



## CANARD ROTOR WING (CRW) X-50A DRAGONFLY

**Date:** Thursday September 9, 2004  
**Time:** 7:00 pm Meeting  
**Location:** APS Building, Room 2 South  
(NE Corner of the Arizona Center)  
**Cost:** The Meeting is Free  
(Cookies and Sodas will be provided by the section)  
**RSVP:** Please RSVP (see below) by Sep 7th  
so we may plan appropriately

Preceding the Meeting there will be a group meeting at 5:30 pm for Dinner at Mi Amigos in the Arizona Center. You will be responsible for the cost of your own dinner. We will be able to validate Arizona Center parking tickets at the meeting.

Please RSVP To: Mark Jones  
Phone: 480-759-2958

Email: [jonesm1@asme.org](mailto:jonesm1@asme.org)

**Before noon Tuesday September 7th**

Leave a message with the number in your party, a phone number at which you can be reached and if you are also planning to meet for dinner preceding the meeting.



Boeing's Canard Rotor Wing (CRW) is the next generation high-speed, vertical takeoff and landing aircraft. Now in development, the CRW represents a transformational technology that combines the low disk loading hover efficiency and low-speed flight characteristics of a helicopter with the high-subsonic cruise speed of a jet powered fixed-wing aircraft. A major advantage of the CRW is achieved by using a unique reaction-drive rotor system, eliminating the need for the heavier and more complex mechanical drive train, transmission, and anti-torque system found on most helicopters. A stoppable rotor/wing is the other key technology underlying CRW. At conversion speed, the canard and lifting horizontal tail reduce the rotor thrust to zero, allowing the rotor to be stopped in a benign condition, permitting fixed wing flight. In 1998, Boeing and DARPA entered into a joint agreement to fund a program to design, build, and flight demonstrate a proof-of-concept CRW air vehicle. The unmanned demonstrator, known as the X-50A Dragonfly, began flight operations in late 2003.

Clark Mitchell's professional experience includes sixteen years at Boeing Rotorcraft Systems in Mesa, Arizona, as well as two years at Bell Helicopter Textron in Fort Worth, Texas. Clark is currently assigned as the Program Manager for the Canard Rotor/Wing X-50A program; prior to this assignment, he served as the X-50A Systems Integration IPT Leader for three years. The X-50A Dragonfly is an Advanced Technology Demonstration (ATD) program with the primary goal of demonstrating stopped rotor conversion in flight; the program is currently in the flight test phase.

Clark's career at Boeing has been within the Phantom Works division, working on advanced technology programs have been in the areas of air methods and tools development, serving as the Principal Investigator for program, and functioning as the lead program manager, which include the Medium Lift Replacement Helicopter, NASA High Speed Rotorcraft, Apache Growth Studies, Enhanced NBC Initiative, and the Safe, Survivable, and Supportable program.



**Clark Mitchell**  
PROGRAM MANAGER  
CANARD ROTOR/WING X-50A DRAGONFLY  
**BOEING ROTORCRAFT  
SYSTEMS MESA, ARIZONA**

mainly been within the Phantom Works division programs. His primary responsibilities on these programs include configuration design / integration, and Clark's previous program assignments include the Boeing Integrated Helicopter Design Tools configuration design engineer for numerous programs.



## Chair's Message

Greetings Arizona Section of ASME! We have a year full of fun and interesting programs planned starting off with the September meeting on Boeing's Canard Rotor Wing Aircraft.

We will once again be holding our meetings at the APS building at Arizona Center. There will be no charge to attend the program and the section will provide cookies and sodas. There

will be an optional dinner at one of the local restaurants - order off the menu and pay for you own meal. We will kick off with dinner at Mi Amigos at Arizona Center.

We are also continuing our longstanding tradition of holding Programs on the second Thursday of each month from September thru May - so mark your calendars!

I also wanted to tell you about the new ASME Communities of Practice (CoP). ASME has set up an internet sight where members with similar interests can find each other and share ideas and information. I think this is one of the

best things that ASME has offered its members in many years and I would encourage you to surf on in and take a look. I would also like to invite you to join the Arizona Section community I established. I will keep the latest section information available on the page as well as take polls for input from the members. The Current poll is on what type of event Arizona members would be most interested in attending. Go to cop.asme.org and join! There is no charge.

