Cadarache, January 22nd, 2016

Objet : **Invitation to submit experimental and modelling proposals for the first phase of WEST exploitation**

N/Réf. : CEA/DRF/IRFM/DIR/2016-017

Dear colleagues,

As the construction of the WEST platform is now approaching completion, I would like to invite you to submit **experimental and modelling proposals for the first phase of WEST exploitation** (phase 1, 2016-2017).

The WEST program is targeted at supporting the **ITER tungsten divertor** operation and extending H mode operation towards **long pulse in a metallic environment**. First plasma is scheduled in fall 2016. It is intended to run WEST as a user facility, open to ITER partners. The present call is the basis for the **common scientific exploitation** of WEST.

The WEST program is structured around 2 Task Forces. While the call remains open to innovative ideas for making the best use of WEST specific features, it is proposed to focus on addressing the **high priority research areas** identified below for the first phase of WEST exploitation:

Testing ITER grade Plasma Facing Components (PFCs) (TF leader: E. Tsitrone)	**Towards long pulse H mode operation (TF leader: C. Bourdelle)**
Heat load pattern characterization Wall protection system Test of ITER grade PFCs @10 MW/m^2, tile shaping Operation with damaged / misaligned PFC, melting	Robust RF heating scenarios Tungsten control: sources and transport H mode characterization Preparatory work for long pulse operation
He campaign (plasma wall interactions + H mode confinement)	

Proposals for joint experiments between WEST and other fusion facilities are encouraged (the use of relevant frameworks such as EUROfusion, the specific EU-China collaboration, ITPA or other collaborative agreements is warmly welcome). The call is also open for associated scientific modelling and analysis activity.

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This call for proposals will be followed by the first **WEST Experiment Planning Meeting** (18-20 April 2016), where the selection of experimental and modelling proposals and a timeline for the 2016-2017 WEST experimental campaign will be discussed. The output of this meeting will be submitted for approval to the 3rd **WEST Governing Board meeting**, planned on May 13, 2016. A **call for participation** will then be issued in June 2016, to provide the detailed manning for the first WEST experimental campaigns.

Note that specific roles in WEST scientific exploitation (such as scientific coordinators) or operation (such as session leaders, diagnostic or other sub-system responsible officers …) will be open to international collaborators through the call for participation in June. A training for international session leaders will be provided from 2017 on.

You will find attached **more detailed information** on important dates (annex 1), WEST technical capabilities (annex 2), WEST main research lines (annex 3), guidelines to participants for answering the call (annex 4) and contact information (annex 5). Note that some support is available through EUROfusion for EU scientists participating in selected WEST experiments, as well as for Chinese scientists through the EU-China specific collaboration (see annex 4 for more details).

We would appreciate that you submit your proposals no later than **March 11, 2016** using the WEST users web portal: https://westusers.partenaires.cea.fr.

To create an account and obtain your username on the WEST users web portal, send an email to westusers.portal@cea.fr containing your first name, family name and affiliation (see annex 4 for more details).

I look forward to receiving your proposals by March 11 2016 and invite you to participate to the WEST Experiment Planning Meeting (April 18-20, 2016).

Thank you for your interest in the WEST program,

Best regards,

Alain BECOULET
Head of Institute
for Magnetic Fusion Research

List of annexes:

Annex 1: important dates
Annex 2: WEST technical capabilities during phase 1 (2016-2017)
Annex 3: WEST main research lines
Annex 4: guidelines to participants
Annex 5: contact information

Annex 1: important dates

The preparation of the international scientific exploitation of WEST is foreseen in 5 steps, detailed in the table below.

As was explained in the call letter, the first step consists in the present **international call for proposals**. This call for proposals will be followed by the first **WEST Experiment Planning Meeting** (18-20 April 2016), where the selection of experimental and modelling proposals and a timeline for the 2016-2017 WEST experimental campaign will be discussed. The output of this meeting will be submitted for approval to the 3rd **WEST Governing Board meeting**[1], planned on May 13, 2016. A **call for participation** will then be issued in June 2016, to provide the detailed manning for the first WEST experimental campaigns.

