

VIRGINIA COMMERCIAL SPACE FLIGHT AUTHORITY

MID-ATLANTIC REGIONAL SPACEPORT



Senate Finance Subcommittee
Economic Development & Natural Resources

MAY 20, 2010

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Government Relations & Public Affairs

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www.marsspaceport.com

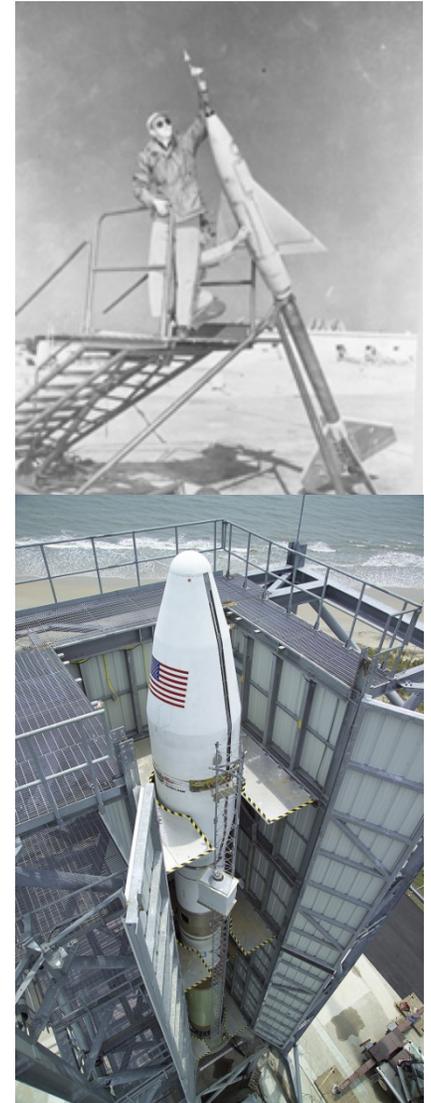


Wallops Flight Facility

- Established 1945 as Flight Test Facility
- 16,000+ Successful R&D and Scientific Orbital and Suborbital Rocket Launches
- ❖ Diversified
 - ✓ Sounding Rockets
 - ✓ Balloons
 - ✓ UAV's
 - ✓ Research Aircraft
 - ✓ Research Runways

HOME: Mid-Atlantic Regional Spaceport

www.marsspaceport.com







MARS - A Commercial Spaceport



- ❖ ***FAA Licensed (1997)***
- ❖ ***Virginia State Authority Owned***
- ❖ ***1 of 4 U.S. Spaceports Licensed for Orbit Access***
- ❖ ***Facilities & Services Provider – Seaport/Airport Model***
- ❖ ***Developer of Needed Launch Facilities***
- ❖ ***Leverage Federal Facilities for Commercial &
Government Thru Space Act Agreement***



MARS - A Commercial Spaceport



- ❖ ***Purpose/Mission – Promote Economic Growth/
Education/Technical R&D via Aerospace Initiatives***
- ❖ ***Goal – Foster Growth of Commercial Space in the
Region and Nation***
- ❖ ***Objective – Make MARS & NASA Wallops a Robust
Portal for Access to Space***
- ❖ ***How – Be An Enabler***
 - ***Invest in New Capabilities***
 - ***Create Business Friendly Environment***
 - ***FTZ, Tax Exemptions – “Zero Gravity – Zero Tax”***
 - ***Liability Limitation for Human Space Flight***
 - ***Forge Partnerships***



