Orbiter
August 2013

Delta IV Heavy Launches in California

by Lindsay Chaney
August 28, 2013

The world's most powerful rocket — the triple-barreled hydrogen-fueled Delta IV Heavy — launched into the California sky from Vandenberg Air Force Base Wednesday morning, Aug. 28, carrying a national security payload.

It was the second Delta IV Heavy launch from Vandenberg. The first was in January 2011.

From Vandenberg, Ray Johnson, vice president of Space Launch Operations, issued the following statement: "I'm very pleased to announce the successful launch of the Delta IV Heavy and its NROL-65 satellite. The vehicle lifted off of SLC-6 at Vandenberg Air Force Base at 11:03 PDT this morning. After working several issues during a challenging countdown, the vehicle flew with no anomalies. This mission includes the reentry of its second stage, which was also just completed. I want to congratulate the Delta and NROL team on this very successful and important launch."

The second Delta IV Heavy lifts off from Vandenberg Air Force Base on Aug. 28. (Photo: United Launch Alliance, LLC)

At the Aerospace El Segundo campus, a dozen employees clambered to the top floor of the parking structure for a view of the huge rocket as it sped south along the California coast minutes after liftoff. One employee, equipped with a pair of powerful bird-watching binoculars, was able to see the two outside common booster cores peel away at just over four minutes into the flight.

Under a new liftoff strategy used for the first time, the Delta IV's three engines ignited in a staggered sequence, with the starboard engine starting at T-minus seven seconds and the the port and center engines igniting at T-minus five seconds. The idea behind the staggered ignition is to reduce the dramatic fireball that occurs around the base of a Delta IV when unburned hydrogen leaks through the engine and hits burnoff sparklers. When the first Delta IV Heavy took off from Vandenberg, the fireball set fire to foam insulation on the outside of the common booster cores. The fire extinguished itself within seconds and everything proceeded without further incident. However, the spectacular flames startled observers and one Aerospace executive later commented, "I thought we had lost the mission."

Fitness Pedometer Motivates Employees to Reach Higher Goals of Health and Fitness

by Gail Kellner
August 26, 2013

From left: Sharon Whitehead, Sandra Mundy, MaryAnn Bailey, Dr. Mel Cutler, and Charles Klimcak are all at the top of the WellnessWalkers leaderboard. (Photo: Heather Golden)

In a campaign to encourage Aerospace employees to take care of their health proactively, the Benefits Department has armed many employees with a sophisticated pedometer that has provided interesting feedback and created ammunition for employees to aim for higher fitness goals.

Earlier this spring, more than 200 Fitbits were given to employees who made the commitment to join an online group called WellnessWalkers Those employees were asked to set goals for steps walked daily and they also signed an agreement to allow their daily progress to be monitored online.

The device measures steps, miles walked, and calories burned. It also calculates weekly averages and even monitors sleep patterns. A leaderboard on the WellnessWalkers website displays daily rankings based on steps taken during the previous seven days and a graph for each individual. A healthy dose of competition has ensued for many.

The Orbiter caught up with six employees who were consistently in the top 10 of the WellnessWorks leaderboard this summer. The goal was to find out what we can learn from these active employees. How are they able to fit so many steps into their day (six to 10 miles)?

Many in this group were already active and some had just made major healthy changes to their lives, and wearing a Fitbit was an adjunct to their journey at just the right time. All of the employees interviewed have made modifications to how they move during their work day, as well as to their life outside of work as a result of wearing the Fitbit.

MaryAnn Bailey, manager, Employee Benefits, leads much of the effort to educate employees about the corporation's health and wellness initiative, and she leads by example.

Bailey has always been active, but was never really able to monitor how much she was doing until she received her Fitbit. She initially thought that she did a lot of walking but was surprised to see that the steps she walked did not meet her goals.

"Now, I walk to meetings instead of driving or taking a shuttle (from D10)," she said. "I try to walk at lunch several days a week, I exercise at the gym after work, and I try to walk with friends or family whenever I can. I always make sure I have my Fitbit so I can get credit for all of those steps!"

Charlie Klimcak, research scientist, Electronics and Photonics Laboratory, started exercising in June of 2012 and lost about 30-35 pounds by April of this year when he received his Fitbit. He lost another 10 pounds or so since then and is now at his early college weight.

