In 1935, seventy-five families packed their belongings in their cars, received $50 for expenses and set out in a caravan from Dundalk, Maryland to Inglewood, California—a distance of over 2,700 miles, much of it on dusty dirt roads. They did it all on a promise by Dutch Kindleberger that once they got to California they would build airplanes. Along the way, they stopped at the Grand Canyon. These were the original “Bald Eagles” and the wonderful wives that made that spirited journey with them.
DEAR NAA RETIREE BULLETIN SUBSCRIBER

With this final issue of the year, we have published the bulletin quarterly for over six years without any financial support from any other entity than you, our readers and subscribers. We started out with a printout from Boeing of the names and addresses of the 9,300 NAA retirees that received the bulletin as a “freebie” when the company paid all the costs. Thanks to a few contributors, we managed to print and mail out the first bulletin to those retirees for free, asking them to subscribe. A third of you responded with your checks and your best wishes. Thanks to your support, the bulletin today stands on solid ground. We believe that the reason that so many of you have continued to resubscribe is the quality of our articles. We have been blessed in having some great writers accept our invitation to provide articles. We also have the good fortune to have historians Mike Lombardi at Boeing Seattle and Dr. Raymond Puffer at Edwards Air Force Base provide us accompanying photos which enhance our stories. To all, we say thank you and God Bless!

In this issue, we provide something old, something new and a look back at World War II. The new is an article by Dr. John Peller about a new project at Boeing being completed by many of the old North American-Rockwell employees still active and working on a future weapons system for the Army. This information is so new and current that it had to be cleared through the Army. The old is an article by a still very active and defining North American-Rockwell employee, Jim Albaugh, the President and CEO of Integrated Defense Systems at the Boeing Company. In this Christmas season when our nation is at war and yet we have so much to be grateful for, we have selected a grim moment during World War II when a group of Americans, faced with death, brought out the best that defines us as Americans. The story has nothing to do with North American Aviation but everything to do with the price we must be always ready to pay to maintain our freedoms.

If you are a retiree of NAA/Rockwell and you want to subscribe to the NAA Retirees Bulletin, I am enclosing a check payable to the Bald Eagles, Inc. for $_______. For every $10.00 I will receive four issues per year. For $100.00, I can become a Silver Eagle with subscription for life.

Name ____________________________
Phone No. __________________________
Street Address ________________________________
City/State/Zip ____________________________
e-Mail Address __________________________

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Name ____________________________
Phone No. __________________________
Street Address ________________________________
City/State/Zip ____________________________
e-Mail Address __________________________

If your subscription ends with this issue, please renew soon and save us a lot of paperwork! Just send a check made out to “Bald Eagles, Inc.” and note on the check “2007 Renewal”. Thank you!

The 45th Bald Eagles Reunion Will Be Held
on Saturday, April 14, 2007
at the Proud Bird Restaurant
11022 Aviation Blvd. (at 111th Street)
Doors Open for Social at 10:00 AM
Seating for Lunch at 12:00 Noon

Send your check for $20.00 payable to Bald Eagles Inc. to:
Val Yarbrough (805) 646-2283
520 Del Oro Drive
Ojai, CA 93023-1805

Include with your check the name you wish on your badge and the name of each guest included in your payment. Tickets and badges will be issued as you register at the door.

Preferred seating is limited so order your tickets early. Tickets will be sold at the door. Sorry, no refunds after March 26, 2007.

There are no service requirements to attend – just the love for Airplanes and Spaceships—Meet old friends—Make new ones!

Parking is limited—Carpooling and early arrival is encouraged!
NAAR/ROCKWELL/BOEING RETIREE CLUBS AND GROUPS

The Old Downey Club members have joined the UAW retirees, meeting at the UAW Regional Hall at 6508 S. Rosemead Blvd. in Pico Rivera, CA on the 4th Wednesday of each month at 11:00 AM. Contact Frank Zelinski at (562) 866-3195 for more information.

The Antelope Valley Retirees Club meets in the South Meeting Room of the Palmdale Culture Center at 10:00 AM every 2nd and 4th Monday of the month. All NAA/Rockwell/Boeing retirees are welcome.

Valley Aerospace Retirees Club meets on the 3rd Thursday of each month at the Pratt & Whitney Rocketdyne Fitness Center at 8500 Fallbrook Avenue, Canoga Park, CA. The president is Dennis Larson at (818) 340-6031.

Boeing Retirees Breakfast Club meets on the 1st Wednesday of each month at 8:00 AM for breakfast at IHOP Restaurant, corner Fallbrook and Vanowen in West Hills. Contact Howard Seece at (818) 344-7861.

“The Old LAD Stress Group” meets for breakfast approximately every two months at Mimi’s Café in Torrance, CA. If you are from the old LAD Stress Group contact Gene Laxton at (310) 378-3113 or Ed Rosenthal at (310) 375-8933.

“Aerodynamics, Thermodynamics, Propulsion and Wind Tunnel Retirees” meet at 11:30 AM on the 2nd Wednesday of the month for lunch at the Sizzler Restaurant in El Segundo, corner of Sepulveda Blvd. and Mariposa Ave.

The NAA 101 Tooling Retirees Group meets for breakfast at 10:00 AM on the 1st and 3rd Thursday of each month at Billy’s Restaurant, 5160 190th St., west of Anza Avenue in Torrance, CA.

GPS Breakfast Club meets from 7:00 AM to 8:00 AM every Wednesday at the new Primrose Restaurant, Leisure World Shopping Center at Seal Beach Blvd. and Westminster Blvd. All are welcome! For more information, call Fred Shitara at (714) 749-4426.

Sea Beach Retirees Group meets at 11:30 AM on the 3rd Wednesday of the month at “The Fish Co.” on Los Alamitos Blvd. at Katella Avenue. For more information call Marvin Blaski at (714) 848-5717 or e-mail to mblaski@aol.com.

The Facilities, Industrial Engineering and Plant Services Retirees Group meets at 11:45 AM on the 2nd Thursday of each month at Buster’s (formerly Jolly Roger’s) Restaurant in the Long Beach Marina. Contact Joe W. Mauser at (562) 596-5845.

“Ye Olde Plaats Breakfast Club” meets at 10:00 AM on the 4th Thursday each month for breakfast at Polly’s Pies at 2025 N. Tustin Avenue in Orange. For information call Frank Luis at (714) 639-0990.

The North American Rockwell Retiree Club of McAlester, OK (a satellite of Tulsa, OK) meets at 10:30 AM on the 3rd Tuesday in March, June, September and December at the Downtown Meeting Place. Call J.A. Darden at (918) 423-0706 for more information.

Tulan & McAlester Retirees meet for breakfast at 8:00 AM on the 2nd Monday in March, June, September and December at the Ramada Inn, 8181 East Skelly Drive in Tulsa, OK. Call Harry Phillips at (918) 838-3716.

The North American Rockwell Retirees Group of Columbus, OH Engineers and Professionals meet at 11:30 AM on the 3rd Thursday of each month at the Berwick Park House. Contact Byron C. Solomides at (614) 486-3239.

NAA/Rockwell U.A.W. Group of Columbus, OH meets at Noon on the 1st Monday of the month at the Whitehall Community Park on North Hamilton Road in Whitehall. Contact E. Hamilton at (740) 927-5940 for information.

