Space panel considers alternatives to NASA's plan for moon base

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A presidential space panel on Thursday challenged NASA's vision of establishing a base on the moon and instead weighed other ambitious options that include free-ranging spaceships that could visit destinations throughout the inner solar system.

Noticeably absent, however, was discussion of NASA's work force -- despite a packed hotel ballroom filled with dozens of Kennedy Space Center workers worried about pink slips.

"We're not designing any option with the idea in mind of preserving or not preserving the work force," said Norm Augustine, the retired Lockheed Martin CEO who leads the 10-member panel named by the White House to evaluate NASA's human spaceflight program.

KSC is expected to shed up to 7,000 jobs once the space shuttle is retired in 2010 or 2011, and onlookers crowded the hearing room to see if the panel would offer solutions, or even insight, into how to prevent these job losses.

But even testimony from Lt. Gov. Jeff Kottkamp did little to steer the conversation in that direction. He warned that Florida faces an "economic shock wave" during the time between the shuttle's retirement and the first launch of its problem-plagued successor, which may not be ready until 2019.

"Due to the impending gap, Florida is bracing for a hardship -- the

magnitude of which the state has not seen for decades," said Kottkamp, who estimated that the 7,000 job losses at KSC could ripple into 20,000 more unemployed workers on the Space Coast.

Thursday was the third day of hearings this week for the committee, which spent much of the prior two days listening to bleak reports on Constellation, NASA's new system of rockets and capsules that aims to return astronauts to the moon by 2020 and eventually to Mars.

The committee heard that budget and technical problems mean the first mission of the rocket intended to replace the shuttle would launch up to four years later than its scheduled 2015 date. Similarly, without major money and technical changes, a moon landing is unlikely to occur before 2024 -- at the earliest, the panel was told Thursday -- and possibly as late as 2035.

Until the new Ares I rocket launches, the United States would have to rely on Russia for access to the space station, and the KSC work force would be decimated.

But instead of examining these near-term problems, the panel spent much of its time challenging the rationale behind NASA's current manned-space vision.

The discussion -- which Augustine called "philosophical" -- swung between ambitious proposals to send astronauts to the moon, Mars and nearby asteroids to questions about why NASA should spend billions of dollars to blast explorers into space.

"This sounds like a general philosophical discussion, but it's awfully important because these are the criteria that we are going to (use to) weigh the options," said Augustine. The committee's report is due in late August.

MIT engineer Ed Crawley, who heads the panel's deep-space subgroup, outlined scenarios that included astronauts exploring the moon; or going directly to Mars with a possible visit to the moon to test technology; or exploring the inner solar system with free-ranging spaceships.

Instead of trying to set up permanent moon base as Constellation envisioned, Crawley called for a phased exploration program starting with flybys and scouting missions, building up to longer visits and eventual bases.

That, he said, is more affordable and achievable.

When Constellation was conceived in 2005, NASA envisioned spending about $100 billion to return to the moon by 2020. But the program has been squeezed by congressional budget cuts, cost overruns and technical hurdles.

"It is unclear whether NASA has the funding for any scenarios that do anything important beyond low-Earth orbit prior to 2020," said Christopher Chyba, a panel member who is professor of astrophysical sciences and international affairs at Princeton University.

So the panel is trying to devise scenarios that could work with roughly $80 billion, although no price tags were put on the alternatives discussed on Thursday.

But even ideas the panel seems to support -- like extending the space station's life by about five years until 2020, or flying the shuttle into 2012 or beyond -- cost billions that NASA doesn't have.

"NASA has a chronic problem: it does not have the budget to develop new systems and operate existing ones," Chyba said.

That reality has begun to hit home for KSC workers, who must stay on the job for NASA's remaining seven shuttle missions but may not have a paycheck after that. And hope is diminishing that Constellation, or any successor, will fill the gap.

"Many of us are second-generation space brats. We even have third-generation members whose fathers and grandfathers worked in the space program," said Lew Jamieson, local-lodge president of the International Association of Machinists and Aerospace Workers, representing 1,500 KSC workers.

"It's inconceivable we would have to go through that flight gap," he said.

A possible solution for some KSC workers would be jobs with commercial space companies. Several panel members said NASA should use domestic aerospace companies to haul cargo or crew into low-Earth orbit.

"We recommend that NASA develop an architecture that proactively engages the commercial space community," Crawley said.

That could spur some jobs locally. SpaceX, the California-based company that has a contract with NASA to develop rockets that can reach the space station, wants to launch from Cape Canaveral.

Since 2006, the state has given SpaceX more than $1.6 million in incentives, in hopes it will hire unemployed KSC workers.

Still, the company has yet to show its rockets can reach the space station. And right now, its contract is to deliver only cargo, not astronauts.

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