SpaceX also asserted that in making the contract decision in 2004 the Government inspected SpaceX and determined it was qualified to provide launch services before it entered into the $30 million contract for the Falcon 9 launch in 2007.[47]

SpaceX also noted that its total contracts, commercial and government combined, were worth more than $200 million.[48] Further, SpaceX stated it was currently in negotiations for other potential commercial launch contracts.[49] Hence, SpaceX alleged it should be considered a market participant in the EELV market, not only by virtue of its expertise and ability to potentially enter and compete in the market, but because it was already competing in the EELV market in a significant way.

The second amended complaint also included a more specific discussion of SpaceX's alleged injury. It asserted that the annual or biannual bidding system that had been implemented was not effective because the USAF had already allocated the launch contracts to Boeing and Lockheed, and was therefore already locked into launch-vehicle-specific EELVs.[50] In addition, SpaceX once again alleged that Boeing and Lockheed injured its ability to compete by increasing SpaceX's relative costs since Boeing and Lockheed receive substantial infrastructure payments from the USAF.[51] If these subsidy payments were removed, the EELV launch prices of Boeing and Lockheed would reflect the actual cost, instead of the artificially low bids resulting from the infrastructure subsidies.[52] SpaceX also noted that the government awarded contracts to Boeing and Lockheed in 1998, but no EELVs were launched until 2002.[53] It would therefore be unfair to hold SpaceX to a standard that required SpaceX to have successfully launched an EELV when Boeing and Lockheed originally received EELV contracts without having done so.

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[47] *Id.* at 11-12.
[48] *Id.* at 12.
[49] *Id.* at 14.
[50] *Id.* at 6.
[51] *Id.*
[52] *Id.*
[53] *Id.* at 7.

IV. DISMISSAL OF SECOND AMENDED COMPLAINT

Following the filing of SpaceX's second amended complaint Boeing and Lockheed again moved to dismiss the action.[54] The District Court in its second dismissal order considered the addition of more detailed information about SpaceX's business practices in an effort to evaluate whether the new allegations were sufficient to confer standing. The District Court once again held they were not and dismissed SpaceX's action; this time with prejudice.

The threshold question of standing was again discussed as in the first dismissal order, and the District Court again concluded that SpaceX lacked the ability to compete because it had not demonstrated its capability by successfully launching an EELV as had Boeing and Lockheed.[55] Although Boeing and Lockheed were given several years ahead of time to prepare their EELV programs, that lenient schedule occurred when the market was brand new, and the Court held it was now not unreasonable to expect a market participant to successfully launch an EELV before it could receive a contract.[56]

The District Court was willing to entertain the possibility that SpaceX might have a claim as a potential competitor, so the District Court briefly went on to consider the second prong of its standing test: causation.[57] No actions by Boeing or Lockheed prior to 2006 caused SpaceX to be excluded from the bidding; it was SpaceX's own lack of experience that rendered it ineligible.[58] The District Court also re-evaluated SpaceX's claim that the infrastructure subsidies awarded to Boeing and Lockheed were anticompetitive, and reached the same conclusion it came to in the first dismissal order. The subsidy payments were made to the two EELV providers who able to offer such services, and at

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[54] *SpaceX* Dismissal of Second Amended Complaint, *supra* note 4, at 5-6.

[55] *Id.* at 10-11.

[56] *Id.* at 12.

[57] *Id.* at 13.

[58] *Id.* at 14 (noting that even if the allegation were true that Boeing and Lockheed threatened a boycott, the conduct still had no impact on SpaceX's situation, because SpaceX was not prepared to compete for contracts at that time).

the time SpaceX was not one of them.[59] Once again, the Court held past claims were not relevant because SpaceX was not capable of competing for those contracts, and any future claims remained "speculative and unripe."[60] Thus, the District Court ordered that SpaceX's suit be dismissed with prejudice.

V. ANALYSIS

The antitrust laws protect competition not competitors, therefore an injury to a competitor is not necessarily and injury to competition or, strictly speaking, an antitrust injury.[61] Since SpaceX's presence in a market that is highly concentrated is essential to moving the market in a more efficient direction for consumers, there should be little doubt that an injury to SpaceX is also an injury to competition generally in the EELV market since there are so few market participants. If Boeing and Lockheed are practicing predatory behavior then the injury to competition is evident. Hence, once SpaceX establishes its own injury-in-fact, standing will be conferred. SpaceX's second amended complaint attempted to correct the injury issue in order to establish standing.