Partnerships Forged



❖ **State to State**



❖ **Intrastate**



❖ **State and Federal**



❖ **Public – Private**

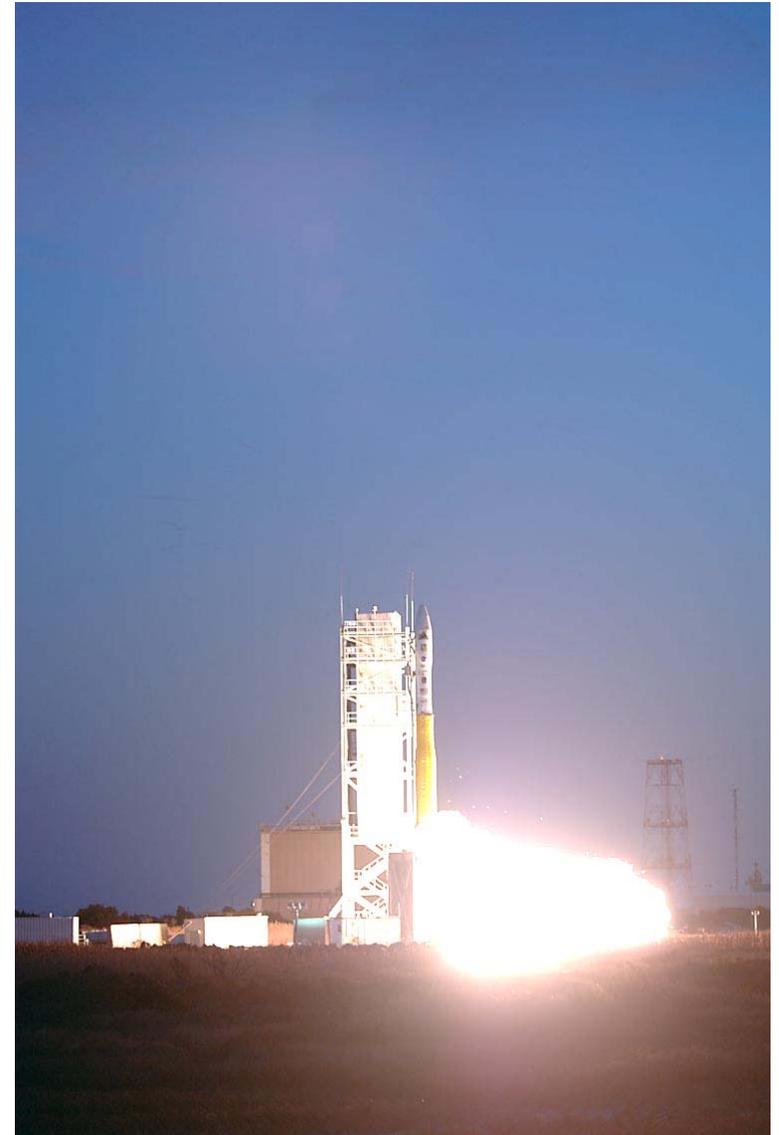




Our Legacy

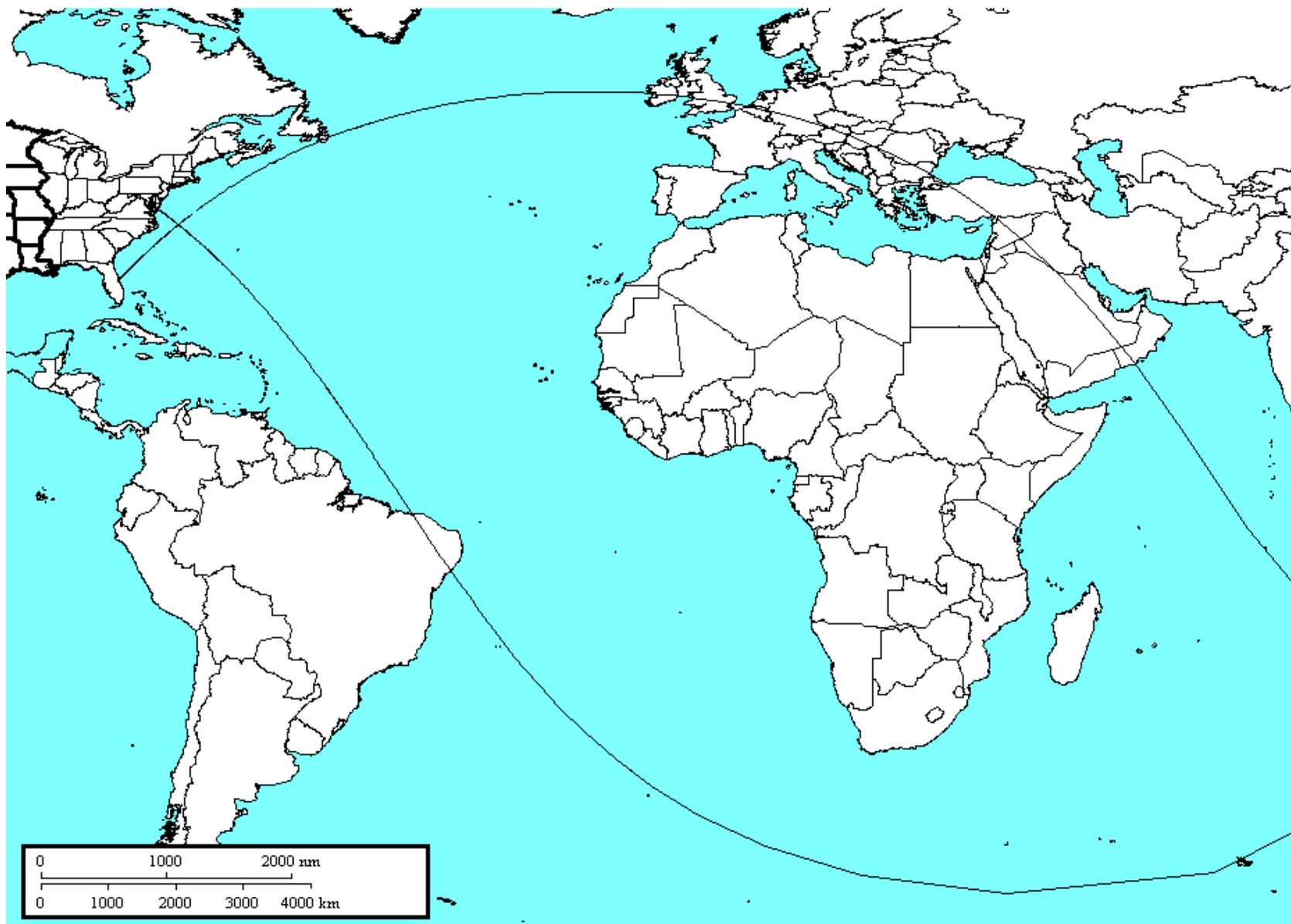


- ❖ **Operationally Responsive Space Access**
- ❖ **Lower Cost Access to Space**
- ❖ **Small to Medium Sized Payloads**
- ❖ **Space Systems Test & Development**





ISS Orbit Access Trajectories



Richmond Times-Dispatch

WEDNESDAY, DECEMBER 24, 2008

75¢ • VIRGINIA'S NEWS LEADER • INRICH.COM • A MEDIA GENERAL NEWSPAPER • STATE



ailers struggle to lure shoppers **B7**

Eastern Shore to be link to space station

Firm gets NASA contract to rocket supplies from Wallops Island

BY BILL GEROUX
Times-Dispatch Staff Writer

The lives of the astronauts on the International Space Station will depend on supplies launched on rockets from Virginia's Eastern Shore.

A Northern Virginia aerospace company won a \$1.9 billion contract from NASA yesterday to fly cargo missions to the space station from a launch site on Virginia's Wallops Island.

Orbital Sciences Corp. of Dulles is to conduct eight resupply missions to the space station between 2011 and 2015, after the scheduled retirement of the space shuttle. Each delivery would involve up to 20 tons of supplies.

The launches would take place at the Mid-Atlantic Regional Spaceport at Wallops, near the Virginia-Maryland border, where Orbital Sciences has successfully launched rockets before. The company said it planned to build new facilities at Wallops for the space-station project.

BREAKING NEWS
12/23/08 6:02 PM
on inRich.com

Space

From Page A1

including analysis and special tasks as the government determines are necessary."

"We are very appreciative of the trust NASA has placed with us to provide commercial cargo transportation services to and from the International Space Station, beginning with our demonstration flight scheduled in late 2010," said David W. Thompson, Orbital's chairman and chief executive officer, in a prepared statement.

The contract also calls for delivery of "non-standard services in support of the cargo resupply, including analysis and special tasks as the government determines are necessary."

Orbital will share the job of resupplying the space station with a California company, Space Exploration Technologies (SpaceX), which won a \$1.6 billion contract for 12 other missions.

