

THE ROLE OF THE SPACEPORT FLORIDA AUTHORITY IN THE DEVELOPMENT OF COOPERATIVE INTERNATIONAL ARRANGEMENTS

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Abstract

The creation of legal relationships and innovative laws concerning space industry nationally and internationally are more likely to arise now at the state level in the U.S. than at any time in the past. This paper describes the activities of the Spaceport Florida Authority as it develops research and cooperative studies agreements with agencies of the Mexican government and space research organizations in Mexico. Also examined is the impetus that prospective federal legislation — particularly the North American Free Trade Agreement and the Inter-American Scientific Cooperation Act — have given to these agreements and the support they are likely to provide for space-based research and exchanges between Florida and Mexico when enacted. Activities of the individual states in the U.S. are likely to become more significant in the development of space law and legal relationships as federal budget difficulties continue and space industry developmental functions become more decentralized.

Spaceport Florida

The Spaceport Florida Authority (the "Authority" or the "SFA") is the public entity responsible for the development of space industry in Florida. This paper begins by describing the formation of the Authority, its mission and relevant current activities. It

then focuses on the SFA's efforts to build cooperative research programs in Mexico, and reviews prospective legislation in the United States which would complement these efforts and facilitate the development of new international relationships in space research and commercial space activities.

The Authority had its genesis in federal legislation and policies which have made a commercial space industry feasible in the United States. The Commercial Space Launch Act¹ (the "CSLA"), passed by Congress in 1984 and subsequently amended, requires the U.S. Secretary of Transportation to promote commercial space launch activities and creates a regulatory framework for this purpose. The Reagan Administration's Space Policy and Commercial Space Initiative², released in 1988, directs federal agencies to procure launch services from the private sector and encourages the use of federal launch facilities for commercial purposes.

When the State of Florida began to explore ways in which it might encourage the growth of aerospace and space industries in the state, federal legislation and policy provided the impetus for a state commission recommendation that Florida develop a commercial spaceport³. The commission noted that other states in the country, such as Hawaii and Virginia, were also considering the development of commercial spaceports. A consultant's study subsequently commissioned by the state and produced in February, 1989, determined that the development of a spaceport in Florida would be operationally and financially

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feasible. The study recommended that the state government should actually facilitate and support space enterprise, and that a new agency should be created to lead Florida's space industry development⁴.

Legislation establishing the Spaceport Florida Authority was passed by the Florida Legislature in 1989. The SFA is a public corporation, body politic and subdivision of the state⁵, with offices located in Cocoa Beach. The Legislature gave the Authority a four-fold mission: (i) provide direction for space-related economic growth and educational development; (ii) ensure a dynamic economic climate; (iii) attract and maintain space-related businesses in the state; and (iv) develop and coordinate Florida's economy with respect to space industry⁶. More specifically, the Authority is responsible for encouraging an entrepreneurial atmosphere in the state, involving Florida's universities and higher education in space-related projects and establishing ties and partnerships among business, government and education.

The SFA is significant as the nation's first space transportation authority. With respect to the commercial launch industry, its role is analogous to that of an airport, seaport or other transportation authority. It is responsible for developing, maintaining and administering transportation infrastructure, including launch pads and support facilities⁷. The SFA concept is based on the successful relationship which exists in other areas between transportation companies and transportation authorities. It is intended to allow space transportation companies to focus on launching rockets and payloads, while the Authority pursues infrastructure and development concerns⁸.

The creation and purpose of the SFA are fully consistent with federal law, which established the regulatory framework for the commercial launch industry through the CSLA. As amended, the CSLA requires not only that the U.S. Department of Transportation facilitate private sector involvement in commercial space transportation activity, but that it promote

partnerships involving state governments and the private sector to build, expand and operate space launch infrastructure⁹.

As economic development is a prime function for which the Authority is responsible under the state legislation, the SFA is implementing a strategy to encourage space-related economic growth in Florida. Key goals or elements in the strategy to assist space businesses include the following: (i) economical access to launch and launch-support facilities; (ii) infrastructure and systems modernization; (iii) access to facilities for payload preparation and development; and (iv) partnership arrangements with government and universities¹⁰. Although a review of all the activities the SFA is now engaged in is beyond the scope of this paper, salient projects central to the Authority's mission and of relevance to its international involvement are described briefly.

