

2018 Annual Report

Rockets n Roll'n

First Launch 20th Anniversary



1998



"I am excited once again to see the visionary role Kodiak and the Alaska Aerospace Corporation will play in the next chapter of space with the upcoming launches of several new innovative launch vehicles."

Celebrating Twenty Years of Launch

"I will never forget the sound of my rocket lifting off from Kodiak. Looking back twenty years, what a vision Alaskan leadership had as the Pacific Spaceport Complex (formerly the Kodiak Launch Complex) was one of the original five commercial spaceports. This was years ahead of the commercial space boom we are now experiencing with SmallSats, low cost launchers, and now on the verge of space tourism.

The rocket wasn't really 'mine', I had the honor 20 years ago of working with the great State of Alaska while leading the Air Force (AF) team which conducted the first launch from Kodiak in November of 1998. Turns out this launch was also quite visionary in that it provided key data to determine basing locations for our National Missile Defense system for future threats. Well those threats from rogue nations are now real. So, Alaska played a critical role in protecting the lower 48, and this would not have been possible without the Alaska Aerospace Development Corporation (AADC).

I had a fantastic experience working with the great people of Alaska and key organizations such as: Orbital Sciences Corp. (Chandler, AZ), AADC, the Federal Aviation Administration, the Coast Guard, and of course a great Air Force team, to name just a few of the key teammates. Unfortunately I only had a brief time (one day) to actually enjoy the scenery of Kodiak Island, but I will never forget the salmon, halibut fishing, and the site of all the Bald Eagles as I drove Pasagshak Road to the launch complex. I hope to visit again and see the final launch complex.

In conclusion, I am sure Alaska will once again play a pivotal role in the emergence of new launch technologies. I am excited once again to see the visionary role Kodiak and the Alaska Aerospace Corporation will play in the next chapter of space with the upcoming launches of several new innovative launch vehicles."

Respectfully, Brice Niska, Lieutenant Colonel USAF (ret.)

Board of Directors



DR. ROBERT P. MCCOY, CHAIR Director, Geophysical Institute University of Alaska Fairbanks Fulfills requirement for the membership of the

Geophysical Institute of the University of Alaska



DR. RONALD M. SEGA

Vice President for Energy, Environment, and Applied Research at the Colorado State University / Former Under Secretary of the U.S. Air Force / Two time astronaut on Space Shuttle Discovery / Major General USAF (Ret)

Fulfills requirement for experience in the commercial space industry and operational space experience



BRUCE ABEL President, Don Abel Building Supplies Past President. Juneau Chamber of Commerce

Fulfills requirement for a public member



BRIGADIER GENERAL TORRENCE "TORY" W. SAXE

The Adjutant General, Alaska National Guard Commissioner, Department of Military and Veterans Affairs – State of Alaska

Fulfills requirement for the membership of the Commissioner or Designee of the Department of Military and Veterans Affairs



THOMAS D. WALTERS Maritime Helicopters, Owner (Kodiak)

LEE RYAN

Vice President, Ryan Air

Fulfills requirement for a state resident, and a borough resident with significant experience in the business sector



LINDSAY C. KNIGHT Kodiak Athletic Club, Owner Past President - Kodiak Chamber of Commerce

Fulfills requirement for a state resident, and a borough resident with significant experience in the business sector



DR. JIM JOHNSEN President, University of Alaska Statewide System Fulfills requirement for membership of the president of the University of Alaska



GARY L. STEVENS - SENATOR Ex-Officio Alaska State Senate Fulfills requirement for the membership of the state senate

Fulfills requirement for a public member with

significant experience in growth and marketing



LOUISE STUTES - REPRESENTATIVE Ex-Officio Alaska House of Representatives

Fulfills requirement for the membership of the House





DR. JAMES R. HEMSATH Managing Director, IntegrityOne, LLC

Fulfills requirement for a public member with significant experience in the Aerospace Industry



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Who We Are

Alaska Aerospace Corporation (AAC) is a State of Alaska owned corporation that operates the Pacific Spaceport Complex – Alaska (PSCA), located at Narrow Cape, Kodiak, Alaska providing the nation's only high latitude full service spaceport featuring all indoor, all weather, processing. PSCA was designed specifically to provide optimal support for space launches to highly elliptical low earth orbits offering unrestricted down range launch azimuths ranging from 110° to 220°. It is the only U.S. facility that can launch high inclination (63.4°) missions without land over-flight and the requirement to resort to energy consuming dog leg flight segments. Headquartered in Anchorage, Alaska, with offices in Kodiak, Alaska and Huntsville, Alabama; Alaska Aerospace provides both government and commercial customers with affordable, customer-tailored, responsive launch services.

Letter From the Chair

This year marks the twentieth year since our first launch and what a change we have experienced since that first launch in 1998.

While PSCA did not conduct a US Government launch in 2018, this year was the busiest year in our history and marked the beginning of commercial operations in Alaska. We conducted two launches from PSCA and supported three launches for Rocket Lab from Launch Complex One in New Zealand. Five launches, from two separate launch facilities, across two different hemispheres.

Remarkable, but a tribute to the dedicated workforce we have at Alaska Aerospace. Our TEAM demonstrated extreme flexibility as they reacted to a postponement of the US Government 2018 mission from PSCA, quickly switching gears and simultaneously successfully supporting a variety of test and development sub-orbital and orbital launches, as well as operational missions for commercial customers in both Alaska and New Zealand.

Filling a vacancy on our board, Governor Walker appointed Dr. James Hemsath to the Board in January. Dr. Hemsath hails from Cleveland, Ohio. Earning his degree in mechanical engineering from the University of Michigan, Jim earned his master's degree in industrial engineering from Cleveland State University, worked at the Kennedy Space Center under a NASA Faculty Fellowship, and earned his PhD in engineering management from the University of Alaska. Jim most recently served as Project Development and Asset Management Director for the Alaska Industrial Development and Export Agency (AIDEA). Jim is a licensed Professional Engineer and a certified Project Management Professional.

This year also marks the start of a significant transition in leadership for Alaska Aerospace. Craig E. Campbell, our President and Chief Executive Officer since October 2012, submitted his retirement request to the Board of Directors at our September meeting, effective May 31, 2019. Craig was instrumental in leading the transformation of Alaska Aerospace during extremely tumultuous times. When he joined Alaska Aerospace, we were in a very precarious position, with only one launch scheduled; the TacSat-4 launch of August 2011. It was another three years before we conducted the next launch, which ended in a vehicle failure and significant damage to our complex. Shortly thereafter, the State of Alaska terminated all further state operating funding for Alaska Aerospace. The future looked bleak.

Under his strong leadership, we rebuilt the damaged facilities, secured a multi-year, multi-launch contract with the Missile Defense Agency, and aggressively marketed services to the emerging commercial small launch vehicle market. During his tenure Alaska Aerospace conducted our first international operations, providing Range Safety and Telemetry services to Rocket Lab USA at their New Zealand Launch Complex One; signed contracts with emerging small launch vehicle companies and conducted our first fully commercial launch from PSCA; established a wholly-owned subsidiary, Aurora Launch Services, designed to offer low cost launch services to commercial spaceports worldwide; initiated work towards developing an equatorial launch site within the Pacific Region; secured federal infrastructure funding to expand PSCA capabilities to support the National Security Space Program, liquid-fueled launch vehicles requirements; streamlined policies and procedures to make PSCA

our country's premier, non-federal, commercial spaceport; and returned Alaska Aerospace to profitability without state funding support. We are a much stronger company today, with a more secure future, because of Craig's vision and leadership.

As we focused on leadership change, the position of President and Chief Executive Officer was bifurcated, with Craig retaining the title of Chief Executive Officer and the hiring of Mark D. Lester as our new President. Mark brings a wealth of knowledge and career successes that will add tremendous strength to our leadership team. His background includes previously serving as the Chief Executive Officer with Doss Aviation, as well as business development, marketing, and project management and engineer experience for a number of aerospace companies. He served in the United States Air Force as a space systems engineer, satellite operator, and intelligence analyst. Mark holds both a Bachelor of Science Degree in Electrical Engineering from Norwich University and a Master of Engineering in Space Operations from the University of Colorado. I want to welcome Mark to the team and look forward to great things from this new leadership alignment.

The emergence of the small commercial launch vehicle market has created an opportunity for Alaska Aerospace to take a lead in working with federal agencies and associations to restructure commercial spaceports in the national system to be regulated and funded more as the national airport system is currently structured. With the sudden burst in commercial spaceport initiatives, it is incumbent that the federal government provide an increased level of oversight and support to the growing number of spaceports. While the FAA, Office of Commercial Space Transportation (AST) has served commercial spaceports well, Alaska Aerospace supports the creation of an Office of Spaceports to handle issues associated with commercial launch sites, to include issues such as assisting spaceport licensing activities and developing policies to support infrastructure investment in those facilities.

I would be negligent if I did not thank the dedicated Alaska Aerospace workforce; state employees, contractors, and sub-contractors. The success of this year rests squarely with this exceptionally professional workforce. On behalf of all members of the Board of Directors, I want to thank you for your support and achievements.

As you read through this year's annual report, I am confident that you will be as amazed as I am at the fantastic progress we have made these past twenty years. It is a credit to the whole Alaska Aerospace TEAM that we operate the only spaceport in America that does not receive any state or federal government operations or sustainment funding.



