Decadal Survey Newsletter #4

December 1, 2009

Dear Colleague:

This is the fourth newsletter to the community regarding SolarSystem2012, the planetary science decadal survey. The key points in this newsletter are these:

1. Assessment of the 199 white papers received from the community is nearing completion. The white papers have provided very important input to the decadal survey process.

2. A second set of mission candidate studies has been identified by the panels and approved by the steering group.

3. Aerospace Corporation has been selected to perform independent cost estimates for the decadal survey, and they are now under contract.

4. Decadal survey sessions are planned for the upcoming Fall AGU, LPSC, and AbSciCon meetings.

5. More information is available on the SolarSystem2012 website:

http://sites.nationalacademies.org/SSB/CurrentProjects/ssb_052412

Since my last newsletter, most of the panels have met again, with their primary focus being assessing and taking action on the white papers submitted by the community. Every one of the 199 white papers has been read by multiple panel members, and their recommendations synthesized and briefed to the panels. Where clarification seemed valuable, white paper authors have been invited to brief panels personally. The deliberations of the panels have been substantially shaped by the white paper input. This was exactly what we had intended when we solicited the white papers, and I'm very pleased by the outcome.

The Steering Group met on November 16-18 at the Beckman Center in Irvine, CA, after the latest round of panel meetings. This meeting dealt with a number of issues, including launch vehicle costs, availability of plutonium for space power systems, and the future of the Deep Space Network.

A major focus of the Steering Group meeting was the latest set of mission study requests from the panels. These were based largely on white paper input, and a number of new studies were approved and initiated.

Three of the new studies are of the type known as "Rapid Mission Architecture" studies. These are high-level studies of overall mission architecture that we expect to take a few weeks. The

purpose of these studies is to explore the trade space for a specific mission candidate, in order to identify a "point design" for a possible subsequent full mission study. The three new Rapid Mission Architecture studies are:

1) Saturn atmospheric probe (JPL)

2) Main belt asteroid lander with possible mobility (APL)

3) Chiron orbiter (Goddard)

There are also two new full mission studies. These will be more time-consuming and labor-intensive, and are intended to take these mission concepts to the point where they are ready for a full independent cost estimate. The two new full mission studies are:

1) Jupiter-orbiting Io mission (JPL)

2) Ganymede mission (JPL)

In addition, three more mission concept studies have been identified that have already been done to a level of maturity such that an independent cost estimate should be possible. Those three mission concepts are:

1) Lunar network mission studied to date by Marshall and APL

2) MAX-C Mars rover and sample cacheing mission studied to date by JPL

3) Europa Jupiter system mission studied to date by JPL

I'm also pleased to report that Aerospace Corporation has been selected to perform all the independent cost estimates that will be used to prepare the SolarSystem2012 report. Aerospace is doing a similar job for Astro2010, the astronomy decadal survey, and brings considerable experience and credibility to the task.

An important note: Although we are conducting technical studies of many possible missions, not all of them will ultimately be selected for independent cost estimates. Also, only missions that have undergone independent cost estimates can be included in the final report, but undergoing an independent cost estimate does not guarantee that a mission will be included in the final report.

Finally, we are continuing to organize a number of sessions at major scientific conferences where discussion of the decadal survey among the community will take place. Two special sessions will be held Friday morning, December 18, at the Fall AGU. Future sessions are planned for LPSC and AbSciCon.

As always, more details on all of this are available at the SolarSystem2012 website:

http://sites.nationalacademies.org/SSB/CurrentProjects/ssb_052412

Once again, thanks very much for all your hard work on the white papers. They are playing a major role in shaping the outcome of the decadal survey.

Best wishes,

Steve Squyres
SolarSystem2012 Chair