



National Aeronautics and
Space Administration

Washington, D.C.
20546

Reply to Attn of: S

March 4, 1988

MR. DONALD A. BEATTIE
13831 Dowlais Drive
Rockville, MD 20853

Dear Don:

At the first meeting of the Space Station Advisory Committee on February 12, 1988, members were exposed to a large quantity of briefing material about the Space Station Program. Those who were there could decide how much of that material they wished to take with them or have sent. Those who couldn't be there have the dubious pleasure of getting the whole collection.

In addition, at the close of the day, we had a chance to list items of concern, or items about which members hoped to hear more. I have attempted in what follows to paraphrase what I heard, so that each of you can correct, or expand, or simply add as you have had a chance to think about the subject further. This is also an easy opportunity for those who could not be there to jot down what subjects you would like to pursue at future meetings.

Don Beattie

Would like to see more on the provisions for handling utilization of the Station, both manned element and platforms.

How can we improve stability in the Station program?

If the Station management is modelled on the Apollo program, we must note that Apollo is a cumbersome, expensive model of how to run a big program. Is there a way to improve and streamline the management process?

Rad Byerly

The Station program has very close coupling with the Shuttle, with TDRSS and other network services, and with the utilization plans of other parts of NASA. Each of these is by itself prone to be unstable in funding, or schedule, or both. Since the Station cannot help being heavily influenced by instability in any of these other programs, it is essential to have some technique for dealing with the resultant change in the Station program. Would like to discuss this.

What is being done toward developing a pricing procedure for use of the Station? Pricing for Shuttle was late, and difficult. Surely we can do better this time.

Ed Crawley

Would like to see in some considerable detail the thinking and planning for the test and verification activities of the program, both before launch and on orbit.

It would appear that the dual keels and the upper and lower booms originally planned for the Station contribute a great deal to function and cost relatively little. Would like to check into the marginal benefit/cost factors of the design change that removed them.

Larry Greenwood

The whole concept of having large platforms associated with the Station, either in near polar orbit or in an orbit close to the manned base, rests on being able to reach the platform regularly for resupply, instrument changeout, or repair. The problem is acute for the polar orbiting platforms, and unless there is a satisfactory way to reach and repair those platforms and their instruments, that whole concept may have to be reconsidered. Would like, therefore, to look into the service and repair concept for the polar platforms.

Jack Kerrebrock

Are there still technical issues in the baseline design? For instance, are the TDRSS system and the Station tracking antenna system going to be adequate? Will it be possible to accommodate both biological experiments and materials processing work? Can an appropriate centrifuge really be accommodated? Is the 20 KHz technology ready? What is planned for the onboard computer system?

Frank Lemkey

What are the plans for constructively meshing the use of commercial on-orbit facilities such as, for example, the ISF with development of and eventual use of the Station?

A related question that is important to commercial users is how liability insurance is to be handled.

John McElroy

Given that we uniformly try to avoid single-link failures, what are the plans for emergency communication directly between Station and ground reception facilities?

What provisions will be made for experimenters who need direct data transmission to ground, rather than going through TDRSS? Are they the same for all Station elements?

John McLucas

For an investment of the magnitude of the Space Station, there is surely provision for constant communication. What system is planned to cover the times when the Station is in the present zone of exclusion for the TDRSS system?

Bob Moser

Since adequate facilities for Life Sciences work go hand in hand with the determination to have humans able to tolerate long stays in space, to what facilities is NASA firmly committed? Will there be a centrifuge, and if so, of what type?

It is difficult to get a clear picture of what NASA is going to do about provisions for crew rescue from the Space Station. Would like to hear in some detail what NASA, whatever office has cognizance, has under way.

Bill Raney

More and more classes of users, in or out of the government, will be attempting to draw on available facilities for launch or for use on orbit. Virtually no user, and no service provider, will have full control. This situation will force cooperation on a level heretofore unnecessary. What should be done to prepare for this sort of interdependence?

Station is a very long-term proposition, and that fact emphasizes the importance of control of operating costs (particularly launch costs), cost sharing with cooperating nations, and the handling of reimbursements. What preparation on those issues does NASA have under way?

Stan Weiss

How does the Program plan to handle the management of margins and reserves in areas such as weight, power, communication traffic, schedule, and cost?

The Station is both managed and built as a dispersed operation. What is being done to define and control the interfaces between the several segments?

How is the Station program going to interact with commercial facilities, such as ISF? What are the interfaces?

How does the program define and propose to handle risk management?

What interests are supporting the Space Station Program? Conversely, what forces oppose it?

With the best intentions, I have doubtless failed to capture all you intended in the list above. Please send in your changes and additions, and I'll construct a composite. Since we are trying to converge on a plan for the balance of the year, I would appreciate your comments on which items we should tackle at the next meeting, in May.

Sincerely,

A handwritten signature in cursive script that reads "Bill Raney". The signature is written in black ink and is positioned above the typed name.

William P. Raney
Executive Secretary
Space Station Advisory Committee