The NASA contract is the largest for the regional spaceport, jointly supported by Virginia and Maryland, which has tried for years to capture a piece of the commercial space business. A rocket built by Orbital Sciences accomplished the first successful launch from the spaceport in 2006.

Gov. Timothy M. Kaine, who gave Orbital Sciences state money to expand in Virginia, said in a statement that the NASA contract is "great news for Virginia and particularly for the people of the Eastern Shore."

At the least, rocket launches

from Wallops will fill motels and restaurants along the northern Eastern Shore. But Kaine spokesman Gordon Hickey said Orbital also planned to invest in new facilities at Wallops.

Orbital said preparations for the launches also will take place at its facilities in Dulles and Arizona, and that the first-stage engines of the Taurus II would be tested at a NASA facility in Mississippi.

NASA said in a statement it will closely monitor the progress of the contracts, which it said "will fulfill NASA's need to procure cargo delivery services to the space station using a U.S. commercial carrier after the retirement of the space shuttle."

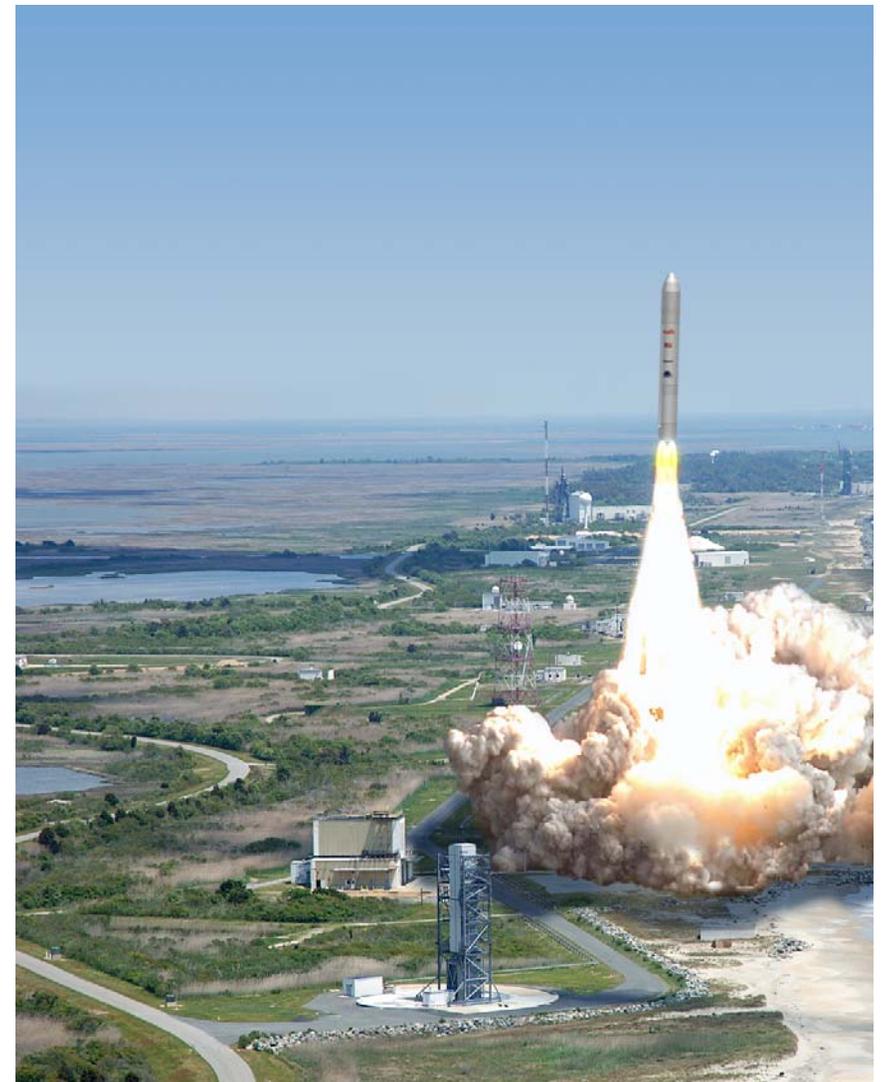
• Contact Bill Geroux at (757) 498-2820 or wgeroux@timesdispatch.com.



