



# Newsletter

Volume 38, Number 1, October 2007

## Aviation Accidents

### John Purvis, AIAA Distinguished Lecturer

John Purvis is an internationally recognized expert in large aircraft safety and accident investigation. He will discuss the Accident Investigation process for large commercial airplanes. John will draw extensively from his experience as head of the Boeing Commercial Airplanes Accident Investigation team for



17 years from 1982 to 1999. During that time, the Boeing fleet experienced approximately 2,500 events, more than 250 of which were classified as accidents involving hull losses, fatalities, or major damage. His role in coordinating the implementation of safety recommendations

with Boeing's design, maintenance, and operations engineers has made a vital contribution to the safety of the world's fleet and to the flying public. John retired from Boeing in January, 1999, following a 41-year career with the company.

In addition to his safety management and accident investigation skills, John is a technical specialist in the fields of mechanical and fluid systems, including hydraulics, landing gear, and flight controls. He is a graduate of the University of

Washington with degrees in mechanical and industrial engineering.

He is a registered professional engineer and a private pilot; he also holds a certificate in aviation accident investigation from the Southern California Safety Institute (SCSI). In 2001, the International Society of Air Safety Investigators (ISASI) presented him with the Jerome F. Lederer award for outstanding contributions to technical excellence in accident investigation. John's views are widely sought. He has spoken

at government and industry safety meetings throughout the world and has served as panelist and speaker at many industry meetings and conferences. He was on the U.S.



team at ICAO/AIG '92 and '99 in Montreal. John has also taught accident investigation courses at a number of venues, including the FAA's Transportation Safety Institute, Canada's facility at Cornwall, and SCSI. He has served as a panel member at ALPA's basic accident investigation class. Currently, he instructs for SCSI and is a member of their board of advisors.

## PNW AIAA/SFTE Presentation

**Date:** Wednesday, October 10, 2007

**Location:** Old Spaghetti Factory  
2801 Elliot Ave  
Seattle, WA

**Time:** 6:00 PM Social, no-host bar  
6:30 PM Dinner Begins  
7:00 PM Lecture Begins

**Cost:** \$15 AIAA/SFTE & Guests  
\$18 Non-Members  
\$5 Students  
\$5 Educator Associates

*Please note a reservation is a commitment to pay.*

### Reservation Option Via the Section Website

RSVP online at [www.pnwaiaa.org](http://www.pnwaiaa.org) or send an e-mail to [rservations@pnwaiaa.org](mailto:rservations@pnwaiaa.org). A confirmation e-mail will follow.

## From the Left Seat



I'd like to welcome everyone to the 2007-2008 year for the PNW Section of AIAA. I have big shoes to fill, taking over the Chair position from Paul Kostek. Paul did an excellent job as the 2006-2007 Chair and has set a high bar for those that follow. I welcome the returning members of the Council, and look forward to new members we will be electing.

Before I became active in the Section, I never put a moment's thought into the monthly dinner meetings. As a Council member, I made it a point to attend every one when I was in town. I hadn't realized what I was missing. For example, last year, we had two AIAA Distinguished Lectures, learned about how moths fly, and learned about expensive Italian sports cars. We heard from a B-52 test pilot and learned about winglets. All of the lectures were educational and at a level everyone can enjoy. Plus, it is fun meeting friends and acquaintances on a regular basis. I would like to encourage all of you to mark your calendars and set aside the third Tuesday of each month for the AIAA PNW Section dinner meetings, starting in September (there may be exceptions to the day in some months).

In August, the PNW section sponsored the first "Washington August is for Aerospace" event at the Museum of Flight. The purpose of the event was to educate representatives of Congress and the state legislature on the importance of aerospace in the region.



We heard from Bob Dickman, the Executive Director of AIAA, Linda Lanham, of the Aerospace Futures Alliance of Washington, Bill King, of the Pacific Northwest Aerospace Alliance, and Scott McComb, of Aviation High School. Advisory Council member Christian Carpenter did a great job putting this program together. He deserves a strong pat on the back from the Section for taking on this task and doing it so well. I hope he will be available to do this again next year. I'd also like to thank Bonnie Dunbar, another Advisory Council Member, for working with the Section to secure the

Museum of Flight location. The event was a great start to what we hope will be an annual event.

