

# Cosmic Vision Call for Mission Proposals Briefing Meeting

## Q & A Session

ESTEC, 11 April 2007

Q 10.4 *Please make available a "cookbook" for proposers with price tags for major items: launchers, ground support, operations, DSN (or similar), etc.*

- This is already available as appendix to the Call  
– see also presentation on technical matters.

Q10.9 *How do we need to account financially for foreign (non-ESA) contributions?*

- Based on the estimated CaC, indicate the expected level of contribution from non-ESA partners. This approach applies to both:
  - a) CaC within allocated M/L class
  - b) CaC above allocated envelope

Q10.10 *How do we need to account for instrumentation (paid for by member states)*

- Preliminary estimates for the cost of the P/L procurement are explicitly requested (see text of Call, pages 8, 9 and 12).

*Q73.1 What is the yearly cost of operation of an interplanetary spacecraft?*

*Q73.2 We would like to know the total cost (ESOC + ESAC) in the cases of cruise with science activity, cruise without science activity, and hibernation. If there is a difference between S/C powered by chemical propulsion and by ion drive, please provide both.*

*Q18.2 Costing of use of ESA facilities: We are currently proposing to Incorporate into the proposal contributions from ESA (ESAC ground segment and ESTEC project and science support/management).*

*Can you give us any guidelines on how we can cost this?*

*Can we approach ESA staff directly to discuss these contributions and agree a ROM cost?*

- Preliminary guidelines are provided in annex 4 of the Call. Envelope costs are indicated, including items listed above. At this stage only preliminary estimates are to be expected, as refined numbers will be consolidated after the proposal selection.
- Contact with ESA only via agreed mechanism of public questions and answers (via WWW).

Q42.3 *Is ESA's mass/Euro rule of thumb applicable to all missions (cp. heavy INTEGRAL)?*

- EUR/kg is to be used as a comparison and coarse reference only. Guidelines on the cost items to be taken into account in determining the cost class can be found in appendix 4.

Q25.5 *In the case of EVE, for which there is a good heritage for the orbiter, but only little is known about balloon cost, must we apply the same, global, contingency factor for the balloon and the orbiter, or can we split, with different contingency factors for the various elements?*

- Total allocation as from provided guidelines – splitting between elements should reflect the relative TRL.

*Q10.7 availability of radio-isotope power generators (RTGs) and implications for a mission to launch late in the 2015-2025 time frame.*

- See JME status report (page 77 to 95) available on Scitech-Web (<http://sci.esa.int/science-e/www/object/index.cfm?fobjectid=40866>)
  - (a) political constraints;
  - (b) limited RTG efficiency;
  - (c) large cost ~ 150-200 M (development + procurement)).

*Q40.2 Is ESA considering to develop in the Cosmic vision Long Term Power sources technologies, including those based on RTG?*

*Q53.1 RTG/RHU development by ESA*

- The ESA Science programme has presently no plans in this direction

*Q53.2 launch from Kourou of an ESA mission with NASA contributing RTGs*

- DOE and ITAR regulations would most likely prohibit such a scenario.

*Q53.5 NEP option (Nuclear Electric Propulsion?)*

- The ESA Science programme has presently no plans in this direction.

*Q53.3 Studies/development of balloons/montgolfières*

*Q53.4 Studies/development of mini-probes that can penetrate the atmosphere (by aerocapture and other braking techniques) and land on a surface in the outer solar system*

- Please refer to the Venus Entry Probe studies, at:  
<http://sci.esa.int/science-e/www/object/index.cfm?fobjectid=35987>

*Q10.8 Status of solar sailing technology and implications for a mission to launch late in the 2015-2025 time frame*

- No representative flight heritage – preliminary studies being conducted – presently low TRL level would require dedicated demonstrator.

## *Q53.6 Direct-to-Earth communications of a distant mission*

- Summary of recent developments will be put on the WWW pages.
- RF remains baseline, general move to K band, details are mission dependent

## *Q42.2 How to send rapid and instantaneous alerts to Earth (similar to NASA/TDRRS)?*

- The question requires a dedicated review - Summary of recent developments will be put on the WWW pages by the end of April.

## *Q 10.6 New developments in communication*

- Summary of recent developments will be put on the WWW pages.
- RF remains baseline, general move to K band, details are mission dependent.

Q65.4 *Technical readiness levels required for the first medium size and large size missions*

- Please refer to Technical presentation given at briefing meeting (11 April).

Q42.1 *Overview about satellite busses for LEO.*

- Refer to the document that can be downloaded from the SCI-A web site <http://sci.esa.int/science-e/www/object/index.cfm?fobjectid=40553>

Q25.11 *Is a detailed technical description of each instrument of the proposed strawman payload required, or must we rather put the emphasis on methodologies, performances and adequation to measurement objectives, detailed technical information being only used to fill the table giving main parameters and TRL levels?*

- The call puts explicit emphasis on the definition of the payload. A technical description for each unit is expected (see annex 3 – section e). The information provided must be sufficient for ESA to assess the payload feasibility, demands on the platform and cost.