"I work at three different locations in the A6 labs and walk often between them during the course of the day," he said. "I also park far from the labs, usually on the upper floor of the parking structure and will often walk the long path down, circling the interior of the structure on the way down. I do a little more than half of my exercise at home by hiking in my

Aerospace Innovation

Due to the similarity between technology involved in sophisticated pedometers and the technology of spacecraft and launch vehicle guidance systems, Aerospace has been involved in the development of advanced pedometers for several years.

On Aug. 13, two Aerospace engineers in the Guidance Analysis Department of the Vehicle Systems Division were awarded U.S. Patent No. 8,510,079 for "Systems and Methods for an Advanced Pedometer." The invention by Dr. Kuo-Liang Chiou and Dr. Scot Osburn involves three separate accelerometers, an internal clock, a processing module, and algorithms that together provide more accurate distance change information than other pedometers currently available.

neighborhood.

“My blood pressure, heart rate, and weight are excellent now. From a cardiovascular viewpoint, I’m probably healthier now than at any time since high school.”

Bonnie Troup, senior project engineer, SATCOM Operations Support, is based at Schriever Air Force Base in Colorado.

Bonnie Troup uses a GPS receiver to locate a geocache on the prairie in Colorado.

“My office is pretty far from the satellite operations floor where I also have to work, so I get quite a bit of walking in during the day, but I was surprised at how much I had overestimated my steps per day,” she said. “In my head, I thought I was getting upwards of 20,000 steps, but I wasn’t even close to half of that,” she said.

Troup used her information to increase her level of activity at work by walking across the base for more face-to-face meetings, rather than phoning in on meetings. She also monitors the leaderboard a few times a week to keep inspired to walk after work to de-stress, walk her dog, take a walk with friends – whatever it takes to get her step count up.

Sandra Mundy, business manager, Electronics and Photonics Laboratory, received a wake-up call when one of her parents died of heart disease. She started taking better care of herself in 2011 and lost 65 pounds in the course of a year. Although she has always been active, when she received her Fitbit it motivated her to move even more.

“I often get up and walk more during the day, when time permits, instead of communicating by email or phone. If I need to communicate with someone in my building, I make it a point to walk to their office,” she said.

Sharon Whitehead, executive office professional, also in the Electronics and Photonics Laboratory, concurs with Mundy. She considers the Fitbit a reminder to move, and she goes out of her way to get her steps in by walking to see people instead of calling them. She has also been able to bring her blood pressure way down and build up physical strength to walk more than she ever thought was possible.

Dr. Mel Cutler, senior project leader, Computer Applications and Assurance Subdivision, rides 200 miles a week on his bike. He uses the Fitbit to spur an increase in weight-bearing exercise, primarily walking. His goal is to gain some benefit to his balance and bone density.

Cutler has always been active, even when he was overweight. Twelve years ago he lost 50 pounds and really stepped up his fitness level. He is continually giving himself new bicycle challenges to keep motivated.

“I take the long way everywhere I can,”’ he said. “I try to schedule meetings in other buildings, I drop by people’s offices rather than calling them, use a restroom on another floor, and when I do drive to work, I park at the far end of the parking structure.”

The Benefits Department has ordered a small number of additional Fitbits. Watch for communications in AeroNewsline for more information.

Editor’s Note: Author Gail Kellner is a Fitbit participant who has also worked her way into the top 10 of the leaderboard. When she received her Fitbit in April, she was apprehensive following hip surgery last year and could only walk six blocks before turning around to finish. She kept increasing her goals and found herself involved in a healthy competition. It has since become a lifestyle change that keeps her walking an average of 6.5 miles per day.

Awards and Recognitions (August)

by Kimberly Locke
August 21, 2013

Aerospace employees frequently earn recognition for their professional accomplishments. This Orbiter feature will acknowledge those honors and awards, including the publication of books. To nominate someone for consideration in this section, send details of the award in a timely fashion to orbiter@aero.org, or contact Kimberly Locke at ext. 65444. Include a photo related to the award, if available.

