MINUTES OF THE SENATE COMMITTEE ON REVENUE AND ECONOMIC DEVELOPMENT

Eightieth Session April 9, 2019

The Senate Committee on Revenue and Economic Development was called to order by Chair Marilyn Dondero Loop at 1:46 p.m. on Tuesday, April 9, 2019, in Room 2134 of the Legislative Building, Carson City, Nevada. The meeting was videoconferenced to Room 4412 of the Grant Sawyer State Office Building, 555 East Washington Avenue, Las Vegas, Nevada. Exhibit A is the Agenda. Exhibit B is the Attendance Roster. All exhibits are available and on file in the Research Library of the Legislative Counsel Bureau.

COMMITTEE MEMBERS PRESENT:

Senator Marilyn Dondero Loop, Chair Senator Julia Ratti, Vice Chair Senator David R. Parks Senator Heidi Seevers Gansert

COMMITTEE MEMBERS ABSENT:

Senator Ben Kieckhefer (Excused)

GUEST LEGISLATORS PRESENT:

Senator James Ohrenschall, Senatorial District No. 21

STAFF MEMBERS PRESENT:

Russell Guindon, Principal Deputy Fiscal Analyst Joe Reel, Deputy Fiscal Analyst Barbara Williams, Committee Secretary

OTHERS PRESENT:

Brian McAnallen, Nevada Institute for Autonomous Systems
Chris Walach, Ph.D., Senior Director, Nevada Institute for Autonomous Systems
Joe W. Brown, Kolesar & Leatham
J.B. Bernstein, Chief Executive Officer, AviSight, Incorporated
Tray Abney, Flirtey Inc.

Anthony Ruiz, Nevada State College Reza Karamooz, Nevada Business Aviation Association

CHAIR DONDERO LOOP:

We will not be doing a work session today as scheduled. It will be rescheduled for Thursday. I will open the hearing on Senate Bill (S.B.) 421.

SENATE BILL 421: Requires the establishment and carrying out of a program relating to certain unmanned aircraft systems. (BDR 18-31)

SENATOR JAMES OHRENSCHALL (Senatorial District No. 21):

This bill deals with drones and technology. Drones are bringing technology and innovation to Nevada. We talk a lot about diversifying the economy; we cannot continue to rely on ranching, gaming and mining. Drone engineering is an excellent way to do that.

BRIAN McAnallen (Nevada Institute for Autonomous Systems):

The Nevada Institute for Autonomous Systems (NIAS) is uniquely positioned with the Federal Aviation Administration (FAA)-designated Statewide test site. Flirtey Inc. has proposed an amendment (Exhibit C) to S.B. 421, which the sponsor is accepting, that addresses concerns from a number of stakeholders.

Section 1, subsection 1 of the amendment deletes the words "supervise and." In subsection 2, paragraph (a) is deleted and replaced with language on compliance with federal rules and regulations. Paragraph (b), subparagraphs (1) through (3) language is deleted as it refers to small, unmanned aircraft systems. Additionally, in subparagraph (3), language referring to developing safety guidelines is changed to assisting operators in understanding FAA safety standards. Lastly, subsection 5 is deleted.

CHRIS WALACH, Ph.D. (Senior Director, Nevada Institute for Autonomous Systems):

We represent the Nevada drone industry. The State formed NIAS after winning a national competition in December 2013. There are only 7 FAA Unmanned Aircraft Systems (UAS)-designated test sites in the Country; we are the westernmost test site in the lower 48 states. Our Board of Directors consists of senior leaders across Nevada: Mridul Gautam from University of Nevada, Reno; John White from University of Nevada, Las Vegas; Lynn Fenstermaker from Desert Research Institute; Betsy Fretwell from Switch; Tina Quigley from the

Regional Transportation Commission of Southern Nevada; Scott Bensing and James Barrett.

On Slide 2 of our presentation (Exhibit D), our mission statement reflects that we are the one-stop shop for the Nevada drone industry. Our mission is to provide for verification of the safety of UAS and related navigational procedures to safely integrate public and commercial drones into the National Airspace System (NAS). With six other states, our Congressional Delegation secured the FAA designation for another five years. Outside our major focus on safety, the FAA-designated Nevada UAS Test Site represents a superhighway to grow the Nevada drone industry.

