Alaska Aviation System Plan

SUMMER 2023

NEWSLETTER

www.AlaskaASP.com

Seaplane Operations in the Last Frontier

By Megan Flory, Community & Sustainability Planner, RESPEC

Seaplanes were designed in the early days of aviation, when the technology for powered flight existed but safe, widespread infrastructure for takeoffs and landings did not. Flying boats and floatplanes used waterbodies as runways, meaning they required no new infrastructure and allowed for exploration (or emergency landings) across a much broader range than otherwise possible. Today, Alaska residents and visitors use seaplanes for similar reasons – there is so much more of the state to explore than airport infrastructure allows.

This has led to a booming seaplane industry in Alaska – the state has the most registered seaplane bases in the country at 114. Lake Hood, in operation since the 1920s, is the busiest seaplane base in the world. That seaplane base is critical as both an access point from Anchorage to remote parts of Alaska and as an economic driver; in 2021, it generated $63 million in direct, indirect, and induced economic activity according to the Anchorage Economic Development Corporation's 2023 Lake Hood Seaplane Base Economic Impact Study. Seaplanes allow for access to remote destinations for sightseeing, hunting, fishing, and other recreational activities. Although seaplanes generally do not require built infrastructure, Lake Hood has seen many developments over the past century to allow the number of operations and quality of experience to grow. In 1938, a channel was constructed between Lake Hood and Lake Spenard for use by floatplanes, with a second channel constructed in 1975.

Lake Hood in Anchorage, AK, between 1950-1980. (UAF-2010-25-147)

Becca Douglas, DOT&PF

A modern photo of Lake Hood, taken in winter.

There are a total of 55 state-owned seaplane facilities across Alaska, divided into 5 categories based on level of activity and dedicated infrastructure. Seaplane bases are the most developed and generally have features like tie-down floats and on-site aircraft fuel. At the other end of the spectrum are Other Seaplane Operating Areas, which are areas that are designated for use for seaplane operations (i.e., has a published latitude and longitude), but have no facilities.

Brett Coblentz, Alaska Seaplanes

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AASP Spotlight

Statewide Aviation's Kari Hebert

Alaska DOT&PF Statewide Aviation has a new Airport Development Manager, Kari Hebert. Though she only started her current role in April, Kari is not new to the state, bringing a wealth of knowledge and experience in accounting, finance, and the 'ins and outs' of grant administration to the Division. She started her career with Alaska Department of Fish & Game (AKDFG) in 1999 and began her tenure with DOT&PF in 2008, programming Central Region's airport, state, and reimbursable grants. Kari transferred to Construction in 2013 before working with DOT&PF Maintenance and Operations (M&O). She says that working with M&O catapulted her career forward, because she was exposed to both operating and capital budgets. Next, Kari accepted a supervisory role approving program budget transactions for Central Region, and training and hiring staff for her section. She soon had the opportunity to work with the Director and Deputy Director to manage the Central Region operating budget. Kari reluctantly applied for the Airport Development Manager position with Statewide Aviation after the tragic loss of Roger Maggard, who had excelled in that role for over 40 years. She knew she would have lots to learn and big shoes to fill but she was ecstatic when she was offered the job.

Kari says that the best part of her new role is interacting with all of the project managers and the most exciting is fitting together all of the different pieces to ensure a robust airport funding program. The most challenging aspect, she says, is the knowledge base; being familiar with all 235+ airports that the state of Alaska owns and operates. One recent focus of Kari's work has been helping project managers optimize CARES Act COVID-19 relief funds. One project that stands out in her mind is the Aniak Joe Parent Vocational Center Demolition and Remediation, which was recently funded and meets a longstanding community need. Kari also recently programmed the $1.9M U.S. DOT Strengthening Mobility and Revolutionizing Transportation (SMART) grant to support the Alaska Rural Remote Operations Workplan (ARROW) program (see Drones article, pg. 7). The ARROW program will partner with Alaska Native and rural villages to use drone technology to conduct infrastructure inspections during emergencies and gather situational awareness data essential to Alaska's way of life on snow, ice, and overland trails. On top of that, Kari and her team have worked to obtain about 52 new airport grants since the end of April, with at least 19 more expected soon.