Autonetics Group including Marine Systems, Program Office, Project Office, System Test, Engineers and Designers meets for lunch on the last Wednesday of each month at the HomeTown Buffet, Rose Ave. and Alta Vista Dr. in Placentia, CA. Call Mike Vohs at (714) 762-1925 for more details.

Autonetics Industrial Engineering and Maintenance Retirees meet for lunch on the 1st Thursday of each month at the HomeTown Buffet, 390 McKinley, located in front of the Home Depot, in Corona, CA. For more details, call Don Burk at (909) 698-0072.

Autonetics Retirees meet for lunch at 11:45 AM on the 2nd Wednesday of every month at the Rembrandt Restaurant or Yorba Linda Country Club. All Autonetics retirees, spouses and friends are invited. Contact Robert Nease at (714) 516-1844 or e-mail to rfnease@email.msn.com or Ed Venanzi at (714) 779-5652 or e-mail to Ed-LindaVenanzi@adelphia.net.

A Group of NAA Retirees meets for breakfast at 8:15 AM on the 1st Wednesday of each month at Knots’ Berry Farm-Chicken Restaurant. All are cordially invited. Contact Maxine Haun at maxsi3131@sbcglobal.net.

Autonetics Financial Luncheon Group meets for lunch at Noon on the last Wednesday of the month at Marie Callendares, 126 East Yorba Linda Boulevard in Placentia. Contact Ken Cantwell at (714) 970-7171 or e-mail Kcantwell@adelphia.net.

A Group of Engineering Mgt. meets at 11:30 AM on the 3rd Tuesday of the month for lunch at Denny’s on Imperial Hwy. and the 57 Fwy. in Brea. Call Earl England at (714) 528-0614 for information.

NAA Tech Reps. Assn. (TRA) Breakfast Club meets at 9:00 AM on the 1st Tuesday of each month at the Carlsbad Airport Restaurant. For more information, call El Presidente Rafael Colunga at (760) 940-0525.

Material Group Retirees from Downey and Seal Beach meet at 11:30 AM on the 4th Wednesday of every month at the Stox Restaurant at Imperial Hwy. and Bellflower Blvd. in Downey. Contact Marian Nelson at (562) 429-1020 or Joan Dominguez at (562) 865-7200.

NAA/Rockwell Vandenberg AFB Retirees Breakfast Club meets at 8:45 AM on the 2nd Thursday of each even month at the Bakers Square Restaurant at 1841 S. Broadway in Santa Maria. Contact Mary Bailey at (805) 929-6552, Al Finlay at (805) 937-3690 or Bob Broggie at (805) 937-4674.

KSC Rockwell KMA Club meets on the 2nd Thursday of each month for lunch at the Florida Seafood Restaurant in Cocoa Beach. Contact Jerry Pruitt at (321) 636-9417 for details.

The Hungar Gang meets on the 2nd Saturday of every month at 4:00 PM. Contact Val Yarbrough at (805) 646-2283.

ANNUAL EVENT

Bald Eagles 45th Annual Reunion will be held on Saturday, April 14, 2007 at the Pround Bird Restaurant. Call Val Yarbrough at (805) 646-2283.

Flight Test Instrumentation Annual Reunion – This group of retirees meets annually at the Fullerton Elks Club. For information, call Frank Vigil at (562) 691-0236.

Tech Rep Association Picnic – A group of retired Field Service Technical Representatives has a yearly picnic in June at a park in Fallbrook, CA. For more information, call TRA President Rafael Colunga at (760) 940-0525 or e-mail to rafael2@peoplepc.com.


Information Systems Center Annual Reunion will be held Tuesday, May 15, 2007 at Khoury’s Restaurant in Long Beach Marina at 4:30 PM. Contact Nelson Slagle at (714) 514-9139 or neslagle@hotmail.com.
Several articles in previous issues of this bulletin have described some of the earliest programs of NAA. This article will provide a “bookend” to these previous articles by describing one of the newest programs which many NAA veterans are still working on.

To put things in perspective, NAA's earliest attention was exclusively dedicated to airplanes. But by the early 1950s, NAA began to evolve into other fields that required similar capabilities: missiles, rocket engines, avionics, etc. An earlier article by this same author described one of the climax programs near the end of that evolution: the Space Shuttle, which was a Mach 25 airplane, a rocket and a spacecraft, all rolled into one. This clearly tapped a wide spectrum of talents within the evolving NAA.

Now the NAA veterans that are still working are mostly working with compatriots from Boeing and McDonnell Douglas, but their talents continue to show through. This article will describe one of the largest programs being addressed by these descendants of the NAA alumni and the aerospace workers we joined when we became a part of Boeing, along with McDonnell Douglas employees. The program is the Future Combat Systems program.

At first glance, the Future Combat Systems (FCS) is very different from what NAA veterans would expect us to be involved in. It’s an Army program, not an Air Force program or a Navy Air program or a NASA program. It has some airplanes, but nothing like we’re used to building, and we don’t actually build any of the aircraft that go into FCS. It’s also very large: the current contract value is over $17 billion (yes, that’s a “b”), and that number doesn’t include any production beyond initial prototypes for test and evaluation.

So what is this FCS program, and what do we do on it?

The FCS Program was born out of an Army desire to upgrade its fleet capability, moving away from vehicle systems that were optimized to counter the massive Soviet forces of yesterday’s Cold War to vehicle systems that were optimized to meet the anticipated threats of today and tomorrow. The Army also wanted to transform the way they operate to take advantage of what new technologies have made possible.

The threats of today are generally smaller than the massive Soviet forces, but they strike quickly in remote areas of the world, use tactics (including terrorism) much different from the conventional warfare of the past, and adapt quickly to our tactics and capabilities.

While our performance in the first Iraqi war was superb, it required months and months to get our forces into position to start the war, and we are unlikely to have that much time in the future. So, one of the driving requirements of the new Future Combat Systems was to be able to get meaningful forces into any theater quickly and be able to quickly bring the battle to the enemy. This meant that everything had to be much lighter and smaller than before—light and small enough to be transported on the C-130 into remote battle areas. While the Abrams tank is a superb fighting machine, it weighs 70 tons. FCS platforms are limited to about one third of that weight.

Meeting that weight challenge (and the challenge of designing new ground vehicles that will fit into a C-130’s internal cargo volume) is difficult, because the platforms still have to be both lethal and survivable.

The solution is a family of new vehicles, including eight different manned ground vehicles, three classes of unmanned ground vehicles, four classes of unmanned air vehicles, many unattended ground sensors, two kinds of unattended munitions, and the system to link all of these together into a highly effective fighting force. And last, but most important of all, is the soldier who is equipped and trained to use these capabilities to dominate any opposing forces.

Boeing is the Lead System Integrator (LSI) contractor for this program. An LSI contractor is like a prime contractor, but doesn’t build most of the parts. Instead, we seek the best members of industry for each element of FCS and contract them to put their best people and capabilities to work. We then integrate all of these elements into the overall FCS.

The system that links all of these elements together is a network, much like a private Internet. All elements of the system are linked together by this network (actually a collection of networks that form as required to link various groups within the overall system). All available data from hundreds of sources are brought together and used to create a single picture of what is going on, both with enemy forces and with our forces. This information is shared with all personnel as needed. This gives our forces a tremendous operational advantage over any opposing forces. While the fog of war will never go away, this information allows our forces to act with very little fog compared to that with which the enemy must contend. In tests to date and in various wargames, it has been shown how much power this gives our forces to dominate the enemy.

