# AADC 2007 Annual Report

# From our CEO

Our History, Our Future

To the Governor, the State Legislature and the People of Alaska:

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 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.

I am grateful to have had the opportunity to lead Alaska Aerospace since its inception into a viable jobs-producing business unit. I am proud to have led the design and construction of Kodiak Launch Complex (KLC), and prouder still, that it is now a successful operational state-of-the-industry launch facility. With 12 successful launches from multiple customers, Kodiak Launch Complex is a state-of-the-art spaceport.

The development of Alaska Aerospace and the KLC took place over several years. Its genesis was the idea of former Representative Tom Moyer who thought the state could build an orbital launch facility onto the University of Alaska's program of launching high-altitude research rockets at the Poker Flat range north of Fairbanks to support the launch needs of the burgeoning satellite constellation industry. However, after safety studies were complete, it was evident that Poker Flat could not safely support an orbital spaceport. A site survey then considered 26 locations in the state. Narrow Cape was chosen as the site and became known as Kodiak Launch Complex.

The Alaska Legislature provided start up funding totaling \$9 million from the Alaska Science and Technology Foundation for KLC construction and \$6.6 million for initial operations. This money provided Alaska Aerospace with leverage to gain more than \$123 million in grants from several federal agencies.

Even after the KLC construction was complete there was uncertainty about attracting launch customers. The idea for a spaceport in Alaska was based on the launch needs of the planned burgeoning commercial satellite constellation industry. FAA studies showed that if the planned constellations materialized, the current/existing U.S. launch infrastructure would be inadequate to support the launch requirements. However, the satellite constellation industry as it was intended did not materialize. Instead, Alaska Aerospace worked with the Air Force for three launches to christen the operability of KLC. This was followed by an orbital launch from NASA/Lockheed. Alaska Aerospace then became a key partner in national missile defense testing with the U.S. Missile Defense Agency.

In 2007 Alaska Aerospace had two successful launches, with more planned for 2008 and 2009. With an additional launch area and rocket motor storage facility, now planned, Alaska Aerospace is set for the next stage of growth which also includes expanding opportunities for Alaska technology support companies.

One of my biggest passions has been supporting the educational process in Alaska. With the approval of the FY 2009 budget by Alaska Aerospace Board, we will continue to provide 40 annual scholarships to the University of Alaska for Alaska's high school graduating seniors. We will also continue to support the Space Explorers Program in 148 Alaska schools to motivate our school

children to learn math and science and sponsor college internships for students to work at Kodiak Launch Complex. Alaska Aerospace will continue to promote Challenger Learning Center of Alaska. The scholarship program is the finest accomplishment of Alaska Aerospace. It is incumbent upon our industry to have an educated and trained Alaska workforce that will ensure our future and allow Alaska's best and brightest job opportunities to stay in Alaska.

There has been \$138 million invested in Alaska Aerospace through FY 2007 including the \$15.6 million original state investment. In that same period the corporation has earned \$76 million in launch revenues. The total return on the state's \$15.6 million investment has been \$214 million to date. Each year Alaska Aerospace contracts for an economic impact survey to determine our industry contributions to the state. The 2007 survey concludes that Alaska Aerospace has grown from one employee in 1992 with no income to 372 direct and indirect jobs statewide today, with \$21 million in direct and indirect payroll and \$58 million in purchases within Alaska.

Financially self-sustaining for over 10 years, Alaska Aerospace has: developed a fully operational launch complex with a state-of-the-art range safety and telemetry system and, to date, has a perfect flight safety and environment record; established 40 annual scholarships to the University of Alaska; worked with Old Harbor Native Corporation acquiring the funding for a fiber optics system now installed serving KLC, the Kodiak community, and the Kenai Peninsula; secured funding for 42 miles of paved road to KLC, which opened vast recreational access for the Kodiak community.

I am proud of, and thankful to, the people who did not waiver in their belief and dedication in the development of Alaska Aerospace and Kodiak Launch Complex. I would like to thank all of the present and past employees who contributed to this accomplishment. Alaska Aerospace and Kodiak Launch Complex are now recognized and respected within the industry and will continue to thrive.