*Terri Taylor*

Chair, Arizona Section ASME

## New Data Network Monitors Flows On Power Grid

A year after the devastating Northeast-Midwest blackout of 2003, a Department of Energy Laboratory has developed the first comprehensive, real-time database for monitoring the nation's power grid, and will bring it online in the Eastern United States shortly. The Eastern Interconnection Phasor Project will "go live" this summer providing the first real-time, system-wide data to utilities and transmission operators within the Eastern power grid.

"If this system had been in place last year, it may have helped system operators take steps to avoid the August 14 blackout," said Matt Donnelly, EIPP project lead at the Department of Energy's Pacific Northwest National Laboratory.

utilities, system operators, vendors and power system reliability councils working together to put the integrated network in place.

"The project is about gathering and sharing information to provide complete coverage of the power grid in the eastern U.S.," said Donnelly. With each incremental addition to the EIPP net-

Even though the transmission system is interconnected to route electricity between utilities, information has not been efficiently shared between those organizations. As noted by the U.S.-Canada Power System Outage Task Force on the August 2003 blackout, there has been "no consistent means across the Eastern Interconnection to provide an understanding of the status of the power grid outside of a control area."


"If operators can see a disruption or failure occurring elsewhere in the region, they can take actions that will potentially prevent a cascading loss of power from one system to the next," said Mike Ingram of the Tennessee Valley Authority. "They may be able to re-route transmissions or bring extra power generation online."

To get this data, new measurement technologies employing satellite-based time clocks are being installed at key locations on the grid to measure power flows in real time. The precise time clocks along with sophisticated signal processing allow

the meters to provide more information than can be derived from traditional instruments. EIPP participants believe the additional information can be used

*(Continued on page 3)*

### Brain Teaser



You are in a room that is an 8x8x8 perfect cube. There are no windows, or doors (don't ask me how you got in there!) In the center of the floor there is a 12 inch pipe that is sticking 6 inches out of the floor. In the bottom of the pipe is a ping pong ball with a diameter that is one millimeter smaller than the inner diameter of the pipe. You have a 12 inch piece of string, a match, a magnifying glass, a 6" ruler and a paper clip. How do you get the ping pong ball out of the hole?

This month's Brain teaser is brought to you by Braingle.com

ANSWER

PNNL manages the project for DOE as part of the Consortium for Electric Reliability Technology Solutions. CERTS members also provide technical support to an independent EIPP Work Group - a collaboration of

work, the equipment and software that has been installed will provide operators with a big picture of the grid over the eastern half of the country, referred to as the Eastern Interconnection.

## ASME Communities of Practice

ASME is offering a new tool to help you get the technical answers you need and meet others with similar interests and concerns -- the ASME Communities of Practice site. The Communities of Practice (CoP) are replacing the ASME Forums with more features and functions, to make it easier to contact others and share resources. ASME's

Communities of Practice is an online interaction tool designed with mechanical engineer's needs in mind: links to helpful resources, industry news and, more importantly, solutions and ideas from peers. It's much more than discussion boards, because there are many tools integrated into this site to help Communities of Practice members connect with each other. Access to the Communities of Practice site is open to both members and non-members of ASME.

<https://cop.asme.org/COP>

*(Continued from page 2)*

to help improve grid reliability.

Data concentrators then collect and integrate the precision data and disseminate it to participants, while software analysis tools make sense of the real-time monitoring.

DOE began working with major Eastern Interconnection utilities and independent system operators to develop a monitoring system in the fall of 2002 and began installing equipment in the fall of 2003.

The project builds on PNNL's 10-years of experience developing a similar measurement and analysis system for the Bonneville Power Administration and utilities in the Western United States.

Initially, control centers near St. Louis; Columbus, Ohio; Chattanooga, Tenn.; New Orleans and Schenectady, New York, will be linked through the EIPP and will start sharing information this month.

## Standards Development Organization Advancement Act Passed

On June 2, the House of Representatives unanimously passed the **Standards Development Organization Advancement Act** (H.R. 1086), which would exempt standards development organizations (SDOs) that comply with certain Department of Justice registration rules from the treble damages provisions of U.S. antitrust laws.

The Senate passed the bill in April. ASME and other major standards developers have sought passage of the bill for more than three years, because not-for-profit organizations by definition cannot benefit from any violations of the antitrust laws. The bill expressly excludes from coverage any for-profit entities, and their agents, that might stand to benefit from a violation of existing antitrust laws through abuse of the standards development process. Contact: Francis Dietz at [dietzf@asme.org](mailto:dietzf@asme.org).

