

CB

Mr. Gerald T. Huser
1500 Sheridan Road
West Lafayette, IN 47906

Dear Gerald:

The selection criteria for scientists astronauts varied in the two selections so the following applies only to our (the last) group. To my knowledge no current plans or protocol for selection exists and it is highly unlikely there will be similar selections in the foreseeable future.

In our case the initial selection or preselection criteria was for American (or naturalized) citizens with a doctorate or equivalent degree in the sciences without specific consideration of age or health but only scientific competence. Scientific background and work were evaluated by the National Academy of Science who made a ranking of some 60+ individuals who were then rigorously examined by the School of Aerospace Medicine with most standard tests available, including treadmill performance, (word had gotten out on this one and most had worked hard on conditioning), tilt table, VCG, EKG, EEG, physical, blood and urine chemistries, ophthalmological, proctoscopic, X-ray series, and a wide variety of psychiatric tests and interviews including the venerable Rorschach and MMPI, TAT, etc. plus the USAF preflight profiles. Non-standard tests included vestibular sensitivity and stimulation with mystoagmography and centrifuge ride.

The results of all these tests were presented to a NASA board with Berry, Slayton, etc. Also, we were put in the back seat of a T-38 and mildly wrung out at NASA. Of the eleven selected, only one was a pilot, a qualified civilian instrument instructor. All of us went through the standard USAF flight training program and two were lost to this. Age was not an elimination criteria for two of us were over 38. Also, a number of waivers, especially visual, were given.

I have been in a number of select groups at one time or another and the other ten selected were by far the most outstanding.

As for the future, it appears that NASA intends to try to provide a transportation system (Shuttle) in which scientifically qualified

individuals will be able to accompany their experiments with a minimum of indoctrination. One thing seems relatively certain and that is the previous program of making pilots of scientists will not be revived. There is no question it had many desirable features but it was unrealistic for any sizable number of flights.

My own and personal opinion is that an optimum program would run somewhat as follows.

Individuals would be screened for both scientific competence and demonstrated ability to perform in unusual or stressful situations. There would be rigorous medical examination for any of the conditions dangerous to flight such as aortic insufficiency, coronary heart disease, history of pneumothorax, psychic instability, etc. A series of indoctrination rides in aircraft as a passenger, centrifuge, and hypobaric chambers with a hundred hours or so a minimum in such, and demonstration of ability to perform their work under such conditions. Indoctrination into space craft operation and specific systems operation should follow. Above all they would have to remain competent in their scientific field and be responsible for their own instruments' integration.

Such a program may one day be greatly relaxed but without more experience, simply sending up anyone who has something to fly could be catastrophic.

Sorry this has taken so long but we've been in sims and check out at the Cape. I hope that this may be of some use, and if you have further questions, give me a call at 713 483-2321.

Sincerely,

William E. Thornton
NASA Astronaut

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