To date, Kari has served the state for 22 years and has been with DOT&PF for 15 of those. In her own words: "I've always worked with great people along the way who helped shape my career and inspired me to help others…almost every job has been working for a small section that supports the Department as a whole." She says that she enjoys the challenge of her new role and would love to finish out her career with the Department. According to Troy LaRue, Statewide Aviation Operations Manager, Kari's career highlights "her ability to be effective working with many different teams…she has a well-rounded background, and her work experience is a true asset to Statewide Aviation. She is not just an AIP manager; she is a huge resource!" Thank you, Kari, for your dedicated service to the State of Alaska, for keeping airports funded, and for helping Alaskans keep moving across the system!

FAA NEWS & UPDATES

FAA Proposes Pilot Training Requirements and Operational Rules for Powered-Lift Aircraft

Wednesday, June 7, 2023

WASHINGTON — The Federal Aviation Administration took another key step toward safely enabling advanced air mobility by proposing a comprehensive rule for training and certifying pilots.

"These proposed rules of the sky will safely usher in this new era of aviation and provide the certainty the industry needs to develop," said Acting Associate Administrator for Aviation Safety David Boulter.

New rules are necessary because many of the proposed aircraft take off and land like a helicopter but fly enroute like an airplane. The powered-lift proposed rule is designed to provide certainty to pilots and the industry on what the requirements and expectations will be to operate these aircraft once it is finalized. Under the proposed rule:

- A clear pathway is proposed for pilots to earn powered-lift ratings specific to each type of aircraft they fly .
- Pilots who work for powered-lift aircraft manufacturers could serve as the initial cadre of flight instructors, who could then train instructors at flight schools, training centers and air carriers.
- To safely accelerate pilot certification, alternate eligibility criteria would enable certain pilots to meet flight-time experience requirements faster. This would apply to pilots who already hold a commercial pilot certificate and are instrument rated.
- Powered-lift aircraft would follow the same set of operating rules as traditional aircraft that are used in private and commercial flights and air tours.

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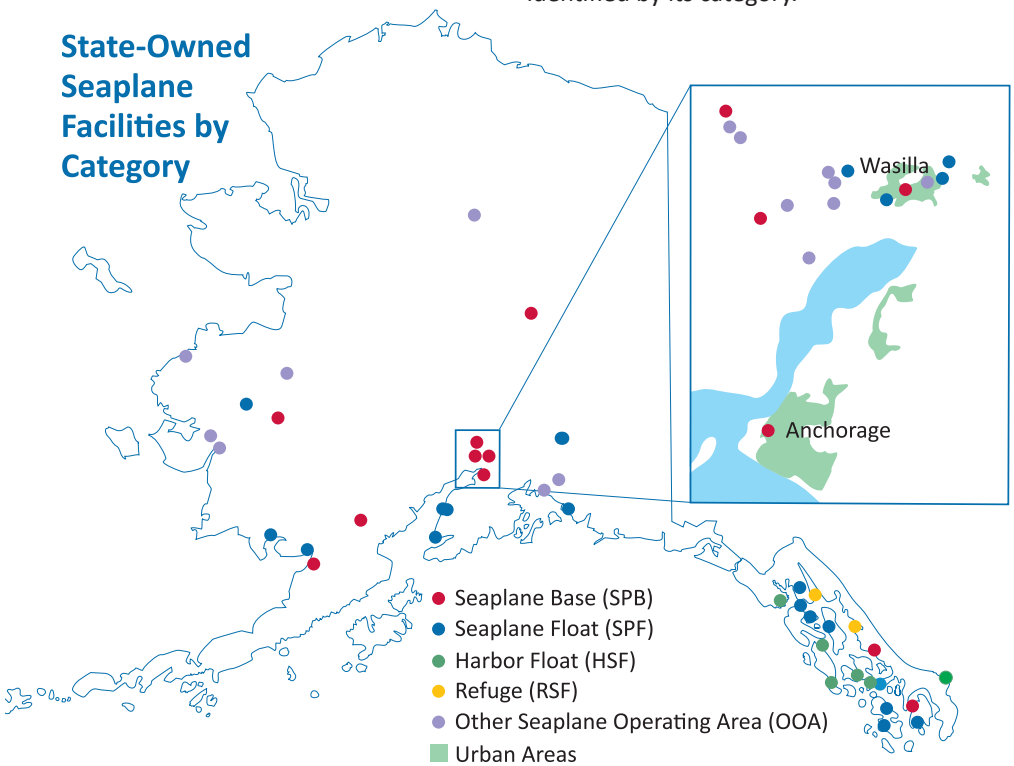
Today, there are approximately 9 seaplane bases, 17 seaplane floats, 8 harbor floats, 2 refuges, and 15 other seaplane operating areas owned by the State of Alaska. Thirty-four of these facilities are owned by the Alaska DOT&PF and 17 are owned by other state entities including the Alaska Department of Natural Resources and Fish and Game.

