



FUSION FOR ENERGY

The European Joint Undertaking for ITER and the Development of Fusion Energy

THE GOVERNING BOARD

DECISION OF THE GOVERNING BOARD ADOPTING THE FIRST AMENDED 2019 WORK PROGRAMME OF FUSION FOR ENERGY

THE GOVERNING BOARD OF FUSION FOR ENERGY,

HAVING REGARD to the Statutes annexed to Council Decision (Euratom) No 198/2007 of 27 March 2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy (hereinafter "Fusion for Energy") and conferring advantages upon it¹ (hereinafter "the Statutes") and in particular Article 6(3)(e) thereof, last amended on 10 February 2015² by Council Decision Euratom 2015/224;

HAVING REGARD to Council Decision (Euratom) No 791/2013 of 13 December 2013 amending Council Decision (Euratom) No 198/2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy and conferring advantages upon it;³

HAVING REGARD to the Financial Regulation of Fusion for Energy⁴ adopted by the Governing Board on 2 December 2015 (hereinafter "the Financial Regulation"), and in particular Title III thereof;

HAVING REGARD to the Implementing Rules of the Financial Regulation⁵ adopted by the Governing Board on 2 December 2015 (hereinafter "the Implementing Rules"), and in particular Title III thereof;

HAVING REGARD to Commission Delegated Regulation (EU) No 1271/2013 for the bodies referred to in Article 208 of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 30 September 2013,⁶ and in particular Title III thereof;

WHEREAS:

The Director shall, in accordance with Article 11 of the Statutes, prepare each year the submission of the project plan to the Governing Board, the resource estimates plan and the detailed annual work programme, now merged in the Annual and Multi Annual Programme.

The Administration and Management Committee shall, in accordance with Article 8a (2) of the Statutes, comment on and make recommendations to the Governing Board on the proposal for the project plan, the work programme, the resource estimates plan, the staff establishment plan, the staff policy plan and other related matters, now part of the Annual and Multi Annual Programme drawn up by the Director;

The Technical Advisory Panel, in accordance with Article 6 (1) of the Statutes, shall advise the Governing Board on the adoption and implementation of the project plan and work programme, now part of the Annual and Multi Annual Programme;

The Governing Board, in accordance with Article 6 (3) (d) of the Statutes, shall adopt the project plan, work programme, resource estimates plan, the staff establishment plan and the staff policy plan, now part of the Annual and Multi Annual Programme;

¹ O.J. L 90 , 30.03.2007, p. 58.

² O.J. L 37 , 13.02.2015, p.8.

³ OJ L 349, 21.12.2013 p100-102.

⁴ F4E(15)-GB34-12.9 adopted 02.12.2015.

⁵ F4E(15)-GB34-12.9 adopted 02.12.2015.

⁶ O.J. L 328, 7.12.2013.

Has adopted this decision:

Article 1

The 1st Amended 2019 Work Programme of Fusion for Energy annexed to this Decision is hereby adopted.

Article 2

The Governing Board hereby delegates to the Director of Fusion for Energy the power to make non-substantial amendments to the annual Work Programme approved by the Governing Board. Amendments are considered to be “non-substantial” if

(a) they do not lead to an increase of:

- i. more than 10% of the Financial Resources allocated to the corresponding Action in the Annex VI of the amended annual Work Programme for the year, or more than EUR 0.2 million for Actions with allocation of below EUR 2 million for the year;
and
- ii. more than 3% of the total operational expenditure in Title 3 of the annual Budget for the given year

and if:

(b) any related changes to the scope of the annual Work Programme do not have significant impact on the nature of the Actions or on the achievement of objectives of the multiannual Project Plan.

Non-substantial amendments shall not lead to any increase in the total operational expenditure for Title 3 of the annual Budget approved by the Governing Board.”

Article 3

This Decision shall have immediate effect.