Note that for EU scientists, a specific call for participation will be launched by EUROfusion in the framework of the Work Package "Plasma Facing Components", in addition to the WEST international call for participation. A **notification** will be send by September 2016 to proponents by WEST Task Force leaders and EUROfusion.

	Important dates	
Step 1: WEST international call for proposals	Issued January 22 2016, deadline March 11, 2016	Interested scientists propose experiments and modelling related to WEST phase 1
Step 2: WEST Experiment Planning meeting	April 18-20, 2016 Cadarache, France	Discussion of proposals, with a tentative WEST timeline for phase 1 as output
Step 3: WEST Governing Board meeting	May 13, 2016	Submission of WEST phase 1 experimental program and timeline for approval by WEST international Governing Board
Step 4: WEST international call for participation / EUROfusion call for participation to WEST	Issued June 2016, deadline July 2016	Interested scientists propose their participation to phase 1 experimental program
Step 5: notification to proponents	August 2016	Interested scientists receive an answer to their proposed participation
WEST first experimental campaigns: Fall 2016 - 2017		

Table 1: 5 steps process for the preparation of WEST international scientific exploitation and associated important dates.

[1] WEST is a collaborative project, involving a wide range of international research institutes as partners. An international Governing Board has been established in 2014 in order to inform the participating research institutes on the progress of the WEST Project and to coordinate the implementation of the WEST scientific program.

Annex 2: WEST technical capabilities for phase 1

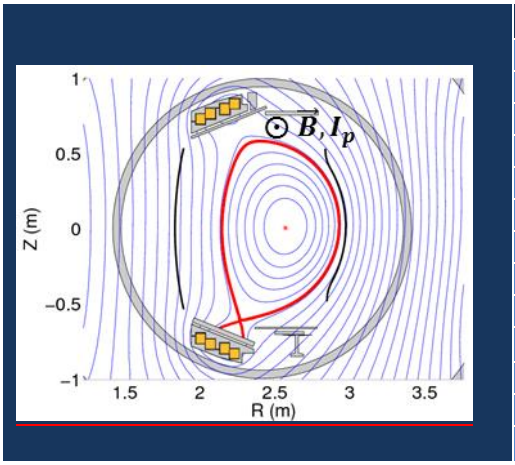
A detailed machine description, including diagnostics available, can be found on the WEST users web portal: https://westusers.partenaires.cea.fr.

The main WEST technical capabilities for the first phase of exploitation are shortly summarized here.

The WEST project consists of implementing a divertor magnetic configuration in Tore Supra, and installing an ITER like actively cooled tungsten divertor to be tested under tokamak operation. In order to do so, the WEST platform builds on the assets of Tore Supra (superconducting toroidal field coils, active cooling loop for the plasma facing components, steady state heating/fueling systems etc).

WEST allows flexible magnetic configurations to be performed, from lower or upper single null to double null.

Table 2 summarizes the main parameters of the WEST configuration.



Main WEST parameters	
Plasma current	1 MA (q_{95}~2.5)
Toroidal field	3.7 T @ R=2.5m
Major radius	2.5 m
Minor radius	0.5 m
Aspect ratio	~ 5-6
Elongation	1.3 - 1.8
Triangularity	0.5 - 0.6
Plasma volume	15 m^3
Greenwald density (at 1 MA)	1.5 10^{20} m^{-3}
Maximum heating power:	
ICRH	9 MW
LHCD	7 MW
Flat-top duration	up to 1000 s

Table 2: Main parameters of WEST

WEST operation is phased, to make the best use of the WEST ITER like divertor elements as they become available. In phase 1, which is the target of the present call, it is planned to operate WEST lower divertor with a mix of actively cooled ITER like tungsten divertor elements[2] and inertial tungsten coated divertor start up elements. In this phase, full power will be available, but plasma operation will be limited in time by the inertial divertor elements (typically ~5-10 s at high power).

