



Technical Summary

Contract for Procurement of Manual Valves, Specialty Valves, Check Valves, Relief Valves, Control Valves, and Valve Actuators (IO/17/CFT/7-316/NGA – CP/3)

Purpose

The purpose of this Call for Nominations is to establish a Contract for the procurement of manual valves, safety valves, specialty valves, check valves, relief valves, control valves, and valve actuators required for the ITER project / Tokamak Cooling Water System (TCWS).

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 valves and actuators 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 valves and actuators required for the TCWS. Please note that they are subject to change.

The scope of supply includes 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 Valve	Ball/Gate/Globe	304L & 316L	150 - 900	10 - 500
	Specialty Valve	Automatic Recirculation Valves	304L & 316L	150 - 900	10 - 500
	Control Valve	Ball/Butterfly/Globe	304L & 316L	150 - 900	20 - 450
	Check Valve	Swing/Piston	304L & 316L	150 - 900	15 - 500
	Relief Valve	N/A	304L & 316L	150 - 900	20 - 250
	Actuator	Air/Electric	304L & 316L	N/A	10 - 500

*Note that the above valve types include valves and actuators that will be required to perform safety functions.

Quantities

The total number of valves will be approximately 3,000 (with and without actuators). Below is an order of magnitude estimate of the number of valves, by typology, at the current design stage. Approximately ¾ of the below valves will require actuators. 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.

	DN																			
	TBD	10	15	20	25	32	40	50	65	80	100	150	200	250	300	350	400	450	500	
Relief	20	0	0	22	5	1	7	2	2	10	1	1	0	0	0	0	0	0	0	0
Check	1	0	4	14	19	0	3	45	13	13	36	47	4	37	0	0	10	1	0	0
ARC	0	0	0	0	1	0	2	2	0	2	0	0	0	0	0	0	0	0	1	0
Control	6	0	0	5	14	0	308	94	53	29	15	52	16	22	0	0	5	0	8	0
Ball/Butterfly/Gate/Globe	20	2	9	385	145	0	315	167	84	80	47	112	16	117	4	1	31	14	22	0

Timetable

The duration of the contract will be approximately 5 years from the date of the award of the contract.

The tentative timetable is as follows:

- Call for Nominations April 2017
- Pre-Qualification Q2 2017
- Call for Tender Q3 2017
- Award of the Framework Contract Q2 2018
- Delivery of the 1st supply order Q2 2020

Experience

The Supplier shall have demonstrable experience in the manufacturing and supply of manual valves, specialty valves, check valves, relief valves, control valves, and valve actuators used in the nuclear industry, as well as valves that are required to perform safety functions.

The Supplier shall have demonstrable experience in 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.

The valve actuators and control valves 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 of the same contract. 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 grouping shall be presented at the Pre-Qualification stage. The Candidate's composition cannot be modified without the approval of the ITER Organization after the Pre-Qualification.

Legal entities belonging to the same legal group 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 - Equipement Sous Pression- French Decree 99-1046 of 13 December 1999 on Pressure Equipment
- [4] ESPN - Equipement 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)