

# NASA Moon-Impactor Mission Passes Major Review

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NASA's drive to return astronauts to the moon and later probe deeper into space achieved a key milestone recently when agency officials approved critical elements of a moon impact mission scheduled to launch in October 2008. NASA's unmanned Lunar Crater Observation and Sensing Satellite, known as LCROSS, will strike the moon near its south pole in January 2009. It will search for water and other materials that astronauts could use at a future lunar outpost.

Scott Horowitz, associate administrator of the agency's Exploration Systems Mission Directorate, led a confirmation review panel that recently approved the detailed plans, instrument suite, budget and risk factor analysis for the satellite.

NASA's Ames Research Center in Moffett Field, Calif., manages the mission. The mission is valued at \$79 million, excluding launch costs. The mission will help NASA gain a new foothold on the moon and prepare for new journeys to Mars and beyond.

The confirmation review authorized continuation of the lunar impactor project and set its cost and schedule. Another mission milestone, the critical design review, is scheduled for late February. That review will examine the detailed Lunar Crater Observation and Sensing Satellite system design. After a successful critical design review, the project team will assemble the spacecraft and its instruments.

"The Lunar Crater Observation and Sensing Satellite project represents

an efficient way of doing business by being cost capped, schedule constrained and risk tolerant," said Daniel Andrews, project manager at Ames for the lunar impactor mission.

The lunar impactor will share a rocket ride into space with a second satellite, the Lunar Reconnaissance Orbiter. After the orbiter separates from the Atlas V launch vehicle for its own mission, the LCROSS will use the spent Centaur upper stage of the rocket as a 4,400-pound lunar impactor, targeting a permanently shadowed crater near the lunar South Pole.

According to scientists, the Centaur's collision with the moon will excavate about 220 tons of material from the lunar surface. The Lunar Crater Observation and Sensing Satellite will observe the plume of material with a suite of six instruments to look for water ice and examine lunar soil. The satellite will fly through the plume, also impacting the lunar surface. That second impact will be observed from Earth.

The prime contractor for the satellite is Northrop Grumman Space Technologies of Redondo Beach, Calif.

For information about the Lunar Crater Observation and Sensing Satellite on the Web, visit: [lcross.arc.nasa.gov](http://lcross.arc.nasa.gov)

For information about NASA's Exploration Systems Mission Directorate on the Web, visit: [www.nasa.gov/exploration](http://www.nasa.gov/exploration)

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