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P2.096 Receiving Inspection and Tests (RIT) of ITER Poloidal Field #4 Cryostat Feedtrough in MIFI.

Tuesday, 18 September 2018 11:00 (2 hours)

The ITER Magnets are in the procurement and assembly phases.

During these phases, critical components need to be tested and assembly procedures need to be developed and qualified on mock-ups.

To this end, ITER Organization (IO) and CEA have built up a support structure with space, expertise and equipment: MIFI – Magnet Infrastructure Facilities for ITER.

In this framework, IO and CEA perform Receiving Inspection and Tests (RIT) on components delivered to IO by the Domestic Agencies (DA).

These tests are meant to ensure the good quality of components and occur between the Manufacturing Inspection Tests that are performed before delivery to ITER and the Site Acceptance Tests that are performed before installation in the tokamak pit.

The goal is to verify that nothing critical occurred during the shipment and to check original data from the DA.

The paper describes the RIT sequence of the Poloidal Field #4 Cryostat Feedthrough (PF4 CFT). A detailed Manufacture Inspection Plan (MIP) has been especially written to check critical parameters.

A particular focus is made on three topics: metrology, leak detection and high voltage (HV) tests.

First, the dimension and geometric tolerances are checked with a laser tracker and compared to the requirements of the feeder project.

Then, leak tests are performed. The vacuum barrier (inside the PF4) must be leak tight to guarantee different levels of vacuum, internal piping as well as vacuum duct welds must be verified.

Finally, HV tests on busbars will verify the specification for the resistance, the continuity and the insulation. The RIT results and the improvements proposed on the Manufacturing tests will be presented.

Disclaimer : The views and opinions expressed herein do not necessarily reflect those of the ITER Organization.

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