

PWR Conducts Final Planned Test on SSME



John C. Stennis Space Center, Mississippi

July 29, 2009

Capping a legacy that spans 34 years, Pratt & Whitney Rocketdyne completed the final planned test on a Space Shuttle Main Engine (SSME) today at the John C. Stennis Space Center (SSC) in Mississippi. The successful hot-fire test was the 2,730th for the SSME, the world's only reusable liquid hydrogen engine designed for human space flight. Pratt & Whitney Rocketdyne is a United Technologies Corp. (NYSE: UTX) company.

“Because of the extensive testing done at SSC, the SSME is the most reliable and best understood rocket engine ever built,” said Jim Paulsen, SSME program manager, Pratt & Whitney Rocketdyne. “The testing conducted at SSC has been critical to the SSME’s safety record and the evolution of improvements to the engine. We’re all proud to be part of this critical effort

in support of human space flight.”

The first SSME hot-fire test was conducted on May 19, 1975, leading to the first space shuttle launch on April 12, 1981. The last shuttle mission is slated for late 2010. The SSME is unique because it provides thrust during the boost and upper-stage ascent of a space shuttle, safely sending astronauts into space to assemble the International Space Station, conduct microgravity scientific experiments, deploy large spacecrafts such as the Hubble Space Telescope, and retrieve and return large payloads to Earth. The SSME is one of the most complex machines ever built. Three engines generate 1.5 million pounds of thrust – an energy output equivalent to 13 Hoover Dams.

Stennis Space Center has a long history in testing engines for human space flight. The site, originally named Mississippi Test Operations, tested the original Saturn V F-1 and J-2 rocket engines that launched Americans to the moon 40 years ago. The historic

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PWR succesful hot-fire test for next manned moon mission

PWR Buyers Spotlight

Turbocam International receives PWR supplier appreciation award

Obama plans to halt F-22, C-17 production and kill the alternate F-35 engine

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Turbocam recognized for support of J-2X engine

Saturday, June 20, 2009

BARRINGTON - Turbocam International has received a supplier appreciation award from Pratt & Whitney Rocketdyne (PWR) in recognition of its support of the J-2X rocket engine development, a key element of the NASA Constellation Program.

Turbocam has prototyped and manufactured numerous complex turbomachinery components for the J-2X Program over the past three years including critical hardware for the J-2X Upper Stage Engine, Oxygen Turbopump, and Fuel Pump.

“As we enter the fabrication and testing phase of the J-2X Development Program, we would like to express our sincere appreciation for the hard work, dedication, and support TURBOCAM has provided in pursuit of this effort,” said John Vilja, J-2X Program Manager.

“We are proud to receive this award on behalf of all

our employees and are honored to be recognized for our contributions to the engine that will eventually take American astronauts back to the moon,” said Marian Noronha, President, Turbocam. “As a large employer in this community, it’s critical that we build strong business partnerships with our customers in order to remain healthy and productive for years to come. This award confirms that we are doing the right things to stay competitive in the global aerospace marketplace.”

Starting in 2014, the J-2X rocket engine will power the Ares I rocket into space. Ares I will launch the Orion Crew Exploration Vehicle (CEV), the vehicle that will carry the next generation of human explorers into orbit after the Space Shuttle is retired in 2010. The J-2X will also power launch vehicles to the moon and beyond in coming decades.

For more information go to www.turbocam.com.

A Note from the PWR Receiving Team:

Suppliers and Vendors,

At PWR we handle over 1800 packages monthly. Our process is to verify PWR receives material and quantities per the purchase order. Once an item is processed on the dock a signal is sent to accounts payable to process payment. We then send the item/material to the area or person requesting the material. It is vital to us to have some minimum information to ensure an efficient delivery of material and supplier payment. Please ensure that the following information is provided on your packing slip to ensure an efficient receipt of material.

Example:

1. Rocketdyne’s Purchase Order Number (i.e. 48111122) especially if using a third party vendor
2. The quantities shipped and any backorder amounts
3. Rocketdyne’s purchase order Line item number
4. The product part number as indicated on Rocketdyne’s purchase order



Providing us this information will ensure timely and accurate delivery of goods and payment for material received at Pratt & Whitney Rocketdyne. We appreciate your assistance in meeting these goals.

