

Re: Shuttle Safety [was: Re...

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- *From:* baccam@xxxxxxxxxx (Malcolm Bacchus)
 - *Date:* Thu, 13 Jul 2006 09:09 +0100 (BST)
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In article <1152768103.951177.77160@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, columbiaaccidentinvestigation@xxxxxxxxxx (columbiaaccidentinvestigation) wrote:

From: "columbiaaccidentinvestigation"
<columbiaaccidentinvestigation@xxxxxxxxxx>
Date: 12 Jul 2006 22:21:43 -0700

My conclusion and writings to make safety the highest priority in our space program are not trivial nor in jest,

They are not trivial; I can see they are not in jest. But they are meaningless and unworkable unless you can put a specific costable safety factor on lives.

To make a trivial example let us say the priorities were:

1. Safety
2. Cost

How do you evaluate this if you are told by engineering that you can reduce the chance of a death in the programme by a further 0.01% at the cost of \$1bn?

If then you decide that safety is the absolute number 1 priority, and you are told Congress won't grant an extra \$1bn, you won't fly, yes?

Now replace \$1bn by \$10bn. How does your analysis now work?
How does it work if the reduction in risk was 0.000001%?

Unless there is a 100% chance of safety, there will always be an amount X which you could spend which will reduce the chance of risk slightly. So how much can you spend?

Time is always another constraint. You could see if you could meet the annual budget constraints and your requirement for safety another way – you could stretch the programme out over more years (provided that did not increase the safety risk another way) or simply wait until the

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safety technology you need becomes available. But that may never happen. So how long do you wait?

In practice, safety is always hedged around by these constraints. What you do is to work out what you can do within those constraints and THEN decide whether you have reduced the risk to an acceptable, but not minimal level. If you haven't you go back and do it again or give up (depending on the constraints); if you have, you launch.

But you still have to decide on the acceptable level of risk and merely saying "safety is the number priority" cannot absolve management of making that call. So my last question – what, in your judgement, is that level of risk?

Malcolm B

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