SENATE STAFF ANALYSIS AND ECONOMIC IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: Commerce and Consumer Services Committee

BILL:	SPB 7018
SPONSOR:	For consideration by Commerce and Consumer Services Committee
SUBJECT:	Commission on the Future of Space in Florida
DATE:	January 26, 2005 REVISED:

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Kruse	Cooper		**Pre-meeting**
2.				
3.				
4.				
5.				
6.				

I. Summary:

SPB 7018 creates the Commission on the Future of Space in Florida to study and make recommendations to the Legislature regarding ways in which the state can adjust to and implement the rapid changes occurring in the space industry on the state and federal level. The bill directs the commission to prepare a preliminary report of its findings and recommendations by December 31, 2005, and a final report by January 15, 2006, and submit the report to the Governor and the Legislature.

II. Present Situation:

Florida's space industry has grown into a $4.5 billion segment of the state's economy. Twenty-six Florida counties are home to more than 180 space-related businesses directly employing over 23,000 Floridians.[1] Since the 1980's, the State of Florida has assumed a more proactive role in the development of space-related enterprise. While the state and private sector have enjoyed some success in the efforts to diversify the state's space industry, recent events have significantly impacted the future of space enterprise in Florida and posed new challenges for both the state and industry.

Overview of Florida's Space Industry

Since its establishment 50 years ago, the space industry has developed a statewide presence, with half of the space-related businesses located outside of Brevard County. While launch operations remain the state's primary space-related activity, the industry has expanded to include additional

[1] Florida Space Authority, *2003 Annual Report.* These figures are based on 2000 data.

capabilities and services. The space industry has also contributed significantly to the growth of Florida's research, technology development, and tourism sectors.

Florida currently ranks 4th among states in aerospace employment. The majority of aerospace employees are highly trained engineers, scientists, and technicians that command relatively high salaries. According to the Florida Aviation Aerospace Alliance the annual average wage of aerospace workers is approximately $52,000.[2] More than 86 percent of the 15,000 KSC-based employees work for prime contractors or their sub-contractors. The remainder are generally federal civil service workers employed directly by NASA. Based on NASA's 2003 estimate of its economic impact in Florida, each direct job at KSC multiplied into 2.4 indirect jobs, and each dollar of income was multiplied into $1.81 of total income.[3]

The primary space industry segment within Florida remains launch operations. This includes products and services related to payload support and processing, spaceport operations, and ground operations equipment and support. Within the spaceport, most activities revolve around three major programs: the Space Shuttle; the International Space Station; and expendable launch vehicles. The Space Shuttle Program, which is managed by United Space Alliance (a joint venture between Boeing Company and Lockheed Martin Corporation), constitutes the largest expenditure and employment category at KSC. Almost 10,000 employees currently work on the Space Shuttle Program.

Efforts to diversify Florida's space industry beyond launch-related operations have achieved some results. The recently completed Space Life Sciences Laboratory (previously known as the Space Experiment Research and Processing Laboratory or SERPL) serves as the primary gateway to the International Space Station for science experiments and a home to ground-based investigations in biological science. This facility will anchor the 400-acre International Space Research Park at KSC. This research park is intended to serve as a magnet for new space research and technology development initiatives.

State Support for Space Enterprise

During the 1980's the state significantly strengthened its support of space enterprise through the creation of the Governor's Commission on Space and the Spaceport Florida Authority, the nation's first state space agency. Since that time, the state has continued to facilitate the expansion of space-related commerce through a variety of economic development and education initiatives.

Governor's Commission on Space – In response to the changing landscape of space commerce, Governor Bob Martinez created the Governor's Commission on Space in 1987. Creation of the Commission was prompted by changes in federal space policies, increased global competition for space-related services, and the commercialization of the space industry. The commission's final report was published in 1988 and included an analysis of Florida's competitive position in attracting space commerce. The report pointed to the following as significant areas of concern: Florida's public educational system; the shortage of skilled labor; the state's overall business

[2] The Florida Aviation Aerospace Alliance, *2003 Aviation/Aerospace Assessment*, October 2003.
[3] W. Warren McHone, Transportation Economics Research Institute, *The Economic Impact of NASA in Florida – 2003*, March 2004.

climate; and the lack of suppliers for space goods and services.[4] To address these concerns, the report contained the following major recommendations:

- Enhance Florida's K-12 educational system by including space curricula and space-oriented instruction for teachers;
- Strengthen Florida's higher education system as it relates to space;
- Demonstrate a long-term commitment to developing and supporting space commerce; and
- Encourage the development of a commercial spaceport in Florida.