Slide 3 shows that no one entity is an island. It takes a collective community with progressive and passionate drone companies to achieve our success. When companies go to other FAA-designated UAS Test Sites to accomplish the nearly impossible and cannot get it done, these same companies come back to Nevada and we get it done. With leading innovative drone operations and with our Nevada teammates, we get it done. We grow the Nevada and national drone industry.

Research is recognizing the national and global impact the Nevada UAS Test Site has in advancing the drone industry. Nevada is competing with New York, which invests approximately \$33 million per year in its drone industry, and North Dakota, which recently announced an investment of \$30 million into its drone infrastructure.

I will show the Committee a short video by a local news team that highlights what NIAS and Nevada drone companies are working on.

By any measure, NIAS is a small team. Many wonder how we get it done. It comes down to wanting to be part of something bigger that ourselves, wanting to make aviation history in and outside the State and persevere in raising the safety bar for the Nevada drone industry. We have partnered with Nevada-based companies to bring capabilities together quickly. Sweat equity goes a long way with one dollar invested in Nevada's drone industry.

Slide 4 of Exhibit D shows some of the current and future Nevada UAS Test Site Activities. One major operation is the National Aeronautics and Space Administration (NASA) UAS Traffic Management Technical Capability. We

brought together over 36 companies to win that contract. The second operation is the FAA UAS Traffic Management Pilot Program, which brought together 33 partners. With the U.S. Department of Transportation Integration Pilot Program, won by Reno and Flirtey last year, the State has the largest drone program in the Country.

We are competing in an Urban Air Mobility Grand Challenge. This is a five-year program to urbanize drone operations. Most importantly, the Nevada Resort Corridor project aims to solve the biggest drone problem—mitigating drone incursions into NAS. It is a technology pilot program that will make the skyways safer.

Slide 5 illustrates how NIAS promotes business far beyond Nevada. We had a trade mission to Alberta, Canada. In Warsaw, Poland, we opened up lines of operation in three geographic areas. A letter of intent was signed with a \$2.5 billion steel company to create the first space mining testing center of excellence.

Slide 6 shows many FAA-designated UAS test sites have significantly more resources than NIAS. States on our border are surpassing Nevada drone investment by a factor of 2 to 1. For each of these examples, the state was the backbone of growing its drone industry. State investment is what makes it attractive for new business to set up shop.

Senate Bill 421 will help sustain the Nevada UAS Test Site while we leverage other business opportunities. The bill is important for Nevada to stay competitive in the global technology race. We have an incredible record of growing the drone industry. Without S.B. 421, we cannot continue to compete and meet our contract requirements with the FAA. The bill will allow NIAS to stay competitive and bring in major operations from NASA and the FAA. It will allow us to leverage other opportunities for Nevada businesses. The example on the right side of Slide 7 will attract new contracts, new business and operational testing that all Nevada businesses can participate in.

Five years ago, the Legislature granted the Nevada UAS Test Site \$5 million in seed money with no history, no experience and no record. Today, we have the experience, we have the dominant record and we have made aviation history. Today, we do not give a promise but a guarantee that with appropriate capital investment, we will continue to showcase Nevada to the global drone industry,

attract new business and create jobs. If allowed, we will be in contention to make Nevada No. 1, not No. 2 as we were rated by industry last year.

Slide 8 shows the vast network of partners that NIAS has. Many top Fortune 500 companies come to Nevada to participate with NIAS because they know we are a major player in the drone industry. I will show you a short video now about what NIAS does with our partners. We are excited to lead nationally and globally. We ask you to set your sights to give NIAS and our business partners the ability to compete and propel Nevada to the No. 1 position in the drone industry.

JOE W. BROWN (Kolesar & Leatham):

My firm has acted as general counsel to NIAS for the past seven months. My involvement with NIAS and Nevada's drone industry goes back to the beginning of Nevada's effort to obtain one of the six coveted FAA-designated test sites. Because of my background of involvement with Nellis Air Force Base, the Las Vegas Global Economic Alliance and the university community, former Governor Brian Sandoval appointed me to a Statewide group preparing Nevada's application in early 2013. I helped coordinate Statewide efforts between academic, political, military and other subject matter experts. The competition for the 6 sites was intense—over 30 states competed. In the end, Nevada was chosen as one of the six sites. Today, despite its relatively small staff and budget, Nevada ranks second in progress made and business developed in this field. We cannot afford to lose our advantage over the competition. We are here to ask you to help keep us in the forefront of UAS development.

