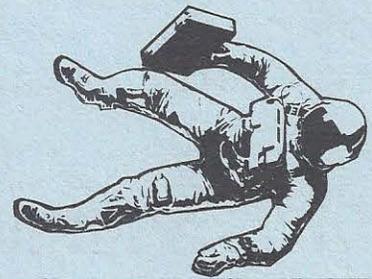


THE  
**COMMERCIAL  
SPACE REPORT**



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Gary C. Hudson, Editor

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Dear Subscriber:

December, 1981

Official sees no need for space station. Victor H. Reis, assistant director for national security in the White House Office of Science and Technology Policy, informed the Houston chapter of the American Institute of Aeronautics and Astronautics that he foresees no need to establish a goal of manned performance in space or construction of a space operations center as the NASA project following the shuttle program.

However, Reis does seem to want to see work done in space. In Aviation Week and Space Technology (November 30, 1981), it is mentioned that he would like to see work done in particular on pilot plants producing items like pharmaceuticals. He is against any significant government expenditures to assist private enterprise in this, but seems to believe that commercial interests will eventually come through with such programs.

NASA, having observed the less-than-fiery enthusiasm with which private industry has leaped into the field of commercial space exploitation (notwithstanding communications satellites), seems more concerned about whether there will ever be a manned space station at all. NASA management believes that funding for government-sponsored space operations centers must begin soon for such a system to be operational by the 1990's. Without some new development to sustain the research end of the Johnson and Marshall space flight centers, NASA believes that "a change in agency character from past roles and missions could occur". How close a euphemism this is for "major layoffs" I do not know, but the thought seems to be hanging there.

What should be done with all that money for space? In the same article, Reis is mentioned as wanting to "stimulate the military space activity and military uses of the space shuttle". Reis "foresees more autonomous military space shuttle operations than are currently possible with the NASA/Defense Dept. cooperative program."

Space Command? In a related article in the same issue, USAF Under Secretary Edward C. Aldridge appears to agree with Reis. He states, "It is clear we cannot continue to look to NASA as our country's launch service organization in the shuttle era. I believe the right answer may be some form of a space command for the operation of our satellite and launch services." (Aldridge here was referring to defense space operations only.) Speaking to the National Space Club, Aldridge said the U.S. must possess the ability to deny the use of space to the Soviets when their systems threaten U.S. interests.

He also called for a study of a new, "Block 2" shuttle, which would provide more payload, more volume, and expanded capabilities.

It seems that as far as NASA and the Defense Dept. are concerned, there is no question about who is the tail and who is the dog. Is all this militarism justified? Well, yes, I'm afraid.

Still in the Nov. 30, 1981 Aviation Week, the magazine reports that the Soviet battle station in low earth orbit is now docked to the manned Salyut 6 space station. Designated Cosmos 1,267, the system weighs about 30,000 lbs. and possesses a number of firing ports to eject 1-meter-long miniature missiles guided by infrared sensors.

The combination of manned space station and battle station would allow the Soviets to use men to direct anti-satellite attacks on U.S. spacecraft or protect Soviet spacecraft from counterattacks.

The Defense Dept. is concerned that the Soviets may soon launch unmanned battle stations similar to Cosmos 1,267 into geosynchronous orbit to threaten U.S. communications and intelligence spacecraft.

Commercial involvement is becoming a critical need. Although it is essential to maintain a military presence in space, it seems to me that it is squeezing out the possible civilian applications. I am not a proponent of public funding for space exploitation, but I see few if any large private interests putting their money behind similar sentiments. If they are waiting for NASA to roll out the red carpet and vacuum it off, they had better not be holding their breath. If private enterprise doesn't give the space industry a boost, it is going to die. NASA is a research organization. It was never intended as a pathfinder for industry to the extent that industry seems to think. If industry would pick up some of the load, NASA could continue with the pure research that it excels at doing. It would take a load off the taxpayer as well. Right now, NASA and related organizations are fighting for every cent that is not going into the space shuttle, and the money going into the space shuttle seems to be destined for the boys in uniform, not for the boys in the three piece suits.

Planned shuttle flights are getting fewer all the time, and you can bet that if the Pentagon and Pillsbury have to fight for a payload there's going to be dough splattered all over the walls. Defense has priority now, and that isn't going to change.

I know you're out there, private enterprise. I can hear you breathing. You don't have to have NASA carry you all the way-- they've done all the work already. The technology is there, if you just use it. If the shuttle isn't available, use some other existing system. If that's too expensive, build your own. It can be done-- we've been telling you in these pages for years. The talent is there and waiting. It's not as hard as they would like you to think. A rocket is considerably easier to build than an oil refinery, less complex than a 747. You've got men on the bottom of the North Sea-- is that any less hostile than a quiet, calm orbit?