PWR Hosts Major Suppliers Conference

By Jesse Basarab, Pratt & Whitney Rocketdyne

March 23, 2009

More than 170 people representing 80 of the top suppliers to PWR learned what it take to become UTC Supplier Gold at the first major supplier conference since Rocketdyne merged with Pratt & Whitney.

The conference, on March 11, also highlighted PWR's new business strategies and how suppliers can be a part of that effort.

"It is important to demonstrate to our suppliers that they play key role in PWR's growth," said Joe Sylvestro, vice president, Operations and Supply Management and speaker at the event. "More than ever we will need flawless execution of our suppliers as we grow our business."

This was the first time that suppliers for the Canoga Park and West Palm Beach sites met in one location.

The conference, held at the Woodland Hills Hilton, featured keynote speaker Tom Byrd, NASA deputy manager, J-2 upper stage engine. Other speakers included Sylvestro, Sheldon Rovin, Bill Bellows, Rob Sobieski, and Werner Kummerle of Metalex Manufacturing which became the first PWR supplier to reach UTC Supplier Gold.

The conference emphasized how suppliers can become UTC gold and the opportunities that open up in UTC upon such achievements. For example, UTC Gold Suppliers are invited to a UTC networking event where they can market their products to all UTC business units. They also become a preferred supplier of UTC.

SSME Final Tests continued from page 1

SSC test stands accumulated 2,344 SSME tests with an additional 386 tests conducted at sites in California and Alabama. Overall, the SSME program has accrued 2,730 engine hot-fires on ground test stands and 417 engine hot-fires on space shuttles for a combined 3,147 total starts and a total operational duration in excess of one million seconds.

Pratt & Whitney Rocketdyne, Inc., a part of Pratt & Whitney, is a preferred provider of high-value propulsion, power, energy and innovative system solutions used



Suppliers from Canoga Park and West Palm Beach meet for the first time in one location.

The UTC gold program helps facilitate and accelerate superior performance and helps companies identify potential turnbacks.

"The UTC gold program can change how a company thinks and acts in a positive way," said Kummerle. "Since Metalex used the ACE tools to become UTC Supplier Gold, it has empowered our company."

Those who attended the conference were also updated on the status of current programs at PWR including, Missile Defense, J-2X, SSME, ISS/Hamilton Sundstrand, RL10, Hypersonics, RS-27 and RS-68.

"We want our suppliers to know that they can bring forward opportunities to improve ideas and products that they supply to PWR," said Sylvestro. "We look forward to continuing our relationships with our suppliers for many more years to come."

in a wide variety of government and commercial applications, including the main engines for the space shuttle, Atlas and Delta launch vehicles, missile defense systems and advanced hypersonic engines.

Pratt & Whitney is a world leader in the design, manufacture and service of aircraft engines, space propulsion systems and industrial gas turbines. United Technologies, based in Hartford, Conn., is a diversified company providing high technology products and services to the global aerospace and commercial building industries.

PWR Successfully Tests Propulsion Technology to Send Humans to Moon, Mars and Beyond

By Carri Karuhn, Pratt & Whitney Rocketdyne

CANOGA PARK, Calif., April 6, 2009 –

Pratt & Whitney Rocketdyne completed a series of successful hot-fire tests for a propulsion system that could lead to increased mission capability and flexibility in sending humans to the moon, Mars and beyond. Pratt & Whitney Rocketdyne is a United Technologies Corp. (NYSE: UTX) company.

During the tests at NASA's Glenn Research Center in Cleveland, Ohio, a 25 pound-force thruster testbed successfully demonstrated cooling with gaseous methane and gaseous oxygen, as well as rapid start and stop at simulated altitude conditions. The tests also gathered a wide range of data on ignition and combustion performance. A test program highlight was the igniter demonstration of split-second pulses that emulate how a spacecraft may perform during a mission.

"These successful tests mark another milestone for Pratt & Whitney Rocketdyne's contribution to the U.S. Space Exploration Policy," said Terry Lorier, program manager, Space Propulsion Systems Development, Pratt & Whitney Rocketdyne. "It demonstrates our team is ready to proceed with development of this technology, and provides data in support of NASA's upcoming decision on whether



Artist concept of Ares 1

to baseline oxygen and methane as propellants for use on future NASA vehicles and missions."