Robert PM = Cay Dr. Robert McCoy, PhD

Board Chair

Twenty Years of Launch

The vision was for Alaska to establish an aerospace development corporation to expand aerospace investments and promote aerospace development in the state. Following the incorporation of the Alaska Aerospace Development Corporation in 1991 by the Alaska state legislature, the focus soon changed, with the recognition that the United States could benefit from development of a second west coast launch facility that provides access to polar, high-elliptical, and sun-synchronous orbits.

Plans started for development of a spaceport, originally known as the Alaska Orbital Launch Complex. The site selection process began with investigation of the Poker Flat Research Range, Alaska in October 1993, cumulating with visits to Cape Grevelle and Narrow Cape on Kodiak Island in 1994. The unsurpassed and unobstructed downrange across the Gulf of Alaska and the North Pacific Ocean made Narrow Cape the ideal location.

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Construction on the site began in January 1998. On November 5, 1998, the United States Air Force conducted the launch of a suborbital rocket (AIT-1), marking the first launch from the Kodiak Launch Complex (KLC). During the 16-minute flight, the vehicle flew a trajectory that reached an altitude of about 450 miles and traveled approximately 1,000 miles downrange, landing in the Pacific Ocean west of Seattle, WA.

Alaska Aerospace has a history of providing reliable launch services into conventional polar and unique orbits. The Pacific Spaceport Complex – Alaska (PSCA), formerly known as the Kodiak Launch Complex, was the nation's first commercial spaceport not collocated on a federal range. Located about 44 road miles south of the city of Kodiak at Narrow Cape on Kodiak Island, the spaceport is state-of-the-industry. PSCA is situated on 3,717 acres of state-owned land under a Land Use Agreement with the Department of Natural Resources. Alaska Aerospace has authority during launch missions to limit public access to an additional 7,000 acres to assure public safety and security.

PSCA was built with a combination of state and federal funds. Initial State of Alaska funding resulted in significant federal funding to build and expand a state-of-the-industry launch complex. To date, a total investment of \$433.9 million has been generated by Alaska Aerospace. The State of Alaska funded \$24.0 million (6%) for capital infrastructure and \$37.3 million (9%) for Operations and Sustainment. Alaska Aerospace has also received federal capital investments of \$170.8 million (39%). Launch services have generated \$167.7 million (38%), with an additional \$34.1 million (8%) received for reconstruction of the damaged facilities resulting from the 2014 launch vehicle failure.

History and Development



1991-1997 ALASKA AEROSPACE ESTABLISHED

- > Board of Directors named
- Initial funding provided
 - > KLC site selection
- > KLC permitting & environmental studies performed



1998-2002 ALASKA AEROSPACE CONSTRUCTS THE FOLLOWING SUPPORT FACILITIES AT KLC AND CONDUCTS FIRST OPERATIONS

> Launch Control Center

- > Payload Processing Facility
- Integration & Processing Facility
- > Spacecraft Assemblies Transfer Building
 - > Launch Service Structure
 - > Range Safety & Telemetry System
 - Alaska Department of Transportation (AK DoT) improves road access to KLC
 - > U.S. Air Force executes AIT-1, AIT-2, QRLV-1, & QRLV-2 missions
- > Lockheed/NASA executes Kodiak Star mission, the first KLC orbital launch
 - > U.S. Army executes STARS WCRRF mission

ALASKA AEROSPACE CORPORATION



2003-2008

ALASKA AEROSPACE CONSTRUCTS THE FOLLOWING SUPPORT FACILITIES AT KLC AND EXPANDS OPERATIONS

- > Instrumentation Field
- > Maintenance Support Facility
- > Marine Fiber Link goes live broadband communications to Kodiak & Kenai
- > Alaska Department of Transportation fully paves road access to KLC
- > Alaska Aerospace works with AT&T / Verizon to bring cell phone service to Narrow Cape
- > Alaska Aerospace signs a five-year contract with U.S. Missile Defense Agency (MDA)
- Missile Defense Agency executes IFT-13c, IFT-14, FT04-1, FTG-02, FTG-03, FTG-03a, FTX-03, & FTG-05 missions
- Alaska Aerospace tracks satellite for Missile Defense Agency launch from VAFB
- Alaska Aerospace supports Missile Defense Agency's Trident I (C4) Hybrid pathfinder



2008-2018 ALASKA AEROSPACE CONSTRUCTS THE FOLLOWING SUPPORT FACILITIES AT KLC AND EXPANDS LAUNCH ACTIVITIES

> Rocket Motor Storage Facility Earth Covered Magazine 1 constructed

Rocket Motor Storage Facility
Earth Covered Magazine 2 completed in 2011

- > U.S. Air Force Minotaur IV pathfinder occurs
- > U.S. Air Force executes STP-S26 mission 2010
- > U.S. Air Force TacSat-4 mission scheduled for 2011
- Space and Missile Defense Command Advanced Hypersonic Weapon Test Launch 2014
- > Kodiak Launch Complex (KLC) name changed to Pacific Spaceport Complex – Alaska (PSCA) 2015
 - Completed major rebuild of launch facilities 2014-2017
 - > Missile Defense Agency launches 2017
 - > First Commercial Launch Conducted from PSCA in July 2018

PACIFIC SPACEPORT COMPLEX -**ALASKA LAUNCH HISTORY**

YEAR	MONTH	SPONSOR	MISSION
1998	NOV	USAF	AIT-1
1999	SEP	USAF	AIT-2
2001	MAR	USAF	QRLV-1
	SEP	NASA/USAF Kodiak Sta	
	NOV	SMDC	STARS WCRRF
2002	APR	USAF	QRLV-2
2004	DEC	MDA	IFT-13C
2005	FEB	MDA	IFT-14
2006	FEB	MDA	FT04-1
	SEP	MDA	FTG-02
2007	MAY	MDA	FTG-03
	SEP	MDA	FTG-03a
2008	JUL	MDA	FTX-03
	DEC	MDA	FTG-05
2010	NOV	USAF	STP-S26
2011	SEP	ORS/USAF	TacSat-4
2014	AUG	SMDC	AHW FT-2
2017	JUN	MDA	FTT-18
	JUL	MDA	FET-01
2018	JUL	Private	Commercial
	NOV	Private	Commercial



Executive Perspective

On the twentieth anniversary of the first launch from Narrow Cape, Alaska Aerospace reached a new milestone, conducting the first purely commercial launch from PSCA on July 20th and achieving the vision set out by the founders of this company in 1991 when the State made a conscious effort to develop an aerospace industry in Alaska.

These past twenty years have been a remarkable demonstration of resilience, as Alaska Aerospace experienced the ups and downs of the United States government use of PSCA. Starting out as a development corporation designed to work closely with the University of Alaska. Alaska Aerospace has emerged stronger, with a more diversified customer base, greater capabilities, and the opportunity to become America's model for affordable commercial launch services in the twenty-first century.

This year marked the culmination of extensive efforts by many of our dedicated employees and contractors to transform our company into a dynamic, profitable, and significant asset to the aero-space industry in the United States and an emerging industry for Alaska. As our state economy stabilized from four years of economic strain caused by depressed oil prices, Alaska Aerospace emerged as an alternative economic driver to the state, contributing to economic diversification and creating the opportunity to expand this exciting space industry beyond our current operations.

At the time that we voluntarily ceased accepting state operations funding from the legislature in 2014, many believed Alaska Aerospace would not survive, since virtually all spaceports in the United States are operationally subsidized either by the federal government, state/commonwealth government, or both. Against all odds, we set out to demonstrate that commercial space transportation, to include launch sites and facilities, can be self-sustaining with the proper balance between customer revenues and company expenses.

I am extremely proud of the dedicated workforce that supports Alaska Aerospace which was the key factor in making this transformation successful. I also want to extend my appreciation to the Board of Directors for their leadership and steadfast backing of our efforts to radically change the structure and business relationships to allow this positive change to occur. These past seven years have been a tremendous experience and, personally, I have been honored to have had the opportunity to lead this company through its most dynamic period in our history. I look forward to seeing the company continue expanding our unique aerospace capabilities and solidifying our position as the nation's premier commercial launch complex.

Our future is bright. We have achieved a remarkable transition and developed a solid base from which to continue increasing our operations and expanding aerospace opportunities statewide.



Craig E. Campbell Chief Executive Officer

History is Made

OUR FIRST COMMERCIAL LAUNCH

On July 20th, 2018, the first commercial rocket was launched from PSCA in a test of a new rocket and supporting systems. This was a historic moment for Alaska Aerospace, as it marked the first purely commercial launch from PSCA and shepherded in the dawn of commercial space launch operations from Alaska. The customer is very pleased with the outcome of the launch.

On November 29th this same company conducted a second launch from PSCA, establishing sustained commercial launch operations from PSCA. This launch was performed with an advanced version of the rocket first launched in July. This year solidified our rebound in the industry from the important aspect that total operations included both government and commercial operations. In preparation for a future launch, a second private sector company conducted a pathfinder operation at PSCA in July. Consisting of telemetry checks, communications capabilities between the operations center and the vehicle, fueling tests, and raising a demonstration model to the vertical position on the pad, the company successfully verified their readiness to launch from PSCA.

