

FUSION FOR ENERGY - European Joint Undertaking for ITER and the Development of Fusion Energy

Work Programme 2011

CALL FOR PROPOSALS

Calculation of the TBM-Induced Ripple in ITER, Wall Loads, Impact on Plasma, and Optimization

- 1) **Fusion for Energy call Ref. N°:** **F4E-GRT-379**

- 2) **Date of Publication:** 01/12//2011

- 3) **Deadline:** **10/02/2012** 17:00 Barcelona local time;
(see details under point 10)

- 4) **General Background and Needs of the Joint Undertaking**

The European Joint Undertaking for ITER and the Development of Fusion Energy, (hereinafter "Fusion for Energy" or "F4E" or "the Joint Undertaking") is a joint undertaking created under the EURATOM Treaty by a decision of the Council of the European Union ¹. It provides the contribution of EURATOM to the ITER international fusion organisation, e.g. with regard to scientific and technological research and development activities.

In order to pursue the above objectives and in compliance with its defined scope, F4E intends to initiate a grant agreement with one or more beneficiaries, to which this Call for Proposals refers.

The activity concerns the supply of calculations of the effects of the Test Blanket Modules (TBM) on the ITER magnetic field structure (including plasma), and its effects in 3D. Specifically, the effects of the TBM shall be computed with respect to enhanced fast particle losses (and resulting wall loads), possible effect on background plasma (enhanced stochastic transport) and possible interaction of the perturbed field with MHD events in the plasma (example: Neoclassical tearing mode islands).

5) **Maximum Indicative Fusion for Energy's Contribution**

€ 360,000.00 (three hundred sixty thousand euros)

¹ Council Decision (Euratom) No 2007/198 of 27 March 2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy

According to the Model Grant Agreement ² the financial contribution of the Joint Undertaking may reach a maximum of:

- a) 40% of the total eligible costs for research and technological development activities
- b) 40% of the total eligible costs for demonstration activities
- c) 100% of the total eligible costs for management activities
- d) 100% of the total eligible costs for other specific activities.

The maximum pre-financing normally considered for the present action(s) is 40% of the total F4E contribution. Applicants wishing to request a larger pre-financing share shall detail the motivation in their proposal, and may be required to lodge suitable financial guarantee for the pre-financing before receiving the first payment.

6) Maximum Duration of the Action

30 months.

In case of request by an applicant to award a grant for an action which has already begun ³, the applicant shall clearly demonstrate in their proposal the need of such a request and the impact which the request has on the action plan: information included in the proposal will be the only basis for F4E's assessment of the request, and for the decision to accept it or not.

7) Scope of Work

See attached detailed technical specification (Annex B) and quality management specification (Annex A). Additional information may be included in the Reference documents.

The present Call for Proposals refers to the following activities of Work Programme 2011⁴ :

2.19.2 Materials		
<i>Work Programme Reference</i>	<i>Action Description</i>	<i>Maximum Contribution</i>
WP10/PE/14	Supply of calculations of the effects of the Test Blanket Modules (TBM) on the ITER magnetic field structure (including plasma), and its effects in 3D. Specifically, the effects of the TBM shall be computed with respect to enhanced fast particle losses (and resulting wall loads), possible effect on background plasma (enhanced stochastic transport) and possible interaction of the perturbed field with MHD events in the plasma (example: Neoclassical tearing mode islands).	€ 360.000

8) General Requirements

The submission of a proposal implies acknowledgment of the Model Grant Agreement⁵ which

² F4E(09)-EC14-14, art. II.15 (multiple beneficiaries) or art. II.14 (unique beneficiary)

³ F4E(07)-GB04-06b art.101

⁴ F4E(11)-GB20-06A

⁵ F4E(09)-EC14-14

will be binding on the beneficiary(ies) to whom the grant is awarded.

Special attention is drawn to the General Conditions of the Model Grant Agreements (Title II), and in particular to Part A - Section 1 (Implementation of the Action, General Principles) and Part B (Financial Provisions).

The awarded beneficiary(ies) shall identify the Intellectual Property and Information which is held prior to the signature of the Grant Agreement or outside its scope and which is needed for carrying out the action or for using the foreground. The declaration of background (see the form in Appendix 2 to the Grant Proposal Form) shall provide detailed information on the origin and ownership of the background as well as any legal restrictions relating to its use of which the awarded beneficiary(ies) is aware.

Grants will be subject to the principle of transparency and equal treatment. With the exceptions specified in F4E's Financial Regulation⁶, grants may not have the purpose or effect of producing a profit for the beneficiary.

