

Re: Shuttle Safety [was: Re...

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- *From:* "columbiaaccidentinvestigation" <columbiaaccidentinvestigation@xxxxxxxxx>
 - *Date:* 23 Jul 2006 16:22:10 -0700
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I am seeking cost estimates and conducting interviews to determine the cost for a complete shuttle program qra, and will post the information as I receive it. Gathering estimates will start funding estimation process, and like many jobs yes prioritizing is a necessity, that is why I stated previously in this thread the FOD/contamination/sedimentation of the hydraulic fluid is a key place to start as the fluid connects crit1 components.

But once again, the scientific validity of my postings in this thread do not rest on my subjective ability to convince people to spend money, for example the qualities for funding that you have established are subjective as well, and if properly motivated you may deem additional funding for safety upgrades, which is not a scientifically arrived at conclusion, but changes with you opinion.

The concept of funding a qra is to obtain an understanding of the actual risks, and given the fact the fod/contamination/sedimentation of the orbiters hydraulic fluid has demonstrated a pattern of causing anomalies in crit1 components, and yet this cause was neglected in the current risk analysis, the current risk analysis does not reflect reality, and overarches with its estimations of risk. Therefore nasa managers cannot state what the risk values are with any mission using the current overarching pra, and an updated qra is necessary to gain back what we thought had, and that is an understanding of the orbiter system. This understanding has not been achieved as I mentioned above because the many entities and centers comprising the shuttle program have never had their data standardized for a complete analysis.

The purpose of setting a priority of safety first does in fact break the repeated cycle you mentioned, as many necessary safety upgrades such as the EAPU have fallen by the way side caught in such a vicious cycle, of proving that an unknown reduction in risk is worth the investment. I have cited many sources from nasa that stated the necessity improvement of risk analysis and safety in the shuttle program all the way from the rogers commission to the caib, and the historical slippage in safety that occurred after the challenger was partially due to budgetary concerns, the caib determined budgetary concerns as well contributed to the Columbia tragedy, and still as im attempting to place safety first in order to prioritize our spending

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with safety upgrades you argue about where the money is going to come from. It all starts by us subjectively deciding that safety is the highest priority, and the congress who we motivate through political activism will reflect our priorities and provide more funding for safety in the space program. This in increase in safety will start with a complete program qra, which will provide the administrator, managers/engineers with a better understanding of the actual risks associated with the orbiter, and be able to prioritize safety upgrades based on this updated risk assessment, request funding based on those priorities, which will provide the program the best chance to safely complete the stated operational mission of space station construction by 2010.

tom

Malcolm Bacchus wrote:

In article <1153680701.477716.224120@xx>, columbiaaccidentinvestigation@xxxxxxxxxx (columbiaaccidentinvestigation) wrote:

"Experience has shown why Quantitative Risk Assesment is needed: To improve safety in design, operation, maintenance, and upgrade (throughout) life cycle, To help ensure mission success; To improve performance; and To reduce design, operation and maintenance costs, To support management decisions"

Nothing there talks about making safety the number one priority.

Now once again your question of how to fund safety upgrades is the exact concern I share myself, and the asap shares as well.

What do you mean by this?

If safety is to be the number one priority, which you think it is, your first concern will to quantify how you can judge safety upgrades – only after that can you think about funding them.

I ask you again: if \$1bn extra will gain a 0.01% decrease in the risk of death do you always wait for it?

What if it is \$10bn or \$100bn?

You are way away from considering funding upgrades until you can quantify the cost and if you can't rank priorities you will never be able to quantify the cost.

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On the other hand, I don't have a "concern" over funding safety upgrades, because I think the approach should be entirely the reverse of yours. I would work out my mission objectives. Then I would find out how much the American public was willing to give me to fund those objectives. The risk to lives would then come out as a result of this calculation. If the risk was acceptable to those whose lives were at risk, we'd fly. If they weren't we'd see if the taxpayer was willing to pay more or give up some of the objectives. We'd go around the loop until the risks were down to an acceptable level. But that doesn't make safety the first priority, it makes it one of a number of inputs.

Now remind me, how does your approach work? If \$1bn extra could gain a 0.01% decrease in the risk of death do you stop flying until you get your extra £1bn?

Malcolm B