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THE PERILS OF A NASA SPACE MONOPOLY

INTRODUCTION

President Ronald Reagan signed an Executive Order this February designating the Department of Transportation (DOT) as the lead federal agency with responsibility for expendable launch vehicles (ELVs), the unmanned rockets used to put satellites in orbit. In directing DOT to "encourage, facilitate, and coordinate" the development of a private sector ELV capability, the President made clear the Administration's commitment to helping the commercial development of space become a reality.

Prior to the Reagan initiative, space entrepreneurs had to contend with as many as 17 different federal agencies to obtain a launch permit. They suffered months of needless delays, and wasted large sums of money gaining approvals from authorities as diverse as the Department of State and the Bureau of Alcohol, Tobacco and Firearms. Still, as welcome as the new Executive Order is, the President's action will not assure a healthy future for commercial space development. The reason: At the very moment Reagan has been moving to open up man's final frontier to the private sector, the National Aeronautics and Space Administration (NASA) has been moving in the opposite direction by trying to monopolize space transportation. Should the space agency succeed in blocking more efficient private space ventures, not only will vast commercial opportunities be lost to Americans, but the future of space exploration could also be threatened.

Legislation has been introduced which may reduce the possibility of NASA crowding out its lower-cost private competitors. One bill (H.R. 3942) would give congressional authority to the Department of Transportation to act as the lead agency in space commerce matters--thereby limiting NASA's ability to frustrate progress. The other, attached to the NASA authorization bill (H.R. 5154) seeks to clarify the agency's role as research and

development, not commercial transportation. The sooner these changes are made to the existing law, the sooner the American space industry will get off the ground.

WHO SHOULD COMMERCIALIZE SPACE?

At the heart of the issue lie two different approaches to space commercialization. One envisions NASA taking the lead, with the Space Shuttle as its primary tool. The other sees the private sector as the appropriate leader in the commercial development of space.

NASA as the Focus

Advocates of this position would have the agency enter into joint ventures and cooperative agreements with commercial firms wishing to do business in space. NASA would thus continue to dominate the satellite launch business, and it would develop and market products. A recent example of such an activity by NASA was the packages of latex spheres produced on a recent Space Shuttle flight--these are being sold by the National Bureau of Standards for use in scientific calibration and medical activities.

Advocates of a NASA-dominant approach to space commercialization point to the agency's long experience and admirable accomplishments, citing as evidence the moon landings. They also argue that using NASA as a focal point for space commercialization would enable the nation to have a comprehensive national industrial policy for space--as is being advocated for the domestic economy. A third argument advanced from within the agency is that a NASA-dominant approach is essential to the survival of a national space program. The severe cutbacks that followed the end of the Apollo program loom large in the memories of many key NASA employees. They see an active role in commercialization as a means of avoiding a similar experience when the Shuttle program begins winding down.

Private Firms as the Focus

A second approach to commercialization would have NASA continue in its traditional function as a research and development institution, but have the private sector serve as the focal point for commercialization. There are a number of reasons why this approach has a growing number of adherents. For one thing, it is widely accepted that the private sector eventually must and should assume responsibility for space commercialization--the only issue is when. Space entrepreneurs say the time is now. To support their view, they point to the already significant level of space-based commercial activity, including such ventures as communications and remote sensing satellites. Communications satellites alone now constitute a \$2 billion a year business, even though the telecommunications industry is still in the earliest stages of its development.

For another thing, there is the promise of the infant expendable launch vehicle industry. Experts in satellite launches place the value of such services at as much as \$3 billion by 1986. If allowed to operate without unnecessary government generated roadblocks, private ELV firms anticipate expanding this market significantly.

While the ELV industry is important as a manifestation of the near-term potential of space commercialization, it is important for another reason. In recent months, ELVs have become the central issue in the controversy over which path space commercialization will take--the NASA or the private route. This debate could determine the course of space commercialization in the next decade and beyond. Among the most important issues raised is the manner in which NASA has brought the full weight of its political and economic power to bear to insure that ELV's bright future is forever dimmed.

NASA AND SHUTTLE PRICING

Perhaps the most powerful weapon in NASA's arsenal has been its ability to subsidize heavily the cost of launching satellites from the Space Shuttle. NASA consistently has understated the cost of shuttle flights. The agency admitted in a March 26 letter to Rep. Don Fuqua (D-FL), for instance, that flight costs were actually closer to \$350 million in 1982 "constant" dollars, not the \$275-\$300 million in 1983 dollars previously claimed in congressional testimony. Neither figure, however, bears much resemblance to the actual cost of Shuttle launches.

