News archive

- 2010
  - February 2010
  - January 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- 1999
- 1998
- 1997

Obama cancels Moon return

Feb 2, 2010 11 comments

Grounded

US President Barack Obama has ended plans to return astronauts to the Moon by 2020. The administration's budget request for the financial year (FY) 2011, announced yesterday, proposes cancelling the Constellation programme – outlined by President George W Bush in 2004 to develop, test and operate spacecraft that will return humans to the Moon by the end of the next decade – and makes no new provision for future manned missions to the Moon or Mars.

In place of Constellation, the Obama administration calls for "a bold new course for space exploration and scientific research" that will extend operation of the International Space Station (ISS) to at least 2020 and rely on commercial launch services to ferry astronauts to the station. According to NASA administrator Charles Bolden, NASA will "invest in critical and transformative technologies [that] will enable our path beyond low Earth orbit through development of new launch and space transportation technologies, nimble construction capabilities on orbit."

To encourage those initiatives, the administration's proposed budget gives NASA an extra $6bn over the next five years. For FY 2011, which starts on 1 October 2010, the proposal provides $11bn for NASA's research budget – an increase of 18.3% over the FY 2010 figure. Obama's request calls for NASA's budget to increase to $19bn for FY 2011 and calls for future increases that will take the agency's budget to $21bn in 2015.

'Lacking innovation'

The 2011 budget is the first entirely within President Obama's power. Dismissing Constellation as "over budget, behind schedule and lacking in innovation", Obama called on NASA to support the commercial spaceflight industry. The proposed budget will provide roughly $50m to a handful of companies to develop commercial support for human spaceflight.

The administration also intends to increase collaboration with other space-faring countries, and to develop new approaches to space exploration. "Imagine trips to Mars that take weeks instead of nearly a year, people fanning out across the inner solar system, exploring the Moon, asteroids and Mars nearly simultaneously in a steady

stream of firsts," Bolden told a press conference. "And imagine all of this being done collaboratively with nations around the world...we can't underestimate the rich promise of space exploration to draw nations together, and this budget gives us the means and the guidance to build even stronger alliances in the future."

Norman Augustine, the former chief executive of Lockheed Martin who chaired the panel that provided human spaceflight options for NASA last year, gave the budget proposal guarded approval. "We found that the current Constellation programme was unsustainable and was highly unlikely to get humans to the ISS before its planned de-orbit or back to the Moon until roughly 20 years in the future," he explains. "While many of us who believe strongly in human spaceflight might have hoped that still further funding would have been possible, this is obviously a demanding period from a budgetary standpoint."

Budget boosts

The scientific community's fears that the administration would reduce funding for research proved unfounded. The budget proposal calls for an increase of $824m – a 6.6% increase from the FY 2010 figure – for the three major US science agencies: the National Science Foundation, the National Institute of Standards and Technology, and the Department of Energy's Office of Science. "Even after adjusting for the expected inflation of 1.1% in the coming year, these focused increases in science and technology R&D promise to accelerate America's economic advancement and assure America's position as a global leader well into the future," says presidential science adviser John Holdren.

In another change of direction, the proposed budget almost trebles (from $18.5bn to $54.5bn) loan guarantees intended to help the US nuclear energy industry build new reactors. The guarantees cover 80% of the costs of building new reactors. Energy secretary Steven Chu has also appointed a commission that will study interim options for storing nuclear waste. The administration had already decided not to pursue the use of Nevada's controversial Yucca Mountain site as a waste repository.

The budget request, however, is just that: a request. Congress will inevitably demand changes before it approves the budget. The proposals for NASA's future have already met opposition from representatives of states with heavy investments in the Constellation contracts. Other critics have argued that the administration cannot justify the cost of cancelling the programme – about $2.5bn beyond the $9bn already spent on it.

About the author

Peter Gwynne is *Physics World*'s North America correspondent

11 comments

Add your comments on this article

1 **Dileep Sathe**
Feb 2, 2010 12:19 PM
Pune, India

Manned missions on moon and mars

The acceleration due to gravity, of moon, is about one sixth that of earth. Of mars is about one third that earth. That is why one can jump 6 times higher on moon than on earth. But important biological activities - digestion and blood circulation - will be in trouble because presently they are suited to earth's gravity. I do not think suitable changes will take place in next hundred years, so as to enable man walk on moon or mars as freely and comfortably as on earth. So I can not encourage manned missions on moon and mars.