Done at Barcelona, 5 April 2019

For the Governing Board

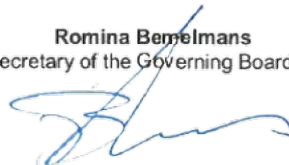


Joaquin Sanchez

Chair of the Governing Board

For the Secretariat

Romina BemeImans
Secretary of the Governing Board





WP 2019 1st amendment due to the new Magnets - PF Coils Contract Structure implementation

Executive Summary

Purpose

The purpose of this WP Amendment is a change of the Assigned Share of Available Budget and the update of the scope of the Procurement Activities of Magnets due to a change in the contracts structure in the Poloidal Field Coils Project. No amendment of Budget is foreseen, re-balancing of cash-contribution line will be applied.

Background

The Work Programme 2019 reference was adopted at GB42 in December 2018.

Summary

The implementation of a risk mitigation plan for the PF manufacturing activities is needed to safeguard timely delivery of the PF Coils produced in Cadarache. This risk mitigation plan results in the adjustment of the PF Coils contracts structure through:

- Introduction of a second contractor for the manufacturing activities under the new "Magnets Supply Contract" (the current F4E-OPE-344 contractor).
- Partial de-scoping of F4E-OPE-570 "Manufacturer".
- Termination of F4E-OPE-344 "Engineering Integrator" (merged into the new "Magnets Supply Contract").

The Procurement and Contracts Committee (PCC) recommended in November 2018 the individual procurement strategy for the new "Magnets Supply Contract" and an update of the strategy was presented (for information) to the PCC early March 2019. The award recommendation will be presented to the PCC on 11/04/2019.

This WP2019 amendment does not trigger any amendment of Budget. The re-balancing is achieved through the cash-contribution value, which will be re-assessed during the year based on the MAC decisions. The final value will be presented in the 3rd Amendment of WP2019 foreseen in autumn 2019. If necessary, F4E will submit an amending budget to the Governing Board during 2019, recalling unused appropriations that can be adjusted to match the final needs.

Recommendation

The Governing Board is invited to adopt the 1st Amendment of 2019 Work Programme.



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WP2019 1st Amendment

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Action 1. Magnets

Action 1	Magnets
<p>Pre-Compression Rings and Conductors</p>	
<p><u>Progress of Work</u></p>	
<p>For the Pre-Compression Rings (PCR) it is foreseen to continue the series production for both Automated Filament Placement and Pultrusion technologies. The final quantity of PCRs produced with each technology will depend on the results of the two technologies qualification.</p>	
<p><u>Procurement Activities</u></p>	
<p>For both technologies, the contracts to provide inspection services during manufacturing will continue.</p>	
<p>Toroidal Field Coils</p>	
<p><u>Progress of Work</u></p>	
<p>The first of the three major contracts for the production of the Toroidal Field Coils (70 Radial Plates) was completed in 2017, while the second one, (10 Winding Packs) series manufacture will run all the year. The manufacturing planning may be adjusted to suit the delivery rate of the Coil Cases from the Japanese Domestic Agency.</p>	
<p>The third major contract (WP cold test and Insertion) will be at full speed during 2019, depending also on the delivery dates of the TF Coil Cases from Japan. The first EU TF Coil will be completed in 2019.</p>	
<p><u>Procurement Activities (contracts and grants)</u></p>	
<p>The TF Coils transportation contract from the Insertion supplier to Cadarache shall be awarded in 2019. Throughout 2019, some inspector contracts will be renewed for Magnet activities.</p>	
<p>Poloidal Field Coils</p>	
<p><u>Progress of Work</u></p>	
<p>In 2019 the series manufacturing of the Double Pancakes (DP) along with the winding pack assembly and impregnation of Poloidal Field (PF) Coil #5 and PF Coil #6 (by ASIPP in China) should be completed.</p>	
<p>The final assembly of these two coils will also take place and the production of the DPs for PF Coil #2 should also progress through to their winding and impregnation stages. Reconfiguration of most of the coil tooling to adapt to the larger PF Coil #3 and PF Coil # 4 will also happen in the year.</p>	
<p><u>Procurement Activities (contracts and grants)</u></p>	
<p><u>A new contract "PF Coils Magnet Supply Contract (MSC)" will be signed. At the same time, "Manufacturing" Contract will be partially de-scoped and "Engineering Integrator" Contract will be terminated.</u> Specific contracts for further tests and contract extensions for inspection services may also be required in 2019.</p>	