This network is the one element of the system that we do...
ourselves. Called the C4ISR system (for Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance), it is the element that enables the new, much lighter and more agile platforms to maintain the lethality and survivability of the old heavy armor of the past. It is also the element that will integrate all of these platforms and elements into the combined fighting force that will achieve overmatch against any opposing force without an equivalent capability.

The up-front systems engineering to determine the requirements on each element of this highly interactive collection of systems is performed by a team headquartered in St. Louis, but with participation of many sites across the country. The tasks of developing the C4ISR system and performing the subsequent integration are performed by teams headquartered in Huntington Beach, but also involve sub-teams across the country. Large laboratories have been established to bring together the parts of the C4ISR system and to subsequently integrate all elements of the Future Combat Systems. These laboratories are located in an old tube bending facility in Huntington Beach, now transformed into one of the most capable integration and test laboratories anywhere.

The job of developing the FCS is not just that of developing another platform or singular weapon system. The FCS basic unit is the brigade, a force of a few thousand soldiers and hundreds of platforms and sensors. As might be expected, the systems engineering job is itself an immense task. While the National Missile Defense System (now called the Ground-Based Midcourse Defense System) had only 3 top-level requirements for the system, FCS has over 500. By the time these have been decomposed into requirements for the individual elements that make up the system, we are talking tens of thousands of requirements. This is probably the largest and most complex systems engineering task ever undertaken. At the major review last year to assess how well that job had been done, our team scored a hundred percent.

We are now into the preliminary design phase, although many elements are actually considerably further along that one would expect for this stage of a program. After three years into this tremendously complex program, our team can take pride in the fact that the program is still on schedule and on cost. With 18 major systems being simultaneously developed, this is an accomplishment without parallel.

In the next couple of years, some of the early capabilities will be “spun out” into the existing forces, and further spin-outs will occur every couple of years thereafter. In 2014, the complete FCS will be ready for the first brigade.

Veterans of the old NAA may wonder how we ever got into this type of business. There are several things that led to this development. One, NAA evolved from being just a developer and manufacturer of airplanes to a developer and integrator of complex systems based on those platforms. AWACS is a good example of this, as are such challenging programs as Apollo and Space Shuttle. Two, many of these platforms grew in capability by the successive addition of more complex payloads and avionics which both furthered the development of our integration talents and made us proficient in the evolving technologies such as networks and information systems. These talents were made more complete by the addition of related talents when Boeing, McDonnell Douglas and Rockwell came together in 1996.

When the Army embarked on their transformation activities, this integrated team possessed the skills needed to execute the FCS program, even though they had never executed a program quite like this one. On the other hand, neither had anyone else in industry, and both our natural qualifications and our specific plans for how to execute this program led the Army to choose the Boeing team.

In conclusion, the FCS program is a dramatic step forward from the type of programs we recall in our memories, but it is in fact a natural outcome of the evolution of the talents and capabilities that started with the original NAA, evolved greatly within NAA and continue to evolve as we enter the early stages of the 21st Century.

About the Author: Once again, Dr. Peller has provided us with a tremendous look, not back, but forward. He retired as a Vice President of Boeing after a 41-year career with Boeing and its predecessor organizations. He served on the Shuttle program for over 13 years, completing his Shuttle assignments as Vice President of Engineering for Space Division. He led the capture teams for the successful proposals on the National Missile Defense and the Army’s Future Combat System. He continues to support Boeing in a consulting role. Dr. Peller resides in La Habra Heights, CA with his charming wife Pat.
North American Aviation – A Legacy of Leadership
by Jim Albaugh

Through the 20th Century there were four defining moments in the history of aerospace. Clearly, the Wright Brothers first-powered flight launched the century’s rapid evolution of aviation. World War II—with a new aircraft developed every few months—set the standard of rapid movement of ideas from the drafting board to the factory to the skies. The jet age of the 1950s forever changed the way people come together. And the race for space altered for all times how we view our universe.

Parallel to these remarkable aviation and space achievements, leadership in our industry followed a similar evolutionary path as great leaders left an indelible imprint on innovation and the business of aerospace.

A precise definition of leadership may seem difficult. However, as I look at it, true leaders possess certain inherent values that guide them throughout their careers as well as inspire others. All of us are very fortunate in the fact that North American Aviation began under the guidance of such individuals. We indeed have a rich legacy of leaders that formed a fledgling airplane company and transformed it into greatness. And since it is a heritage that endures today at The Boeing Company, it is good that from time to time we remember these men and their contributions.

James Howard “Dutch” Kindelberger started out at the Glen L. Martin Company in Cleveland before moving to Douglas Aircraft in California, as vice president and chief engineer. In 1934, while immersed on the DC-1 and DC-2 airliner programs, an opportunity arose to head up North American Aviation (NAA), which was then part of General Aviation Corp. in Dundalk, Maryland. Dutch accepted the offer to become president of the Dundalk-based subsidiary, and wisely took along a few top engineers including Lee Atwood and Stan Smithson.

However, aviation sales moved slowly in the east, and Dutch decided to move NAA to Southern California to pursue new business and benefit from year-round good flying weather. It was 1935, and an automobile caravan moved the small NAA group cross-country to Inglewood, California, near Mines Field (now LAX). They were the hearts and brains of a new era of aviation. Today, the “Bald Eagles” organization represents the spirit and memory of this original group.

By January 1936, there were 159,000 square feet of floor space occupied by 150 employees at the new Inglewood plant. Soon, hundreds of BT-9 trainers and O-47 observation planes would be rolling out the door. In addition, the venerable NAA T-6 Texan for the Army Air Corps, and the Naval variant SNJ, went on to train more U.S. and Allied pilots than any other aircraft produced during WWII.

NAA plants at Los Angeles, Dallas and Kansas City ran under the leadership of Ralph Ruud, where critical mass production techniques were developed that set the standard for the industry. Ralph’s leadership helped NAA produce an astonishing 42,000 airplanes from 1940-45. This included the famed P-51 Mustang, which provided long range bomber escort, and was credited with nearly half of all enemy aircraft shot down over Europe. Almost 10,000 B-25 Mitchell medium bombers were also produced. Sixteen carrier-launched B-25Bs participated in the “Doolittle Raiders” first attack on the Japanese homeland. America had compiled impressive statistics across the industry that its enemies could not have predicted.

Mass production certainly was important, but innovation also took precedent at NAA. For example, the P-51 featured aeronautical design advances such as a laminar flow
airfoil section, and a unique underbelly air scoop that added “momentum” to the engine exhaust system. Such forward thinking did not go unnoticed by the military, industry, and potential adversaries.

Who would have dreamed that within a few decades NAA would be developing and building supersonic and hypersonic aircraft. The F-86 Sabre Jet – the first swept-wing jet fighter; the F-100 Super Sabre – the first operational supersonic fighter; the B-45 Tornado – the first multi-engine jet bomber for the Air Force; and soaring to new record setting heights of 70 miles in the rarefied atmosphere and at speeds up to Mach 6.7 (4,520 mph), the NAA designed rocket-powered X-15 took center stage.

After Dutch Kindelberger’s retirement in 1960, Lee Atwood, who originally joined Dutch from Douglas Aircraft, became President and CEO. Subsequently, evolution had changed the company – from North American Aviation to North American Rockwell to Rockwell International and ultimately to Boeing.

An evolution yes, but the spirit was intact.

