ALASKA STATE LEGISLATURE
SENATE LABOR AND COMMERCE STANDING COMMITTEE
March 17, 2021
1:30 p.m.

MEMBERS PRESENT

Senator Mia Costello, Chair
Senator Roger Holland, Vice Chair
Senator Joshua Revak
Senator Elvi Gray-Jackson
Senator Gary Stevens

MEMBERS ABSENT

All members present.

COMMITTEE CALENDAR

PRESENTATION(S): AEROSPACE DAY AT THE ALASKA STATE CAPITOL

FLYING TO THE FUTURE - BUILDING THE FOUNDATION FOR AN UNMANNED AIRCRAFT INDUSTRY IN ALASKA

- HEARD

AEROSPACE RESEARCH AND OPERATIONS AT THE GEOPHYSICAL INSTITUTE

- HEARD

ALASKA STATE LEGISLATURE AEROSPACE DAY

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

LIEUTENANT GOVERNOR KEVIN MEYER
State of Alaska
Juneau, Alaska
POSITION STATEMENT: Introduced Alaska Aerospace Day at the Alaska State Capitol.

KATHY CAHILL, PhD, Director
Alaska Center for Unmanned Aircraft Systems Integration
University of Alaska Fairbanks (UAF)
Fairbanks, Alaska
POSITION STATEMENT: Delivered a presentation on Building the Foundation for an Unmanned Aircraft Industry in Alaska

ROBERT MCCOY, PhD, Director
Geophysical Institute
University of Alaska Fairbanks
Fairbanks, Alaska
POSITION STATEMENT: Delivered a presentation about Aerospace Research and Operations at the UAF Geophysical Institute.

MARK LESTER, President and CEO
Alaska Aerospace Corporation
Anchorage, Alaska
POSITION STATEMENT: Delivered a presentation on the work Alaska Aerospace Corporation has done to advance the aerospace industry in Alaska.

ROSS GARELICK BELL, Executive Director
Aerospace States Association
Washington, DC
POSITION STATEMENT: Delivered a presentation on the Aerospace States Association.

ACTION NARRATIVE

1:30:49 PM
CHAIR MIA COSTELLO called the Senate Labor and Commerce Standing Committee meeting to order at 1:30 p.m. Present at the call to order were Senators Gray-Jackson, Revak, Holland, and Chair Costello. Senator Stevens arrived during the introduction.

PRESENTATION(S): Aerospace Day at the Alaska State Capitol

1:31:35 PM
CHAIR COSTELLO stated that the business before the committee is to hear presentations in celebration of Alaska Aerospace Day at the Alaska State Capitol. She welcomed Lieutenant Governor Meyer to provide the introductions.

1:32:32 PM

LIEUTENANT GOVERNOR KEVIN MEYER, State of Alaska, Juneau, Alaska, expressed appreciation for the opportunity to talk about the aerospace activities in the state and their importance in diversifying the overall economy of the state.

He advised that aerospace includes rocket launches, drones, satellites, and both military and general aviation. It is an emerging industry with great growth potential. He posited that after the presentation the committee would agree that the state should do what it can to support and help this industry grow. Doing so will help the economy and create jobs.

1:33:47 PM
At ease

1:34:25 PM
CHAIR COSTELLO reconvened the meeting and invited Lieutenant Governor Meyer to continue the introduction.

1:34:39 PM
LIEUTENANT GOVERNOR MEYER advised that the committee will first hear from Dr. Kathy Cahill from the University of Alaska, Fairbanks (UAF) who will talk about the emerging market for and use of drones statewide and across the world. The next speaker will be Dr. Robert McCoy from the Geophysical Institute at UAF who will talk about rocket launches, the Poker Flat Research Range outside of Fairbanks, and the long-term contract with NASA. The third speaker will be Mark Lester with the Alaska Aerospace Corporation who will talk about rocket launches, satellites, and tourism activities at the Kodiak launch site. The final speaker will be Ross Garelick Bell from the Aerospace States Association who will talk about aerospace states and the new Alaska Chapter. He noted that Senator Stevens from Kodiak and Representative Hopkins from Fairbanks were joining him as co-chairs of the Alaska Chapter.