ANNUAL OBJECTIVES				
Milestone ID	Scope Description	Forecast achievement date	Type of milestone	PA
EU11.1A.19546	IO Approval for Assemble cooling pipe and instrumentation (8.4.4) TFWP01	Q3 2019	GB23 Predecessor	1.1.P1A.EU.01
EU11.1A.21823	Completion of Ground Insulation / TFWP14	Q1 2019	IC67/GB54 Predecessor	1.1.P1A.EU.01
EU11.1A.22866	Completion of TF-EU01 Gap Filling	Q2 2019	IC53/GB15 Predecessor	1.1.P1A.EU.01
EU11.3B.554710	Start of PF6 Cold Test	Q4 2019	IC54/GB14 Predecessor	1.1.P3A-B.EU.01
EU11.3B.554730	PF5 DP1 completed. Last PF5 DP	Q2 2019	IC42/GB12 Predecessor	1.1.P3A-B.EU.01
EXPECTED RESULTS AND TARGET				
<p>The main expected results for this action are:</p> <ol style="list-style-type: none"> 1. Completion of the 7th WP. 2. 1st TF Coil completed. 3. PCRs all spare and lower PCRs completed. 4. PF5 Winding Pack assembly completed. 5. PF6 Winding Pack impregnation completed. <p>The target of 2019 is the achievement of a cumulative value expressed in kIUA (CAS)</p>				
PA 1.1.P1A.EU.01 Procurement of Toroidal Field Magnets				57.662
PA 1.1.P2A.EU.01 Pre Compression Rings				0.6
PA 1.1.P3A-B.EU.01 Poloidal Field Magnets 2,3,4,5,6				15.72
PA 1.1.P6A.EU.01 Toroidal Field Conductors				43.39
PA 1.1.P6C.EU.01 Poloidal Field Conductor				11.22881

Action 12 Cash Contributions

Action 12	Cash Contributions
<p>Overview</p> <p>Cash Contribution to IO In accordance with the ITER Agreement, the financing of the ITER Organization is ensured through contributions made to IO in the form of cash (10%) or in kind (90%) from Members. Cash contributions from ITER Members to IO are determined annually, based on estimates of the IO budget for the following year. The final figure is approved or modified by the ITER Council.</p> <p>Cash Contribution to Japan According to the ITER Agreement, there is a transfer of procurement responsibility from Euratom to Japan under the supervision of the ITER Organization. This is financed through a cash contribution from EU to Japan paid by F4E. An update of the schedule of payments is provided by the Japanese Domestic Agency (JA DA) twice a year.</p>	
ANNUAL OBJECTIVES	
2019	
Cash to IO – Commitment (in MEuros) ¹	253.5 211.5
Cash to Japan – Commitment (in MEuros) <ul style="list-style-type: none"> • PA 3.2.P4.JA.01 (Atmospheric Detritiation System) • PA 5.3.P6.JA.02 (NB Power Supplies for Cadarache) 	3.956 35.643
EXPECTED RESULTS AND TARGET	
<p>The expected result for this Action is to pay to IO the contribution as agreed by the ITER Council and to Japan as defined in the schedule for the relevant credits assigned to JA DA for those components transferred by the EU to them.</p> <p>As far as the cash to IO is concerned, the target for 2019 is to commit the cash contribution for 2020 according to the decisions due to be taken by the ITER Council in November 2019.</p> <p>As far as the cash to Japan is concerned, the target for 2019 is to commit the amount agreed in the Annexes C to the Japanese PAs 3.2.P4.JA.01 and 5.3.P6.JA.02 due to be signed in Q2 2019.</p>	

¹ The cash contribution required by IO for the year N is committed by F4E at the end of the year (N-1). E.g. the commitment shown here in WP 2019 is the cash contribution to IO for 2020.