Then there was a bomber that cruised at Mach 3 plus at 75,000 feet, the XB-70 Valkyrie—and it still was only the 1960s. NAA had developed a revolutionary new processing technique to create a stainless steel honeycomb structure designed to withstand the high Mach generated 600-degree aircraft skin temperature. Powered by six General Electric YJ93-GE-3 engines, the 500,000 lb. bomber would literally ride on its own shock wave. For decades, historians have credited this aspect for the superb performance of the XB-70. However, as Lee Atwood quipped over four decades later, “Compression lift was definitely a factor, but definitely overplayed by so-called experts. It was the variable geometry inlet design that provided Mach 3 plus cruise.” This meant that at the time, NAA had achieved remarkable progress in the propulsion area.

Deployment of such a potent, and most importantly flexible weapon system certainly would have sent the right message that might have impacted the duration of the Cold War. However, we will never know, as the B-70 was never deployed—but that’s another story.

Under the leadership of Lee Atwood, a company that built airplanes that helped win WWII would now tackle the moon. In a remarkable win, the Apollo contract was awarded to North American on November 28, 1961. Interestingly, only two Mercury flights had taken place at the time. In the heated competition, North American had beaten McDonnell Aircraft for the contract to build the Apollo spacecraft, even though McDonnell had built the Mercury spacecraft and was developing the Gemini spacecraft. NASA was on a fast track and NAA was ready to accept the challenge. At the helm, Harrison Storms who was instrumental in winning the NASA contract now moved swiftly toward the execution phase.

North American also built the second stage of the 363-foot Saturn V rocket, and Rocketdyne (a division of NAA at the time) designed and built all of the engines for the three stages. During its peak in 1966, the Apollo program involved approximately 350,000 dedicated people and 20,000 companies throughout the United States. Today, another one of our accomplishments, the Space Shuttle, continues to carry out scientific missions and assembly of the International Space Station.

In the missile arena North American had developed the Navaho project, a booster and a piggy back missile initially tested as the X-10. This program, underway during the early 1950s, essentially produced the first cruise missile for the U.S. and the largest flight-tested ramjets. This experience would later help Rocketdyne become the world leader in rocket propulsion. In addition, the Downey, California-built air-to-ground Hound Dog missile gave the Strategic Air Command’s B-52s a standoff capability.

For the Navy customer, NAA produced the Mach 2 tactical reconnaissance RA-5C Vigilante and the T-2 Buckeye trainer. The U.S. Marine Corps received the versatile OV-10 Bronco, which is still in service today with several foreign air forces.

Each subsequent program whether successful or not, became a stepping-stone to the future. Our leaders garnered the lessons learned, and their gained experience translated into confidence. The odds of succeeding when the next RFI arrived was greatly improved.

Another leader who joined NAA in 1952 at the Fresno, California modification center was Sam Iacobellis. In 1957, he transferred to the company’s Rocketdyne division and held increasingly responsible positions eventually becoming vice president of Advanced Programs. Lee Atwood once commented on Sam, “His attitude of eagerness, and desire to work, desire to help people, his friendliness toward others and his consideration, together with his work ethics made him a very valuable prospect in my mind, and I felt he would contribute strongly wherever he might work, and turns out he did.”

In 1973, Sam was named president of the Atomics International Division which, under his direction, expanded into the Energy Systems Group. I remember seeing Sam riding in the back of a pickup truck greeting the employees at the Hanford, Washington facility. I immediately thought that some day, I would like to work for that gentleman.

In 1981, things really heated up as Sam joined Rockwell International’s North American Aircraft Operations as executive vice president and B-1B program manager. To recover from the ill-advised cancellation of the B-1A by President Jimmy Carter in June 1977, President Ronald Reagan announced on
October 2, 1981 that as part of his Strategic Modernization Program, 100 B-1Bs and 132 Advanced Technology Bombers, later designated the B-2, would be built. It would take a determined leader to keep the $20.5B program on track—and Sam did it! Not long after the contract award, four and sometime five of the sleek bombers were rolling out the door every month at the Rockwell Palmdale facility. To put that in perspective, the total parts for the assembly of a single B-1 is equivalent to fifteen F-16 fighters. The 100th B-1B rolled out of the factory on January 20, 1988—all 100 B-1Bs were built and delivered on time and within budget.

During recent operations in the Iraqi theater, B-1Bs dropped more than 70% of the GPS-guided Joint Direct Attack Munition (JDAM). The combination of the B-1B and JDAM weapons were so reliable, they were called on to hit targets missed by other aircraft, and to provide close air support for troops on the ground. Just think about that for a moment—a bomber flying close-air support!

B-1B crews were also capable of re-programming new time-critical target coordinates in flight, as new orders were commanded and approved in unprecedented record time. The B-1B has come into it's own and continues to create its own legacy. We owe a great part of that legacy to Sam's leadership and determination to guide this bomber program through its inception, production and delivery to the customer—he delivered results.

As another year of this second century of flight comes to a close, we mark the loss of so many of these pioneering leaders of our heritage company: Ralph Ruud, Sy Rubenstein, Morgan “Mac” Blair, Rocco Petrone, Norm Ryker, Robert Anderson, and NAA test pilots Scott Crossfield and Al White. But their legacy lives on in the skies over the front lines in the war against terror, in the airways traveled by millions of passengers each day, and in the great expanse of space. Their vision and leadership lessons live on, fostering a new generation.

The values that our NAA leaders embraced and led by example, will hold us in good stead as we move into the fifth defining era of aerospace: the intersection of information management and information technology. It is this marriage of platforms and networks that will enable the next great steps in innovation. It is the tradition of leadership handed down to us by these great leaders that will ensure that our industry is there to make it happen.

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**About the Author:**

Jim Albaugh is president and CEO of Boeing Integrated Defense System. This $30.8 billion, 76,000-person business unit includes the company’s total defense, government, intelligence, space and communication capabilities. Headquartered in St. Louis, the organization has operations in St. Louis; Southern California; Seattle; Houston; Huntsville, the Space Coast of Florida; San Antonio and Washington, D.C.

Integrated Defense Systems is a provider of integrated solutions — joining network-centric information with integrated military air, land, sea and space-based platforms — for defense and civil organizations around the world.

Its talented people design, produce, modify and support a wide range of fighters, transports, aerial tankers, bombers, rotorcraft, surveillance and sensor platforms, radio and satellite based communication systems, missiles and munitions. The extraordinary range of related products and services includes missile defense, airborne lasers, battlefield management, and several advanced intelligence, surveillance and reconnaissance programs. The unit is the systems integrator of the International Space Station, produces a variety of satellites, provides human space flight and launch services support, and is a partner in Sea Launch. Integrated Defense Systems also serves commercial satellite customers, and is closely aligned with Phantom Works, Boeing’s internal technology and advanced research and development arm.

Prior to his current position, Albaugh was president and CEO of Boeing Space and Communications (S&C) headquartered in Seal Beach, California. This unit merged in July 2002 with the company’s Military Aircraft and Missiles Systems unit to create Integrated Defense Systems.

Under Albaugh’s leadership, S&C grew to be the world leader in several key markets — including commercial and government communication satellites, human space flight, airborne surveillance and missile defense — and hold a significant position in launch services and classified programs. The prior four years, Jim was president of Boeing Space Transportation, a predecessor unit that was folded into S&C. He assumed that position after serving as president of Rocketdyne Propulsion & Power, part of the Rockwell aerospace and defense businesses acquired by Boeing.