Reply to this comment · Offensive? Unsuitable? Notify Editor

2 **bitshifter**
Feb 2, 2010 3:45 PM

So, I don't normally feed the trolls, apologies if you aren't one.

Quote:

> *Originally posted by* ***Dileep Sathe***
> The acceleration due to gravity, of moon, is about one sixth that of earth. Of mars is about one third that earth. That is why one can jump 6 times higher on moon than on earth. But important biological activities - digestion and blood circulation - will be in trouble because presently they are suited to earth's gravity. I do not think suitable changes will take place in next hundred years, so as to enable man walk on moon or mars as freely and comfortably as on earth. So I can not

encourage manned missions on moon and mars.

At the risk of sounding like a tool, what gives you the right to encourage OR discourage science and exploration by any willing party? Also, on the subject of comfort, many of us, myself included for full disclosure, would put up with serious discomfort, pain, and sacrifice for the opportunity to be a member of such a team.

The resources and knowledge that abound in space are mind boggling to think about. We don't tell miners and fishermen that they can't practice their trades because they are uncomfortable. We don't prevent people from climbing K2, that is certainly not comfortable. I wouldn't dream of telling a race car driver, downhill skier or skydiver not to do those things because I, and I stress, I perceive those activities to be uncomfortable and dangerous.

You can be certain that these people are well aware of the risks and sacrifices that must be made for their calling and have decided that it is worth it to them. As for unknowns, I for one would be willing to risk death to explore the solar system, much as sailors for years uncounted were willing to risk drowning at sea. I can't very well say that I'm not willing to risk some form of unknown disease or disorder.

To close, some of us know in our bones that the answer to questions like "why climb that mountain? Cross that desert? Sail over the horizon? Drive faster? Fly higher?" The answer is, because its there and I dare to try.

Peace

Reply to this comment | Offensive? Unsuitable? Notify Editor

3 **nick.evanson**
Feb 2, 2010 12:30 PM
United Kingdom

The one thing that I never fully understood about the whole Constellation project was how it managed to be ratified and approved by Congress in the first place: everybody, from politicians to scientists to NASA themselves, must have known the cost vs. gain in scientific knowledge was ludicrously unbalanced.

When I think of NASA, the first thing that springs to my mind is, yes, the Apollo missions but it's then rapidly joined by Pioneer, Voyager, Viking, Hubble, and Galileo - and only one of those projects involved the Space Shuttle. So I've often asked myself (and, to be honest, asked by others) was the SST really worth the cost, in all senses of the word? And in all cases, I've never been able to come up with a reasonable justification. It's the same all over again with Constellation and I can only hope that Congress to agree to the closure of the project: yes, there will be pain, loss and grief over the action but it will be short-term.

Because if it means we'll have lots more Voyagers or Cassinis or WMAPs, then it'll be worth every wasted dollar.

Quote:

*Originally posted by **Dileep Sathe***
I do not think suitable changes will take place in next hundred years, so as to enable man walk on moon or mars as freely and comfortably as on earth.

Given that we have humans living in zero-g environments for months at a time, the transition to spending months in a low-g environment should not be as difficult as you're suggesting.

Edited by nick.evanson on Feb 2, 2010 12:32 PM.

Reply to this comment | Offensive? Unsuitable? Notify Editor

4 **John Duffield**
Feb 2, 2010 1:36 PM
United Kingdom

I hope that this "bold new course for space exploration and scientific research" turns out to be bolder than people appreciate. Bolden says "imagine trips to Mars that take weeks instead of nearly a year", and that takes some doing. But I suppose it's bad news for some now, and not everybody sees it like me.

See for example
www.time.com…8599,1958230,00.html and keep tabs on www.nasa.gov…index.html

We shall see.

Edited by John Duffield on Feb 2, 2010 1:39 PM.

Reply to this comment | Offensive? Unsuitable? Notify Editor

5 **dehayes3**
Feb 2, 2010 5:35 PM
Bowling Green, United States

Quote:

*Originally posted by **John Duffield***
I hope that this "bold new course for space exploration and scientific research" turns out to be bolder than people appreciate. Bolden says "imagine trips to Mars that take weeks instead of nearly a year", and that takes some doing. But I suppose it's bad news for some now, and not everybody sees it like me.