Rami Razouk Earns AIAA Fellow Distinction

Rami Razouk

Dr. Rami Razouk, senior vice president, Engineering and Technology Group, is among those members of the American Institute of Aeronautics and Astronautics (AIAA) to earn the distinction of Fellow conferred by AIAA and its board of directors.

The official presentation was held in May at the AIAA Aerospace Spotlight Awards Gala at the Ronald Reagan Building and International Trade Center in Washington, D.C.

This distinction is reserved for those who “have made notable and valuable contributions to the arts, sciences, or technology of aeronautics or astronautics.”

AIAA is the world’s largest technical society dedicated to the global aerospace profession. With more than 35,000 individual members worldwide, and nearly 100 corporate members, AIAA brings together industry, academia, and government to advance engineering and science in aviation, space, and defense.

Bill Uttenweiler Lauded as Industrial Security Professional

Bill Uttenweiler, business manager, Eastern Range Directorate, has received the James N. Hickok Industrial Security Professional (ISP) Award from NCMS®, Inc., formerly the National Classification Management Society.

NCMS is also known as the Society of Industrial Security Professionals and is the largest professional society for industrial security companies such as Aerospace. The presentation was made June 25 by Rhonda Peyton, NCMS president, at the 49th Annual NCMS National Training Seminar held in Chicago, Ill.

The award recognizes “extraordinary or unique contributions made to the society and industrial security by an individual or organization.” Additionally, nominees must have contributed to at least three areas such as participation in a society-sponsored committee, service as an industrial security mentor or as a proctor for ISP® exams. Nominations also require approval by the society’s board of directors and ISP certification, by the nominee, for a minimum of four consecutive years.

Bill Uttenweiler receives the James N. Hickok Industrial Security Professional Award from Rhonda Peyton, National Classification Management Society president, at the NCMS 49th Annual National Training Seminar in Chicago, Ill. (Photo: Linda Reineke for NCMS)

Uttenweiler’s contributions include eight years service as a national committee member supporting ISP by organizing the ISP

Exam Preparation Program, serving as lead mentor for more than six years, and chairing the ISP Certification Subcommittee; writing the first edition of the ISP Exam Preparation Program Workbook; presenting briefings on the ISP at two national conferences and chapter meetings; proctoring the ISP exam; writing multiple articles on the ISP for both national and chapter newsletters; and maintaining ISP certification since 2005. Under his leadership, the exam preparation program swelled to more than 25 volunteers from almost as many companies across the nation.

Uttenweiler was nominated for this award by Hazel Martinez, ISP of MZA Associates Corp., and Dianne Raynor, ISP, of The Boeing Co. and a former NCMS president.

Chen, Gick, Strong named 2013 Women of the Year

by Heather Golden
August 20, 2013

The Aerospace Women's Committee named Dr. Margaret Chen, Dr. Anne Gick and Patricia Strong as this year's Women of the Year during a ceremony Aug. 19 in El Segundo.

This marks the forty-first year of the WOTY awards. The awards presentation is one of several events the AWC holds in honor of Women's Week, which is traditionally celebrated at the end of August to commemorate Women's Equality Day, the anniversary of the 19th Amendment and women gaining the right to vote. This year's Women's Week theme is "Always Aiming Higher."

"We chose this theme to celebrate the accomplishments of the women who have worked at Aerospace in the past and the women who work at the company today," said Rachel Morford, president of AWC. "We are all always aiming higher in everything we do."

Dr. Margaret Chen, associate director, Space Sciences Department, speaks on the importance of her family's support Aug. 19, 2013, after Dr. Wanda Austin presented her with a Woman of the Year award. (Photo: Elisa Haber)

The WOTY recognizes women at Aerospace who stand out in five categories: job performance, company activities, community involvement, professional/career/educational achievements, and leadership and initiatives that contribute to the advancement of the company.

" 'Aiming higher' is what we do here at Aerospace," said Dr. Wanda Austin. "Our mission is to continually reach for the next higher achievement, the next greater challenge. Even without the constant requests from our customers, we are driven by our own professionalism to create new and enhanced capability, and to continually add to our knowledge.

"We are, literally and figuratively, reaching for the stars," she said.

When the award began in 1972, there was a concern that the company would eventually run out of outstanding women to recognize, said Austin, who was also a 1983 WOTY recipient.