A Washington State native, Jim joined the company in 1975 as a project engineer at its Hanford, Washington operations. A distinguished member of several industrial and technical societies, he is a Fellow of the American Institute of Aeronautics and Astronautics and of the Royal Aeronautical Society. He holds BS degrees in mathematics and physics from Willamette University and an MS degree in civil engineering from Columbia. Although heavily engaged in travel, Jim still maintains a residence in Southern California.
Postscript to Leadership – Inspiring Others
as related by an Unknown NAA Retiree

A young farmer glanced upward and noticed a biplane descending quickly toward his field with its engine coughing slightly. The aircraft skimmed low over several trees and landed on a dirt road - not bad, the farmer thought. Taxiing, the pilot tried to turn the airplane around, but the road was too narrow and the tail section wound up on the grass shoulder. The farmer, who was fascinated by airplanes, was anxious to meet the pilot and ran over to lend assistance. The distinguished looking aviator, introduced himself as Dutch, and the two of them managed to get the biplane turned around. After a short period of working under the engine cowling, everything seemed ready for a takeoff try. Prior to starting the engine, Dutch told the farmer, “If you’re interested in a job working with airplanes, here’s my address.”

Several years later the aviation-spirited farmer wound up in Inglewood, California and decided to pay Dutch a visit. All he had was a note with an address, and he had no idea he was attempting to visit the president of North American Aviation (NAA). After a slight delay trying to convince security with his wild tale and that he actually knew Mr. Kindelberger, he was allowed to enter the facility. Dutch remembered the young farmer and immediately gave him a job at the NAA factory—such was the dynamics of the leader of NAA - inspiration and a promise kept.

Congratulations and Best Wishes to

Douglas and Daisy Alkire
of Monterey Park, California
celebrating their 55th Wedding Anniversary

Wayne and Virginia Dennis
of Henderson, Nevada
celebrating their 61st Wedding Anniversary

Gerald and Esther Funk
of Paonia, Colorado
celebrating their 63rd Wedding Anniversary

Larry and Kathy Larsen
of Chester, California
celebrating their 68th Wedding Anniversary

Wayne and Kathryn Sutton
of Banning, California
celebrating their 60th Wedding Anniversary

Clifford and Amelia Tombyll
of Wrightwood, California
celebrating their 60th Wedding Anniversary

Charlie and Katy White
of Spring Valley, California
celebrating their 25th Wedding Anniversary

Harry and Alice Desko
of Kansas City, Kansas
on their retirement from the
NAA-K B-25 Bomber Builders Newsletter
which they published since 1988
The B-17 Piggyback Story
by Ralph Kenney Bennett

Editor’s Note: This story was published in the Fall 2003 newsletter of the National World War II Memorial Society. It has nothing to do with North American Aviation. However, at this time when the nation is at war and our people are so divided, it is good to look back to another time when our country was at war and our people stood together. It is the story of two B-17 bomber crews, twenty Americans doing their duty, whose fate was seared in a heartbeat. Some would live and some would die, but none would falter, even when they were making the final sacrifice.

They laid him to rest in the Peace Lutheran Cemetery in the little town of Greenock, Pennsylvania, just southeast of Pittsburgh. Glen Rojohn was 81, and had been in the air conditioning and plumbing business in nearby McKeesport. But like so many veterans, though he seldom talked about it, he could have told you one hell of a story! He won the Air Medal, the Distinguished Flying Cross and the Purple Heart all in one fell swoop in the skies over Germany on December 31, 1944.

One fell swoop indeed…

Capt. Glen Rojohn, of the 8th Air Force, 100th Bomb Group, was flying his B-17G Flying Fortress bomber on a raid over Hamburg. His formation had braved heavy flak to drop their bombs, then turned 180° to head out over the North Sea. They had finally turned northwest, headed back to England, when they were jumped by German fighters at 22,000 feet.

The Messerschmitt Me 109s pressed their attack so closely that Capt. Rojohn could see the faces of the German pilots. He and other pilots fought to remain in formation so they could use each other’s guns to defend the group. Rojohn saw a B-17 ahead of him burst into flames and slide sickeningly toward the earth. He gunned his ship forward to fill in the gap. He felt a huge impact. The big bomber shuddered, suddenly felt very heavy and began losing altitude. Rojohn grasped almost immediately that he had collided with another plane.

A B-17 below him, piloted by Lt. William G. McNab, had slammed the top of its fuselage into the bottom of Rojohn’s. The top turret gun of McNab’s plane was now locked in the belly of Rojohn’s plane and the ball turret in the belly of Rojohn’s had smashed through the top of McNab’s. The two bombers were almost perfectly aligned – the tail of the lower plane was slightly to the left of Rojohn’s tailpiece. They were stuck together, as a crewman later recalled, “Like mating dragonflies.”

Three of the engines on the bottom plane were still running, as were all four of Rojohn’s. The fourth engine of the lower bomber was on fire and the flames were spreading to the rest of the aircraft. The two were losing altitude quickly. Rojohn tried several times to gun his engines and break free of the other plane.

The two, however, were inextricably locked together. Fearing a fire, Rojohn cut his engines and rang the bailout bell. For his crew to have any chance of parachuting, he somehow had to keep the plane under control. The ball turret, hanging below the belly of the B-17, was considered by many to be a death trap – the worst station on the bomber.

In this case, both ball turrets figured in a swift and terrible drama of life and death. Staff Sgt. Edward L. Woodall, Jr., in the ball turret of the lower bomber had felt the impact of the collision above him and saw shards of metal drop past him. Worse, he realized both electrical and hydraulic power was gone. Remembering escape drills, he grabbed the hand crank, released the clutch and cranked the turret and its guns until they were straight down, then turned and climbed out the back of the turret up into the fuselage. Once inside the belly of the airplane, Woodall saw a chilling sight, the ball turret of the other bomber was protruding through the top of the fuselage.

In that turret, hopelessly trapped, was Staff Sgt. Joseph Russo. Several crewmembers of Rojohn’s plane tried frantically to crank Russo’s turret around so he could escape, but, jammed into the fuselage of the lower plane, it would not budge. Perhaps, unaware that his voice was going out over the intercom of his plane, Sgt. Russo began reciting his “Hail Mary’s”.

Up in the cockpit, Capt. Rojohn and his co-pilot, 2nd Lt. William G. Leek, Jr., had propped their feet against the instrument panel so they could pull back on their controls with all their strength, trying to prevent their plane from going into a spinning dive that would prevent the crew from jumping out. Capt. Rojohn motioned left and the two managed to wheel the huge collision-born hybrid of an airplane back toward the German coast. Leek felt like he was intruding on Sgt. Russo as his prayers crackled over the radio, so he pulled off his flying helmet with its earphones.

Rojohn, immediately realizing that the crew could not exit from the bottom of his plane, ordered his top turret gunner and his radio operator, Tech Sgts. Orville Elkin and Edward G. Neuhaus to make their way to the back of the fuselage and out the waist door on the left behind the wing. Then he got his navigator, 2nd Lt. Robert Washington, and his bombardier, Sgt. James Shirley to follow them.

As Rojohn and Leek somehow held the plane steady, these four men, as well as waist gunner, Sgt. Roy Little, and tail gunner, Staff Sgt. Francis Chase, were able to bail out. Now the plane locked below them was aflame. Fire poured over Rojohn’s left wing. He could feel the heat from the plane below and hear the sound of .50 caliber machine gun ammunition “cooking off” in the flames.

