

Call for Nomination

ITER Cryostat Cylinder Cocoon Mothballing System

Ref. IO/17/CFT/13842/JPK

Purpose

In the frame of the Call for Nomination regarding the contract for the Call for Nomination ITER Cryostat Cylinder Cocoon Mothballing System, this document summarizes the requirements for the design, manufacture, testing, transport & delivery and support to installation & commissioning.

Background

ITER (“The Way” in Latin) is one of the most ambitious energy projects in the world today. 35 nations are collaborating to build the world’s largest tokamak, a magnetic fusion device that has been designed to prove the feasibility of fusion as a large-scale and carbon-free source of energy based on the same principle that powers our Sun and stars.

For more information on the ITER project: <http://www.iter.org>

The Cryostat is one of the major components of the ITER machine. The Cryostat is a large, stainless steel structure surrounding the vacuum vessel and superconducting magnets. It is made up of a single wall cylindrical construction and is roughly 30 meters tall and wide. The main functions of the Cryostat are to provide a vacuum environment and to support the Tokamak basic machine main components.

The Cryostat lower and upper cylinders are 28.6 m outside diameter and respectively 10.4 and 8.7 meters high. These cylinders are reinforced by toroidal and vertical ribs at the inner side. There are ports and penetrations at 4 levels for different penetrations required for interfacing systems, maintenance, instrumentation etc. There are pads and holes on the inner side of cylinders for the supporting of maintenance rails.

During fabrication and further on external storage, the Cryostat cylinders are placed onto dedicated frames which themselves are placed on stools. In order to ensure this long term external storage of the Cryostat Cylinders, it is required to protect these components with a Cocoon Mothballing System which main functions are to:

- Hermetically seal the Cryostat Cylinder modules and protect them against any weather, moisture and dust aggressions
- Create and maintain the relative humidity at approximately 40% to prevent any formation of mould and corrosion