Long pulse operation is possible on the actively cooled upper divertor, but at a lower power flux (typically up to 8 MW/m^2). In this configuration, the $B \times \nabla B$ drift is directed away from the X point.

[2] WEST phase 1 is planned to start with a few ITER like Plasma Facing Units (PFUs) provided by WEST partners. Presently, 4 PFUs provided by Japan and 2 PFUs provided by China are scheduled for installation in 2016, while ~10 PFUs provided by Europe are scheduled for 2017.

In phase 1, WEST is equipped with 2 high-frequency (HF) heating systems[3], delivering a maximum total additional power of ~15 MW:

- a Lower Hybrid (LH) current drive system: 2 launchers, up to 7 MW, 1000 s
- an Ion Cyclotron Resonant Heating (ICRH) system: 3 ELM resilient antennas, up to 9MW/30s, 6MW/60s and 3MW/1000s

The installation of the 3 ICRH antennas will be staged during phase 1, while the 2 LH launchers are planned to be installed from the start of the campaign. Note that both heating systems are movable radially and equipped with local gas injection.

WEST is equipped with a versatile fueling system (gas injection, supersonic molecular beam injection, pellet injection). Pumping is provided by turbo molecular pumps.

The water cooling loop is set at 70°C during operation, to match ITER conditions. For conditioning purposes, the baking temperature of the vessel can go up to 200°C. A glow discharge system, as well as a boronisation system, is available. Ion Cyclotron Wall Conditioning (ICWC) can also be performed.

WEST is equipped with more than 40 diagnostics, as well as with a real time control system. A detailed diagnostic handbook can be found on the WEST users portal. Key systems include diagnostics for plasma facing components and plasma edge physics (IR monitoring system, calorimetry, thermocouples, extensive set of Langmuir probes), tungsten erosion sources (including a comprehensive visible spectroscopy system) or turbulence (reflectometers, fast cameras …).

The table below summarizes the main features of WEST during phase 1.

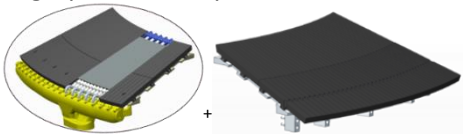
	WEST technical capabilities for phase 1
Main Plasma Facing Components	Lower divertor: 1 sector equipped with a few ITER like Plasma Facing Units (PFU) provided by WEST partners, other sectors with inertial W coated graphite start up elements 
	Upper divertor: actively cooled W coated copper plasma facing units
Pulse length	5-10 s for plasmas on the lower divertor (energy limit linked to inertial start up elements) Long pulse available (up to 1000 s) on the upper divertor
Heating systems	ICRH: 3 ELM resilient antennas up to 9MW/30s, 6MW/60s and 3MW/1000s. Staged installation during phase 1. LH: 2 launchers (a Fully Active Multijonction and a Passive Active Multijonction) up to 7MW/1000s

Table 3: main features of WEST during phase 1

In phase 1, the expected duty cycle of WEST is up to 1 pulse every 20 minutes. WEST can be operated in a single (~8h-18h30) or in a double shift mode (~8h-21h30). This corresponds typically to ~20 pulses (single shift) up to ~30 pulses (double shift) available for the program.

[3] Note that the Electron Cyclotron Resonant Heating system (ECRH, up to 0.7 MW for a few seconds) is presently mothballed and is not available for phase 1.

Annex 3: WEST main research lines

1) Background

WEST is targeted at supporting ITER construction and operation. Its key missions are twofold:

- Paving the way towards the ITER actively cooled tungsten divertor procurement and operation
- Mastering integrated plasma scenarios over relevant plasma wall equilibrium time scale in a metallic environment

The WEST Research Plan is the reference document describing the scientific program elaborated to fulfill the above mission. It has been worked out with the input of WEST international partners and approved at the WEST Governing Board in 2014. The document is available on the WEST users web portal. The experimental program of WEST is presently structured around 2 Task Forces:

- W1: Testing and Operating ITER Grade Plasma Facing Components (TF leader: E. Tsitrone emmanuelle.tsitrone@cea.fr)
- W2: Towards Long Pulse H Mode and Steady State Operation (TF leader: C. Bourdelle clarisse.bourdelle@cea.fr)

TF leaders have identified high priority research areas driving the present call for proposals, described in the next section.