The Section also supported a group from Key Peninsula Middle School, led by Advisory Council member Kareen Borders, to attend a NASA Explorer School Team Summer Training and Outreach Program. Ms. Borders, a 2007 AIAA Educator Achievement Award Winner, teamed with another AIAA Educator Achievement Award Winner, Nancy Tashima, who directs the Astronaut Ellison Onizuka Space and Science Center in Kona, HI. Ms. Border writes about this experience in a separate article in this newsletter. I'm hoping Kareen will help us work with Educator Associate members.

This year I have set a personal goal to put together a strong Pre-College program in the PNW. We have a special opportunity to use resources like Ms. Borders and the Aviation High School to put us in the right direction.

This year the Section will be hosting our first Young Professionals Symposium. The organizing committee, led by Kim Hicks, is working hard to make it a great success. The Symposium will be held at the University of Washington, November 3-4, Saturday and Sunday. Additional information can be found further in this newsletter.

We decided to hold our first dinner meeting of the year in October instead of September. The September dinner meeting would have conflicted with a Royal Aeronautical Society lecture at the Museum of Flight. I hope to see you on October 10<sup>th</sup>!

**Scott Eberhardt**

2007-2008 PNW AIAA Chair

## AIAA Announces 2008 Associate Fellows

AIAA is proud to announce the 2008 Associate Fellows. The 2008 Associate Fellow Grade Committee met in August 2007 and selected 172 members for upgrade to Associate Fellow. The Membership Committee approved all selectees.

The new PNW Associate Fellows are:

- Scott Carson, The Boeing Company
- Michael Denton, The Boeing Company
- Michael G. Lavelle, Museum of Flight
- Olwen M. Morgan, Aerojet
- Karl K. Rink, University of Idaho
- Robert W. Stoker, The Boeing Company



The requirements for Associate Fellow as stated in the bylaws are as follows: Associate Fellows may be nominated by any

AIAA member in good standing and shall be approved by the Membership Committee; a maximum of one Associate Fellow per every 150 voting members may be upgraded annually; nominees must be AIAA Senior Members and have at least 12 years professional experience; nominees must be recommended by three members in good standing of Associate Fellow grade or higher.

The 2008 Associate Fellows will be honored at the AIAA Associate Fellows Dinner on Monday, 7 January 2008. The dinner will be held at the Grand Sierra Resort (formerly the Reno Hilton Resort), 2500 East Second Street, Reno, NV 89595, in conjunction with the 46th AIAA Aerospace Sciences Meeting and Exhibit. Congratulations!

## University of Washington Student Branch Wins Award

Congratulations to the University of Washington AIAA student chapter for receiving the 2005-2006 Outstanding Student Branch award for the Western Region (VI) of AIAA. The student branch receives a \$200 cash award along with a certificate that will be displayed in the department's renovated Guggenheim Hall.

## AIAA Announces Section Awards

AIAA is proud to announce the 2006-2007 Section Award winners. Congratulations to Paul Kostek, 2006-2007 Section Chair, for his leadership which resulted in an Honorable Mention for the Outstanding Section Award-Very Large Section. The Outstanding Section Award is presented to sections judged on their overall activities and contributions throughout the year. The basis for this award is the Section Annual Report.

The Section Awards honor particularly notable performances made by a section of the Institute working as a unit, and are intended to formally underscore the AIAA conviction that intellectually stimulating section activity is fundamental to a healthy Institute. All awards are bestowed annually in five section member categories (based on member size): Very Small, Small, Medium, Large and Very Large. A cash award and certificate is presented to each of the winning sections: First Place \$500; Second Place \$200; and Third Place \$100. The award period covered is 1 June 2006 – 31 May 2007.

The first place winners will be honored at the awards luncheon of the 46th AIAA Aerospace Sciences Meeting and Exhibit, being held on Tuesday, 8 January 2008, at the Grand Sierra Resort Hotel (Formerly Reno Hilton), in Reno, Nevada.

## NASA Explorer School Team Summer Training and Outreach Program

2007 AIAA Educator Achievement Award Winner, Kareen Borders, traveled to Kona with her NASA Explorer School Team in July to engage in a week of professional development activities and collaboration. The professional development week was sponsored in part by AIAA.

