

# PANTEXAN



SUMMER 2012

PANTEX PLANT - SECURING AMERICA

# PLANT TRADITION

For the 19th year, former top 40 radio disk jockey Larry Boyer applied his vocal talents and science acumen to the position of Science Bowl moderator, quizzing some of the area's smartest youth. Boyer, a certified industrial hygienist and B&W Pantex business services analyst, brings to the job experience in computer science, medicine and industrial hygiene and is the event's longest-serving volunteer.

Volunteers are at the heart of Science Bowl, and this year more than 150 Pantexans and members of the community showed support as nearly 300 middle- and high-school students converged on the West Texas A&M campus venue in February to square off on science and math knowledge in a game-show type format. This was the 21st consecutive competition sponsored by Pantex to help foster a love of science and math in students across the Texas Panhandle.

"We see news stories about kids who get into trouble or are failing to make the grade in today's school system, but there is very little information put out to the general public to say that not every kid is like that," said Boyer. "Science Bowl is one venue where we can highlight the best and the brightest of the students and show that there are really some great things happening in the schools today."

Boyer, a Distinguished Toastmaster and member of the Pantex Speakers Bureau, has over the years filled in as a Science Bowl rules judge, science judge and runner. The 20-year U.S. Air Force veteran, middle- and high-school football official and private pilot aspires to one day serve as moderator at the national competition.

"Although it is physically exhausting to stand up there and read some extremely complex questions for a full nine-hour day, it is a lot of fun, and I really never tire of being amazed at the abilities of these kids," said Boyer. "I could never have been a part of a competition like this when I was their age."

This year's Science Bowl winners were Canyon Middle School and Amarillo High School. Both teams earned \$1,000 and a trip to Washington D.C. to compete against dozens of other teams across the U.S. in the Department of Energy National Science Bowl.



# PANTEXAN

## CONTENTS

2

Community Relies on Pantex Fire Department

3

Message from the Managers

4

Pantex to Draw Energy from Wind Power

6

Pantex Plays Critical Role in U.S. Weapons Surveillance

8

Nation's Oldest Firefighter Retires at Pantex

10

B&W Creates Virtual Collaborative Environment for Pantex and Y-12

11

Pantex Postscripts

12

10 Ways Pantex Protects the Environment

## On the Cover

Pantex will soon be home to a wind farm consisting of five two-to-three megawatt turbines. A first in the National Nuclear Security Administration enterprise, the farm is expected to generate approximately 10 to 15 megawatts of energy daily – above and beyond the seven megawatts required to fuel the Plant. Energy savings is estimated at \$2.5 million annually.



**Steve Erhart** | Manager, NNSA Production Office  
**John Woolery** | President and General Manager, B&W Pantex  
**Ed Veiga** | Manager, Public Affairs  
**Mig Owens** | Writer and Editor  
**Allison Roberts** | Graphic Designer  
**Larry Bach'Lachman, John Ebling** | Photographers  
**Greg Cunningham** | Contributor

The *Pantexan* is published three times a year by Babcock & Wilcox Technical Services Pantex, LLC, management and operating contractor of the Pantex Plant for the U.S. Department of Energy's National Nuclear Security Administration. Pantex is located near Amarillo, Texas. Feedback is welcome at P.O. Box 30020, 79120-0020 or [public\\_affairs@pantex.com](mailto:public_affairs@pantex.com).



# COMMUNITY RELIES ON PANTEX FIRE DEPARTMENT

## Firefighters offer unique capabilities to battle wildfires

Texas continues to endure record-breaking drought, which since 2010 has led to the loss of thousands of square miles across the state to fire. Although there is some relief in sight, it will take a significant amount of rainfall to end the drought conditions from 2010.

With wildland fire season again upon us, the Pantex Fire Department stands ready to respond to calls for help from neighbors in the four counties surrounding the Plant.

The department expects this year's conditions to be dry but improving when compared with last year's and has initiated preparations. Comprised of 60 firefighters, the Plant's fire department is equipped to provide response for fire, hazardous materials, emergency medical and rescue.