"We have not had that problem in the least," she said.

One of the 2012 WOTY, Dr. Donna Speckman, senior scientist, Energy Technology Department, presented the qualifications and background of award recipient Dr. Margaret Chen, associate director, Space Sciences Department.

Dr. Margaret Chen

Chen has worked at Aerospace for 22 years. She began her Aerospace career as a National Research Council postdoctoral associate. Since then, her professional contributions have encompassed a variety of research, program support and managerial aspects. Her expertise is in near-Earth space or magnetospheric environment, and she has served as a principal investigator on several independent research and development proposals.

Over the course of her career, she has won more than 15 National Science Foundation and NASA research grants. In 2003,

she won a corporate achievement award for her success in winning outside research grants. Chen is a prolific writer, and has authored 48 journal and conference proceedings articles, 31 invited papers, and 160 contributed conference papers.

Chen's passions include spending time with her family, pursuing a health conscious lifestyle, daily yoga, sewing, crafts, and reading. She comes from a small Chinese-American family, with one sister, while her husband, Harris, comes from a large Vietnamese family with nine siblings. She cited the common threads in her family's diverse ties are "enormous amounts of love and caring, and excellent cuisine."

2012 WOTY Laura Speckman, associate director, Astrodynamics Department, presented the qualifications and background for the next recipient, Dr. Anne Gick, senior engineering specialist, Performance Modeling and Analysis Department.

Dr. Anne Gick

Gick has more than 10 years experience with Aerospace, and has contributed her technical skills to numerous projects, as both a team leader and supportive teammate. In 2000, she joined the Systems Engineering Division in El Segundo as a member of the Astrodynamics Department. Nine years ago, Gick transferred from El Segundo to Chantilly as a senior engineering specialist in the Performance Modeling and Analysis Department. After four years, her performance earned her a promotion to the associate director of the Modeling and Simulation Department.

The three 2013 Woman of the Year award recipients spend a moment with Dr. Wanda Austin in between rounds of congratulations and well-wishing after the award's presentation ceremony Aug. 19. (Photo: Elisa Haber)

Gick has worked on major programs for the Space and Missile Systems Center. She has received numerous achievement awards for her professional work, and her orbit analysis performance was a vital contribution to the development, testing, and deployment of the Command and Control System-Consolidated for the Military Satellite Communications Systems Division. She also supported the interception of the falling USA 193 satellite, and helped invent a new risk analysis process while serving as a member of the Debris Analysis Response Team.

Gick said her first priority is her family, and she encourages getting the whole family involved in activities together. When her three children became interested in taking taekwondo classes, both Gick and her husband, Jon, joined in. All five Gicks now hold black belts.

2008 WOTY Barbara Tressel, senior project leader, Systems Integration and Test, Space Based Surveillance Division, presented the qualifications and background for Patricia Strong, executive secretary, Space Segment, SBSD.

Patricia Strong

During Strong's years at Aerospace, she has developed a reputation as an enthusiastic team member, and her office professional career has fostered her ability to excel in many organizations within the company. She has received numerous Spot Awards during her tenure in the SBSD, and is credited with supporting the Defense Support Program Flight 22 and 23 launch integration campaigns, the procurement of more than $700,000 of special purpose plant equipment, and in helping the entire employee staff and offices of SBSD relocate into the Space and Missile Systems Center facility. In 2011, Brig. Gen. Roger Teague recognized Strong, thanking her for her "tireless work and dedication to the successful development and launch of the SBIRS GEO-1 spacecraft."

Strong has a broad involvement within corporate activities. She has served as a representative on the Office Professionals Advisory Team, and was this year's co-chair for the OPAT Development Day event. She is also active within the Aerospace Black Caucus, AWC, and the Aerospace Lambda Alliance.

Strong's spare time is devoted to helping others create better lives for themselves. While living in Baton Rouge, La., Strong worked with at-risk youth and served as the drama and arts instructor for the Flames of Fire Youth ministry. She is currently a co-owner of New Developers Corporation, which is designed to support rebuilding efforts of New Orleans residents who lost homes to Hurricanes Katrina and Rita. She and her husband, Rodney, also recently opened their own house to those with mental disabilities as a transitional home to help them discover and achieve meaningful lives within the community. They named the project "The Strong's House."