In particular, the second amended complaint offered a more detailed explanation of SpaceX's ability to compete and furnish launch services in the EELV market. The fact that SpaceX alleged it already had a $30 million contract with the Government, and more than $200 million in contracts from all customers was not persuasive to the District Court because SpaceX had yet to actually produce a successful EELV launch.[62] Hence once SpaceX can show a successful EELV launch it will establish its readiness to compete. SpaceX made its theory of recovery dependent on a showing of injury based on one of three allegations: (1) the USAF annual/biannual bidding procedure effectively removed SpaceX from the market because the USAF will not want to change the launch allocations due to the launch-

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[59] *Id.* at 15.
[60] *Id.*
[61] Todorov v. DCH Healthcare Authority, 921 F.2d 1438, 1449 (11th Cir. 1991).
[62] *SpaceX* Dismissal of Second Amended Complaint, *supra* note 4, at 11-12.

vehicle-specific requirements; (2) SpaceX's relative costs were increased as a result of the infrastructure payments Boeing and Lockheed received from the government; and (3) the ULA merger was a merger to monopoly between the EELV portions of Boeing and Lockheed.

The first two contentions were rejected by the Court in both dismissal opinions due to SpaceX's failure to enter the market,[63] but one can assume they would be valid had SpaceX been successfully launching EELVs. The third claim regarding merger was not expressly discussed by the Court in either opinion. How the District Court would have ruled on this matter is difficult to assess since its opinion does not evaluate the merits of the claim. As the ULA is a joint venture it will receive the same analysis as a regular merger would,[64] and any mergers that produce over 30 percent market concentration are presumptively anticompetitive.[65] The ULA venture would certainly produce a company with a market share in excess of 30 percent in the market for EELV launch services. Nonetheless, joint ventures that produce a high market concentration can be permitted when they increase efficiency through economies of scale, though in this case SpaceX alleged that the ULA joint venture would not result in savings for at least seven-to-ten years according to a Lockheed spokesperson.[66] Hence, the efficiency justification is arguable for the joint venture. The Court might also be reluctant to interfere in this matter since the FTC is already conducting its own investigation of the venture pursuant to the Hart-Scott-Rodino Antitrust Improvements Act of 1976.[67] Courts are more reluctant to overturn, on anticompetitive grounds, mergers approved by the Justice Department and the

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[63] *See SpaceX* Dismissal of First Amended Complaint, *supra* note 1, at 14-16.

[64] *See* Rothery Storage & Van Co. v. Atlas Van Lines, 792 F.2d 210 (D.C. Cir. 1986) (noting that joint ventures resemble corporate mergers in economic terms, and should be evaluated by the same standards).

[65] *See* United States v. Philadelphia Nat'l Bank, 374 U.S. 321 (1963) (stating that the defendant firm in the challenged merger will have the chance to rebut the presumption an anticompetitive merger result).

[66] *SpaceX* Dismissal of Second Amended Complaint, *supra* note 4, at 28.

[67] *Id.* at 27.

FTC.[68] Thus, if another potential plaintiff with standing were to challenge the joint venture on a monopolization claim it would be difficult if the ULA merger is approved by the FTC. However, a sound case could be made that the ULA joint venture was anticompetitive, and a plaintiff with proper standing could potentially oppose it.

Also of interest is the absence of any mention of Noerr-Pennington Immunity or its applicability to Boeing and Lockheed's actions in either of the District Court's opinions. The Noerr-Pennington Doctrine states that actions to petition political representatives, regardless of the political branch, are immune from antitrust laws.[69] Thus even if SpaceX had been able to show that it suffered an injury-in-fact, and the injury was caused by the conduct of the defendants, Noerr-Pennington immunity might have shielded the defendants' liability, since they requested the infrastructure subsidies and advantages they received from the Government.[70]

VI. CONCLUSION

The District Court held that SpaceX did not have standing to sue Boeing and Lockheed for antitrust violations. From the analysis of causation in the District Court's second dismissal order, it would seem that even if SpaceX were permitted to bring its injury claim as a potential rather than an actual competitor, the absence of causation on the part of the defendants would defeat SpaceX's standing to sue. Should SpaceX choose to pursue an antitrust action against the same defendants in the future, it will have to show that it is a competitor of Boeing and Lockheed by successfully launching its own EELVs, and point to some new concrete instances of conduct that have caused the injury. SpaceX would also need to show the injurious conduct was not the result of government petitioning on the part of the

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[68] Texico Inc. v. Dagher, 126 S. Ct. 1276, 1279-80 (2006) (noting that the FTC and State Attorneys General approved the venture in view of the efficiency increase through economies of scale).