Recognizing that the commercial small launch vehicle market requires low cost launch services and has started demonstrating capability, we designated a section of land at PSCA available for use by new small launch vehicle company's specifically to allow for development of commercial small launch vehicle facilities. In response to one company, we repurposed an existing launch pad at the spaceport this year; installing a concrete pad, liquid fueling support facilities, and additional infrastructure to provide operational capabilities at low cost.



Historical Launches by State Fiscal Year - Includes Non-PSCA Launches.

Rocket Lab USA

The year started out with our supporting the successful second launch of Rocket Lab's Electron - "It's Still A Test" on January 21, 2018, at 2:43 p.m. NZDT from Launch Complex One, Mahia, New Zealand. On-board were three small commercial satellites: Dove Pioneer, an earth imaging satellite from Planet Labs, and two for weather and marine tracking company Spire. The rocket also carried the Humanity Star into orbit. Humanity Star, developed by Rocket Lab Founder and CEO, Peter Beck was a geodesic sphere made from carbon fibre with 76 highly reflective panels. It spun rapidly, reflecting the sun's rays back to Earth, creating a flashing light that could be seen against a backdrop of stars. Orbiting the Earth every 90 minutes and visible from anywhere on the globe, the Humanity Star was designed to be a bright symbol and reminder to all on Earth about our fragile place in the universe, as explained by Peter Beck.

This year marked the most activity Alaska Aerospace has ever experienced in our history. Alaska Aerospace provided the Range Safety and Telemetry System (RSTS) for this launch, the first exclusively commercial launch for a private launch company delivering a commercial payload to orbit supported by Alaska Aerospace.

In November, we deployed our team back to New Zealand to support mission three, "It's Business Time." Rocket Lab successfully launched the Electron on November 11th, placing two ocean vessel-tracking satellites for Spire Global; a small climate- and environment-monitoring satellite for GeoOptics; a small probe built by high-school students in Irvine, California; and a demonstration version of a drag sail that would pull defunct satellites out of orbit. Our RSTS team continued to perform our supporting role in exemplary fashion, contributing to the successful launch by this revolutionary company

Just four weeks later, we redeployed our team back to New Zealand to support the fourth launch of Rocket Lab's Electron rocket. On December 16th, Rocket Lab successfully launched the first Venture Class Launch Services mission from Launch Complex One. Venture Class Launch Services is a NASA sponsored program intended to open the door for future dedicated opportunities to launch CubeSats and other small satellites and science missions. For this launch, Rocket Lab carried 13 small satellites as part of NASA's Educational Launch of Nanosatellites (ELaNa) program. Using our Range Safety and Telemetry Systems (RSTS), our team executed our mission responsibilities flawlessly and Alaska Aerospace is proud to have been a part of this historic launch.

RSTS at Rocket Lab Launch Complex One, New Zealand

Equatorial Launch Site Progress

Alaska Aerospace continued pursuit of an equatorial launch site in the Pacific region throughout the year, advancing the East Hawaii project with the University of Hawaii, Spaceflight Laboratories and making a course correction in consideration of a potential site in the Commonwealth of the Northern Mariana Islands (CNMI).



EAST HAWAII LAUNCH SITE

This year provided some exciting moments following the Kilauea volcano eruption that started on May 3, 2018. As several lava vents opened in the lower Puna area southeast of Hilo, residents of the Leilani Estates and adjacent Lanipuna Gardens residential areas were evacuated. Eruptions continued through the summer; however, the lava flows and volcanic activity remained a far distance from the proposed East Hawaii launch site and have not impacted progress on development of a launch site in Hawaii.

Progress on the environmental process continued, with the environmental firm KFS completing the initial phase of the environmental work in preparation for releasing the Description of Proposed Activities and Alternatives (DOPAA) in early 2019. The DOPAA provides agencies and the public with a description of need and alternative sites considered to meet the demands for small launch vehicle launches from East Hawaii. As part of this process, Alaska Aerospace provided technical support in developing the spaceport facility requirements and supporting the engineering aspects of the project. KFS is planning the first public engagement meeting in East Hawaii in early 2019.

With increasing activities of the new small launch vehicle market, the need for an equatorial launch location in the Pacific Region has intensified. We are currently working with one such company towards developing the necessary infrastructure in East Hawaii for a late 2019 launch. Recognizing that the spaceport environmental document must be aligned with the spaceport site operators license, we concurrently started development of the spaceport site licensing process with the Federal Aviation Administration (FAA) Office of Commercial Space Transportation this year. Alaska Aerospace will hold the spaceport licenses for both the Pacific Spaceport Complex – Alaska, located in Kodiak, and the Pacific Spaceport Complex – Hawaii, located in East Hawaii. Both the environmental and licensing processes are expected to take most of 2019 to complete.

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS (CNMI) LAUNCH SITE

Following the determination in 2017 that the Marpi Point site on Saipan was a Formerly Used Defense Site (FUDS) that required extensive clean-up and did not have cleanup funds identified for the project, a decision was made to consider an alternative site in the CNMI. In discussions with CNMI officials, a site along the southeast side of Tinian was considered a potential site that could reduce environmental issues and provide comparable equatorial orbit capabilities as was being pursued at the Marpi Point Site.

In March, Alaska Aerospace leadership met with CNMI Governor Ralph Torres to discuss advancing the CNMI option. An initiative was started between Alaska Aerospace and the governor's office on development of a Memorandum of Agreement (MOA) intended to set forth the terms and conditions, scope of work, and responsibilities of the parties associated with collaboration towards constructing a small rocket launch facility in the CNMI. The underlying basis of the agreement was to place senior level focus on a government-to-government agreement towards pursuit of the potential launch site.

In May, Governor Torres office sent two CNMI delegates from the governor's office to visit the Pacific Spaceport Complex – Alaska (PSCA). The purpose of the visit was to familiarize CNMI officials with Alaska Aerospace capabilities, as well as to explore the potential site development process should a site be built in the CNMI by Alaska Aerospace.

Over the summer, a draft Memorandum of Agreement was reviewed by both Alaska Aerospace and CNMI officials to pursue the feasibility of developing a small rocket launch facility on Tinian with the possibility of operating the Launch Operations Control Center, Range Safety and Telemetry Systems (RSTS) and other support requirements on Saipan.

In October the eye of Super Typhoon Yutu passed over parts of Saipan and Tinian, causing extensive damage to the islands. Negotiations to finalize the MOU ended in November, as progress on the East Hawaii site continued with interest of a potential customer to use that location for equatorial launch.

FY 2017 Infrastructure Enhancement Federal Appropriations Program

This has been a busy year of change and development at PSCA. Due to the late passage of the FY 2017 federal funding bill, Alaska Aerospace did not receive authorization to begin upgrades and improvements until late last year. Therefore, the majority of work and completion of these projects did not occur until this year. As we entered 2018 the capital improvement work at PSCA was extensive with separate infrastructure upgrades being completed in support of our new commercial customer's requirements, while also simultaneously completing extensive infrastructure improvements supporting the National Security Space Program. To say the least, 2018 was a very busy year for infrastructure work. The teamwork demonstrated by our employees, contractors, and sub-contractors was the hallmark for being able to successfully harmonize the projects together for seamless, on-time, on-budget completions.

The FY 2017 projects completed this year include:

LIQUID FUELING CAPABILITY FOR LP-1/2 AREAS

"New Space" launchers are focusing almost exclusively on the use of liquid fueled rockets for the light-lift categories. By providing economical and sustainable liquid fueling capabilities, the government will be able to benefit from the capability to launch these vehicles with payloads that need polar and other high inclination orbits from the Pacific Spaceport Complex - Alaska. The primary project completed was construction of fueling earthen barriers, one for Liquid Oxygen containers; the other for rocket propellant containers. Piping lines were connected from each of the two barriers to Launch Pad 2 for customers use during rocket fueling operations.



CAPABILITIES, AND SECURITY OF THE LAUNCH PROCESSING SYSTEMS

AAC upgraded Launch Processing Systems by modernizing the Launch Operations Control Center (LOCC), including built-in upgradeability by using COTS systems and links for possible remote LOCC capabilities or mirroring data/ displays at off-site locations. New LOCC Console and Rack Replacements were installed, along with an upgraded Mission Communication and Network System. Meteorological Processing, Integration, & Test Capability upgrades were accomplished to provide improved weather forecasting capabilities during launch operations.



RANGE SAFETY AND TELEMETRY SYSTEM (RSTS) UPGRADES



We made limited hardware/software improvements for the Range Safety and Telemetry System (RSTS) necessary to continue serving flight safety command destruct requirements until Autonomous Flight Termination System (AFTS) is fully

integrated into the Federal government launch program. This is a continuation of the work completed under the FY 2015 appropriation. As part of this project, the telemetry and command destruct systems were relocated from the mobile facility into a fixed location within the Maintenance Support Facility. Testing and certification were completed by the summer of 2018 and used for our commercial launches the remainder of the year. Modifications required for scheduled upgrades have been completed on Telemetry System 2 (T-2) and two new telemetry antennas were procured and designated as Telemetry System 1 (T-1).

