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Competency Management in Well Operations

The Value of Competency Management Systems

Competency management is not a new concept in the oil and gas industry, and many companies operating in the upstream industry have had their own versions of a Competency Management System (CMS) for many years. The term CMS has also been adopted to describe various efforts that address competency management. This can lead to confusion when trying to promote cross industry sharing of best practices and lessons learned.

Implementing a CMS can be of substantial value to an organisation by positively affecting personnel retention, job satisfaction, safety metrics, performance standards and revenue efficiencies.

In order for operational organisations to benefit from a CMS, it should ensure that the design of the CMS is aligned to its business strategy and that the CMS is carefully implemented and maintained. The potential positive benefits occur at different organisational levels, including:

Tactical level – improvements in safety culture, personnel retention, and recruitment reputation. Personnel participating in competency programs were significantly less likely to be involved in incidents. Decision making in critical situations was significantly improved for personnel having completed competency programs.

Personnel responded positively to having clear and defined standards of work for their current position, including development and succession opportunities. This, together with the improved safety performance and culture, can be attributed to lowering attrition rates, and the organisation being considered more attractive to new recruits.

Operational level – improvements in operational systems, increased operational efficiency, and positive cost-benefit outcomes. Industry examples indicate that being able to clearly understand which personnel were below the required levels of competency provided organisations with the opportunity to rearrange their current talent pool to ensure operations can always be conducted safely.

Other benefits of an effective CMS include an organisation's ability to provide focused development for individuals and assess new recruits to established standards. These benefits have a direct impact on operational performance and efficiency levels due to incidents and non-productive time rates being reduced. This, together with the benefits associated with CMS regarding employees, job satisfaction, and reduced attrition rates, will positively impact the organisation's reputation and standing within the Industry.

Strategic level – improvements in organisational reputation, revenue efficiencies, and contracts. For contracting companies, having an effective CMS in place provides a level of assurance to their clients that their workforce can competently carry out the contractual obligations to their expected standard. Similarly, larger organisations with numerous contractors can have confidence in the quality of the services provided.

This is particularly true for companies that choose to pursue a third-party accreditation for their CMS. Having an accredited CMS provides benefits relating to legislative, or client audit requirements, with some organisations stating it reduced the scope of the audit, or the requirement to have the audit itself.

An effective CMS needs to include the policies and practices which describe how to identify, align, and optimise the job roles and associated competencies required to deliver the organisation's business strategy. It also provides the foundation for workforce planning, recruitment, succession, and continuous development. This is the basis for creating and sustaining a high-performance workforce. Most importantly, effective management of competency helps operational organisations have confidence that they have the right people with the right skills.

Photography courtesy of BP p.l.c.

Critical Considerations for Implementation

Once a company embarks on the path of designing and implementing a Competency Management System (CMS), there are several key factors that need to be carefully considered. Getting these factors wrong in the first place can lead to a failure of the system during and after implementation. These critical considerations are:
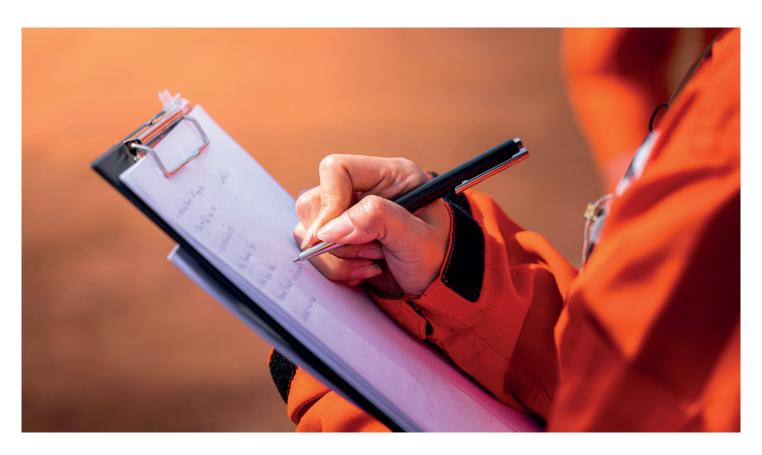
- Whether the program should be developed internally or externally
- The parameters of the pre-design research project
- The design of the program, based on the research project
- Implementation, including staff training and program launch
- Program administration and maintenance
- Third-party accreditation of an organisation's CMS

The use of internal or external resources

A critical factor that needs to be carefully considered at the very beginning of the CMS implementation planning process is to determine if the organisation has the internal capabilities to design and implement a CMS, or whether third-party expertise is required.

When determining which path to take, it is vitally important that the CMS being designed and implemented is fit-for-purpose, both from a practical delivery and administration perspective.

If it is decided that third party expertise is required, it is critical that the chosen party has proven expertise and experience in design and development of a CMS.