As launch infrastructure development and modernization is a central concern, the SFA is working with commercial launch companies and industry organizations to identify operations issues. One element in the Authority's modernization program is the development of an Advanced Launch Control Center (ALCC) to replace aging commercial launch control equipment at Cape Canaveral Air Force Station¹¹. The ALCC would combine launch control functions currently performed at several block houses, decreasing operational costs and allowing greater access for commercial launch customers. In addition to the Atlas, Delta and Titan launch vehicles, the facility would accommodate small and medium-class orbital and suborbital vehicles that do not now have access at the Florida pads¹².

In addition to the ALCC, the Authority is attempting to develop a Spaceport Florida Launch Complex, a new, multi-user complex at Cape Canaveral Air Force Station. In furtherance of this objective, the SFA has submitted a required "Program Introduction" to the Air Force 45th Space Wing at Cape Canaveral. The complex will accommodate small orbital and suborbital launch vehicles.

This multi-use capability will require the design of a unique, simplified launch pad connected to the ALCC. In keeping with the SFA concept of a space transportation authority, the Spaceport Florida Launch Complex would be available to commercial launch providers in the same fashion that an airport authority provides standardized terminal facilities and runways to commercial air carriers¹³.

At Cape San Blas in Gulf County, the SFA is now using a de-activated military launch facility for sounding rocket and suborbital flights. Launches conducted from this facility have a southern trajectory into the Gulf of Mexico. In contrast to SFA activities at Cape Canaveral, which is suitable for orbital, equatorial launches, the purpose of the San Blas facility is to provide quick-response launches for university, commercial or government researchers in areas such as environmental monitoring¹⁴. Another purpose is to increase state expertise in the design and development of microelectronics payloads and support equipment. The first SFA launch from San Blas, which occurred on August 22, 1992, carried an upper-atmospheric sensor for Florida State University. Other university-sponsored experiments have also been manifested for launch from San Blas.

Apart from these important infrastructure and launch-support concerns, the SFA has also taken the lead in forming informal partnership and teaming relationships with other organizations in the space industry for mutually desirable ends. In its business plan the SFA announced that it would help organize a consortium of states for which the health and further development of space industry was important¹⁵. This resulted in the formation of the Aerospace States Association (the "ASA"), with governor-appointed delegates from over half the states in the United States. The ASA is developing common positions where possible on issues in the space industry, and actively works in Washington to support policies and legislation beneficial to the commercial space industry.

The Authority also announced that it would seek the establishment of a Center for the Commercial Development of Space (CCDS) in Florida, and brought together an in-state team of universities and industry to bid on the NASA solicitation for this purpose. This teaming effort resulted successfully in the establishment of the Center for Space Communications Technology at Florida Atlantic University in Boca Raton, Florida, as NASA's 17th CCDS. This Center will focus on the development of satellite communications technology, and should result in economic development as industry spin-offs and start-ups¹⁶.

Cooperation with Mexico

An account of the Authority's cooperative relations with Mexico begins with the solar eclipse of July, 1991, in which the path of totality crossed Mexico. The SFA conducted a sounding rocket flight, its first, from a site near Santiago Ixcuintla during the eclipse. At the time, use of the San Blas facility was not possible because government agencies had not yet completed an environmental review of the site¹⁷. The totality of the eclipse in Mexico was another prime reason for conducting the launch there. The purpose of the launch was to study the sun's corona to determine whether the sun is surrounded by dust rings or dust shells¹⁸. A launch during totality in Mexico offered a better opportunity to study the sun than would have been available from a site in Florida.

The launch from Mexico on July 11, 1991 was significant as the first launch, commercial or otherwise, conducted by a state government of the United States. As the launch was taken from concept to completion in a matter of months, it also demonstrated the Authority's ability to respond rapidly and deploy experimental payloads developed in Florida's universities¹⁹.

Apart from the significance this has in itself, the launch also served as the catalyst for discussions between the SFA and Mexico on further cooperation in the space

field. A delegation of Mexican government and university officials, including the director of the newly-created University Program for the Investigation and Development of Space (*Programa Universitario de Investigacion y Desarrollo Espacial - PUIDE*) at the National Autonomous University of Mexico (*Universidad Nacional Autonoma de Mexico - UNAM*), visited Florida in September, 1991 to explore the possibility of continued cooperation. This resulted in the execution of a Memorandum of Agreement between the SFA and *PUIDE* (the "*PUIDE* Agreement"). The parties agreed to cooperate in the identification and development of mutually beneficial space research and education programs, and to conduct those programs at locations in Mexico and the State of Florida, with participation by university and other students²⁰.