UPGRADE AND MODERNIZE NETWORK AND COMPUTING SYSTEMS FOR IMPROVED CYBERSECURITY

We continued with the ongoing Communications and Security System Upgrades identified as part of the FY 2015 appropriation and Vulnerability Study. Cybersecurity of electronic systems remains an evolving and changeable target, and AAC is committed to supporting customer needs for secure launches.



2018 Federal Appropriations Infrastructure Improvement Projects

With final passage and presidential signing of the FY 2018 Omnibus Appropriations Bill on March 22, 2018, Alaska Aerospace was provided the capability to continue infrastructure improvements that support the National Security Space Policy. Continuing the infrastructure developments of FY 2017, the FY 2018 bill provided Alaska Aerospace with \$5.0 Million to make additional improvements and facility upgrades specifically designed to support Department of Defense and NASA needs for polar orbital and sub-orbital missions. Work started on these projects in late 2018. The FY 2018 projects include:

- 1. Command Destruct System and Telemetry Upgrades
- Launch Operations Control Center (LOCC) Enhanced Video Display
- 3. Weather System Upgrades
- 4. Marine Surveillance Radar Upgrade
- 5. Launch Vehicle Processing Systems Upgrade
- 6. Launch Pad System Improvements and Modifications (Liquid Fuel Capabilities)
- 7. Launch Complex Automation Systems Upgrades

Limited federal funding for infrastructure improvements that specifically supports federal requirements for operations from PSCA is a low cost alternative to having to develop additional federal launch sites in the United States. This enhanced capability has proven extremely beneficial, saving the nation millions of infrastructure investment costs by utilizing our spaceport for federal government launches. It will provide further savings as the government starts using the new small launch vehicle companies for government missions. While Alaska Aerospace diversified our customer base by adding several commercial customers to our portfolio and supported commercial launches from PSCA and other locations, having a state-of-the-industry non-federal launch site available for government launches without requiring the federal government to carry the operations and sustainment costs provides tremendous financial value to the government and creates a positive economic foundation in Alaska. This federal appropriation, along with the FY 2017 federal appropriation, has demonstrated the positive aspects of expanded government use of nonfederal spaceports by leveraging existing infrastructure, which is the focus being pursued by commercial space associations.

Alaska Aerospace is greatly appreciative of the leadership taken by our congressional delegation in spearheading this effort these past few years. The vision of Senator Dan Sullivan in crafting wording included in the National Defense Authorization Act (NDAA) that highlighted the importance of non-federal spaceports to our National Security Space Policy has been the foundation from which we have been able to build the relationships necessary to advance this cooperative effort. Senator Lisa Murkowski has provided stalwart leadership in working with other spaceport state elected officials to forge the concept of a shared relationship in funding non-federal spaceports infrastructure priorities that enhance national security space programs. While in the House of Representatives, the Dean of the House, Don Young, has been instrumental in working with his colleagues to ensure that the efforts of our senators were recognized as important to our nation. The Alaska Aerospace Board of Directors and staff thank our congressional delegation for this success and for their solid commitment to aerospace development in Alaska.

Strategic Infrastructure Investments

Aurora Launch Services

TELEMETRY ANTENNA RADOME INSTALLATION



Following installation of two new telemetry antennas in 2017, Alaska Aerospace purchased and installed Radome covers on both new antennas. The Radomes are designed to shield the antennas from the weather conditions of wind, rain, salt water, snow, and ice experienced at PSCA, as well as to provide a sheltered environment for electronics' and for personnel. With the antennas in a protected environment, it is expected the annual maintenance costs will be lower than for antennas exposed to the weather.

WEATHER BALLOON STORAGE AND LAUNCH BUILDING REPLACEMENT



As part of our facilities renovation and modernization program, PSCA's original weather balloon building was removed and replaced with a new structure that provides improved safety and operations capabilities for the staff at PSCA.





To provide low cost, highly reliable launch services on a contract basis to both government and commercial spaceport customers worldwide, the Alaska Aerospace Board of Directors established a wholly owned subsidiary, Aurora Launch Services, in 2017. Headquartered in Anchorage, Alaska, Aurora Launch Services is designed to employ Alaskans in supporting aerospace operations both in Alaska and worldwide.

During the latter part of 2018, Aurora Launch Services hired a number of full-time and part-time employees and started providing ground services at PSCA. The first Aurora Launch Services Board of Directors meeting was held on August 29, 2018, at which time the company completed the transition process and became Alaska Aerospace's first non-state operated entity.

John Cramer was selected as the first President of Aurora Launch Services and the company signed an exclusive launch services agreement with Alaska Aerospace for providing both ground and launch services at the Pacific Spaceport Complex – Alaska. As Alaska Aerospace looks towards the future, the success of Aurora Launch Services will provide the model for further expansion and development of other commercial ventures that provide opportunities for new aerospace business in Alaska.

Aurora Launch Services is designed to employ Alaskans in supporting aerospace operations both in Alaska and worldwide.

Ugak Island Marine Mammal Monitoring Camera Installation

Alaska Aerospace recognizes our corporate stewardship responsibilities for the environment and the special habitat that surrounds our spaceport. Working closely with the National Marine Fisheries Services (NMFS) during our environmental process, it was concluded there are no federally-listed threatened, endangered, or candidate avian or terrestrial mammal species within the vicinity of the Pacific Spaceport Complex - Alaska. However, there are several federally-listed marine mammals present in the waters offshore and on Ugak Island. In concurrence with the National Marine Fisheries Service July 31, 2015 Letter of Authorization, and to ensure accurate monitoring of any potential impacts rocket launches may have on the marine mammals on Ugak Island, Alaska Aerospace installed remote time-lapse cameras using a high-speed, fixed focus lens on a custom-built stand with remote access capability. This equipment allows pre-launch, post-launch, and quarterly aerial surveys (and reporting) to be completed and documented in the report submitted annually to the National Marine Fisheries Services.



Conventions and Symposiums

Alaska Aerospace continued our involvement in business development and public awareness of our capabilities through active participation in the industry's leading trade shows, conferences, symposiums and conventions. We have a unique story to tell, about the success of operating the nation's only full-service commercial spaceport for companies requiring satellites in highly-inclined, sun-synchronous, and polar orbits that offers affordable launch services without government operations and sustainment funding. As we expand our capabilities, it is imperative we also expand the awareness of our services to an emerging commercial aerospace industry.

THE 21ST ANNUAL FAA OFFICE OF COMMERCIAL SPACE TRANSPORTATION CONFERENCE

FEBRUARY 7TH AND 8TH, WASHINGTON DC

One of the nation's premier gatherings for commercial space transportation was held in Washington DC February 7th and 8th. The 21st Annual FAA Office of Commercial Space Transportation Conference was co-hosted by the Federal Aviation Administration Office of Commercial Space Transportation and the Commercial Spaceflight Federation. From within the Ronald Reagan International Trade Building, participants in the conference heard a keynote presentation by Senator Ted Cruz.

While Alaska Aerospace did not have a booth at the conference, connections with the space community continued to provide excellent opportunities to learn about future programs being pursued by the commercial industry. Under the theme of *"The Importance of Funding"*



Research in Commercial Space," a presentation by Dr. Fred Kennedy, Defense Advanced Research Projects Agency (DARPA) announced a challenge project to be conducted by DARPA to demonstrate rapid response capabilities available within the commercial small launch vehicle market that may have potential national security applications. If conducted, this project provides opportunities for Alaska Aerospace to be a prime launch site supporter.

2018 JAPAN BUSINESS UPDATE AND ECONOMIC OUTLOOK

FEBRUARY 14TH, 2018, ANCHORAGE, ALASKA

Alaska Aerospace has engaged in collaborative conversations with both government and commercial entries in Japan over the past few years concerning the potential for a cooperative relationship in small and medium commercial launch services. As such, the World Trade Center Anchorage has followed the efforts to expand business relations between Alaska and Japan. CEO Craig Campbell was invited to provide an assessment of potential aerospace business development between Alaska and Japan at the World Trade Center Anchorage's "2018 Japan Business Update and Economic Outlook" Luncheon held in Anchorage at the Lakefront Resort on Feb 14th, 2018.



THE 34TH SPACE SYMPOSIUM

APRIL 16-19, 2018, COLORADO SPRINGS, COLORADO



Bringing together leaders from commercial, government and military space from around the world, the Space Symposium provides a forum to discuss, address and plan for future achievements in space. As in years past, the 2018 symposium provided an outstanding forum for networking and engagement opportunities with influential participants in one convenient and extraordinary venue. With over 14,000 registered participants at this year's event, the Space Symposium has become the largest space industry trade show and technical conference in the United States.

For the sixth year, Alaska Aerospace had a booth in the Main Exhibit Hall intended to highlight the capabilities and opportunities provided by launching from the Pacific Spaceport Complex – Alaska. With the expanding interest in commercial launch operations, this year was our most active, with a number of customer meetings and a record number of inquiries from new launch vehicle developers interested in how Alaska Aerospace may be able to support test and development programs, as well as eventual operations from Alaska. This year there was also a lot of interest in our pursuit of equatorial launch capabilities with a new launch site in the Pacific region.