Capt. Rojohn ordered Lieut. Leek to bail out. Leek knew that without him helping keep the controls back, the plane would drop in a flaming spiral and the centrifugal force would prevent Rojohn from bailing. He refused the order. Meanwhile, German soldiers and civilians on the ground that afternoon looked up in wonder. Some of them thought they were seeing a new Allied secret weapon – a strange eight-engined double bomber.

But anti-aircraft gunners on the North Sea coastal island of Wangerooge had seen the collision. A German battery captain wrote in his logbook at 12:47 p.m.: “Two fortresses collided in a formation in the NE. The planes flew hooked together and flew 20 miles south. The two planes were unable to fight anymore. The crash could be awaited so I stopped the firing at these two planes.”

Suspended in his parachute in the cold December sky, Bob Washington watched with deadly fascination as the mated bombers, trailing black smoke, fell to earth about three miles away, their downward trip ending in an ugly boiling blossom of fire. In the cockpit Rojohn and Leek held grimly to the...
controls trying to ride a falling rock. Leek tersely recalled, “The ground came up faster and faster. Praying was allowed. We gave it one last effort and slammed into the ground.” The McNab plane on the bottom exploded, vaulting the other B-17 upward and forward. It slammed back to the ground sliding along until its left wing slammed through a wooden building and the smoldering mess came to a stop. Rojohn and Leek were still seated in their cockpit. The nose of the plane was relatively intact, but everything from the B-17’s massive wings back was destroyed. They looked at each other incredulously. Neither was badly injured.

Movies have nothing on reality. Still perhaps in shock, Leek crawled out through a huge hole behind the cockpit, felt for the familiar pack in his uniform pocket pulled out a cigarette. He placed it in his mouth and was about to light it. Then he noticed a young German soldier pointing a rifle at him. The soldier looked scared and annoyed. He grabbed the cigarette out of Leek’s mouth and pointed down to the gasoline pouring out over the wing from a ruptured fuel tank.

Two of the six men who parachuted from Rojohn’s plane did not survive the jump. But the other four and, amazingly, four men from the other bomber, including ball turret gunner Woodall, survived. All were taken prisoner. Several of them were interrogated at length by the Germans until they were satisfied that what had crashed was not a new American secret weapon.

Rojohn, typically, didn’t talk much about his Distinguished Flying Cross. Of Leek, he said, “In all fairness to my co-pilot, he’s the reason I’m alive today.”

Like so many veterans, Rojohn got unsentimentally back to life after the war, marrying and raising a son and daughter. For many years, though, he tried to link back up with Leek, going through government records to try to track him down. It took him 40 years, but in 1986, he found the number of Leek’s mother, in Washington State. “Yes, her son Bill was visiting from California. Would Rojohn like to speak with him?”

Some things are better left unsaid. One can imagine that first conversation between the two men who had shared that wild ride in the cockpit of a B-17.

A year later, the two were re-united at a reunion of the 100th Bomb Group in Long Beach, California. Bill Leek died the following year.

Glenn Rojohn was the last survivor of the remarkable piggyback flight. He was like thousands upon thousands of men from all walks of life who in the prime of their lives went to war. He died after a long siege of sickness. But he apparently faced that final battle with the same grim aplomb he displayed that remarkable day over Germany so long ago.

Let us be thankful for such men.

**NAA Flying Horsemen Final Reunion**

The 22nd and final annual reunion of the North American Flying Horsemen was held on September 28 through 30, 2006 at the home of Harry Shapiro in Yorba Linda, California. The Troop, which started in 1937, has dwindled from a peak of 151 to 17 active members due to age and illness. All assets will be donated to the Hope Ranch in Oregon, a qualified facility that provides horseback riding therapy for the handicapped.

Those attending the final reunion included: Top Row, L. to R.: Jim Canning, Martin Albert, Stan Mellin, Joan and Harry Shapiro, Audrey and Tim Corkery.
Bottom Row, L. to R.: Bob Morse, Diane Albert, Jim Walsh and Linda Morse. Mary Graef took the picture.
A few days ago, I stopped at a watch shop to have the power cell replaced in my wristwatch. My watch stopped running after a four, or was it a five, year period of very accurate time keeping. I began to think back to the time when you had to wind up your watch every second or third day. Then someone came up with a self-winding watch which relied on the movement of your wrist. Now, a little power cell, smaller than a dime, keeps my wristwatch running for years!

Some thirty odd years ago and some time after our Moon landings, I experienced a tear in my retina. I went to my ophthalmologist and he informed me that the tear in the retina appeared to be healing itself but that I was to refrain from any physical strain until it healed completely. If the tear returned, he would have to seal it using a laser beam. Knowing that I was in the Space industry and that I was scared out of my wits over my eye, the doctor tried to make light conversation by asking me, “Are you still picking up those rocks in Space?”

I was stunned. Here was a very well educated man thinking that all we did was spend billions of dollars to go out and pick up Space rocks. I told him, “The rocks were on the Moon. We now go out into Space to study our planet and to convert the things we learned for the benefit of mankind. The laser you mentioned to seal my retina, did you have such a device before the Space Program?” He suddenly realized that many of the improvements he had at his disposal were a direct or spinoff effect of the Space Program.

The benefits were almost immediate. If we could record the heartbeat and blood pressure of an astronaut walking on the Moon a quarter million miles away, why not do the same for a patient lying in a bed in a hospital ICU! From there, it was only a matter of time before the benefits reached out into every field of human endeavor.

Similarly, a few months ago, a fast growing cataract developed in my left eye. I went in for the surgery. Working with an operating microscope, my surgeon made a small incision into the eye, used ultrasound to break up the cataract, applied a surgical solution to flush out the residue, installed a pre-determined and premade plastic lens and, finally, closed the incision. Total time: less than 30 minutes. A few weeks later, a problem developed with my vision and I had to return to be treated with a YAG laser. The actual treatment lasted a few minutes and was totally painless.

Could any of this been done just fifty years ago before the Space Program came into being? Sure, we had running wristwatches and doctors were performing cataract surgery long before Man flew to the Moon. What we did not have were the tools of precision, accuracy, visibility and miniaturization that we have available today and continue to improve tomorrow. The transformation is so smooth and transparent that we do not even realize that it is happening! And that is why the general public, not fully aware of the giant leaps of progress that we have accomplished and continue to stimulate, still retains this vague notion of us going into Space to pick up more of those rocks!

Shame on NASA! Shame on us! We have failed to keep our people in the loop. They listen all day to hopped up rock stars singing stupid songs in blithering idiotic half tones and think that is all there is to life. They do not even have a clue of how we have changed and improved their lives. But, if we are to resolve the massive problems our nation will face ahead in terrorism, energy, pollution, hunger, disease, education, nuclear disaster—we must start now to mobilize all our resources, as we did during World War II and the Space Race—with the full support and knowledge of the American people.