In 2016, a Seaplane Facilities Plan was developed as part of Phase II of the AASP. This plan defined classifications and performance measures for the State's seaplane facilities. It established six categories based on level of service (seaplane base, seaplane float, harbor float, refuge, and other seaplane operating area), inventoried facilities, established specific performance measures and benchmarks, and developed a facility index to track how well individual facilities, each type of facility, and the entire seaplane system perform over time. The seaplane performance measures and benchmarks provide a methodology to compare facilities to existing standards and measure performance over time. Performance measures evaluate a broad characteristic of facility, e.g., type of float, method of access, or fuel availability. Benchmarks within each performance measure serve as thresholds to compare facilities to. When applied, the performance measures and benchmarks indicate whether a facility is sufficiently serving the market identified by its category.

Amphibious aircraft on display at Fairbanks International Airport, Fairbanks Aviation Day 2023.

A floatplane being pushed from shore. (UAF-1991-98-671)



The highest concentration of publicly owned and operated seaplane facilities is found in Southeast Alaska, but operations occur across the state. While this widespread travel is good for recreation and critical for rescue operations and delivery of goods, it can have negative impacts on ecosystems. Although Alaska has historically experienced fewer challenges with invasive (or non-native) species than other states, over time there has been an increase of invasive aquatic plants in Alaska's waterbodies. Floatplanes are possible contributors to the spread of these species, which include Canadian waterweed (Elodea canadensis). The overgrowth of these plants in waterbodies used by floatplanes can also

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Seaplanes & Floatplanes... What's the difference?

Seaplanes are aircraft that are capable of taking off and landing on water. Floatplanes are seaplanes that use floats (aka pontoons) to make contact with the water, rather than landing or taking off directly from the fuselage. Seaplanes that use the fuselage for takeoffs and landings are known as flying boats, and seaplanes with retractable landing gear (either in the floats or the fuselage) are called amphibious aircraft. Floatplanes can also be converted into ski planes to continue water-based operations year-round!

Seaplane Operations in the Last Frontier continued from page 3

cause issues with taxiing and take-offs. These invasive species are harmful to the natural systems they are introduced into and can quickly outcompete native plants, causing cascading problems for the ecosystem.

Seaplanes are an important part of aviation in Alaska and create far-reaching opportunities for recreation, commerce, and emergency response. Seaplane pilots are encouraged to learn more about invasive species and training opportunities (see callout box), and everyone—Alaska residents and visitors alike—are encouraged to explore the state in these versatile aircraft!

Seaplanes provide access to remote locations across the state.

Seaplane Safety Moment

The Seaplane Pilots Association (SPA) is a nationwide organization with a growing Alaska chapter that is dedicated to promoting safe seaplane operations and advocating for seaplane-related issues. Recently, SPA held in-water Shallow Water Egress Training and survival training classes in Fairbanks and Anchorage as part of their safety advocacy and training objectives. In a related effort, SPA helped fund a Seaplane Accident Report that analyzed the causes of seaplane accidents and incidents from 2008-2022 and provided recommendations for making seaplane operations safer in the future. A key emphasis of the report was the need for additional training and education for seaplane pilots in gear configuration. Specifically, the analysis found that most accidents caused by abnormal runway conditions (ARC) involved gear-down water landings in amphibious aircraft, and ARCs were the leading cause of accidents. An SPA analysis found that 83% of gear-down water landings could have been avoided if pilots raised their gear during takeoff. SPA offers online training and provides mnemonic checklists to help pilots of amphibious aircraft operate safely.