SPACE MISSILE DEFENSE SYMPOSIUM

AUGUST 7-9, 2018, HUNTSVILE, ALABAMA



For the fifth year, Alaska Aerospace had a booth at the Space Missile Defense (SMD) Symposium held in the Von Braun Center, Huntsville, Alabama. The SMD Symposium is the premier education, networking, and profes-

sional development event for Alaska Aerospace focusing on government space and missile defense. This year's symposium had senior level government participants, as well as international visitors interested in learning more about capabilities in the United States. During the three day event, Alaska Aerospace hosted a number of visitors at our booth, most being primarily interested in learning more about our capabilities at the Pacific Spaceport Complex – Alaska and development of Aurora Launch Services.

Alaska Aerospace operates a regional office in Huntsville, specifically to support contracts with the US Government. In addition, during this symposium period, Alaska Aerospace was able to talk with a large number of companies that have capabilities required by the US Government which may be potential sub-contractors to Alaska Aerospace during future operations.



AIR TRAFFIC CONTROL ASSOCIATION AND FEDERAL AVIATION ADMINISTRATION Commercial Space National Airspace Systems Integration Conference

OCTOBER 29-30, 2018, WASHINGTON D.C.

ATCA FAA Commercial Space 2018

Co-sponsored by the Air Traffic Control Association and the Federal Aviation Administration, this two-day discussion concentrated on the future of commercial space and the National Airspace System (NAS) and how policy, operations, and technology will shape the future of commercial space. As part of the conference, Alaska Aerospace participated on the "Opportunities and Challenges with Integrating Commercial Space - Cross Industry Discussion" panel discussion. Craig Campbell, Alaska Aerospace Chief Executive Officer, took this opportunity to present the concept that spaceports provide the same purpose for launch vehicles as airports provide to aircraft and, as such, it is time for the National Airport and Airspace Systems to provide a more streamlined and aviation style approach to spaceport development and operations. Commercial space operators seek streamlined, low cost, and predictable launch operations, similar to how airline passengers expect safe. low cost, and on-time aircraft operations. We are at the threshold of space operations transformation that will structurally change practices of the past and create a United States led competitive and reliable space operations.

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UNITED STATES GOVERNMENT RIDESHARE WORKING GROUP PRESENTATION

SEPTEMBER 2018, MOFFETT FIELD, CALIFORNIA

Alaska Aerospace was invited to provide a facility and operations overview to the United State Government Rideshare Working Group at NASA Ames, Moffett Field, California on September 20, 2018. The audience was comprised of various government agencies responsible for providing access to space for the United States government. Alaska Aerospace was the only commercial company requested to present a spaceport perspective at this year's meeting. Craig Campbell, Alaska Aerospace CEO, gave a comprehensive overview of the Pacific Spaceport Complex – Alaska, also introducing the audience to the restructured operations of the state-owned complex with a focus on low cost, launch schedule assurance.

Public Outreach and Media

As activities at PSCA increased in 2018, Alaska Aerospace enhanced our efforts at providing information to the community and maintaining transparency.

PACIFIC SPACEPORT COMPLEX – ALASKA OPEN HOUSE

On September 12th, Alaska Aerospace hosted a public Open House at PSCA for the community to visit the site, learn how operations are conducted at the launch complex, and tour the launch complex facilities. The event was advertised in the Kodiak Daily Mirror, resulting in a large number of Kodiak residents visiting the site during the day. With a warm and sunny day as the backdrop, over 100 people attended the Open House, where Alaska Aerospace staff conducted tours of the various facilities and provided an explanation of how operations are conducted at the site. Alaska Aerospace plans to offer this Open House event annually to provide greater transparency of facilities and operations to the local community.

KODIAK TOWN HALL MEETING

Following the Open House, Alaska Aerospace staff conducted a Town Hall meeting in Kodiak later that evening to present future operations and development plans for PSCA and to solicit public comments. The event was attended by a number of people with many questions focused on commercial development at PSCA and potential impacts to the Narrow Cape area. Craig Campbell led the discussions, explaining how the business model for Alaska Aerospace has changed from solely a launch complex supporting government launches to a new focus on small and ultra-small commercial launch vehicles. A map of the complex was shown that depicted the new areas for development of the commercial launch pads. This was the second annual Town Hall, following the June 2017 Town Hall and has proven to be a good forum for public discourse of operations and community relations with the residents of Kodiak.

ALASKA AEROSPACE BOARD OF DIRECTORS KODIAK MEETING

On Thursday, September 13th, the Alaska Aerospace Board of Directors held a regular meeting in Kodiak to provide the opportunity for local residents to offer board members comments concerning current and future operations of PSCA. The meeting was attended by members of the public. To provide easier access for the public to members of the Alaska Aerospace Board of Directors, the board has determined that an annual meeting will be held in Kodiak henceforth. In an effort to broaden community awareness and participation in the future development of PSCA, the board directed Alaska Aerospace to undertake a Spaceport Master Plan process, similar to the current Federal Aviation Administration Airport Master Plan process. It is expected this will be a twelve month planning cycle; will include a public review process; and will allow for public comments and recommendations before the document is submitted to the Alaska Aerospace Board of Directors for approval. We are pleased to be a trailblazer in transforming how spaceports are operated to be more aligned with the traditional aviation model used by airports. Being an FAA licensed commercial spaceport makes PSCA an ideal facility to bring the airport planning model to spaceports.

KODIAK ISLAND BOROUGH ASSEMBLY PRESENTATION

As PSCA grows with both government and commercial operations, there has been a requirement to add launch pads and infrastructure to the launch site. After years of little to no development at the launch complex, these past two years of facility and infrastructure construction have created a renewed interest in the community concerning the future direction of the launch complex. In 2016 and again in 2017, Alaska Aerospace provided an overview presentation of operations and future business pursuits to the Kodiak Island Borough Assembly.

This year the Assembly requested that Alaska Aerospace participate in a work session designed to create a dialogue between the assembly members and Alaska Aerospace leadership. On Thursday evening, September 13th, Alaska Aerospace met with the assembly members for a two-hour discussion about future development, projected operations, and community concerns. This forum for discussion was valuable for Alaska Aerospace and the Company will continue to work with the Assembly and Mayor on issues of public interest to increase transparency of operations and resolution of community issues.

PUBLIC ENGAGEMENT AND EDUCATIONAL ACTIVITIES

A primary focus of Alaska Aerospace has been to increase our channels of communication with the public on information concerning PSCA that is of public interest, such as providing information on road closures and launch windows. We updated our web site and established a Facebook account to facilitate timely information on launch site activities and launch schedules and road, marine, and air closures. We also rearranged the web site to provide easier access to news articles, photo images and videos with the desire to afford the public with more information about activities at PSCA.

To increase public awareness of our operations, Alaska Aerospace produced a series of new videos designed to educate the public on the orbital dynamics of polar launches and why having a commercial spaceport in Alaska provides both commercial and government customers with competitive access to polar orbits. As part of our effort to use videos for both marketing and educational purposes, a new video was developed titled "Idea to Orbit." This video ties the social benefits of satellite technology to ways that humanity can be improved by advancing safe communities, feeding the world's population, and expanding science to improve the world we live on. Alaska Aerospace continues to strive towards supporting technology advancements that improve the quality of life by providing affordable access to space for both government and commercial customers that can achieve these goals. Telling our story through videos on our web site, as well as being used in public forums, is a valuable medium to reinforce our commitment to public awareness of our operations and good corporate governance.

Alaska Aerospace also shares a commitment of motivating young adults to pursue careers in the aerospace industry with the educational system. We developed a video that illustrates a launch from PSCA, displaying it at the entrance to our corporate headquarters in Anchorage. It educates people passing through our building by depicting a simulated rocket launch from PSCA that shows the performance of a rocket from launch through placing a satellite into orbit. Other videos were developed to inspire local students to be engaged with the Science, Technology, Engineering, and Math (STEM) curriculum. Collectively, we strive to use space launch operations from Alaska as an economic benefit to the community and state, plus providing a global benefit to society.

PACIFIC SPACEPORT COMPLEX - ALASKA "ROCKET DAY - 2018"

To expand outreach to the younger school age generation, Alaska Aerospace conducted "Rocket Day" at PSCA on May 16th for students from Kodiak's Peterson Elementary School. Designed to emphasize the Science, Technology, Engineering, and Mathematics (STEM) curriculum of the school district, the students were given a tour of PSCA. Rocket Day was filled with events to excite interest in aerospace to all who attended. The highlight of the event focused on allowing students the opportunity to conduct mock launches from PSCA using model rockets. Each student was assigned a launch team role, such as Launch Director, Range Safety Officer, Tug Drivers, Telemetry Specialists, Flight Safety Officer, and Weather Observers. The day culminated with students conducting launches of twenty model rockets from PSCA's Launch Pad 2. Special thanks go to PSCA employee Nathan Fitzgerald who organized the events for the day and supervised the model rocket launches.



Peterson Elementary School students on a visit to Pacific Spaceport Complex - Alaska.

2018 SUMMER INTERNSHIP PROGRAM

With our increased activities at PSCA, Alaska Aerospace offered a summer internship this year. Tyler Hoover, an Aerospace Engineering student at Embry-Riddle Aeronautical University in Prescott, Arizona, where he was one of four on a team that developed a remotecontrolled robot, interned with Alaska Aerospace from May to August.

