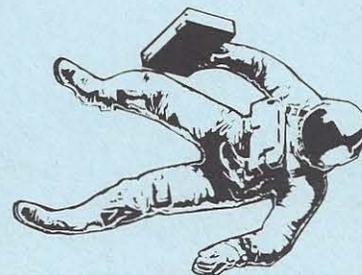


THE  
**COMMERCIAL  
SPACE REPORT**



PUBLISHED MONTHLY

Gary C. Hudson, Editor

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Dear Subscriber:

January

This issue of the Commercial Space Report comes to you under the banner of a new publisher. As many of you have surmised, a new company has been formed in the space industrialization field called G.C.H., Inc. and is located in Sunnyvale, California. The newsletter is now owned by this company and will be produced in the future in California; subscription and related matters such as any change of addresses should continue to be mailed to the Minnesota address on the last page.

I'd like to take this opportunity to thank all of you who have responded to the calls placed in past issues for resumes. The number of people who have responded is such that we are behind in our responses, but we hope to have letters to everyone out shortly.

This month marks the beginning of a new administration in the Nation's capitol, and consequently we think it appropriate to give over this and next month's issue to a memo written by noted space lawyer Art Dula of Houston which was circulated to the Reagan campaign team in September before the election. We cannot say whether it has been acted upon in any way, and we have to stress that it is but one of many such documents that Reagan advisors have seen. However, many of the points it raises have importance to the conduct of future private space activities, and thus its appearance here. Mr. Dula writes:

"The points considered in this memorandum are of great practical importance to the future use of space as an economic and spiritual frontier for the United States. During the last four years, the Carter Administration has taken a number of steps that have weakened and delayed critical aspects of the U.S. space program. The Soviet Union and Third World have aggressively moved forward with a permanent manned space station and international political efforts to prohibit free enterprise activities in space. There is now a real question whether free enterprise will be allowed to play any major role in the economic development of space for all humanity. The Carter Administration has unilaterally reduced or eliminated most of the important programs working to develop and return to Earth the abundant solar power and material resources available in space. Without these resources the United States could encounter 'limits to growth' with their attendant economic depression and spiritual stagnation.

"Carter's appalling lack of vision on space policy stands in clear contrast to the hopeful and positive view of America's future proposed herein for consideration by the Reagan Administration. Due to the long term importance of material resources and solar energy from space to the future welfare of the American economy and thus to the economic and spiritual well being of each American, the Reagan Administration may wish to raise some of the points and examples discussed in this memorandum to show the failings of the Carter Administration during the national presidential candidate debates.

1. The Reagan Administration Could Increase the Space Shuttle Fleet to Five Orbiters

The Space Shuttle is already turning away customers for flights on its projected fleet of four orbiters. Shuttle space is booked solid through 1986. Yet, in spite of this, the Carter Administration has been the architect of scaling down the Shuttle fleet from the originally proposed seven orbiters. In order simply to maintain our current civilian and military space activities the United States must increase the size of the Shuttle fleet.

The Reagan Administration could provide enough Space Shuttle capacity to meet our current commitments by authorizing construction of a fifth orbiter in fiscal year 1982, and by subsequently authorizing additional orbiters as they are required by projected payload volume.

2. The Reagan Administration Could Maintain Our Nation's Planetary Sciences Program

Planetary sciences will enable the U.S. to better predict and control weather, understand geologic processes, and lay the foundation for the exploitation of extraterrestrial resources. The planetary sciences program requires a steady stream of new projects so that enough work and funds will be available to hold together the team of scientists, engineers and computer specialists responsible for past triumphs such as the Viking Mars and Pioneer and Voyager Jupiter projects.

Because of repeated budget battles, the planetary sciences community fears that another four years of Carter will cripple our nation's space capabilities. . . .The recent successes of Pioneer 11, Voyagers I and II, and Pioneer Venus are reaping the harvest of money invested by the Republican Administrations back in the early 60's and 70's.

Planetary sciences has attracted a strong and growing constituency. One proof of this was the uproar generated by Rep. Boland's surprise move in August, 1977, to kill the Galileo project. Congress was deluged with phone calls and telegrams and responded by defeating Boland's proposal by a 2:1 margin on the floor of the house. In March, 1980, rumors that Carter would impose a 35% cut on the already skimpy planetary sciences budget again touched off a flood of phone calls and telegrams. Carter backed down, reducing the cut to only \$4 million.