The report found that another leading cause of accidents was loss of control in flight (LOC-I). Most LOC-I occur during the initial climb of a flight, but LOC-I accidents during the maneuvering phase are the most deadly—72% of these accidents are fatal. Most LOC-I accidents are caused by stall or spin and the Accident Report recommends additional, seaplane-specific training for pilots, including scenario based training, to ensure pilots are better equipped to make safe decisions and maintain control of their aircraft.

Facility and Service Benchmarks by Seaplane Category

Performance Measure	SPB	SPF	HSF	RSF	OOA
Float Type	With Shore Access	With Shore Access	With Shore Access	For Mooring	No Benchmark
Float for Transient	Yes	Yes	Yes	No Benchmark	No Benchmark
Tie-Down Float	Yes	Yes	Yes	No Benchmark	No Benchmark
Haul-Out Ram	Yes	Yes	Yes	No Benchmark	No Benchmark
Wind Cone	Yes	Yes	Yes	No Benchmark	No Benchmark
Lease Lots	Yes	No Benchmark	No Benchmark	No Benchmark	No Benchmark
Aircraft Fuel	AvGas or Jet A	AvGas or Jet A	AvGas or Jet A	No Benchmark	No Benchmark
Auto Parking	Yes	Yes	No Benchmark	No Benchmark	No Benchmark
Access	Auto	Auto	Auto	ATV	Pedestrian

Source: Alaska DOT&PF, CDM Smith

Seaplanes allow for diverse operations during all seasons.

AirTime

Q How do I know what equipment and buildings reside at a DOT&PF airport?

A The AASP team is working with the State Equipment Fleet (SEF) and Statewide Facilities to populate airport equipment and buildings information on the website. The addition of these data sets furthers the goal of providing easy access to vital airport inventory information while enabling more accurate CIMP inspections. The team is currently cross referencing these extensive datasets and working with the respective divisions to ensure data is accurately attributed to each individual airport. Users can expect to see these updates this fall on both the website and in the revised CIMP inspection application.

Coach Class

Enhanced CIMP Outreach

By Annette Lapkowski, PE, B2Gnow/BlackCat Project Manager

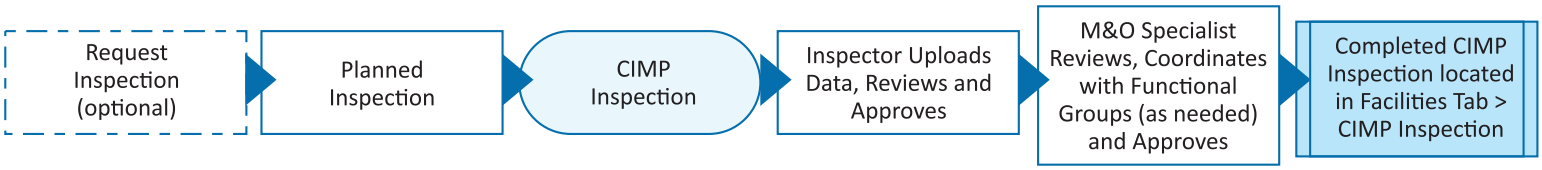
As part of the new Capital Improvement and Maintenance Program (CIMP) process and website development, the team is enhancing inspection outreach through several new steps.

First, AASP users will be able to request an inspection at a facility where they encountered issues, or a planner can request an inspection for a location planned for an upcoming APEB nomination. This enables a proactive and traceable workflow, where we can leverage far reaching resources and maintain documentation for future inspections. In addition, inspectors will indicate planned inspections so team members can see which facilities are upcoming so they can provide any relevant information in advance or request that something specific be reviewed while the inspector is in the field.

After the inspection is completed and during the last stage of review, the M&O Specialist will have the option to open the inspection to comments for 14 days. This will allow other functional groups across the Department to review and provide input on upcoming project needs.

Once the comment period is closed and the inspection finalized, a deficiency report that includes inspector photos and ratings will be available under the Facility tab, to review and download for use in project planning, development, and APEB nominations. This process will track airport deficiencies overtime and allow planners to monitor problem areas until capital funding becomes available for repair or rehabilitation.

The project team anticipates the updated application will be available for use in summer of 2024 and is currently reviewing the first beta version of the update. Testing will begin later this year. Once complete, the application will also be available for use by other local sponsors in Alaska.



