Commonwealth of Virginia

Governor's Aerospace Advisory Council (GAAC)

Virtual Meeting— via Zoom/Webex

6 April 2021: 1:00- 3:00pm

4 May 2021: 9:00-11:00 am

April 6, 2021 Meeting via Zoom

I. Call to Order & GAAC Welcome **Chairman Sickles**

The meeting was called to order at 1:01 p.m.

II. Attendance **Dr. Amber L. Wilson**

Dr. Amber Wilson took attendance of Council Members.

III. Approval of Minutes: 11 January 2021 meeting **Chairman Sickles**

Minutes were sent out.

Mary Sandy made a motion to accept the minutes, Delegate Simonds seconded the motion, and it was approved.

IV. Briefs— (5 minutes each) **Chairman Sickles**

Introduction to presentations, 5minutes each.

NASA Langley **Clayton Turner, Director**

Mr. Turner needs to leave the meeting early to attend an Orion drop test at NASA Langley.

Brief video:
"Greetings from the Space Station" was a thanks for supporting the agency. NASA is a global leader in technology and space exploration and works with global partners. The ISS is a catalyst for economic development. NASA explores the solar system and beyond but would not be able to do this without support. The astronauts on the station encouraged viewers to "Stay safe and aim high."

With the change of administration priorities are the Artemis program, climate, understanding the home planet, space exploration, and sustainable aviation, X57, boosting US competitiveness with innovation, and expanding STEM opportunities.

Projects:

- LOFTID – the Low-Earth Orbit Flight Test of an Inflatable Decelerator. It is a demonstration of a type of heat shield that would be used for atmospheric re-entry.

- X-57 renewable fuels
- TEMPO – Tropospheric Emissions Monitoring of Pollution. Located on a geosynchronous satellite, it is a UV-visible spectrometer, and will be the first ever space-based instrument to monitor air pollutants hourly across the North American continent during daytime.
- The Measurement Systems Laboratory supports research and development of new measurement concepts, technologies, and systems to enable NASA to achieve its mission in space exploration, science, and aeronautics.

The magic of NASA is the people. NASA recruits across the entire country.

A. VA is for Space Lovers **Staci Martin (Virginia Tourism)**

No report at this time.

B. Virginia Aviation Business Association (VABA) **Bud Oakey (President)**

One of the biggest things to occur recently in the legislature was the aircraft parts and maintenance tax credit. They've been asked to study the effectiveness of this policy.

When the policy went into effect, 28 states had also enacted it but two near Virginia hadn't. They now have done so.

There are no large MROs in Virginia but we do have companies such as Dynamic Aviation.

In its first two years, 4 MROs have expressed interest in Virginia and new sales have increased 6 times with business coming from as far away as Nevada. Avionics expansion has taken place in Virginia and two paint shops are now under construction.

THE MEETING WAS STOPPED HERE because of outside hacking…

May 4, 2021, Meeting Resumed via WebEx

I. The meeting was called to order at 9:04 a.m. by Chairman Sickles

II. Dr. Amber Wilson took attendance.

III. Minutes from the January 11, 2021 meeting were again approved. A motion was made by Mary Sandy and seconded by an unidentified member.

Virginia Economic Development Partnership Presentation **Stephen Moret, President and CEO, VEDP**

VEDP marketing and business development efforts include some successes and some challenges. Aerospace is one of the most heavily subsidized industries in the U. S. and Virginia is one of the states that provides the lowest incentives. Recent large projects in the U. S. have been expansions of existing operations. COVID 19 has also had a strong impact on the industry.

Aviation is a large and diverse industry with significant activities going on throughout the Commonwealth.

Northern Virginia is home to the headquarters for a variety of firms.

Virginia has a unique asset in the spaceport located on the Eastern Shore.

Rocket Lab and its Electron program has launches scheduled for late this year.

The SRS UAS Hangar project is located at Melfa Airport.

Virginia's aerospace industry employs over 28,400 people. Virginia has 42,000 people with security clearances.

Aerospace spans several different sectors.

Manufacturing: Over the last 5 years or so aerospace manufacturing has not been the fastest growing industry but does offer important technology.

The highest US employment sector overall is the tech sector (a lot of tech is related to the aerospace sector).

Aerospace is 1% of projects overall.

For 2014-2019, manufacturing employment in Virginia has been outperforming other states.

Virginia is also in the top ten for aerospace project announcements (#10, tied with Michigan).

Defense spending is also a factor.

3 key factors where other states have an advantage in securing new aerospace projects:

1. large incentives
2. prepared sites (sites adjacent to airports)
3. skilled workforce and training capacity. Virginia is moving forward in this last area.

<u>Unmanned:</u>

1. Tailored state incentives for early-start firms

2. Existing relative infrastructure

3. Skilled workforce

VEDP has a new aerospace and unmanned area on their website. Later this year there will be an approximately 20 page aerospace document. Collaborations are also taking place.

Recent projects include Dynamic Aviation and Silent Falcon.

They also have an updated *available sites database* for airports.

40% of the Governor's missions are for aerospace and unmanned sectors.