You will hear in later testimony from a company called Avisight. Avisight was birthed in Nevada with the assistance of NIAS. You will hear how important NIAS is to the future development of the company and this industry.

SENATOR RATTI:

The success of NIAS and the building of the drone industry has been amazing. It appears that <u>S.B. 421</u> boils down to a request for \$1 million to do three things: provide training, conduct testing and assist operators in understanding FAA safety standards. Is that right?

MR. MCANALLEN:

Yes, that is essentially what the bill boils down to. What the FAA is learning from the testing being conducted in Nevada goes toward helping it draft the

safety regulations that will be used across the United States. That is what NIAS is doing in collaboration with private businesses.

SENATOR RATTI:

You are competing with many other requests for funding. How does the \$1 million and the three things NIAS can do with it translate into jobs for Nevadans?

MR. MCANALLEN:

We have not seen any meaningful State funding for several years. We have support from the Governor's Office of Economic Development (GOED), but the line item is \$170,000 for the biennium. We leverage all the opportunities we can from the federal testing to continue our operations. You will hear from some companies about their investments based on what NIAS has brought to the table at the UAS Test Site.

Mr. Walach:

There is nothing NIAS does that does not involve Nevada businesses. We solicit contracts and allow all our businesses to compete. Sustaining funding allows us to continue going after major contracts and continue our work in enhancing drone safety. There have been a lot of near-misses with drones and commercial air traffic. Within NIAS, our Unmanned Aviation Safety Center of Excellence is focusing on drone incursion prevention. We work with the FAA and law enforcement to address that problem.

SENATOR RATTI:

Did I just hear that the \$1 million is sustaining operating dollars for NIAS?

Mr. Walach:

Yes, to sustain NIAS and the Nevada Test Site. The entire State is designated a test site, so operating expenses go along with that. There are infrastructure investments required to make our ranges competitive with other states.

SENATOR RATTI:

I am looking for a more direct answer. If we invest \$1 million into your business model, how does that investment turn into Nevada jobs? Since this lives in GOED, everything we do typically is about investing taxpayer dollars and receiving an exponential return in the form of jobs at good wages. How do the operations of NIAS directly result in jobs for Nevadans?

Mr. Walach:

There is one company here today that relocated from another state because of the progressive record we have established. It felt relocating to Nevada would help it in its quest for investment dollars. When we bring in contracts from NASA or the FAA, it attracts other businesses to our State.

SENATOR RATTI:

Who are these contracts between?

Mr. Walach:

There are NASA and FAA contracts as well as federal contracts soliciting for drone business. Because NIAS runs the Nevada Test Site, we put the proposals together. Once we win contracts, Nevada businesses perform much of the work. The more contracts we bring in the more that company grows and hires more workers.

SENATOR SEEVERS GANSERT:

The State put in \$5 million to get the original designation as a test site. The intent was that NIAS become self-supporting over time, and it was given nonprofit status to give it more flexibility to respond to the market. We have seen the private sector grow because of the designation. It would be helpful to have some metrics about the amount of federal dollars that have come into the State as a result of the contracts you have been awarded. On page 8 of Exhibit D, you cite that NIAS has helped create about 200 jobs. I am unclear if the jobs were here because of NIAS or because the test site designation made Nevada more business-friendly. I am looking for metrics regarding testing, training, federal grants and jobs. Your budget of \$170,000 from GOED has enabled you to get this far, so \$1 million is a heavy lift.

Mr. Walach:

I have been the Director of NIAS since October 2015. Although we have endeavored to pull in all the business partners possible, to date I have not found a self-sustaining growth model. We have tried to use the nonprofit designation to generate sponsorship activity, but that was only last summer. Prior to that, our revenue for fiscal year 2017-2018 was about \$1.1 million with the contracts we brought in. For fiscal year 2018-2019, we project a \$1.45 million revenue. The more experience we build as a test site, the more contracts we can expect to be awarded. There has been a lot of trial and error. We have lost some contracts to other test sites that had greater capital investment. We

continue to grow our contracts and our sponsorships as a nonprofit, but we are growing an industry which creates a bit of push and pull with the organization side. When our businesses are successful, we count that as a win for NIAS.