Applicants shall immediately inform F4E of any additional application and additional grant related to the action covered by the present call, either submitted or awarded before or after F4E evaluation and award decision⁷.

Applicants may be requested to provide evidence of the co-financing provided, either by way of own resources, or in the form of financial transfers from third parties, or in kind⁸. Furthermore applicants may be requested to indicate the sources and amounts of any other European Community funding received or applied for in the same financial year, for the same action or for any other action and for routine activities⁹.

When the proposed grant concerns a F4E contribution greater than € 500,000.00, the applicant may be requested to submit an audit report produced by an approved external auditor. The report shall certify the applicant's accounts for the last financial year available. In case of multiple beneficiaries, the threshold applies to each of them individually.

The audit report will not be requested from public bodies and international organizations¹⁰.

9) Sub-Contractors and Third parties

Applicants shall take duly note of the conditions set forth in F4E's Financial Regulation¹¹ and Model Grant Agreement¹² regarding the provision of financial support to third parties and sub-contractors. In particular:

- a) Where implementation of the action requires the award by a beneficiary of a sub-contract (for procurements, works or services), the cost of which shall be claimed as an eligible cost:
 - the sub-contract shall be awarded according to the principles of best value for money, transparency and equal treatment;
 - the beneficiary shall ensure that all the applicable national regulations are complied with in the sub-contract award procedure; in case of beneficiaries being public bodies, the sub-contract shall be awarded according to their appropriate procedures;
 - the scope, estimated economic value, task of pertinence and reasons for sub-

⁶ F4E(07)-GB04-06b, art.98

⁷ F4E(07)-GB04-06b, art.100

⁸ F4E(07)-GB03-12, art.160

⁹ F4E(07)-GB03-12, art.162.6

¹⁰ F4E(07)-GB03-12, art.162.5

¹¹ F4E(07)-GB04-06b, art.109

¹² F4E(09)-EC14-14, art. I.6

- contracting will be clearly identified in the proposal.
- b) Where the implementation of the action requires third-parties to become involved jointly with the beneficiary, such third-parties shall be bound to carry out the action on the same terms as the beneficiary. In this respect, a beneficiary may give financial support to third parties, provided that the following conditions are met:
- such financial support is not the primary aim of the proposal, and the amount concerned is small;
 - conditions for the giving of such support are strictly defined in the proposal (these conditions will then be part of the grant agreement between the beneficiary and the Joint Undertaking);
 - the financing beneficiary retains sole responsibility towards the Joint Undertaking and the other beneficiaries (if any) for the third parties linked to it. Said beneficiary ensures that the third parties will abide by the provisions of the grant agreement;
 - the scope, estimated economic value, task of pertinence and reasons for third-party involvement are clearly identified in the proposal.

10) Eligibility Criteria

A proposal will only be considered eligible for evaluation if it meets all of the following conditions:

- a) The proposal is submitted by one or more natural or legal person(s), who is (are) a national(s) or is (are) established in a territory of a Member of Fusion for Energy "Established" for the purpose of the present Call for Proposals means the actual pursuit of an economic activity by a legal person formed in accordance with the law of a Member of Fusion for Energy and having its registered office, central administration or principal place of business within the territory of a Member of Fusion for Energy.
- b) The proposal consists of 1 (one) printed original, 3 (three) printed copies and 1 (one) electronic copy in Adobe Acrobat (pdf) file format. The proposal shall be submitted in English language.
- c) The proposal is
- either received by post or by courier not later than **10/02/2012** to the following address:

**Fusion for Energy,
To the attention of Anne-Kathrin PREIS
Reference N° of the Call: F4E-GRT-379
NOT TO BE OPENED BY INTERNAL MAIL DEPARTMENT
C/ Josep Pla, nº 2
Torres Diagonal Litoral, Edificio B-3
08019 Barcelona
SPAIN**

- or delivered by hand (by the applicant in person or by an agent) not later than 17.00¹³ on **10/02/2012** to the same address mentioned above. In this case, a receipt must be obtained as proof of submission, signed and dated by the Fusion

¹³ Barcelona local time.

for Energy officer who took delivery¹⁴.

- d) The proposal is complete, i.e. drawn up using the herein attached Grant Proposal Form and perfectly legible so that there can be no doubt as to words and figures. The proposal shall be made up of the following documents:
- Declaration on Honour (Annex 3)
 - Financial Information Form (Annex 4), *not necessary for public bodies*
 - Grant Proposal Form and its Appendixes (Annex 5):
 - Appendix 1 - Sub-contractors and other third parties
 - Appendix 2 - Declaration of Background
 - Appendix 3 - Estimated Overall Budget
 - Appendix 4 - Estimated Budget per Applicant
- e) The proposal is addressing **all** the tasks in the specified action (as listed in the technical specification document, Annex B).

