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4 April 2007

News

EU Domestic Agency established

The European Joint Undertaking for the ITER Fusion energy organization and the development of fusion energy has been established by the Council of the European Union at its meeting in Brussels on 27 March. The Joint Undertaking will form the European Domestic Agency that will manage the EU's contribution to ITER.



The Council of the European Union. Click on the picture for high-res.

With a lifetime of 35 years, a total budget of 9.653 M Euro and based in Barcelona, Spain, the Joint Undertaking will play a major role in the EU's fusion activities. It will provide the contribution of the European Atomic Energy Community (Euratom) to the ITER International Fusion Energy Organization, provide Euratom's contribution to "broader approach" activities with Japan for the rapid realisation of fusion energy, and prepare the co-ordination of a programme of activities in preparation for the construction of a demonstration fusion reactor and related facilities.

ITER Nominee DG Kaname Ikeda welcomed the decision: "The EU Domestic Agency has a very large role to play in the ITER Project, and I congratulate the EU on this important progress. We hope that this organization will become operational as soon as possible, and we look forward to working with this new counterpart." Read full [ITER Press Release](#)>>>

On Site

News

Korean National Assembly ratifies ITER Agreement

During their meeting on 2 April, the Korean National Assembly ratified the ITER Joint Implementation Agreement. This opens the way for the establishment of the Korean Domestic Agency. A government official stressed the commitment of the Korean government to continuing its high level of support for the successful launch of the ITER Organization and the ITER project.

First strands qualified for ITER Toroidal Field coils



Cross section of the EAS cable. Click on the picture for high-res.

Before the ITER Toroidal Field coils are procured, the superconducting strands that make up the cable need to be qualified for ITER operation. At the Sultan test facility at the fusion institute CRPP (Switzerland), a 3.5 meter conductor sample cabled from strands and produced by the company EAS has been tested with positive results. The conductor used for the sample was fabricated under supervision of the Italian fusion institute ENEA, and the sample was prepared, heat treated and assembled at CRPP.

The test programme involves the operation under conditions representative of the operation in ITER of a TF coil. The sample was therefore tested with a current of 68 kA, in the Sultan background magnetic field of 10.8 Tesla, and more than 1000 cycles from zero to full current were applied. The performance of the cable proved to be stable under these tests, and the sample passed the acceptance criteria (5.7 K current sharing temperature after 1000 cycles). The EAS strand is therefore considered qualified for the ITER TF coil conductor. Overload tests at 80 kA and a background field of 11T, which were performed after the cycling, did not show any degradation.

During the next few months, strands of the Parties involved in the TF coil production will undergo the same qualification testing programme.

Clearing ITER site nearly finished

Under the supervision of Agence ITER France, the ITER site is being prepared for construction. As a first phase, a temporary fence has been put up round the site, and

Directors' Corner

The last few weeks have seen some significant developments for ITER. The EU Domestic Agency was established by the EU Council, and the Korean National Assembly has ratified the ITER Joint Implementation Agreement, which opens up the establishment of the Korean Domestic Agency. From the ITER



ITER DG Nominee Kaname Ikeda

point of view the formation of these two new counterparts is a big step forward, and we look forward to working with them as soon as they are operational. At Cadarache, the work is moving forward. The first part of the construction site has been cleared, and the erection of a new temporary office building on the CEA site means that we can accommodate an additional 75 staff members.

We had the pleasure of welcoming over eighty representatives from the Parties in Marseille last week for the first IIC Preparatory meeting after ITER started operating as a provisional legal entity in December last year. In the meantime, ITER has taken many initiatives concerning essential issues such as staffing, schedule and budget, which were thoroughly discussed at the meeting. At the next meeting, planned for mid-June, the final preparations will be made for the Interim ITER Council, where these ITER policies will be formally endorsed.

During the Marseille meeting agreement was also reached on the terms of reference and initial charges of two important committees which will advise the ITER Council: the *Management Advisory Committee* (MAC), and the *Scientific and Technological Advisory Committee* (STAC). The MAC will have its first meeting by the end of May.

The first few months of 2007 have been very productive, and I am sure the rest of the year will continue to be busy for the current staff and the many new colleagues who will be joining us in the coming months.

ITER Parties

Second Interim ITER Council Preparatory meeting held in Marseille

on 27-28 March, representatives of the seven ITER Parties came together in Marseille to prepare the Interim ITER Council, which is planned for July in Japan.



Participants to the IIC meeting in Marseille
Click on the picture for high-res.

Many issues were discussed, such as the Design Review, ITER staffing, licensing, budget and resource estimates for 2007-2008, procurements, site preparation, the international school, etc. Another IIC preparatory meeting will be held in June.

Tritium Plant Project Team set up



When ITER uses the real fusion fuel during operations – a mixture of deuterium and tritium – part of this fuel will not be burned. This leads to an exhaust mixture of fusion fuel and helium, which needs to be processed at unprecedented flow rates, with measures necessary for the confinement and safe handling of tritium. The tritium plant systems will be procured through the EU, Japan, Korea and the USA.

