

## Note

# ITER VV Sector Manufacture – Information Meeting in Korea

### Technical Description of the VV Sector

The ITER Vacuum Vessel Sectors, which provides the first Tritium and Vacuum boundary and supports the Plasma-facing components, has to resist high plasma EM-induced forces and is the first safety confinement barrier for Tritium and other activated products. To form the complete toroidal vessel, nine, 40 degree sectors are to be delivered to ITER site to be welded together. The complex welded construction, with very tight tolerances of about 10 mm, is 11 metres high and 6 metres wide and has walls made of 60 mm thick 316 ITER Grade Stainless Steel, includes many ribs and forged cylindrical parts, with a total weight of about 240 tons. The double-walled vessel has an interspace pressured to 30 Bar and part filled with Borated shielding plates.

The tender for the EU contribution (80%) of the contract for the VV sectors is expected to be launched in 2008, the contract would last about 6 years. For the manufacture of the VV sectors, it can be expected that the following facilities and experience would be requested from potential tenderers:

- Factory assembly workshop of 600 m<sup>2</sup>, having 600 Ton crane with a height access of 15 m
- Large machine shop with facilities for accurate 3-D machining of large (12m x 7m x 7m) and heavy (500 Ton) components
- Clean conditions working environment for vacuum component fabrication
- Access to deliver the 12m x 7m x 7m Sectors to a sea port (requires very special transport on normal roads), ideally direct access to sea or a large river
- High level of Quality Assurance Certification (ISO 9001, ASME, etc)
- Experience in the field of Nuclear Pressure vessel fabrication
- Highly qualified engineering personnel for CAD design, analysis, inspection, programme management and QA
- A project management team with considerable experience in procurement and sub-contracting of large stainless steel components
- Annual turnover of at least 100 MEuro
- State-of-the-art automated Narrow Gap TIG welding facilities
- Advanced NDT (Ultrasonic and X-ray Inspection) experience and facilities

### Information meeting: Logistics

The meetings in Korea will include visits to Korean Industries (Hyundai and Doosan) and the KSTAR Tokamak and are being organized according to the following schedule:

March 14, 2007 (Wed.): Visit to Hyundai in Ulsan

March 15, 2007 (Thu.): Visit to Doosan in Changwon and visit to KSTAR in Daejeon

March 16, 2007 (Fri.): Meeting on Vacuum Vessel procurement with ITER, EU+KO Participant Team Leaders and EU+KO Industries, in Seoul

March 17, 2007 (Sat.): Vacuum Vessel procurement meeting continuation in the morning

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Depending on the outcome of these meetings a similar event could be organized in the near future in Europe, in which representatives of the ITER Organization, EU and Korea and interested Industries could participate.