Nine Opportunities for Virginia to strengthen its ability to secure new projects:

1. Skills development in community college programs.
2. Make the sales and use tax exemption permanent or semi-permanent.
3. Develop a funding source for small, high growth firms.
4. Consider creating a Virginia aerospace economic development focused arm under VEDP with dedicated state funding.
5. Commit to offering more competitive incentive packages for high impact aerospace projects.
6. Expand funding available to prepare project-ready sites.
7. Invest in marketing to better promote awareness of Virginia's aerospace assets.
8. Expand programs to commercialize research from Virginia's federal labs and universities.
9. Expand our position as a leader in regulatory experimentation to accommodate innovations in the aerospace industry from smaller players.

There was a Virginia Economic Review cover story about Aerospace.

Space Operations:

1. Choose to Invest in infrastructure – especially on the Eastern Shore.
2. Dedicated space focused grant program
3. Marketing

The retail sales and use tax exemption on aviation parts, engines and supplies needs to be permanent.

The Virginia Talent Accelerator Program makes Virginia highly competitive.

Questions:

Senator Lewis: Having a space facility near MD means that employees can live in VA or MD. Has that been considered?

Stephen Moret: Virginia Space, Rocket Lab, etc. have researched where employees live. It is thought that more live in Virginia but a lot also live in Maryland. Research has been done regarding how many lots are available in subdivisions in Virginia.

Chairman Sickles: What type of incentives are southern states giving out to attract projects?
Stephen Moret: There is a big range. Key Differences include: dollars per job, dollars per capital investment, etc. Virginia is the lowest of these.

On big projects the most prominent incentives include:

1. State funding for the entire cost of a building and providing it to a company. Virginia could build the building and provide it to a customer (but retain ownership of the building).
2. Custom grants to the corporation for startup.
3. Job creation tax credits (qualifying jobs get a percentage back for a certain number of years).

Automotive, semiconductor and aerospace projects tend to get these large packages.

Chairman Sickles: How can new state programs impact these projects?

Stephen Moret: A fairly small number of dollars in these programs can be dedicated to aerospace. Virginia accepts very low risk which means we lose out on some projects. There is good ROI for projects. For some really big strategic opportunities, think of investments we can make in infrastructure (that would be owned by the Commonwealth).

Chris Goyne: Regarding niche aspects of the sector there is hypersonic technology ($15 billion from the federal government). Virginia is well positioned to get some of those dollars.

Dale Nash: Advised that Mr. Moret covered the topic well. Rocket Lab is going public and the Electron program is important. Launch pads are now very valuable real estate. Wider opportunities are out there.

Briefs:

VA is for Space Lovers **Staci Martin, Virginia Tourism**

Update: They are working with two main street communities on the Eastern Shore. Tourism is in survival and recovery mode. They hope to restart the space loop conversations in the late fall. Conversations are taking place with Hazy Center and the Virginia Air and Space Science Center to create a sizzle reel. They hope to have a rack card this summer (Virginia is for Space Lovers).

NASA Langley Research Center **Clayton Turner, Director**

Update: The new NASA Administrator, Bill Nelson, served in the Senate (FL) and was a proponent for NASA. He has an interest in Artemis and other projects. Langley hopes to get a visit soon.

Virginia Aviation Business Association (VABA) **Bud Oakey, President**

Update: He is thankful that Steven Moret covered the sales and use tax in his presentation.
The Parts and Supplies tax credit has been used to attract enhanced maintenance services. Thirty-six states have implemented this credit. A study is currently being conducted at UVA (both manned and unmanned). So far it has shown success with facilities seeing ½ million dollars of additional work -especially in avionics. Two paint shops are now under construction and more are under consideration. Until the tax is permanent, growth will be stifled.

Workforce preparedness is important. MROs want a ready workforce. There are still shortages of technicians. Interest needs to be promoted in K-12 grades. NC and KY have been proactive in developing their workforce.

Delegate Simonds: in terms of workforce she reminded the group of the Denbigh Aviation Academy but noted that students need to go into a commercial program to gain aviation maintenance technician skills. She suggested that more schools need to be created across the Commonwealth.

Mary Sandy shared that Blue Ridge Community College has an aviation maintenance technician program.

Bud Oakey noted that it's near an MRO and that Danville Community College is looking at creating a program. Denbigh Aviation Academy is very strong. Chesterfield has also initiated an Engineering program.

He noted that he and Mary Sandy want to push internships for juniors and seniors in high school. Also it's currently difficult to get CAP STEM programs into high schools.

VABA may create a scholarship for aviation maintenance technicians.

Virginia Aerospace Business Association (VASBA) **Laura T. Blumberg, President**

Laura Blumberg thanked Amber Wilson for participating on the FIX panel. They are focused on building their network including business, industry, government, and education.

They are getting ready for their annual gala.

NASA Wallops Flight Facility **David Pierce, Director**

They are:

1. Working with partners to provide access to space.
2. Working to leverage small to medium rockets and Artemis.
3. Working with DOD.
4. Continuing to team with other NASA facilities, etc.
5. Continuing to support UAS with their runway.