I agree with you completely. Bolden's statements seem to be misleading at best.

Reply to this comment | Offensive? Unsuitable? Notify Editor

6 **Smike**
Feb 2, 2010 3:29 PM

What's the rush?

Yes it is disappointing that there's been no apparent progress since the Moon landings 40 years ago but the Moon and Mars aren't going anywhere.

Mankind will get there but it's not a race anymore like it was in the '60s.

Reply to this comment · Offensive? Unsuitable? Notify Editor

7 **jsherry2**
Feb 3, 2010 4:55 AM

No the moon and Mars aren't going anywhere. However, the Chinese are. I certainly hope that this "bold new initiative" is serious and not simply political patronization of the scientific community. The moon represents much more than scientific wonders. Global influence, military interests, and control of all planetary commerce are completely dependent on those that develop the infrastructure to build a transportation system to the moon. If we fail to, I assure you the Chinese will without doubt oblige.

Reply to this comment · Offensive? Unsuitable? Notify Editor

8 **azmodean**
Feb 3, 2010 10:09 AM
Kirwan, Australia

I for one welcome our new ant overlords

I've kinda given up caring who does what first, so long as SOMEBODY is doing good stuff. If China wants to spark a new space race then good on it! Anyway, didn't this budget request actually say something about working with international partners to share the cost *ahem* I mean rewards. yeah.

Reply to this comment · Offensive? Unsuitable? Notify Editor

9 **Adler**
Feb 11, 2010 3:24 PM
Philippines

Quote:

> *Originally posted by **azmodean***
> I've kinda given up caring who does what first, so long as SOMEBODY is doing good stuff. If China wants to spark a new space race then good on it! Anyway, didn't this budget request actually say something about working with international partners to share the cost *ahem* I mean rewards. yeah.

I agree. Let's try not to politicize these issues. They have great motives in and of themselves. Imagine space travel being more commercially viable within our lifetimes, regardless of who's done this or that first. I would love to actually see and experience outer space. That would be fascinating. There might be mistakes in the estimates above, but the point is, space travel for any interested person is on.

Reply to this comment · Offensive? Unsuitable? Notify Editor

10 **Oliver K. Manuel**
Feb 17, 2010 1:15 AM
United States

Division of Labor

In behind-the-scenes decisions, the USA was apparently assigned the job of policing the world.

I didn't vote for that, you didn't either, but that's the way our new international government works - behind the scenes.

Come to think of it, I don't remember voting to buy and sell carbon credits.

More will be revealed,
Oliver K. Manuel
Former NASA PI
for Apollo Samples

Reply to this comment · Offensive? Unsuitable? Notify Editor

11 **jjeherrera**
Feb 17, 2010 5:32 PM
Ciudad Universitaria, Mexico

I sympathise with those who advocate manned spaceflight, since it attracts the imagination of people and is in the best tradition of exploration. Not only Columbus and the rest of the 15th and 16th century explorers pushed the frontier of Western civilisation, but they started a path of development which has led to our present state (for good or for worse). Exploration as a sport and as a means of scientific research, have gone hand in hand throughout the latter centuries, and it's often hard to discriminate where one ends and the other starts, like in the cases of Darwin and von Humboldt. However, it's sometimes clear when that happens, such as in the cases of Shackleton and Amundsen. The multiple assaults to the Everest, K2, and other mountains, ever trying to break some kind of record, are valid sport endeavours, but with little or none scientific value.

When it comes to modern science, it's important to determine the best way to do so. In the case of science exploration, robotics and miniaturisation have advanced to a point where they offer far more adequate avenues of research. Take the case of the Mars Rover. While it was sent back in 2004 for a two month assignment, aged and stuck in a sand trap, it's still sending information. Something a manned mission would have found impossible.

I think people haven't understood the potential reach of this. Just imagine what we could learn, not only about the Moon and Mars, but of other planets and satellites by sending patrols of robots throughout the Solar System, at a fraction of the cost of the ISS. Add to that the possibility of being able to broadcast their findings, so that people can see them in real time through their laptops. Now, that would be a boost to scientific knowledge, and why not? It could also stimulate private spending for manned missions with a sports and adventure purpose.