

## Remembering Apollo 1, Challenger, and Columbia

In 2007, I sent this essay to all Mission Operations Directorate employees while serving as MOD Deputy Director...

It's close to 1600 on Monday, January 29, 2007...the flags flying at half-staff dominate the scene from my office on the 8th floor of Bldg. 1...I've been on edge, uncomfortable all day...it's because we have arrived again at that place in the calendar year, less than a week in length, where we lost the crews of *Apollo 1 (AS-204)*, *Challenger (STS-51L)* and *Columbia (STS-107)*...we were reminded by a number of notices to take some time from our busy lives today to reflect upon these tragedies...but, we cannot allow this to be a once a year reminder...

...for each of these tragedies, I question whether or not I could have done more to recognize the impending dangers we faced...can you and I do more to prevent the next one from happening?

...with only a couple of months of experience behind me in the summer of 1966, I was involved in a ground test to determine how long it would take to open the Apollo Command Module side hatches allowing for crew egress in an emergency...the Command Module had an inner hatch that opened to the inside and an external hatch that opened outwardly...before the inner hatch could be opened the cabin pressure had to be decreased close to ambient, equaling the outside pressure...this took minutes...the fire in the cabin happened in seconds...years later I learned that we did this test because my boss needed data to show his concern about the lengthy egress time in an emergency...as a new employee, I didn't take the time to understand the background behind what I was involved in...I simply did what I was instructed to do as part of the test team...

...on January 28, 1986, I sat in the Action Center in Bldg. 30 during the launch of *Challenger*...as a Flight Director, I had just worked the previous flight, STS-61C that landed ten days earlier...the moments in that room on that cold morning are forever indelible in my mind...as it turns out I was almost completely oblivious to any concerns about cold weather and SRB "O-rings"...even though I wasn't working this mission how could that be?!

...it was a cool, crisp Saturday morning in Houston on February 1, 2003, as I sat down next to Flight Dynamics Division Chief Ron Epps in the Mission Control Center viewing room behind the WFCR and the Entry Team...we visited about the "old days" as *Columbia* made its way across the United States...we were the only people in the viewing room...within a few minutes of the scheduled landing time, John Shannon\*, sitting behind entry Flight Director LeRoy Cain, grabbed a thick notebook and quickly exited the WFCR and passed behind us in the viewing room on his way to the Center Director's suite...I asked, "What's going on John?"..."We lost 'em!" was his answer....later it would hit me...we have lost another crew and a precious national

resource, and this time on my watch as Chief of the Flight Director Office ...how could I let that happen?

...we learned something from *Apollo 1*, yet we forgot, allowing *Challenger* to happen...and then, we somehow forgot what we learned from *Apollo 1* **and** *Challenger* and allowed *Columbia* to happen...

...a very recent Jim Oberg commentary for MSNBC.com is about NASA dealing with these three tragedies. It's a thoughtful piece entitled "*NASA must fight the forgetting*"...simple words, yet a powerful statement...

...our "*Foundations of Mission Operations*" is a larger gathering of simple words forming very powerful statements...after the loss of "*Columbia*" and her crew we added to the foundations: "***Vigilance*** - *Always attentive to the dangers of spaceflight; Never accepting success as a substitute for rigor in everything we do.*" These aren't cute, catchy slogans on posters...the foundations need to be part of our heart and soul in this business...*living these ideals every day as we fly ISS 24/7/365 helps to "fight the forgetting"...*

...in closing I am going to quote from Oberg's commentary because I think it relates to our foundations..."*They (space workers) need the consequent inescapable ache of fear and the gnawing of doubt that keeps asking, over and over, if they've covered all angles and done all they can. And if their stomachs do not knot up, and mouths go dry, as they confront such decisions - perhaps they need new jobs.*"

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January 29, 2007

\* John Shannon is LRD Jim Shannon's son.