Center of Excellence for Unmanned & Autonomous Systems (COE/UAS)

Advisory Board Meeting Notes

February 1, 2019, Grant County Airport

Attendees:

Dr. Pat Ford: COE UAS Advisory Board Chair

Dale Goulding: Director, Engineering, AeroTEC

Max Unruh: Engineering Mgr. Business Development, AeroTEC

Moe Broom: Education Director, Minds-i

Mike Marzetta: President, Altek & Minds-i

Sean Davido: Community Relations Specialist, City of Yakima

Shane Fisher: Director of Public Works, City of Sunnyside

Martin Casey: City Manager, Sunnyside

Jim Restucci: Commissioner, Washington State Transportation Commission

Paul DeSanto: Yakima Training Center Garrison Sergeant Major, U.S. Army

Roger Gavriluk: Yakima Training Center Commander

Lee Human, President & CEO, AeroTEC

Raquel Ferrell Crowley: CW Director, Office of U.S. Senator Patty Murray

Joey Walter: Dean, Workforce Education, Wenatchee Valley College

Robin Toth: Director of Aerospace, Department of Commerce

Bryon Will-Noel: Coordinator of Unmanned Program, Big Bend Community College

Tom Hagan: Past President, AUVSI Cascade Chapter & Owner, Enterprise Initiatives

David Fleckenstein: Director of Aviation, Washington State Dept. of Transportation

Rob Hodgman: Senior Aviation Planner, Washington State Dept. of Transportation

Peter Guzman: Policy Associate, Workforce Education, Washington State Board for Community & Technical Colleges

Rick Mueller: Airport Director, Port of Moses Lake

Linda Crerar, Director, Center of Excellence for Homeland Security-Emergency Management

Opening Remarks – Mary Kaye Bredeson, executive director:

- **Mary Kaye** welcomed everyone and thank them for attending the first official Advisory Board meeting
- **Sue Bradshaw** was introduced at the Interim Director for the Center of Excellence for Unmanned & Autonomous Systems
- **Pat Ford** was thanked for providing lunch
- **Rich Mueller** was thanked for providing the space at the airport for our meeting.

Introduction and analysis, Mary Kaye Bredeson, executive director:

Mary Kaye reviewed the vision and mission of the Centers of Excellence within Washington State which is to act as a liaison between industry and the community & technical colleges to ensure that the skills that are needed by industry in a skilled workforce are being taught at the CTC's. All centers are mandated to provide an annual work plan which is submitted to the State Board for Community & Technical Colleges and the centers are assessed every two years by the State Board to ensure that the centers are following that work plan.

She then explained the inception of the COE/UAS. This COE was a vision of Senator Jim Honeyford, Sunnyside and we need to thank him for his leadership to make this vision a reality. Currently, our state leadership needs to embrace the unmanned systems technology and partner with such government entities as WSDOT Aviation. We are seeing a very strong interest from young people to learn more about drones. We need to embrace this technology, like other states, so we can thrive.

Mary Kaye reviewed the items in the Advisory Board Packet that was provided to everyone in attendance. Those items included:

- Labor Market Analysis: prepared by Center for a Skilled Workforce
- Draft of the Advisory Board Charter: This is a draft version that outlines the roles and responsibilities of the advisory board; 90% of our advisory board must be comprised of industry partners to ensure that the voice of industry is being heard. We also have representatives from K-12 CTE system, and governmental agencies.
- Top Stories in Workforce Development – provides up to date stories in the UAS and aerospace industry
- COE UAS Information Card: Provides a brief explanation of the COE UAS and how to sign up for our quarterly newsletter via your phone

Pre-presentation comments, Dr. Pat Ford, chair:

Many thanks to Robin and her support from the "commerce side". We are also very lucky to have support from Senator Murray and her staff. Our state has fallen behind and we are in a position, especially with Class G airspace, to be an absolute leader for these systems. We need an end game and we need that training and education for our future workers. We are wanting to get input from everyone at the table to help guide the COE now and in the future. By building a single voice we can build synergism for what can and needs to be done.

