

## CHAPTER 9

### **MILIARIUM AD ASTRA GRAND CHALLENGES**

- 9.1. The Miliarium Ad Astra (“Milestones to the Stars”) Grand Challenges (“Challenges”) are a set of specific defined events designed to incentivize and recognize significant technical accomplishments and milestone human spaceflight events. These accomplishments represent singular events which happen once, cannot be improved upon, and mark a significant milestone in astronautics.
- 9.1.1 Challenges may be designed for crewed or uncrewed accomplishments.
- 9.1.2 Each challenge is defined in Annex A including criterion, conditions and challenge rules. The specific challenge accomplishment will be above the Karman line, however, there may also be conditions or rules which apply to activities associated with the challenge that occur below the Karman line.
- 9.2 **GENERAL DEFINITIONS**
- 9.2.1 Contestant – the organization, company, team or crew who are responsible for the operation of the spacecraft, space station or facility on a celestial body and have registered to attempt a Miliarium Ad Astra Grand Challenge event.
- 9.2.2 Mission Initiation – for the purpose of challenges, and unless otherwise noted in the specific challenge rules, the mission initiation is the launch of the spacecraft for missions where the spacecraft proceeds to the place of the challenge event without additional construction, logistics or crew transfer (if any). For spacecraft which are assembled, logistically supplied or require a crew transfer (if any) in space, the mission initiation is the initial application of thrust to proceed to the place of the challenge event, or when the spacecraft, space station or facility on a celestial body is in the final configuration for the challenge event.
- 9.3 **GENERAL PROCEDURES**
- 9.3.1 Prospective contestants must register their intent to attempt a challenge event with the Astronautic Records Commission (ICARE) no later than 150 days prior to mission initiation.
- 9.3.1.1 Contestants with an FAI Member submit their registration notification through their National Airspace Control (NAC). Contestants without an FAI Member may register directly with ICARE through the FAI Astronautic Records Commission webpage contact form.
- 9.3.1.2 The registration notification must include the following information:
- Name (Organization, Company, Team or Crew)
  - Miliarium Ad Astra Grand Challenge event
  - Contestant Point of Contact

- Contact information (address, email, phone number)
- Overview of Mission: General overview of the challenge event attempt including: description of spacecraft, space station or facility on a celestial body, and sequence of mission events
- Proposed Date of Mission Initiation

- 9.3.1.3 After receipt of a registration notification the ICARE Bureau shall conduct a consultation to assess the prospective contestant's technical capability to attempt the challenge event with a reasonable chance of success. If found to be satisfactory, the ICARE Bureau will accept the registration and notify the contestant.
- 9.3.1.4 Registration for a Miliarium Ad Astra Grand Challenge event is not a sanction and does not grant an exclusive right to attempt a challenge.
- 9.3.2 After acceptance of the registration, the ICARE Bureau will assign one or more official observers to work with the contestant and make the necessary observations to validate the required elements specified for the specific challenge event.
- 9.3.2.1 Official observers must have the technical qualifications and experience to control the challenge attempt and must know and understand the Sporting Code related to Miliarium Ad Astra Grand Challenge procedures, the data collection requirements and the rules for the specific challenge event to be validated.
- 9.3.2.2 Official observers must be granted reasonable access to the contestant's facilities and data to make direct and/or remote observations of the challenge activities.
- 9.3.3 The contestant is responsible for submitting a data plan to the official observer(s) no later than 30 days prior to mission initiation.
- 9.3.3.1 The data plan should address the critical elements necessary to validate the challenge event; sensor accuracy, precision and calibration; sensor reliability and alternatives available in case of failure; data processing and analysis; and data security and handling.
- 9.3.3.2 Measurements used to validate the challenge must be made with sufficient accuracy and precision to ensure that critical elements are unambiguously achieved.
- 9.3.4 The contestant is responsible for submitting a Challenge Report to the official observer(s) within 60 days following completion of the Miliarium Ad Astra Grand Challenge event.
- 9.3.4.1 The official observer(s) will validate the report and transmit the report to the ICARE Bureau along with their findings and recommendation for recognizing the achievement.
- 9.3.4.2 The Challenge Report will become a part of the historic record of spaceflight achievement and the basis for recognition with the appropriate FAI Award. Therefore, the Challenge Report should include highlights of the mission (planning and preflight activities, description of the mission and challenge activities, and completion of the mission) and specific details of the challenge event along with supporting data.
- 9.3.5 The following fees are applicable to challenge events:

- 9.3.5.1 A Miliarium Ad Astra Grand Challenge registration fee is due once the contestant's registration is accepted. The registration fee is in addition to any fees associated with a spaceflight world record attempted concurrently with the challenge event.
- 9.3.5.2 The contestant is responsible for the reasonable travel costs and expenses for the official observer(s) assigned to the challenge attempt.
- 9.3.5.3 For challenge events which involve a crew, each participating crewmember must obtain an FAI sporting license which is current from mission initiation through mission completion.
- 9.3.6 A contestant who achieves a validated Miliarium Ad Astra Grand Challenge event will be recognized by award of the appropriate FAI award.