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Memo For The Record

Preflight Concerns about ARC AFT Experiment on STS 51-B.

The following areas are of concern to me on this experiment. They have been brought to the attention of project engineers, P.I. and payload management personnell again and again without resolution.

a. Crew hardware operational interface

b. Hardware status

c. Data reduction

d. Experimenters' view point

a. There are two aspects of operational interface. First, some 12 electrodes and sensors scattered over the trunk, head and left arm and hand have been "integrated" into an elastic garment that has never fitted and is at best hot and too tight. In my case, it has been impossible for any normal male to wear these garments for more than a matter of minutes without releasing the crotch strap. The P. I. has verbally agreed to this. There is no such relief from the constricting chest and axillary tension. These are old and generic complaints.

Secondly, the recorder itself is a major obstruction to movement and collisions with other crewmen and objects are frequent. Our one-g experience with this is confirmed by inflight experience. Further the motions and manipulations to don

and move with this inflight apparatus was felt to have been a major problem by the one subject flown to date. The end result may be AFT or other duties.

b. Flight hardware has been nonexistent until very late and malfunctions have been frequent. Three of four flight units (MS 1, MS 3, PS 1) would not activate during TCDT and while the PS had seen the failure often enough to clear it by repeatedly activating the power switch neither MS had such instructions nor could they reach the switch.

c. We have been promised an end-to-end review of our data from the flight units since July 1984, but as of this time, I have not seen the first bit ^{of my data.} At the time of TCDT there was no reproducer unit able to replay it. I was told the ARC unit had not worked and the JSC unit, which had in some fashion reproduced some tapes, was no longer available.

d. Finally, there has been a long series of excuses, broken promises on this operation, and a refusal of the experiment team to accept responsibility for any of the problems rather they are always projected elsewhere. The probabilities for continued failures inflight are high and the obvious target is the user.

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