11) **Exclusion Criteria**

Applicants shall be excluded from participation in the present grant awarding procedure if:

- a) they are bankrupt or being wound up, are having their affairs administered by the courts, have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
- b) they have been convicted of an offence concerning their professional conduct by a judgement which has the force of *res judicata*;
- c) they have been guilty of grave professional misconduct proven by any means which the Joint Undertaking can justify;
- d) they have not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which they are established or with those of the country of the Joint Undertaking or those of the country where the contract is to be performed;
- e) they have been the subject of a judgement which has the force of *res judicata* for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Joint Undertaking's or the Communities financial interests;
- f) they are currently subject to an administrative penalty imposed by the Community institutions as referred to in the Financial Regulation applicable to the budget of the European communities.

Applicants shall be excluded from the award of the Grant Agreement if during the present procedure:

- g) they are subject to a conflict of interest;
- h) they are guilty of misrepresentation in supplying the information required by the Joint Undertaking as a condition of participation in the grant award procedure, or fail to supply this information.

Applicants shall provide a declaration on their honour (based on the model in Annex 3), duly signed and dated, stating that they are not in any of the situations listed above. Fusion for Energy may additionally request further supporting documents to evidence the declaration on honour, if this were deemed appropriate.

¹⁴ Fusion for Energy's Contracts and Procurement Department is open from 09.00 to 17.00, Monday to Friday. It is closed on Saturdays, Sundays and Fusion for Energy holidays.

12) Selection Criteria

In accordance with Appendix IVI of Fusion for Energy's Work Programme 2011, the following selection criteria will apply:

- a) Technical and Operational Capacity.
 The applicant shall prove the full coverage of the professional competences and the experience at the level commensurate with the duties described in the technical specification (Annex B). For this purpose the applicant shall provide a list of the relevant research activities carried out and names, (educational) qualifications and experience (CV's) of the staff responsible for this grant.
 The applicant shall be compliant with the management requirements expressed in the attached documentation (Annex A).
- b) Financial Capacity.
 The applicant shall have adequate financial and economic capacity for carrying out the action.
 Except for public bodies, to which the verification of financial capacity does not apply, applicants shall show that they have stable and sufficient sources of funding in order to maintain the activity throughout the action.
 In order to evaluate that the above requirement is met, applicants shall submit the information requested in Annex 4.

Regarding both selection criteria, Fusion for Energy may request any necessary supporting document during the evaluation phase.

13) Award Criteria and Award of the Grant

The award criteria, set out in Appendix IV to Fusion for Energy's Work Programme 2011, will have the weights and thresholds set out in the table below.
 A score from 1 to a maximum of 100 points will be awarded for each criterion. The threshold below which proposals will be rejected is defined for each criterion.

In addition, the following overall threshold will be set: 50 out of a maximum weighted score of 100.

(1.) **Relevance and Quality** (in relation to the topics addressed by the call)

Threshold: <i>50 out of max. 100 points</i>	Relevance and quality of the proposal with regard to the objectives and priorities set out in the Work Programme and in the technical specifications (Annex B) of this call.
Weight: <i>0.30</i>	Compliance to the requirements listed in the technical specifications (Annex B) of this call.

(2.) Implementation and Management

Threshold: 50 out of max. 100 points Weight: 0.20	Effectiveness of the implementation as well as of the management structure and procedures in relation to the proposed action and to the QA management specification (Annex A) of this call. Procedures and Quality Plan proposed to ensure and verify the quality and monitoring of the action according to the requirements of the QA management specification (Annex A) of this call.
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(3.) Appropriateness of Resources

Threshold: 50 out of max. 100 points Weight: 0.20	Cost-effectiveness and sound financial management, specifically with regard to F4E's needs and objectives and the expected results. Appropriate allocation and justification of the resources to be committed (budget, staff, equipment).
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(4.) Ability to deliver the specified services

Threshold: 50 out of max. 100 points Weight: 0.30	Relevance of the ability to perform the specified services in the field of the calculation of the magnetic field structure including TBM-induced ripple in ITER in 3D, 3D wall loads, impact on plasma, and optimization, related R&D and/or of having successfully performed a similar task in the past, for a similar application
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The grant will be awarded to the proposal obtaining the highest score, taking into account the weight. Proposals with equal overall scores will be prioritised according to their scores under the *Relevance and Quality* criterion. If they are still tied, they will be prioritised according to their scores for the *Appropriateness of Resources* criterion and then by their scores for the *Implementation and Management* criterion.