At a meeting held on 21-23 March, a Tritium Plant Project Team was established to coordinate all design aspects of the ITER tritium plant, in particular the safety requirements and adherence to guidelines and standards. The project team will also coordinate the schedules and procurement activities in the ITER Parties which are related to the tritium plant systems. Each Party is represented by a formal contact person and by technical experts. Within the project team, task forces have been set up for special subjects, such as tritium plant codes & standards, safety design guidelines, and detritiation systems design.

Working group on Site & Buildings

Between 21-23 March, a Site & Buildings working group meeting – involving representatives of the ITER Parties and the ITER Organization – took place under the chairmanship of Carl Strawbridge of the US

trees have been cleared on an area of 75 hectares (see aerial picture below).



Aerial photo of the ITER site (Photo: CEA/Agence ITER France). Click on the picture for high-res.

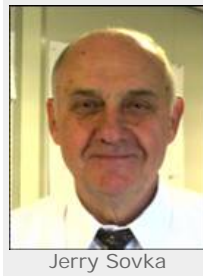
Road works have been carried out to create an easier access to the ITER site. The main access to the ITER site will be constructed in the summer, and be operational by September.

Six architects charged with creating the design of ITER annex buildings

To create a design for the so-called annex buildings on the ITER site, a competition for architects is being held. The annex buildings include office buildings, a public relations and welcome centre, a restaurant, an access control and a medical office. The 27-strong jury – composed of representatives of the ITER Organization, local politicians, representatives of the European Commission, Director of CEA/Cadarache, and architects – came together on 20 March to agree on the rules for the competition. They reviewed 25 applications of architects of which six were invited to provide a detailed design. In July, the jury will meet again to review the architects' proposals and choose the winner.

People

Introducing ... Jerry Sovka, acting Head of Civil Construction & Site Office



Jerry Sovka

Born in 1936 and raised in Southern Alberta, Canada, Jerry Sovka received his primary education in small country schools. He obtained a BSc in Chemical Engineering from University of Alberta; an MSc from University of Birmingham, England and a doctorate in nuclear engineering from M.I.T., Cambridge, USA.

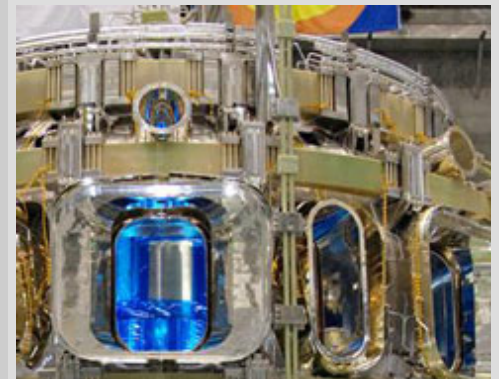
Throughout his professional career, he has been involved in research and development, design, construction, commissioning and project management of commercial nuclear facilities in Canada, South Korea, England, China and USA. His experience includes project manager of the Wolsong Tritium Removal Facility in Korea, project manager of the MDS Nordion Medical Isotopes Reactor in the USA, and Chief Engineer of the Canada-France-Hawaii Telescope in Hawaii.

Since 2001, he has been working on the ITER Project buildings and site layout, in Naka, Japan and Garching, Germany. From

DGN Kaname Ikeda visits Korean Tokamak KSTAR

This month ITER DG Kaname Ikeda took off for a two day visit to South Korea, where he visited the construction site of the Korea Superconducting Tokamak Advanced Research facility (KSTAR) in Daejeon, south of Seoul. KSTAR is currently in its final stage of completion, with first plasma being expected in 2008. "I am very much impressed by the progress this project has achieved so far", Ikeda said. "Especially as this Tokamak will operate with ITER like specifications such as its superconducting magnets and the vacuum vessel so their experience will be fully reflected to the construction and operation of ITER."

The ITER project plays a significant role for South Korea which imports 97 percent of its energy resources from abroad and is also known as the 10th largest consumer of energy in the world due to its major reliance on heavy industry.



Part of the KSTAR device, at Daejeon, south of Seoul.

On the second day of his visit, Ikeda met the Vice Prime Minister and Science Minister Kim Woo-Sik, to report on the status of ITER construction. Also on the agenda was the ratification of the ITER Agreement by the Korean Parliament and the organization of the Korean Domestic Agency. "From the ITER point of view it will certainly be a big step for Korea to have the Domestic Agency in place", Ikeda said "and it is also significant for Korea to keep the momentum of the fusion society currently experienced with KSTAR so as to fully mobilize it towards construction of ITER."

Links to the Domestic Agencies

Information [EU Domestic Agency](#)
Website [Domestic Agency India](#)
Website [Domestic Agency Japan](#)
Website [Domestic Agency USA](#)

Announcements and Links

ITER Office. The working group is part of the Design Review process, and it is their task to resolve the outstanding issue cards regarding the size and layout of the ITER buildings, in particular the nuclear buildings. The working group also defines the schedule for the architectural engineering, and provides input for the safety and licensing procedures.