2) High priority research areas for WEST phase 1

The table below lists the high priority research areas identified for WEST first call for proposals.

Testing ITER grade Plasma Facing Components (PFCs) (TF leader: E. Tsitrone)	Towards long pulse H mode operation (TF leader: C. Bourdelle)
Heat load pattern characterization Wall protection system Test of ITER grade PFCs @10 MW/m^2, tile shaping Operation with damaged / misaligned PFC, melting	Robust RF heating scenarios Tungsten control: sources and transport H mode characterization Preparatory work for long pulse operation
He campaign (plasma wall interactions + H mode confinement)	

Table 4: high priority research areas for WEST phase 1

You will find below a short description of the main scientific objectives of these high priority research areas. The reader is referred to the WEST Research Plan for more details, as well as to the following publications:

- "WEST physics basis", C. Bourdelle et al., 2015 Nucl. Fusion **55** 063017 doi:10.1088/0029-5515/55/6/063017

- "The WEST project: Testing ITER divertor high heat flux component technology in a steady state tokamak environment", J. Bucalossi et al., Fusion Engineering and Design, Volume 89, Issues 7–8, October 2014, Pages 907-912
  http://www.sciencedirect.com/science/article/pii/S0920379614000635

a) Testing ITER Grade Plasma Facing Components

Assessing the performance of the ITER like tungsten divertor under combined plasma loads in a tokamak environment (steady state and transient heat loads, combined particle/heat loads etc.) is a high priority issue to ensure efficient ITER operation.

During phase 1, the focus of the program will be to assess the power handling performance of the ITER like Plasma Facing Units (PFU) installed in WEST under relevant heat loads.

In order to do so, a first step will be to **benchmark the plasma edge and PFC diagnostics** (IR monitoring, thermocouples, calorimetry, Langmuir probes …) and to **characterize the heat load pattern** obtained on the WEST divertor (SOL width …).

Once this is achieved, the main objective is to **test the ITER like PFU under relevant heat loads, at 10 MW/m^2** (nominal steady state heat flux expected at the divertor strike point in ITER). This will require dedicated scenario development to reach this target. The expected output is to assess the performance of ITER like PFUs under repetitive nominal plasma heat loading in a tokamak environment. Specific attention will be paid to divertor **tile shaping**, an urgent design issue to be solved for the ITER divertor. Note that the ITER like PFU installed during phase 1 are unshaped, while the other start up inertial divertor elements are shaped, which will allow for comparison of shaped/unshaped PFC under plasma heat loads.

The consequences of tungsten PFCs damage/melting on subsequent plasma operation are a high priority issue for ITER. In addition to testing "healthy" ITER like PFU under nominal steady state heat flux, it is proposed to assess **operation with damaged/misaligned components**. These experiments include testing components which do not meet the acceptance criteria after manufacturing and/or pre-damaged components (through dedicated exposure in a high heat flux facility for instance). Other experiments include operation with deliberately misaligned components, to simulate damage from PFC misalignment in ITER. **Melting** of leading edges, damage propagation and impact on plasma operation can be addressed.

Developing operational know-how and specific tools for PFC protection relevant to ITER is one of the objectives pursued with the WEST platform. Operating with metallic actively cooled plasma facing components sets specific requirements on the **wall protection system**. The Wall Monitoring System of WEST, based on a multi diagnostic approach, is targeted at protecting the PFCs while allowing high plasma performance, and will be developed throughout WEST experimental campaigns.

Helium operation is foreseen in the non-nuclear phase of ITER, while helium will also be present as the ash of the D-T reaction in the ITER nuclear phase. Interaction with helium is known to cause specific issues with tungsten PFCs, with potentially harmful structural changes. Phase 1 will therefore include a helium campaign to assess the impact of **plasma wall interactions with helium** on ITER tungsten PFU performance.

