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## Wright State University Partners with Beville Engineering to Create Center for Operator Performance

**DAYTON**, **Ohio**, **March 5**, **2007** – Wright State University announced today it has formed the Center for Operator Performance, an alliance of academic and process companies to research generic issues facing the petrochemical industry in the area of human factors and operator performance.

The Center for Operator Performance was created to provide an open forum for the identification, analysis, and dissemination of research in areas such as selection/training, interface design, decision aides, simulator effectiveness, automation, procedures, performance measurements and control room design. Wright State has partnered with Beville Engineering, a Dayton human factors engineering consulting company, to establish the Center.

The Center for Operator Performance serves the needs of member organizations by contracting with universities and engineering organizations to conduct research that addresses the common issues facing the petrochemical industry. It will conduct training workshops to demonstrate methods to implement research findings and will act as a repository for human factors data in process control.

A pilot project on the nature of operator expertise was conducted in the fourth quarter of 2006, with sponsorship from BP, Flint Hills Resources, Marathon Pipeline, NOVA Chemicals, ABB, Emerson and Suncor Energy. Upon review of the results of the pilot study, the decision was made to proceed with the Center.

Wright State's College of Engineering and Computer Science is a leader in engineering education and innovation. The college is committed to advancing technology to spur economic growth through training students for high-tech jobs and commercializing new technology for the marketplace. It offers nine undergraduate programs and graduate education through the doctorate level, including a master's degree with a concentration in human factors engineering and a doctorate degree in engineering with a focus on industrial and human systems.

Wright State faculty members in both engineering and psychology conduct extensive research in human-computer interaction, operator modeling, decision support systems development and display design. The Psychology Department offers masters and doctorate degrees in human factors and industrial/organizational psychology. Students and faculty have access to state-of-the-art laboratories and a wide-range of computer systems and network resources.

David Strobhar, chief executive of Beville Engineering, said, "High cost and high risk decisions are being made in the absence of industry-specific data on petrochemical operations. Since no single company can afford to tackle these issues on its own, it made sense to combine our resources into one highly-focused entity. Employing the 'sum is greater than the parts' strategy, the Center for Operator Performance hopes to accelerate the means to quantify the nature of operator performance for member organizations in a cost-effective manner."

Mr. Strobhar presented information about the Center for Operator Performance at the National Petrochemical and Refiners Association Technology Forum in Phoenix, Arizona, on October 10, 2006. In his address to several hundred engineers and technology specialists, he noted, "Companies are spending millions of dollars on technology to enhance operator performance with little understanding of what makes a good operator and without the means to quantify the impact of their expenditures."

By sharing the costs of research and development, the Center for Operator Performance seeks to add collective value to the industry. Accordingly, it endeavors to: find methods to enhance operator performance; facilitate an open dialogue about industry issues; share the costs of finding solutions to mutual challenges; exchange knowledge and ideas about human factors efforts in other domains; provide access to relevant human factors data and training for plants.

Cliff Pedersen, manager of product production processes for Suncor Energy Inc., said, "We are pleased to be part of this long overdue and much-needed organization. For many years our engineers have done their best to design effective process monitoring and control systems, but they were only intuitively aware of human factors and its effects on our operations. This new consortium gives us all the opportunity to collaborate with researchers, industry leaders, suppliers and each other not simply to help our own operators to run our process units better, but also to achieve improved safety and environmental performance of both our operating plants and new projects. That knowledge will undoubtedly benefit us all."

Petrochemical plants, like other complex, dynamic systems, depend heavily on human operators playing a significant role in the safe and efficient operation of these systems. Understanding the role of human operators - identifying the spectrum of skills and knowledge they need for improved performance, and effectively designing, implementing, and testing decision aids, displays and training systems - requires an industry/academic collaboration focusing on research challenges grounded from an operational perspective.

"The Center for Operator Performance is an exemplary partnership between petrochemical operating companies, distributed control system suppliers and human factors engineering companies focused on high-quality, interdisciplinary research and education on human operator performance," said Professor S. Narayanan, chair of the Department of Biomedical, Industrial and Human Factors Engineering. He added, "The Center presents an excellent opportunity for WSU students and faculty members in both engineering and psychology to apply their human factors expertise to further the state-of-the-art knowledge in practice aimed at increased safety, reduced environmental impact and efficiency in the petrochemical industry domain."

Mr. Strobhar added, "The Center for Operator Performance is an industry-academia collaboration designed to conduct research that directly benefits the process control industry and informs decision-making. Such an organization provides an open forum for operating companies, control system suppliers and other organizations concerned with human performance to collaborate on issues related to operator performance and plant safety. This is healthy not only for businesses individually but also for the petrochemical field collectively. Everybody wins."

All companies are eligible to join the Center for Operator Performance, including refineries, pipe lines, process plants, mills and suppliers. To learn more about the Center, become a participating member, suggest a research need or view research results, visit <u>www.operatorperformance.org</u>.

## **About Wright State University**

Wright State University is named after the inventors of powered flight, Orville and Wilbur Wright, and carries on their tradition of innovation. The university, now celebrating its 40th anniversary, offers more than 100 undergraduate programs and nearly 50 Ph.D., master's and professional degrees. Some 17,000 students are enrolled in colleges and schools in the academic disciplines of business, education and human services, engineering and computer science, liberal arts, nursing and health, science and mathematics, graduate studies, medicine and professional psychology. For more information about Wright State University, visit www.wright.edu.

## About Beville Engineering, Inc.

Beville Engineering, Inc., formed in 1983, provides state of the art human factors engineering technology to the petrochemical industry. Human factors engineering is the scientific discipline dedicated to improving the human-machine interface and human performance through the application of knowledge on human strengths, weaknesses, and characteristics. Beville offers its customers an objective look at the human factors of plant operations that is backed by over 20 years of experience and data from more than 350 projects. Beville is a company dedicated to identifying and solving difficult human performance problems. For more information about Beville Engineering, visit <u>www.beville.com</u>.