14) IPR Management ¹⁵

For the implementation of the obligations related to Intellectual Property Rights (IPR) the beneficiary is required to describe in detail both the background IP that it makes available for either carrying out the action or for using the results of the action and the foreground IP as and when it is produced.

- a) The annexed declaration of background is not an assignment. It simply provides a disclosure of the background to Fusion for Energy and, where applicable, to any other parties that may be entitled to access the background. A printed copy of the declaration of background will be attached as part of the Grant Agreement (GA) between the beneficiary and Fusion for Energy. Access rights, where applicable, will be based on the declaration of background. The declaration of background also constitutes a gauge to establish the level of knowledge and information brought by a beneficiary to the

¹⁵ Further detailed IPR provisions are set out in the Model Grant Agreement.

- project. The foreground resulting from the execution of the project will be established by, inter alia, a comparison between the overall results of the project and the pre-existing knowledge and information incorporated into the declaration of background. Any relevant information or knowledge not mentioned or specifically excluded in the declaration of background will be considered as foreground and as such will be subject to the rules on foreground arising from the GA.
- b) During the implementation of the action, the beneficiary will be required to inform Fusion for Energy on the progress of the work attributed to him including creation of any IP or business confidential information. It shall therefore identify all the tasks leading to results as well as the results themselves that can take the form of an invention, information, business confidential information, trade secrets, a software, a data base etc. A Form D will be attached to the GA, as Annex VI, to help beneficiaries identifying IP foreground as appropriate. The Declaration of foreground IP shall be provided as soon as foreground is created.
- c) To facilitate the management of IP within the GA and to ensure that IP is duly protected where necessary, the beneficiary(ies) or an appointed IP expert shall report on the status of IP in the context of the progress meetings with Fusion for Energy. During these progress meetings beneficiaries shall give account of the status of the protection of their IP, creation of IP foreground, requests for access rights and any other IP related issue that may affect the proper execution of the action. The beneficiary shall also submit a periodic report on implementation of the plan for the use and dissemination of foreground.

15) Indicative Evaluation and Contractual Timetable

- Evaluation, including meetings in Barcelona as needed, completed by «15th March 2012».
- Grant Agreement signature by «15th May 2012».

16) Proposal Validity

Applicants shall explicitly state the validity of their proposal to be not shorter than 6 months after the call for proposal deadline.

17) Consortium Agreement

In case of multiple beneficiaries, beneficiaries resulting from this call may be required to conclude a written consortium agreement, with a duly appointed coordinator.¹⁶

18) Export Control

The beneficiary shall be responsible for ensuring compliance with all export control requirements of the European Union and any other relevant government regarding exportation or re-exportation, transfers of the products, components and/or technology (including know-how and software codes) which are the subject of the grant action.

In order to achieve this, applicants shall include in their proposals a list of products, components and/or technology (including know-how and software codes) which are listed on the EU Export Control List (Council Regulation (EC) No 1334/2000) and/or for which any other

¹⁶ F4E(07)-GB03-12 art.145-146 and F4E(08)-EC07-03, art. II.3.2 d.

export or transfer authorisation from any relevant government is necessary.

The beneficiary shall assist if requested Fusion for Energy in obtaining any required export or transfer authorisation (including customs).

The beneficiary shall be required to provide any necessary information or documentation regarding these matters.

19) **F4E Contact Point and Contact Persons**

<i>Procurement Officer</i>		
Anne-Kathrin Preis	+34.93.320.1826	anne-kathrin.preis@f4e.europa.eu
<i>In case of absence:</i> Michaela Trbolova	+34.93.320.1117	michaela.Trbolova@f4e.europa.eu

Annexes:

- A) Quality Assurance Management Specification
- B) Technical Requirements Specification
- 3) Declaration on Honour
- 4) Financial Information (*not necessary for public bodies*)
- 5) Grant Proposal Form - and its 4 Appendixes
- 6) Model Grant Agreement
- 7) Legal Entity Form (available at http://ec.europa.eu/budget/contracts_grants/info_contracts/legal_entities/legal_entities_en.cfm)
- 8) Bank Account Form (available at http://ec.europa.eu/budget/contracts_grants/info_contracts/financial_id/financial_id_en.cfm)

Reference Documents from Fusion for Energy Webpage:

- 1) Fusion for Energy's Financial Regulation and Implementing Rules
<http://fusionforenergy.europa.eu/procurementgrants/keyreference.aspx>
- 2) Fusion for Energy's Work Programme 2011
<http://fusionforenergy.europa.eu/aboutfusion/decisions.aspx>