Note that the program also includes thorough pre and post plasma exposure analysis of the ITER like PFUs.

Comparison of experimental data with plasma edge modeling and PFC thermo-mechanical simulations is part of the program. WEST offers good opportunities for plasma edge code benchmarking, due to its open divertor geometry and good diagnostic coverage.

b) Towards long pulse H mode operation

During phase 1, the development of H mode scenarios will be tackled, both in support to PFC testing experiments requiring H mode and in preparation for long pulse H mode operation foreseen for phase 2.

This will require developing **robust RF heating scenarios**, addressing issues such as LH and ICRH coupling with ELMs or optimizing LH current drive efficiency at high density. Note that all antennas are equipped with gas injection and are radially movable.

Operating a fully metallic device as WEST requires controlling the contamination of the plasma by metallic impurities. An important part of the program is therefore dedicated to the **control of the tungsten sources and transport**. In particular, the WEST configuration, combining extensive visible spectroscopic diagnostic, simplified divertor geometry and large wall clearance, can contribute to clarify the origin of the tungsten impurity source from the divertor versus main chamber. In this context, the impact of ICRH on the W contamination will be studied.

Concerning **H mode characterization**, WEST offers opportunities to study the impact of parameters such as large aspect ratio or divertor geometry. This allows progressing in areas such as L-H threshold and dynamics of the L-H transition or MHD stability.

Extending the ITER reference H mode scenario on relevant plasma wall equilibrium time scale (~minutes) is one of the objectives of WEST phase 2, where the full capability of WEST for long pulse operation will be available. Phase 1 includes **preparatory work for long pulse operation**, requiring specific features such as efficient current drive or controlling tungsten accumulation over long durations. It should be noted that the actively cooled upper divertor of WEST offers opportunities to run long pulses already in phase 1.

Finally, as already mentioned, helium operation is foreseen in ITER non active phase, in order to demonstrate H mode operation in preparation for the D-T phase. Characterization of **Helium H-modes confinement** in present tokamaks and scenario compatibility issues need to be further documented to provide a sound database for ITER. This will be pursued in WEST during a dedicated helium campaign, addressing issues such as L-H threshold, confinement, tungsten erosion and transport in helium plasmas …

In all areas described above, associated theory and modelling activities are strongly encouraged.

3) Other experiments

In addition to the above mentioned high priority research areas, the present call is also open to alternative proposals. The reader is referred to the WEST Research Plan for a more complete view of potential research topics during phase 1, such as disruptions characterization and control, wall

conditioning, divertor physics, high radiation regimes, role of intrinsic rotation, current profile and MHD stability …

Innovative experiments making the best use of WEST specific features are warmly welcome, as well as proposals for joint experiments with other fusion facilities. The use of collaborative frameworks such as EUROfusion, the specific EU-China collaboration, IRFM associated laboratories, ITPA or other international agreements is encouraged (see annex 4 for more details).

Annex 4: guidelines for participants

The WEST international call for proposals solicits proposals for experiments, and associated analysis and modelling activities on the WEST platform. This annex is meant as a guideline for participants, addressing the following points:

- technical details to answer the call (section 1)
- specific collaboration frameworks to participate in the WEST program, in particular for European and Chinese scientists (section 2)
- key criteria which will be used for assessing the proposals received (section 3)
- how to submit analysis and modelling proposals (section 4)
- additional information available on the WEST users portal (section 5)
- specific roles available for international collaborators for WEST scientific exploitation or operation (section 6)

Note that annex 5 lists the contact information available for assisting participants in answering the call.