ANNEX I 2019 Work Programme Budget Summary

Budget article		Fist amendment to the Work Programme Commitment appropriations (EUR)
3 1	ITER construction including site preparation	468,213,200.40
3 2	Technology for ITER	3,304,000.00
3 3	Technology for Broader Approach & DEMO	11,800,000.00
3 4	Other expenditure	4,982,000.00
3 5	Appropriations from the ITER Host State contribution	130,000,000.00
Total Title III of the Budget		618,299,200.40
3 1 to 3 4	Additional non-budgeted revenue	0.00
3 5	Host State contribution carried over from previous year (Available in July)	0.00
3 6	Additional revenue from the Reserve Fund Allocation scheme with ITER Organization	10,700,000.00
Total amount available for the operational expenditure		628,999,200.40

Work Programme		Fist amendment to the Work Programme Commitment appropriations (EUR)		
		Grants	Procurement	Cash
3 1+3 5+3.6	Expenditure in support of ITER Construction	1,693,000.00	354,623,630.40	252,596,570.00
	Sub total ITER construction + RF		608,913,200.40	
3 2	Design and R&D in support of ITER, not credited	0.00	2,039,000.00	1,265,000.00
	Sub total technology for ITER		3,304,000.00	
3 3	Expenditure in support of Broader Approach	0.00	11,575,000.00	225,000.00
	Sub total Technology for Broader Approach and DEMO		11,800,000.00	
3 4	Other Expenditure (EU.PM.PM)		4,982,000.00	
	Sub total Other Expenditure		4,982,000.00	
Totals Operational Expenditure		1,693,000.00	373,219,630.40	254,086,570.00
			628,999,200.40	

ANNEX VI Indicative Value of Financial Resources for the actions in WP2019

The WP2019 represents the financial decision to be adopted by the Governing Board in order to allow F4E to commit budget for the listed activities.

The table below shows the commitment forecast for the projects/actions in 2019 by taking into account the progress and the available manpower.

This value is the goal of the organization.

If necessary, F4E will submit an amending budget to the Governing Board during 2019, recalling unused appropriations that can be adjusted to match the final needs.

In any case, the GB will be kept informed on the evolution of the budget implementation (both in commitments and payments) through the monthly report that F4E delivers to its Governance bodies. This report will also provide a timely indication in the case that additional budget needs to be recalled from the unused appropriations.

Action #	Action	Assigned Share of Available Budget
1	Magnets	4658 ,536,831
2,3,4,10 ²	Main Vessel	33,040,942
5	Remote Handling	17,781,559
6	Cryoplant & Fuel Cycle	8,403,856
7	Antennas and Plasma Engineering	5,329,337
8	Neutral Beam and EC Power Supplies and Sources	26,773,199
9	Diagnostics	16,170,926
11	Site and Buildings and Power Supplies	169,969,643
12	Cash Contributions	293251 ,099,374
13	Supporting Activities	29,963,533
14	Broader Approach	11,930,000
	Total	628,999,200

(As of 19th ~~March~~ August 2019~~8~~)

NB: Budget shown according to WP action and not budget line

² The Actions of Vacuum Vessel, In-Vessel Blanket, In-Vessel Divertor and Test Blanket Module are presented merged in one single line due to commercial sensitive information.

ANNEX VIII 2019 Main Procurement Activities (per Action)

Action	Signature	Type of contract
Magnets		
Contract signature for Transportation of TF Coils from Manufacturer to ITER	Q4	PServ
Release of Option for Additional Working Shift. Standard Effective Working Hours/Number of Workers in 2019	Q4	Option
Task Order Signed for Extension of 2nd Inspector for PF Coils Manufacturing in Cadarache	Q1	SC-PServ
Task Order Signed for Inspection Services for TF Coils Insertion and Cold Test. Resident Inspector for SIMIC	Q1	SC-PServ
Task Order TO29.1 Signed for Inspector to Follow-up the Plan B PC Rings Manufacturing Contract	Q2	SC-PServ
<u>Contract signature for PF Coils Magnet Supply Contract (MSC)</u>	<u>Q2</u>	<u>PServ</u>
Provision for Amendments, claims, reimbursement, indexation, late interest and budget reserve	N/A	N/A