The mission of the training was three-fold. Kareen and her team focused on increasing aerospace content knowledge, gaining additional instructional skills and resources, and on fostering team-building. The team visited the Astronaut Ellison Onizuka Space and Science Center in Kona which is

directed by another AIAA Educator Achievement Award Winner, Nancy Tashima. Kareen and Nancy met this past May at the AIAA Spotlight Awards Gala in Washington D.C. While there, they found that they share many beliefs and interests. Becoming fast friends, they collaborated and planned a week of professional development the Key Peninsula Middle School NASA Explorer School Team which is headed by Kareen.



Nancy developed a personalized in-service day for Kareen and team. The team engaged in rocketry lessons, design, and investigations; learned

about the NASA Messenger mission; participated in Messenger classroom activities; gained a tremendous amount of resources to take back to the classroom; participated in the many interactive and hands-on activities the Space and Science Center; learned about the Space Center's lending library, and gained ideas for community based outreach that can be utilized in their home state. In particular, the physics of rocketry will be expanded in the current science curriculum. These rocketry lessons will also be utilized during our NASA Family Nights. Many of the lessons learned will be utilized in the classrooms of Key Peninsula Middle School and will be shared with teachers in Washington State.

The team also spent several days with the Gemini and Subaru Telescope astronomers and education specialists. Dr. Kumiko Usuda (Subaru Telescope, National Astronomy Observatory of Japan) led the team through a full day of astronomy investigations appropriate for middle school students. The Subaru Telescope detects some of the most distant objects in the universe. Dr. Usuda shared several excellent Power Point presentations on the Subaru Telescope and their important discoveries. The team constructed scale models of the Milky Way that utilized an excellent integration of math and science. In addition, the team learned about spectroscopy, made spectroscopes, examined different light sources, and learned how spectroscopy is used by astronomers to identify and classify objects in the sky. The team is quite excited to introduce these investigations to their students. The educators were fortunate in that they were invited by both the Subaru Telescope Team and Gemini Telescope Teams to spend time at the actual telescopes on Mauna Kea. After ascending to 14,000 feet, the team was a little light-headed, but ready to learn. It was very powerful to actually see the working



telescopes and talk with personnel on site. Astronomers wait months or even years for a chance to spend a night observing on either of these telescopes.

The Imiloa Astronomy Center in Hilo also welcomed the team of educators from Washington. The education director, Janet Babb, along with Astronomer Dr. Richard Crowe, escorted the team through the museum and hands-on exhibits. The team had a chance to experience first hand the voyages and exploration theme that permeated the center. Many of the ideas can be used and modified in classrooms and teacher training workshops.

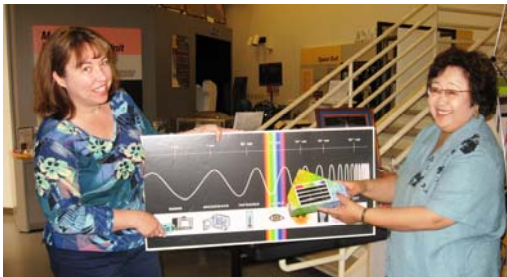


The NASA Explorer School Team spent quite a bit of time in Kona finalizing Aerospace education sustainability plans and implementation

action plans for the 2007-2008 school year. They are looking forward to increased partnerships with community organizations such as AIAA. In addition to the AIAA support, Starbucks, Washington Space Grant, Angel Guild, and numerous hotels and organizations in Kona supported this incredible professional development. Karen's team is in the process of putting together an electronic document and a training workshop in order to share their incredible learning with other teachers. Karen and the NASA Explorer School team gratefully thank AIAA for making this very powerful and authentic professional development a reality. You can reach Karen at [bordersk@psd401.net](mailto:bordersk@psd401.net) with any questions or interest in participating in the Aerospace Education at Key Peninsula Middle School.

Although this experience impacted the team on many levels, there are several examples of powerful learning and anticipated additions to the existing curriculum. Many times, teachers do not have a chance to work with scientists or aerospace professionals in the field. This training provided many opportunities to connect with these professionals--something that is very important to teachers. All of the STEM scientists that took part in this training offered to continue the partnership with the teachers and their classrooms. The NASA Explorer School team at KPMS is looking forward to introducing their students to the astronomers and their work via videoconferencing. In addition to the science department, the math department at KPMS has been anxious to utilize

aerospace resources that are aligned with district standards and curriculum. The



rocketry lessons at the Kona Space and Science Center and the

Milky Way Galaxy hands-on activity at the Subaru Telescope both feature crucial math skills. These lessons will be especially relevant to our math teachers and our new math-focused morning academy. The team will also be sharing both of these lessons, in addition to others, with teachers outside of their school and district.

