Re: DO we really need a new manned launcher?

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From: David Sander (*surfren_at_bigpond.net.au*)
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Andrew Gray wrote:
>
> All accidents in a free−flying spacecraft are likely to kill all crew,
> I'll agree with you that much. When it gets to inside larger objects, or
> on EVAs, I wouldn't put money on a failure mode killing all
> occupants/crew/other−words.
>
> It's been close, before − some late incidents on Mir came close to
> killing only portions of the crew, if memory serves (the glycol blob,
> for example), and most Apollo flights were resplendent with failure
> modes that could have killed two−thirds of the crew[1]. The very first
> EVA came close to killing Leonov, I seem to recall. Luckily...
>
> [1] Which brings a thought to mind. In a failure mode where the LM is
> stranded on the surface, the CSM would return home solo. Of course, this
> would likely be quite a bit later than they would otherwise have done...
> The ELCSS et al likely wouldn't have a problem with this, but were there
> other CSM systems which would only have a certain fixed lifespan? IOW...
> what would the constraining factor be on a CSM's life?

Essentially the issues partly addressed during Apollo 13 − batteries, air, general consumables.

At a stretch, with just one crewmember and shutting down everything not essential for life support for that crewmember, the CSM could last for quite a bit (a bonus that Apollo 13 didn't have would be a healthy SM with all its resources, too).

I expect events like the EVA to retrieve SIM bay resources would be canned (as it requires a cabin vent and air would need to be conserved).

Admittedly the extended duration wouldn't be huge (perhaps one day, maybe even two for the J missions), but it could make all the difference to two guys stranded on the lunar surface trying to fix that darn engine so they can come home.

As for how long they'd survive in the LM with *its* limited resources, I don't know − the LSS would have been approaching the end of its lifespan

with the closure of surface operations (although deciding to check
systems and detecting a problem before a scheduled s