Other Women's Week activities

The AWC recently completed a very successful speed mentoring event, Morford said, as well as a clothing drive for Clothes the Deal, an organization that assists low-income and at-risk women, men and youth prepare for and find gainful employment. They also hosted a keynote speaker event today, Aug. 20, featuring Jane Harman, Woodrow Wilson Center president and CEO, and

former member of the U.S. Congress.

The last event will be an invitation-only luncheon for the winners of the WOTY award Aug. 22.

Austin, Pawlikowski Win Service to the Flag Award

by Lindsay Chaney
August 19, 2013

Dr. Wanda Austin and Lt. Gen. Ellen Pawlikowski, commander of the Space and Missile Systems Center, are among recipients of the inaugural Service to the Flag Award given by Women in Defense Greater Los Angeles Chapter.

The awards were presented during the organization's White Party on Aug. 11 at the Balboa Yacht Club in Corona Del Mar. Also receiving a Service to the Flag Award was Patti Patton-Bader, founder, president, and CEO of Soldiers' Angels.

Women in Defense is a national organization affiliated with the National Defense Industrial Association that cultivates and supports the advancement and recognition of women in all aspects of national security.

Lt. Gen. Ellen Pawlikowski and Dr. Wanda Austin hold awards from Women in Defense Greater Los Angeles Chapter, given on Aug. 11.

Lightning Research Triggers NASA and DOD Interest

by Laura Johnson
August 16, 2013

When it comes to lightning, it doesn't take three strikes for you to be out.

Lightning poses a risk to spacecraft, and Aerospace has developed new guidelines for the Federal Aviation Administration regarding the best way to avoid a particular type of lightning during launches. Now, the Department of Defense and NASA are interested in using those same guidelines.

Lightning striking a launch vehicle can have serious consequences. In 1987, Atlas-Centaur 67 was struck, and the vehicle guidance system malfunctioned. The rocket started breaking apart and had to be destroyed due to safety concerns.

No one wants this to happen to their rocket. Therefore, precautions are taken to avoid launching into a lightning bolt.

The Office of Commercial Space Transportation, which is part of the FAA, asked Aerospace to assess the situation for

Bob Seibold, left, and Richard Walterscheid, led the Aerospace team in researching triggered lightning. (Photo illustration: Eric Hamburg)

commercial launch vehicles at four different locations: Spaceport America in New Mexico, the Oklahoma Spaceport, the Mojave Air and Space Port in California, and the West Texas Spaceport.

After completing two studies in 2006 and 2010 for the FAA, Aerospace developed a set of lightning flight commit criteria — basically a list of rules for when to postpone a launch to avoid lightning. Although the DOD and NASA already have their own criteria that are very similar in content, they are thinking of changing them to match the FAA criteria.

“What’s happened recently is that the DOD has reviewed the updated rules and likes their clarity and improved precision,” said Bob Seibold, the Aerospace program manager for this project.

Lightning avoidance is an ongoing area of research, and Aerospace is not new to the field. In fact, Aerospace scientists Dr. Richard Walterscheid and Dr. Paul O’Brien are part of the Lightning Advisory Panel for the Air Force and NASA.

Prior to the FAA request, much study had already been done on how to keep spacecraft safe from lightning. It might seem like the easy solution is to not launch during a thunderstorm, but it turns out the problem is a little more complicated than that.

There are two types of lightning that present a threat to launches — natural lightning and triggered lightning. Natural lightning is pretty much what it sounds like — lightning that occurs naturally during a storm.

Lightning struck Atlas-Centaur 67 about 50 seconds after liftoff and traveled down the exhaust plume to the launch tower. (Photo: NASA)

However, it turns out that a launch can actually cause lightning, in situations when it otherwise would not have happened.

“The primary lightning threat to launch vehicles as they ascend are lightning discharges induced by the vehicle,” Walterscheid said. “Launch vehicles can intensify the ambient electric field.”

This so-called triggered lightning presents an additional problem for launches to overcome.

“ Triggered lightning is a greater threat than natural lighting because it can occur in conditions that are electrically more benign,” said Walterscheid. “In addition, situations where natural lightning is occurring are obvious. Triggered lightning on the other hand must be inferred from meteorological conditions that are conducive to charging.”