While I am currently serving as the chair for the advisory group, we need to put out a request for nominations for this position; that will be done within the next month. Also, advisory board meetings

will be held about three-to-four times a year; alternating between the eastside and the west side of the state; the next meeting with be held on the west side in approximately three-to-four months.

Chair's Presentation

Dr. Pat Ford, outgoing COE UAS Advisory Board Chair, discussed the status, limitations and capabilities of Washington State's current and planned UAS test flight ranges. A key part of the discussion was ensuring that UAS users understood that no matter where a UAS range is located in the United States, the user must go through the full FAA approval process for both the air vehicle and the pilots, including approval for the actual operating area/type of operations taking place. Pat addressed those public and commercial UAS flight approval processes, the differences between aircraft waivers/certifications and pilot certifications, and recent updates to the former Section 333 approval process (now the Section 44807 "Special Authority for Certain Unmanned Systems" process). He also updated advisory group members on the status of Anderson Ranch, Sunnyside, and Odessa UAS operating areas -- currently the focus of the COE UAS -- to enhance UAS operations here in the State. Pat also addressed the importance of Ephrata Municipal Airport in supporting testing of UAS operations for beyond line of sight (BLOS) development and evaluation.

Around the Table:

Tom Hagen talked about the Northeast UAS Alliance Airspace Integration Research (NUAIR) Alliance. This alliance is a New York based not-for-profit coalition of more than 100 private and public entities and academic institutions working together to operate and oversee Unmanned Aircraft System (UAS) test ranges in New York, Massachusetts, and Michigan. Headquartered at Griffiss International Airport, in Rome, New York. NUAIR manages one of just seven FAA-designated UAS test sites in the Unites States leading research and deployment technologies that establish the case for safe UAS operations in the National Airspace system. The NUAIR Alliance is also responsible for managing a $30 million, 50-mile long UAS flight traffic management corridor between Rome and Syracuse, which allow for testing of Beyond Visual Line of Sight (BVLOS) concepts and technologies, opening up the drone market for drone operators, pilots, and engineers, and creating growth opportunities for commercial drone industry software and hardware companies with UAS applications that range from agriculture to construction. For further information, the web site is http://uascentral.com/the-nuair-alliance/ This brought up conversation and support from several people, including **Mike Marzetta from Altek** about establishing an I-90 drone zone or corridor that would include Eastern Washington, Idaho, and Western Montana.

Tom has also been a part of the Oregon test range with the Pan Pacific Consortium running out of Alaska; have self-supporting companies picking up the tab as part of this consortium.

Tom encouraged everyone to take a few minutes to review the FAA Reauthorization Act of 2018 to find out what they are now charged with by Congress. Some of the most recent things include FAA rules around a universal remote identification system and the development of a reporting system that requires federal, state, and local authorities to report any incident in any community.

James Restucci mentioned that the Transportation Commission's autonomous vehicles committee will be meeting in April and May. An example was given that outlined the different levels of vehicles (0=no automation, zero autonomy; the driver performs all driving tasks; 4=high automation, the vehicle is capable of performing all driving functions under certain conditions. The driver may have the option of

control of the vehicle). UW Law School, along with Washington State Patrol was hired by the commission to help with this. The governor's executive order gives companies the ability to test vehicles on Washington roads while artificial intelligence (AI) is allowing the vehicles to know what it is seeing. Many of the technology giants are getting in self-driving technology. When we talk about safety, studies are showing that autonomous vehicles are a thousand times more safe then humans because of the elimination of human error.

A question was asked if a state economic impact study analysis on UAS had been done. The answer was no. It was then suggested that it might be prudent to do that study and use those results to influence political buy-in. It was mentioned that the US Dept. of Commerce may already have that data and that that data would be housed at the Library of Congress. With some help, we might be able to gain access to that data.