During his work with Alaska Aerospace, Tyler completed a comprehensive editorial update to the Pacific Spaceport Complex – Alaska Range User's Manual and developed the Pre-Decisional Project Description Report for the evaluation of a potential equatorial launch site in the Commonwealth of the Northern Marian Islands (CNMI). This is the base document used in the financial feasibility study and engineering and environmental reviews for determining the viability of developing a launch site in the CNMI.

Part of his experience included a month at PSCA supporting Alaska Aerospace staff on site projects. This

included developing the initial design and engineering specifications for the PSCA Entrance Amenities Improvements Project, as well as working with staff on infrastructure improvements underway for increasing the liquid fuel launch capabilities and telemetry support for commercial customers.



Tyler proved to be a hardworking member of the PSCA Team and, like Jessica Soto and Karen Agonoy, our University of Alaska business students interning in the Alaska Aerospace Finance Office, validated the value of having an active internship program which also affirms our commitment towards providing an exciting work experience for students interested in the aerospace industry in Alaska.



AAC employee Wyatt Rehder and intern Tyler Hoover work on telemetry equipment.

"ON AN ALASKAN ISLAND, A NATIONAL SPACEPORT COMPLEX CARRIES OUT A GLOBAL MISSION."



On September 21st, KTUU Channel 2 reporter Beth Verge produced a feature story focused on the Pacific Spaceport Complex – Alaska. With a beautiful blue-sky summer day background, Beth filmed the facilities at PSCA and introduced a state-

wide viewing audience to the unique operations of one of the nation's premier spaceports right here in Alaska. "In Kodiak, however, you'll find both the pristine beauty of Alaska's largest island and get a glimpse of rockets launching from a 3,700-acre range overseen by the State of Alaska," stated Beth as she described the state-of-the industry facilities at PSCA. With our increasing launch activities for the commercial launch vehicle market, this story provided great exposure and a positive view of aerospace development in the state.

"SPACEPORT SOMEWHERE"



We were honored to be asked by film producer and director Brice Habeger to feature our Pacific Spaceport Complex – Alaska facilities and

personnel in a documentary he was developing highlighting space exploration from Alaska. Shot over 2 days in June 2017, the "Spaceport Somewhere" was produced by the team of Brice Habeger, Producer/ Director, and Zak Melms, Director of Photography. As stated by Brice, "The rockets are the stars of the show and the employees are the supporting cast who make the unreachable a reality."

In June of this year, Spaceport Somewhere was picked up by National Geographic Short Film Showcase: This Is What It's Like to Be a Space Rocket Launcher in Alaska. According to National Geographic, "The Short Film Showcase spotlights exceptional short videos created by filmmakers from around the world and selected by National Geographic editors. We look for work that affirms National Geographic's belief in the power of science, exploration, and storytelling to change the world." The Spaceport Somewhere video can be found at www.spaceportsomerwhere.com and at www.video. nationalgeographic.com/video/short-film-showcase.

NASA'S SPACE GRANT MIDWEST HIGH-POWER ROCKET 2018-2019 COMPETITION

Supporting the Science, Technology, Mathematics, and Engineering (STEM) pursuit of NASA's Space Grant Program, Alaska Aerospace provided mentorship to the University of Alaska, Anchorage all-female Team. Team members were engineering students that demonstrated engineering and design skills through the practical application of designing, fabricating, and launching a custom-built, high-power rocket with a minimum of two successful flights. Wyatt Rehder, an Alaska Aerospace technician working at the Pacific Spaceport Complex – Alaska provided the primary mentorship for the Team, providing design reviews.

Stay tuned for the 2019 Annual Report to learn of the results of the competition, to be held in Minnesota in May 2019. Best of luck to TEAM UAA.

KODIAK CHAMBER OF COMMERCE ANNUAL BANQUET AND AWARDS DINNER



Alaska Aerospace is a Crown level member of the Kodiak Chamber of Commerce and actively supports community events designed to improve the business

environment and increase community business opportunities. As a Crown level member, Alaska Aerospace is proud to be an event sponsor at the annual Kodiak Crab Festival and Parade, COMFISH Alaska, and the Annual Banquet and Awards Dinner. This year Craig Campbell and Mark Lester attended the banquet on behalf of Alaska Aerospace.

In August, the Kodiak Chamber of Commerce hired a new Executive Director, Frank Schiro. Showing enthusiastic support for the spaceport operations we do at Kodiak, Frank attended our PSCA Open House and provided positive comments at both the Town Hall Meeting and the September Board of Directors meeting in Kodiak.

We are pleased with his keen support for the work we are doing to diversify the local economy and bring increased aerospace job opportunities to Kodiak. This support by the Kodiak Chamber is a strong indicator of the positive economic value Alaska Aerospace provides to the entire Kodiak community and we are honored to be recognized for our efforts.

SKODA KODIAQ ADVERTISING SUPPORT

The Skoda Kodiaq is a Czech Republic built Sport Utility Vehicle (SUV) with inspiration derived from Kodiak bears. Skoda selected PSCA as one of their filming venues for their 2019 marketing campaign due to our unique facilities and operations in Kodiak. Filming was done at PSCA over six different periods in June and July 2018. Using PSCA facilities as dramatic backdrops for filming, Alaska Aerospace was able to highlight our unique international abilities to support a global transportation industry. We were honored that the Skoda Company selected PSCA as one of their international destinations to present the 2019 Skoda Kodiaq to the world market.



Community Relations Projects

With the increased launch activities at PSCA in 2018, AAC completed a number of community projects intended to make the public areas of Narrow Cape and the beautiful geographical features of our area more accessible to the public.

PACIFIC SPACEPORT COMPLEX – ALASKA ENTRANCEWAY AMENITIES IMPROVEMENTS

Embracing the public's interest in launch activities at the Pacific Spaceport Complex – Alaska, as well as to provide a safe and convenient location for observing launches, our Team undertook a major remodel of the spaceport entrance area. Led by our summer intern, Tyler Hoover, the site was transformed into a viewing and educational area for visitors. The highlight was installation of a new Rocket Model Display, commemorating the twenty years of



launches from our Narrow Cape location. Co-located with the rocket display, we are replacing the metal welcome sign with a concrete base and structure sign which features pinned outward lettering displaying the name PACIFIC SPACEPORT COMPLEX – ALASKA. The old satellite communications antenna and area fencing was removed, replaced with a gravel area designed to accommodate transportable bleachers, picnic tables, a portable countdown clock and information board, along with an area for food vendors. To improve safety and allow for easy access to the area, a designated parking area will be constructed with accessible parking reserved at either end of the designated parking area. Natural local rock was installed as bollards between the parking area and rocket display area, as well as along the roadside to prevent unsafe road incursions.

PASAGSHAK ROAD CLOSURE NOTIFICATION IMPROVEMENTS

To better inform local residents when the Pasagshak Road would be closed for launch activities, Alaska Aerospace established a road closure notification system that includes local notices published in the Kodiak Daily Mirror, public service announcements, and developed a specific page on the Alaska Aerospace web site which provides notification of road closures. We also instituted posting road closures on our web site and Facebook page. Finally, for those that may not have access to or see any of these methods of road closure announcements, we purchased a mobile roadside signage board to be located near the Rendezvous at Women's Bay to alert drivers as to the date and times the Pasagshak Road will be closed for launch operations.

Our Governance and Management Team

In the twenty years since Alaska Aerospace conducted that first launch from Kodiak, the corporation has experienced a number of changes in strategic direction. It is commonly misunderstood that no business can survive without growth. In reality growing a company, or getting bigger for the sake of getting bigger, is not a necessary requirement for a business to be successful. Rather, adapting to the current business environment and successfully pursuing emerging markets provide the greatest key to success.

Governance is about planning and guiding the strategic direction of a company. At Alaska Aerospace, that responsibility rests with our Board of Directors, as clearly stated in Alaska Statute 26.27.020: "The powers and responsibilities of the corporation are vested in the board of directors." As such, the Alaska Aerospace Board of Directors provides the guidelines and budget oversight for the management team.

To recap the tremendous importance the existing governance structure has provided to Alaska Aerospace, one only need to go back to the beginning objectives of the corporation. In 1991, the original vision for Alaska Aerospace was development of a state corporation that could attract commercial space activities to Alaska. But during those early years, it was found that government remained the dominate provider to the space market, so the board made a strategic adjustment and focused on providing a new capability for both orbital and sub-orbital launch from Alaska that added value to the United States national space program. Thus was born the vision to develop the Kodiak Launch Complex.

That model worked very well for Alaska, as Alaska Aerospace conducted fifteen (15) launches for the US government between 1998 and 2011. However, in the first decade of the twenty-first century, the development of a new commercial space industry sparked renewed interest to re-evaluate opportunities for the company to expand the commercial space industry in Alaska. As stated in the Alaska Aerospace 2012 Annual Report by Board Chair Patrick Gamble, "However, sensing growing opportunity, AAC spent much of the year earning the interest and technical respect of several important commercial and government customers looking to their future rocket launch schedules." It was that forward thinking that led Alaska Aerospace on the current journey to become a premier spaceport for the emerging small commercial launch vehicle market.

