

Technical Summary

Contract for Procurement of Lot 5 Control Valves (Control Ball Valves, Control Globe Valves and Control Butterfly Valve)

Purpose

The purpose of this Call for Nominations is to establish a Contract for the procurement of Manual or Actuated Control Valves (Control Ball Valves, Control Globe Valves and Control Butterfly Valve) which required for the ITER Project / Tokamak Cooling Water System (TCWS).

*Note that valve supplier would be requested to quote as price optional of all above control valves whose functions with MFM; Mass Flow Measurement; / MFC; Mass Flow Control; which is able to control and measure the flow.

Background

ITER will be the largest and most complex nuclear fusion system yet to be built. Situated in Southern France. Adjacent to the French CEA Cadarache site. The ITER facility covers approximately 190 hectares and is designed to study the fusion reaction between hydrogen isotopes, tritium and deuterium.

The ITER Organization will require valve and actuators for the construction of the TCWS.

Scope of work

The Contractor will be required to supply Manual or Actuated Control Valves (Control Ball Valves, Control Globe Valves and Control Butterfly valve) to the ITER Organization under the conditions of the Contract to be signed with the ITER Organization.

Table 1 represents the preliminary bill of materials of Manual or Actuated Control valves are required for the TCWS. Please note that they are subject to change.

The scope of supply includes design manufacturing, testing, qualification, cleaning, packaging and delivery of valves and actuators to the ITER site, France.

Table 1 – Preliminary Bill of Materials (subject to change)

Systems	Item & Type	Grade/ Material	Pressure Class	Size (DN)
TCWS	Manual / Actuated Control Ball Valves	304L or 316L	150-900	25-450
	Manual / Actuated Control Globe Valves	304L or 316L	150-900	25-450
	Manual Control Butterfly Valve	304L or 316L	150-900	25-450
	Actuator (Air/ Electric)	304L or 316L	N/A	25-450

*Note that the above control valve types will be required to perform safety functions.

Summary of Valve Quantity

The total number of valves will be as below, it is an order of magnitude estimate of the number of valves, at the current design stage. This estimate is provided for information only, to help tenderers assess their ability to self-perform and determine the percentage of work which they will need to subcontract/partner up with other suppliers.

Item & Type	Quantity	Remarks
Manual / Actuated Control Ball Valve	418	DN25(5EA)/ DN40(305EA)/DN50(75EA)/DN65(22EA)/DN80(11EA)
Manual / Actuated Control Globe Valve	34	DN40(1EA)/DN50(2EA)/DN65(6EA)/DN80(2EA)/DN150(18EA)/DN250(4EA)/DN400(1EA)
Manual Control Butterfly Valve	1	DN450(1EA)
Total	453	

Timetable

The duration of the contract will be approximately 3~4 years from the date of the award of the contract.

- * Call For Nomination- End of Apr. 2020
- * Nominations from Das received – End of May 2020
- * Launch of Pre-Qualification (PQA)- Mid of June 2020
- * Deadline to receive PQA – Mid of July 2020
- * PQA Finalized – Mid of Aug. 2020
- * Launch of CFT – Mid of Sept. 2020
- * Deadline to receive offers – End of Oct. 2020

* End of evaluation, award of the Contract- End of Nov. 2020

* Signature of the Contract – End of Dec. 2020

***Note that might be able to combine PQA and CFT to save above the timeline.**

Experience

The Supplier shall have demonstrable experience in the design, manufacturing and supply of above stipulated Table 1 valves used in the nuclear industry, as well as valves that are required to perform safety functions.

The Supplier shall have demonstrable experience in design, manufacturing such materials conformingly to ASME B16.34[1], ASME B31.3-2010 Category M fluid [2], and is able to comply with ESP [3] and ESPN[4] French regulations. In order to comply with French regulation, the contractor might need to be applied other referenced codes as per BPVC (especially ASME Sec. III or Sec. VIII).

The valve actuators shall be designed to conform with the Machinery Directive 2006/42/EC [5] and EMC Directive 2004/108/EC [6]. The Supplier shall be able to set-up a Quality Assurance System and Supply Chain Management System required for manufacturing of nuclear components and shall comply with the French Order of 7th February 2012 establishing the general rules for basic nuclear installations [7].

Candidature

Participation is open to all legal persons participating either individually or in a grouping (consortium) which is established in an ITER Member State. A legal person cannot participate individually or as a consortium partner in more than one application or tender. A consortium may be a permanent, legally-established grouping or a grouping, which has been constituted informally for a specific tender procedure. All members of a consortium (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization.

The consortium groupings shall be presented at the pre-qualification stage. The tenderer's composition cannot be modified without the approval of the ITER Organization after the pre-qualification.

Legal entities belonging to the same legal grouping are allowed to participate separately if they are able to demonstrate independent technical and financial capacities. Candidates (individual or consortium) must comply with the selection criteria. The IO reserves the right to disregard duplicated reference projects and may exclude such legal entities from the pre-qualification procedure.

References

[1] ASME B16.34, Valves-Flanged, Threaded, and Welding End

[2] ASME B31.3-2010, Process Piping

[3] ESP- Equipment Sous Pression- French Decree 99-1046 of 13 December 1999 on Pressure Equipment

[4] ESPN – Equipment Sous Pression Nucleaire- French Order 2005 December 12th for nuclear pressurised equipment (ESPN)

[5] Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on Machinery, and Amending Directive 95/16/EC

[6] Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the Approximation of the Laws of the Member States Relating to Electromagnetic Compatibility and Repealing Directive 89/336/EEC

[7] French Order dated 7 February 2012 relating to the general technical regulations applicable to INB – EN (ITER_D_7M2YKF)