JBLM personnel stated that the FAA currently controls JBLM airspace. JBLM is trying to establish a drone park airport that would establish airspace away from the airport. Military suggested this so you get it de-conflicted from other airspace. Industry needs to have access into "drone" airports so that companies such as UPS, Amazon etc. can make deliveries.

There was a lot of interest in hosting a symposium in Washington around airspace and UAV's. The invite list could include state industry, Western Governors Association along with other state and congressional leaders, educational leaders, and the FAA. The COE UAS staff with look into this for a possible summer or fall event.

Robin Toth, Department of Commerce

Entering her fourth month on the job, Robin has been getting out and spending a tremendous amount of time talking to people around the state regarding aviation and the need for expansion into the UAS market. She reported that at the time of the advisory board meeting there were 25 plus bills in legislation around UAV's/aerospace. Robin highlighted a couple of those bills:

- HB1325 regulates personal delivery devices
- Senator Honeyford is sponsoring 5138 that requires the registration, inclusive of commercial unmanned aircraft, be registered on an annual basis

Byron Will-Noel, Big Bend Community College

Big Bend Community College received a $2.7 M Title V grant to start the Unmanned Systems and Mechatronics programs at Big Bend Community College. This grant program focuses on sUAS as a commercial tool. Industry insight shows that there are few jobs available for a 'drone pilot' (other than for large UAS falling outside of the sUAS category), but many traditional jobs available that now ask for sUAS competency as part of the desired skills. BBCC UMS teaching students how to operate sUAS as data collection tools, and educates them on how to collect and interpret this GIS (Geographic Information Systems) data. Big Bend has a small student body so this program is not sustainable on its own to meet grant requirements. Also, due to the highly technical nature of these systems and the associated data classes are usually small even at large institutions making it difficult to sustain at all but the largest colleges. Duplicating the Homeland Security/Emergency Management consortium model, using federal dollars we can work with other colleges to help them with the certificate by sharing online curriculum and equipment; the colleges keep their specializations e.g.: Big Bend and agriculture,

Highline and cinematography. This consortium allows student to be dialed into one class so you don't have to worry about sustainability. Byron is working with several colleges throughout the state.

Robert Hodgman, WDOT/Aviation:

Rob was approached by CISCO about partnering on some pilot projects and grants. He then approached Mary Kaye and Sue about joining this partnership for COE/UAS. We know that students are not going to be able to find jobs just being a drone pilot, so the question is, what other skills are needed so that they can find jobs working with drones? Data is the common denominator, data analytics is the real opportunity; students also cannot get jobs just knowing GIS, however, someone needs to be able to collate and analyze the data that is collected by drones through systems such as GIS. These collection systems can look at such things as structural integrity of bridges and roads, health of crops, assessment of drought conditions or wildfires and turn it into "actionable knowledge".

Sue has been doing some outreach to some of the CTC's; some are teaching GIS as part of a larger program; only a couple are incorporating drones into their programs; very few are also teaching any type of data analytics. This NSF grant would look at establishing a consortium of colleges such as Skagit Valley, Everett and Walla Walla, along with the COE, to explore data analytics through GIS and Block Chain. The NSF grant application is due Oct. 2019

Rob and David mentioned that there is currently an Aviation Economic Impact study being done, in which Rob is the manager. If additional funding, possibly through the Dept. of Commerce, could be obtained the scope of this study could be expanded to address the unmanned aviation work needed to move forward. Currently this study will culminate in 2021. Amazon is working with the FAA on drone deployment.

Summary, Mary Kaye Bredeson, executive director:

Mary Kaye thanked everyone for the engaging and enthusiastic conversation. We have lots of things riding on this legislative session. On Feb. 14 Mary Kaye will be presenting at the Aviation Caucus on Guided Pathways with Clover Park and Big Bend presenting on their pilot and aviation programs; it should be a very interesting conversation. We will send out a Doddle poll to get a date in about 3 months for the next meeting. An e-mail will also be sent out regarding nominations for our Advisory Board Chair position.

Ended at approx. 3:30pm.