CHAIR COSTELLO welcomed Dr. Cahill.

Flying to the Future - Building the Foundation for an Unmanned Aircraft Industry in Alaska

1:37:26 PM
KATHY CAHILL, PhD; Director, Alaska Center for Unmanned Aircraft Systems Integration, University of Alaska Fairbanks (UAF), Fairbanks, Alaska, thanked the committee for the invitation to talk about unmanned aircraft opportunities in Alaska. She said

UAF is trying to build the foundation for this industry because it is an opportunity to lead the world.

DR. CAHILL displayed a graphic of the parts of an unmanned aircraft system (UAS) that includes the aircraft, the payload, the crew, system integration and engineering, command & control, and data link. The next slide depicts the wide variety of unmanned aircraft, most of which the university either owns or has done aerospace for. They helped do aerospace in Hawaii for the 255-foot wingspan Hawk 30 high-altitude-drone. The Griffon SeaHunter on the bottom right of the slide has a 16-foot wingspan, weighs 300 pounds, and has about 12.5 hours endurance. It is used to demonstrate uses to the FAA.

1:40:12 PM
DR. CAHILL displayed the list of potential UAS missions.

- Cargo delivery to remote communities for medical supplies and emergency response
- Infrastructure surveillance for the Trans-Alaska Pipeline
- Oil spill response including in-situ remediation. For example, unmanned aircraft released a clumping agent on oil spilled in a test basin and an aircraft with a torch lighted the oil.
- Mammal surveys, fish surveys, and fisheries compliance with unmanned aircraft.
- Wildfire response
- Search and Rescue

1:41:20 PM
DR. CAHILL turned to slide 5 and pointed out that unmanned aircraft can perform many aviation missions safely when manned aircraft cannot fly under visual flight rules, and they are more cost effective. She said another opportunity is for Alaskan kids to receive their education at the University of Alaska and work in the state in this high-tech field. UA is using and testing the technologies to conduct these operations and is working with the Federal Aviation Administration (FAA) to develop appropriate rules, regulations, policies, and procedures to prevent a manned/unmanned aircraft incident.

She explained that the Alaska Center for UAS Integration (ACUASI) is the University of Alaska's UAS Center of Excellence. The return on investment in 2021 is estimated to be about 14:1. It is an opportunity to get outside funding into the state. The challenge is to have the personnel and capability to do the

work. Because of the prohibition against competing with commercial industry, the university is laying the foundation and is transitioning the work to industry users in Alaska. She listed the missions:

- Working with the FAA on the safe integration of the UAS into the National Airspace System,
- Supporting Alaskan UAS users and industry, and
- Conducting scientific research.

1:44:20 PM
DR. CAHILL displayed a Venn diagram to illustrate that ACUASI is the only organization in the country that is one of the seven FAA UAS Test Sites, one of the 15 core schools in the FAA Center of Excellence, and one of the eight FAA Beyond sites. The FAA recognizes ACUASI's expertise, she said.

She explained that the Beyond program started to accelerate the commercial use of unmanned aircraft in the national air space. The pilot was successful and the FAA asked US to continue this work for four more years to develop the technologies and policies and procedures for safe implementation. She pointed to the list of partners in the Beyond program listed on slide 8, many of which are Alaska based or have said they intend to move to Alaska to continue the work.

DR. CAHILL described the Department of Transportation and Public Facilities (ADOTPF) as a key partner. DOTPF:
- works with the FAA to enhance UAS access to Alaskan airspace
- operates airports across the state, facilitating UAS integration at airports and providing ingress and egress from coastal launch sites to permanent areas in the Arctic.
- operates UAS for a wide variety of infrastructure monitoring use cases

1:48:11 PM
DR. CAHILL reviewed the FAA Center of Excellence for UAS Research (ASSURE) that is centered on safety.

- Involved in multiple projects focused on:
  - Ensuring safety of cargo operations
  - Minimizing risks from operations at airports
  - Safely flying Beyond Visual Line of Sight (BVLOS) of the Pilot in Command

She said the last safety point is key for Alaska. Flying beyond the visual line of sight of the pilot in command is essential

for many missions in Alaska but almost impossible under current FAA rules and regulations.

