The Process and Development of a Holistic QMS Standard for the Gas and Oil Industries

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Agenda

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- Quality Management Standards Criteria
- Development Process
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The goal of the project is to develop a single Holistic QMS Standard derived from the best practices of various existing QMS Standards currently available to the project team.
• This presentation will provide a detailed description of the methodology that was used in reviewing the various quality management system standards currently applicable to the gas and oil industries.
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<th>Project Participants</th>
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<tr>
<td>Afaq Ahmed</td>
<td>Saudi Aramco</td>
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<td>Dupe Bewaji</td>
<td>Union Gas</td>
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<td>David Cole</td>
<td>DTE Energy</td>
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<td>Alex DeHart</td>
<td>Exterran</td>
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<td>James Gooding</td>
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<td>Lynda Harned</td>
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<td>Michael Ling</td>
<td>BP</td>
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<td>Barry Rittberg</td>
<td>Fluor Corporation</td>
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<td>Denise Spadotto</td>
<td>Union Gas</td>
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<td>Chartel Weeden</td>
<td>Regulatory Consultants, Inc</td>
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Upfront Project Assumptions

• The Holistic Quality Management System would be “requirements” based
  – We would not be using “Criteria-Based” systems i.e. Malcolm Baldrige
  – Since Continuous Improvement is imbedded in many of the standards, we would not be creating individual clauses for;
    • Lean Practices*
    • Six Sigma*
    • Toyota Production System Methods*

*Note: Even though the presentation author loves these tools!
Process Scope

• The Holistic Standard is applicable to all stages of gas and oil production

For natural gas industries this includes from “wellhead to burner tip”
Process Scope

- The Holistic Standard is applicable to all stages of gas and oil production

For the petroleum industries this includes from “drilling to your gas tank”
Quality Management Standards Criteria

- Summarized Outcome
  - The Committee found that Quality Standards cover a number of common areas;
• An expansion of our scope was required
  • Other standards include:
    – QMS requirements specific to Petroleum, Petrochemical and Natural gas industries
    – Safety and Loss Management Systems – Risk Management and Minimization
    – Specifications for Petroleum, Petrochemical and Natural Gas Industries – Organizational Requirements –API Q1
    – High pressure equipment requirements
    – QMS requirements for Biodiesel producers
• The collection of QMS standards was relatively simple.
  • The comparison process involved the heavy lifting
Development Process

ISO 29001-2007
Quality management systems — Requirements

ISO 9001-2000
Quality management systems — Requirements

API Q1 7th Edition
Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry

1.1 General This International Standard specifies requirements for a quality management system where an organization a) needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements, and b) aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable regulatory requirements. NOTE In this International Standard, the term “product” applies only to the product intended for, or required by, a customer.

Excel became the method of capturing all of the standards and their respective clauses
### Development Process

- **Contrasting and Comparing Clauses**

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Development Process

- Contrasting and Comparing Clauses

High level of overlap
Reconciling Clauses Between Standards

• A number of methods were used to arrive at the holistic solution
  • Eye-Ball Method (Manual)
    – Simple review of the Excel spreadsheet
  • Excel Tools – Tools/Compare and Merge Workbooks
    – This acts as a QA Control Point
  • Duplicate Remover for Excel (Add-in)
    – Additional QA Control Point
Reconciling Clauses Between Standards

• Positive and Negative Impacts
  – Positive
    • All participants of this project are experts in their respective fields
      – Access to quality management system materials
  – Negative
    • Committee participants are limited within their own sphere of quality management standards expertise
      – We may have an incomplete list of all of the pertinent QMS standards due to our own team’s limitations
Preparing the Final Product

• Current Trends in QMS Development
  – The “traditional” development of the Quality Manual is expanding and integrating into related fields
    • ISO14001:2004 - Environmental management systems -- Requirements with guidance for use
    • OHSAS 18001 :2007 - Occupational health and safety management systems
  – Many companies are integrating all three standards into a single management system
    • Reducing complexity of documentation control
    • Reducing standard implementation and training costs
    • Reducing third party certification and surveillance audit costs
Preparing the Final Product

- Completion of the basic holistic standard:
  - Titled: Best Practices for a Quality Management System (QMS), Safety and Loss Management System (SLMS) and / or a Risk Management System (RMS)
    - Written at the main clause level with sub-clause requirements included.
      - Includes Conventions Used, Definitions, Revision History
      - Excludes Normative References
Conclusion and Benefits

• The Holistic QMS Standard developed is heavily dependent on the ISO29001/ISO9001/API Q1/Z662-07 Standards
  – This is just one potential outcome based on the teams choice of QMS standards
    • There is plenty of room for improvement
    • QMS standard development is an on-going process

• The Benefits
  – The Holistic Quality Management System standard developed can be used by those organizations desiring a QMS but are not pursuing formal certification
    • It can act as a starting point in implementing a QMS
    • Provides early stage exposure for the workplace in QMS methods
Conclusion and Benefits

- The final product has been influenced by;
  - TC 67 - Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries
    - This standard was the basis in the development of ISO 29001
    - Additional benefits are derived from drawing on the work of this technical committee

ISO9001:2000
ISO29001:2003
ISO29001:2007
API Q1
CSAZ662-07
DIRECTIVE 97/23/EC
BQ 9000
Conclusion and Benefits

- The Holistic QMS Standard agrees with the TC 67 “Motto”

*Do it once,*

*do it right,*

*do it internationally!*
Questions and Answers?

• The Gas and Oil Committee thanks you for attending this presentation!