Planned Queue

Facility	State Region	M&O District	Last Inspection	Planned Inspection	Comments	Status	Edit	Delete
KING SALMON	Southcoast	Kodiak-Aleutian	9/23/21	8/1/23		Planned		

Comments (Comment Period: 7/20/2023 - 8/3/2023

Comment

Save Cancel

	Comment	FullName	Modified Date
Edit	(SAMPLE) Would like to report wildlife hazards on the airport including moose, caribou, bears, and migratory waterfowl.	Panther Updates	7/20/2023

AASP PROJECT UPDATE

By Becky Cronkhite, RESPEC Project Manager

The AASP team was busy this spring reaching out to the community at several aviation-related events across the state. The AASP had a presence at the Great Alaska Aviation Gathering in Palmer, the Valdez Fly-In, Fairbanks Aviation Day, and the Kenai Air Fair this season. The team shared AASP fact sheets and newsletters, answered questions about the system, and of course handed out some sweet AASP swag! If you have ideas or suggestions for aviation events that the AASP should attend next year, let us know!

You can reach the AASP Public Involvement Lead at Natalie.lyon@respec.com

Snow removal equipment on display at Fairbanks International Airport on Fairbanks Aviation Day.

The Fairbanks General Aviation Association had lots of interesting aircraft on display at Fairbanks Aviation Day.

DOT&PF AASP Project Manager Becca Douglas staffs the system plan table at the 2023 Kenai Air Fair.

RESPEC AASP Public Involvement Lead Natalie Lyon staffs a table at the Valdez Fly-In and Air Show.

Aerobatic pilot Melissa Burns waves to the crowd after completing her routine at the Valdez Fly-In and Air Show.

Tough competition ensued at the Valdez Short Takeoff and Landing (STOL) event.

For UAS, Alaska is the "First Frontier"

Though Alaska is perhaps permanently established as 'the Last Frontier' in the American imagination, when it comes to unmanned aerial systems (UAS) or drone technology, the state is leading the way on multiple fronts. Due to its vast, remote, and often unforgiving landscape, Alaska's 665,400 square miles make it an ideal test bed for the future of drone technology and autonomous flight. Alaskans also stand to benefit greatly from advancing UAS technology, which has the potential to deliver cargo to rural and remote locations more efficiently, affordably, and sustainably across the state.

One of UAF ACUASI's two Griffon Aerospace Outlaw SeaHunter UAVs on display at Fairbanks Aviation Day 2023. The SeaHunter has a 16-foot wingspan and weighs 300 lbs.

In early 2023, Alaska was granted the first waiver of its kind by the Federal Aviation Administration (FAA) that allows UAS to conduct test flights toward the goal of obtaining certifications for flight in the national airspace. The Alaska DOT&PF requested this waiver and is partnered with the University of Alaska Fairbanks' Center for UAS Integration (ACUASI) and the FAA's Beyond program to implement it. ACUASI maintains Alaska's UAS test site and will assess the safety of any commercial operators utilizing Alaskan airspace for their test flights. Under the waiver, Alaska is now the only U.S. state where UAS operations for research or development purposes can occur, including aircraft up to 300 pounds. According to Ryan Marlow, DOT&PF's UAS Program Manager, one of Alaska's greatest natural resources is its airspace, which it can now harness as a new economic driver both in-state and nationally. "This is a massive leap forward for UAS integration on a national level, and we look forward to supporting enhancement in airspace safety through advanced air mobility." Read the full DOT&PF press release here.

More recently in June 2023, operating under the new test environment authorized by the waiver, Merlin, an aviation technology company, in partnership with ACUASI and Everts Air Cargo, completed over 25 autonomous cargo test flights from Fairbanks to five rural communities. Merlin utilized a Cessna Grand Caravan outfitted with their autonomous Merlin Pilot technology, which according to the company's website, is designed to fit any aircraft and has already been validated in five different models. The autonomous test flights comprised over 60 hours of flight time and included trips between Fairbanks and the communities of Fort Yukon, Galena, Huslia, Tanana, and Prudhoe Bay. The flights included a safety pilot and software engineer on-board to monitor the autonomous technology that allowed the plane to take off, fly, and land on its own. The test flights are supported through a $1 million FAA contract with the objective of demonstrating implementation of "a highly automated flight control system in conjunction with a safety pilot" (Fairbanks Daily News Miner).