So here we are, twenty years since our first launch, having maneuvered through some tumultuous times, only to emerge as a self-sufficient aerospace company that has a diverse customer base consisting of both government and commercial companies, supporting commercial activities internationally, and moving forward with development of an equatorial launch site to complement our existing polar access launch site in Alaska.

While the board of directors is the basis of our governance, managers and executives comprise the execution element of the company. Following the direction set by the board, senior leadership has implemented a flexible strategy these past twenty years to protect the company's core values and financial position while maximizing opportunities to advance the capabilities of the company with both government and commercial customers.

ALASKA AEROSPACE CHIEF EXECUTIVE OFFICERS – A SHORT HISTORY

Pat Ladner



Alaska Aerospace's first Chief Executive Officer was Pat Ladner. Pat provided the persistent leadership necessary to align the state and federal government's interest in potential aerospace development with the challenging aspect of securing funding to build a stateof-the-industry launch complex at Narrow Cape, Kodiak, Alaska. It takes

a visionary to see a future that may be, but it also takes a strong leader to take the leap of faith and develop a multimillion dollar complex based on projections of future business possibilities.

"As I consider the first 17 years of Alaska Aerospace, I am proud of what has been accomplished. I remember that day in 1993, when Dave Woodruff and I looked out over Narrow Cape, on Kodiak Island. What a day that was. Dave said, "This is the place for the Kodiak Launch Complex." A spaceport in Alaska! Who would have thought it possible? At the time, the corporation was little more than a dream and a spaceport was, at best, little more than a vision," Pat is quoted as writing in the Alaska Aerospace Development Corporation's 2007 Annual Report. While FAA studies were projecting that planned satellite constellations were developing for both government and commercial requirements that would create launch facility congestion and that the infrastructure would be inadequate to support U.S. launch requirements, that market did not develop as projected. Undaunted by this turn of events, Pat worked with the Air Force, which contracted for three launches. The first launch occurred in November 1998 and christened the operability of the Kodak Launch Complex.

The next twenty years is history, but fact is, Alaska Aerospace and the Pacific Spaceport Complex – Alaska would not be here today had it not been for Pat's vision, leadership, tenacity, and persistence in forging a launch complex in Alaska that has become a cornerstone for the Kodiak community and Alaska's aerospace future.

Dale Nash



Dale Nash became the second Chief Executive Officer of Alaska Aerospace in 2008. Dale arrived at Alaska Aerospace in 2007 as the President and Chief Operating Officer. He brought with him a wealth of aerospace experience, highlighted by his work supporting the Space Shuttle Program at Kennedy Space Center, Florida.

Dale spent 14 years in Florida in senior management positions working launch operations and program development on NASA's Space Shuttle and Orion programs with United Space Alliance and Thiokol (now Northrup Grumman Orbital ATK). He began his career in Utah working 11 years on DoD ballistic missile systems and solid rocket motors with Hercules and Thiokol.

Inheriting the nation's most state-of-the-industry launch complex provided Dale the opportunity to mature the space launch industry in Alaska, and he excelled in that ability. During his tenure, Alaska Aerospace completed five successful launches for the U.S. Government, while adding additional infrastructure at the Pacific Spaceport Complex – Alaska. Preparing our launch complex infrastructure for the future, Dale stated in the 2009 Annual Report "Nowhere is our determination to expand more evident than in AAC's infrastructure development efforts. In response to customer's needs, AAC, with funds from the State of Alaska, is building a Rocket Motor Storage Facility and has a working plan for a third launch pad which allows AAC to accommodate multiple rapid launches from our Kodiak Launch Complex." While Dale departed Alaska in 2012 to become the CEO and Executive Director for Virginia Space, the parent company for the Mid-Atlantic Regional Spaceport co-located with NASA's Wallops Flight Facility in Virginia, his efforts while at Alaska Aerospace brought Alaska to the forefront in space launch activities and branded "The Other Cape" as one of America's finest spaceports.

Craig Campbell



Alaska Aerospace's third Chief Executive Officer is Craig E. Campbell, being appointed by the Board in 2012. Craig's background mix of military, political, and business, offered Alaska Aerospace the opportunity to transition into a self-sustaining corporation that offered opportunities to expand the past aerospace accomplishments into a mature business operation.

As CEO, Craig never lost the belief that Alaska Aerospace, and our launch facilities at the Pacific Spaceport Complex – Alaska (PSCA), could be of tremendous value to Alaska and the company could become a state corporation which generated income and jobs. His tenure has been transformational.

Under Craig's leadership, Alaska Aerospace conducted our first international operations, providing Range Safety and Telemetry services to Rocket Lab at their New Zealand Launch Complex One; established a wholly-owned subsidiary, Aurora Launch Services, designed to offer low cost launch services to commercial spaceports worldwide; initiated development efforts for an equatorial launch site within the Pacific Region; secured federal infrastructure funding to expand launch capabilities to support the National Security Space Program, liquid-fueled launch vehicles requirements; streamlined policies and procedures to make the Pacific Spaceport Complex – Alaska our country's premier, non-federal, commercial spaceport; and returned Alaska Aerospace to profitability without state funding support. Frankly, the team did the impossible.

With Craig's announced retirement intentions next year, the Alaska Aerospace Board of Directors wants to thank him for his unselfish service and tremendous accomplishments.

RECOGNIZING FACES AND CHANGES

Leadership is critical to success, but so is the ability of a team to operate as a TEAM. It is fitting to acknowledge some of the individual accomplishments of people who have made a long-term commitment to Alaska Aerospace, as well as to introduce new members of the leadership team.

Mark D. Lester



As Alaska Aerospace continued to expand our market share, the need to delegate leadership responsibilities and authorities became self-evident. As such Mark D. Lester joined Alaska Aerospace in October to serve as the Company's new President, while Craig Campbell remained the Chief Executive Officer. Mark brings a wealth of aerospace experience to

Alaska Aerospace.

Prior joining Alaska Aerospace Mark was the Founder and Chief Executive Officer of Pantigo Lester LLC in Colorado Springs where he provided management consulting services to mid-market aerospace and defense businesses. His background includes previously serving as the Chief Executive Officer with Doss Aviation, as well as business development, marketing, and project management and engineer experience for a number of aerospace companies. Mark also served in the United States Air Force as a space systems engineer, satellite operator, and intelligence analyst. He holds both a Bachelor of Science Degree in Electrical Engineering from Norwich University and a Master of Engineering in Space Operations from the University of Colorado.

Art Isham



Art Isham joined the company in late 2003 as a Contracts Manager, just as the company signed their first contract with the Missile Defense Agency, which he then managed through 2010. Previously he had

served 23 years on active duty as a logistician with the US Army and worked with various companies' agencies of the State of Alaska working as a contracts and procurement manager. "My previous private and public experiences were quickly used to establish a procurement system that generally mirrored the State of Alaska system, but incorporated many private industry features. This system is still in use today," Art explained. He has been involved in the rehabilitation, expansion, and rebuilding of the launch complex in Kodiak; the development of launch sites at other locations; and the conversion of the company from an organization with all state employees to a leaner private sector modeled company. Upon his retirement from the state in 2015 he established his own firm, and as an independent contractor continues to provide logistics, contracting and procurement services to the Alaska Aerospace Corporation as it moves into the future.

Judy Godin



Joining Alaska Aerospace in 2004, Judy Godin has served in a variety of different financial positions, always maintaining a stable and steady balance on the Company's financial position. First working with

contracts, in 2010 Judy moved to the accounting office to support transitioning the accounting function of the Company to a new accounting software program. Her expertise has been instrumental within the accounting and finance office in consistently maintaining financial stability for Alaska Aerospace and achieving excellent annual audit results.

"I have had the pleasure of working with every person to hold title of President/CEO in this organization. They have been a diverse bunch with wide ranging backgrounds, but all had a vision of where this company could get to with a little grit and a lot of determination," Judy proudly proclaims. With the movement towards smaller commercially funded launches and working with customers with low cost launch services expectations, Judy's experience will be invaluable in creating new ideas and paths to success for Alaska Aerospace, our state and our customers, current and future.

Douglas Hunter



As the primary go-to person for government contract management, from developing Requests for Proposals to managing the contractor's selection process and overseeing contract compliance,

Douglas Hunter has demonstrated exceptional leadership which has provided Alaska Aerospace the ability to meet customer expectations on time and on budget.

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After retiring as Chief Master Sergeant from the United States Air Force, Doug worked as the Assistant Manager of Airfield Maintenance and then Manager of Airport Facilities at the Ted Stevens Anchorage International Airport. Doug joined Alaska Aerospace in May of 2007 as a Contracts Manager. He came during a period of rapid expansion after the corporation won a significant contract with the Department of Defense. Doug's diverse talents have been a very good fit and a key component of the company throughout his employment. His ability to fulfill multiple roles, such as inventory manager and the headquarters office IT coordinator, has helped sustain and strengthen the company throughout his tenure. His extensive experience in Maintenance Management with infrastructure and equipment was instrumental in implementing a maintenance management and reporting system. That system has helped maintain capabilities and has positively impacted the condition of the Company's facilities.



Joe Francisco

Joe Francisco joined Alaska Aerospace January 2009. Joe served as the company's Facility Security Officer until August 2018 when he retired from state service and moved to his home in New

Orleans, Louisiana. Joe is a retired U.S. Coast Guardsman, specializing in the communications field. He filled a number of crucial functions at Alaska Aerospace during his tenure. On behalf of the staff and the Board of Directors, we wish Joe all the best in his retirement.