Informally, *PUIDE* is the Authority's point of contact with other Mexican government agencies and organizations which sponsor scientific development in Mexico, including the National Council of Science and Technology (*Consejo Nacional de Ciencia y Tecnologia - CONACyT*) and the State of Nayarit in Mexico, which was the site of the eclipse sounding rocket launch. The continued interest of Nayarit and the SFA in cooperative sounding rocket launches and other research endeavors led to the conclusion of an agreement between the State of Florida and the State of Nayarit on August 21, 1992 (the "General Agreement"). The parties agreed to develop and implement jointly administered space research and environmental projects²¹. Although this agreement was concluded at the state level, the Authority played an instrumental role in facilitating it.

Environmental research and projects may play a large role in future cooperative endeavors. Researchers at Florida State University plan to launch ozone detection instrumentation on board an Authority sounding rocket flight later this year, and *PUIDE* is working with the university on this program. *PUIDE* may also sponsor a

"mirror" ozone detection project, to be flown from Mexico, in conjunction with *CONACyT* and the State of Nayarit²².

The activities of the Authority and the State of Florida with respect to Mexico are consistent with the American federal structure, where the U.S. Congress has the authority to regulate commerce with foreign nations and limitations are placed on the power of the individual states to enter into compacts or agreements with other states²³. The Constitution does not forbid all intercourse or contracts between a state and another nation, only those which affect the supremacy of the U.S. State action is allowed where consistent with expressed congressional intent²⁴.

In Florida, the Florida International Affairs Commission (FIAC) is the entity responsible for the oversight and coordination of state policies and activities relating to international affairs²⁵. This role is supervisory. Where a state agency such as the SFA has been given the broad power to contract and enter into necessary agreements, it may do so without the need for any other approval²⁶. The state agency entering into an agreement with a foreign nation is required to furnish a copy of the agreement to FIAC on execution of the document²⁷.

Impetus for New Regional Relationships

Together, the General Agreement and the *PUIDE* Agreement will result in increased opportunity for collaborative space-related research and educational exchanges. These agreements have been spurred by the prospect of legislation which will bind the economies of Mexico and the U.S. more closely together and create incentives for various scientific and educational exchanges, augmenting and supporting the activities contemplated under the General Agreement and the *PUIDE* Agreement. Foremost in the legislation now being considered in the United States are the North American Free Trade Agreement and the Inter-American Scientific Cooperation Act of 1992.

North American Free Trade Agreement

Negotiations were concluded among the United States, Mexico and Canada in August, 1992, on a framework to eliminate trade and investment barriers among these nations under the North American Free Trade Agreement (NAFTA). If approved by the legislatures of all three countries, this will result in the creation of a \$6.4 trillion market of 363 million consumers. Generally, NAFTA will require the elimination or reduction of tariffs and non-tariff barriers (such as quotas on imports) among these nations and will reduce barriers to foreign ownership in some economic sectors²⁸.

NAFTA proponents believe that the agreement will work to the advantage of all three nations and will lead to increased economic growth in each. According to some projections, Mexico can expect to gain 600,000 new jobs by 1995, and the flow of foreign investment into Mexico will raise living standards and annual economic growth by one or two percent, giving the government a cushion to make further structural changes in the economy²⁹. The advent of free trade and the linking of the North American economies is highly anticipated in Mexico, and is one underlying cause of cooperative efforts in the space-related fields. The State of Nayarit, for example, sees its involvement in the Authority's sounding rocket launches as a precursor to activities which may follow a free trade agreement³⁰.

The United States should also benefit from the free trade agreement, chiefly in the forms of greater market size and the opportunity for increased export that the removal of trade barriers will create. Economists expect Mexico to become the United State's second-largest export market, and the U.S. will have an estimated \$7 billion trade surplus with Mexico in 1992³¹. This may also result, incrementally, in job gains for American workers. Approximately 175,000 jobs have been gained in the U.S. since 1989 due to increased trade with Mexico³².

In addition to the catalyzing effect the free trade agreement has had on the SFA's cooperative agreements, it may become helpful to the Authority's developmental efforts for another reason — NAFTA is expected to provide substantial new export opportunities for high technology service providers and equipment. Although high technology accounts for 32% of total U.S. exports, it comprises only 16% of total exports to Mexico³³.