DR. CAHILL discussed ACUASI's work to advance unmanned aircraft operations with Transport Canada and the Canadian equivalent of the FAA. They have flown over 20,000 nautical miles of BVLOS flights in the last four years. The most important program has been to advance the health of the 400 North Atlantic Right Whales that congregate in the Saint Lawrence Seaway. Artificial intelligence is used onboard the aircraft to locate the whales in real time to avoid contact with ships transiting the area.

She explained that ACUASI and its partners are testing onboard and ground-based detect and avoid (DAA) systems that identify aircraft near the UAS and either alert the UAS plot to avoid or autonomously move to avoid the aircraft. She said this is essential for opening the state for business.

DR. CAHILL displayed the image of the first FAA certificate of waiver that authorized "Small unmanned aircraft system (sUAS) operations beyond the visual line of sight of the remote pilot in command (PIC) and Visual Observer (VO), in lieu of visual line of sight (VLOS)". This waiver was under the small, unmanned aircraft rule (Part 107). In addition to the 20,000 nautical miles of BVLOS flights in Canada, ACUASI has flown 3.9 nautical miles of BVLOS flights in the US under this rule. She described it as an essential step forward. She displayed the picture of the numerous people that it took to conduct the US flight, including seven people from the FAA. She highlighted that many of the FAA personnel were from headquarters, which shows the value of unmanned aircraft to the FAA and aviation industry.

1:52:30 PM
DR. CAHILL said the next step includes a single flight of the entire Trans Alaska Pipeline. The aircraft technology is available but the ground-based detect and avoid system and rules and regulations are lacking. The FAA currently has authorized a 20-mile test area over the pipeline. Multiple companies are interested in coming to Alaska to participate in this testing, which helps local companies see the technologies other companies are developing.

She said this is all moving towards the goal of actual cargo deliveries to remote communities via UAS, potentially reducing costs. Cargo carrying BVLOS for hire can only be done under a Part 135 certificate, so the university is working with local air carriers in Fairbanks to get them certified.

DR. CAHILL said UAF is also looking at medical supply deliveries. They will be doing test flights in the next few months between Fairbanks Memorial Hospital and the Tanana Valley Clinic. This is a pilot for longer distance flights and they are working with a major pharmaceutical company to advance the technology.

DR. CAHILL reviewed ACUASI's future.

ACUASI will continue to lead the way to the way to the safe integration of UAS into the Alaskan airspace

- ACUASI will be fling large UAS from Alaskan airports to demonstrate UAS capabilities and test Alaskan business cases
- ACUASI and its partners will be developing the technology and processes for monitoring oil and gas infrastructure
- ACUASI will be transferring commercial operations it pioneered to Alaskan companies

1:55:55 PM
CHAIR COSTELLO thanked her for the presentation.

SENATOR STEVENS described the opportunities as tremendously exciting and specifically mentioned flights to spot herring and deliveries to remote areas.

DR CAHILL replied Alaska is the perfect place to change aviation for the better by keeping the best of the traditional industry and providing additional options.

SENATOR STEVENS asked her to expand on how the detect and avoid system works.

DR. CAHILL replied ACUASI is testing systems that are radar based, optical that use a camera for spotting, and acoustic that listen to signatures of other aircraft. The purpose is to spot the aircraft, determine its direction, and have the system perform an autonomous avoid in order to prevent situations of near miss or actual collision. The FAA is very interested in this technology and the ongoing tests at the Poker Flat Research Range.

She said Alaska is looking for onboard the aircraft solutions because it does not have the infrastructure to do an entire ground-based system that the state of North Dakota is doing.

Onboard solutions assure that if ground communications do not work, the aircraft will still avoid a collision.

CHAIR COSTELLO thanked her for the presentation.

Aerospace Research and Operations at the Geophysical Institute

1:59:11 PM
LIEUTENANT GOVERNOR MEYER introduced Dr. Robert McCoy, the Director of the Geophysical Institute at the University of Alaska Fairbanks.