There is a recent upsurge in pro-planetary sciences groups. Besides the politically active L-5 Society, which boasts 4,000 members and an annual budget of over \$100,000, there is the Viking Fund, which has raised over \$20,000 in small donations this spring to pay for continued operation of NASA's Viking lander on Mars; the Voyager Fund, financed by profits from one of Carl Sagan's books; the World Space Foundation, headed by Jet Propulsion Laboratory (JPL) researcher Robert Staehle; and the Planetary Society, formed by Carl Sagan, JPL head Bruce Murray, and JPL researcher Louis Friedman.

The Reagan Administration could maintain America's planetary sciences program by:

(A) Ensuring, by a supplemental appropriation if necessary, that the Halley's Comet mission is funded in the fiscal year 1981. This project will ensure the development of a solar electric propulsion vehicle, which is also needed for later planetary sciences missions, and for use as an orbit-to-orbit transfer vehicle for space industrial and solar power satellite projects.

(B) Starting the Venus Orbiting Imaging Radar project in fiscal year 1982.

(C) Initiating the asteroid multiple rendezvous project in fiscal year 1982 or 1983. This project is an essential milestone in gaining access to extraterrestrial resources by free enterprise.

(D) Initiating solar sail research and development by fiscal year 1982 or 1983. Two years ago NASA decided to abandon most research on this technology. However, recent work at the Massachusetts Institute of Technology and evaluated at Woods Hole and JPL has concluded that solar sails could be a prime candidate for deep space and asteroid rendezvous missions.

### 3. The Reagan Administration Could Build a Permanent Space Station

The Soviet Union has reaped scientific, economic, military, and international political rewards from their 2-person capacity Salyut-6 space station. Their "guest cosmonaut" program, which has enabled East German, Czech, Bulgarian, and Viet Nam's researchers to work in the Salyut space station, has provided the USSR with an international political windfall. For example, the French, who had been relying upon the U.S. Space Shuttle to orbit their astronauts, now plan to send one of their researchers to work in the Salyut in 1982. France is less likely to back the U.S. in a hard line against the Soviets when the USSR holds the keys to the only space station.

The Soviets are now launching a manned spacecraft at least once a month to support this space station. The last U.S. manned spaceflight was in 1975.

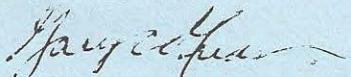
An eight-person capacity U.S. space station, slated to become operational in 1988, is in the early design stages at Johnson Space Center. It would require funding of \$2 million in FY '81, \$10 million in FY '82, \$304 million in FY '83, \$629 million in FY '84, a peak of \$814 million in FY'85, declining to \$558 million in FY '86, \$285 million in FY '87, and winding up with \$104 million in FY '88. Total cost would be less than 1/3 that of the Space Shuttle research and development program.

This space station would provide the basis for a space industrial park, for use by U.S. business, lay the groundwork for the solar power satellite project, and provide orbiting facilities for a broad range of scientific and military projects. It could be completed and returning significant benefits by the end of the first four years of the Reagan Administration.

A Reagan Administration could reverse America's embarrassing lag in space station development by funding this space station proposal."

. . .To be continued next month. Until then,

Sincerely,



Gary C. Hudson

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The **Report** is published monthly, and has a subscription price of \$12 per year. Back issues are available at \$1 each from September, 1977. Xerographic copies may be substituted as stocks are depleted. Address all correspondence to G.C.H., Inc., 85 East Geranium Avenue, St. Paul, MN 55117 or call (612) 489-4466. Editorial Direction: Gary C. Hudson. Phone orders accepted at (612) 489-4466. No collect calls please. **G.C.H., Inc.** is a diversified research and development organization formed to engage in advanced scientific and technology business. Capabilities include theoretical research and study, systems research and development of services and products. A high level of effort is presently being expended in astronautics, especially the commercial utilization of outer space and the need for economical space transportation. **G.C.H., Inc.** has a permanent and consulting staff of professionals to call upon including engineers, designers, scientists, communications experts, management specialists and the like. The **Commercial Space Report** is a concentrated effort to report all areas of private and industrial initiatives in the development of space. We hope it will stimulate ideas by raising questions and offering innovative concepts contributed by acknowledged leaders in the field. If you have any comments, ideas or requests for information we encourage you to contact us.