

National Aeronautics and Space Administration



LEAG Report

Planetary Sciences Subcommittee

March 3rd, 2008

LEAG Meeting.

Lunar Exploration Roadmap.
(Lunar Science Conference)

LAT-2 Review.

NASA Budget.

LEAG Report to the PSS: MARCH 3, 2008



LEAG Meeting 2008

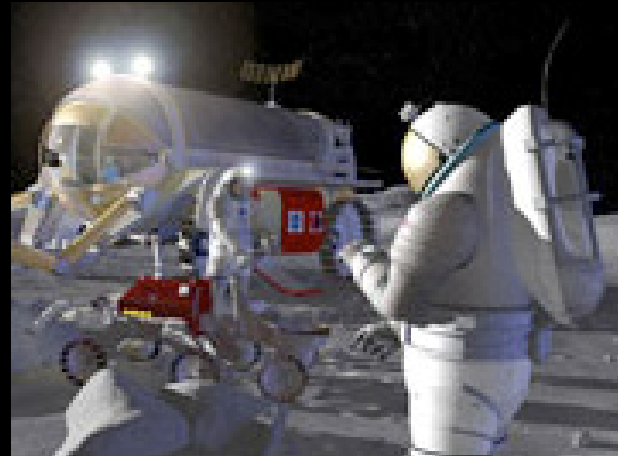
October 28-31, 2008
(coincide with LRO launch).

Joint with ILEWG and SRR.

Radisson Resort at the Port, in Cape Canaveral, Florida.

Plenary and concurrent sessions - focused on questions pertinent to achieving the "vision" - similar to the last LEAG meeting.

1st announcement due within the next two weeks.



Lunar Exploration Roadmap

The Charge from the NAC

The Science Committee recommends that the Lunar Exploration Analysis Group (LEAG) be tasked to prepare a “Lunar Goals Roadmap” that maps science goals to objectives, and to observations and measurements. This roadmap should include an assessment of needed technology developments, areas of potential coordinated activities for commercial and international participation, and potential feed-forward activities for the exploration of Mars and beyond.



Exploring the Moon in the 21st Century: Themes, Goals, Objectives, Investigations, and Priorities, 2008



A Community Effort Coordinated by the Lunar Exploration Analysis Group

Themes: Why are we going to the Moon?

Theme 1: Pursue scientific activities to address fundamental questions about the solar system, the universe, and our place in them.

Theme 2: Use the Moon to prepare for future missions to Mars and other destinations.

Theme 3: Extend sustained human presence to the Moon to enable eventual settlement.



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Crosscutting Themes:

- Learn to live and work successfully on another world.
- Expand Earth's economic sphere to encompass the Moon, and pursue lunar activities with direct benefits to life on Earth.
- Strengthen existing and create new global partnerships.
- Engage, inspire, and educate the public.



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Theme 1: Pursue scientific activities to address fundamental questions about the solar system, the universe, and our place in them.

- a. Understand the formation, evolution and current state of the Moon.
- b. Use the Moon as a “witness plate” for solar system evolution.
- c. Use the Moon as a platform for astrophysical, heliophysical, and earth-observing studies.
- d. Use the unique lunar environment as a research tool.



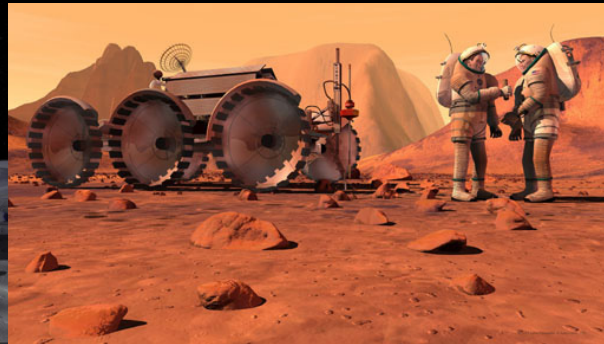
IMP-SAT has been folded into Theme 1

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Theme 2: Use the Moon to prepare for future missions to Mars and other destinations.

- a. Identify and test technologies on the Moon to enable robotic and human solar system science and exploration.
- b. Use the Moon as a test-bed for systems, flight operations, and exploration techniques to reduce the risks and increase the productivity of future missions to Mars and beyond.



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Theme 3: Extend sustained human presence to the Moon to enable eventual settlement.

- a. Identify, develop, and mature technologies and deploy initial infrastructure capabilities.
- b. Reduce the cost of re-supply and dependency on Earth.
- c. Keep humans healthy and safe off-planet.
- d. Facilitate development of self-sustaining economic activity.



Exploring the Moon in the 21st Century: Themes, Goals, Objectives, Investigations, and Priorities, 2008



Themes and Goals will be put on the web this week for public comment - 2-week window.

Three SATs are being formed - reports by end of May.

Public comment on the reports via the web.

Special session at the **Lunar Science Conference** at Ames in July for further community input.

Unveil the Roadmap at the **LEAG** meeting in October.



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IMPORTANT: NASA needs an exit strategy from the Moon that allows it to get to Mars and beyond, but doesn't abandon the infrastructure it has built up, which can still be used for science purposes.

Commercial on-ramps are vital - these center around ISRU capabilities, which are also important for the "feed-forward" focus on Mars.

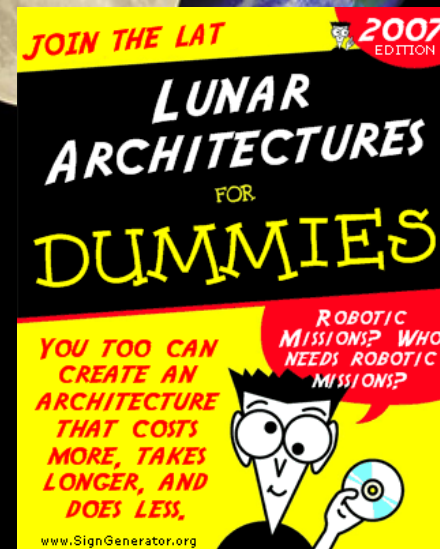


LAT-2 Review - Potential Task

Initial Charge

Further lunar exploration architecture concept developments should be reviewed by the Lunar Exploration Analysis Group, which represents a variety of lunar exploration stake holders and partners, including the science community, to assess how well continued developments align with the recommendations of the NAC from the 2007 Tempe workshop.

Still negotiating the final charge.



NASA Budget

LEAG views the 2009 NASA budget with optimism as it is a great start for going to the Moon to get to Mars and beyond.

The Moon can address key Solar System issues that can then be applied to other planets (e.g., crater chronology, magma ocean evolution, space weathering, etc.).

The resources being devoted to the Moon are timely and required to advance the vision.