"All local departments offer some mix of services at varying levels, but offering all of these services at a high level requires numerous hours of training and considerable budget for equipment," said Mike Brock, Pantex Fire Department chief. "Not all of our neighboring departments can afford to provide all of these services and

must rely on other departments through mutual aid."

According to Brock, numerous wildland and structure fires offsite have required the department's response in the past. Reciprocally, assistance from outside departments has been accepted onsite for wildland fires.

Pantex firefighters offer unique capabilities resulting from specialized training, such as rope and confined space rescue, hazardous materials training and radiation training. This prepares them to handle situations at Pantex to help ensure the safety of the nation's nuclear deterrent.

"An important aspect of being a firefighter is helping people, including those asking for our assistance. It also gives us an opportunity to hone our skills, which will better prepare us in the event we have an onsite emergency," said Jeremy Baker, firefighter. "It is vital that area fire departments work together – many of the fires that we must fight require more resources than any one department may have."

Off-duty Pantex firefighters are also known for their commitment to the community such as volunteerism with local fire departments and Emergency Medical Services and support of 4H, Future Farmers of America, Special Olympics, Muscular Dystrophy Association and Cystic Fibrosis.

"A great deal of knowledge is necessary to be a good firefighter. This knowledge gives you the ability to protect yourself, fellow firefighters and the community," said Baker. "We consider it a privilege to assist our community when needed most. There is no greater satisfaction than being able to help out in a time of despair."



**Steve Erhart**  
Manager, NNSA Production Office



**John Woolery**  
President and General Manager, B&W Pantex

Pantex is securing America as the NNSA's production integrator and provider of the nuclear deterrent to the Department of Defense; serving the nuclear security enterprise through our highly reliable people, processes, infrastructure and business systems.

## MESSAGE FROM THE MANAGERS

A fully integrated and interdependent enterprise is NNSA's vision, and it's one that we share. The goal is enhanced mission performance, reduced costs, strengthened partnerships and improved stakeholder confidence.

As we progress toward a consolidated management and operating contract with Y-12 in Tennessee, Pantex continues to deliver on our commitment to secure America. We do so in a way that respects our people and our environment.

One approach we're already taking to introduce efficiency is using the weather to our advantage. Pantex will soon be the first in the enterprise to harness wind for power. Not only will this innovation conserve resources and funds, it will offer research opportunities for our education partner, Texas Tech University.

On the operations side of the house, we continue to play a vital role in assessing the overall health of each weapon

system. As part of the NNSA Surveillance Program, the information we provide is used to ensure the safety, security and effectiveness of the U.S. nuclear deterrent. And, our component and material testing continues to develop and mature, making Pantex a candidate for a variety of new and enhanced diagnostics.

We recently honored Pantex firefighter Bill Hickman, believed to be the oldest active firefighter in the country. Among our skilled and talented workforce for 50 years, the recent retiree's longevity is an example of Pantexans' commitment to the Plant and our mission. We're proud of Bill and of our many firefighters who contribute to the good of the Plant as well as the good of the community.

Despite the fact that change is in the air, the focus at Pantex remains squarely on meeting the nation's production needs for nuclear deterrence. We welcome the challenge that comes with change.



# Wind farm will fuel Plant, foster research

Author Laura Ingalls Wilder said, “If enough people think of a thing and work hard enough at it, I guess it’s pretty nearly bound to happen, wind and weather permitting.” Soon, hard work, dedication and determination to do the right thing will make harnessing the Texas wind for energy a reality at Pantex.

For three years, the Pantex Site Office, now part of the NNSA Production Office, scaled such hurdles as funding, contracting strategy and Federal Aviation Administration approval to build a wind farm at the Plant, which is in a Class 4 wind zone. Explained Johnnie Guelker, assistant manager for Environmental and Site Engineering Programs, “I went into this project with at least five alternate plans to get this done. We are executing Plan E, and it will happen now.”

The Pantex wind farm, a first in the NNSA enterprise, will consist of five two- to three-megawatt turbines on 1,500 acres of government-owned property east of the Plant. A request for proposals is expected to be released this summer. The winning private energy company will enter into a 25-year contract with the NNSA and make an initial investment of \$25 million.