Lunar Solution For Energy Problems

With the cost of gas hovering between $2 and $3 a gallon and the oil supply declining, NASA scientists have discovered a potential new energy source—Helium-3. When combined with water, the element creates energy. NASA engineer Donner Grigsby stated, “If you get a small amount of the material, an ounce, it’s enough to power our five biggest cities for five years.” There is just one hitch. Helium-3 exists mainly on the moon. That’s one reason why the United States is eager to return to the moon.
Dear Ed,

My first NAA assignment was on the Saturn Second Stage Rocket for the Apollo Program. The Saturn S-II was initially located in Building 2, 4 and 5 in Downey and, subsequently moved to Building 80 and 81 in Seal Beach. Over the years, I worked on the big IBM mainframes with the Space & Information Systems Division (S&ID) computers located in Building 1, then Building 4 in Downey and, finally, in Building 80 in Seal Beach. Initially, our work had to be coded in FORTRAN and punched on cards, which were loaded into the mainframes. It usually took at least one day to get the results. Eventually, engineers were able to code directly onto the mainframes from their desks using the IBM TSO (Time Share Option). This eliminated the keypunching process and greatly reduced the debugging process. In the end, the big mainframes were replaced by desktop computers.

—Ken Ryan, La Mirada, CA

Ed’s Ans: Thank you for reminding us of the days when getting data from Seal Beach was often a tremendous hassle. Ask for a one liner per item tabulation, you would get buried in a printout requiring a page per item. Those mainframes had so much capacity, the Seal Beach operators always had to show off their capabilities.

Dear Ed,

Thank you for the article by Paul McCormick in the Fall Issue. At the annual NAA Columbus Division reunion held at the former NAA Park on Sunday, September 20th, I took the enclosed picture of Paul. He looks well and is doing great!

—Edward Kelley, Newark, OH

Ed’s Ans.: At the risk of getting flooded with “He is looking good” pictures, we thank you for this bit of social news indicating that Paul and the NAA folks at Columbus are still active and very much alive.

Dear Ed,

Congratulations on your Fall Issue—it was one of the best ever. North American Aviation was a wonderful place to work. My assignments ranged from underwater to the Moon. It was always interesting and challenging. Best of all, you got paid too!

—Paul Imrisek, Elk Grove, CA

Ed’s Ans.: Thank you Paul, for your kind words. Although we are only a small volunteer retiree organization, we insist that the bulletin reflect the very best that was identified with North American Aviation.

Dear Ed,

Congratulations on the wonderful detailed history of the X-15, which was an important development in aviation and space exploration.

In early 1955, we received a Request for Proposal for the design and manufacture of two X-15 research aircraft. My task was to develop our program price using Engineering and Manufacturing inputs as well as my own. The Government had allocated $36M for two aircraft. Our price proposal was $43M for a CPFF (Cost Plus Fixed Fee) contract. Mr. Kindelberger was looking for production contracts and was reluctant to go ahead with the CPFF X-15.

In the end, Harrison Storms and his supporters convinced Dutch to accept the $36M price. Later on, a third aircraft was added to the contract. I understand that the final cost rose to $80M, which, of course, included the third aircraft, maintenance support, spares, repairs and changes to the flight program.

—Phil Reardon, Manhattan Beach, CA

Ed’s Ans.: Bill Dana gave us a terrific insight into the X-15 and the complexity of the machine. You have provided us a glimpse into the evolution of the project. Thank you.
ANDERSON, ROBERT, 85 – died at his home in Los Angeles, CA on October 30, 2006 of cancer. He was president of Rockwell International from 1970 until 1979 when he became its chairman and CEO, retiring in 1988. During his tenure, NAA/RI was the prime contractor for the first five space shuttles and the plan to build 100 B-1 bombers was also revived. As a result, NAA/RI tripled in size and was transformed into one of the world’s largest aerospace companies. His wife Diane survives him.

ASARO, JOSEPH J., 86 – died on October 2, 2006 of complications resulting from a stroke. He had been a timekeeper at NAA/RI prior to his retirement. His wife Hortense preceded him in death.


BOWSER, LAWRENCE, 63 – died on October 5, 2006 from complications resulting from lung transplant surgery. He was a veteran NAA/RI employee before retiring from Boeing after 35 years of service. His loving wife Joyce survives him.

BUZZATTO, ANGELO “BUZZ”, 83 – died in Torrance, CA after a long battle with Alzheimer’s disease. He joined LAD and served for 35 years in tooling, retiring in 1988. He is survived by his wife of 41 years, Tommie.


DAVIES, Merna, 87 – died in Modesto, CA on June 1, 2005. Merna worked for many years as a secretary at the LAD and B-1 Divisions. Prior to retirement she served in the Aerodynamics Group. Her daughter Linda informed us of her passing.

DOUGLASS, Joyce (Mackenzie), 72 – passed away from Alzheimer’s disease on March 30, 2005 in New Jersey where she lived near her daughter. Joyce began her career at NAA/RI as a secretary and eventually worked on “black” programs in Advanced Design at LAD for several years. She retired in 1986 after 25 years of dedicated service.

DOYLE, VINCENT A., 89 – died on May 17, 2006 in St. Paul, MN from unspecified causes. At NAA/RI he served as an engineering coordinator for experiments conducted by the astronauts on the Apollo/Saturn programs. His wife of 63 years, Mary, survives him.

EDWARDS, Paul R., 76 – lost his battle against cancer at his home on August 7, 2006. Paul began his engineering career at NAA/RI on aircraft programs, and later on the Apollo, Space Shuttle, Space Station and GPS programs. He retired in 1990 and is survived by his wife Lara.

GASKINS, George T., 76 – a resident of Orange, CA, he passed away on September 25, 2006 at Long Beach Memorial Hospital after a short illness. George was an NAA/RI retiree and is survived by his wife Norma.

HANSEN, Margaret A. “Marge”, 72 – died in Santa Maria, CA on September 19, 2006 after a courageous battle with breast cancer. Marge started at the Downey facility in 1961 and served as departmental secretary for 31 years at Downey, Seal Beach, Sabreliner and LAD until she retired in 1992. She met her husband, John Hansen, at LAD where he served in Industrial Security. They were married for 33 years until he preceded her in death.

HERMAN, DR. JOHN J., 82 – passed away on August 29, 2006 in Cambria, CA. He retired from Autonetics in 1986 after more than 30 years of service. John was the Adjutant of Chapter 96 of the Disabled American Veterans in Cambria. His wife Patsy survives him.

HINES, ORA L., 92 – passed away on August 15, 2006 in Seattle, WA from undisclosed causes. He worked at NAA/RI as a procurement inspector in the Material Department prior to retiring. His wife Helen preceded him in death.

HORTON, HAZEL “PEGGY”, 80 – passed away at home in Carson, CA on June 30, 2006. She served at LAD, Crenshaw and Compton before moving to Space Division in Downey. Peggy worked on the Space Shuttle program as a laboratory technician, retiring from Seal Beach after 30 years of service.


JAQUA, Emily – of Camarillo, CA lost her battle with lung cancer on June 25, 2006. Emily served for many years in the data analysis organization at Rocketdyne.

JAQUA, VANCE, 77 – lost his battle with leukemia on June 27, 2006 two days after his wife, Emily, passed away. Vance served 29 years at Rocketdyne, designing and developing rocket propulsion systems including the Gemini and Apollo attitude control rockets. He also worked on the injectors for the Lunar Module Ascent Engine, Peacekeeper fourth stage and the Space Shuttle Main Engine.


KINDELBERGER, George W., 74 – succumbed to lung cancer at his home in Placentia, CA on March 31, 2006. George, a nephew of “Dutch” Kindelberger, retired from Space Division in 1990 after 40 years of service. He was buried at the Riverside National Cemetery in Riverside, CA. He is survived by his loving wife of 55 years, Leida.

KOONS, Donald L., 77 – passed away in his sleep on October 17, 2006 at his home in Rancho Palos Verdes, CA. Don retired from LAD, where he was an avionics manager on the B-1, in 1986 after 30 years of service.

