**QUESTIONNAIRE**

**MARKET SURVEY**

**Supply of RF Gyrotrons for the Electron Cyclotron Heating (ECH) Upgrade**

We invite all potential companies, institutions or entities from ITER Member States to participate in this Market Survey by returning a completed questionnaire **no later than 4 October 2024 EOB time,** , to the Procurement Officer in charge to the following email address [junhyung.park@iter.org](mailto:junhyung.park@iter.org) in cc to [Andrew.Brown@iter.org](mailto:Andrew.Brown@iter.org).

This will help the IO in preparing a better overall package when the forthcoming tender is launched.

The answers to the questions are not binding.

# General Information

***Company Name***: ………………………………………………………………………………

***Address***: ……………………………………………………………………………………….

***Years in Operation:*** …………………………………………………………………………….

***Primary Industry Focus:*** ………………………………………………………………………

## Representatives to be contacted:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Contact person*** | ***Name + Title*** | ***Email address*** | ***Telephone*** |
| ***Commercial Matters:*** |  |  | + |
|  |  |  |  |
| ***Technical Matters:*** |  |  | + |
|  |  |  |  |

# Questions

## Having the attached draft technical specifications (ref. BXTFVA) as a reference, do you identify any blocking points for the supply of the required Microwave Source Packages with the specified technical requirements? If YES, please provide a possible way/s to overcome/resolve such point(s).

***YES***

***NO***

Please provide a brief overview:

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## Having the attached draft technical specifications (ref. BXTFVA) as a reference, do you identify any points which are not blocking, but can cause difficulties (e.g. requiring more time, reduce production rate), or increase significantly the cost? If YES, please identify these points and if possible provide a way/s to overcome/resolve such point(s).

***YES***

***NO***

Please provide a brief overview:

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## This question is on the expected and actual output rate, in terms of number of gyrotrons manufactured and successfully factory-tested per year.

## The question is articulated in two points:

### What is your current potential full-capacity output rate, in terms of number of gyrotrons manufactured and successfully factory-tested per year?

### Assuming your company is selected as winner of the possible upcoming procurement call, what is your currently expected output rate in the foreseen delivery period, considering your shop-load?

Please fill in the following tables

|  |  |
| --- | --- |
| **ITEM** | **VALUE (in terms of number of gyrotrons manufactured and successfully factory-tested per year)** |
| Current full-capacity output rate | ………………………………………….. |

Table 1. Answer to Question point 1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rates** | **Year of delivery** | | | | | |
| **2028** | **2029** | **2030** | **2031** | **2032** | **2033** |
| **Expected output rate** | …………. | …………. | …………. | …………. | …………. | …………. |

Table 2. Answer to Question points 2

Please further elaborate if needed:

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## The schedule for the procurement of the ECH Upgrade gyrotrons will have to be respected imperatively. This entails:

##### ***Contract signature at the end of 2025 (following a call for tender in 2025);***

##### ***Delivery and FAT of the first gyrotron(s) during the first semester of 2028.***

***Do you see any blocking point in this schedule, when compared with your production capabilities/schedules and the identified scenarios in the draft technical specifications?***

***YES***

***NO***

Please provide a brief answer:

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## This question is about the expected costs. As for all questions of this questionnaire, the answer (and therefore the related estimated cost values) are not binding.

## In the attached draft technical specifications, three scenarios are identified. Scenario 1 is for a supply of 48 Microwave Source Packages, Scenario 2 is for a supply of 16 Microwave Source Packages, Scenario 3 is for a supply of 6 Microwave Source Packages.

## The question is articulated in two points:

### What is your estimated hardware unit cost (i.e. cost per Microwave Source Package[[1]](#footnote-1)) in the different scenarios?

### What would be an estimated cost for the required installation and commissioning work to be performed for the whole supply package on the ITER site, in the different scenarios?