The farm will generate approximately 10 to 15 megawatts of energy daily, though fueling Pantex requires only seven megawatts. The excess energy will be sent to the power grid for local provider, Excel Energy. Pantex will benefit from its sale, but at a reduced rate from what the Plant might spend to purchase the energy, according to Guelker.

Energy savings from the wind farm is estimated at \$2.5 million annually, and the project will enable Pantex to meet the President’s energy initiatives for green energy. In fact, according to Guelker, the wind farm at Pantex will allow NNSA to meet almost all of its renewable energy goals. The wind farm also offers unique research opportunities to longtime partner in education, Texas Tech University.

“The wind farm that will be constructed at the NNSA Pantex facility will be built on public lands. As such, Texas Tech University and its research collaborators will

have unprecedented access to a working, commercial-scale wind farm to study the turbine-to-turbine wake interactions across the full farm array. This working utility-scale wind farm will be the first such research facility in the nation,” said Jodey Arrington, vice chancellor for Research, Commercialization and Federal Relations at Texas Tech.

The Pantex wind farm is just the latest environmentally beneficial use of Plant land. Other uses include wildlife habitat and research, agricultural uses of non-industrial land such as crop activities and cattle grazing and archeological resource protection.

“Something worth having is worth all the effort it takes to get it done,” said Guelker. “This is the right thing for Pantex and it has substantial cost benefits. Bottom line, it is not easy to do but one must be persistent.”

The wind turbines, each 426 feet high, are expected to be constructed starting in the fall of 2012 and the farm operational in late spring or early summer of 2013.



# PANTEX PLAYS CRITICAL ROLE IN U.S. WEAPONS SURVEILLANCE

## Testing and inspection help assess condition of stockpile

Uncovering how a weapon ages is like detective work. Evidence, or data, is carefully collected to provide clues about potential defects and how a weapon's performance could change over time. So when workers at Pantex disassemble and inspect a nuclear weapon and its components, their efforts ultimately help ensure the safety, security and performance of the U.S. nuclear deterrent.

"The NNSA Surveillance Program requires a sundry of weapon data from Pantex, which supports the government's decisions regarding the reliability and posture of the nation's stockpile," said Colby Yeary, senior program manager for the Directed Stockpile Work (DSW) and Campaigns Division.

Surveillance takes place at various levels of a weapon system, from assemblies that include much of the full-up system to the component and material levels. Examples of surveillance activities at Pantex include disassembly and inspection (D&I), flight testing, system laboratory testing, and component testing and material evaluation.

In the D&I process, weapons sampled from the production lines or returned from the Department of Defense are evaluated at the system level as they are disassembled, yielding components and materials that may be further tested.

After D&I, selected weapons are reconfigured for flight testing. Flight test units, referred to as Joint Test Assemblies, are rebuilt to represent the original build to the extent possible. Joint Test Assembly configurations vary from high-fidelity units that have essentially no onboard diagnostics to fully-instrumented units that provide detailed information on component and subsystem performance.

Another type of surveillance is system laboratory testing. This involves test beds built from parts yielded on a

D&I that are reconfigured for system-level testing at the Weapons Evaluation Test Laboratory, which is managed by Sandia National Laboratory and located at Pantex.

Components and materials from the D&I process undergo further evaluations to assess component functionality, performance margins, material behavior and aging characteristics during component testing and material evaluation. Pantex performs a wide array of non-destructive and destructive testing on many of the components, including high explosives and special nuclear materials. A subset of components is shipped to other NNSA sites to perform diagnostic testing.

"Component and material testing continues to develop and mature at Pantex, which makes the site a viable candidate for a variety of new and enhanced diagnostics," said Dianne Ely, director of program management, DSW and Campaigns Division. "Testing components at Pantex makes sense for the government, as it minimizes transport costs and maximizes testing efficiency for the Nuclear Security Enterprise. Pantex surveillance capabilities continue to grow and enhance our understanding of the behavior of the aging stockpile."