Although the major negotiations on the free trade agreement are now concluded, it will not become law until it has been signed by the U.S. President and legislation implementing NAFTA has been submitted to Congress and passed by it. It is unlikely that this will happen prior to next year, and it should be pointed out that a U.S. Presidential election in which free trade is an issue intervenes in this process.

The State of Florida will adopt a position on NAFTA in September 1992, and will support the legislation as long as it does not disrupt relationships with Florida's traditional trading partners³⁴. The state is participating in the formation of an annual Conference of Gulf State Governors³⁵ (comprised of Mexican and American states on the Gulf of Mexico) to promote educational and technological change and to address infrastructure demands that will arise in the wake of NAFTA. Increased trade between the United States and Mexico will place demands on gulf ports, roads between the two nations, storage warehouses and other facilities.

The Conference of Gulf State Governors is a further example of regional cooperation across national boundaries, propelled by the possibilities inherent in NAFTA. The emphasis the conference will place on technological and educational change may raise the opportunity for future participation by the SFA or for exchange or research programs similar to those which the Authority now contemplates with *PUIDE* and other entities in Mexico.

Inter-American Scientific Cooperation Act

While NAFTA will tie the economies of the United States and Mexico more closely together, other pending federal legislation will provide mechanisms for economic development and scientific exchanges with Mexico and with Latin America generally. The Inter-American Scientific Cooperation Act of 1992³⁶ (the "Act") passed in the U.S. House of Representatives on August 10, 1992 and is now awaiting action in the U.S. Senate. The Act reflects U.S. economic concerns in a post-cold war world, focusing on the need for economic competitiveness and the cultivation of potential trading partners³⁷.

The Act notes a trend in which Latin American scientists and engineers are increasingly looking to Europe and Japan for advanced training and research. Coupled with the emphasis that Latin American national development plans are placing on science and technology, this trend may result in a loss of mutually-beneficial scientific cooperation and commerce between the United States and Latin America³⁸. Investment by the United States in Latin American science and technology can also enhance trade and investment relations among the nations and increase the opportunities for collaboration in many scientific fields. In response to these considerations, the legislation would create mechanisms for science and technology cooperation with Latin America.

At the heart of the Act is the establishment of an "Inter-American Scientific Cooperation Program" by the National Science Foundation, which would, in cooperation with private and government funding bodies in the United States and Latin America: (i) encourage and fund joint research projects between United States and Latin American scientists and engineers; (ii) establish an Inter-American Scientific Exchange to assist in the development of courses, seminars and curricula on request and to disseminate information on advanced study in science and engineering in the United States; (iii) exchange information and

technical assistance for computer linkages and databases; and (iv) provide information to allow the routing of scientific equipment between the United States and Latin America, matching equipment with need and identifying customs regulations³⁹. The Act would also authorize the Director of the National Science Foundation to make "debt-for-science" grants to nongovernmental organizations in the United States (including colleges and universities) for cooperative research projects⁴⁰ and to facilitate the establishment of Binational Science Foundations⁴¹ to fund collaborative research in science and technology.

The "debt-for-science" provision in this legislation is innovative. In a debt-for-science exchange, a portion of a country's commercial external debt is exchanged by the holder for a contribution of local currencies to support scientific or technological research⁴². The exchange concept originated in the environmental field in the mid-1980's, when conservation groups were looking for ways to promote environmental programs. At that time, few developing nations could afford to focus on environmental protection if they had high levels of external debt and were pressured to service it⁴³. Examples of "debt-for-nature" exchanges are now found in the federal statutes⁴⁴. The rationale for promoting debt-for-science exchanges in the Act is that high levels of debt are an obstacle to economic growth, and the need to service this debt commonly leads to a reduction in research and development expenditures in nations affected by it⁴⁵.

The Act and NAFTA are unrelated legislation, but their joint effect if enacted would be salutary and complementary. Although NAFTA would reduce trade barriers and open the market to U.S. exports, the U.S. may not realize the full value of this agreement unless Mexico's economy continues to grow and diversify⁴⁶. The Act is premised, in part, on the assertion that cooperation in science and technology will help to promote this goal⁴⁷.

