Re: Improved lunar landing architecture

Source: http://sci.tech−archive.net/Archive/sci.space.policy/2005−08/msg00427.html

- *From*: "Michael Rhino" <news2005@xxxxxxxxxxxxxxxxx>

- *Date*: Sun, 07 Aug 2005 00:13:47 GMT

"Cardman" <do−not@xxxxxxxxxxx> wrote in message
news:dn6af1ts2qljpes6kefh6c54f7r4137gjk@xxxxxxxxxx
> On Sat, 06 Aug 2005 19:26:48 GMT, "Michael Rhino"
> <news2005@xxxxxxxxxxxxxxxxx> wrote:
>
>>"Cardman" <do−not@xxxxxxxxxxx> wrote in message
>>news:itj9f1taatg0rn8mi2e7e70jena567d84t@xxxxxxxxxx
>>> I would much prefer to have the base all up and running even before
>>> the first astronaut steps foot on there. They could have a rover do
>>> some required assembly.
>>
>>I agree. If the Chinese were smart, they could use this approach and
>>catch
>>us off guard. Many American politicians would be in a state of denial
>>until
>>they launched their astronauts.
>
> Well, it is still a little early for the Chinese to beat NASA, one
> launch done and all that. Still, if they can reach the Moon, then
> there is hope.
>
>>> And the one thing that NASA won't grasp or do in a million years is to
>>> actually keep people there to live and work. Construction seems like
>>> the first priority. Communication, electricity, water (hopefully) and
>>> to pave over the entire area to keep that pesky regolith out.
>>
>>With budget cuts, it's hard to do. ISS was cut down from 7 to 3 people.
>
> No it was not. It is running on 2 people anyway, unless Discovery
> dropped off one person that is, which seems doubtful.
>
> So I can say that 7 people is the end objective, which the ISS can
> only support once fully complete. The ISS usually runs on 3 people
> now, but due to the shuttle being out of action for 2.5 years, then
> they reduced it to 2 people to reduce demand on the supplies.
>
> Congress has agreed that NASA can complete the ISS in a more mini−ISS
> format, but they are asking NASA to justify why the ISS cannot be
> fully completed to the 7 people level.

>
> So had NASA wanted to fully complete the ISS, then it seems likely
> that congress would pay for it. If it had been up to me, then I would
> ban NASA spending on a Moon base, until they had finished the ISS.

I would abandon ISS and concentrate on the moon.

>
> "Eat your greens" and all that.
>
>>Some people keep talking about Mars which would take money away from the
>>Lunar program.
>
> Mars is the main goal here. Some people would prefer a more direct
> route, without going to the Moon first. They believe that the Moon
> programme simply delays, and puts at risk, the Mars programme.

I don't see it as a goal during my lifetime.

>>I think that CEV should be designed as a Lunar rocket and
>>nothing else.
>
> The CEV is designed into a modular system, where it can also be the
> head end on a larger Mars craft.

If there are going to be many launches to the moon, then you want something
that is optimized for the task. If the Mars launch is 40 years away, why
add a bunch of bells and whistles that are useless for a Lunar program? I
don't know what the CEV design is.

>
>>> Yes, where the first step is to find the water. A base on or near the
>>> so called peak of eternal sunlight would be good. Although I hear that
>>> NASA is planning on nuclear instead of solar.
>>
>>I would guess both. You need some nuclear to survive the night,
>
> The night? That is what batteries are for. Also there is no "night",
> which is why they call it "the peak of eternal sunlight". Kind of like
> the Arctic on Earth, but without the seasonal wobble.
>
> NASA needs nuclear not for keeping their crews warm and powering the
> equipment, but for achieving the extremely hot temperatures needed in
> their refinery plans. Mostly making use of the lunar regolith.
>
>>but the sun would allow you to do more in the daytime.
>
> Nothing that an overhead floodlight would not cure. You seem to be
> pointing out problems that were solved long ago.

I was talking about energy, not lighting. You are thinking in terms of a large amount of nuclear energy on the moon. Given the perceived risks involved in launching anything nuclear, that may be hard to do. We need to figure out how to make things out of Lunar resources and solar panels strike me as something that can be made on the moon. Once we have that figured out, we may have nearly unlimited daytime energy. Once we have plenty of energy, other tasks, such as mining, become easier. People on Earth will be able to launch equipment without solar panels.

>>You could have some solar powered vehicles that don't do anything at
>>night.
>
> Or you could just fit them with a big battery.
>
> Anyway, you can rest assured that the Sun never sets on "the peak of
> eternal sunlight", which is why this place would make a good location
> to build a base. Also it is not too far from the assumed water.
>
>>I can see having temporary habitats in addition to a permanently manned
>>base. Suppose that astronauts land at the equator, go to a hut to change
>>clothes and then drive down to the permanent base near the south pole.
>>You
>>could also have a temporary hut near a mining location.
>
> Well a TransHab is not exactly a hut. Also what you currently overlook
> is that your TransHab needs to be buried under a nice thick layer of
> lunar regolith.
>
> That is done to keep your astronauts alive when a powerful solar storm
> washes over the lunar surface. So if you desire to move a temporary
> base about, then that is a lot of work to dig it up and then to bury
> it again.

I wasn't thinking in terms of moving them. By temporary, I meant that it is usually unmanned, but is manned when there are tasks to be performed at that location.

> From your snipping I guess that you also now see how you would have
> killed the Apollo 13 crew.

Strange criticism.

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    - ◊ *From:* Cardman

- ***References***:
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    - *From:* Alex Terrell
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