Florida Space Authority – In 1989, the Legislature realized a key commission recommendation through the creation of a permanent state space office – the Spaceport Florida Authority.[5] As authorized under s. 331.302, F.S., the authority constitutes the state's space transportation and economic development agency and is charged with retaining, expanding, and diversifying the state's space-related industry. The authority, which is modeled on similar types of transportation authorities (airport, seaport, etc.), is granted a wide range of powers and responsibilities. For example, the authority is empowered to own, operate, construct, and finance spaceport infrastructure. Similarly, the authority fosters space-related research and education by providing access to facilities, technology, and partnerships. Finally, the authority is responsible for space transportation planning and the coordination of state space policy. The authority is funded through a combination of state appropriations and revenues generated through the authority's activities. For fiscal year 2004-2005, the Legislature appropriated $1.8 million to the authority.

Florida Space Research Institute – In 1999, the Legislature created the Florida Space Research Institute (FSRI) to develop opportunities for Florida's academic institutions to support space technology programs. FSRI leverages state resources with those of NASA, the military, and industry, to expand and diversify Florida's space-related enterprise. For example, FRSI is responsible for co-management (with NASA) of the new Space Life Sciences Laboratory and to assist Florida-based companies and universities with a variety of space-related research projects. FSRI also sponsors a range of workforce initiatives, including space-oriented instruction for K-12 teachers, and training for future aerospace technicians. State funding for FSRI is provided through the Office of Trade, Tourism and Economic Development. For fiscal year 2004-2005, FSRI was appropriated $800,000.

Florida Aerospace Finance Corporation – The same 1999 legislation that created FSRI also established the Commercial Space Financing Corporation.[6] The mission of the corporation is to support the development of commercial aerospace products, activities, services, and facilities. To achieve these goals the corporation is authorized to provide information, technical assistance, and financial assistance to aerospace businesses. Pursuant to s. 331.407, F.S., the corporation has a range of financial services available to assist businesses, including loan facilitations, equity facilitations, loan guarantees, and creative leases. For fiscal year 2004-2005, the Legislature appropriated $300,000 to the corporation through the Office of Trade, Tourism, and Economic Development.

[4] *Steps to the Stars*, Governor's Commission on Space, 1988.
[5] Chapter 2002-183, Laws of Florida, revised the name of the authority to the Florida Space Authority.
[6] Chapter 2003-286, Laws of Florida, changed the name of the corporation to the Florida Aerospace Finance Corporation. This change was intended to eliminate confusion surrounding its mission and allow the corporation to service aviation-related projects.

Other Space-Related Entities and Incentives – In addition to the entities previously discussed, Florida has a host of other organizations that support and promote space-related enterprise. Similarly, the state has created a number of business incentives to retain and recruit space-related firms. The following briefly summarizes some of these organizations and business incentives.

- The Technological Research and Development Authority, established by the Legislature in 1987, focuses on the cost-effective transfer of new technologies to schools and small businesses in Florida.

- The Florida Space Institute is a consortium of state academic institutions responsible for expanding Florida's space industry through applied research, developing and transferring technology, and providing education and training for individuals in space-related fields.

- Spaceport Management Council was created by the Legislature to provide coordination and recommendations on projects and activities that will increase the capabilities of Florida's space industry.

- Enterprise Florida, Inc., is the public-private partnership responsible for leading Florida's statewide economic development efforts. Enterprise Florida, Inc., has designated aerospace as a target sector of Florida's economy.

- Sales Tax Exemptions – Section 212.08, F.S., provides an exemption for certain equipment and machinery used to expand the productive output of a spaceport activity. Similarly, s. 212.031, F.S., provides the lease of real property used for space flight business is exempt from Florida sales tax.

Recent Events Impacting Florida's Space Industry

A number of developments in recent years have significantly impacted space enterprise in Florida. For example, increased global competition in the face of relatively flat demand for launch services has created a challenging environment for Florida's commercial launch operators. Similarly, the tragic loss of the Shuttle Columbia and the resulting recommendations of the accident investigation board have impacted Florida-based Shuttle and Space Station operations. Finally, the President Bush's New Vision for the Future of Space Exploration promises both opportunities and challenges for Florida's space industry.

New Vision for the Future of Space Exploration – In January of 2004, President Bush announced a new vision for the nation's space program. The President committed the U.S. to a long-term human and robotic program to explore the solar system, starting with a return to the Moon that will ultimately enable future exploration of Mars and other destinations. The President's plan is based on the implementation of the following priorities:

- First, the U.S. will complete its work on the Space Station by 2010. The U.S. will launch a renewed research effort on-board the Space Station to better understand and overcome the effects of human space flight on astronaut health. Following final assembly of the Station, the Shuttle will be retired.