The General Agreement and the *PUIDE* Agreement contemplate the types of cooperative activities that would be supported under the Act and encouraged under NAFTA. The General Agreement is designed to encourage partnerships between academic institutions in Florida and Mexico on issues of mutual interest⁴⁸. Additional signatories to the General Agreement include the rectors of *UNAM*, the Autonomous University of Nayarit and the chancellor of the Florida state university system. Nayarit and Florida agreed to create a program of international cooperation, "Florida and Nayarit Toward the 21st Century", to develop and implement jointly administered space research and environmental studies projects.

Cooperative scientific research and environmental studies are the types of projects the Act would seek to encourage and fund under its Inter-American Scientific Cooperation Program. In overall effect, it would encourage the types of linkages and exchanges which are the subject matter and purpose of the General Agreement⁴⁹.

Much of the initial cooperation among the Authority and various other entities in Mexico and Florida concerns environmental research. *PUIDE* is also cooperating with Florida State University on its ozone detection flights later this year aboard an Authority sounding rocket, and may help sponsor similar flights in Mexico. The General Agreement describes marine biology and environmental studies as areas of cooperation between the states.

Protection and enhancement of the environment is a goal the U.S., Canada and Mexico will subscribe to under NAFTA. In draft form the agreement calls on the parties to "strengthen the development and enforcement of environmental laws and regulations"⁵⁰. Separately, the U.S. and Mexico have developed an "Integrated Environmental Plan for the U.S.-Mexico Border", and are pursuing a long-term cooperative program for pollution control and prevention. NAFTA encourages all three nations to strengthen their standards for

environmental protection. NAFTA and these related programs will provide the Authority and the states of Florida and Nayarit a solid foundation of cooperation on which to build environmental studies programs.

Concluding Observations

Beginning with the passage of the CSLA in 1984, the U.S. Government has established laws, regulations and policies encouraging private sector activity in space industry commercialization and development. The recent amendments to the CSLA show a clear intent to promote the activities of state governments as well⁵¹.

Federal legislation and policies encouraged Florida to facilitate its space industry development through the formation of the SFA. The Authority's broad charter has enabled it to play a key role in the creation of innovative programs and relationships, as demonstrated in the SFA's involvement with Mexico. This is something new under the sun. State agencies and programs which did not exist as recently as four years ago are now in the forefront of space development activity⁵².

While the U.S. Government has sought to encourage private sector and state involvement in this industry, its well-known budget woes have forced a curtailment in some federal programs and activities. This has had the effect of decentralizing industry development to some extent. In some cases, as with the formation of the ASA, the individual states have recognized common interests and banded together to propose policies or legislation of benefit to their efforts. Today, it is fair to say that innovative legislation and legal relationships concerning the space industry and commercial space are more likely to arise at the state level in the U.S. than at any time in the past. The *PUIDE* Agreement and the General Agreement in Florida are but two examples of this.

NAFTA and the Act are legislative initiatives designed to facilitate regional economic benefit and cooperation. Though

neither is concerned directly with the space industry, NAFTA in particular has encouraged the gulf states in Mexico and the U.S. to think in regional development terms. The creation of the Conference of Gulf of Mexico States anticipates NAFTA and was inspired by it⁵³. NAFTA motivated the State of Nayarit in Mexico to seek closer ties in the United States, leading to a regional arrangement with Florida in space research and environmental studies.

It is unlikely that some of these promising new opportunities would have developed in Florida without the establishment of the Spaceport Florida Authority. Though it may be incidental to the direct concerns the SFA has as it seeks cooperative ties with Mexico for space research, the Authority is helping to open an important new chapter in space-related law and the creation of legal relationships.

Endnotes

¹Commercial Space Launch Act of 1984, as amended, 49 U.S.C. App. §§ 2601-2623 (1992).

²Space Policy and Commercial Space Initiative, February 11, 1988. Although a number of directives bearing on the commercial space industry have been issued by the Bush Administration subsequently, they are in broad outline consistent with the Commercial Space Initiative.

³"[T]he new National Space Policy puts space commerce on Florida's doorstep". *Final Report to Governor Martinez*, Florida Governor's Commission on Space (July 1988) at 37.

⁴See generally, *Spaceport Florida Feasibility Study*, United Engineers and Constructors Inc. (February 1989).

⁵Spaceport Florida Authority Act, Fla. Stat. Ann. § 331.302(2) (1991).