So over the years Walterscheid and other experts from Aerospace and elsewhere have studied the topic and come up with guidelines for when to postpone a launch due to the risk of triggered lightning.

“The criteria involve avoiding flight through (or standing off) from clouds that are known to be associated with enhanced electric fields. These include cumulus clouds of various types, thick layered clouds, and raining clouds associated with weather systems,” Walterscheid said. “The rules require standing off from natural lightning (not necessarily because of the threat of natural lighting, but because it is a very good indicator of large ambient fields).”

Following these and other rules provides protection from lightning. However, in the effort to elude lightning, sometimes launches are postponed unnecessarily, which costs money and delays schedules.

So the issue is how to avoid lightning when there is really a risk, and not postpone a launch when there isn’t. The effort to have the best guidelines is ongoing.

Aerospace’s work for the FAA is one more step forward in the effort to understand lightning and the best ways to avoid it.

That work was carried out by Walterscheid and the team of Dr. Lynette Gelinas, Dr. Frederick Simmons, Dr. Paul Zittel, Dr. Grace Peng, and Glenn Law, as well as University of Arizona professor Philip Krider, and consultant Dr. John Willett. FAA senior meteorologist Karen Shelton-Mur was the government technical monitor.

Now, Walterscheid and O’Brien are pressing forward with more research in an attempt to find an alternative to a part of the lightning flight commit criteria called the Volume Averaged, Height Integrated Radar Reflectivity.

“Larger values of VAHIRR are correlated with a higher risk of triggered lightning as an ascending rocket passes through clouds,” Walterscheid explained. “The problem is that VAHIRR has proven difficult to calculate in some situations, making it unavailable during some launch conditions.”

If VAHIRR cannot be calculated for a given launch, then the launch team must rely on other criteria that are more restrictive,

possibly delaying a launch unnecessarily.

“We are working with the lightning and radar experts on the Lightning Advisory Panel to develop quantities that are easier to calculate,” Walterscheid said. “The goal is to replace VAHIRR and increase launch availability.”

Thus, the research keeps going. Walterscheid and other Aerospace experts will continue their study of the fascinating field of lightning as they strive to minimize its effects on launches.

In-house Telescope Provides New Capabilities

by Heather Golden
August 12, 2013

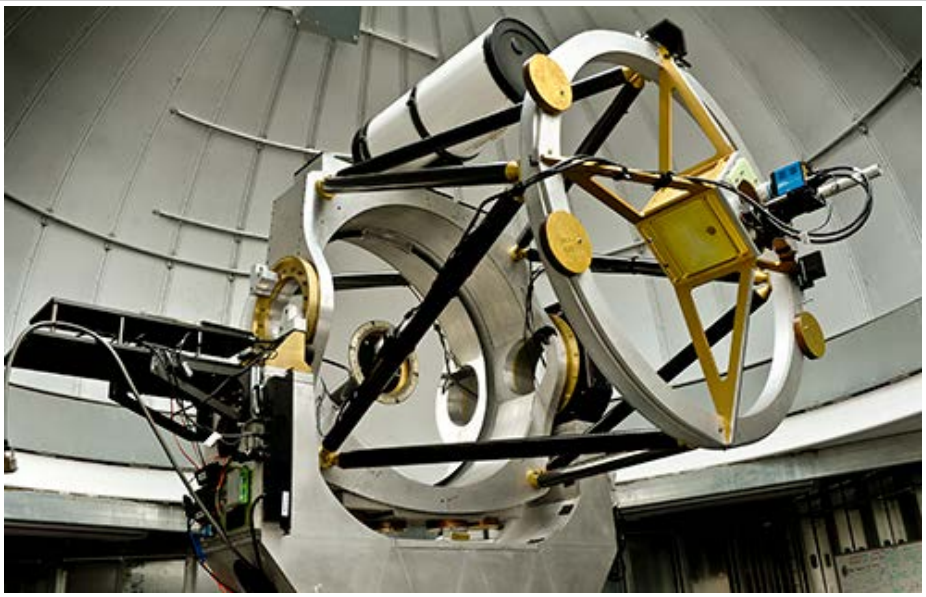
A handful of scientists and engineers within the Remote Sensing Department needed a telescope with multiple capabilities, and close at hand.