Mr. McAnallen:

We acknowledge and understand the challenges to the State budget and the competing interests for every dollar. We know that the discussion of funding lies in another committee. U.S. Senator Catherine Cortez Masto and Congresswoman Dina Titus are leading the efforts in the U.S. Congress on behalf of Nevada to capitalize on the UAS and the opportunity we have with the FAA designation. They are looking for a commitment on behalf of the State to leverage opportunities for federal dollars to come back to Nevada.

The Congressional Delegation's commitment is strong. The State's ability to continue support for NIAS will help inspire the engagement by our Delegation.

CHAIR DONDERO LOOP:

In section 1, subsection 3, what is the definition of "small?"

Mr. Walach:

In the commercial UAS industry, small is 55 pounds or below. The exponential global growth has been in the small UAS.

SENATOR RATTI:

The amendment strikes out the language that GOED may adopt regulations that it deems necessary to carry out the program. Why is that deleted?

Mr. McAnallen:

The issue was raised by a few of our stakeholders. The Office has the ability to regulate all of NIAS programs. This seemed redundant. We are not asking for any more regulatory authority, just the ability to continue doing what we are doing now.

SENATOR RATTI:

If we are going to mandate GOED do a program, we are going to give them the freedom to adopt regulations to manage that program.

Mr. McAnallen:

Because we are already a program in cooperation with GOED, we did not feel we needed to seek anything else with regard to that.

SENATOR RATTI:

Every time we pass legislation in *Nevada Revised Statutes* (NRS), there is a regulatory process to implement that NRS. Are we saying that we do not want to do that process?

Mr. McAnallen:

We are not saying we do not want to do that, and we are not suggesting that we do not want oversight. We already have that from GOED.

SENATOR RATTI:

Do you have an existing program that gives you \$1 million to do three things: provide training, conduct testing and assist operators in understanding UAS regulations?

Mr. Walach:

In the FAA transaction agreement with Nevada, it is outlined as a requirement. Contractually, it exists in the contract the State has signed with the FAA.

CHAIR DONDERO LOOP:

I understand the duties enumerated are already being done. Oversight by GOED is already being done. Would it matter if it was also in this bill?

Mr. Walach:

Our stakeholders see that as redundant when they have already registered with the FAA.

SENATOR SEEVERS GANSERT:

It sounds like you already have the authority you are seeking in this bill.

Mr. Walach:

It is not in law. Passage of <u>S.B. 421</u> would increase awareness of what the Nevada Test Site does for the State. It also reinforces our mission that is not in NRS. It increases the connection between NIAS and our business partners.

SENATOR SEEVERS GANSERT:

There is always a concern that government not compete with the private sector but support it.

CHAIR DONDERO LOOP:

Because the proposed amendment is from Flirtey, can you elaborate as to the reason for the changes?

MR. MCANALLEN:

I originally had an amendment under my name from NIAS, but this amendment was a combination of stakeholder concerns and trying to meet the deadline. The later suggestions from Flirtey were a kind of cleanup of my original amendment.

SENATOR RATTI:

It seems you already have the authority to do all these things with your own resources. The point of the bill seems to be to establish a program that can be funded through an allocation. Were we to do that, the regulatory process would do things like establish reporting requirements, determine if the funds are given in a lump sum and give GOED the opportunity to establish a framework and implement this program.

MR. MCANALLEN:

Should you accept this amendment and re-refer this bill to the Finance Committee, we would be happy to work on an amendment in that Committee that would address those issues. We would be happy to report to the Interim Finance Committee (IFC), perhaps on a quarterly basis before dollars are released. That sort of language would be consistent with other programs that report to IFC. Is that what you were suggesting?

SENATOR RATTI:

There will be a regulatory process to set up and implement this bill, should it pass.

SENATOR SEEVERS GANSERT:

I would reiterate my request for concrete metrics on the money already received and spent by NIAS. I need to see that before I can support this bill.

Mr. Walach:

I will certainly get back to you with answers.