The hot-fire testing was conducted as part of the Propulsion and Cryogenics Advanced Development (PCAD) project under NASA's Exploration Technology Development Program (ETDP). The goal is to develop and demonstrate key technologies that will enable NASA to conduct future human exploration missions to the moon, Mars, and beyond. Testing was conducted at NASA Glenn Research Center under contract management from NASA Johnson Space Center.

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Pratt & Whitney is a world leader in the design, manufacture and service of aircraft engines, space propulsion systems and industrial gas turbines. United Technologies, based in Hartford, Conn., is a diversified company providing high technology products and services to the global aerospace and commercial building industries.



The Glenn Research Center in Cleveland, Ohio.

PWR - Buyer Profiles



Joe T. Baker

(PWR RL10 Program Senior Buyer)
West Palm Beach, FL

How long have you been with PWR and what have your roles been?

I started October 25, 1978 as a fabrication mechanic for 13 years/ Union active.

Then I supervised the shop area for eight years. I have been in Procurement from that point to date where I am currently a senior Buyer/ Planner.

My Other responsibilities within the Material Services are:

* Group and Event planner for Special Events, Employee Birthdays, Service Awards and Special Cook Outs offsite for our Department.

Where did you work or go to school before PWR?

I earned an AA degree in Business Administration from PBJC. Then a BS degree in Business Administration from Northwood University. And a Masters from the National Graduate School. My prior work was in the Heavy Construction area. I graduated from Fort Pierce Central High School in 1974

Hobbies/interests outside of work?

My hobbies are going to church, cooking, fishing, hunting, sports, dancing and traveling.



Sheridan Kahn

(PWR Expendable Propulsion Programs Buyer)
Canoga Park, CA

How long have you been with PWR and what have your roles been?

I have worked for Pratt & Whitney Rocketdyne for two years. In that time I have been a Contract Administrator for the San Jose Demolition, Decommissioning, and Decontamination Project (D3), and I am currently a Buyer in the Expendable Propulsion Program under RS-68 Procurement.

Where did you work or go to school before PWR?

Prior to PWR I worked for the Chevron Corporation in El Segundo, California. I acted as a Contract Administrator supporting Environmental and Engineering services on the refinery. Prior to Chevron, I attended Michigan State University and earned my Bachelors Degree in Supply Chain Management.

Hobbies/interests outside of work?

Here in Southern California, we are spoiled with amazing weather. Living in Michigan for a few years helped me appreciate Southern California climate even more than I always had growing up. I enjoy many outdoor activities including hiking, biking, boating, softball, photography, and any activity that I can bring my dogs along!

Enterprise Thinking Classes Now Available On-site

We would like to offer you the opportunity to participate in a revolutionary educational experience. Dr. Bill Bellows, an Associate Fellow at PWR, has been offering a class, Enterprise Thinking, to employees at Rocketdyne, as well as to supplier and customer representatives since 1993. A few years later, we opened these classes to family members as well as “members of the community” and students. “Members of the community” are individuals who are involved full or part time, or in a volunteer capacity, in community related work. Over the last two years, we have extended our efforts to include “on-site” offerings at Supplier locations across the U.S. Feedback from recent sessions is attached.

As for the seminar itself, the aim is to provide insights into “thinking, learning, and working together” that will enable improvements in the effectiveness of individuals and their organizations. Participants will gain a new and deeper knowledge of the organizational environment and connect to a growing network of participants across the U.S. and around the world who

are interested in bring the concept of thinking about systems to their organizations.

We have included a list of the classes scheduled for the rest of this year at our Canoga Park, California location. If these sessions are more convenient for you, you are welcome to attend these sessions. This registration form should be returned to us at least two weeks prior to the class you wish to attend.

There would be no cost to attendees, other than your travel expenses.

Attached are a complete course description and a short biography of Dr. Bellows.

This class is being offered as a way to share important concepts we have learned with our partners. There is no requirement to participate and for those of you who chose not to attend, there will be no impact on your relationship with PWR.

Enterprise Thinking Seminar Description



Dr. Bill Bellows

The objective of this 9-hour seminar is to explore the potential of “better thinking”, directed toward continuous investments in our products, processes, and services. These ideas will be explored through an integration of the management and thinking philosophies of Russell Ackoff,

Edward de Bono, W. Edwards Deming, and Genichi Taguchi, among many other thinking pioneers. Among the topics of discussion will be the practice of working together, learning together, and thinking together, as related to Deming’s concept of a “system of profound knowledge”. A deeper understanding of the potential of “better thinking” will provide direction for resource management and resource leadership, with applications on both a personal and professional level. The seminar will introduce you to these ideas through a series

of questions that are specially selected to create awareness of a new approach to working together.