Finally, in 2007, I recruited Mr. Dale Nash as President and Chief Operating Officer for Alaska Aerospace with the express purpose of Mr. Nash taking the leadership as Chief Executive Officer. Mr. Nash has vast aerospace and launch experience that includes significant work and leadership with Thiokol, Lockheed Martin, and United Space Alliance. He has the knowledge and expertise to attract additional customers to Kodiak Launch Complex. Mr. Nash has the vision to expand and grow Alaska Aerospace. I couldn't think of anyone better suited to take the helm of Alaska Aerospace.

Sincerely,

Pat Ladner Chief Executive Officer

# Chairman's Letter

To the Governor, the State Legislature and the People of Alaska:

I have had the pleasure of serving on the Alaska Aerospace Board for a year, and was privileged to have been voted the Chair by my fellow directors. This has provided me the opportunity to be part of the aerospace industry, our nation's largest positive contributor to the balance of trade and an essential component of our nation's economic and military strength. Alaska Aerospace offers a tremendous opportunity for Alaska to grow its aerospace economy by leveraging the resources of our strategic location, the University of Alaska Poker Flat Research Range, and our significant military partners. All of Alaska stands ready to benefit from our role in the aerospace market. Far from being a sunset industry, we are dynamic, vibrant, and growing.

Kodiak Launch Complex is a state-of-the-industry facility which our knowledgeable and dedicated staff has demonstrated by our 12 successful launches. In 2007 Alaska Aerospace contributed \$58 million in new business and economic activity to Kodiak, Anchorage and other communities in our state. Alaska Aerospace directly and indirectly supported 372 jobs in 2007, with a total of \$21 million in wages and salaries paid out.

In January 2007, we hired Dale Nash as President and Chief Operating Officer to lead Alaska Aerospace in the coming years. With more than 25 years in the aerospace industry, we believe he is the person to take us forward, help us diversify our customer base and grow our capabilities. Plans have been developed for a third launch pad and a rocket motor storage facility. Both will increase our capacity and allow us to accommodate new launches on demand.

While we are pleased to have Dale aboard we are also fortunate to continue to have Pat Ladner at the helm of our state's aerospace corporation. As Chief Executive Officer, his vision and tenacity have led the consistent development of Alaska Aerospace and the Kodiak Launch Complex.

Alaska Aerospace Board of Directors is proud to work with management as ambassadors to our Alaska communities and beyond, in support of further development of Kodiak Launch Complex. Alaska Aerospace is an important asset to our state and as we develop, a strategic asset to our nation.

Sincerely,

Sharon Anderson, Chair, Alaska Aerospace Board of Directors

## **President's Letter**

To the Governor, the State Legislature and the People of Alaska:

It is my pleasure to present the 2007 Annual Report for Alaska Aerospace.

Since joining Alaska Aerospace in January of 2007, I have been impressed with what Alaska Aerospace and Kodiak Launch Complex have to offer. With over 25 years in the aerospace industry, including the prior 14 years on the Space Shuttle Program,

I know what it takes to operate launch facilities and assemble a great launch team. I can assure you that based on my experience, we have in place at the Kodiak Launch Complex first-class launch facilities and a small but world-class launch team.

During 2007 we had two launches in support of our primary customer the Missile Defense Agency. Our facility now has two launch pads and planning is complete for a third launch pad and rocket motor storage facility. Construction is ready to begin once we secure funding. With a third launch pad we will be able to at least double the Kodiak Launch Complex capacity. With this expanded capacity Alaska Aerospace will be able to support multiple customers with more launches which will in turn generate more jobs and add more money into the economies of Kodiak and Alaska as a whole.

I am very optimistic as we move forward that Alaska Aerospace will further establish itself in the aerospace industry as an emerging viable company; and that the Kodiak Launch Complex will be clearly viewed as a strategic asset in our nation's launch spaceport capability. Our facilities, our launch team and our efficiency and dedication to excellence are making Alaska Aerospace become known industry wide. Dedication to excellence is our standard.