1) How to answer the WEST international call: technical details

The experimental and modelling proposals should be submitted using the WEST Task Forces wiki pages on the WEST users web portal:

https://westusers.partenaires.cea.fr

The following steps should be taken:

a) Requesting an account on the WEST users web portal

Please send an email to westusers.portal@cea.fr, giving the following information:

- First name
- Family Name
- Affiliation
- Email address

You will be sent in return an email with your user account and a link to set your password. You can then access the WEST users portal.

b) Submitting your proposal in the related wiki pages

A template for answering is provided on the WEST users portal, as well as guidelines to produce your own proposal.

Experimental proposals should contain:

- Proposal identification: proposal title, related WEST headline, proponent name and email address
- Proposal scope: scientific objectives, scientific context when applicable (such as EUROfusion, ITPA or related experiments at other fusion facilities …)
- Proposal outline: experimental and analysis strategy, main expected outputs, number of pulses/sessions required …
- Main plasma parameters (Ip, Bt, heating power, plasma configuration, plasma scenario, gas, key diagnostics, other requirements …)
- Foreseen modeling/analysis before/after the experiment

You can either create an original proposal or join an existing proposal of interest to you, by editing the related wiki page and adding your name and your comments in the corresponding section.

For proposals related to analysis and modelling only, see section 4 for more details.

In case you do not succeed in submitting your proposal through the WEST users wiki page, a word template is also available on the WEST users portal and can be sent to the TF leaders.

Note that WEST TF leaders are available to provide assistance for filling up the templates if required (see annex 5 for contact information).

2) Specific collaboration frameworks to participate in the WEST program (EU and China)

This section describes specific collaboration frameworks which can provide support to EU and Chinese scientists wishing to participate in the WEST program. Other collaboration agreements between CEA/IRFM and international research institutes (IRFM associated laboratories, bilateral cooperation agreements) are in place or being established, which can also be used. Do not hesitate to contact WEST TF leaders for specific questions regarding collaboration.

Note that WEST is also part of the fusion facilities proposed for selected joint experiments in the framework of the ITPA.

a) For EU scientists: EUROfusion supported experiments

A number of selected WEST experiments are eligible for EUROfusion support to EU scientists in the framework of the Work Package Plasma Facing Components (WP-PFC). More details can be found in the WP-PFC 2016 project management plan (PMP).

This means manpower support (at 50% level) and missions support (based on unit cost) for a total of 28 experimental days funded over 2016-2017. The equivalent of 8.4 ppy will be available to cover the manpower and mission cost in 2016-2017. In complement to the present call for proposals, EU scientists will have to answer to a formal call for participation in these experiments to be issued in June 2016 (see Annex 1).

Because of this targeted funding and related expected contribution to the WP-PFC, these experiments are already registered as proposals with a dedicated wiki page, and are listed in the table below. Furthermore, experiment coordinators have already been nominated in the frame of WP-PFC (see list below)

EUROfusion WP-PFC Activities using experimental days on WEST			
WP PFC PMP Ref. No	**Experiment title**	**Numbers of days**	**Coordinators**
PFC_SP7_6	Qualification of PFC diagnostics and SOL width studies	5 days in 2016	T. Eich (IPP) & N. Fedorczak (CEA)
PFC_SP1_6	High power test (10 MW/m^2) of ITER components: shaping	6 days in 2016 / 2 days in 2017	R. Dejarnac (IPP.CR) & J. Gunn (CEA)
PFC_SP5_5	Impurity sources and tungsten sputtering effects	2 days in 2016	G.Van Roij (DIFFER) & O. Meyer (CEA)
PFC_SP1_7	High power test of ITER PFC: damaged or below specification PFC	8 days in 2017	J. Coenen (FZJ) & Y. Corre (CEA)
PFC_SP5_6	Long pulse exp. using actively cooled upper divertor	5 days in 2017	tbd & A. Ekedahl (CEA)

Table 5: selected WEST experiments eligible for support in the framework of the Work Package Plasma Facing Components (WP-PFC) within EUROfusion

It is important to note that all scientists (EU or non-EU) can express their interest in joining these experiments and add comments regarding these proposals by editing the related proposal wiki page.