Large Project Examples:

1. completed beach replenishment for $25 Million,
2. repair ($5 million) and later replacement of their bridge
3. new telemetry antenna
4. 800 strands of fiber optic cable to the island.

Working to complete and provide a master plan for the next 20 years.

A very busy year is planned for 2021. In late March they launched a sounding rocket to investigate aerodynamic buffeting. They plan to launch 24 sounding rockets this year, 19 balloon missions, provide commercial crew support, work with the Navy and expand into hypersonic.

They will continue to partner with and grow the workforce on the Eastern Shore and will work with the VSGC on STEM programs. This year Virginia Space Coast Scholars will impact 300 students. Of those, 120 will complete 3 virtual academies.

Chairman Sickles: Are they attracting commercial UAS contractors for the runway?

David Pierce: They are starting to see a large number of interested companies. The NAVY is using the runway almost full time.

Chairman Sickles: What kind of revenue is coming in?

David Pierce: Estimated $79 million but suggested Dale Nash might have better information.

Virginia Space **Dale Nash, CEO and Executive Director**

Dale Nash: The UAS runway is $1500 per day. The facility strives to be self-sustaining, but doesn't generate revenue. Adding everything up comes to about $1.3 million a year.

Northrup Grumman is their premier tenant.

Rocket Lab is going public with a $750 million public offering (valued at $4.4 billion). Rocket Lab's launch and integration involves 250 people. Current plans can double or triple activity.

Senator Lewis noted the significant commitment to Rocket Lab.

They need to build and develop the area, the spaceport, the port, hangar at Accomack Airport, etc.

Virginia Earth Systems Science Scholars **Mary Sandy, Virginia Space Grant Consortium**

Students attending the Virginia Earth Systems Science Scholars program will receive 5 college credits. It provides earth science education in more depth than they receive in school. VSCG partners with NASA Wallops on this program.
This past year VSGC served 1000 students in summer academies with NASA Langley and NASA Wallops.
While the yearly legislative reception did not take place during the General Assembly, there were meetings with legislators (8-10 slides). NASA did its own meetings.

Virginia Institute for Spaceflight and Autonomy **Dr. David Bowles, Executive Director**

The organization is in its second year of its data program working with MITRE and partners (funded by CIT).

Unmanned systems:
They have an MOU with CIT for a regional playbook to ascertain opportunities for this industry (port solutions and security will be discussed in a June workshop). The state of Maryland is connecting Salisbury with Wallops – maybe a hookup between Melfa and Wallops is next.

Dale Nash asked them to manage a 6U cubesat launch next summer (summer 2022). They're interested in growing a small sat/ cubesat industry plus the data that comes from these missions.

Advanced Air Mobility (AAM) **Director Flynn and Dr. Amber L. Wilson**

Advanced Air Mobility features autonomous aircraft for short trips (for example: trips from Richmond to DC). The state will be involved in Flyways for these vehicles. Building codes, fire code and land use for AAM should include a state assisted land use policy working with localities. Vertiports will be on the ground in major cities.

FAA is looking at regulations needed and has partnered with NASA. DOAV is involved in community outreach, working with the Vertical Flight Society and Transportation Research Board. Detroit is looking at implementing this at Willow Run and Detroit Metro. What are we doing and what are we not doing?

Tom Michaels noted they already have contracts for these vehicles.

Discussion: 2021 Planning & Outcomes for GAAC **Chairman Sickles**

Making Virginia the leader in defense contracting for Virginia companies.
Idea: Northern Virginia mini tradeshow/seminar where companies can talk about their products and what they'd like to see Virginia do. Communicate with the Chairman at Info@marksickles.com with ideas for the tradeshow (Oct. 5th).

DOAV Brief **Mark Flynn, Director**

Today a Boeing grant of $50M was made to Virginia Tech's Arlington campus.

Later today he will attend a seminar on s***ustainable aviation fuel*** to turn biomass into jet fuel.

New Business:

Delegate Simonds noted that we need to focus on getting kids into careers and an aviation maintenance technician scholarship for Denbigh students.

Next Meeting: July 6, 2021, 9-11 a.m. (virtual)

Adjourned: 10:54 a.m.

Attendees:

1. Chairman Del. Mark Sickles
2. Vice Chair Senator Lynwood Lewis
3. Del. Shelly Simonds
4. Del. Amanda Batten
5. Director Mark Flynn
6. Dr. Amber L. Wilson
7. John Campbell
8. Laurie Brown
9. Betty Wilson
10. Ilana Creinin
11. Dr. David Bowles
12. Dr. Douglas Stanley
13. Stephen Moret
14. Brett Feddersen
15. Chris McDonald
16. Christopher Cooper
17. Christy Morton
18. David Skiles
19. Donna Lawson
20. Jeremy Eggers
21. Nick Devereux
22. Sean Mulligan
23. Greg Walden
24. Sydney Green
25. Tom McMahon
26. Tracy Tynan
27. Kim Reed
28. Stacie Martin
29. Laura Blumberg
30. Bud Oakey
31. Lindsay Hurt
32. Dale Nash
33. Clayton Turner
34. David Pierce
35. Jon Greene
36. Kurt Eberly
37. Tom Michels
38. Chris Goyne