I look forward to 2008 as we continue to work together to grow and diversify the aerospace industry in Alaska.

Sincerely,

Dale Nash President and Chief Operating Officer

# Year in Review

# **Launch Services**

Teamwork, Communication & Coordination

Two launches were carried out at the Kodiak Launch Complex during 2007 and three additional launches are scheduled for 2008. The 2007 launches were in support of the Ground-Based Midcourse Defense program for the Missile Defense Agency (MDA). The launches were testing mid-course inteceptors where a target missile launched from KLC was to be intercepted by a missile inteceptor from Vandenberg Air Force Base in California. KLC continues to play an important role in the testing of the nation's missile defense system.

Alaska Aerospace continues to demonstrate a high level of professional capabilities. Customers are showing satisfaction by continuing to use KLC. The innovation and flexibility of Alaska Aerospace in meeting customer requirements are among the reasons for its success to date.

The business of launching rockets is complex and demanding. It requires teamwork and professionalism to coordinate the complex safety, communications, engineering, logistic and business activities.

FTG-03 | Launched May 25, 2007 FGT-03a | Launched September 28, 2007

# **Improvements**

Priority on Infrastructure and Facility Maintenance

A continuous program of infrastructure improvements is underway at Kodiak Launch Complex. In 2007 improvements were perormed on the road connecting KLC with the city of Kodiak, airport and port facilities. The paved and improved road surface makes it easier to transport bulky and sensitive equipment from Kodiak's port or airport to the launch complex.

A new fiber optic cable constructed in 2006 by Alaska Aerospace and Kodiak Kenai Cable Company is performing well. The fiber-optic cable provides secure, fast data transmission capabilities and high speed Internet access to KLC along with communities on Kodiak Island and the U.S. Coast Guard station at Kodiak, the nation's largest coast guard facility.

# **Expansion**

Alaska Aerospace conducted environmental work, obtained permits and completed engineering for proposed expansion during FY 2008 of a third launch pad and a rocket motor storage facility. The launch pads now at the Kodiak Launch Complex, a sub-orbital launch pad and an orbital launch pad, and the associated support facilities for those pads, are not sufficient to support Alaska Aerospace's growing launch schedule. An expansion is needed if KLC is to support other government agencies and commercial customers.

The proposed Launch Pad 3 will be a short distance away from Launch Pad 1 and Launch Pad 2. A physical separation is required for safety in any concurrent operations or launches.

Expansion of KLC and its capabilities will allow for the storage of several rocket motors at the site. Having an inventory of rocket motors available for quick response, for example in launching surveillance satellites during an international crisis, will add an important dimension to the nation's defense capabilities. This storage facility will also help Alaska Aerospace attract commercial customers because shipping several rocket motors on a single barge will reduce transportation costs.

#### Revenues

\$20.5 million in FY 2007

Revenues from launch services reached a record level in Fiscal Year 2007 and will continue to grow in 2008. Launch revenues were \$20.5 million in FY 2007, up from \$16.9 million in FY 2006. The forecast for FY 2008, based on launches that have been contracted, is \$26 million.

Revenues from launches provide total support for Alaska Aerospace's operations. Cumulative revenues earned for launch services are \$76 million, including \$60 million to date under Alaska Aerospace's current Missile Defense Agency contract.

(Chart illustration here in layout)

## Education

Scholarships, K-12 Science Programs, Interns

Support for science education in Alaska is one of the missions of Alaska Aerospace. Since 2004 ten new \$5,000 scholarships to the University of Alaska have been made available each year. Those scholarships can then be renewed each year for up to four years.

With an \$82,000 grant to 148 Alaska schools, Alaska Aerospace has provided the Space Explorers Program, an Internet-based science curriculum.

Since 2003 eight college internships have been provided for students to work at the Kodiak Launch Complex and get direct experience with the aerospace industry.

Alaska Aerospace has continued to provide support for the Challenger Learning Center.