⁶Fla. Stat. Ann. § 331.302(1) (1991). In addition to creating these broad and very

substantial responsibilities, the legislation also provides specific incentives, such as tax exemptions, to encourage the development of space-related business. For a discussion of the provisions of this law, see Leary, J., *The Spaceport Florida Authority Act*, 17 J. Space L. 167 (1989).

⁷Business Plan, Spaceport Florida Authority (April 1990) at 4 [hereinafter cited as "Business Plan"].

⁸*Id.*

⁹49 U.S.C. App. § 2604(a)(3) (1992).

¹⁰Annual Report, Spaceport Florida Authority (November 1991) at 4.

¹¹*Id.* at 6-8.

¹²*Id.*

¹³*Id.* at 9.

¹⁴*Id.*

¹⁵Business Plan, *supra*, note 7 at 8-9.

¹⁶Each CCDS is a non-profit consortium of industry and academia to conduct space-based research. The program was created by NASA in 1985 to increase private sector participation and investment in commercial space development. Each CCDS offers participating industry an opportunity to pool resources while diminishing costs and risks. Each CCDS receives a NASA grant which is used to leverage in-kind and monetary contributions. Participating industry must make a commitment of resources (financial, personnel, facilities) to the program of the CCDS. The Center for Space Communications Technology in Florida will develop the commercial use of digital transmission techniques for video, audio and data transmissions to earth by satellite. For more information on the CCDS program, see *Centers for the Commercial Development of Space*, National Aeronautics and Space Administration (November 1991).

¹⁷The Authority received environmental clearance to use the site for sounding rocket launches in July, 1992.

¹⁸*Rocket Will Peek at the Sun*, Orlando Sentinel, July 10, 1991, at A-4, col. 1. The vehicle used in the launch was a Viper 3A, a twelve-foot sounding rocket commonly used for weather research.

¹⁹*Viper Soars but Misses Eclipse*, Space News, July 15, 1991 at 2, col. 2.

²⁰Memorandum of Agreement, dated September 6, 1991, between the Spaceport Florida Authority and Programa Universitario de Investigacion y Desarrollo Espacial.

²¹General Agreement, dated August 21, 1992, between the State of Florida, United States of America, and the State of Nayarit, United Mexican States.

²²Private communication with Edward Ellegood, Director of Operations, Spaceport Florida Authority, July 7, 1992.

²³"The Congress shall have Power... [t]o regulate Commerce with foreign Nations..." U.S. Const. art. I, § 8, cl. 3; "No State shall, without the Consent of Congress... enter into any Agreement or Compact with another State, or with a foreign Power..." U.S. Const. art. I, § 10, cl. 3.

²⁴Tribe, Laurence H., *American Constitutional Law* 369, 376 (1978).

²⁵Florida International Affairs Commission, Fla. Stat. Ann. §§ 288.803 - 288.810 (1991).

²⁶"The Authority shall have the power to make and enter all contracts and agreements necessary or incidental to the performance of the functions of the Authority and the execution of its powers..." Fla. Stat. Ann. § 331.324 (1991); Private communication with Todd Kocourek, General Counsel, Florida International Affairs Commission, August 14, 1992.

²⁷Fla. Stat. Ann. § 288.804 (18) (1991).

²⁸Under the prospective agreement, for example, U.S. banks and securities firms would be permitted by Mexico to establish wholly-owned subsidiaries in Mexico and engage in the same range of operations as similar Mexican firms. NAFTA is a highly technical agreement which has required detailed negotiation in economic sectors such as agriculture, textiles and apparel, automotive and energy. For an overview of NAFTA and a projection on what the agreement is expected to accomplish in terms of U.S. economic growth, see *Highlights of the North American Free Trade Agreement*, Office of the U.S. Trade Representative (August 1992).

²⁹*Under Free Trade Pact, Mexico is Envisioning an Economy in U.S. Image*, New York Times, July 23, 1992, at C17, col. 1.

³⁰Private communication with Edward Ellegood, Director of Operations, Spaceport Florida Authority, July 7, 1992.

³¹*Trade Pact Fears Seem Overstated*, New York Times, August 6, 1992, at C2, col. 1. As an industrializing nation, Mexico is expected to follow a classic economic pattern of trade deficits, as Japan did in the 1950's and Korea in the 1970's.