So, they built one.

When the new E Pod on building A6 was built, the scientists were asked to forward any requests they had for new capabilities. A team within the Remote Sensing Department saw a use for a moderately sized, versatile telescope, and successfully claimed a portion of the building’s roof.

“We want something close to the facility, so people can walk in and have something to take back to the machine shop,” said Rick Rudy, associate director, Remote Sensing Department.

The E Pod telescope has a rare quality in that its use is not limited to nighttime observations. It has daylight capabilities as well, implemented by using infrared and high frame-rate sensors.



Members of the Remote Sensing Department designed and built an in-house telescope that features a multitude of applications and accessories, including daytime use and infrared technology. (Photo: Elisa Haber)

“In addition to being able to track stars, we need to be able to track satellites as well, especially faster ones close to Earth,” Rudy said. “Fundamentally, we want to be able to see active satellites. This telescope is designed to be able to do that.

“You always want to have access to the sky,” he said.

The telescope can also be used to track the occasional launch out of Vandenberg Air Force Base, view objects reentering the atmosphere, update positions for orbiting space debris and derelict objects, and identify objects in geosynchronous orbits.

Rudy said he hopes the telescope can be used to boost quality assurance by giving the team another method to detect weathering and damage to components already in space, such as on the solar panels that power satellites.

The telescope’s design supports a variety of cameras and spectrographs, and is flexible enough to accommodate a broader range of instrumentation in the future. Two instruments, optical cameras used at different observing points, have been used seriously so far. The telescope features five more cameras, four with infrared capabilities, which the team plans to put into use soon. There are also two spectrographs operating in both the visible and the infrared portions of the spectrum.

“The telescope can see quasars that are more than halfway across the universe,” Rudy said. “These objects are faint in appearance, but incredibly luminous so we can see them at immense distances.

“As far as remote sensing capability, having a facility that can do that is an extreme thing,” Rudy said. “There are a myriad of potential applications.”

For bigger jobs, the team has access to a powerful telescope on top of a mountain in Hawaii, which is much larger and much more powerful. It is also “expensive, remote and not good for experimenting,” said Rudy.

The local telescope is accessible at all hours and is much cheaper to operate. This makes it perfect to experiment on before

The E Pod at night with a view of two observation domes. The telescope is housed in the dome on the left. (Photo: Eric Hamburg)

Comet photo taken while testing the new telescope in March. (Photo: The Aerospace Corporation)

heading to a more powerful telescope for exact measurements.

With the larger telescope, the team has to have their instruments perfect beforehand. Here, on the E Pod telescope, the team is free to work out those issues.

They plan to use it to “complement operations we have in Hawaii,” Rudy said. “But here, you can make mistakes, make changes, make better predictions.”

The entire project has taken three years, and was one Rudy called “a labor of love.” The team designed and built everything themselves, from the pier to the optical support structure to the focus mechanisms. The only pieces they did not build were the telescope drives and the mirrors, although the team did design the mirrors, too.

“This is a very exciting time for us,” Rudy said.

The completed telescope weighs in at around 1,200 pounds, which is much lighter than most telescopes with comparable capabilities. This was by design, as well. The less the telescope weighed, the less the materials and drives would cost. The main telescope is complete and operational, and the final step in construction will be to disassemble the parts and send the optical support structure out to be powder coated, painted and anodized to provide long-term protection to the materials.

So far, the team has observed several satellites and is preparing to attempt to observe a launch from Vandenberg Air Force Base in the near future.

“Aerospace has responsibility in a lot of areas and interest in even more areas,” he said. “This telescope provides a way to address these. We hope we can bring new capabilities online.”

Delta IV Delivers Sixth WGS Satellite

by Lindsay Chaney
August 08, 2013

The Mobile Service Tower is rolled back at Space Launch Complex 37 in preparation for launch of the Air Force's sixth Wideband Global SATCOM satellite. (Photo: United Launch Alliance, LLC)

A Delta IV rocket launched into the dusk from Cape Canaveral's Complex 37 Wednesday, Aug. 7, carrying the sixth Wideband Global SATCOM high-capacity communications satellite.