Kim Butler



With the retirement of Joe Francisco, Kim Butler joined Alaska Aerospace as our Facility Security Officer. Kim is a retired U.S. Naval Officer with 28 years of active duty years of service. Following his retirement from the

Navy, Kim was employed as an international security contractor, and worked in many remote and austere countries in support of the Global War on Terrorism. In August 2011, Kim was selected as the Senior Naval Science Instructor for Chugiak High School Naval Junior ROTC Program in Chugiak, Alaska and worked in that capacity until joining Alaska Aerospace in August 2018.

Kim has a Bachelor of Science degree in Aeronautical Studies from Embry Riddle Aeronautical University. He also holds a commercial pilot license with airplane single, multiengine land, instrument and single engine sea rating and is a rated civilian Scuba diver. He is an accomplished mountain climber and has led several climbs to over 20,000 ft without supplemental oxygen while residing in Ecuador. In addition to his role as our Facility Security Officer, Kim will also be working on the Pacific Spaceport Complex – Alaska launch team as a Ground Safety Officer.



Our Outlook

Alaska Aerospace is well positioned to experience a robust launch schedule for 2019.

With the successful commercial launches this year, we are ramping up for additional launches in 2019. Continuing our work with Rocket Lab, we signed a contract to continue providing range safety services for their Electron rocket launches from their New Zealand Launch Complex One in 2019.

Our multi-year, multi-launch government contract will also provide opportunities for launches from the Pacific Spaceport Complex – Alaska in 2019. With the signing of additional government contracts this year, we are in a strong position for growth in both government and commercial operations. With this growth comes the need for us to more clearly present a long-term development plan for the Pacific Spaceport Complex- Alaska. Therefore, the Board of Directors authorized development of a Spaceport Master Plan. Following the Federal Aviation Administration Airport Master Plan model, this spaceport planning process was initiated at the end of 2018 and is expected to be completed in early 2020. The plan will identify expected growth for the Pacific Spaceport Complex - Alaska over the next ten years and produce a Spaceport Master Plan that identifies the areas necessary for development to meet forecast demands, as well as reviewing requirements of the existing 3,700 acres of land under the Interagency Land Use Management Agreement with the Department of Natural Resources.

We anticipate the environmental assessment for the East Hawaii equatorial site will be substantially complete in late 2019, leading towards development of the launch facility next year. Alaska Aerospace has applied for the FAA spaceport license and will commence establishment of a wholly owned subsidiary in Hawaii to manage and operate the Pacific Spaceport Complex – Hawaii.

With the successful infrastructure developments supporting the National Security Space Program from both the FY 2017 and FY 2018 defense appropriation bills, Alaska Aerospace received funding for additional spaceport enhancements in the FY 2019 Defense Appropriations Bill to upgrade additional infrastructure for operations that enhance federal government capabilities at PSCA. These improvements will cement our ability to serve a variety of different launch vehicles for United States Government national security missions.

The accomplishments of 2018 have positioned us very well to continue expanding services and attracting new customers to our complex. With development of the Hawaii site, we will be uniquely positioned to market launch services for both equatorial and polar orbit access, creating a niche market perfectly positioned to enhance small commercial launch activities.

Financial Review

The financial position of Alaska Aerospace during 2018 was weaker than expected primarily due to the postponement of a US Government mission that had been planned for this year. Throughout the year, Alaska Aerospace worked with the government and our subcontractors to minimize the financial impact of the postponement, as well as working with our commercial customers to increase launches from PSCA in an effort to reduce the financial impact of the postponement.

On the positive side, the US Government has continued working with Alaska Aerospace on mission planning to complete this mission at a later date, while also pursuing contracts for other missions from PSCA. While there was a financial impact to Alaska Aerospace for 2018, our financial forecast for 2019 shows a higher than projected revenue flow for next year.

The move towards a Public-Private Partnership (P3) corporate structure, coupled with our establishment of Aurora Launch Services and streamlining our workforce, has allowed us to be an industry leader in affordable launch costs and positioned us well for future business.

Following our past ability to secure two federal appropriations for infrastructure improvements at PSCA that support our national security space launch requirements, we are requesting another \$5.0 Million be included in the Department of Defense budget in FY19. Using these funds specifically to make facility upgrades and to increase our capabilities provides the country with a low-cost capability to expand national defense test programs in Alaska.

In 2018, we saw a slight decrease in our Net Position over FY 2017 by \$3.1 Million, a decrease of 3.5% and ended the year with \$1.6 Million in Cash and Cash Equivalents, as well as producing a 76% increase in Operating Revenues over FY 2017, ending the year with \$23.1 Million in earned Operating Revenues. During FY2018, AAC received no funding from the State of Alaska toward the operations and sustainment of the Pacific Spaceport Complex – Alaska (PSCA). Additionally, insurance proceeds (received through claim process for repairs to facilities due to launch anomaly which occurred in August 2014) received in prior years led to the completion of the rebuild of the facilities in FY2018. These are reflected in the increase to Capital Assets being depreciated and a corresponding increase in depreciation.

At June 30, 2018, AAC had \$ 86.1 million in net capital assets at its locations in Anchorage and Kodiak that support the mission to foster the aerospace industry in the State of Alaska. This amount is net of accumulated depreciation and amortization and represents an increase in net capital assets of \$0.3 million. AAC placed \$37.8 million worth of capital assets in service in FY2018 and has seen an increase of \$754 thousand in depreciation expense in the current year.

We have launch commitments for the following year that exceed our operations of the current year. With a forecast of up to four launches in 2019 from PSCA and our support to Rocket Lab for additional launches from Launch Complex One, our financial projection for 2019 shows Alaska Aerospace could more than double our end of year cash reserves and start to replenish the reserves that were expended over the past few years.

FINANCIAL PERFORMANCE





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Statement of Net Position

YEARS ENDED JUNE 30, 2018 (WITH COMPARATIVE AMOUNTS FOR 2017)

Years Ended June 30,	2018	2017
Assets and Deferred Outflows of Resources		
Current Assets		
Cash and investments	\$1,683,324	\$3,064,795
Accounts receivable	2,563,649	3,868,892
Accounts receivable	13,223	-
Unbilled receivables	3,228,997	127,881
Total Current Assets	7,489,193	7,061,568
Noncurrent Assets		
OPEB Asset	11,732	-
Capital assets not being depreciated	6,251,292	38,658,318
Capital assets being depreciated/amortized, net	79,829,443	47,105,563
Total Noncurrent Assets	86,092,467	85,763,881
Total Assets	93,581,660	92,825,449
Deferred Outflows of Resources		
Related to pensions	353,502	900,248
Related to OPEB	82,334	-
Total Assets and Deferred Outflows of Resources	\$94,017,496	\$93,725,697
Liabilities, Deferred Inflows of Resources and Net Position Liabilities		
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Accounts payable	\$3,961,390	\$1,200,505
Accrued leave and compensation	915,227	2/3,223
Total Current Linkilities	1.046.617	1 661 786
	4,946,617	1,001,780
	520 500	
Net OPEB liability	528,588	4 702 470
	3,207,804	4,302,430
	3,/36,392	4,302,430
	8,683,009	5,964,216
Deferred Inflows of Resources – related to pensions	17 1 07 I	
Related to pensions	434,874	47,959
Related to OPEB	294,156	-
Net Position		
Net investment in capital assets	86,080,735	85,763,881
Unrestricted (deficit)	(1,475,278)	1,949,642
Total Net Position	84,605,457	87,713,523
Total Liabilities, Deferred Inflows of Resouces and Net Position	\$94,017,496	\$93,725,698

FINANCIAL PERFORMANCE

Statements of Revenues, Expenses, and Changes in Net Position

YEARS ENDED JUNE 30, 2018 (WITH COMPARATIVE AMOUNTS FOR 2017)

Years Ended June 30,	2018	2017
Operating Revenues	\$23,147,552	\$13,143,492
Operating Expenses		
Personnel services	1,367,670	1,442,575
Travel	141,103	130,452
Contractual services	16,910,590	9,792,170
Supplies	766,203	1,013,073
Equipment	1,260,879	261,778
Depreciation and amortization	4,494,334	3,740,054
Total Operating Expenses	24,940,779	16,380,102
Net operating loss	(1,793,227)	(3,236,610)
Nonoperating Revenues (Expenses)		
Investment income (loss) unrestricted	28,710	96,616
PERS relief from State of Alaska	42,086	82,114
Other revenue	-	3,742,785
Loss on disposal of capital assets	(613,817)	-
Insurance proceeds, net of loss on impairment	-	8,098,062
Total Nonoperating Revenues (Expenses)	(543,021)	12,019,577
Income (loss) before capital contributions	(2,336,248)	8,782,967
Capital contributions - State of Alaska	-	2,607,353
Change in Net Position	(2,336,248)	11,390,320
Net Position, beginning of the year	86,941,705	76,323,203
Net Position, end of the year	\$84,605,457	\$87,713,523

"We are at a point in history where a proper attention to space, and especially near space, may be absolutely crucial in bringing the world together."

Margaret Mead, American anthropologist



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