



**FUSION
FOR
ENERGY**

6th ILO meeting

2. 2009 CFTs (Procurements & Grants)

02nd February 2010 - Barcelona

- **Procurements:** 38 Contracts of which 13 Framework Contracts for a total value of more than 94 M€. (8 contracts above 1 M€)
- **Grants:** 28 Grants agreement for a total value above 8 M€. (10 Grants above 200 k€). 3 concluded with industrials.
- Following slides: **Blue for Procurements; Red for Grants**
BOLD for Procurements > 1 M€ & Grants > 200 k€

Italic for contracts launched after last ILO meeting (1 Procurement & 4 Grants)

- **Power Supply:** the Procurement Arrangement (PA) for Power Supplies Studies was signed on October 2009.
- **Site & Buildings:** Revision of cost estimates and construction schedule of ITER buildings.
 - 3 engineering support contracts in the area of civil engineering analysis.
 - **Building Value Engineering (Phase III)**
 - Support in tendering: the Design and Build (DB) contract, Safety and Health Protection Coordination (SHPC) contract, Legal Inspection (LI), contract and Support-to-the-Owner (OS), and ITER PF fabrication building.

- **Magnets: 2 contracts for chromium plated Nb₃Sn Strand**
 - Supply of radial plate prototype
 - PF conductor sample
 - Assessment of Acceptability for Closure Weld with Backing Strip for the Outer Wall of Containment Vessels for F4E experiments and a concept method for manufacturing.
 - Supply of conductor samples for cryogenic tests
 - **Extend characterisation of ITER strands**
- **Vacuum Vessel:** Manufacturing Design Study of Torus-Shaped, Double-Shelled Large Pressure Vessels with Water-Cooled Interspaces and External High Vacuum
- **Corrosion issues**

- **Blanket:**
 - provision of ultrasonic testing of beryllium coated first wall mock up.
 - Manufacturing and Costing Study of a large Shield block concept for an alternative ITER Blanket design
 - Cost comparison study between the 1MW/m² design and the 5MW/m² design of the ITER First Wall Panel
- **Divertor:** High Heat Flux Testing of Divertor Components
- Infrared SATIR examination of divertor components analysis under heat flux
- Destructive examination of vertical target qualification prototype
- **Remote Handling:** Air transfer system prototype & cask transfer virtual mock up + **In-vessel Viewing System prototype**

- **Test Blanket modules:** supply of EUROFER steel plates
 - **EUROFER Material database**
 - *Design & construction of a lab. Scale to investigate H2 isot. Permeation technology*
 - *Des. & implementation of the Data Acquisition and Control System of the EBBTF*
 - Continuation of safety assessment of EU-TBMS
 - *Study of impact caused by implementation of mitigation means for ITER TF TBM-induce ripple on TBMs design & objectives*
- **Cryoplant:** no CFTs, no grant. (Framework contract with SOCOIN before)

- **Vacuum & Tritium group:**
 - **Completion of final design for the PTC and testing of PTC in TIMO-2 to qualify the design**
 - Upgrading of TIMO 2 facility
 - Instrumentation for Cryopumps and Cold Valve boxes
 - Assessment of H isotope Separation System 2001 Baseline Design
 - Functional and performance evaluation of Sulzer CY packing in views of ITER ISS



- **Heating System & Current drive: Experiment on a Large RF Ion Source with Extraction (ELISE)**
- Completion of the preliminary optical design and preparation of technical documentation (mm-wave design & components) for the ITER Upper launcher preliminary design review
- Production of the ITER EC Upper Port Plug Preliminary Design review documentation (structural, diamond window and integration) and completion of welding tests for the port plug structure
- Preparation of the documentation for the ITER EC Upper Launcher Preliminary Design Review for launcher performance analysis, launcher control and support to mm-wave design
- **Development of the European Gyrotron CCGDS6**
- **Continuation of the Development for the RF Ion Source**
- **Neutral Beam Injector HNB1 & HNB2 Development Support for Components Outside the Scope of NBI Test facility**



- **Plasma Engineering:** *ITER vessel and SBM design; plasma control and scenario analysis*
 - **Plasma Scenarios and Poloidal Field Coils System Analysis and Optimization**
 - **Plant System Simulator and Prototype Fast Control Plant System**
- **Diagnostics:**
 - **Magnetic diagnostics**
 - ***Detailed design of a representative equatorial port plug and diagnostic***

- **Engineering support:**
 - 3 contracts for neutronic analysis,
 - 2 for electromagnetic analysis,
 - 4 for general engineering support
 - Mechanical design of the VV
 - Nuclear Data, developments of tools and validation for ITER activities
 - **Detailed analysis of fire explosion event scenarios (...)**
- **Project office:** support in industrial risk analysis
 - F4E project management diagnostic

Conclusion



- 67 contracts (38 Procurements + 28 grants)
- Total value > 102 M€
- 7 contracts > 1 M€ : Engineering support, Radial plate, NB3Sn strands, chromium plated copper strands, ELISE, Building value evaluation
- See Excel sheets for more details