

Proposal for Forming an IAA Study Group SG 3.19

Title of Study:

Feasibility study of Standardized Career Dose Limits in LEO and outlook for BLEO

(This is Study Group 1.2.3 within the Human Space Flight Coordinating Group)

Proposer(s):

Acad. Susan McKenna-Lawlor

Primary IAA Commission Preference:

Commission 3

Secondary IAA Commission Interests:

Commission 1

Members of Study Team

Chair(s):

Acad. Prof. Susan McKenna-Lawlor

Secretary:

Acad. Prof. Susan McKenna-Lawlor

Other Members:

Leena Tomi, Deputy Director, Canadian Space Agency,
Prof. Li Yinghui, China Astronaut Research and Training Center,
Dr. Günther Reitz, DLR
Dr. Aiko Nagamatsu, JAXA
Prof. Lawrence Townsend, Dept. Nuclear Engineering, University of Tennessee

Negotiations are in train re. the appointment to the group of representatives of the European, Indian and Russian Space agencies. If this is achieved, the names of these additional persons will be forwarded to the Academy for approval and formal appointment to this group.

Short Description of Scope of Study

Overall Goal:

Space Agencies currently adopt different values for career dose limits in LEO. These differences require to be investigated. As yet no limits have been assigned for BLEO (beyond low Earth orbit).

Since an important factor in the career dose limit study is the different values currently adopted within individual space agencies, it is appropriate to assemble an international group that can articulate the national viewpoints of the major space faring nations in the matter of setting career dose limits for LEO.

The Study will attempt to reach an agreement among the participating representatives of Space Agencies on a standardized career dose limit for astronauts in LEO. This will also move forward the possibility of international cooperation in the matter of selecting crew members from different countries.

A strategy for reaching a similar agreement for BLEO will be initiated.

Intermediate Goals:

Feb. 2013; The career dose limits assigned in their affiliated space agencies will be provided by individual members of the study group. A telecon will be set up to discuss differences between these limits and to seek opinions re. limit standardization.

21March; Possibility of a Meeting in Paris of the HSFCG at which a status report from the group could be presented. Ongoing coordinated work will be carried out by the group during the year.

3-5 July 2013; Possible presentation of a status report at a Conference in Turin

16-20 Sept. Possible presentation of a status report at a UN/China workshop in Beijing, perhaps also at the following IAC.

25 October; Provision of a Draft Report/associated recommendations to the Chair of the HSFCG.

It is noted that research working currently in train by the co-ordinator (SMcKL) on radiation levels at the Martian surface can provide new background information relevant to the assignment of dose limits for Mars missions.

Methodology:

E-mail; skype, telecons workshops, conferences, publications etc.

Time Line:

The first year will concern a study of dose limits in LEO.

Thereafter, the work can continue for two more years (2014-2015) to assign dose limits in BLEO.

Final Product (Report, Publication, etc.):

It is foreseen that a book on Dose Limits in LEO and BELO can be produced.

Target Community:

IAA (Human Space Flight Coordinating Group)
The Heads of Space Agencies
Professional groups (e.g. IAF, IAC, COSPAR, AOGS etc.)
Spacecraft designers and others interested in achieving successful manned missions to the Moon, Mars and beyond.

Support Needed:

It would be helpful if the spokesperson of the Study could obtain support from the Academy for travel to/subsistence at meetings where she will present progress reports to the HSFCG. No budget is available to her in Ireland for these activities.

Potential Sponsors:

None identified.

To be returned to the IAA Secretary General Paris

by email: sgeneral@iaamail.org

Date: 6 February, 2013

(No Signature required if document authenticated).

Follow-up Section for IAA use only

Initial Phase

Application received:

6 February, 2013

Commission Approved:

6 February, 2013

SAC Approved:

4 March 2013

Web Site Section opened:

24 April 2013

Members Formally Appointed by IAA:

Final Phase

Peer Review by Commission Completed:

Recommended by the Commission:

Final Report Received:

SAC Approved:

BOT Accepted:

Publisher Selected:

Study Published: