

Virginia Space Update

*Senate Finance Committee
February 4, 2015*

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VIRGINIA
SPACE

A Brief History of 'Virginia Space'

1995 – VCSFA created by Virginia

1997 – NASA Space Act Agreement

1997 – FAA launch license for orbit

1997 – Spaceport established



2006 – Launched TacSat-2, Pad 0B

2007 – Launched NFIRE, Pad 0B

2009 – Launched TacSat-3, Pad 0B

2011 – Launched ORS-1, Pad 0B

MARS Pad 0A Groundbreaking June 2009



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MARS Pad 0A Turnover October 1, 2012



- **22 February 2013: Antares Hot Fire Test PAD 0A**
- **21 April 2013: Antares Test Flight PAD 0A**
- **6 September 2013: LADEE Launched to the Moon PAD 0B**
- **18 September 2013: Antares ORB-D1 Launched to ISS PAD 0A**
- **19 November 2013: ORS-3 PAD 0B**
- **9 January 2014: Orb-1 Launched to ISS PAD 0A**
- **13 July 2014: Orb-2 Launched to ISS PAD 0A**



Orb-3 Launch Failure



October 28, 2014 Antares experienced a failure after lift-off from the Virginia Space Mid-Atlantic Regional Spaceport (MARS) Pad 0A

MARS Pad 0A



Water Deluge System

Lightning Protection System

RP-1 Propellant

Transporter Erector Launcher (TEL)

Ramp

Launch Mount

Antares Hot Fire Test Article

Liquid Fueling Facility (LFF)
LOX, LN2, GN2, He

Flame Trench

- ***Pad 0A complex escaped severe damage***
- ***Estimated Cost to Repair: Not to Exceed \$20M***
- ***Estimated Time to Repair: Approximately 12 months***



Pad 0A Damage

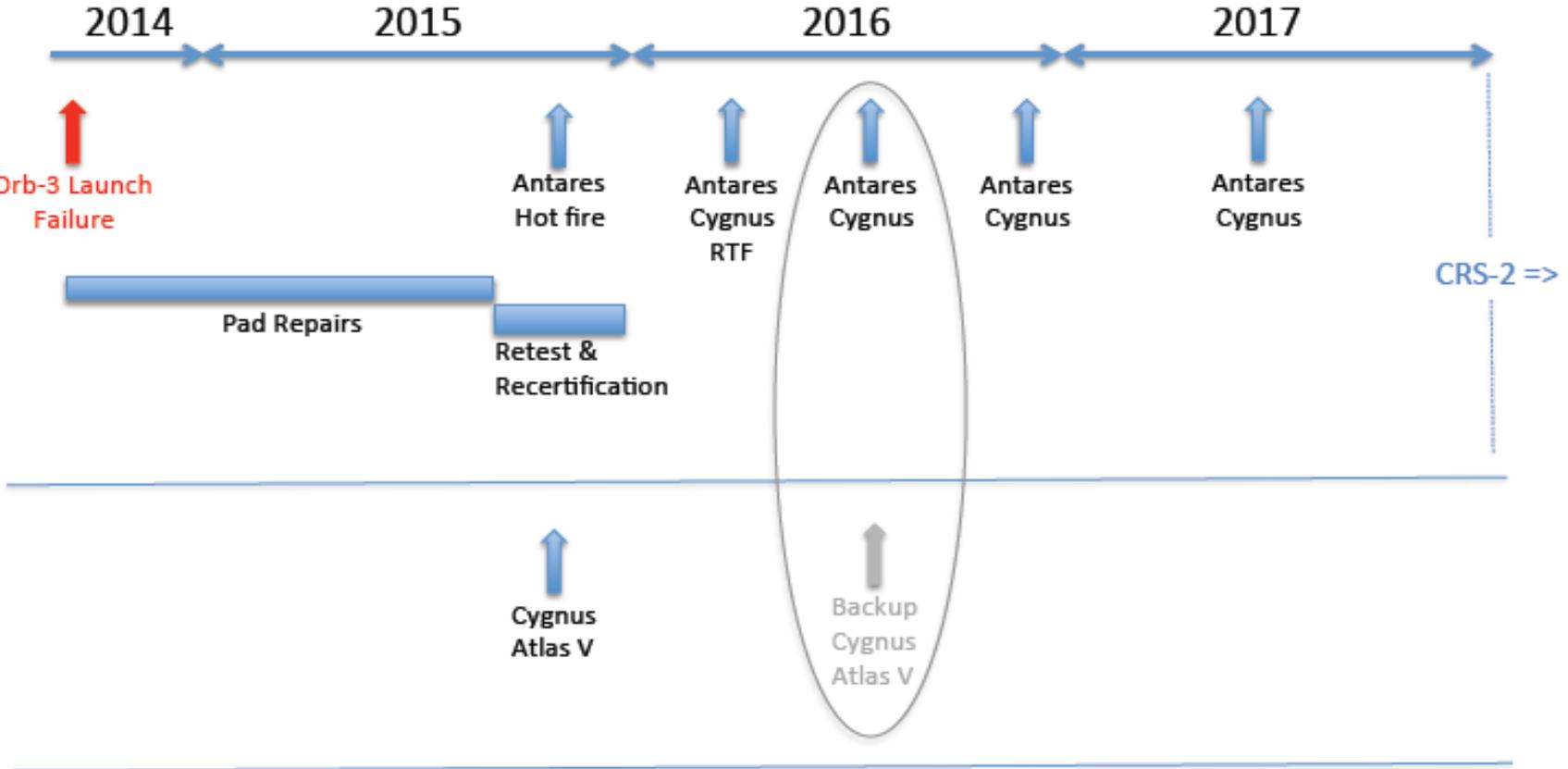


Backfill of Crater Nearing Complete

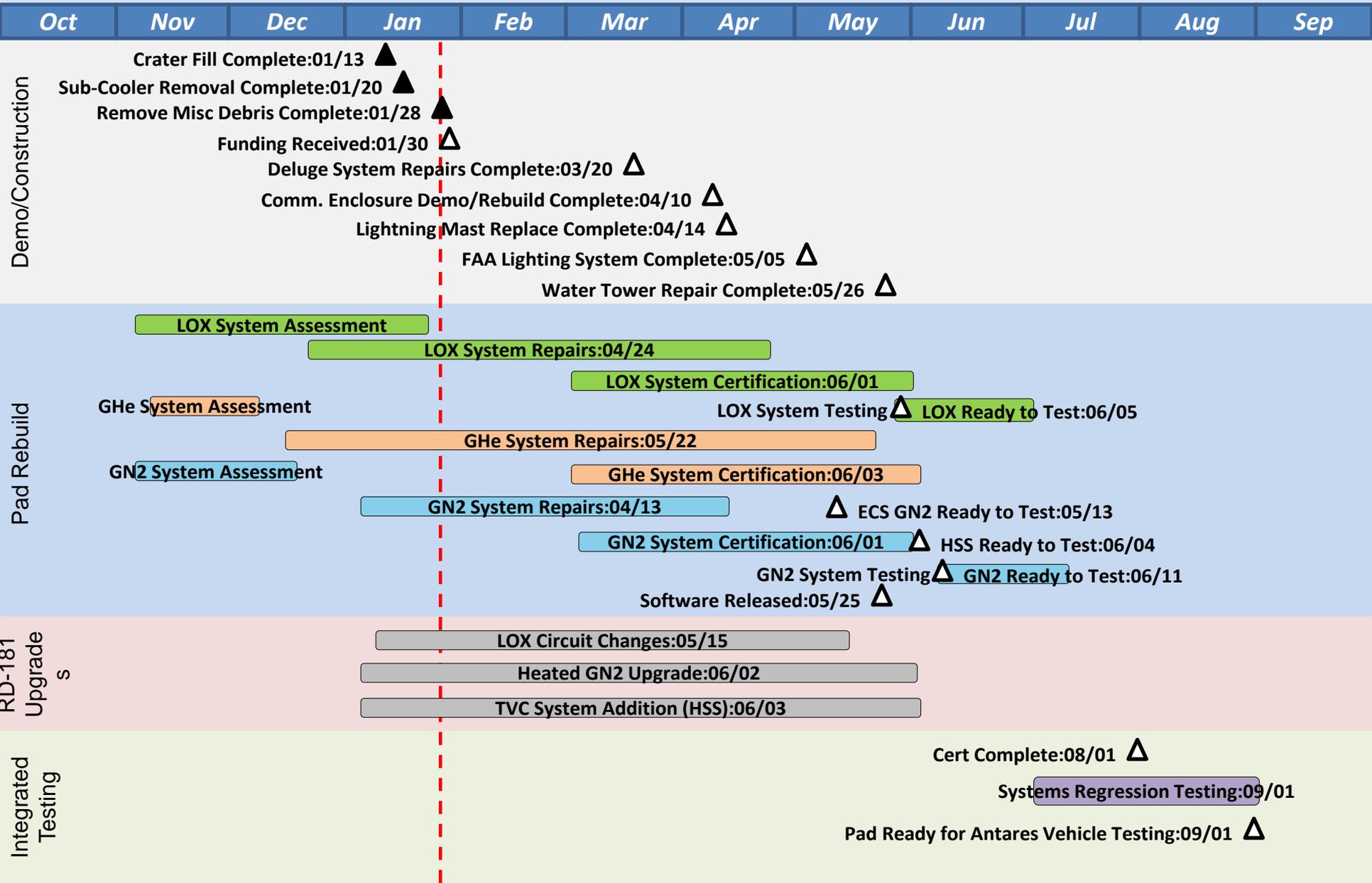


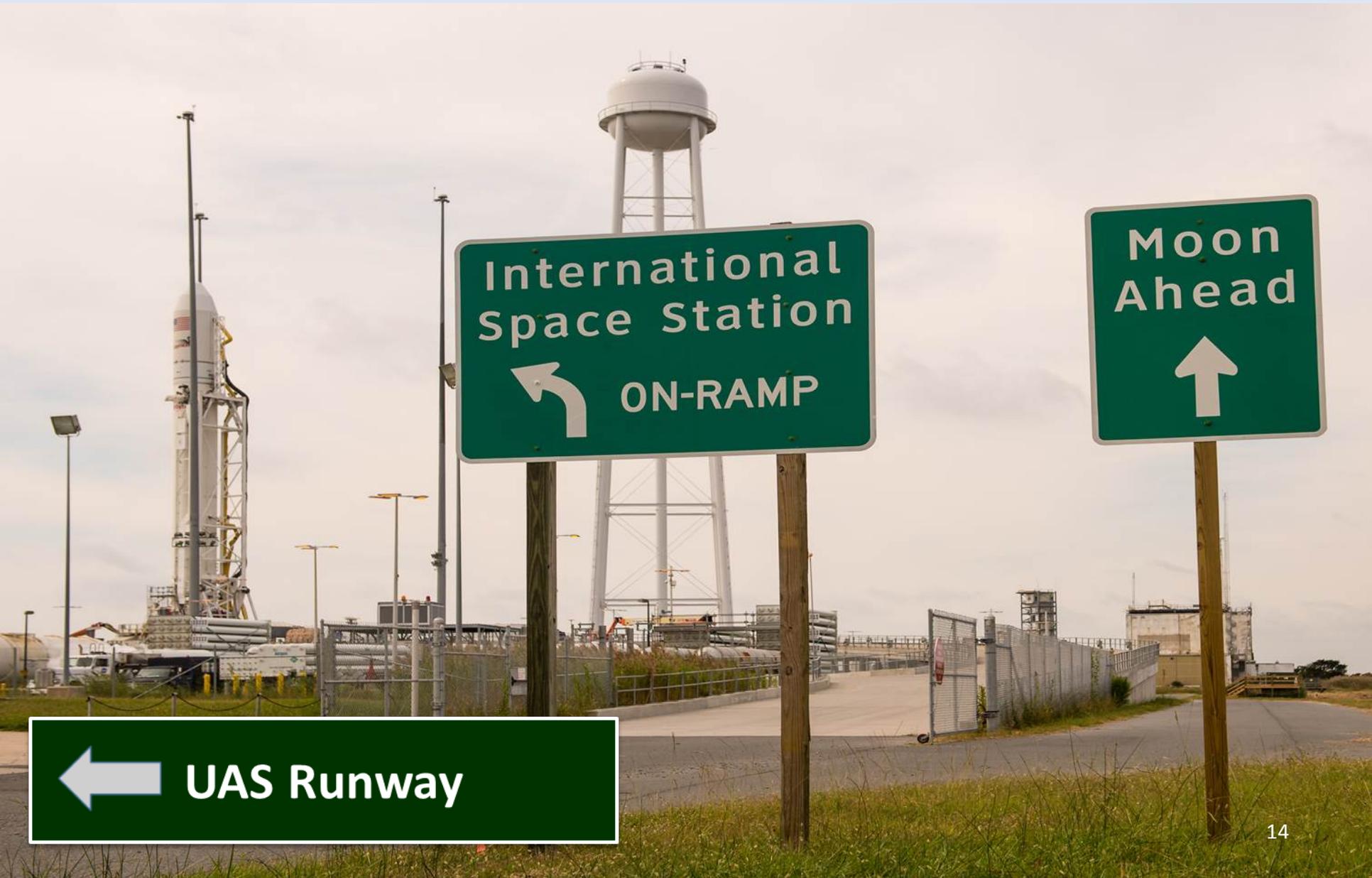
Pad 0A Progress





MARS PAD-0A Rebuild Schedule

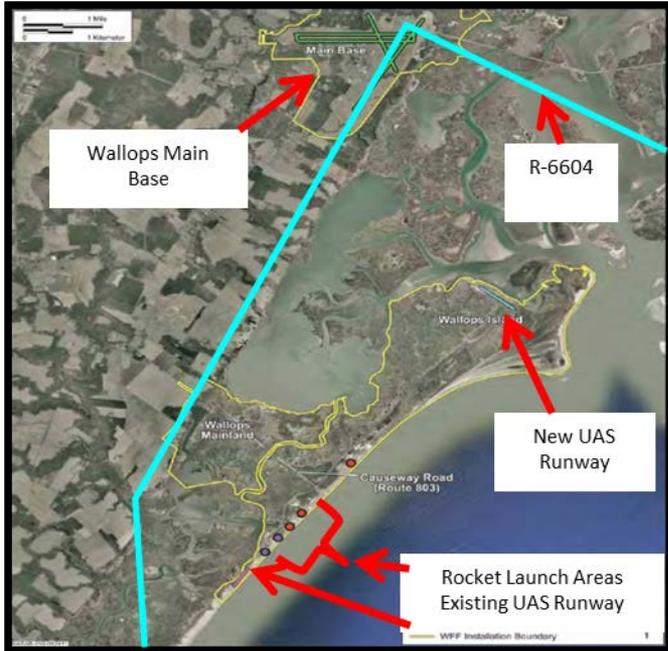




International
Space Station
← ON-RAMP

Moon
Ahead
↑

← UAS Runway



➤ Agreements

- **Reviewing draft NASA SAA for UAS Runway Construction and Ops, delivered Nov. 18**