Based on their experience, Karen and her team will offer a training workshop in Washington State, and may be available through the Speaker Reimbursement Program to share their learning with Educator Associates. Contact Ola Martin ([olam@aiaa.org](mailto:olam@aiaa.org)) for more information.

## Museum of Flight Affiliated with Smithsonian



The Museum of Flight, the largest private Air and Space Museum in the world, has achieved another milestone. Museum President and CEO, Dr. Bonnie J. Dunbar, announced that the museum has been named an affiliate of the Smithsonian Institution, making it the only aviation-related museum in the State of Washington that is both nationally accredited with the American Association of Museums (AAM) and a Smithsonian affiliate.

Created in 1996 to provide the general public with a greater access to the Smithsonian's collections, the affiliation program means the Museum of Flight now has access to the more than 136 million objects housed by the Smithsonian, from spacecraft to aircraft to art. Affiliates may incorporate these artifacts into their exhibitions, as well as take advantage of the Smithsonian's educational resources and expertise in the areas of conservation, collections care, and exhibit development. The Smithsonian Affiliations program relates only to items in the Smithsonian's collection and does not involve any type of financial support for the Museum.

The Museum of Flight is the only museum in its genre in the State of Washington with both AAM accreditation and Smithsonian Affiliate status. Chairman of the Museum of Flight Board of Trustees, Mr. Bob Genise, stated that "This certification should open new doors to our ability to share assets with other institutions with similarly high standards. Of the 51 major aviation museums and science centers in this country, about half are nationally accredited by the American Association of Museums, but only seven of these have also earned Smithsonian Affiliation status".

Harold Closter, Director of Smithsonian Affiliations added, "The Museum of Flight is widely recognized for its outstanding collections, its expert staff, and its commitment to public service. The Museum shares much in common with the Smithsonian, especially with our National Air and Space Museum. We look forward to sharing collections, research, programming and ideas in order to make the incredible story of flight readily available to all Americans".

*(From Museum of Flight press release, July 17, 2007)*

## AMTAS Autumn Meeting



The Advanced Materials for Transport Aircraft Structures Center of Excellence will be holding its semiannual meeting October 25<sup>th</sup>.

The tentative agenda is as follows:

- A Center activities report
- Course Development: Maintenance of Composite Aircraft Structures
- Improving Adhesive Bonding of Composites Through Surface Characterization
- Reliability-Based Damage Tolerance Design
- Combined Global/Local Variability and Uncertainty in Integrated Aeroservoelasticity of Composite Aircraft
- Failure of Notched Laminates Under Out-of-Plane Bending
- Standardization of Numerical & Experimental Methods for Crashworthiness of Composite Materials
- Review of the April 12 meeting brainstorming sessions with industry participants.
- Discussion of future research topics.

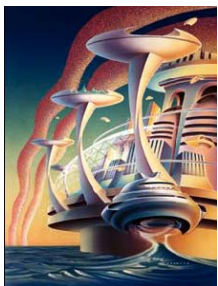
Visit <http://depts.washington.edu/amtas> for more information and to register.

## PNAA Oktoberfest



Yes, it's that time again! The Pacific Northwest Aerospace Alliance's premier networking event is just around the corner. Mark your calendars for Thursday, October 25th, and prepare to join your colleagues for an evening of exchanging information and catching up. Visit [www.pnaa.net](http://www.pnaa.net) for information and to register.

## Future City Call for Volunteers



Consider sharing your enthusiasm for your profession by participating in National Engineers Week Future City Competition. Our local Washington State Steering Committee is here to help introduce the program to math and science educators. We have informational packets, an all encompassing presentation, and a great

web-site (<http://www.ieee-seattle.org/futurecity/index.html>) to help describe the program. We will be happy to set up a meeting and share information about this exciting opportunity for children.

The Future City Competition is a national program sponsored by the engineering community to promote technological literacy and engineering to middle school students. It is in its 16th year of existence. This is the 10th year the Regional Competition has been held in the state of Washington and the 7th year that it has been hosted by the Seattle Section of IEEE

in Seattle. The local Regional Competition is organized and managed by a local steering committee and supported financially by local sponsors.

