

2003 Showcase in Excellence Awards Recipient

Boeing-Mesa Process Approach to ISO Compliance



Boeing-Mesa:

Highest Ranking Official:
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Type of work:
Boeing-Mesa's principal lines-of-business is producing the AH-64D Apache Longbow Attack Helicopter for the US Army and international customers. The Mesa site also reconfigures older versions of the AH-64A model Apache Helicopters with newer electronics, and avionic systems. Boeing-Mesa contains the finest helicopter simulation facilities as well as high-technology research and a state-of-the-art manufacturing center. Also on-site is the Electrical Product Center which produces electrical assemblies for the Boeing family of products and for external customers.

Workforce: 4100

Testimonial of Value of Arizona State Quality Awards Program:

“Having an independent review of our processes validates the current strategic direction Boeing-Mesa is pushing business excellence, while the ideas we gathered from the assessors steer us in new directions to investigate additional opportunities” – Danette Harris

Highlights of Process Approach to ISO Compliance:

Boeing-Mesa's quality management system has been registered to the ISO 9001 / AS9100 quality management system standards since 1996 (2000) and is contractually required to maintain this registration for all major products. Before 1996 Boeing-Mesa was required to comply with numerous Military standards and we (and the military) validated Boeing-Mesa processes to those numerous standards. After substantial research funded by the United States Government revealed much of the military product cost was driven by the rigid application of these Military standards; Boeing-Mesa proposed to the Under Secretary of Defense a newer concept. Boeing-Mesa would serve as a laboratory (one of the few Best Practice Laboratories) to investigate the viability of eliminating the strict application of Military standards and their replacement with comparable commercial standards. For the quality processes this commercial standard was ISO 9001:1994. Early on in this project Boeing-Mesa developed an approach to ISO compliance which focused on business value. This would contribute to our country by providing the same high quality part at a lower cost. In other words the Quality System infrastructure needed to improve the way we managed our business, not just comply with specific ISO 9001 requirements. In 2000 ISO 9001 was revised (AS9100 in 2001) to place more emphasis on an overall management system process approach. Compliance to the revised standards could have been achieved via a quality system overlay on our existing business system; however, this minimalist approach would add cost to our business and products without the expected gains in effectiveness and efficiency enabled by a valid process approach. Consequently, Boeing Mesa developed a lowest cost/ highest returns method to transition our quality system - emphasizing consistent predictable performance exceeding compliance.

The resulting quality system was deployed through process owners who are responsible, individually and collectively, to design, integrate, measure and educate the process performers/users. Additionally, the process owners know the provisions of the quality standards they must satisfy through their processes. They are directly responsible for quality system compliance as well as the consistent site-wide performance of their processes.

Process measurement and monitoring is imperative - each process owner measures characteristics that are critical to their customers (C(y)s – measures of key process deliverables) and to business performance (B(y)s – e.g., overhead, cost vs. budget). These measures roll-up to site measures relating to business goals and objectives and ultimately to company goals and objectives. Management and employees use this information to understand how the business is performing and how they impact that performance. Metrics are displayed in control charts that enable process owners to identify trends and statistical out-of-control conditions. The quality system is measured as an aggregate of all site processes, and individually in terms of Performance, Compliance, Customer Satisfaction, and Delivered Quality.

A website, the Enterprise Value Stream Process Management, is a tool developed to enable process and system management and to dynamically demonstrate site compliance to ISO 9001:2000 / AS9100:2001 to our third-party registrar, NQA, USA. It comprises the Mesa site quality system and serves as the site Quality Manual. This website contains over twenty (20) screens and is a repository for all process information. Maintenance of the following process data is distributed to the process owners who manage those processes:

- Process definition – SIPOCs and flow
- Sequence and Interaction definitions
- Metrics
- Compliance Summaries
- Procedures listings

Finally, understanding the relationship of individual processes and the entire system helps us prioritize localized improvements to obtain predictable system performance.

