



# Integrated Quality Approach Delivers Client Satisfaction

## World Energy interviews Lee Kupfer, director, Quality and Change Management, at B&V Energy

Over the past two decades, the quality movement has evolved beyond the concepts of quality assurance and quality control. Helping drive this evolution has been a growing awareness of the need to continuously improve the processes that impact quality, coupled with an increasing emphasis on customer satisfaction. An example is the ISO (International Organization for Standardization) 9000 series of quality management standards. Another is Six Sigma, now a widely used methodology that Motorola first developed in the 1980s to improve its business by minimizing defects in core processes. To see how one company has uniquely integrated continuous improvement into its approach to quality management, World Energy met with Lee Kupfer, director, Quality and Change Management, at B&V Energy.

**World Energy:** What is different about B&V Energy's approach to quality?

**Lee Kupfer:** First, let me tell you what triggered a new approach to quality at our organization. In 2004, as our leadership planned for a period of rapid growth in our global energy business, Ron Wood, the president and CEO of B&V Energy, recognized the need to emphasize quality and efficiency. He saw that efficient, well-defined and controlled processes and tools would be critical to assimilating over a short period of time a growing workforce into our organization's globally dispersed offices. Rapid growth in our global workforce would create special challenges related to the transfer of data and access to software applications. In short, we needed a robust and proactive approach to quality that would support our commitment to excellence and leverage our resource growth.

**World Energy:** What was the solution?

**Lee Kupfer:** All work is a process, with each activity or step in a process contributing to the end result. Part of quality management is checking your process, and we have a thorough, well-established quality management system, or QMS, to ensure we are meeting our process requirements. Quality is also about doing things right to begin with, which requires using well-defined processes consistently, in every office, and proactively driving continuous improvement. That is partly why, a couple of years ago, B&V Energy established an organization for chief

engineers. Engineering is our core competence; therefore, our engineering processes are absolutely critical to our success in terms of serving the needs of our clients. The organization is responsible for ensuring we meet our quality objectives and improve our processes proactively. Our Six Sigma and QMS teams help lead the continuous improvement effort by supporting our Chief Engineers Organization, other process owners in our energy business and corporate improvement initiatives.

**World Energy:** How are you integrating these parts?

**Lee Kupfer:** While standards and methodologies are vital, people ultimately create quality. Excellence can be achieved when people are given opportunities and are empowered to drive quality, including continuous improvement, into their work processes. We have tailored our approach by focusing on the people who own processes in our organization. First, we identified our major processes and process owners; we used our Six Sigma and QMS teams to train the owners in defining, measuring, analyzing, improving and controlling their processes. Working with our QMS and Six Sigma teams, owners are accountable for process effectiveness, improvement and change, as well as meeting our clients' changing market needs.

**World Energy:** How is quality managed on your projects?

**Lee Kupfer:** To ensure independent decisions and effective



**Energy**



**Water**



**Information**



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quality control, quality assurance is driven at every critical level within the project team. An independent quality manager, who has the authority to ensure QMS is functioning according to plan and meeting the project goals, provides the necessary oversight. We also conduct supplier and subcontractor surveillance to catch and reject any non-conforming product or process. Additionally, our process owners view the project team as a customer – providing input to help monitor their processes, identify areas for improvement and help implement and sustain continuous improvement.

**World Energy:** Is Black & Veatch ISO certified?

**Lee Kupfer:** Entities of Black & Veatch have been certified at times, and when certification is necessary to do business in certain segments of our markets, the right entities will obtain certification. ISO certification can be misleading. While there are companies that provide certification in ISO standards, the ISO organization is not in the certification business. Compliance is the real test, and Black & Veatch is compliant with ISO 9001:2000 and ISO 9004:2000 standards.

**World Energy:** When did Black & Veatch adopt Six Sigma?

**Lee Kupfer:** In 2003, Black & Veatch's Energy business was among the first major engineering, consulting and construction companies to implement Six Sigma as its primary method for continuous improvement. Our deployment of Six Sigma's rigorous improvement methodology focuses on reducing the variation in critical project processes, which increases our ability to consistently meet project requirements and deliverables.

**World Energy:** Has Six Sigma been effective for you?

**Lee Kupfer:** Six Sigma uniquely combines the drive to understand the client's needs with the use of objective data, to continuously improve our key business and engineering, procurement, construction and start-up processes. As a result, we are reducing costs and increasing productivity, as well as improving our quality. Since adopting Six Sigma, we have completed dozens of improvement projects that are delivering significant value to our clients, partners and shareholders.

**World Energy:** What's the best way now to describe B&V Energy's overall approach to quality?

**Lee Kupfer:** We understand quality is embedded in our processes. Our belief is that by defining, measuring, analyzing, improving and controlling our project-critical processes, we can manage quality most effectively. In short, we can achieve excellence, which is the foundation for client satisfaction. That is why we are committed to ensuring our

people have the capability and responsibility to perform their work with a personal commitment to achieving a project's quality objectives, while also identifying opportunities for continuously improving the processes they use.

*Lee Kupfer is a senior vice president and director of B&V Energy Quality and Change Management. He directs the Quality Management System Department, Six Sigma Team and Chief Engineers Organization. B&V Energy, coupled with B&V Construction & Procurement, provides engineering, procurement and construction services for all energy-related projects, including electric power stations, power delivery, and gas and chemicals projects. Mr. Kupfer joined Black & Veatch in 1975 as a structural engineer after graduating with a B.S. in civil engineering from the University of Missouri and serving in the military. He has been associated with projects for the electric utility industry throughout his career.*

## About Black & Veatch

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Our clients have many challenges and needs, some common, others unique. In every instance, we bring it all together – our global resources, project execution excellence, innovative solutions, commitment to quality and integrity of service – to deliver performance, price and schedule certainty as well as sustained value. We are a leading global engineering, consulting and construction company specializing in infrastructure development in energy, water, information and government markets. Founded in 1915, Black & Veatch develops tailored infrastructure solutions that meet clients' needs and provide sustainable benefits. Solutions include conceptual and preliminary engineering services, engineering design, procurement, construction, financial management, asset management, information technology, security design and consulting, environmental and management consulting services. An employee-owned company, we have more than 90 offices worldwide. Black & Veatch is ranked on the Forbes "500 Largest Private Companies in the United States" listing.



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**For further information, contact:**

**Black & Veatch**  
11401 Lamar Avenue  
Overland Park, KS 66211  
Tel: (913) 458-2000  
Fax: (913) 458-2934  
www.bv.com