

NASA legend Buzz Aldrin voices concerns about moon rocket

Robert Block and Mark K. Matthews | Sentinel Staff Writers
July 25, 2008

CAPE CANAVERAL - Just four years after President Bush announced his vision to send astronauts back to the moon and then on to Mars, legendary astronaut Buzz Aldrin is leading an effort to re-examine the whole idea -- in particular, NASA's choice of rockets for the mission.

It is the latest sign that NASA's Constellation program -- intended to replace the space shuttle after 2010 -- is in trouble.

Concerned by reports that the Ares rockets and Orion crew capsule are beset by cost overruns, schedule delays and complex technical woes, Aldrin says he wants to create a panel of experts to make sure that Constellation is the right way to go.

"We need to stick with the mission but rethink some of the ways we implement it," said Aldrin, the second man to walk on the moon. "It doesn't pay to stick with a bad idea."

Aldrin has won some backers, including a prominent Washington think tank and the backers of an alternate rocket design created by moonlighting NASA employees.

But the space agency insists there's no need for more study -- as do its allies on Capitol Hill.

"NASA has already completed a comprehensive look at possible systems," said Stephanie Schierholz, a NASA spokeswoman. "NASA thinks it would be counterproductive to do that all over again, as we are already under way developing a good system for the nation."

President Bush unveiled his Vision for Space Exploration in January 2004, and NASA chose Ares and Orion a year later. Since then, though, technical problems, redesigns and funding shortfalls have delayed Ares' first launch to 2015, five years after the shuttle's scheduled retirement.

"A whole number of things have gone wrong," Aldrin said. He compared the situation to the development of the shuttle after the end of the Apollo program in the 1970s.

"It was not wisely planned, it was underfunded and we rushed into another decision that left us with a gap," he said. "And the shuttle -- as marvelous as it is -- has not lived up to its expectations."

Aldrin is a NASA icon; he and Neil Armstrong became the first astronauts to land on the moon on July 20, 1969. Since retiring from the space agency in 1971, he has fought alcoholism and depression but continued actively to promote space exploration.

Aldrin said an independent evaluation of NASA's options is necessary to provide an overview of the best space-policy choices for the new president, who will take office in January.

He's not alone. The National Academy of Sciences is assembling a 14-member panel to study of the goals and rationale of the U.S. space program. And The Planetary Society, one of the country's largest organizations promoting space exploration, plans to encourage NASA to save money by, for example, exploring asteroids rather than the moon.

Some space advocates fear that both Barack Obama and John McCain might latch on to any study as a way to scrap Constellation entirely.

Obama has said he would like to postpone Constellation for five years and use the money for the Department of Education. A Florida spokesman, Mark Bubriski, said the campaign has been talking to Aldrin, "and we are expecting a more detailed proposal from him soon."

McCain has said he favors increasing NASA's budget -- but also wants to freeze spending except for defense and homeland security.

Aldrin said he wants the panel to look at the Direct 2.0 rocket, a relatively simple design that would use the shuttle's giant external fuel tank and rocket boosters to launch the Orion capsule into space.

Proponents of Direct, including freelancing NASA engineers, say it can be developed faster and cheaper than Ares. Last week, NASA released a study contesting their time frame and cost estimate, adding that Direct couldn't generate enough thrust to get Orion to the moon. Direct has disputed that -- and also is calling for an independent review.

Aldrin said he is not championing any one system but wants to make sure that all viable possibilities are studied.

"I think he has a very pragmatic approach," said Vincent Sabathier of the Center for Strategic and International Studies, a Washington think tank that will be on Aldrin's panel.

Jake Garn, a former Republican senator from Utah and the first member of Congress to fly in space, agrees. "We are not far enough down the road that we shouldn't consider other options while we're working on the current path," he said.

Aldrin's push is a reflection of growing divisions inside the aerospace community over NASA's next generation of rockets.

Originally presented as a relatively uncomplicated project that would reuse technology from the space shuttle, Ares is now an almost completely new design. "It went from shuttle derived to shuttle-flavored," said CSIS's Sabathier.

Ares is the first rocket to use a solid-fuel first stage — a five-segment engine derived from the four-segment solid rocket boosters used on the shuttle — rather than a liquid engine. Engineering studies have shown that harmonic vibrations triggered by the extra segment could cause "jack hammer" vibrations that could shake the crew to death.

NASA says that all new rocket projects encounter problems, and that this one will be fixed. But some engineers believe the flaw is fatal.

NASA documents obtained by the Orlando Sentinel suggest that it will be years before the agency will know whether its proposed fixes will work. In the meantime, the documents say, new problems have arisen involving the design of Ares launch pad, the astronaut emergency escape system on Orion and the capsule's heat protection system.

A NASA report made public last week said the agency will probably not meet its own internal goal of launching the rocket in 2013, and may even miss its publicly stated goal of a launch by 2015. However, NASA officials publicly insist the 2015 date is still on track.