## PLEASE NOTE: As an international organization the ITER Organization is exempt from all taxes and duties.

Please complete the following table and provide a short answer:

|  |  |  |
| --- | --- | --- |
|  | Microwave Source Package Unit Cost | Other Costs (e.g. installation, design, commissioning, etc.) |
| **SCENARIO 1** | ……………………… EUR | NOT INCLUDED IN THIS QUESTION |
| **SCENARIO 2** | ……………………… EUR | NOT INCLUDED IN THIS QUESTION |
| **SCENARIO 3** | ……………………… EUR | NOT INCLUDED IN THIS QUESTION |

Table 3. Answer to Question point 1.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Installation Costs | Commissioning Costs | Other Costs (e.g. hardware, design, etc.) |
| **SCENARIO 1** | …………… EUR | ………………… EUR | NOT INCLUDED IN THIS QUESTION |
| **SCENARIO 2** | …………… EUR | ………………… EUR | NOT INCLUDED IN THIS QUESTION |
| **SCENARIO 3** | …………… EUR | ………………… EUR | NOT INCLUDED IN THIS QUESTION |

Table 4. Answer to Question point 2.

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## This question is also related to the expected costs. As for all questions of this questionnaire, the answer (and therefore the related estimated cost values) are not binding.

## Given that the time of the supply is over 6 years (see Question 2.3), what would be your strategy for price adjustment considering the risk of cost change along the time of supply?

## PLEASE NOTE: This question applies to all costs (e.g. hardware, installation, commissioning, etc.). As an international organization the ITER Organization is exempt from all taxes and duties.

Please elaborate:

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## Is there any activity related to Commissioning and/or Installation that you anticipate to potentially have any difficulty with, and/or would require IO to perform? If YES and if you require IO to perform some activities, please list these activities and explain the impact on the cost estimation provided for question 2.4?

***YES***

***NO***

Please elaborate:

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## In your current estimations and considering the specifications, is the possibility to increase the output power from 1 MW to 1.2 MW per unit having any effect in terms of cost or design and operation (impact on expected reliability and/or efficiency)? If YES, please elaborate.

***YES***

***NO***

Please provide a brief overview:

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## This question is about excluded scope.

## The draft technical specifications mention that the following sub-systems are out of the supply scope:

## Control System (hardware and software)

## Cooling Manifold

## Cabling

## Power Supplies.

## These systems are developed through other sources.

## The question is articulated in the following five points.

### Do you anticipate any problems regarding risk in respect of ownership/warranty for any of the 4 sub-systems?

### Do you anticipate any other problems because of these exclusions?

### Is there any detrimental impact on price, performance and/or integration because of these exclusions?

### Would you anticipate a benefit if or would you require IO to include any of them in the supply scope? If YES, which one and why?

### Would you anticipate a benefit if or would you require IO to free-issue any item to you?

Please elaborate

*Question point 1*:

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*Question point 2*:

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*Question point 3*:

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## This question is about additional components. The draft technical specifications mention (Tables 2-4) additional components for the one identified, under the paragraphs:

### “Any additional component deemed necessary to be added”

### “Any additional component/improvement that would increase lifetime and/or performance (e.g. efficiency)”

***These additional components/improvements are (in the first case) to allocate space for items not considered in the table, and (in the second case) to consider possible improvements of performance which could be achieved with the addition of specific components (e.g. thermocouple in the injection gun region).***

***What is your anticipated impact of such additional components in terms of effort, cost, schedule?***

Please elaborate:

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## Are you interested to apply for the public tender for the procurement of the RF Gyrotrons for the ECH Upgrade?

***YES***

***NO***

Please provide a brief overview of your decision:

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## Do you wish to communicate any points of concern or would like to add anything over and above the answers previously provided?

***YES***

***NO***

Please provide a brief answer if deemed needed:

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1. See draft technical specifications for the definition and scope of the term “Microwave Source Package”. [↑](#footnote-ref-1)