If you're interested, there is a vast storehouse of information on how to go about the conquest of space without Uncle Sam. Drop me a note and I can get you in touch with the right people. I'm not talking to the L-5 Society, the AIAA, the NSI or any of the others of that kind. They are the converted--they know what I'm talking about.

I'm talking to the CEOs and stockholders who regularly risk hundreds of millions of dollars a year on a new jet airliner design, or a new style of jeans or cars, or an oil lease in an undrilled area, or any of the standard business risks that industries take every day.

A complete space launch system could be built that would cost considerably less than a hundred million dollars.

That includes vehicles, pads, tracking, facilities, the works. All the way down to the paint on the gantry rails. With it, you could be part of or possibly most of the newest and most unbounded industry ever--commercial space. Profit? The transponders on one communications satellite were recently auctioned off for over \$90 million. If you used your under-\$100-million launch system to place such a satellite in orbit, that would generate a nearly complete return on investment with one flight. It's raining soup and you people don't even have a fork.

Last month I asked why NASA could not free itself somewhat from the shackles of the Federal Budget. It may be that they can't, or wouldn't be allowed to. There is nothing stopping you, the leaders of industry, except yourselves. If one of you doesn't take up the challenge, don't be so sure that a competitor won't. I was told by someone who worked at the giant 3M Company that the inventor of the Xerography process tried to sell his concept to them. He was turned down, probably for what were good, solid, safe reasons. ("Policy, don't you know...") The man went out and founded Xerox Co., which hasn't done too badly since. If something like that ever happened to you because of a decision you made, then you know that "oops" doesn't quite cut it with the stockholders as an explanation.

Like I said, drop me a note. I can lead you to smarter people and more information. I don't expect to hear from CEOs. I expect to hear from those people a few rungs down who want the CEO's job. They know the value of a certain amount of risk. I want to see some Fortune 500 letterheads--serious inquiries.

Use the address on the masthead, and address it to Tom Brosz. Or, for faster delivery, write directly to me at:

P.O. Box 60547, Sunnyvale, CA. 94088

(This also goes for any other comments or inquiries that are not subscription related. All subscriptions and related questions go straight to the Commercial Space Report at the masthead address. We'll print good, informative letters, news items or comments.)

Well, I've chewed out both NASA and private enterprise. I hope one or both takes the hint. There's gold in them thar hills! And the talent that put men on the moon and robots on Mars is dribbling down the drain of Insufficient Funds, just waiting for the challenge of a lifetime to come along.

#### Book Review Section

A few publishers have sent us sample copies of books, and a few friends and colleagues have recommended others, so I decided to bring a few of these books to your attention. All of them are recommended to anyone interested in the exploitation of space.

New Earths by James E. Oberg

The only book I've seen with an emphasis on the process of terraforming. It contains detailed information on transforming worlds in our solar system for human benefit. The book concentrates on our moon, Mars, Venus, and some of the smaller outer moons, and even has a chapter on altering the earth. Oberg goes into some detail on each problem, showing what might be done to render these hostile environments habitable to human beings. I was particularly interested in the chapters on Venus, where the standard "seed-it-with-algae" solution I had thought was the last word was shown to be insufficient given present-day knowledge. A more complex solution to the heavy Venusian atmosphere was proposed in which, oddly enough, a major stumbling block is an excess of oxygen.

There is also a chapter dealing with reasons for and objections to the entire concept of terraforming. I wish that Oberg had given this important issue a few more chapters worth of discussion, since the ideas involved have many applications to present-day issues.

The Coattails of God by Robert M. Powers

Written by the author of Shuttle, this book deals with human flight to the stars. Powers examines all of the possible methods of getting from here to there, with up-to-date thoughts on "wormholes" and other exotic concepts. Careful to remain realistic, Powers deduces that the most likely solution to star flight given near-future technology, is the "generation starship". (John W. Macvey in How We Will Reach the Stars also dealt with this problem and arrived at a similar conclusion.) Coattails is well researched, and a good addition to any library on starflight. (Put it on the shelf near the British Interplanetary Society's Daedalus report.)

The Illustrated Encyclopedia of Space Technology by Kenneth Gatland

Drop this Report. Go buy this book. As Ed says, "everything you want to know about spacecraft is right here in this little item." Filled with detail, it contains numerous paintings, diagrams, photos, etc. and like a "Whole Earth Catalog" it will probably be some time before I've read it all. Contains enough sheer data to make it a good reference book, with enough variety to make it entertaining. Good holiday present for anyone interested in spaceflight.

Until next time...

Sincerely,



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