SENATOR RATTI:

There is the sustaining funding that NIAS needs to exist. It has not yet figured out a self-sustaining business model. Your argument is you need the infusion of taxpayer dollars to keep it going. The bill sets up a program to do these three specific things. The guarantee needs to be that the million dollars only go to this program. This is a fundraising problem that a lot of nonprofits get into—we accept a designated grant that only allows us to do one thing, which does not necessarily solve our sustainability problem and pay the administrative burden of running an organization. Can you say today that the \$1 million will only go to the three defined tasks set out in <u>S.B. 421</u>?

Mr. Walach:

Yes, I absolutely can. The core of our mission is in those three bullet points. There are many branches sustaining each of those three directives, and they are all important in growing the industry and in standardizing safety, training and research. Through sustained efforts, our goal is to bring in additional capital to grow Nevada's drone industry.

J.B. Bernstein (Chief Executive Officer, AviSight, Incorporated):

A core group of retired Air Force officers who had helped safely integrate drones into military service formed AviSight in 2015. We now take that knowledge and apply it to policing critical infrastructure.

We have partnered with NIAS since its inception. We have the same plan as we did in the military. The goal is deploying a complete autonomous operation of drones throughout the NAS, safely. It will save lives by not putting people in dangerous situations. Most infrastructure inspection jobs are dangerous and often involve an inspector hanging from a rig or power line. In addition, drones find more faults than a human inspector. The result is the customer having less outages.

Our partnership with NIAS is a 10- to 20-year plan. In the first five years, we have accomplished much. We conducted unmanned aerial vehicles (UAV) beyond visual line-of-sight (BVLOS) damage and hazard assessments in the greater Houston area after Hurricane Harvey, including restoration of power to the airport. We were granted the first FAA Class B waiver for the Las Vegas Strip, day or night operations, and a Class B waiver in the United States for day or night operations. We set the UAV long-distance record for package delivery of 40 miles in 2016, developed the world's first BVLOS drone-based

cloud-seeding program and were awarded a BIRD Foundation grant to work jointly with an Israeli software company to commercialize drone bridge inspection technology.

We conducted video production operations for CBS at the Masters Tournament in 2017 and for FOX NFL opening day and the Super Bowl in Houston. We did the first commercial power line inspection comparing a UAV against a helicopter for NVEnergy in 2016. In a 40-mile stretch of power lines, the helicopter found 4 faults; the drone found 13. We have performed BVLOS drone manufacturing testing for several manufacturers, and our testing has led to paid implementation for customers in Texas, Colorado, Florida and the Carolinas.

Everything we do—all the technology and all the safety testing and implementations—is born here and then rolled out to critical infrastructure throughout the Nation. What NIAS is doing is critical, above and beyond the commercialization of the industry. This is literally the kind of stuff that prevents the gas explosions and fires we saw in Boston in 2018. Drones would have detected those leaks. We do inspections like that every day in Houston for CenterPoint Energy. The Camp Fire in northern California was supposedly caused by infrastructure inaccessible to manned inspections.

The third and fourth quarter of this year will mark the beginning of another commercial project we are doing with NIAS. Fourteen of the top oil and gas companies, including Shell, BP and MobilExxon will be coming here with test programs that start with NIAS. The lessons and procedures that come out of those test programs will be integrated back into their markets to inspect critical infrastructure. We are working with NIAS and Congresswoman Titus on federal legislation to protect the drone industry and critical infrastructure. The bill would mimic ground easements and rights-of-way in the air. Power, gas and oil companies would have the ability to inspect their lines and fix problems before they cause damage or outages.

We have hired 9 people in Las Vegas; we will hire another 30 to 50 in the next 12 months because of our work with NIAS. We would not be able to run our business without NIAS. We have spent \$1 million with Ahern Rentals building the world's most technologically advanced mobile command center for drones, called the C3UBE. One is in full-time service for EOG Resources in the Eagle Ford formation in Texas, and the second one is going into service for NVEnergy

here in Nevada. We will build 50 C3UBEs with Ahern over the next three years. Most of our investors are from Nevada, so our success will benefit the State.

Many companies compete for business like we do. Our competitors have raised hundreds of millions of dollars, but we can successfully compete with those companies with an investment of only \$6 million because of NIAS. It has enabled us to be a leader in the industry with about 6 percent of the capital that competing companies have. All of our data flows through Switch. Every aspect and every area of our company is deeply ingrained in Nevada, and we are just one of NIAS's partners.