- Second, the U.S. will begin developing a new manned exploration vehicle to explore beyond our orbit to other worlds. The new spacecraft, the Crew Exploration Vehicle, will be developed and tested by 2008 and will conduct its first manned mission no later than 2014.

- Third, the U.S. will return to the Moon as early as 2015 and no later than 2020 and use it as a stepping-stone for more ambitious missions. A series of robotic missions to the Moon will explore the lunar surface beginning no later than 2008. Using the Crew Exploration Vehicle, humans will conduct extended lunar missions as early as 2015.

The new vision has significant implications for Florida. As previously noted, more than half of Florida's current space-related activities are linked to the Shuttle and Space Station. The new vision calls for the retirement of the Shuttle by 2010, and the reallocation of funds from the Space Station to NASA's exploration mission. The smaller Crew Exploration Vehicle, which is scheduled to enter service in 2014, will require significantly fewer personnel.

At this time, a state-coordinated response to the rapid changes occurring in the aerospace industry has not been developed.

Senate Interim Project

During the 2004-2005 interim, the Senate Committee on Commerce and Consumer Services conducted a review of the space industry in Florida. The report concluded that due to the numerous and rapid changes occurring in the industry, further study of the state's role in space should be undertaken. With that conclusion in mind, the report recommended that a study commission be appointed to work over the summer and fall of 2005 to provide final recommendations by January 15, 2006, in time to be considered during the next Legislative session.

III. Effect of Proposed Changes:

The bill creates the Commission on the Future of Space in Florida, consisting of 13 voting members and seven non-voting members to serve ex officio. The commission must accomplish several tasks, including:

- Conducting a survey of current federal, state, and local laws, ordinances, and rules that affect the development and regulation of the aerospace industry in Florida and recommend ways that will promote growth and diversification of the industry;
- Examining the ways aerospace industries and related research and development can be attracted to locate permanently in the state, and recommend actions that could be taken by state and local governments to reach this goal, including possible financing alternatives;
- Examining the state's space-related programs and, if necessary, recommend needed policy changes, including the possible restructuring of state space-related entities;
- Reviewing existing studies to evaluate the operation of commercial aerospace services in the state, identifying underserved locations, and recommend actions that can be taken to improve the availability, efficiency, and economy of the state's commercial aerospace services;
- Identifying the advances that can be expected in the future in various aspects of the aerospace industry and make recommendations regarding how the state can assist with such advances;

- Identifying federal aid available to improve the state's aerospace infrastructure and services and recommend strategies to obtain such aid; and
- Determining whether the state's secondary and postsecondary schools are producing a highly qualified workforce in sufficient numbers to meet the needs of the aerospace industry.

The commission must hold five public hearings in different regions of the state beginning no later than September 1, 2005, and must make a preliminary report by December 31, 2005, with a final report due to the Governor, the President of the Senate, and the Speaker of the House of Representatives by January 15, 2006. The commission expires January 16, 2006.

The voting members of the commission are to be selected from the following groups:
- Aerospace manufacturing;
- Aerospace operations and maintenance;
- Aerospace finance;
- Aerospace research;
- Commercial aerospace services;
- Florida Space Authority; and
- Enterprise Florida, Inc.

The governor's seven voting appointments must include at least one appointment from each of the preceding groups. The President of the Senate and the Speaker of the House of Representatives must make their three voting appointments from three of the preceding groups.

The ex-officio, non-voting members include the following:

- Lieutenant Governor, or designee;
- Secretary of Transportation, or designee;
- Director of Workforce Innovation, or designee;
- Two members of the state's Congressional delegation, or their designees, chosen by the Governor in consultation with the delegation;
- One member of the Senate; and
- One member of the House of Representatives.

Commission members may not receive remuneration for their services, but may receive expenses for travel or per diem. The commission may appoint technical advisory committees, and may appoint an executive director. The Department of Transportation is assigned to provide staff assistance to the commission. The bill provides an appropriation of $300,000 to the department during the 2005-2006 fiscal year to implement the commission. The bill takes effect July 1, 2005.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Economic Impact and Fiscal Note:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

The Department of Transportation is charged with providing administrative and staff support to the Commission on the Future of Space in Florida. The department would be responsible for supporting the commission with personnel and an expense budget from the bill's appropriation. This would include travel expenses for commission members to a minimum of four meetings. The long term effects of the bill cannot be determined until the recommendations of the commission are known.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Summary of Amendments:

This Senate staff analysis does not reflect the intent or official position of the bill's sponsor or the Florida Senate.