1:59:30 PM
ROBERT MCCOY, PhD; Director, Geophysical Institute, University of Alaska Fairbanks, Fairbanks, Alaska started the presentation with a graphic of a rocket and satellite dishes in front of the building that houses the UAF Geophysical Institute (the Institute). He described Fairbanks as a very good location to download satellite data and launch rockets into the aurora. The Institute has nine satellite dishes; seven are used in work with the National Aeronautical and Space Administration (NASA) or the Department of Defense and two are used in work with the National Oceanic and Atmospheric Administration (NOAA). He said he is pointing this out to define aerospace a little broader than just the research at Poker Flat because a lot of the work is operational.

2:00:34 PM
DR. MCCOY turned to the map of Alaska on the next slide that depicted the aerospace facilities across the state, including Alaska Aerospace Corporation. He explained that from Poker Flat they launch suborbital to the Brooks Range and out into the Arctic Ocean. He said the Institute also controls the High-frequency Active Auroral Research Program (HAARP) located in Gakona and collaborates with the Alaska Aerospace Corporation. They are also working on an unmanned aircraft station at Oliktok Point.

He said the next slide was part of a talk he and Mark Lester from the Alaska Aerospace Corporation gave about how Alaska is an aerospace state that perhaps can be the low-cost gateway to space with Poker Flat Research Station and the Pacific Spaceport Complex – Alaska (PSCA) on Kodiak Island. He said they both are working on ways to keep costs down and promote work and research in Alaska. He pointed to the slide on the right and highlighted their ability to launch five rockets within a matter of seconds to do science or for operational activities. He described

launches from Poker Flat and noted that the Alaska Aerospace Corporation can launch both suborbital and into orbit from Kodiak.

DR. MCCOY displayed snapshots of the Poker Flat Research Range. He said the Institute has been launching rockets for about 50 years, mostly into the aurora. He pointed to one of the five rocket launch rails and the building on a railroad track that houses the launch rail. He also mentioned that the range has radars and a LIDAR facility. He highlighted that this is the largest land-based rocket range in the world and the only one owned by a university.

He stated that launching rockets with a scientific payload provides quite an economic boost for Fairbanks because 20 to 30 people arrive for 2 to 3 weeks for each rocket launch. He explained that the payload is built up over several weeks, put on the rail encapsulated in Styrofoam, and elevated. Heat is pumped in and the rocket can be held in that state for weeks. He compared this to the DoD launches at the White Sands Missile Range in New Mexico that can only hold for 45 minutes. He highlighted that the payload from Poker Flat launches can be recovered by helicopter and launched again. He predicted the launch of 14 sounding rockets in the next couple of years from Poker Flat. It has the capability of launching higher than White Sands and still recover the payload. He noted that NASA scientists are interested in studying the sun. From Poker Flat they can launch volleys of rockets up to 1,000 kilometers and get more hang time than at White Sands.

2:04:37 PM
DR. MCCOY displayed slides 6 and 7 and explained that the Army and the Yuma Proving Ground (YPG) developed a hybrid-rocket-round that has a range of more than 70 kilometers. Because the YPG range is limited, he said the Institute is in discussion with the Army to experiment at the Poker Flat Research Range.

He related that this is the 75th year that the Geophysical Institute has studied the ionosphere and the aurora. He mentioned the instrumentation throughout Alaska and the work with the Missile Defense Agency to provide information for long-range discrimination radar (LRDR) at Clear Air Force Station.

DR. MCCOY displayed the next slide and reported that Alaska is a good place to downlink data from polar orbiting satellites. To map the earth, satellites orbit the poles 14 times and 11 of those go over Fairbanks. He pointed to a picture of the 11-meter

satellite dishes on campus and noted that the one on the roof of the Institute is the highest point in Fairbanks. He explained that the Institute downloads most of NASA's synthetic aperture radar (SAR) data, day or night and through clouds. He noted that the colorful image on the right is the SAR image of Cook Inlet. He also mentioned work regarding domain awareness.

2:07:58 PM
DR. MCCOY turned to the image of the High frequency Active Auroral Research Program (HAARP) facility in Gakona. DoD built the facility, Senator Ted Stevens started the program and the Defense Advanced Research Projects Agency (DARPA), the Navy, and the Air Force finished it for $290 million. The facility is one of three in the world. It is powered with five 3,600 HP diesel engines (shown on the next slide) and can transmit 3.7 megawatts. Currently, the Air Force, the Navy, the Department of Energy, and several universities come to HAARP to do experiments in the ionosphere that can't be done anywhere else. He cited creating an artificial aurora as an example.