For more information concerning EUROfusion support for WEST activities, please contact the WP-PFC leader S. Brezinsek (s.brezinsek@fz-juelich.de) or the responsible officers of the Program Management Unit (PMU), M.L. Mayoral (Marie-Line.Mayoral@euro-fusion.org) and M. Reinhart (Michael.Reinhart@euro-fusion.org).

b) For Chinese scientists: specific collaboration between EU and China

A specific collaboration between EU and China was launched at the fourth meeting of the RTD-MOST Subcommittee on Fusion Energy Research (FU-4) on October 16, 2014 under the framework of the bilateral Euratom-P.R. China Fusion Cooperation Agreement. It was agreed to define activities to be conducted with an allocated budget for a balanced long term partnership.

Selected topics have been identified for collaboration and are listed in the table below, with associated EU-CN coordinators (table extracted from the EU call for participation for EUROfusion support to the specific collaboration between EU and China, January 13 2016, ref PMU/0305-TD-L/XL). These topics include research areas relevant to the WEST program, such as physics and technology for long pulse operation or heat exhaust and divertor optimization (see table for more details).

Chinese scientists interested in participating in the WEST program could benefit from this scheme and should require information from the coordinators listed in the table below. Note that joint EU-CN joint PhDs are also eligible for support in this framework for topics 1-A, 1-B, 4-A and 4-B.

Objectives	Proposal topics	Coordinators	Sub topics
1&2: ensure the successful start of ITER operation and training of future ITER operators; and undertake joint operation of major research infrastrucctures	1-A: Physics and technology of long pulse operation, relevant heating and current drive systems and diagnostics, including validation of first principle models and integrated tokamak modeling	A. Ekedahl (CEA) (Annika.EKEDAHL@cea.fr) X. Gong (ASIPP) (xz_gong@ipp.ac.cn)	1-A-1: RF heating and current drive optimization
			1-A-2: wall monitoring and real time control for device safety
			1-A-3: integrated tokamak modelling of long pulse scenario
	1-B Heat exhaust, plasma wall interaction and divertor optimization, including model validation	M. Wischmeier (IPP) marco.wischmeier@ipp.mpg.de M. Xu (SWIPP) minxu@swip.ac.cn	1-B-1 Chemical vapor deposition (CVD) W materials under steady state and transient heat loads
			1-B-2 Investigations on heat load & material evolution on the divertor plates
			1-B-3 Joint collaboration on the evaluation of W monoblocks between EAST and WEST
			1-B-4 Joint collaboration on power exhaust schemes
3 & 4: set up joint design activities for future research infrastructures; and establish cooperation schemes in specific key DEMO/reactor relevant priority topics	4-A System codes	C. Reux (CEA) (cedric.reux@cea.fr) M. Ye (USTC) (yemy@ustc.edu.cn)	4-A-1 Comparison of EU and CN codes and benchmarking of ones Party's code against the design assumptions of the other Party's machine
	4-B Divertor configuration and performance: alternative divertor geometries and their potential implementation in CFETR/EU-DEMO/DTT	F. Crisanti (ENEA) (crisanti@frascati.enea.it) G. Luo (ASIPP) (gnluo@ipp.ac.cn)	4-B-1 Alternative divertor configurations
			4-B-2 Conventional or alternative materials
			4-B-3 Liquid PFCs

Table 6: selected topics within the specific collaboration between EU and China (see annex 1 of the EU call for participation for EUROfusion support to the specific collaboration between EU and China, January 13 2016, ref PMU/0305-TD-L/XL).

3) Key criteria for assessment of an experimental proposal

The proposals received will be assessed by the WEST Task Force leaders and discussed during the WEST Experiment Planning Meeting (April 18-20, 2016). The following criteria will be taken into account when discussing the proposals received:

- Consistency with the high priority research areas identified in support to ITER and more generally with WEST missions.
- Clarity of scientific goals, deliverables expected, modeling and analysis required
- Technical feasibility during WEST phase 1 campaigns

Proposals for joint experiments between WEST and other fusion facilities are also strongly encouraged. The corresponding collaborative framework (EUROfusion, specific EU-China collaboration, ITPA …) should be indicated when applicable.