Information generated from surveillance testing is used to communicate the overall health of each weapon system. Results of annual assessments are reported, as directed by the National Defense Authorization Act of 2003, by the NNSA Nuclear Security Laboratory, comprised of Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and Sandia National Laboratory, and the Commander of the U.S. Strategic Command.

"Without the work that occurs at Pantex, this could not be achieved," said Steve Erhart, NNSA Production Office manager.





# NATION'S OLDEST FIREFIGHTER RETIRES AT PANTEX

## Hickman makes last run after 48 years

When Bill Hickman got up for his last day of work at Pantex in April, he did what he always does in the morning. A few stretches. Some calisthenics. Maybe 40 pushups or so. Then he put on his uniform and made history, reporting to work as what is believed to be the oldest firefighter in the country.

The 78-year-old Hickman hung up his firefighting gear for the last time after 48 years at Pantex, 34 of those working for the Fire Department, where he still kept up with firefighters half his age.

“There’s no real secret to it,” Hickman said of his longevity. “You just have to stay active and eat right and live a good, honest life. That’s about all there is to it.”

Pantex celebrated Hickman’s nearly 50 years of service April 9 with a retirement ceremony.

“I’ve had a pretty good run of it,” Hickman said, reflecting on his time as a firefighter. “For the most part, my time here has been very enjoyable. I’ve met a lot of good people and done a lot of good things, but it’s time. You just know when it’s time.”

The International Association of Firefighters does not track the ages of all of its members, so can’t say with certainty Hickman was the oldest active firefighter in the country. However, IAFF officials said they were unaware of an older active firefighter in the United States, so they presume that Hickman was the longest serving.

It’s no surprise to anyone who knows him that Hickman had difficulty giving up his day job and stepping into retirement. He has been working hard since he was a boy of seven, picking cotton in Depression-era Oklahoma.

“All of that created a real work ethic in me,” Hickman said. “I knew one thing: I didn’t want to be poor and I didn’t want to fail.”

Hickman learned the welding trade as a young man and traveled around the country chasing work with his family, before his father got him an application at Pantex. Hickman started at Pantex on March 30, 1964, as a boilermaker and a welder, but his desire for hard work couldn’t be satisfied by only one job.

Hickman bought an Amarillo business that sold batteries and vacuum tubes for televisions in 1966, running the business in his spare time. That spare time got pretty sparse as his family grew, however, so he started looking for other options. An opening in the fire department – with its long shifts and multiple days off – caught his eye.

As if two jobs wasn’t enough, Hickman took on another passion, coaching youth baseball – for which he twice won Coach of the Year from the Texas Panhandle Sports Hall of Fame. He even cared for 500 fruit trees on a 10-acre patch of land he bought.

“I don’t have much of a habit of sleeping,” Hickman said with dry understatement. “I’ll get maybe four or five hours a night. There has just always been too much to do to spend any more time sleeping.”

But don’t think Hickman is done working altogether. He still owns his business and still owns that patch of land. He’s just freeing up a little time to focus on the most important thing: family.

“I’ll probably manicure that 10 acres a little bit better than I have been,” Hickman said. “I’ll take care of my business and I’ll take care of my wife. That’s the first thing, is being there for her. She’s a beautiful lady.”

*by Greg Cunningham*



# B&W CREATES VIRTUAL COLLABORATIVE ENVIRONMENT FOR PANTEX AND Y-12

Collaboration requires communication. So when experts at B&W Pantex in Texas and B&W Y-12 in Tennessee need to exchange ideas and information, they turn to cyberspace to bridge the distance.

The two NNSA sites are scheduled for restructuring that will consolidate them under one contract to gain efficiencies. The federal side of the house recently reorganized to form the NNSA Production Office to oversee operations at both facilities.



Modernizing teleconferencing capabilities to enhance efficiency and save travel dollars is a top priority. B&W, lead for the sites' current management and operating contractor, responded to the need by collaborating to offer instant messaging, screen sharing and desktop video

conferencing. These tools enable employees to connect individually and in work groups to discuss unclassified matters.

“We’ve established several secure ways for employees at Pantex and Y-12 to better communicate, helping make true collaboration a reality,” said Kent Gross, B&W Pantex chief information officer. “By employing technologies such as Microsoft Lync, B&W is fulfilling the NNSA Production Office’s modernization request and reducing the need for travel, which ultimately saves taxpayer dollars.”