- **Negotiations required to resolve issues**

➤ Funding

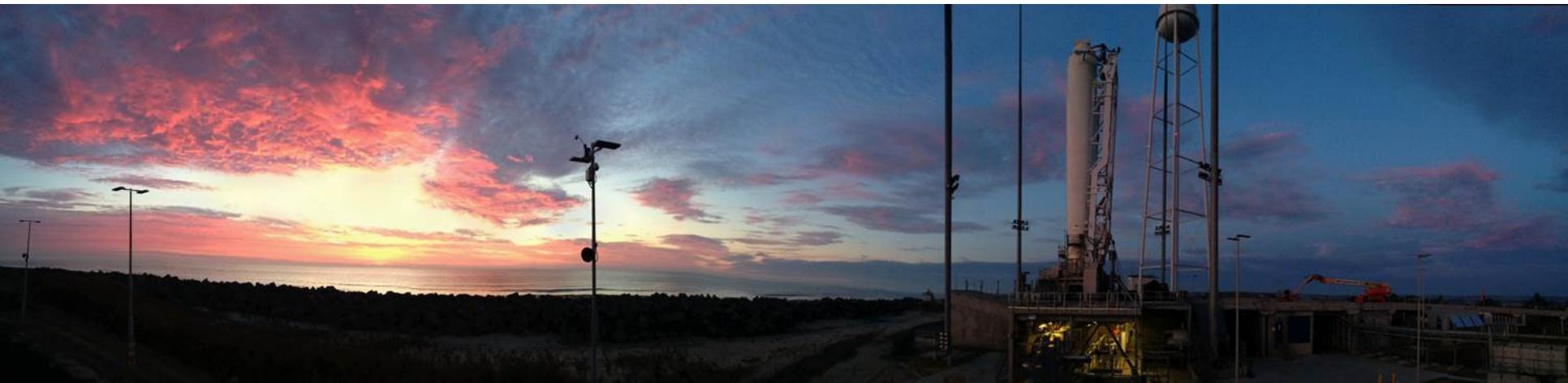
- **\$5.8M for the UAS Runway appropriated to Virginia Space in the FY15 Budget**
- **Funding available to VCSFA upon completion of the NASA Land Use Agreement**



➤ Runway Construction

- **3000' x 75' (with 35' cleared on the sides), includes staging pad and electrical power**
- **For cost savings through efficiencies, utilizing VDOT to support engineering services**

- ***Over 100 new aerospace jobs on the Eastern Shore in support of the Antares program to resupply International Space Station***
- ***Virginia Space UAS Runway construction and operations***
- ***Virginia Space STEM internships help build a local high-tech aerospace workforce on the Eastern Shore***
- ***Travel and tourism to see the launches from Wallops; new Chincoteague Marriott Fairfield Inn and adjoining restaurant***



The Final Frontier

Part of Virginia's New Economy