Our New Capability

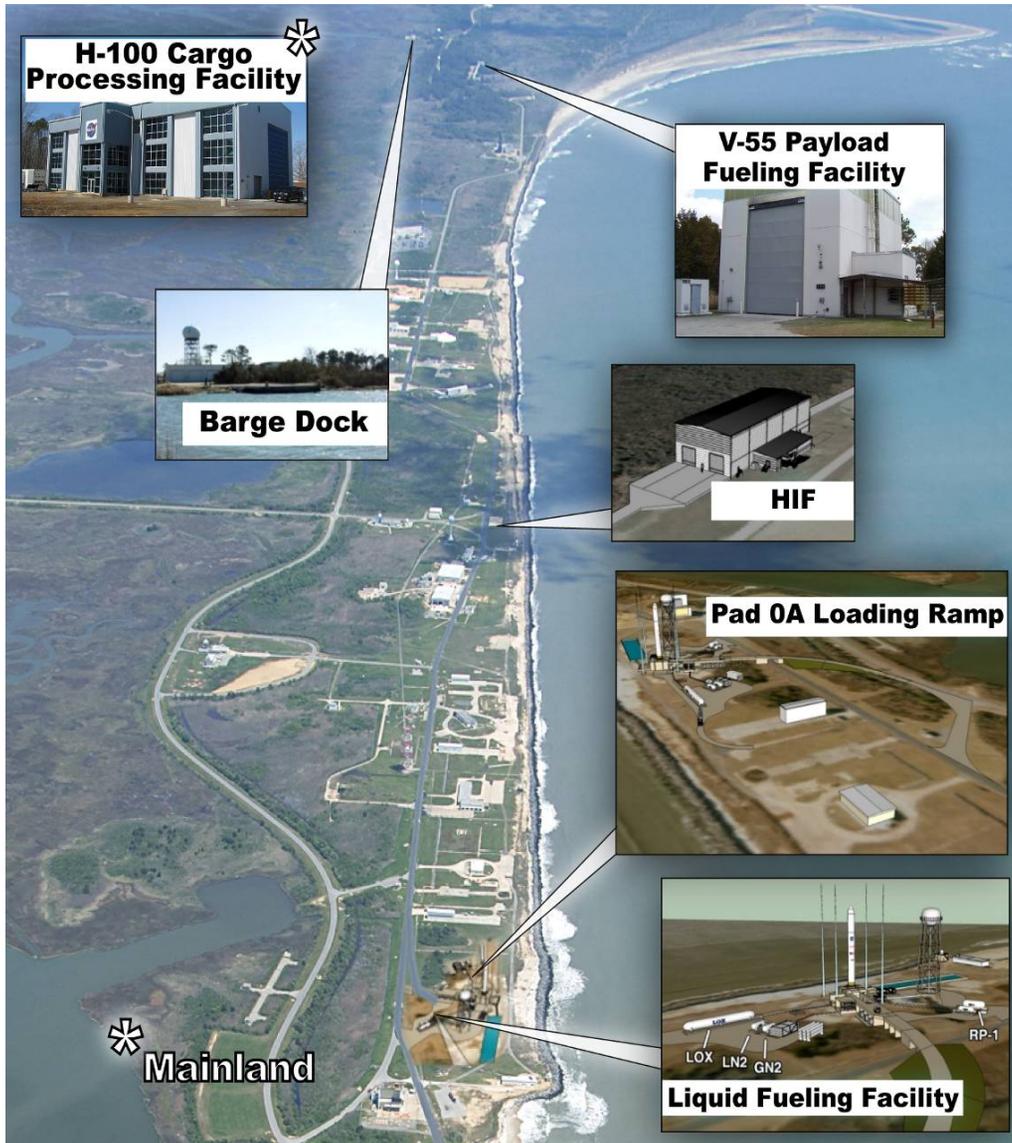


- ❖ **COTS – Commercial Orbital Transportation Services**
 - **Orbital's Taurus II**
 - **Demo Mission June 2011**
- ❖ **CRS – Commercial Re-Supply Services to ISS**
 - **8 Missions 2011 – 2015**
 - **20,000 kg to ISS**





