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THE WHITE HOUSE
WASHINGTON

July 31, 1991

Dear Dick:

Many thanks for sending me the internal document produced by John Young. It does indeed give me a new insight into the kind of analyses to which you and your senior colleagues are regularly exposed. People like John Young are worth their weight in gold in any organization.

By the time you get this I will almost certainly will have been in touch with you by telephone to discuss the results of the Frieman Panel on how it should best be released and implemented. I have had a briefing by telephone from Ed and, although I think that he has done an excellent job, I suspect that the results will cause significant upheaval in your organization and it is very important that the results of this study be released in a constructive way rather than as yet another excuse for the media to beat up on NASA.

I have to be in Europe the first week of August, then will be back in the office for a few days and then I plan to take the last two weeks of August as vacation and will be joined by all my family for the first time in a very long while at our place up in Canada, north of Ottawa.

I was still very much intrigued by the possibility you suggested of a quick tour to some of the NASA sites while Cody was off in Europe with your daughter. As things now stand, unfortunately, I will be in San Francisco over the weekend of the 7th and 8th of September but would be free for any of the subsequent weekends in September if any of them should fit with your schedule.

With warmest best wishes,

Sincerely yours,



D. Allan Bromley
The Assistant to the President
for
Science and Technology

The Honorable Richard H. Truly
Administrator
National Aeronautics and Space Administration
Washington, D.C. 20546



National Aeronautics and
Space Administration

Washington, D.C.
20546

Office of the Administrator

July 9, 1991

Dear Alan,

As I was reading the
attached, I thought of you
and the fact that you seldom
get a look at Agency internal
mail.

The author is John Young -
former Chief of the Astronaut
Office, now Special Asst to
Aaron Cohen at JSC. (also veteran
of 6 space flights!).

He's part of our technical
conscience, as you'll see.

Cheers,

Richard

P.S. The Op Ed piece is super! Thanks..

AC5-91-13

JUL 8 1991

TO: Distribution

FROM: AC5/Special Assistant for Engineering, Operations, and Safety

SUBJECT: Improving Ascent Launch Vehicle Success Probabilities

REFERENCE: Independent Assessment of Shuttle Accident Scenario Probabilities for the Galileo Mission, Volume I and Volume II, dated April 1989

Background: On April 2, 1991, Mr. W. B. Evans of Eagle Engineering presented success rates of current launch systems in connection with a future manned launch vehicle design concept. The success data of these ascent launches tell us what the failures have been. In support of the Assured Shuttle Availability Program and other efforts, this information provides us with ideas of fixes to improve both reliability and Orbiter and crew survivability in the Space Shuttle ascent launch phase. It also tells us what to avoid in future designs of heavy lift in the New Launch System and the Very Heavy-Lift Launch System needed to support the Solar Exploration Initiative.

Launch Vehicle Success Rates: The ascent launch success survey is presented in the table below:

ASCENT SUCCESS RATE		
TIME	FLIGHTS	PERCENT SUCCESSFUL
Since 1964	928	94.50
Last 20 Years	448	95.09
Last 15 Years	285	95.44
Last 10 Years	168	95.24

Mr. Evans' point was that ascent launch vehicle reliability has been maintained at about 95 percent. As of STS-37, the Space Shuttle ascent success ratio was an incredible 38 of 39 or 97.44 percent. But we will require 140 more successful Shuttle launches to produce the success rate of 99.44 percent. Considering how much TLC each Space Shuttle launch needs, clearly Human Space Exploration is a very tough line of work.

The Importance of Careful Program Management: The fundamental factor that can make the launch vehicle work right with its present hardware and software is individuals in teams of management, engineers, technicians—the NASA/contractor teams—with continuous attention to detail on the long haul.