Who is the content is suitable for?

Anyone who is concerned about improving the effectiveness of individuals and organizations will gain from this workshop and leave with new and deeper knowledge, and new connections to others.

Past participants include individual contributors, teams, senior managers, managing directors, managers, engineers, designers, university students, human resource professionals, secretaries, office administrators, purchasing agents, accountants, health care professionals, civic leaders, and professors.

Why should people attend this workshop?

In the new economy, the proficient utilization of thinking will be a necessary condition; fundamental to business competitiveness. The aim of this seminar is to elevate the consciousness of individual

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and collective thinking about sub-systems, variation, knowledge, numbers, interactions and thinking patterns.

What are the benefits for people attending?

At the completion of the seminar the participants should have the ability to better identify, characterize, and interpret the vision of seamless organizations, wherein working together follows from the ability to better learn together and think together. The objective of the workshop is to explore the potential of “better thinking” directed toward continuous investment in our products and processes.

Seminar Leader - Dr. Bill Bellows is an Associate Technical Fellow in the Enterprise Thinking Network at United Technologies’ Pratt & Whitney Rocketdyne business unit in Canoga Park. Bill is known within Pratt & Whitney Rocketdyne and his previous employer, Boeing, and for his efforts to provide insights to the advantages of thinking together, learning together, and

working together. Audiences for his classes have also reached after-school program in elementary schools, graduate students at Northwestern University, public workshops at the University of Richmond in Virginia and California Polytechnic State University in California, as well as, corporate, university, and public classes across the United Kingdom.

Away from work, Bill serves as a Visiting Research Fellow at the University of Leeds in England, and as a board member of the W. Edwards Deming Institute, the Volunteers of America – Los Angeles chapter. He is also a founding board member and current President of the In2:InThinking Network, a non-profit company dedicated to the pursuit of “better thinking about thinking,” for individuals and organizations. Bill earned his B.S., M.S., and Ph.D. in mechanical engineering from Rensselaer Polytechnic Institute in Troy, New York.

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This class is being offered as a way to share important concepts we have learned with our partners. There is no requirement to participate and for those of you who chose not to attend, there will be no impact on your relationship with PWR.

Senior management Quotes from Enterprise Thinking Attendees

“This workshop should be viewed by all Senior Management in our organization.”
 – *General Manager*

“A great set of ideas well presented.”
 – *University Lecturer*

“A lot of challenging thinking in a short space. Thanks for putting the brain back in gear.”
 – *Managing Director*

“A challenging workshop for extending understanding about what makes an organization successful. Powerful learning in a stimulating environment – great fun, too!”
 – *President*

Pratt & Whitney Rocketdyne
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IMPORTANT REMINDER: The Supplier Newsletter will no longer be mailed to your corresponding address; all PWR Supplier Newsletters can be officially obtained by visiting the PWR Supplier Information Center at www.rocketdynetech.com/supplierinfo/

Sign up at this Web site to receive this newsletter electronically <https://deploy.ztelligence.com/start/index.jsp?PIN=139KLM8HQWNJA>

PWR - Supplier Newsletter

Summer 2009

Attendance Form – Enterprise Thinking Seminar

Fax completed form to Kim Carrell at 860-622-0388 at least two weeks prior to the session you wish to attend.

Company Name: _____

Address: _____

City, State, Zip: _____

Indicate which session you would like to attend:

Schedule for Enterprise Thinking classes in Canoga Park

Location: Conference Rooms 205 and 206 at in building 1 at the Canoga facility

Class #	Part 1	Part 2	Time
_____ CP-611	28-Sep-09	29-Sep-09	7:00-11:30am
_____ CP-613	21-Oct-09	22-Oct-09	7:00-11:30am
_____ CP-615	16-Nov-09	17-Nov-09	7:00-11:30am
_____ CP-617	17-Dec-09	18-Dec-09	7:00-11:30am

Name: _____

Title: _____

US Citizen? Yes No

Please complete a separate form for each person that will attend.