Haynes, Davy

From: Honeycutt, John
Sent: Monday, July 01, 2002 9:13 AM
To: Haynes, Davy
Subject: FW: MPS flowliner FA info

Design Team Splinter Review.pp... | FLOWLINER1.ppt | MPS Flowliner Crack Repair Eva... | Pathways to success - Kynard 6.. | Which crack to analyze - Kyna.. | Testing Options.ppt

Here's Chris' initial note Several good attachments

-----Original Message-----
From: Popp, Chris
Sent: Sunday, June 30, 2002 12:58 AM
To: Honeycutt, John
Subject: MPS flowliner FA info

John,
Here is some preliminary work coming out of the Design and Test Team for the MPS Flowliner Crack Investigation Activity. There are 3 teams, including the M&P Team and the Stress Team. We're targeting to have the initial planning done by Monday to Tuesday. I'm planning to come home on the Monday night red-eye. Then we'll probably reconvene down at KSC on Monday to talk more about the design/fixes and test verifications. The final plan/product out of each team is due to Rigby by Wed and He has to present to Dittemore by that Friday (7/12, I think). The problem is still very problematic. We can't access the failures to do an M&P analysis - there aren't assets really to do that, and it's a big threat to vehicle supportability to potentially lose a feedline asset for the investigation. At the same time, there's a big push to get back to flight with a very temporary fix/rationale in order to buy some time. So what I have to balance in my contribution is to reasonably counter balance the approach of doing just an FA and analytical predictions and inspections. Although we'll probably end up buying into that approach. But it will only be short-term. My input/emphasis will be to try to introduce reasonable test into the equation for the short to moderate term, and make sure that the qual input for any redesign is thorough. There's a balance being done on potentially testing with an SSME, since there is risk to the SSC stand and the SSME (Phase 2 being discussed) should something come apart. Mike Kynard is playing a strong role in the D&T team in terms of guidance and presenting SSME approaches to these types of issues. He makes a lot of good points.
Overall, my impression is that the team/remaining MPS experience is getting weaker than even I thought. Boeing HB MPS is not too present in the meetings. The experience level is fairly low. And I think there is a real motivation issue, since these guys know that their jobs are being transitioned to KSC and Houston pretty soon. I feel that Boeing/USA isn't stepping up to the task fully and maybe NASA (JSC and MSFC) is too willing to step into it. But on the other hand, it is Shuttle and as NASA we need to get it done acceptably and well done and buy into what is done. But we may be buying into more a presence for some duration here. The Boeing SSM (Rigby) is relying pretty heavily on JSC/Gene Grush, Mike and myself in formulating the failure investigation approach and bring historical experience into the activity. (I'm not sure how the stackup is in the Stress and M&P teams.) I think that Boeing could do the effort acceptably if/once they step up to the activity, but NASA is wanting a faster response than Boeing is stepping up to do (and I really should be including USA in this, as USA is as much at the root of the problem as Boeing, but I have never seen USA as doing the work - they're just the programmatic brokers - USA Houston, that is - obviously USA KSC does do the work). (For example, several critical Boeing HB MPS persons aren't here this weekend and may not be here much next week. Back in the old days, there would have been enough depth to easily accommodate this and the critical persons probably would have re-arranged their plans to support anyhow. And I can't talk much because I'm planning to come home a little early too.) I get the sense from Gene that this is occurring on a lot of the big failure

investigations that the Orbiter is experiencing today. We need to be ready to start providing more failure investigation support, I really think, particularly in the MPS area, but even in the other propulsion areas, particularly once the final stages of the Boeing HB layoffs/re-assignments are implemented. (I'm hearing OMS/RCS as well as MPS, APU, Hydraulics, PSRD are all still going to be decimated, and I doubt that any who remain at HB off of Shuttle are going to rush in to help out a lot the way they are being treated. If there ever was a situation that calls for a NSRS (or whatever that system is called), this is it.) It is somewhat disconcerting when the Boeing SSM tells me that he considers me one of the more experienced MPS persons when I haven't been doing MPS for 4 years (although I do know that he was stroking me some too). And I think that this problem is systematic of the type of problems that we in the subsystem world at JSC were always worrying about appearing: the intermediate life cycle fatigue and stress and wear-out problems where qual programs didn't capture the full vehicle set of requirements and life usage as currently being used. And of course the loss of experience and expertise is making it worse. I do expect we'll be seeing more of super FA technical team(s) being held in readiness/dedicated to support these big FA when they come up (with good general FA experience and expertise, even if there isn't direct subsystem experience) and we'll probably be ask to support some of this too.
It's your choice on who you choose to share this message and the attachments with. Please note to whom you share that the attachments are preliminary/in work, and the opinions I express are my own. Again, I give Mike a lot of credit, and I'm finding I'm getting rusty working all of this R&D stuff that never goes anywhere.
Chris