

QUESTION # 87

As part of our RTO 3 response analysis, we have performed extensive research on comparable LEO missions. Our research indicates a striking similarity between the HNE requirements in RTO 3 and those of several EOS missions, particularly Cloudsat, which, like the HNE spacecraft, was launched simultaneously with CALIPSO. Further, many papers have been authored/co-authored on these missions by the incumbent FDSS contractor (a.i. Solutions (AIS)). The similarity between the mission profiles and the flight dynamics requirements for these EOS missions and those of the HNE in RTO 3 provides an unfair competitive advantage for the incumbent team proposing for the FDSS II contract. This is particularly evident in the RTO 3 instructions, which ask for identification of potential technical problems, risks, and critical issues, as well a realistic staffing plan. We respectfully request that RTO 3 be removed from the RFP or be modified to present a hypothetical mission that does not match past or present work performed by the incumbent contractor. The paragraphs below summarizes our Chief Engineer’s analysis and provides specific references to the published papers.

| Task | Task Title | EOS Missions Supported by AIS | | | | | |
|------|---|-------------------------------|------|------|------|------------------|------------------|
| | | Terra | EO-1 | Aqua | Aura | CALIPSO/Cloudsat | LDCM (Landsat 8) |
| A | Mission Design - Cycle P | X | X | X | X | X | X |
| B | Contingency Analysis - Cycle P | X | X | X | X | X | X |
| C | Launch Window Analysis - Cycle P | X | X | X | X | X | X |
| D | Mission Design - Cycle Q | X | X | X | X | X | X |
| E | Simulations and Operational Preparation | X | X | X | X | X | X |
| F | Operational Support | | | | | | |
| F.1 | Launch Readiness Review | X | X | X | X | X | X |
| F.2 | Launch and Early Orbit (L&EO) Orbit Determination | | | | | | |
| F.3 | Ascent Support | X | X | X | X | X | X |
| F.4 | Onboard Navigation (GEONS) | | | | | | |
| F.5 | Closeout Activities | X | X | X | X | X | X |

Bibliography:

- [Ref. 1] "CALIPSO and Cloudsat Coordinated Ascent Phase to the EOS Afternoon Constellation," co-authored by Laurie Mann of a.i. Solutions, AIAA 2006-5759.
- [Ref. 2] "EOS Aura Ascent Planning - Establishing the Earth Science Afternoon Constellation," co-authored by Richard McIntosh of a.i. solutions, AAS 05-363.
- [Ref. 3] "Terra Ascent Planning to Meet Landsat-7 Phasing Requirements," co-authored by Paul Noonan of a.i. solutions, AIAA 2000-4342.
- [Ref. 4] "Ascent Plan for Aqua (EOS-PM1) Including Phasing with Terra (EOS-AM1)," co-authored by Peter Demarest, et al of a.i. solutions, 16th International Symposium on Space Flight Dynamics, December 2001.
- [Ref. 5] "Earth Observing-1 (EO-1) Ascent Strategy," co-authored by Paul Noonan, et al of a.i. solutions, AAS 00-161.
- [Ref. 6] "Landsat Data Continuity Mission (LDCM) Ascent and Operational Orbit Design," co-authored by Laurie Mann, et al of a.i. solutions, AAS 12-254.
- [Ref. 7] "Landsat Data Continuity Mission (LDCM) Safe Operations Ascent Design," co-authored by Laurie Mann, et al of a.i. solutions, SpaceOps 2012 Conference, Paper No. 1262778.

FDSS II Question and Responses

RESPONSE to Question #87

RTO 3 is a hypothetical near earth mission and representative of work that the contractor will be expected to perform on the FDSS-II contract. FDSS-II will support multiple LEO missions over the course of the contract in many capacities. The question references documented information that is part of the public domain with respect to scenarios, design, contingency plans, analyses, toolsets, flight operations and lessons learned on previous LEO missions. The Government believes that there is no incumbent advantage, since it provides potential FDSS II Offerors the unique opportunity to propose improvements and optimizations over the approaches in the referenced material. RTO 3 represents some of the key/essential components of the technical work that will be required on the FDSS II contract. Changing or eliminating this RTO would reduce the Government's confidence of selecting a vendor that can meet its requirement. GSFC has supported and continues to support many LEO missions, making it critical that potential Offerors are able to demonstrate their capability to accomplish this effort.