Instead of the \$85 million price tag a "full cost recovery" approach would warrant for a Shuttle satellite launch, NASA only charges its customers \$20 million. The difference is made up by the taxpayer. So private ELV launches, which cost from \$25 to \$30 million, are much less expensive yet cannot compete on price.

Ironically, the taxes paid by private ELV firms are in part subsidizing their primary competition. Worse, some of those taxes are even going to pay for a study commissioned by NASA on how to beat the agency's private competitors in the launch market. Moreover, NASA recently solicited bids on a contract to develop a marketing plan for the Space Shuttle. In the solicitation, the agency stated that its goal was "to capture 75 percent of the free world communications satellites and to increase the commercial percent of the total flight rate over one-third of the total capability." In short, NASA's aim is to transform the Shuttle from an essentially research and defense oriented vehicle to a commercial transportation system.

More important is the section of the solicitation dealing with competition to the NASA Space Transportation System (STS). This section requires the successful contractor to, among other things, "Project and assess for NASA significant threats to STS

marketing based on competitive activity which impacts the STS market share..." and "recommend to NASA strategies which might be pursued to minimize the impact of competitive activity on the STS." In short, taxpayers will be funding a study of how NASA can squelch its private sector competitors.

Some of the agency's likely tactics are already evident. One strategem, reported by several observers close to the Shuttle/ELV controversy, has been to apply pressure on contractors supplying major components to NASA to keep them from entering the ELV business. Although nothing has appeared in official documents, it is said that NASA officials have suggested to possible private competitors that their contracts for Shuttle components might be endangered if these firms engaged in private launches.

Another tactic has been to try to delay implementation of "full cost recovery," so that NASA could charge Shuttle customers less than the full cost of launches for long enough to capture the market, with the cost picked up by the taxpayer. This could close down production lines for a number of the components needed to construct and launch ELVs, making their later development far more expensive than would otherwise be the case.

What is most disturbing is that NASA's anti-competitive activities could undermine the President's broad initiative on space commercialization by undermining private sector efforts before they can acquire a firm financial footing. The agency would thereby undercut a number of key benefits for Americans that the initiative would otherwise yield. These benefits include:

- * A balanced space transportation capability with multiple technological options, rather than complete dependence on the high-cost shuttle systems.
- * A range of space transportation systems suitable for many different tasks.
- * Space activities that are not dependent on government financing--meaning savings to the taxpayer.
- * Full encouragement of the creative and entrepreneurial abilities of the private sector--the only way to achieve space commercialization's full potential.
- * Avoidance of the possibility that space commercialization will fall victim to the vagaries of the political process.

LEGISLATIVE INITIATIVES

Two legislative initiatives, now before Congress, will encourage private sector space commercialization: H.R. 3942, introduced in the House by Rep. Dan Akaka (D-Hawaii) and amended

by Rep. Harold Volkmer (D-Missouri); and an amendment to the NASA charter, introduced by Rep. Robert Walker (R-Penn.), intended to be attached to H.R. 5154, the NASA authorization bill.

The Akaka bill would take the President's Executive Order one step further, and vest statutory authority in the Department of Transportation to oversee and encourage space commercialization. Although the Secretary of Transportation would be directed to consult with other agencies, this would take place at the Secretary's discretion. The measure thus not only would give congressional backing to the President's choice of DOT as the lead agency in space matters, but it would also help eliminate the suffocating red tape that would undoubtedly accompany a situation where several federal agencies had jurisdiction over space commerce.

The Walker amendment to the NASA authorization bill is intended to clarify the agency's role as that of a research and development institution and not a commercial transportation system. Some concern has been voiced about the language of the Walker legislation, however, after advocates of a NASA-dominant commercialization approach attempted to interpret Walker's amendment as authorizing further commercial activities by the space agency--rather than prohibiting them. To short-circuit such interpretations, additional language may be needed to clarify the amendment.

CONCLUSION

The outcome of the debate over expendable launch vehicles will play a crucial role in determining the future of space commercialization. If the private sector is to bring the full weight of its resources, talent, and imagination to bear on the task of harnessing the vast potential of man's final frontier, it must not be constrained by artificial government barriers. A NASA-dominant commercialization strategy would inevitably lead to such barriers. Therefore, it is critical that NASA's role be limited to research and development.

There is room for many actors in the development of space. Both NASA and the private sector can make important contributions. But the commercialization of space should be undertaken by the sector with appropriate incentives and skills--American business. Attempts by NASA to monopolize space transportation, protect its agency prerogatives, and ensure ever-increasing budgets will only thwart the nation's commercial future in space.

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