# **KLC Open House**

1,300 at our Open House 2007

Alaska Aerospace hosted an Open House at the Kodiak Launch Complex in July, 2007. Approximately 1,300 visitors from Kodiak, other parts of Alaska and from out-of-state attended. Open Houses are an important way of informing Alaskans about activities at the launch complex.

Special guests this year included our customers and partners, giving them an opportunity to tell Alaskans about their companies and their participation in the aerospace industry. Alaskans were keenly interested in learning about the diversity of the aerospace industry and the potential of Kodiak Launch Complex. Many of the booths at the Open House had participatory activities for guests.

The weather balloon demonstrations were a constant marvel at the Open House as guests watched them being launched and then tracked the balloon sensors on computers.

Hobby rockets were launched every hour. Finger rockets were launched every minute. Guests were delighted with the variety of activities.

Tours of the facilities were available as was transportation to each facility and to the site itself. Lunch was served. Native music and dances were presented during lunch.

The weather was beautiful and a fine time was had by all.

# **Economic Impact**

Alaska Aerospace's operations are important to the Kodiak regional economy and also contribute to Alaska's statewide economy. The corporation spent \$33.4 million in support of launches in FY 2007. Eighty-two percent of FY 2007 expenditures were to payroll in Alaska and in payments to Alaska vendors. This represents a fourteen percent increase over FY 2006 and an average six percent increase per year from FY 2003.

(Chart illustration here in layout)

#### Range Safety and Telemetry System

In 2006 Alaska Aerospace completed construction of a permanent telemetry site in Cordova as the second unit of the Range Safety and Telemetry System (RSTS). The two systems, one at Kodiak and the second in Cordova, have been expanded to provide increased data receiving and processing capabilities. The Cordova facility includes a 3.5-acre fenced pad with shore power and back-up power, and an expandable communications Earth Station. Alaska Aerospace maintains a capability to relocate the mobile RSTS to King Salmon, thus increasing the flexibility needed to meet customer requirements.

The RSTS is a GPS-based, S-band telemetry receiving and UHF command destruct system, with redundant auto-tracking 5.4 meter telemetry antennas and redundant UHF omni-directional and directional antennas for command destruct. The prime purpose of the RSTS is to provide the range safety and telemetry functions necessary to track, receive and process critical telemetry data during a launch, and verify a safe rocket flight within prescribed boundaries.

# **Looking Forward**

# Alaska Aerospace is now poised for a new stage of growth.

Alaska Aerospace has matured as an organization and has proved its capabilities. We are ready for expansion and the next stage of growth. As that happens, there will be additional workforce needs and more requirements for support services.

There are now forty-two people on staff, half of them in Kodiak and employed at KLC. When in launch mode at KLC, it is typical to have over 200 additional mission personnel arrive for a one to two month period. This temporary increase in people at KLC provides a boost to Kodiak's lodging, restaurant and car rental businesses.

The location of KLC is an attraction for customers as we can launch year round. And, it is a secure site that is accessible by highway. Launches can be made to the south over thousands of square miles of open ocean, an important safety consideration.

One of KLC's big selling points for customers is the fact that it is the only launch facility in the nation that is not collocated with a federal range, allowing KLC greater flexibility to meet the customer's individual needs. Flexibility, efficient staffing, cost saving attitude add up to excellent customer service which makes Kodiak Launch Complex a stand out in the aerospace industry.

Kodiak Launch Complex is located at Narrow Cape, a 3,700-acre track of pristine and scenic land designated for multiple uses including recreation. Alaska Aerospace secured funding for paving the road to KLC, which opened vast recreational access to Narrow Cape.

KLC has demonstrated its ability to launch in close coordination with other launch facilities. For example, launches of target missiles for the U.S. Missile Defense Agency must be done in communication with launches of interceptor missiles from other launch centers in the Pacific.

Another important accomplishment for Alaska Aerospace has been the implementation of the RSTS for KLC. This system allows flight controllers to keep the rocket on course in the critical stages of liftoff and early flight. In previous years KLC did not have its own RSTS system and customers had to bring the system with them. With our own RSTS system at KLC costs are lowered for launch customers.