LINDQUIST, James, 75 – died on November 5, 2006 from undisclosed causes. He retired in 1986 after a long career at the Rocketdyne Division. His wife Vara survives him.

LOOP, Richard “Dick”, – a resident of Kernville, CA, died from unspecified causes on May 29, 2006 after suffering from complications resulting from a stroke. He had been a timekeeper at NAA/RI prior to his retirement. His wife Norma.

Merna worked for many years as a secretary at the LAD and B-1 Divisions. Prior to retirement she served in the Aerodynamics Group. Her daughter Linda informed us of her passing.

Peggy worked on the Space Shuttle program as a laboratory technician, retiring from Seal Beach after 30 years of service.

Herman worked for many years in the Material Department prior to retiring. His wife Helen preceded him in death.

Emily served for many years in the data analysis organization at Rocketdyne.

Vance served 29 years at Rocketdyne, designing and developing rocket propulsion systems including the Gemini and Apollo attitude control rockets. He also worked on the injectors for the Lunar Module Ascent Engine, Peacekeeper fourth stage and the Space Shuttle Main Engine.

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Emily served for many years in the data analysis organization at Rocketdyne.

Emily served for many years in the data analysis organization at Rocketdyne.
ill health for several years. Dick retired in 1988 after 35 years of dedicated service in engineering management at Navigation Systems. He is survived by Micky, his wife of 57 years.

McCleary, Ralph W. Jr., 85 – of Rancho Palos Verdes, CA died of prostate cancer on November 22, 2006. Ralph joined LAD in 1940 in Manufacturing. Before transferring to Space Division, he was an assistant to Ralph Ruud. In Downey he served in Manufacturing and Facilities, retiring as a supervisor of the Sheet Metal Department in 1983 after 43 years of service. He is survived by his wife Shirley.

McQuillen, Warren D., 80 – succumbed to prostate cancer at home in Bellflower, CA on October 31, 2006. Starting at the bottom, Warren retired in 1983 from Space Division as Director of Hardware and Equipment Development with 36 years of service. He is survived by his loving wife of 61 years, Betty.

Moorehead, Bruce H., 79 – died in Plano, Texas on August 19, 2006 from unspecified causes. Bruce had worked at NAA/RI on various engineering projects including the investigating committee of the Apollo 1 spacecraft fire and the final acceptance of the main engine for the first Space Shuttle used by NASA. He was also past president of the Anaheim chapter of the RI Management Association. Evelyn, his loving wife of 59 years, survives him.

Morawski, Julian, 89 – passed away in Boise, ID on September 22, 2006 of prostate cancer. Julian served as a structures engineer on the B-1, Apollo and the Space Shuttle. He was born in Poland and served in the Polish Army during the September 1939 German invasion. Taken prisoner, he escaped from a moving POW train, and then smuggled his way to join the Polish Army in exile in France. When France collapsed, his unit continued to fight and retreat in an orderly manner until taken off the beach by a British destroyer, one month after the debacle at Dunkerque. Based on his single parachute jump as a cadet in prewar Poland, he was sent to Ringway Airport to train Allied paratroopers and secret agents in the skills of parachuting. To provide paratroopers immediate access to their heavy weapons, he developed and tested the method to strap the weapons to the troopers and then to release them as they approached the ground to slow down their own descent. Completing his assignment at Ringway, he rejoined the 1st Polish Parachute Brigade in Operation Market Garden and the liberation of Holland. He was an exceptional engineer and a good friend.

O’Donnell, William R., 89 – died on May 3, 2006 in Playa del Rey, CA from unspecified causes. Bill retired from Space Division where he had helped build the Apollo 11 Command Module and the first Space Shuttle.

Petrone, Rocco A., 80 – died at his home in Palos Verdes Estates, CA on August 24, 2006. A graduate of West Point, he began his career in Space on the Redstone ballistic missile program as an Army mechanical engineer. On loan to NASA, he worked on the Saturn program at KSC in Florida. From 1966 to 1969, he served as director of launch operations that included the Apollo 1 disaster and the Apollo 11 successful landing on the Moon. In 1969, he was named Apollo program director in Washington and in 1973; he was made director of the Marshall Space Flight Center in Huntsville, Alabama. Ending his NASA career in 1975, he joined Rockwell International in 1981 as head of the Space Transportation and Systems Division. He is survived by his wife of 50 years, Ruth.

Reekstin, John P., Jr., 67 – passed away suddenly on October 26, 2006 from undisclosed causes. John was a physicist and marketing director who came to NAA/RI in 1973 to develop and implement new technologies in the aerospace/missile defense industry. His wife of 46 years, Judith, survives him.

Robertson, William L., 71 – passed away on October 4, 2006 at his home in Corona, CA following a recent illness. Bill served as an aerospace engineer at NAA/RI for 28 years before retiring. His wife of 48 years, Rose, survives him.

Schilling, Henry N., 65 – died on November 3, 2006 in Cedar Rapids, IA after several years of battling various cancer complications. Henry retired from Rockwell Collins after 27 years of service. His wife Judith survives him.

Simon, Helen S., 89 – of San Juan Capistrano, CA passed away on September 1, 2006 of vascular complications. Helen retired from Autonetics where she was a lead woman in 1984 after more than 30 years of service.

Stagnaro, Frank J., 81 – passed away in Long Beach, CA on November 13, 2006 from brain cancer. Frank joined NAA in 1957 as a buyer and retired in 1984 after 27 years of service as a procurement manager on the Space Shuttle. He is survived by his loving wife of 43 years, Marilyn.

Studhalter, Walter R., 85 – of Woodland Hills, CA, died of a heart attack while climbing in the Cargo Muchacho Mountains in California on July 14, 2006. In the 1950s, Walt was the Rocketdyne Redstone Engineer for Explorer 1, placing America’s first satellite in Earth orbit and for the Mercury vehicle making Alan Shepherd the first American in Space. He later was the program manager for the first Saturn J-2 Engine program.

Van Blok, Walter “Slim”, 87 – passed away on April 7, 2006 in Port Townsend, WA. Slim started working in aircraft on the DC-3 at Douglas. He retired from LAD in 1972 after 26 years of service. His wife Mariana survives him.

Van Quekelberg, Arthur R., “Van”, 78 – passed away on May 20, 2006 after a brief battle with lung and brain cancer. He joined NAA in 1951 as an accountant at the Columbus Division. He relocated to Fountain Valley, CA and worked at the central payroll department in Seal Beach, CA. Van retired as a manager of central payroll operations in 1987 after 36 years of service. His loving wife Brenda survives him.


LOST SHEEP – BULLETIN RETURNED WITH NO FORWARDING ADDRESS

Gerald G. Brown – Anaheim, CA
Nita Blaser – Venice, CA
Karl R. Eby – Columbus, OH

Robert Hauter – Henderson, NV
Paul Langfeldt – Anaheim, CA
Wallace Pugh – Manhattan Beach, CA
In 1935, Dutch Kindelberger convinced seventy-five families to pack their entire belongings into their cars, leave their homes in Dundalk, Maryland and drive to Inglewood, California, a distance of over 2,700 miles. They traveled in a caravan with stops, scheduled and unscheduled, on many dusty and unpaved roads. When they arrived in the Palm Springs area, the more venturesome even climbed to the peak of San Jacinto Mountain. These original employees that made the trek to California were later called the “Bald Eagles” of North American Aviation.