The WGS-6 was financed by Australia, as part of a partnership allowing that country to use the joint services communications satellite network.

From the Cape, Ray Johnson, Aerospace vice president, Space Launch Operations, reported that liftoff occurred in the opening seconds of the mission's launch window at 8:29 p.m. Eastern time.

"It was a very clean flight with no significant issues identified," Johnson said. "I want to congratulate the very busy Delta team on this successful launch."

Flying in the Medium + (5,4) configuration, which features a five-meter upper stage and payload fairing, plus four strap-on solid rocket motors for added liftoff thrust, the Delta IV took slightly more than 40 minutes to deposit the Boeing-built satellite into a supersynchronous transfer orbit. Controllers will maneuver the WGS into its test orbit over the next three months.

August Obituaries

August 01, 2013

Sincere sympathy is extended to the families of:

William Bowman, project engineer, hired Jan. 22, 1990, retired Nov. 1, 1993, died June 9.
Mark Hamilton, manager, hired April 24, 2000, retired June 1, 2012, died June 26.
Merlin Hubele, member of the technical staff, hired Feb. 2, 1981, retired Dec. 1, 1990, died June 25.
Armando Macias, office support, hired Oct. 27, 1981, retired Oct. 1, 1996, died June 23.
John Shaul, member of the technical staff, hired Nov. 20, 1967, retired Feb. 1, 1988, died June 1.
Raymond Smith, manager, hired July 30, 1962, retired Nov. 1, 1985, died July 10.
Lucile Solberg, member of the technical staff, hired Feb. 6, 1961, retired Aug. 1, 1982, died June 22.
David Sutton, member of the technical staff, hired Oct. 24, 1972, retired May 1, 2006, died June 6.
Dorothy Walker, office support, hired May 8, 1961, retired March 1, 1989, died April 25.

To notify Aerospace of a death and have it included in the Orbiter, please contact Cynthia Evans in Human Resources at 310-336-5806.

August Notes

August 01, 2013

Notes of appreciation to fellow employees and Aerospace for thoughtfulness and sympathy have been received from:

Donna Kahl, on the recent passing of her father, Ralph Tortorella.
Wayne Otsuki, on the recent passing of his mother, Fusa Otsuki.

To submit a note of appreciation to Aerospace, please contact Valerie Jackson in Human Resources at 310-336-0891.

August Anniversaries

August 01, 2013

50 YEARS

Engineering and Technology Group: William Feess

40 YEARS

National Systems Group: Sabrina Cox

Systems Planning, Engineering, and Quality: Pierre Kruh

35 YEARS

National Systems Group: Kathryn Brenan

30 YEARS

Engineering and Technology Group: Eric Fournier, Kathleen McDonald, Mazaher Sivjee

25 YEARS

Engineering and Technology Group: Thomas Albright

National Systems Group: Virginia Macheske

Operations and Support Group: Jose Mendez, Lloyd Morrow

Space Systems Group: Marvin Gardner, James Jameson

Systems Planning, Engineering, and Quality: Valerie Lang

20 YEARS

Engineering and Technology Group: William Clair, Lydia Moos, Marsha Weiskopf, Sheryl Williams

Space Systems Group: David Albert, Norman Lagerquist

Systems Planning, Engineering, and Quality: Lyle Abramowitz, Kenneth Huck, Randy Steinberg

15 YEARS

Engineering and Technology Group: David Batt, Eric Keim, Liria Morales, Jerome Myers

Systems Planning, Engineering, and Quality: Mark Julian

10 YEARS

Civil and Commercial Operations: Joseph Pope

Engineering and Technology Group: William Cerven, John Cox, Jaime Cruz, Elaine Lim, Deborah Shands, Yvette Smith

Executive Offices: Mike Drennan

National Systems Group: John Klegka, C Thomas Wilson

Space Systems Group: Thomas Kopp

Systems Planning, Engineering, and Quality: Gary Barrette

5 YEARS

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National Systems Group: John Spuria

Operations and Support Group: Allan Kung

Space Systems Group: Mitchell Norder

Systems Planning, Engineering, and Quality: John Lowry, John Sarkesain