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National Aeronautics and Space Administration

Lyndon B. Johnson Space Center Houston, Texas NASA

JUN 2 0 1977

CB/Young

Reply to Attn of: CA-GWSA-77-29

77058

Dr. William R. Lucas Director George C. Marshall Space Flight Center National Aeronautics and Space Administration Marshall Space Flight Center, AL 35812

## Dear Bill:

I recently had the opportunity to review the experiments being proposed for the first Spacelab mission, and I have a number of reservations concerning what I understand to be this complement of experiments. It appears that the Agency is structuring the 7-day first flight of Spacelab to be as complex and ambitious as Skylab. Considering that the first day of the flight will be consumed with launch and post-insertion activities and the last day in preparation for entry, at best, only 5 days will be available for experiment operations and flight testing of the Spacelab and its associated systems. Assuming a 10-hour workday with a two-shift operation, only approximately 100 hours will be available for experiment operations. To insure that the experiments and the flight tests can be accomplished within this limited time period, JSC and MSFC are jointly initiating a mission compatibility analysis.

I have also had the opportunity to review the requirements defined by the investigators as to the type of individual they desire to have operate their equipment in orbit. In reviewing the total list of requirements, it is clear that a generalist is needed, and apparently there is no requirement for an individual with any unique or special skill. Consequently, in line with the recent policy statement approved by Dr. Naugle and Mr. Yardley on May 20, 1977, concerning mission specialist/payload specialist roles, responsibilities, and working relationships, and in the interest of maximizing the return from Spacelab 1, I would propose that the U. S. payload specialists be selected from the present corps of mission specialists residing in Houston. Obviously, there are a number of advantages in selecting such individuals as payload specialists: They are career employees; they have already had the benefit of a great deal of training directly applicable to the task at hand; certain individuals have also had space flight experience; and all are already intimately involved in Spacelab design and development activities. Particularly in view of the limited time available in orbit, they might be able to adapt to the zero-gravity environment in a

much better fashion than other individuals who have not had the benefit of such training or space flight experience. That aspect of the flight should not be overlooked, as Skylab has shown us that 2 or 3 days could be lost in adapting to the environment. In addition, I intend to propose to John Yardley that, in the interest of conducting a two-shift operation, we fly two mission specialists on this flight.

I would be very pleased to discuss any aspect of my proposal with you at your earliest convenience.

Sincerely.

Original Signed By Christopher C. Kraft, Jr.

Christopher C. Kraft, Jr. Director

cc:

NASA Hqs, AA/J. E. Naugle AD/A. M. Lovelace M/J. F. Yardley

bcc:

CB/J. W. Young CH/C. S. Harlan PA/C. E. Charlesworth

SA/R. S. Johnston

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