Some of the organisations interviewed in the preparation of this document recounted examples of how using a CMS research and design team without the necessary experience had resulted in important factors not being considered or included in the design of the CMS they had implemented. This had occurred with programs developed 'in-house' and with those designed by third-party consultants. The omission of critical elements naturally resulted in the CMS not being as effective as it could be, or in another case, facing widespread unacceptance and very low utilization, which caused a negative view of CMS within the organisation and incurred additional costs to rectify program errors and restore the institutional reputation of CMS.

In-Depth Analysis

As well as helping to determine an organisation's internal capability, conducting in-depth analysis to establish critical CMS design factors is imperative to the success of a CMS. These critical design factors include understanding business strategies, third-party accreditation requirements, CMS objectives, remit and parameters, and any geographical, language, and cultural considerations.

The results obtained from the analysis will also enable the organisation to fully understand the resources and financial requirements needed to design, develop, implement, deliver, and maintain the CMS going forward.

Although conducting the analysis may incur additional cost, time, and resources it will establish and confirm the important factors required to design a fit-for-purpose CMS and therefore provide the best benefits to the organisation.

Design and Development

Organisations who have committed to implementing a CMS that is fully integrated and aligned to their existing management systems, development and training programs have seen the greatest benefit from their respective CMS.

Therefore, for a CMS to be effective and successful it is vital that the design of the system is fully aligned to each organisation's business ambitions and strategies. The design of the CMS must also include any legislative requirements, external accreditation requirements, and considerations of regional demographics, such as differing cultures and language.

Responsibility for the management and administration of the CMS should also be factored into the design, ensuring those trusted with this responsibility have the required expertise and resources. A continuous review program should also be built into the CMS design, with its own specified processes for gathering qualitative and quantitative assessment data. This data should be regularly reviewed on both an individual and company basis so that identified areas for improvement can be fully integrated into training and development solutions.

By adopting this approach, and by ensuring the design of the CMS includes continuous data gathering and review, will help support continuous improvement within the organisation which, in turn, will increase the benefits associated with improved performance.

Several organisations relayed previous experiences where a CMS implemented in some regions had failed in others, or the system was not accepted by personnel. This was because some of the factors mentioned above had either been dismissed or not considered at all during the design stage. This led to a purchased CMS, which was too generic in nature, or had been adopted from another organisation with different design criteria and objectives.

This resulted in a perception that a CMS had no value and was a waste of time and resources, as the system implemented only provided limited results. Additional investment and resources were then required to either replace or amend the current system to make it effective.

Roll out, launch, and training

Successful implementation strategies include targeting specific levels of hierarchy across the organisation, with the relevant CMS information appropriate to each level of management.

CMS design and implementation information should initially be presented to teams at an executive and upper managerial level. This approach provides that all levels of management have a full understanding of the CMS and are better equipped to advocate for and implement the CMS.

This level of management support is critical to ensuring the CMS is embraced and accepted by the workforce as a system designed to support personnel development and a continuous improvement culture.

At this point, the CMS can be rolled out across the well operations organisation to all employees through various methods. These methods include online learning management systems (LMS), video tutorials and presentations, visits to work sites, and individual training (one-to-one coaching). The depth of the cultural change will vary from company to company.

The following list provides concerns that need to be considered when rolling out a CMS:

- Experienced personnel accepting that they now need to prove their own competency for the same position they have potentially held for years
- Demonstrating organisational commitment to a CMS and showing that this is not just the latest short-term initiative that adds additional workload
- Showing that the CMS aids personnel development and is not a ploy to identify positions to eliminate
- Ensuring managers and supervisors understand and support the CMS and allocate the necessary resources to it
- Educating the workforce about the aims of the CMS
- Understanding, respecting, and adapting to cultural/ linguistic differences and barriers

Administration, delivery and maintenance

Effective administration, delivery and maintenance of the CMS is just as critically important to the success of the system as the design, development and implementation stages. Consistency in approach should be considered a key factor so that personnel can quickly accept and adapt to the administration processes and CMS requirements. The delivery of the CMS also needs to be consistent and conducted by personnel with the right training, experience, expertise, and credibility.

The design of the CMS should have included the requirements and resources needed to effectively administer the system. The administration process should be practical in nature, whilst also ensuring the data gathered during assessments is accurate and recorded for analysis. This is particularly challenging for larger organisations with a global footprint due to geographical, cultural, and language differences. Best practice indicates that consideration should be given to a central administration processing team.

Utilising trained and fully qualified assessors ensures that not only is the assessment process carried out correctly, but that the data gathered from the assessments is as consistent and accurate as possible. It also provides the most consistent data for analysis to identify areas for improvement on an individual and company basis which supports the desired continuous improvement culture. It will also provide reliable data which can be analysed

to identify areas for improvement on an individual and company basis supporting the desired continuous improvement culture.

