

Nasa Plans Moonbase

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- *From:* Dale <drc@xxxxxx>
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I thought the plan was to exclude other nations, but this is what's being reported today—

The New York Times

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NASA Makes Plans for Permanent Moon Base

By WARREN E. LEARY

WASHINGTON, Dec. 4 NASA announced plans today for a permanent base on the Moon, to be started soon after astronauts return there around 2020.

The agency's deputy administrator, Shana Dale, said the United States would develop rockets and spacecraft to get people to the Moon and establish a rudimentary base. There, other countries and commercial interests could expand the outpost to develop scientific and other interests, she said.

Ms. Dale and other NASA officials said the agency envisioned a base at one of the lunar poles, to take advantage of the near-constant sunlight for solar-power generation, and giving it an "open architecture" design to which others can add the capabilities they want.

Scott Horowitz, NASA's associate administrator for exploration, said crews of four astronauts would make weeklong missions to the Moon starting around 2020. As more equipment was set up, human stays would eventually grow to 180 days, permanent staffing by 2024. By 2027, officials said, a pressurized roving vehicle on the surface would take people on expeditions far from the base.

NASA gave no cost estimate for the program. Ms. Dale said all plans assumed that the agency would continue operating from a fixed budget of about \$17 billion a year. As the shuttle and space station programs end, she said, that money would be shifted to the exploration program, which is to operate on a pay-as-you-go basis.

In 2004, President Bush announced a new mission for NASA, a Vision for Space Exploration that involves retiring the space shuttle fleet by 2010 and winding down involvement in the International Space Station in order to return humans to the Moon and, later, going on to Mars.

After consulting with space agencies representing 14 countries and experts in space

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science and commerce, an agency team developed the baseline concept of putting a base on the Moon from which other activities could develop.

"The door is open for international and commercial interests," Ms. Dale said.

Doug Cooke, the agency official who led the lunar study group, said the plan calls for putting a lunar lander craft down near a polar crater and later adding solar power generating units and living quarters to establish a base.

A site in the sunlight near the lunar South Pole, such as Shackleton Crater, would still be near areas that are in total darkness, which may be the source of minerals to mine. From this location, Mr. Cooke said, other nations could add scientific laboratories or observatories or commercial concerns might want to process rocket fuel and other materials from water and other materials that might be found in the ground nearby.

"We're going for a base on the Moon," Mr. Horowitz said. "It's a very, very big decision."

Mr. Horowitz said having a base did not mean every Moon landing by humans would go there. The option remains open for some missions to go to equatorial regions, as the Apollo project lander crafts did in the 1970s, or even to the backside of the Moon.

Getting to the Moon and establishing a base will require a versatile, general-purpose lander craft that could set down anywhere and be the core of an outpost, he said.

"The nickname I use for the lander is, it's a pickup truck," Mr. Horowitz said. "You can put whatever you want in the back. You can take it to wherever you want. So you can deliver cargo, crew, do it robotically, do it with humans on board. These are the types of things we're looking for in this system."

Ms. Dale said she and other NASA officials would spend part of next year visiting potential partners in the lunar project, including the space agencies of Europe, Russia and Japan, to see what they might want to contribute. Different aspects of a lunar base might come from many individual or bilateral agreements between the United States and other nations, she said, rather than following the model of the space station of having many partners signing one agreement.

While there have been preliminary talks about cooperation in space with China, a growing space power that along with the United States and Russia has the ability to launch humans, it is too early to say if the two nations will agree to work together on such human space flight projects as the lunar base, she said.