

**9th Executive Committee Meeting of the
IEA Technology Collaboration Programmes for
Co-Operation on Tokamak Programmes (TCP-CTP)**

Minutes

**ITER HQ, France, Thursday 17th January 2019
(13:30-15:15)**

Participants: Yutaka Kamada (JP), Yong Su Na (KO), Xavier Litaudon (EU), Wayne Solomon (US), Tony Donn  (Chair-EU), Tim Luce (ITER-IO), Siwoo Yoon (KO), Shunsuke Ide (JP), Sehila Gonzalez De Vicente (IAEA), Richard Garrett (AUS), Rajesh Maingi (US), Lars-G ran Eriksson (EU), Jong-Gu Kwak (KO), Jonathan Citrin (EU), Indranil Bandyopadhyay (IN), Donald Spong (US), Charles Greenfield (US), Borba Duarte (Secretary-EU), Ambrogio Fasoli (EU), Yi Gong (CN), Min Xu (CN)

0. Welcome

Tony Donn  (Chair) welcomed the participants to the 9th Executive Committee Meeting of the IEA Technology Collaboration Programmes for Co-Operation on Tokamak Programmes (CTP-TCP ExCo). The Chair welcomed Sheila Gonzales from the IAEA which participates in the meeting as an observer, following previous discussions aiming at promoting better co-ordination between the various organisations, including the IEA and IAEA with respect to Fusion research.

1. Approval of the Agenda, the Minutes of the last meeting and review of the list of Actions.

The Agenda and the minutes of the previous meeting were approved. The Secretary added that all pending actions were completed or included in the meeting agenda.

Decision: The IEA TCP-CTP Executive Committee approved the minutes of the 8th Meeting in December 2017 "Agenda Point 1 - 8th IEA TCP-CTP Meeting Minutes Version 2 15-Dec-2017"

2. Accession of new parties to the CTP-TCP

The Chair noted that Australia has joined the CTP-TCP in June 2018 and welcomed Richard Garrett (ANSTO) to the Meeting. The Chair added that there have been discussions with Thailand regarding the participation in the CTP-TCP and that participants from Thailand have been invited to participate in the CTP-TCP ExCo and the Fusion Power Programme Committee (FPPC). Regarding the discussions with Russia, the Chair stressed that there are still no good contacts with the Russian Ministry of Energy, but that he will continue to pursue this action aiming at Russia becoming a member of the CTP-TCP. The Chair noted that the change in the Japanese contracting party has been finalised and that Richard Pitts and Tim Luce have been nominated as new members of the CTP-TCP from the ITER-IO.

3. & 4. Reports on the completed workshops and personnel assignments for 2018 and Proposals for workshop, personnel assignments, and remote participation 2019

Duarte Borba (EU), Shunsuke Ide (JP), Rajesh Maingi (US), Jong-Gu Kwak (KO) presented the Reports on EU, JP, US, KO personnel assignments for 2018 and proposals for personnel assignments for 2019 respectively. Regarding the India assignments, no Report was presented. It was stressed that it is needed to check who would be the official representatives to the CTP-TCP ExCo from India and Indranil Bandyopadhyay (IN) agreed to enquire this.

Action on Indranil Bandyopadhyay (IN) to check who would be the official representatives to the CTP-TCP ExCo from India, following the retirement of Prof. Jha.

Regarding the assignments from China, Min Xu (CN) stated that there are no reports to be tabled at the meeting, since there is still some uncertainty on what China should report. The Secretary added that since the China contracting Party is the ITER-China domestic agency some clarification on the role of China in the CTP-TCP is still needed, but it was agreed that all relevant international assignments would be communicated at the meeting in addition to those carried out under the CTP-TCP. Nevertheless, Min Xu (CN) stressed the extensive collaborations with China, in particular work done in the Magnum-PSI in the Netherlands, the collaborative work with MAST-U at Culham in diagnostics and collaborations with WEST in France on plasma turbulence studies. In particular, the collaboration between US and China on the EAST Tokamak was emphasised, together with further collaborations between China and the EU.

Regarding the proposals for workshops, it was agreed to continue sponsoring the proposal by the US to organise a Workshop focussed on the validation of models for disruptions to take

place on 5-7 August 2019 and the KSTAR conference that will take place on 20-22 February 2019. Tim Luce (ITER-IO) emphasised that one of the main motivations for holding the workshop under the CTP-TCP framework is the provision of the Intellectual property cover to exchange freely information and data at the workshop, enabling the presentation of fresh results that are not yet ready for publication.

Decision: The IEA TCP-CTP Executive Committee adopted the Personnel Assignment reports for Jan. 2018 – Dec. 2019 and endorsed the proposals for personnel assignments, and remote participation in 2019.