Jerry Sovka, one of the participants to the meeting, said: "We meet every two weeks, be it by means of phone or video-conferences, or face-to-face meetings. The ITER Responsible Officers provide us with input on what they need to put in the buildings, and it is our job to translate that information into a consistent layout of the site".

Delegation Korean National Assembly visits ITER



The Korean Delegation . Click on picture for high-res.

On 21 March, a group of members of the Korean National Assembly visited ITER. They toured the CEA site, visited the Tore Supra tokamak, and had discussions with ITER management. The photo above was taken at the entrance of the ITER construction site.

New ITER buildings occupied

This week, the IT-Team and members of the Tokamak Group moved into the newly built portakabins on the ITER Joint Work Site.



Chris Lowry and his furniture. Click on picture for high-res.

While most offices are still rather empty, some staff members brought their armchairs and felt right at home. The new building can hold 75 persons. During the same week, Agence ITER France has also moved to a new building, right in between the two ITER buildings.

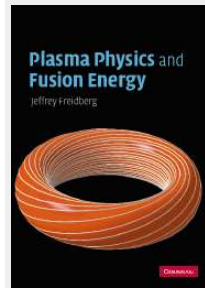
January, 2006, Sovka has been seconded by the US ITER Project Office to the Cadarache Joint Work Site, currently as acting Head of Construction and Site Support Department. In that capacity, he is responsible for the site layout, and the design and construction of all buildings of the ITER Project.

Fusion World

Fusion Expo held in Nîmes

From 28 March until 21 April, the Fusion Expo (a traveling exhibition on fusion run by EFDA) will be open to the public in Nîmes. The venue is the "ShowRoom de Nîmes Métropole", at Rue du Colisée 3 in Nîmes. Local coordinator of the Expo is Michel Dumas of the Université Montpellier 2.

New textbook on fusion energy



Jeff Freidberg, Professor of Nuclear Science and Engineering at MIT, has published a new textbook, "Plasma Physics and Fusion Energy". The book is based on a series of lecture notes from graduate courses in plasma physics and

fusion energy at MIT. The 671 page text is published by [Cambridge University Press](#). Freidberg states, in the Preface, "it is my hope that the book will help educate the next generation of fusion researchers, an important goal in view of the international decision to build ITER, the world's first reactor-scale, burning plasma experiment."

High school student achieves fusion in basement



Thiago Olson from Michigan, USA, with his fuser equipment. Click on picture for high-res.

Thiago Olson, a seventeen year old boy from Michigan, USA, has been added to the sparse ranks of those that have achieved fusion reactions in their basement. Inspired by a [website on amateur fusion](#), he constructed a fuser apparatus over the course of two years time, using used laboratory equipment and cheaply acquired parts.

[ITER Management Chart](#)

EFDA Newsletter

The newsletter of the European Fusion Development Agreement can be found [here](#).

Image of the Week

ITER Hiking Club



ITER hikers following a trail at the Côte Bleu. Click on the picture for high-res.

The ITER project is a marathon, not a sprint. Therefore, endurance, strength and a good condition are required to make it to the finish line. On Sunday, 25 March 2007, the ITER Hiking Club took off for this season's first training tour along the rocky parcours of the Côte Bleu.

Calendar

Future meetings, conferences, workshops

17-20 April

[12th US-EU Transport Taskforce Workshop](#)
San Diego, USA

2-4 May

[8th International Reflectometry Workshop](#)
St Petersburg, Russia

7-9 May

[17th Topical Conference on Radio Frequency Power in Plasmas](#)
Clearwater, Florida, USA

May 14-17, 2007

[5th IAEA Technical Meeting on Steady State Operations of Magnetic Fusion Devices \(IAEA TMSO\)](#)
Riviera Hotel, Daejeon, Republic of Korea

22-24 May

[Jahrestagung Kerntechnik](#)
Karlsruhe, Germany

Newsline editors

The ITER Newsline is produced by Mark Tiele Westra and Sabina Griffith. Suggestions for future articles, comments and corrections, as well as items for the calendar are welcome, and can be sent to mark.westra@iter.org.

In the article he wrote on his work, entitled "Neutron activation analysis using an inertial electrostatic confinement fusion device", he concludes "My apparatus does not produce more energy than I put in that's never been done, and if someone can figure it out, they'll be set. My research with the fusor has just started." [Read more \(article in Financial Times Magazine\)>>>](#)

Award nominations sought

Fusion Power Associates (USA) are looking for nominations for their annual "Excellence in Fusion Engineering Award". The Award has been given annually since 1987 in memory of MIT Nuclear Engineering Professor David J. Rose. The purpose is to recognize and encourage fusion science and engineering professionals in the early part of their careers (maximum age 42). Candidates may be either in the physical or engineering sciences but must have shown some attention to the ultimate goal of fusion power. [More info>>>](#).

23-25 May

[11th International Workshop in Plasma Edge Theory in Fusion Devices \(11th PET\)](#)
Takayama, Japan

3-8 June

[13th International Conference on Emerging Nuclear Systems \(ICENES2007\)](#)
Istanbul, Turkey

For full agenda, click [here](#).