SENATOR SEEVERS GANSERT:

Can you be specific about what NIAS does to help support you?

MR. BERNSTEIN:

We are a node of the test site. We pay for the right to be a partner of the test site and to develop programs with them. As a node of the test site, we are able to offer our clients advantages that other drone companies cannot offer: specifically, the ability to operate BVLOS over people and other tough permission cases. The Institute allows us to accelerate the permit process for our clients. The ability to fly BVLOS is what makes drones an attractive option to helicopters. At its core, NIAS has allowed us to accelerate BVLOS permissions for our customers which is how we land those contracts.

SENATOR SEEVERS GANSERT:

So it helps you with the federal waiver process? Do you have to get waivers for each project, or do you, as a company, get the waiver and then it transfers to your clients?

Mr. Bernstein:

It does help us with the waiver application. The federal waivers have to be obtained individually for each company. The waiver is in the company's name; AviSight and NIAS facilitate the process. The company owns the infrastructure; it would not be appropriate for us to have the waivers.

SENATOR SEEVERS GANSERT:

Is there a contract between the company and NIAS to get the waivers and the compensation?

Mr. Bernstein:

AviSight does most of the work in getting the waiver. What NIAS does is create the safety cases that allow the FAA to accept the waiver.

SENATOR SEEVERS GANSERT: Does it charge you for that?

Mr. Bernstein: Yes, it does.

TRAY ABNEY (Flirtey Inc.):

Flirtey is a ground-breaking drone delivery company headquartered in Reno. It is partnering with the FAA and Reno to commercially deliver lifesaving medical defibrillators via drone to those who suffer cardiac arrest. Madame Chair, I want to thank your staff who has been so accommodating and helpful right up to the last minute with our amendment. We appreciate being part of Nevada's future, and S.B. 421 moves us in a positive direction.

We were one of the stakeholders concerned about the language in section 1, subsection 5 concerning GOED's ability to adopt regulations. It was not about NIAS internal processes, metrics of success or reporting requirements. We are heavily regulated by the FAA and were concerned with anything that might conflict with federal regulations. Federal code says the United States government has exclusive sovereignty over air space.

ANTHONY RUIZ (Nevada State College):

We support <u>S.B. 421</u>. This bill is good for economic development. As Nevada State College seeks to build out a data sciences curriculum, we are watching NIAS closely and hope to employ students in that space. We have partnered with NIAS to establish an urban test site in Henderson.

REZA KARAMOOZ (Nevada Business Aviation Association):
I am neutral on <u>S.B. 421</u>. My written testimony (<u>Exhibit E</u>) is provided.

Mr. McAnallen:

Tina Quigley, a NIAS Board member, wanted to testify in support of <u>S.B. 421</u>, but she is in another committee room testifying at the moment. Another Board member, Betsy Fretwell, is also testifying in another committee but has submitted her support testimony (<u>Exhibit F</u>) and wants it on the record.

We understand a lot of the concerns of the Committee members. We will work to get you the metrics you requested. We understand that the intent is to have NIAS be self-sustaining. That effort is ongoing. We are retooling our direction and our strategy. The funding in the bill will bridge us through those efforts. We appreciate the support of the Legislature and the partnership and engagement with GOED. I hope we have made clear to you the economic development aspects of NIAS.

SENATOR OHRENSCHALL:

<u>Senate Bill 421</u> has the potential to create an economic multiplier effect in Nevada.

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CHAIR DONDERO LOOP: I will close the hearing on <u>S.B. 421</u> . This meeting is adjourned at 3:06 p.m.				
	RESPECTFULLY SUBMITTED:			
	Barbara Williams, Committee Secretary			
APPROVED BY:				
Senator Marilyn Dondero Loop, Chair	_			
DATE:				

EXHIBIT SUMMARY					
Bill	Exhibit / # of pages		Witness / Entity	Description	
	Α	1		Agenda	
	В	4		Attendance Roster	
S.B. 421	С	2	Flirtey Inc.	Proposed Amendment	
S.B. 421	D	9	Chris Walach / Nevada Institute for Autonomous Systems	NIAS Presentation	
S.B. 421	E	2	Reza Karamooz / Nevada Business Aviation Association	Testimony	
S.B. 421	F	2	Nevada Institute for Autonomous Systems	Testimony of Betsy Fretwell	