Electronic linkage of the sites is also a first step toward fulfilling NNSA’s network vision, which aims to use technology to connect all sites within the enterprise. Called “A Network to Envy” or 2NV, NNSA’s vision seeks to deliver an interconnected, agile, secure, efficient computing environment using technologies such as cloud infrastructure and collaboration systems.

The 2NV initiative provides technology to support the “One NNSA” vision to integrate leadership, people and processes to better accomplish goals as a unified enterprise.

“B&W Pantex and B&W Y-12 are already working to support the new DOE/NNSA consolidated structure. I hope our efforts will serve as a model for integrations the enterprise will experience,” said John Woolery, B&W Pantex president and general manager.

“B&W Pantex and B&W Y-12 are already working to support the new DOE/NNSA consolidated structure. I hope our efforts will serve as a model for integrations the enterprise will experience.”

*John Woolery, B&W Pantex president and general manager.*

# PANTEX POSTSCRIPTS

## **B&W Pantex honored with Frances Perkins Vanguard**

**Award:** For recognition of its work with women-owned small businesses, B&W Pantex received the U.S. Small Business Administration (SBA) Frances Perkins Vanguard Award. Last year, Pantex won the SBA's Dwight D. Eisenhower Award for excellence in utilization of small businesses. "To be honored two years in a row by the SBA is a tremendous accomplishment," said John Woolery, B&W Pantex president and general manager. "These awards help to reinforce our conviction that we are acting in the best interests of the local and U.S. economy through our subcontracting efforts with small businesses." B&W Pantex consistently exceeds goals for direction of contracting work to businesses owned by disadvantaged groups. In fiscal year 2011, Pantex spent \$19,897,945 with

women-owned small businesses, a total of 17.8 percent of the \$112 million in subcontracting dollars spent that year, nearly double the performance goal of 9 percent set by the Department of Energy.

## **Zero injuries and illnesses in March a milestone:**

Pantex experienced zero injuries and illnesses for the entire month of March. This was the first time in the Plant's history a Target Zero Month was achieved. This best-in-class safety performance means that there were no first-aid injuries and no recordable and lost-time events. "This tremendous achievement is a testament to the continued commitment of all Plant employees to perform safely in all that they do," said Bill Mairson, Environment, Safety and Health program manager.

## In the Community

### **B&W Pantex earns United Way Leadership Award:**

B&W Pantex received the Sybil B. Harrington Leadership Award for increasing the number of leadership givers, those who pledge \$1,000 or more to the United Way. Pantex pledged \$614,535 to United Way this year, including gifts of \$40,000 from B&W Pantex and \$1,000 from the Metal Trades Council. "This confirms what we've always known, that Pantexans are incredibly generous and are eager to support this community," said Woolery. "The United Way is an important organization that does so much to help people in need. We are proud to support its work."

### **Metal worker uses 3D Tyrannosaurus Rex puzzle to**

**showcase career:** B&W Pantex metal worker Charles Thomas used a water jet machine to cut out pieces for a 3-D Tyrannosaurus Rex puzzle, then introduced it at the 30th annual Step UP to Success program, where middle school students from across Amarillo, Texas, come to learn about career options. Thomas presented a program on pursuing a career in the skilled trades, using the puzzles to show what is possible in the hands of a skilled craftsman. Other Pantexans made presentations about careers in emergency services and engineering.

### **Students race lithium ion battery-powered cars in**

**competition:** More than 15 teams of middle school students from across the Texas Panhandle gathered to race cars powered by a lithium ion battery down a 20-meter track at B&W Pantex's annual car race, part of the National Science Bowl competition. A bottle of water attached to the cars provided weight and increased the challenge of extracting speed from the cars. The Department of Energy provided kits students used to build their cars over a period of a month. Battery-powered cars were selected this year to honor President Obama's goal of putting one million electric vehicles on the road by 2015.