[69] Eastern R.R. President's Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961).

[70] *SpaceX* Dismissal of Second Amended Complaint, *supra* note 4, at 10.

defendants in order to preclude Noerr-Pennington immunity for the defendants' conduct.

THE VISION FOR SPACE EXPLORATION: EXPANDING THE ENVELOPE FOR SPACE LAW DEBATES

Marcia S. Smith[*]

Long before the 2004 announcement of the Vision for Space Exploration[1], the space law community had been debating legal issues likely to arise as humanity moves out into the solar system. *The Journal of Space Law* and the proceedings of the annual colloquia of the International Institute of Space Law[2] are two of the most prestigious venues for the publication of papers addressing impending issues, including the hotly contested area of property rights on the Moon.

As humanity expands into the solar system, issues for consideration by the space law community will expand with it. The following paragraphs touch on only a few, with a common theme – responsibility. The exuberance of our times, as we contem-

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[1] Press Release, The White House, President Bush Announces New Vision for Space Exploration Program Fact Sheet: A Renewed Spirit of Discovery, (Jan. 14, 2004) *available at* http://www.whitehouse.gov/news/releases/2004/01/20040114-1.html (last visted July 16, 2006).

[2] The American Institute of Aeronautics and Astronautics publishes the proceedings of the annual IISL colloquia. IISL Publications, *IISL Proceedings of its Colloquia,* http://www.iafastro-iisl.com/main%20pages/publications_9.htm (last visited July 16, 2006).

plate this long awaited move outward, should be tempered with the notion that we have a collective responsibility to be good stewards of these new worlds.

For example, what about environmental protection? The concept of environmental regulation in space is sure to send chills down the spines of those eager to set up mining operations or otherwise initiate the use of solar system resources for a myriad of purposes. But the issue is broader than whether or not one wants to strip mine the Moon.

The operation of nuclear reactors on the Moon, for example, could have important consequences for future generations of lunar settlers, just as their operation on Earth generates debate about how and where to store the associated waste. It is true that nuclear devices (radioisotope thermal generators, RTGs) have been used on spacecraft for decades, including those that have landed on the Moon and Mars and which have been discarded into Jupiter. But RTGs are different from reactors, as participants in the debate over the safety of launching such devices into space will attest. Still, little discussion has transpired about the potential use of nuclear reactors to power lunar or other settlements. Instead, there is almost an assumption that they will be the power source of choice. There are good reasons for looking at nuclear reactors for that purpose, but the long term consequences of storing the waste and decommissioning those reactors need to be addressed. The answer is not necessarily a prohibition on nuclear reactors, but instead the development of plans to deal with the resulting waste prior to their emplacement.

Other issues may arise where environmental regulation may be the answer. Imagine the owners of a solar array farm or lunar-based telescope discovering that another company wants to set up a mining operation next door that will spew lunar dust over their facilities. Self interest alone makes the case for adopting some type of regulatory scheme to prevent early explorers and entrepreneurs from contaminating an area for those who follow, and to protect those who came first from having their work disrupted or destroyed by newcomers.

The planetary protection policy[3] adopted by Committee on Space Research (COSPAR) is one model for developing environmental regulations in space. The COSPAR policy builds on Article IX of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[4] which requires that the exploration of outer space, including the Moon and other celestial bodies be conducted "so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter..."[5] The article continues with language concerning what States Parties may do if they are concerned that another State Party is undertaking an activity or experiment that could cause "harmful interference"[6] with the activities of other States Parties in their peaceful exploration and use of outer space.[7] The COSPAR policy offers procedures "to avoid organic-constituent and biological contamination in space exploration, and to provide accepted guidelines in this area to guide compliance with"[8] the Outer Space Treaty. Unlike the Outer Space Treaty, which refers to "outer space, including the Moon and other celestial bodies"[9] as though all are equal, the COSPAR policy categorizes destinations into their likelihood for harboring life, with the most stringent guidelines devised for spacecraft returning to Earth.[10] While this framework may not be directly applicable to issues

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[3] COSPAR Planetary Protection Policy (20 October 2002) Accepted by the Council and Bureau, as Moved for Adoption by SC F & PPP (Prepared by the COSPAR/IAU Workshop on Planetary Protection, 4/02 with updates 10/02), *available at* http://www.cosparhq.org/scistr/PPPPolicy.htm (last visited July 16, 2006) [hereinafter COSPAR Planetary Protection Policy].