Having proved it capabilities, the future is bright for Alaska Aerospace. The development of a third launch pad and rocket motor storage facility will allow KLC to attract additional customers, particularly government customers with a need for flexibility and rapid launch capabilities. The planning and preparation for this expansion is complete. Once funding for construction is secured the expansion can be accomplished in two years.

More frequent launches will require additional support with increased frequency. Over time, it will make sense to have Alaska based support staff in Kodiak and Anchorage as well as Alaska based contractors doing work now done by companies outside Alaska.

This growth will take place over a period of years. Alaska Aerospace encourages the development of professional and technical capabilities of the Alaska workforce and supports science education in Alaska's schools and universities.

# **Economic Impact of Kodiak Launch Complex in 2007**

An analysis of the economic contribution of Kodiak Launch Complex from on-going operations and projects was recently conducted by Northern Economics, Inc. The economic analysis covered the 2007 fiscal year. The study specifically quantified the contribution of KLC on the local economies of Kodiak, Anchorage, Cordova and the economy of the State of Alaska as a whole.

For fiscal year 2007, Alaska Aerospace's total economic contribution to the state was worth \$57.8 million. As in the past, Alaska Aerospace has continued to make an effort to purchase goods and services from local businesses. In FY 2007, Alaska Aerospace directly supported 250 Alaska businesses and generated 372 direct, indirect, and induced jobs that paid a total of \$21.4 million in wages and salaries within the state.

The economic impacts of Alaska Aerospace's operations and projects were most significant in Kodiak. The total direct, indirect and induced local impacts to the Kodiak economy alone amounted to \$30.5 million, supporting over a hundred local vendors, and generating over 200 local jobs with \$10.4 million in local payments for wages and salaries. This amount represents about 11 percent of the total earnings recorded for Kodiak Island Borough for the previous year.

In FY 2007, KLC attracted 950 mission-related and 793 non-mission related visits to Kodiak. These visits contributed approximately \$800,000 in business sales of hotels, restaurants and other retail establishments in Kodiak. Not included in these numbers are travel costs of mission and non-mission related KLC visitors whose travel costs are not reported to AADC, the unknown number of additional days of lodging and meals, and unknown charter, guide and tours services purchased by KLC visitors while on Kodiak Island.

The typical logistics activities during a launch also directly benefit local contractors. Activities during a launch typically involve HAZMAT certified drivers, air ride trailers, pilot cars, cargo trucks, communications equipment, on-call spill cleanup contractors and material handling equipment and operators. A total of \$100,000 in direct local spending per launch is associated with these logistical activities.

The Economic Impact Study for FY 2007 can be found at <a href="www.akaerospace.com">www.akaerospace.com</a>.

(The following content is formatted into a table in layout)

## **Economic Output or Business Sales**

Region Amount Indirect + Induced Total Kodiak \$20,129,457 \$10,330,166 \$30,459,623 Anchorage \$6,800,489 \$5,588,866 \$12,389,355

Cordova \$474,761 \$191,171 \$665,932

Rest of the state \$7,281,368 \$7,055,857 \$14,337,226 Total Statewide \$34,686,076 \$23,166,060 \$57,852,136

# Jobs

| Region Direct     | Indirect + Induced |     |     | Total |
|-------------------|--------------------|-----|-----|-------|
| Kodiak 42         | 163                | 205 |     |       |
| Anchorage         | 32                 | 64  | 96  |       |
| Cordova 0         | 4                  | 4   |     |       |
| Rest of the state | 0                  | 67  | 67  |       |
| Total Statewide   | 74                 | 298 | 372 |       |

## Labor Income

Region Amount Indirect + Induced Total Kodiak \$5,749,967 \$4,615,211 \$10,365,179 Anchorage \$4,080,550 \$3,265,748 \$7,346,298 Cordova \$0 \$126,035 \$126,035 Rest of the state \$325,333 \$2,718,078 \$3,043,411 Total Statewide \$10,155,851 \$10,725,072 \$20,880,923

(3 pie charts also appear on the following page in the layout)

## **BOARD OF DIRECTORS**

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