Merlin's Cessna 208B Grand Caravan.

Along with supporting the Merlin test flights, ACUASI has been flying its own drones for over 20 years in pursuit of developing 'search and avoid' technology that could allow safe UAS operations in the U.S. national air space. ACUASI is currently building hangar facilities in Nenana to support additional test flights of its SeaHunter unmanned aerial vehicle (UAV). ACUASI hopes to use the SeaHunter for cargo delivery to villages and inspections of remote infrastructure in the future. ACUASI has test flights planned for the SeaHunter in August between Fairbanks and Nenana and aspires to soon set up additional test facilities in communities such as Valdez and Palmer for beyond visual line of sight (BVLOS) research. For the August flights, a chase plane will be used to keep the drone in sight per current FAA rules. Read more about recent ACUASI news and happenings here.

In another innovative application of UAS technology, the Alaska DOT&PF has launched a new program, the Alaska Rural Remote Operations Work Plan (ARROW), to better assist rural communities during emergencies and natural disasters. The program will provide UAS and access to a shared statewide geographic information system (GIS) to participating communities. ARROW is supported by the U.S. Department of Transportation's (USDOT) Strengthening Mobility and Revolutionizing Transportation (SMART) competitive grant program. DOT&PF's partners include UAF's ACUASI, the FAA's Beyond program, and Skydio, a world leader in drone technology. These partners will train rural Alaskans to operate the UAS for infrastructure inspections and

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For UAS, Alaska is the "First Frontier"
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collection of BVLOS images in the event of an emergency. Several communities are also receiving satellite terminals that can be used to process data and upload it to the shared GIS system. So far, eleven communities have been selected for early participation in the ARROW program based on five criteria: the existence of nearby critical infrastructure, strong community engagement and leadership, disadvantaged economies, public safety presence, and sufficient storage and educational facilities. The communities involved so far include Anchorage, Bethel, Cordova, Dillingham, Denali Borough, Fairbanks, Juneau, Mat-Su Borough, Nome, Northwest Arctic Borough and Valdez. Selected program participants from these communities will eventually complete UAS training, including Skydio Academy on how to operate the drones, and then complete their Remote Pilot Certificate exams. DOT&PF will work with the FAA and University of Alaska on the educational components of the program, hopefully hosting the certificate exams in the 11 selected communities to reduce the burden and expense of travel for participants. Learn more about the ARROW program here and here.

The already fertile test bed of UAS operations in Alaska speaks to the unique resources that the state's landscape and airspace have to offer, as well as the innovative and forward-thinking nature of its residents. As the story of Alaska as the First Frontier for UAS operations continues to unfold, we are excited to see where the future leads and how the AASP can further support this growing technological and economic sector. To learn more about UAS operations in Alaska, visit DOT&PF's UAS webpage, which includes resources for recreational, commercial, and public operators as well as an interactive UAS Airspace Alerts and Restrictions Map.

ACUASI UAV on display at Fairbanks Aviation Day 2023.

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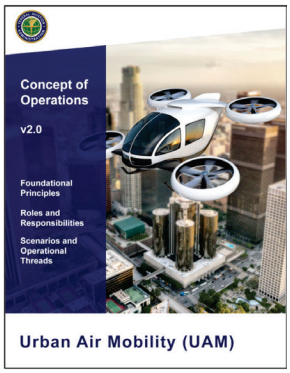
The proposal would conform to International Civil Aviation Organization requirements, enabling U.S. pilots to operate in other countries. Individuals can comment on the proposed rule for 60 days after it publishes in the Federal Register. The proposed rule closely follows another integration milestone. Last month, the FAA released an updated blueprint for airspace and procedure changes to accommodate future air taxis.



For more information, visit our Advanced Air Mobility website.

In The Works ...

Development has started for the new Capital Improvement and Maintenance Program (CIMP) iPad inspection application. The website development team is working to implement the updates identified by the core AASP inspection team. Concurrently, updates to the Inspection Tab are underway to match the new checklists so inspections are synced correctly from the website to the iPad and vice versa.

AASP
Alaska Aviation System Plan

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