[4] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

[5] *Id* at art. IX.

[6] *Id.*

[7] The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies goes much further, but because it has not been adopted by the major spacefaring countries, has no practical effect. The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, Dec. 18, 1972, 1362 U.N.T.S. 3, 18 I.L.M. 1434.

[8] COSPAR Planetary Protection Policy, *supra* note 3, at Preamble.

[9] *See* Outer Space Treaty, *supra* note 4.

[10] *See* COSPAR Planetary Protection Policy, *supra* note 3.

such as preventing harmful environmental consequences from activities such as mining or emplacement of nuclear reactors, it is a start.

What is our responsibility to protect the environments of the Moon, Mars, asteroids, and interplanetary space as we implement the Vision? Is it different for an asteroid versus a planet, or Earth's Moon versus a moon of another planet? Do we seek to keep the visage of our "man on the Moon" intact, or is it fair game for whatever exploration and exploitation awaits it? Are there places of historical significance that deserve special treatment? In the February 2004 issue of *Space Policy,* Tom Rogers argued for establishing Tranquility Base as a "U.N. World Heritage Site, to be protected for all, for all time."[11] Some Americans of that era may have a special affinity for the *Apollo 11* landing site, but other people or companies or countries may not feel an emotional bond. Do they have a responsibility to leave it undisturbed, or is it open for souvenir hunters? What about other spacecraft that rest on the surfaces of, or orbit around, the Moon, Mars, or other bodies – are they precious relics to be protected, or collectibles destined for EBay?

Scant attention has been paid to interplanetary space. Some refer to such areas of space as a "void," seemingly bereft of practical uses and therefore of no concern. But some locations may prove especially valuable – such as Lagrange points. What rules govern positioning an outpost or factory or solar energy collectors at a Lagrange point? Who decides which international, governmental, or commercial entities have "rights" to it? Just as orbital locations in the geostationary arc are not subject to claims of national sovereignty, neither are Lagrange points, so who will arbitrate among potential users? If a country or company establishes a facility there, does it have a responsibility to remove it at the end of its useful lifetime to allow others to set up shop, or may it be abandoned in place regardless of whether that renders the location unusable?

One last topic of particular importance at this stage of humanity's foray into the solar system is more of an ethical issue.

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[11] T.F. Rogers, *Viewpoint: Safeguarding Tranquility Base: Why the Earth's Moon Base Should Become a World Heritage Site,* 20 SPACE POL'Y 5 (2004).

The search for life fascinates many, but begs the question of what to do if life is found. Many would want to send more probes – and perhaps humans – to further investigate, but do we have a responsibility to protect that life and allow it to develop naturally? If robotic probes definitively find life, should we erect a "do not disturb" sign rather than send more sophisticated probes?

There are no easy answers to any of these questions. There are valid arguments on different sides, which need to be explored by the space law community in concert with the scientific and engineering communities and others. The time for that debate is now.

UNREAL ESTATE: THE MEN WHO SOLD THE MOON

By Virgiliu Pop

Reviewed by James A. Vedda*

This book is a story of charlatans, jokesters, fundraisers, deluded entrepreneurs, gullible victims, and the purveyors and collectors of novelties. Actually, it's dozens of stories featuring this assortment of characters buying, selling, or simply claiming ownership of extraterrestrial real estate. Through the escapades described here, readers will likely experience a combination of surprise, amusement, incredulity, and possibly even anger.

I was surprised at the number of individuals and organizations who have attempted to make claims on the Moon, Mars, asteroids, and other celestial bodies for fun and profit. Mr. Pop does a remarkable job of documenting these cases, including the "legal" filings of their claims. Most of the stories take place from the mid-20th century to the present, and a few go back decades before that. He does not attempt to chronicle the ancient monarchs who extended their reign to the Sun, the Moon, and the stars – but his modern subjects are no less audacious.

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