and divisions. Maintain communications with other organizations within the ITER collaboration.

**Authority/Approval Levels:**

Has authority and approval levels generally defined by the Head of Project Office for his/her scope of work.

**Measures of Effectiveness:**

- Successfully support the SAS in achieving the defined objectives.
- Provide comprehensive reports and summaries of the performed and revised analyses.
- Provide FE models developed for the analyses.
- Successfully generate and maintain trustworthy, up to date information related to the machine technical scope.
- Successfully maintains effective communications with all organizations interfacing with ITER.