He said the next slide illustrates the possibility of over the horizon radar using HAARP as a transmitter and a receiver at Delta Junction. This can be used to look for aircraft, cruise missiles, hypersonic vehicles, or to measure sea ice. He noted the capability to look in both directions. He also mentioned an experimenter at the Naval Research Lab who is working with the Institute and the Alaska Aerospace Corporation to put a receiver in Kodiak to transmit south. He believes it is possible to see Hawaii in over the horizon radar mode.

DR. MCCOY displayed the last slide and advised that Mark Lester would talk about a hypersonic vehicle test range along the Aleutians. He said hypersonic vehicles leave a plasma scar and he believes these signals can be received using HAARP as a radio transmitter. He concluded that Alaska is an aerospace state that already has a breadth of activity.

CHAIR COSTELLO thanked him for the amazing presentation.

SENATOR STEVENS asked what he projects for the future of over the horizon radar.

DR. MCCOY said he believes it could be used soon but he would defer to Mark Lester for a more detailed answer.

Alaska Aerospace Corporation Presentation

2:13:00 PM

LIEUTENANT GOVERNOR MEYER introduced Mark Lester, President and CEO of the Alaska Aerospace Corporation and part of the leadership team for the Alaska Chapter of the Aerospace States Association.

2:13:24 PM
MARK LESTER, President and CEO, Alaska Aerospace Corporation, Anchorage, Alaska, reported that the corporation is celebrating its 30th anniversary as a public corporation of the state. They have primarily focused on the spaceport in Kodiak but have a strong collaboration with the university. Formerly known as the Kodiak Launch Complex, the Pacific Spaceport Complex - Alaska (PSCA) was one of the first locations to have a commercial spaceport. They have defined what it means to deliver spaceport capability to commercial and government customers. He said he would give a virtual tour of the site and welcomes legislators to visit and see a launch.

He said the corporation has focused on running as a business and he is proud to report that since 2015 they have not received any sustainment funding from either the state or federal government. One mechanism to deliver the economic value envisioned by Ted Stevens was to create the wholly owned subsidiary, Aurora Launch Services. It provides flexibility to increase staff when needed for missions and launches and then pulling back to a core group between missions.

2:16:00 PM
MR. LESTER pointed to the large green launch area and said PSCA has more flexibility than anywhere else to do suborbital and orbital launches to do tests like missile defense intercept or to launch into Polar orbit where the satellite goes over the North or South Pole. He described the Kodiak location as a great natural resource; it is a safe place to launch, has a low population, and has strong logistics capabilities with a deep water ice-free port, an airport that is co-located with the Coast Guard station, and fiberoptic capabilities so some customers can get the data they need while working away from Alaska. He noted that extending the fiberoptic to Unalaska will provide more flexibility to support launches in the Aleutian Test Range and provide communities with fiberoptic broadband connectivity. He reported about $120 million in capital investment to support both DoD and commercial launches. He posited that aerospace could leverage the moto, "From the Last Frontier, to the Final Frontier."

2:17:59 PM

MR. LESTER said the next slide provides a virtual tour of the Pacific Spaceport Complex - Alaska (PSCA). It is one of just four stations to launch into orbit and it has launch and mission control centers, instrumentation to track rockets and shut them down within the safety corridors, payload processing, rocket storage, and a number of launch pads. He directed attention to the six launch pads at PSCA. Launch Pad 1 (LP-1) is the traditional tower that can handle larger solid-fueled rockets and LP-2 next to it is a flat-pad for smaller vehicles. He said the area 3 pads are for both military and commercial launches and the new commercial space company Astra consistently uses LP-3B. He noted that he had a 90-second video that he would show at the end of the presentation that has highlights of Astra getting its vehicle into space in December 2020.

MR. LESTER directed attention to the launch graphic on slide 6 and the chart on the right that lists the year, month, and sponsor of every launch from ASCA for the last 23 years. He said the world is now turning to Kodiak and Alaska to understand how to launch in other locations. He reviewed the list of sponsors and noted that last year DARPA highlighted Kodiak as the only place in the US that could support responsive and agile space to meet DoD needs.