Decision: The IEA TCP-CTP Executive Committee agreed to continue sponsoring the proposal by the US to organise a Workshop focussed on the validation of models for disruptions and the KSTAR conference.

5. Report from the IEA Secretariat (All)

Carrie Pottinger was not able to attend the meeting but submitted a written report that was tabled at the meeting.

The IEA TCP-CTP Executive Committee took note of the IEA Secretariat Report “Agenda Point 5 - IEA Secretariat report Q4 2018 v1”

6. Election of a deputy chair in the last year of the term (All)

The discussion on the Election of a deputy chair in the last year of the term was initiated by reminding the members of the committee of the rotation procedure adopted and the Chairs appointed in the recent past, included for reference in Annex 1. It was agreed that the present Chair would contact China regarding taking the Chair in the next rotation, otherwise Japan has volunteered to take the Chair in case China is not able to take the Chair next year.

Action on Tony Donn  to contact the China representatives regarding the ExCo Committee Chair for the next rotation and vice Chair for the coming year.

7. Discussion of annual report (All)

Regarding the preparation of the annual report, the Secretary presented a draft of the short annual brief to the Fusion Power Co-ordinating Committee from the CTP-TCP. It was agreed

that the Secretary would distribute the draft version tabled at the meeting for comments and approval; and that the members would provide their feedback as soon as possible and no later than Wednesday 23rd January 2019 in order to submit the report to the IEA the following week.

8. Contribution to IEA Article for Energy Technology Initiatives 2019

In the previous meeting, it was agreed that David Hill (US) would contact the proposed author for the article on Energy Technology Initiatives 2018 on Tokamak power exhaust collaborative experiments. If this article has not been published in 2018, then the proposal agreed was to aim at publishing this article in 2019. Alternatively, if the article on Tokamak power exhaust was indeed published, it was agreed that the Chair of the Transport and Confinement ITPA Topical Group would look for an author for an article on the collaborative experiments on analysis of plasma heat and particle transport.

Action on Wayne Solomon (US) to contact the proposed author for the article on Energy Technology Initiatives 2018 on Tokamak power exhaust collaborative experiments and alternatively; Action on Jonathan Citrin (Chair of the Transport and Confinement ITPA Topical Group) to look for an author for an article on the collaborative experiments on analysis of plasma heat and particle transport.

Other topics referenced in the discussion included the installation of the Shattered Pellet Injection on JET. It was agreed that this was an excellent topic for a future contribution, but at present one could only describe the installation of the system without experimental results.

9. Further discussions on any outstanding issues (All)

Date of the next meeting

At the ITPA Coordinating-Committee (ITPA-CC), it was proposed to move the ITPA Coordinating-Committee and the Joint Experiments Workshop (JEX) to the Summer, as it was the case in the recent past. Some members of the CTP-TCP ExCo expressed the opinion that the CTP-TCP ExCo should be organised together with the IPTA-CC & JEX in order to minimise travel, while other expressed the opinion that this meeting should stay in the winter, in order to prepare the IEA committee meetings and report that take place usually in January and February, and if possible to host the CTP-TCP ExCo via video conference. It was stated that there could be an obligation in the statutes of the TCP that at least one physical meeting should be held per year. The chair proposed that if this is the case, then the obvious choice is

to align the ExCo meeting with the ITPA-CC meeting. It is always possible to have an extra brief meeting via Video Conference in the winter.

Annex I Previous Chairs of the TCP-CTP ExCo and IEA-LTA ExCo

2019- Tony Donn  (EU), 2018- Tony Donn  (EU), 2017- Tony Donn  (EU), 2016- Richard Pitts (ITER), 2015- Richard Pits (ITER), 2014- Richard Pits (ITER), 2013- Steve Eckstrand (US), 2012- Steve Eckstrand (US), 2011- Myeun Kwon (KO), 2010 - M. Mori (JAEA), 2009 - F. Romanelli (EU), 2008 - E. Oktay (US), 2007 - M. Kikuchi (JA), 2006 - F. Romanelli (EU), 2005 - E. Oktay (US), 2004 - M. Kikuchi (JA), 2003 - J. Pam la (EU), 2002 - E. Oktay (US), 2001 - H. Ninomiya (JA), 2000 - J. Pam la (EU), 1999 - K. Young (US), 1998 - H. Ninomiya (JA), 1997 - A. Gibson (JET), 1996 - R. J. Hawryluk (TFTR), 1995 - H. Kishimoto (JT60), 1994 - A. Gibson (JET), 1993 - R. J. Hawryluk (TFTR), 1992 - S. Tamura (JT60), 1991 - A. Gibson (JET), 1990 - D. M. Meade (TFTR), 1989 - S. Tamura (JT60), 1988 – R. Bickerton (JET), 1987 – D. Grove (TFTR), 1986 – M. Yoshikawa (JT60)