The program fosters an interest in math, science, team building and engineering through hands-on, real world applications. The competition is open to all public, private, home, and parochial schools. The Regional Finals of the Future City Competition will be held in Seattle Washington, at the Seattle Center on Saturday, January 19, 2008. The National Finals of the Future City Competition are a featured event during National Engineers Week, with students from across the country competing in Washington, D.C. The winning team from the Washington State Regional Competition will advance to the national competition in Washington, D.C.

Interested? The Future City competition is looking for your help in any of the following areas: School Recruitment, Financial Sponsorship, Engineering Mentors, and Judges. Schools need to sign up by mid October. Check out our website and contact Karen Pavletich, the Washington State Regional Coordinator, at [kpavle@iee.org](mailto:kpavle@iee.org) or 425-462-3871.

## University of Washington Engineering Lecture Series: The Boeing 787 Dreamliner

The Boeing Company is back on top of the commercial aerospace market thanks to the ambition and innovation of its engineers with the development of the 787 Dreamliner. The 787 incorporates an innovative shift from metal to composites that will forever change the way airplanes are built. Before you board your first Dreamliner, get the inside story on the making of the plane. Learn why Boeing is developing the 787, what makes it different and how the use of composites will impact your flying experience. Also hear about the next generation of advanced materials being developed in our labs and how they will alter the future of planes, cars, energy, medicine, and beyond.

*(From UW 2007 Engineering Lecture Series)*

## Aerospace Research in the Pacific Northwest Technical Symposium Hosted by PNW AIAA Young Professionals

This two day event will be held November 3rd and 4th on the University of Washington campus in Seattle, WA. The conference format will consist of parallel sessions for each day. Presentations will be approximately 20 minutes with five minutes for questions. Sessions will be categorized by topic based on abstracts received. At the end of the second day, an optional luncheon will feature Joe Sutter, father of the Boeing 747, as the keynote speaker.

Informational booths of Pacific Northwest companies, schools, and professional organizations will be on display at the end of Sunday. For additional information on presenting, sponsoring, information booths, or general questions, contact [YPTechSymposium@pnwaiaa.org](mailto:YPTechSymposium@pnwaiaa.org) or visit [www.pnwaiaa.org](http://www.pnwaiaa.org).

# 2007-2008 Calendar

## October 4, Thursday, 7:00 pm

Human Adaptation to Spaceflight, Dr. Roger Wolthius  
Museum of Flight, Seattle, WA

## October 6, Saturday, 2:00 pm

Explorer Series: Former Astronaut Capt. Richard F. Gordon Jr. 2  
Museum of Flight, Seattle, WA



## October 10, Wednesday, 6:30 pm

PNW AIAA Dinner Meeting  
Old Spaghetti Factory, Seattle, WA

## October 10-12, Wednesday to Friday

Unmanned Aerial Vehicles Conference  
[www.ttcus.com](http://www.ttcus.com)  
Las Vegas, NV

## October 13, Saturday, 2:00 pm

Flying for Her Country: Women Aviators of World War II  
Museum of Flight, Seattle, WA

## October 13, Saturday

17th Annual Airline Collectibles Show  
Museum of Flight, Seattle, WA

## October 16, Tuesday, 5:00 pm

PNW AIAA Council Meeting  
Museum of Flight, Seattle, WA

## October 20, Saturday, 2:00 pm

Brian Baum: Around the World, Over the Poles  
Museum of Flight, Seattle, WA

## October 25, Thursday; 8:30 am

AMTAS Autumn 2007 Meeting  
HUB Room 310, University of Washington, Seattle, WA

## October 25, Thursday, 6:30 pm

PNAA Oktoberfest 6  
Redhook Ale Brewery, Woodinville, WA

## October 27, Saturday, 2:00 pm

Alaska Bush Pilot Panel  
Museum of Flight, Seattle, WA



## November 3, Saturday, 2:00 pm

368th Fighter Group Pilots Panel Discussion

Museum of Flight, Seattle, WA

## November 3-4, Saturday & Sunday

Aerospace Research in the Pacific Northwest  
Technical Symposium

## November 10, Saturday, 2:00 pm

American Fighter Aces Association Panel  
Museum of Flight, Seattle, WA

## November 11, Sunday, 2:00 pm

Veterans' Day Programs  
Museum of Flight, Seattle, WA

## November 13, Tuesday, 7:00 pm 10

Building the Future of Commercial Aviation: Boeing's 787 Dreamliner, Al Miller and Mark Tuttle  
Kane Hall, Room 110, University of Washington  
Seattle, WA  
Register at [www.uwalum.com](http://www.uwalum.com) or 206.543.0540