2:20:31 PM
MR. LESTER said the graphic on slide 7 depicts Astra's light-lift launch vehicle. It is about 40 feet tall and fits into a traditional tractor-trailer for shipping. It launches CubeSats that are the size of a toaster or toaster oven and can be up to the size of a small refrigerator. Several hundred pounds can be launched and it can carry up to 1,000 gallons of kerosene and liquid oxygen. From Kodiak there is responsive access to replenish high-inclination/polar constellations, the ability to launch low-cost R&D satellites, and the ability to test new rocket systems.

He turned to slide 8 that lists the commercial customers, in addition to Astra, that are using the Pacific Spaceport Complex - Alaska. He noted that two of the companies are foreign. These are Taiwan Innovative Space and the India-based company AgniKul Cosmos. He said they are working with the Department of State to get permission for these foreign companies to launch from the US. He said it is exciting that they see Alaska as a leader in space launch and space activities. He said Phoenix Launch Systems is interested in launching from Kodiak in the future and AAC is also in negotiations with other companies. He highlighted

the economic boost in the next step, which is building rockets in Alaska.

2:23:57 PM
MR. LESTER said the next slide features space tourism. PSCA has signed with Space Perspective to launch a capsule that holds up to eight people to the edge of space. From about 100,000 feet these people will get an astronaut's view of the world before the capsule floats back down for pick-up in either the Bering Sea or the Gulf of Alaska, depending on the direction of the wind. He said this is another example of how the Kodiak Spaceport is looking at being a multiuser facility. The system is being tested in Florida and is expected in Alaska in the next few years.

He said the next slide highlights the activities the Alaska Aerospace Corporation (AAC) is being asked to do in other states and overseas. He explained that Rocket Lab is a US company that has a launch site in New Zealand. Between May 2017 and December 2019, AAC deployed their antennas for range safety and telemetry system (RSTS) to New Zealand and supported the first 10 launches of the Electron Rocket, some of which were DoD and NASA missions. Rocket Lab got its rocket certified for autonomous flight termination during those missions. Since then, AAC has received requests to support other missions and has signed an agreement with Spaceport in Camden, Georgia.

2:26:39 PM
MR. LESTER described the economic impact that Alaska Aerospace Corporation and the Spaceport have had on the Alaskan economy. He pointed out that AAC's activities are 100 percent funded by contracts. Since the first launch in 1998, they have brought in more than $200 million in launch revenue. COVID-19 has caused revenue to drop about 45 percent, but they continue to work with federal and commercial customers on new opportunities. He reported that the Spaceport launches have generated about $80 million for Kodiak. He predicted that this would grow as commercial companies increase launches. More people will be hired to work not just for the Spaceport but also at the Spaceport, he said. AAC spends about $16 million annually in the state on goods, services, and labor. He said he is also proud to report AAC's support of Alaska's 'New Space' entrepreneurs. He cited The Launch Company that is Anchorage-based as an example.

He turned to the slide Building an Alaskan Space Workforce. He reported that 95 percent of the AAC workforce supporting commercial launch is from Alaska, 75 percent of which is in

Kodiak. He highlighted that both the Spaceport manager and deputy managers were born and raised on Kodiak Island. He identified several other employees from Kodiak and emphasized the STEM [science, technology, engineering and math] jobs that are being created in Alaska. He noted that they received the Denali Peak Performance Exceptional Team Award.

2:30:11 PM
MR. LESTER described AAC's partnerships and collaboration.

- Collaboration with Dr. McCoy and UA on the Rapid & Agile Space Launch (RASL) Innovation Center on how to support deployed spaceports and how to bring in digital capabilities. Plans include an innovation lab at Kodiak, interactive STEM learning for K through graduate level entrepreneurs.
- Strengthening collaboration with DMVA and the Alaska National Guard on military launches and security support. Exploring additional collaboration on DoD test flights.
- Working with Dr. McCoy and UA to get a commercial spaceport license for Poker Flat Research Range.
- Working with UA to establish a professional certificate in spaceport operations and management. This is both teaching Alaskans about running a spaceport and exporting this knowledge.