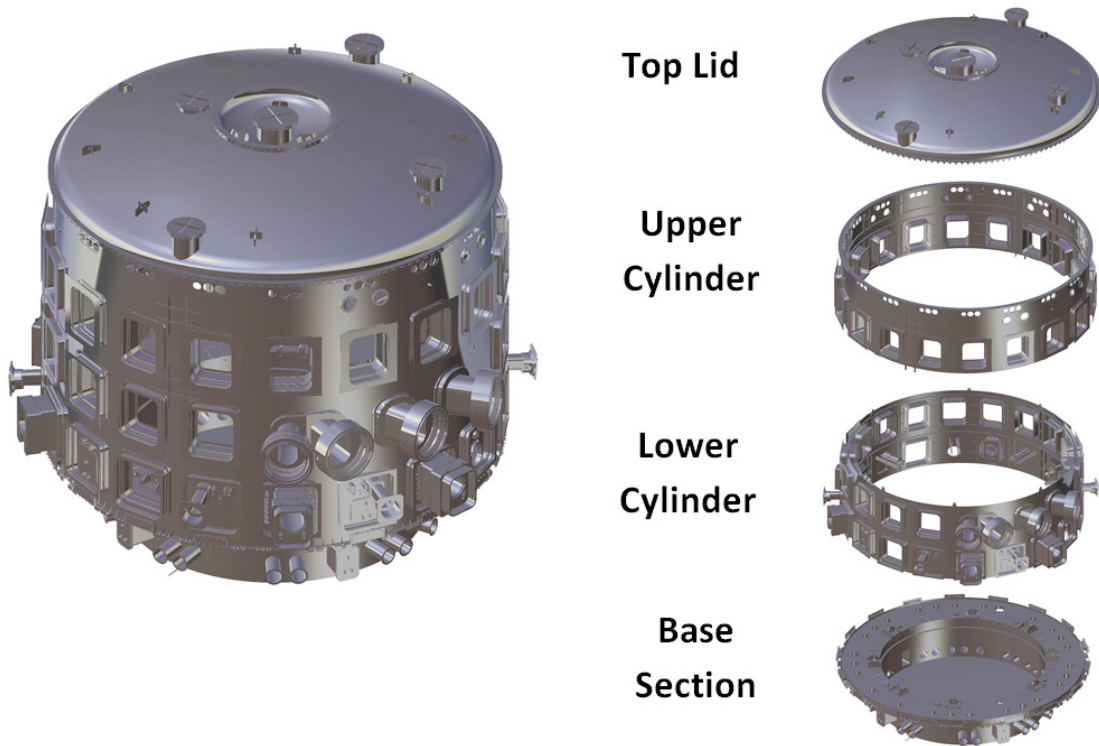


Figure 1 – ITER Cryostat composed of four sections

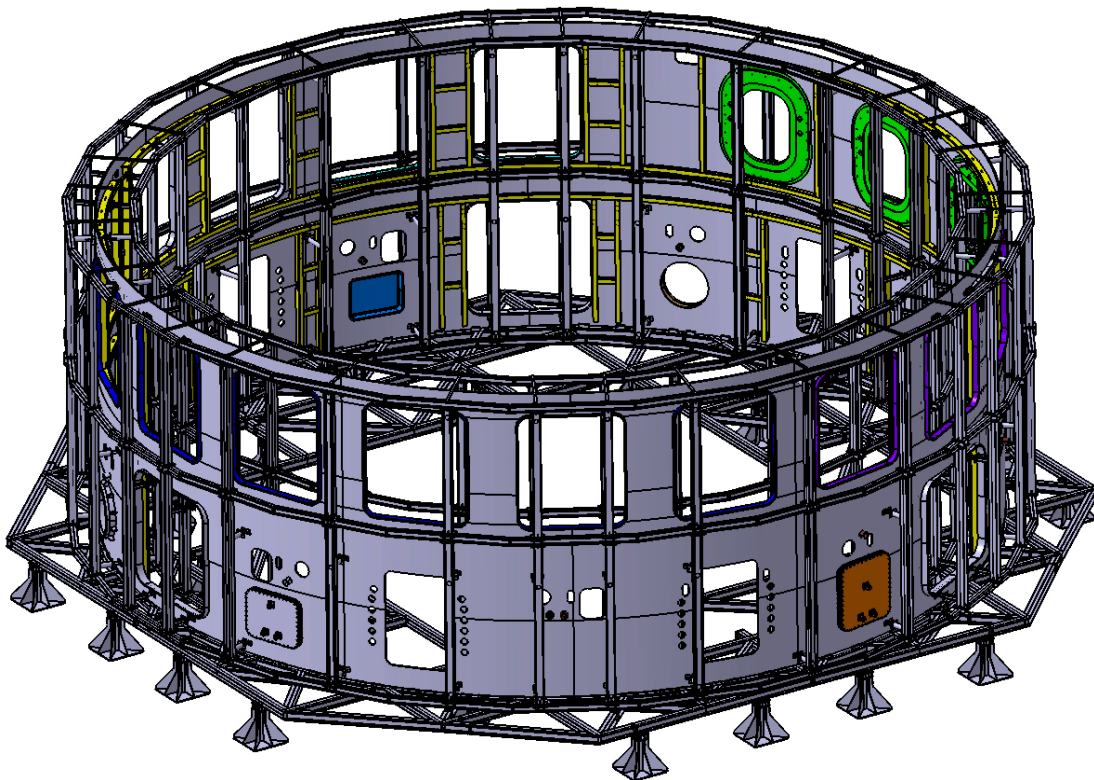


Figure 2 – Cryostat Lower Cylinder showed in its frame + stools environment

Experience

The Contractor shall have adequate experience for the work and activities as detailed below.

- Extensive experience into designing and implementing Cocoon Mothballing Systems intended for long term protection (minimum 10 year guarantee) of large stainless steel structures
 - Provide and install reliable airtight cocoon envelopes protecting against any weather, moisture and dust aggressions
 - Provide and install reliable air circulation units intended for maintaining the humidity level under an acceptable level (typically under 40%) in large volumes
 - Provide and install reliable humidity data loggers ensuring the remote monitoring of the humidity value
- Provide remote monitoring and on-site maintenance/repair services throughout the life of the Cocoon Mothballing Systems

Work description

The scope of work is the procurement of the Cryostat Cylinder Cocoon Mothballing System and its installation on ITER site. It is consisting of the following activities.

1 – Design and cocoon item procurement/preparation

The design activity corresponds to the definition of the layout and configuration of the mothballing system into the Cryostat Cylinder storage environment. This phase also concerns the procurement and preparation of all cocoon items: envelopes air-circulation units and humidity data logger & sensors.

2 – Transport to the ITER Site

This phase corresponds to the transport and receipt at the ITER Site of the following equipment:

- Cocoon envelopes (x2)
- Air-circulation units (required quantity to be determined)
- Humidity data logger & sensors (required quantity to be determined)

3 – Installation and Site Acceptance Testing

This phase corresponds to the installation of the cocoon envelop, air-circulation units and humidity data logger and their integration into the Cryostat cylinder environment. It also concerns the Site Acceptance Testing of all equipment.

4 – Monitoring and on-site maintenance/repair

This activity corresponds to the supply of services for the remote monitoring and regular reporting (temperature and humidity level) regarding the operation of the Cocoon System. It also covers the services for the on-site maintenance and any needed repair throughout the life of the Cocoon Mothballing System.

Timetable

The tentative timetable is as follows:

Call for Nomination	February 2017
Tender submission date	May 2017
Award contract date	November – December 2017
Contract start date	January 2018
Contract end date	June 2018

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 cannot be modified later without the approval of the ITER Organization.

Legal entities belonging to the same legal grouping are allowed to participate separately if they are able to demonstrate independent technical and financial capacities. Bidders' (individual or consortium) must comply with the selection criteria. IO reserves the right to disregard duplicated references and may exclude such legal entities from the tender procedure.

Reference

Further information on the ITER Organization procurement can be found at:

<http://www.iter.org/org/team/adm/proc/overview>