# 10 WAYS PANTEX PROTECTS THE ENVIRONMENT



## Reusing firing range materials

Twenty-four tons of lead-contaminated waste and 1,440 tons of clay were reused when Pantex cleaned up lead at its outdoor firing range where security officers train. Cost savings from the reuse equaled more than \$400,000 in shipping and disposal. Related work at the indoor range included changing over to non-lead ammunition to reduce 2,400 pounds of waste bullet fragments as well as dust generated when bullets hit the targets.



## Recycling to prevent waste

In March alone, Pantex recycling efforts resulted in 23,300 pounds of disintegrated paper shipped to the Natural Fertilizer Company; 780 pounds of plastics to Allied Recyclers; 17,380 pounds of cardboard to Panhandle; 67,980 pounds of mixed metal to Amarillo Recycling; 19,005 pounds of recycled computers to HOBI International; 25,171 pounds of activated carbon to Calgon Carbon; and 2,763 pounds of premium solvent, 831 pounds of aqueous solution and 1,050 pounds of oil filters to Safety-Kleen.



## “Greening” information technology

Pantex retired over 185 physical servers through conversion to a virtual server system, reducing the footprint and dropping daily kilowatt usage by approximately 1,200 kilowatts per day. Multifunction machines also replaced many of the 2,500 printers formerly attached to the Pantex network. The new machines use earth-friendly solid ink and are expected to result in an estimated annual cost savings and avoidance of \$481,618 while saving around \$25,000 of energy per year. These moves earned Pantex an NNSA Pollution Prevention Award.



## Employing renewable energy

The Plant uses renewable energy-powered equipment such as solar-powered aerators in the wastewater lagoons, solar-powered lights at parking lots and solar-generated power to emergency notification towers.

## Reusing water to irrigate crops

Water from a small aquifer beneath the Plant is pumped to the surface and treated to reduce contaminants. The water is then mixed with Pantex Wastewater Treatment Facility wastewater and beneficially reused to irrigate crops on Plant property.

## Following the rules

For 18 consecutive years, Pantex has been without a Resource Conservation and Recovery Act violation, demonstrating commitment to compliance with environmental requirements. The Plant also received no significant violations or adverse regulatory actions from environmental regulators and has effectively reduced the total amount of waste generated at the Plant.

## Protecting clean water

Pantex applied with the Texas Commission on Environmental Quality in 2010 and received a three-year renewal of “Gold Level” of participation in this program. This level of participation places Pantex as one of the elite environmentally protective organizations in the state.

## Reducing energy intensity

Pantex has reduced energy intensity by 40 percent since 1985. Energy intensity is the amount of energy used per square foot of Plant footprint. By 2015, the goal is to reduce energy intensity by 30 percent from a baseline established in 2003.

## Conserving water resources

Chlorine, a toxic gas that may be fatal if inhaled or absorbed through the skin, was removed as an option to disinfect Pantex water supplies in favor of a mixed oxide process that achieves the same goal. Pantex was acknowledged by NNSA/DOE with an EStar award for this strategy.

## Minimizing waste through technology

B&W Pantex installed a computer-based Radiography X-Ray machine using digital film at the Pantex Occupational Medical Department. This machine eliminates the need for chemicals and film to process patients’ X-ray viewgraphs.

The change eliminates the generation of silver contaminated film wastes and reduces annual waste generation by approximately 1.7 tons. The end result of annual cost avoidances using this technology are in excess of \$19,000.



# CONNECT WITH US ON FACEBOOK AND TWITTER

Please take a minute to like Pantex Plant on Facebook or follow us on Twitter. Our Facebook page showcases the Plant’s outreach activities, and Tweets offer news releases and emergency information.

Check us out at  
[www.facebook.com/PantexPlant](http://www.facebook.com/PantexPlant)  
and  
[www.twitter.com/PantexPlant](http://www.twitter.com/PantexPlant)

---

*Disclaimer: This work of authorship and those incorporated herein were prepared by Contractor as accounts of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor Contractor, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, use made, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency or Contractor thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency or Contractor thereof.*



**PanTEX**

P.O. Box 30020  
Amarillo, TX 79120

**B&W**  
Pantex

**NNSA**  
National Nuclear Security Administration