4) Analysis and modelling proposals

Dedicated analysis and modelling proposals can be made through the WEST users portal using the same template as for experimental proposals. The proponent should specify in the scientific objectives that the proposal deals with analysis and/or modelling only and that no dedicated experimental time is required. In such cases, the sections related to the experimental plan are simply left blank.

You can also express your interest in an analysis/modelling activity in an already proposed experiment by editing the corresponding wiki page and using the last section that allows expressing any specific interest or comment.

5) Specific roles (scientific coordinator, session leader, diagnostic responsible officer …)

The WEST platform is open to international collaborators, and offers opportunities to take various responsibilities in WEST scientific exploitation (such as scientific coordinator), and operation (such as session leader, diagnostic or other sub-system responsible officer …). This is not part of the present call for proposals, but will be part of the call for participation foreseen to be issued in June 2016 (see annex 1).

You are however warmly welcome to express your interest by contacting WEST TF leaders already at this stage (see contact information in section 7 below).

Note that training for international session leaders will be provided from 2017 on if required.

6) Information available on the WEST users portal

You will find additional information on the WEST users portal concerning:

1) The WEST scientific programme through the WEST Task Forces wiki pages
2) The WEST platform description, including plasma facing components, heating systems, magnetic configurations etc as well as a diagnostic handbook

At a later stage, when WEST will be operating, you will also find information concerning:

3) WEST operation
4) Practical tips for visitors

Annex 5: contact information

For information on **scientific issues related to the WEST program**, or if you need assistance in filling up the **proposal templates**, please contact WEST Task Force leaders:

- Task Force W1: Testing and Operating ITER Grade Plasma Facing Components (E. Tsitrone: emmanuelle.tsitrone@cea.fr)
- Task Force W2: Towards Long Pulse H Mode and Steady State Operation (C. Bourdelle: clarisse.bourdelle@cea.fr)

For any questions regarding access to the **WEST users web portal** or technical issues with the web site, please send an email to westusers.portal@cea.fr**.**

For **EUROfusion related issues**, please contact the leader of the Work Package "Plasma Facing Components" (WP-PFC) or the responsible officers of the Program Management Unit (PMU):

- WP-PFC leader: S. Brezinsek Brezinsek (s.brezinsek@fz-juelich.de)
- PMU responsible officers: M.L. Mayoral (Marie-Line.Mayoral@euro-fusion.org) and M. Reinhart (Michael.Reinhart@euro-fusion.org)

For **specific EU-China collaboration**, please contact the topic coordinators:

- Topic 1-A: Physics and technology of long pulse operation, relevant heating and current drive systems and diagnostics, including validation of first principle models and integrated tokamak modeling: A. Ekedahl (CEA) (Annika.EKEDAHL@cea.fr), X. Gong (ASIPP) (xz_gong@ipp.ac.cn)
- Topic 1-B: Heat exhaust, plasma wall interaction and divertor optimization, including model validation: M. Wischmeier (IPP) (marco.wischmeier@ipp.mpg.de), M. Xu (SWIPP) (minxu@swip.ac.cn)
- Topic 4-A: System codes: C. Reux (CEA) (cedric.reux@cea.fr) M. Ye (USTC) (yemy@ustc.edu.cn)
- Topic 4-B: Divertor configuration and performance: alternative divertor geometries and their potential implementation in CFETR/EU-DEMO/DTT: F. Crisanti (ENEA) (crisanti@frascati.enea.it), G. Luo (ASIPP) (gnluo@ipp.ac.cn)

Please note that **WEST Governing Board members** were also requested to nominate a **contact person** as an entry point for issues related to the participation to the WEST program. Do not hesitate to solicit these contact persons[4] in your institution if required.

[4] As the process is ongoing, the present stage of the list of Governing Board members contact persons in charge of the participation to the WEST program is available from the WEST TF leaders upon request. Once this is completed, the list will be available on the WEST users web portal.