## November 14, Wednesday, 6:30 pm

PNW AIAA Dinner Meeting  
Seattle, WA

## November 20, Tuesday, 5:00 pm

PNW AIAA Council Meeting  
Museum of Flight, Seattle, WA

## December 8, Saturday, 2:00 pm

The B-47: A Revolution in Aviation  
Museum of Flight, Seattle, WA

## December 12, Wednesday, 6:30 pm

PNW AIAA Dinner Meeting  
Seattle, WA



## December 15, Saturday

Wright Spirit Holiday Celebration  
Museum of Flight, Seattle, WA

## December 18, Tuesday, 5:00 pm

PNW AIAA Council Meeting  
Museum of Flight, Seattle, WA

## January TBD

PSEC Mentor Night  
[www.pseconline.org](http://www.pseconline.org)  
University of Washington, Seattle, WA

## January 9, Wednesday, 6:30 pm

PNW AIAA Dinner Meeting  
Seattle, WA

## January 19, 2008, Saturday

Future City Competition  
Seattle Center, Seattle, WA

A PUBLICATION OF THE PACIFIC NORTHWEST SECTION OF AIAA

**Address Correction**

Mail to:

On-line at

**AIAA**

**<http://www.aiaa.org>**

**1801 Alexander Bell Dr.**

(Join/Renew/Update). Membership ID needed

**Reston, VA 22091**

## Section Officers and Directors

Position	Name	Address (Mail Stop if Boeing*)	Phone	E-Mail Address
<b>Council</b>				
Chair	Scott Eberhardt	-	-	eberhardt@pnwaiaa.org
Vice-Chair	Steve Runo	-	-	runo@pnwaiaa.org
Secretary	Mark Viviano	-	-	viviano@pnwaiaa.org
Treasurer	Jim McClelland	-	-	mcclelland@pnwaiaa.org
Advisory Council	Kareen Borders	-	-	borders@pnwaiaa.org
Advisory Council	Christian Carpenter	-	-	carpenter@pnwaiaa.org
Advisory Council	Bonnie Dunbar	-	-	dunbar@pnwaiaa.org
Advisory Council	Ratan Khatwa	-	-	khatwa@pnwaiaa.org
Advisory Council	Kari Seppanen	-	-	seppanen@pnwaiaa.org
Past Chair	Paul Kostek	-	-	kostek@pnwaiaa.org
<b>Elected, Non-Voting</b>				
Vice-Chair-Elect	Gautam SenGupta	-	-	sengupta@pnwaiaa.org
Secretary-Elect	Lara Magallanes	-	-	magallanes@pnwaiaa.org
Treasurer-Elect	Vladimir Karakusevic	-	-	karakusevic@pnwaiaa.org
<b>Appointed</b>				
Webmaster	Andrew McComas	2133 152nd Ave NE, Redmond, WA 98052	425-643-9090	mccomas@pnwaiaa.org
Honors & Awards	Scott Eberhardt	-	-	eberhardt@pnwaiaa.org
Retired Members	Tom Holgate	2704 SW 314th, Federal Way, WA 98023-7842	253-838-0333	holgate@pnwaiaa.org
Newsletter	Emmanuel Domingo	03-JP	206-227-7819	domingo@pnwaiaa.org
Nominations	-	-	-	-
Museum of Flight Liaison	Bonnie Dunbar	-	-	dunbar@pnwaiaa.org
PSEC Liaison	Charles Beard	4T-42	425-446-0884	beard@pnwaiaa.org
Pre-College Outreach	Scott Eberhardt	-	-	eberhardt@pnwaiaa.org
Public Policy	Christian Carpenter	P.O. Box 97009, Redmond, WA 98073	-	carpenter@pnwaiaa.org
Young Professionals	Emmanuel Domingo	03-JP	206-227-7819	domingo@pnwaiaa.org

\* Boeing address is P.O. Box 3707, Mail Code xx-xx, Seattle, WA 98124-2207



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PACIFIC NORTHWEST SECTION