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34th ITER Council Meeting: Updated baseline proposal presented to Council for further evaluation

ST PAUL-LEZ-DURANCE, France (20 June 2024) – The ITER Council convened to review the performance of the ITER Project. The Council received a proposed update of the project baseline as well as presentations on the progress of construction, manufacturing, assembly, and licensing.

At the Council's thirty-fourth meeting on 19-20 June 2024, ITER Director-General Pietro Barabaschi reported on the progress of the ITER Project, reflecting the efforts of the ITER Organization (IO) and Domestic Agencies (DAs) to position the project for success and strengthen its central position in global efforts to deploy a cleaner, reliable and abundant energy source.

The Council reaffirmed that the fusion operations pursued by ITER remain strongly relevant for global fusion research and development and the national fusion programs of the ITER Members.

china

eu

india

japan

korea

russia

usa

Updating the project baseline: In 2022, Director-General Barabaschi launched a program of project reform, with support of the DAs and under the supervision of the Council. These reforms included streamlined project management, heightened attention to quality control, and enhanced reporting. In addition, they addressed the need to develop a revised project baseline, due to delays caused by the Covid-19 pandemic and technical challenges linked to the First-of-a-Kind nature of many components. At the current meeting, the IO, with support from the DAs, submitted a proposed update to the project baseline for the Council's consideration.

The proposed new baseline would prioritize the start of substantial research operations as rapidly as possible. This would be achieved by consolidating tokamak assembly stages, enhancing pre-assembly testing, and reducing machine assembly and commissioning risks. Throughout this phase of assembly, the project will continually progress through critical technical milestones that will be relevant to the global fusion innovation program. In two weeks, the ITER Director-General will hold a press conference to provide additional details of the proposal, which leads to a scientifically and technically robust initial phase of operations, including deuterium-deuterium fusion operation in 2035 followed by full magnetic energy and plasma current operation. Achieving these goals will enable progression to full fusion power in the deuterium-tritium (DT) phase. The proposed baseline will be further evaluated and validated, including the increased cost and the schedule implications driven by this new approach, and recommendations will be shared with the ITER Council for consideration.

Project progress: The Council noted the progress achieved on repairs to key components—the vacuum vessel sectors and thermal shield—as well as ongoing manufacturing, assembly, and installation. A ceremony on 1 July is planned to celebrate the completion of manufacturing of all toroidal field coils—long considered to be the most technically challenging ITER component. Manufacturing of all poloidal field coils has also been completed. These are examples of the critical milestones the project will accomplish throughout the assembly phase. The first three central solenoid modules have been stacked and are being aligned while the fourth central solenoid module has arrived at ITER. Installation of magnet



feeders is ongoing in the tokamak pit. Multiple support systems have been commissioned or are in the commissioning process.

Engagement with Private Sector: In response to the Council's November 2023 request for ITER to engage with private sector fusion initiatives, a workshop was hosted in May. The workshop received strong participation from global fusion start-ups, supplier companies, research institutes, national laboratories, universities, NGOs, and government agencies. The over 300 attendees reaffirmed the importance of the ITER mission and research program as an essential complement to private sector fusion R&D. The Council welcomed this engagement and requested the Members to encourage their national entities (e.g., government agencies, research institutes, and private sector fusion companies) to continue to support relevant global fusion efforts.

New leadership team member: In keeping with the Director-General's recommendation, the Council appointed DeLeah Lockridge as Head of the Engineering Services Department. The Council also took note of the Director-General's ongoing efforts, supported by the DAs, to improve the structure of the Engineering Services Department and prepare for the launch of the fully matrixed organization in 2025.

ITER Member support: Council Members re-emphasized the strong value of the ITER mission and resolved to work together to find solutions to facilitate ITER's success. They also expressed their support for ITER's commitment to integrate diversity, equity, and inclusion principles into hiring actions, work culture, and the cultivation of the next generation of the fusion workforce. The Council noted the ongoing challenges facing the project and expressed appreciation that all ITER Members are continuing to meet their in-kind and in-cash commitments to support project success.

BACKGROUND TO THE PRESS RELEASE

ITER—designed to demonstrate the scientific and technological feasibility of fusion power—will be the world's largest experimental fusion facility. Fusion is the process that powers the Sun and the stars: when light atomic nuclei fuse together to form heavier ones, a large amount of energy is released. Fusion research is aimed at developing a safe, abundant and environmentally responsible energy source.

ITER is also a first-of-a-kind global collaboration that serves as the scientific backbone behind the growth of a fusion industry. As the host, Europe contributes almost half of the costs of its construction, while the other six Members to this joint international venture (China, India, Japan, the Republic of Korea, the Russian Federation and the United States), contribute equally for the remaining expenses. The ITER Project is under construction in Saint-Paul-lez-Durance, in the south of France.

For more information on the ITER Project, visit: <http://www.iter.org/>