To achieve the desired levels of accuracy and consistency in the assessments, best practices indicates that regular standardisation meetings should be held so that assessment protocols and lessons learned can be shared between assessors.

Independent verification of the system is also important in the administration and maintenance of a CMS as this provides an organisation with an independent view of how well the system might be working and areas for improvement to ensure the CMS remains effective.

Any third-party accreditation requirements of the CMS always need to be included in the administration and maintenance of the system to enable compliance.

Accreditation

A number of well operations organisations have acquired third-party accreditation for their CMS. Some of the benefits of the third-party accreditation approach are:
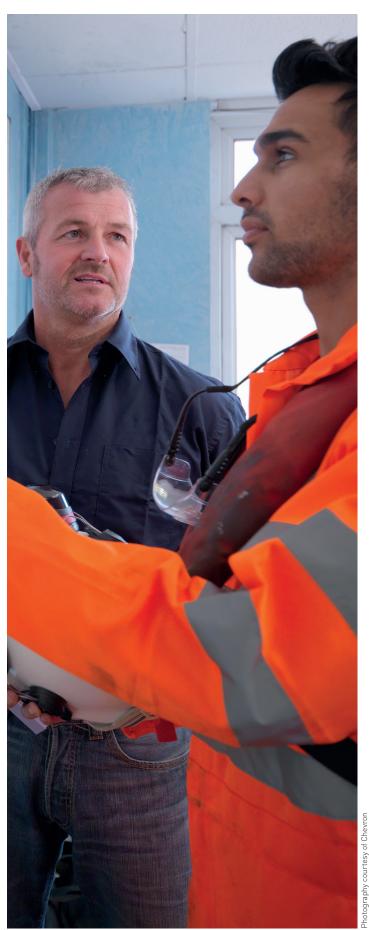
- Provides clearly defined standards and best practice
- Confirms compliance with legislative and client contractual requirements
- Provides accepted standards for client audits
- Provides sense of organisational achievement
- Potentially provides cost savings in auditing processes
- Potentially results in less frequent regulator/client audits
- Provides independent validation of the systems viability

Returns

Research on the efficacy of CMS indicates that organisations who have implemented a CMS experienced fewer safety incidents, improved operational efficiencies, and lower employee attrition rates.

There is also evidence that indicates that the greatest impact is achieved only after the CMS has been implemented and a majority of personnel have completed the assessment process.

Therefore, metrics such as Key Performance Indicators (KPIs), Loss of Containments (LOCs), Non-Productive Time (NPT), and Lost Time Incident Rates (LTIRs) should be measured against CMS participation figures to establish the effect of the system. The value of the CMS should be measured with cost benefits made from the improvements in those metrics.

Photography courtesy of Chevron

Summary

For the oil and gas industry to maintain its social license to operate, it is imperative that well operations organisations ensure that they have a competent workforce performing to the highest standards. There is clear evidence that organisations with effective CMSs have lower non-productive time and safety incident rates, and they have the mechanisms to reduce these further.

An effective CMS underpins an organisation's ability to understand the training and development requirements to achieve internal succession, and for developing effective recruitment strategies and plans to mitigate against future workforce requirements and industry skill shortages. Therefore, implementing an effective CMS is critical in being able to overcome workforce planning challenges facing the industry, whilst maintaining a competent workforce. An effective CMS can provide numerous advantages to employees, companies, and clients.

Employee advantages:

- A deeper and shared understanding of the knowledge, skills, and behaviours being measured
- Consistent and objective evaluation methods
- Outlines employee development and advancement paths within the organisation, providing an opportunity for career development
- Encourages ongoing conversations with leaders and employees regarding safety and quality

Company advantages:

- Training will be effectively monitored and used to increase the competency of employees
- Promotes the development of leaders and employees organically
- Promotes consistency in quality and safety on site
- Employee development will relate more closely to corporate objectives and strategies

- Employees that demonstrate multiple skills and capabilities are easily identified
- Development of profiles linked more closely to expectations, performance, and competency
- Increased employee retention
- Easier recruitment of qualified individuals

Client advantages:

- Promotes a safe worksite
- Promotes a competent workforce which allows for better cost control, scheduling, and health, safety, consistent environmental, and quality control
- Promotes a positive public image relating to the safety and quality of the projects
- Enhances quality of final product with trained and competent workers
- Enhances knowledge of required competency which results in increased productivity on projects
- Fully managed program to ensure workers are safe and ready for work

Additional Reference Material

Petroleum and Gas Inspectorate, Department of Natural Resources, Mines and Energy. (September 2018). *Competency standard for petroleum and gas well drilling and well servicing*, Version 4

International Association of Drilling Contractors. (April 2015). *Competence Assurance – Guidelines for Building a Successful Program*, Revision 0

International Organization for Standardization. (2017). *Petroleum, petrochemical and natural gas industries — Guidelines on competency management for well operations personnel* (ISO 17969:2017(E))