Development Underway



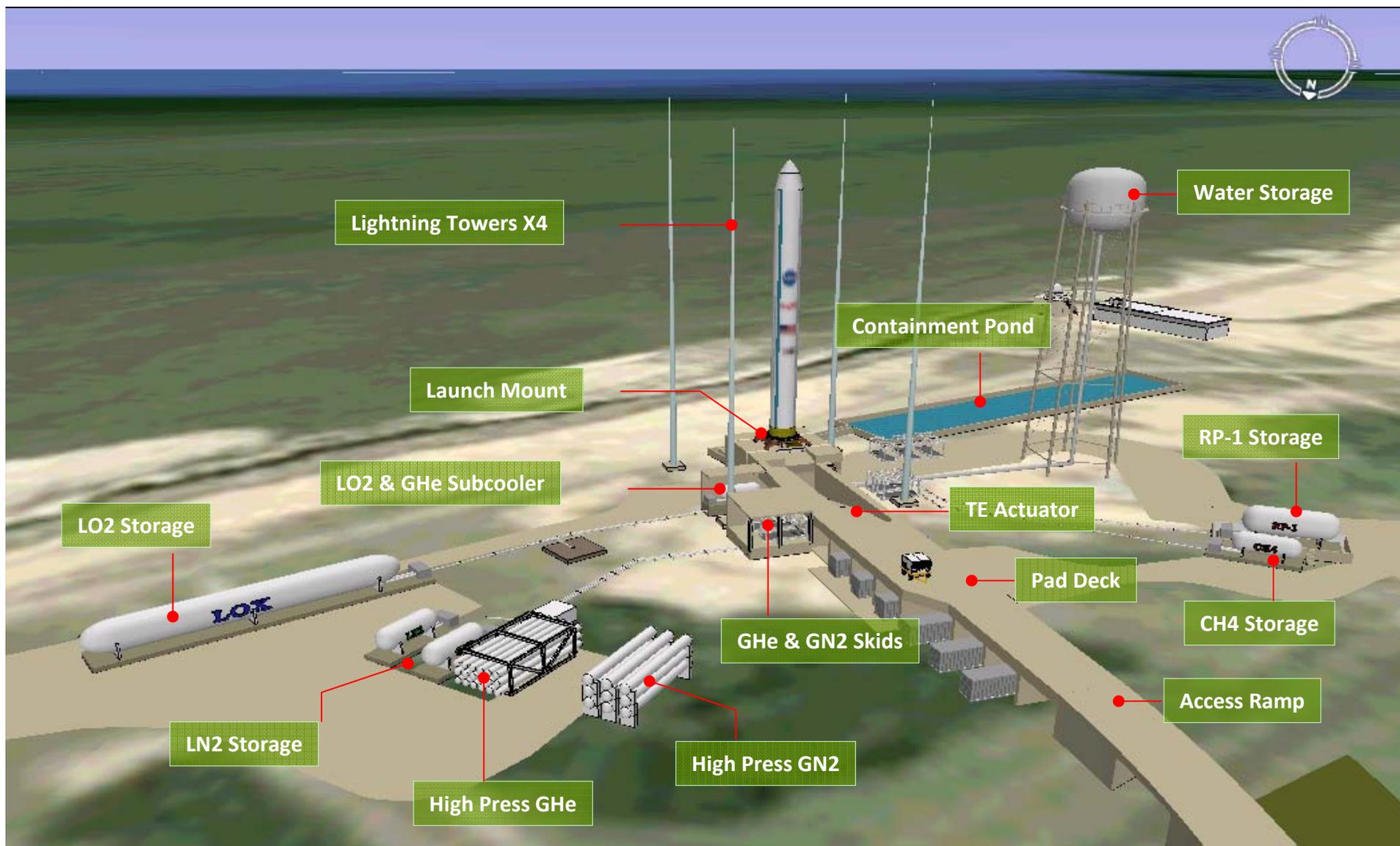


Launch Pad & Fuel Farm





Pad 0A Layout







Stacking Rocket on Pad 0B



- **Enhancing and Upgrading Pad-OB**

- Peace Keeper / Castor 120
- Completing Height
- Upgrading Enclosure

- **Minotaur IV Mission**

- October 2010
- LADDE – Lunar Rover
- Taurus & Athena RFQ's

- **Pad-0B Launch Vehicles/ Boosters**

- Minotaur I (Minute Man)
- ATK/ALV-1 (Castor 30)
- Minotaur IV (Peace Keeper)
- Taurus (Castor 120)
- Athena (Castor 120)