MR. LESTER explained that AAC works to integrate space launch into the way of life at Kodiak. They pre-coordinate with the community before launches to promote transparency and ensure safety. They have been working with the Civil Air Patrol and received an invitation to join the Kodiak Economic Development Corporation. Astra's launch.

He pointed to the image of the spaceport on the last slide and invited the committee to watch the 90-second video of an Astra launch.

2:34:38 PM
CHAIR COSTELLO asked what advice he has for young Alaskans who want to pursue aerospace as a career.

MR. LESTER replied science, technology, and math are important but it's not necessary to be an engineer. Having an interest in the field and being willing to do the hard work is just as important for the diverse group of non-engineering staff that work in the field.

SENATOR STEVENS commented on the 30-year aerospace history in Kodiak and noted that Senator Ted Stevens was responsible for the $120 million to build the rocket launch and the state funded a substantial amount every year. The rocket launch is now self-sufficient and annual state funding is no longer necessary.

SENATOR HOLLAND commented on his visit to the Spaceport about five years ago and interest in space tourism and advancing the aerospace industry.

Aerospace States Association

2:38:34 PM
LIEUTENANT GOVERNOR MEYER introduced Ross Garelick Bell, Executive Director of the Aerospace States Association.

2:40:04 PM
ROSS GARELICK BELL, Executive Director Aerospace States Association, Washington, DC, explained that ASA is a non-partisan 501 (c)(3) non-profit organization of state governments. Their funding comes from state governments and their focus is on aerospace policy. The organization's main objective is to facilitate the discussion on how to improve the aerospace community and to advocate these interests to Congress and the executive branch. He highlighted the role state governments' play to support federal programs. "The way that ASA views it is each state is a star on the flag and the only way that flag is put on the side of an F35 jet is if all 50 states are building it." He said ASA promotes economic development and support of the aerospace industry, R&D funding, workforce training, STEM education in every state, and competition in the global marketplace.

2:44:41 PM
MR. BELL discussed the following points on ASA policy development:

- ASA brings together aviation and aerospace interests across each state to educate state legislators on issues specific to their state.
- As leaders in state governments, ASA members affect policy at both the state and federal level by informing their congressional delegations on aerospace priorities.

He highlighted that ASA has been targeted to participate in hypersonics for rapid global transportation with spaceports as the new gate entry point. He noted that there would be new associated policies.

2:47:12 PM
MR. BELL explained that each ASA member state has chapters to coordinate the state to work on programs for the betterment of the entire state. He noted ASA's role in educating legislators on the needs and opportunities of the aviation and aerospace community of their state through aerospace days at the state capitol. Activities have included a rocket in front of the Arizona capitol building, drones that flew over capitol domes to do imaging, and discussions with experts like these today.

He advised that ASA plans to hold its annual meeting in Denver if the state is open and hopes to piggyback with the Space Symposium. It will be more low-key than usual because of COVID-19, but the event in Alaska in 2022 is expected to be a return to normal. He noted that the last big event was the 2019 celebration of the 50th anniversary of the Apollo mission in Huntsville Alabama that featured Dr. Buzz Aldrin as the keynote speaker. He said the hope is to bring that type of effort to Alaska in 2022 and he looks forward to working with members of the Alaska chapter.

CHAIR COSTELLO thanked Mr. Bell and asked Lieutenant Governor Meyer for closing comments.

2:48:55 PM
LIEUTENANT GOVERNOR MEYER thanked the chair and committee for hosting the first Aerospace Day at the Alaska Capitol and the presenters for taking the time to prepare and deliver their presentations. He related his excitement about the future of aerospace and aviation in Alaska.

2:52:07 PM
CHAIR COSTELLO thanked Lieutenant Governor Meyer and the presenters and related her interest in engaging young people in careers where they can stay in Alaska as contributing citizens. She said she is proud to have a high school in her district that has a rigorous engineering program that offers students the opportunity to graduate with the honor of having earned an Engineering Cord.

2:53:56 PM

There being no further business to come before the committee, Chair Costello adjourned the Senate Labor and Commerce Standing Committee meeting at 2:53 p.m.