The EIPP project is expected to cover and connect most major eastern U.S. corridors by the end of 2005. Together, participating utilities have invested about \$1 million toward this effort and DOE has provided about \$750,000.

"DOE and the utilities are aggressively responding to recommendations in the blackout report and we're expecting that the EIPP will play a key role in preventing a repeat of last summer's blackout," said Donnelly.

Utilities participating in Phase One of EIPP include Ameren, American Electric Power, Entergy, the Midwest ISO, the New York ISO with the New York Power Authority, and the Tennessee Valley Authority.

PNNL is a DOE Office of Science laboratory that solves complex problems in energy, national security, the

## ASU ASME 2004-2005

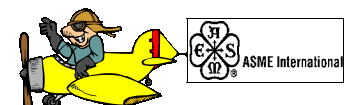
This is a new year with a fresh administration. I am David A. Breeze, the newly elected Chair of ASU ASME for the up coming year. This year we are going to try to plan out the biggest event ASU ASME has had in a long time. In the spring the organization will be having a career fair and resume workshop to be held on February 12, 2004 for all of the Mechanical and Aerospace Department. The beginning of the year has had its challenges with a limited number of officers returning, and good tours and speaker contacts in short supply. However, after attending the freshman orientation on August 19, 2004 it looks promising. With new faces coming in and a big event for the spring this year looks to be a memorable one.



David A. Breeze  
ASU ASME Chair  
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environment and life sciences by advancing the understanding of physics, chemistry, biology and computation. The lab has been managed by Ohio-based Battelle since its inception in 1965. <http://www.pnl.gov/news>

Francis Dietz handles public policy-related energy issues for ASME. He can be reached at [dietzf@asme.org](mailto:dietzf@asme.org).





# Your Section Executive Committee and Operating Board for '04 -'05

## 2004-2005 Executive Committee

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**Vice-Chair** - Joe Howard  
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**Treasurer** - Markland (Mark) Jones  
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**Secretary** - David Highfield  
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**Past Chair** - Eric Smith  
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**Director 02-05** - Vacant

**Director 03-06** - Boris Bolf  
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**Director 04-07** - Dick Johnson  
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If we can help you, please feel free to contact us. We look forward to serving the AZ Section members.

## 2004-2005 Operating Board

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Newsletters are Available on the Arizona Section ASME Web Page



[www.asme.org/sections/AZ](http://www.asme.org/sections/AZ)

## REGION XII

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ASME International

The following has been quoted from the Constitution of the American Society of Mechanical Engineers. Revised to October, 1991.

C5.1.2 The provisions of the Constitution, By-Laws and Policies and Procedures established by the Board of Governors of the Society shall govern the procedure of all components of the Society but no action or obligation of such components shall be considered an action or obligation of the society as a whole. This provision shall be imprinted on any publication issued by such components.

Page	Article
September Meeting	1
Chair's Message	2
New Data Network	2
Brain Teaser	2
CoP	3
SDO Advancement Act	3
ASU 2004-2005	3
Executive Committee and Board	4
Arizona ASME Web Address	4
Calendar of Events	4

September, 2004

## 2004-2005 Calendar of Events

Sep 7	Board Meeting -APS Building
Sep 9	<b>Canard Rotor Wing</b> – APS Building
Oct 1-2	<b>MTS</b> - Salt Lake City, UT
Oct 12	Board Meeting -APS Building
Oct 14	<b>Gas Turbine</b> - APS Building
Nov 9	Board Meeting -APS Building
Nov 11	<b>Mars</b> - APS Building
Dec 7	Board Meeting -APS Building
Dec 9	<b>Holiday Party</b> - TBD
Jan 11	Board Meeting - APS Building
Jan 13	<b>TBD</b> –TBD
Feb 8	Board Meeting -APS Building
Feb 10	<b>Honors &amp; Awards Banquet</b> –TBD
Feb 20-26	Engineer's Week
Mar 8	Board Meeting -APS Building
Mar 10	<b>TBD</b> - TBD
Apr 12	Board Meeting -APS Building
Apr 13	<b>Industry Breakfast</b> - TBD
Apr 14	<b>TBD</b> – TBD
May 10	Board Meeting -APS Building
May 12	<b>Steak Fry</b> -Pera Club