³²*Id.* Not all projections concerning the effects of NAFTA on the American economy are optimistic. The Bush Administration has conceded that investment in Mexico following passage of NAFTA could result in the loss of up to 150,000 jobs in the United States over a ten-year period. *Trade Pact Could Cost Up to 150,000 Jobs*, New York Times, September 11, 1992, at C1, col. 2.

³³*Intellectual Property Rights - The North American Free Trade Agreement*, Office of the U.S. Trade Representative (August 1992) at 1.

³⁴Private communication with Todd Kocourek, General Counsel, Florida International Affairs Commission, July 30, 1992.

³⁵An organizational meeting to establish the conference was held in Vera Cruz, Mexico, on May 23, 1992, at the request of Mexican economic development officials. Represented at the meeting were the states of Tamaulipas, Vera Cruz, Yucatán, Campeche, Quintana Roo, Tabasco, Florida, Texas, Louisiana and Mississippi. The State of Yucatán will host a governor's meeting in late September or early October, 1992, to sign articles of agreement for the conference. *Report on the Annual Conference of Governors of Gulf of Mexico States*, Florida International Affairs Commission (undated) at 2.

³⁶H.R. 3215, 102nd Cong., 2d Sess.(1992).

³⁷H.R. Rep. No. 102-654, Part 1, 102nd Cong., 2d Sess. (1992) at 7 [hereinafter cited as "House Report"].

³⁸*Id.* at 2.

³⁹H.R. 3215, 102nd Cong., 2d Sess., §2 (1992).

⁴⁰*Id.* §4. One version of this legislation currently before the U.S. Senate would delete the provision authorizing the Director of the National Science Foundation to make grants for the purpose of debt-for-science exchanges, although it would authorize funding for joint research projects and interchanges under the Inter-American Scientific Cooperation Program. *See*, S. 2665, 102nd Cong., 2d Sess. (1992).

⁴¹*Id.* §5.

⁴²The exchange is a type of debt conversion. Commercial banks sell loan portfolios (or portions thereof) on the secondary debt market, often at a discount where the banks conclude that full repayment on the loans will not be realized. In an exchange, the debtor nation makes a commitment to fund

scientific research with a contribution of local currency exchanged for debt which has been discounted and sold by the original lender on the secondary market. House Report, *supra*, note 37 at 13-14.

⁴³Brown, George E. Jr. and Daniel R. Sarewitz, *Fiscal Alchemy: Transforming Debt into Research*, Issues in Science and Technology (undated) at 3.

⁴⁴*See, e.g.*, International Development and Finance Act of 1989, 22 U.S.C. §§ 2281-2286 (1990).

⁴⁵In Mexico, for example, expenditures on research and development decreased 80% during the mid-1980's. House Report, *supra*, note 37 at 8.

⁴⁶"An economically successful Latin America will support economic growth throughout the western hemisphere. Conversely, economic stagnation in Latin America will hinder the development of new markets for U.S. goods and services". House Report, *supra*, note 37 at 9.

⁴⁷"A Free Trade Agreement with Mexico should be accompanied by the creation of new opportunities and mechanisms for scientific cooperation and research on issues of mutual interest to the United States and Mexico". H.R. 3215, 102nd Cong., 2d Sess., § 2(a)(7) (1992).

⁴⁸Press Release, Spaceport Florida Authority (August 18, 1992) at 1.

⁴⁹One version of the Senate legislation, for example, would establish an Inter-American Scientific Educational Development Exchange for graduate and postdoctoral fellowships in science and technology. *See*, S. 2665, 102nd Cong., 2d Sess., § 3 (1992).

⁵⁰*Environment: The North American Free Trade Agreement*, Office of the U.S. Trade Representative (August 1992) at 1.

⁵¹Amendments to the CSLA in 1990 gave the U.S. Secretary of Transportation

responsibility for promoting "public-private partnerships involving the Federal Government, State governments, and the private sector to build, expand, modernize, or operate space launch infrastructure". 49 U.S.C. App. § 2604(a)(3) (1992). Another amendment authorized the Secretary to facilitate the acquisition by State governments of launch property of the U.S. which is excess or otherwise not needed for public use. 49 U.S.C. App. § 2614(a) (1992).

⁵²This type of activity is not limited to Florida. Other states which have made notable efforts, particularly with respect to commercial space transportation, are Virginia, Hawaii and Texas.

⁵³*See, supra*, text accompanying note 35 and related discussion under "North American Free Trade Agreement".