Going to the Moon in 2012



❖ NASA LADEE (Lunar Atmosphere & Dust Environment Explorer)

- Lunar Orbit
- Air Force *Minotaur V*
- MARS Pad 0-B





MARS LAUNCH MANIFEST



- **December 2010** U.S. Air Force Operationally Responsive Space Launch Pad 0-B
- **June 2011** Demonstration Launch of Orbital Sciences new Taurus II Rocket Launch Pad 0-A
- **October 2011** Taurus II re-supply mission to the International Space Station (ISS) Launch Pad 0-A
- **April 2012** Taurus II Re-supply mission to the ISS Launch Pad 0-A
- **Late 2012** [NASA LADEE \(Lunar Atmosphere & Dust Environment Explorer\)](#) Launch Pad 0-B
- **2013 Two** Taurus II Re-Supply Missions to the ISS Launch Pad 0-A
- **2014 Two** Taurus II Re-supply Missions to the ISS Launch Pad 0-A
- **2015 Two** Taurus II Re-supply Missions to the ISS Launch Pad 0-A



What Did the Commonwealth Get For \$26 Million in Bond Financing?*



- Title to a new \$30 Million launch pad
- Title to a new \$22 Million liquid fueling facility
- Leased use of a new 37,000 sq ft Dual-Bay Horizontal Integration Facility
- Leased use of Upgraded Payload Processing Facility

* **Orbital Sciences paying back 75% of bond**



VCSFA Funding History



YEAR	FTE	BUDGET	VA Approp	MD Cont.	INCOME	RESERVE To & (From)
2010	6	\$1,310,353	\$259,497*	\$150,000	\$471,075	(\$429,781)
2009	6	\$721,854	\$92,150		\$493,800	(\$135,904)
2008	4	\$791,930	\$95,000		\$493,800	(\$203,130)
2007	4	\$736,900	\$100,000		\$754,000	+\$117,100
2006	4	\$493,900	\$100,000	\$150,000	\$499,300	+\$255,400
2005	4	\$527,600	\$100,000	\$150,000	\$288,900	+\$11,300
		\$4,582,537	\$487,150	\$450,000	\$2,529,800	

- Approval of funding from Miscellaneous Contingency Reserve Account of \$179,435.00 for personnel (11/1/09) to enable VCSFA to meet obligations of the MOU with Orbital Sciences.



What is the Commonwealth Getting for \$1,379,095 in FY 11?



- ...7 full time staff members for \$1.1 Million
- ...Insurance, legal, admin., launch pad maintenance, etc. (partial)
- ...State Appropriation represents 71% of VCSFA's Budget (in five previous year state Approps represented 20% or less of total budget)

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Jobs, Jobs, Jobs & Revenue, Revenue, Revenue



Commercial Orbital Transportation Services (COTS)

Orbital Sciences **\$176 Million** – funding for Resupply Demonstration Mission
Orbital IR&D funding **\$150 million** for development of the Taurus II Launch Vehicle
Orbital investing **\$45 million** in facilities/infrastructure in Loudoun Co. Campus
Orbital commits to **125 Six-figure jobs & VEDP Estimates 223 indirect jobs ***

International Space Station (ISS) Commercial Re-Supply (CRS)

\$1.9 Billion Contract to provide 20,000Kg of up-mass to the International Space Station
8 Missions 2010 to 2015

VEDP estimate – NPV direct & indirect tax revenues to Virginia* :

5 years -- \$ 7,242,000
10 years -- \$12,625,000
15 years -- \$18,228,000
20 years -- \$23,426,000

*** These figures developed prior to Orbital receiving \$1.9 billion dollar re-supply contract to the International Space Station**