CONTRACTOR ASSURANCE SYSTEM TASK GROUP

REVIEW OF HANFORD'S iCAS MODEL

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SUMMARY:

The Hanford site includes two Department of Energy (DOE) offices that manage several prime contracts. The effectiveness of accomplishing Hanford's mission requires clear and timely communications between the various entities, all of which had appropriately implemented Contractor Assurance Systems according to their organizational needs. The variations in implementation created unnecessary inefficiencies, negatively impacted effectiveness of communications, and hindered access to contractor information and data. These weaknesses resulted in delays of communication, lack of fluency between many different systems that DOE oversight personnel needed to access, and inconsistent terminology.

DOE embarked on a path to streamline processes, improve the timeliness of communication, increase the effectiveness of oversight through improved access to data, and to reduce taxpayer expense of maintaining the numerous, archaic systems that had been used at Hanford. The outcome, of what was to become "site-wide CAS," resulted in a mutually agreed upon set of terminology across the site, standard expectations, and a common integrated platform intended to transcend contract transitions and to replace over 20 different software systems. The result of changes made by DOE and the contractors has been improved communications, greater efficiencies and transparency, and a collaborative forum for sharing best practices and identifying improvements to Contractor Assurance across the Hanford site.

PURPOSE:

This paper serves as a review of Hanford's Integrated Contractor Assurance System (iCAS) model. The review is intended to serve as a starting point for considerations regarding the implementation of iCAS, or a similar model, at the other DOE sites.

SCOPE:

The DOE Hanford site consists of two DOE Environmental Management field offices, the Richland Operations Office (RL) and the Office of River Protection (ORP). These two offices are responsible for managing six prime contractors that are involved in the mission to clean up the Hanford Site. Each of these entities are responsible for implementing DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*.

This paper discusses Hanford's iCAS system and the reasons behind its inception as an improvement in efficiency and effectiveness for timely communication, management of issues, conduct of assessments, and other functions associated with Contractor Assurance Systems (CAS). Given the elaborate nature of multiple contractors and DOE offices at Hanford, this paper also touches on the additional mechanisms implemented by DOE to ensure the inclusion of Hanford contractors during the development of the site-

wide CAS and the sustainability of the new CAS through the transition of multiple contracts.

DEFINITIONS:

NONE

NARRATIVE:

In 2017, the two DOE offices at Hanford, RL and ORP, examined CAS implementation across the Hanford site. At the time, eight separate approaches to Contractor Assurance were implemented by the various contractors and DOE offices. In support of the multiple approaches were many locally developed software systems and programs to implement common CAS requirements. Several inefficiencies and issues were evident in the varied CAS performance across the site.

The Problem

The noted difficulties involved inefficiencies and unnecessary costs incurred by DOE and their contractors. The site struggled with:

- The inventory of locally developed software was costly to maintain and was technologically outdated in most instances. Support for the different products was also inadequate.
- Trend data and decision information was untimely inefficient, and costly to produce.
- Limited access to contractor information impeded analysis and oversight by DOE.
- Manual interfaces were inefficient yet necessary because fundamental assurance system elements and data were not integrated. Separate systems inhibited the timely and efficient availability of DOE project data for site-wide trending and analysis. Effectively, the site was data rich, but information poor.
- Contract transitions created costly issues. Data migration from existing systems to new systems introduced by the new contractors can be expensive. Smaller contractors were also impacted by the inability to procure more effective systems. New learning curves for DOE oversight and contractor personnel were realized each time new contractor systems were on boarded or by individuals who moved between organizations.

While the above issues are largely associated with contract transitions or contractor approaches, they negatively affected the effectiveness of DOE oversight as well as the management of the contractors with associated costs to taxpayers. At the same time, DOE recognized an opportunity to address inefficiencies inherent in the existing federal oversight processes used for communicating issues from assessments and operational awareness activities to the contractors through Contracting Officer (CO) or Contracting Officer Representative (COR) correspondence. Oftentimes, these processes required multiple reviews that negatively impacted timely communication of issues to the contractors. These letters, in turn, necessitated the use of contractor resources to manually transcribe DOE-identified issues into their issues management process for

processing. Yet, in other cases, DOE personnel communicated information to contractors via informal processes such as e-mail and telecommunication.

Other identified inefficiencies included productivity impacts as contractor employees moved from one contractor to another, one DOE office to the other, or between contractors and DOE. The migration between organizations introduced the need for the employees to learn new terms and processes for essentially the same functions as they relate to Contractor Assurance. In addition, DOE oversight personnel needed to learn how to access and use each contractor's system to track the status of any issues of interest.

The Approach

At a high level, DOE Hanford sought to use sound business practices, innovative management approaches, and technology to reduce risks and costs associated with so many disparate systems and tools. Through this approach the contractors continued in their roles as developers and owners of their CAS.

Initial activities included extensive market research, benchmarking, development of a comprehensive phased implementation schedule, and implementation of change management. Other key activities included:

1. Procurement and implementation of a best-in-class business enterprise suite (DevonWay software application was competitively selected). Ultimately, the system came to be called the integrated Contractor Assurance System (iCAS). The iCAS construct is a cloud-based integrated information powerhouse, providing no-code configurable CAS solutions for DOE and individual contractors to accommodate DOE and contractor-tailored workflows. An on-board business intelligence module provides a means to develop near real-time data and metrics and improves management focus and response to prevent events/reduce mission risk. Hanford procured several DevonWay modules for the management of assessments, issues management, metrics, lessons learned, non-conformance reporting, task tracking, and management observations, to name a few. Additionally, the procurement approach strategy included unlimited users and unlimited records. The procurement of unlimited records was to ensure that users (at all levels) were not discouraged from using the system should record counts approach established pricing thresholds.
2. DOE developed the iCAS tool to align with procedures that were focused on "doing what is required and no more." The mission at Hanford is one that warrants the application of NQA-1. When DOE consolidated the assessment and issues management procedures to support the iCAS approach, the consolidated procedures were recrafted to harmonize as many related requirement drivers as possible. DOE felt this was necessary to address the well-known difficulties associated with expectations that seem to conflict between documents such as NQA-1, DOE O 414.1D, DOE O 226.1B, and DOE O 151.1D.
3. Consistent with procedures that codified acceptable approaches for ensuring compliance with the applicable requirements, DOE drafted the Site-wide Assurance Systems Approach Document with the input of the contractor CAS subject matter experts, that provided a lexicon that became common amongst all of the Hanford entities. This approach eliminated the potential for confusion resulting from translations between contractors or contractors and DOE. It also

eliminated the need for DOE oversight personnel to become familiar with a variety of terms used to represent the same or similar concepts, such as what is an issue.

4. The CAS Forum was established, which includes the DOE program owners and contractor CAS officers. This collective was chartered to leverage synergy, innovation, and best practices in pursuit of optimal CAS performance and approaches in the assessment of CAS effectiveness. The body is also responsible for the maintenance of the Site-wide Assurance Systems Approach Document and governance of the base DevonWay platform.

To assist the project transition, DOE Hanford required that prospective future contractors integrate the new iCAS requirements into their bid proposals. In addition, one Hanford contractor--the contractor responsible for integration of site-wide functions--was selected to manage and maintain the Site-wide Assurance Systems Approach Document and the CAS Forum. This contractor was also responsible for coordinating the iCAS integration process for the other site contractors.

The Outcome

The overall concept of DOE Hanford to drive simplicity, efficiency, and effectiveness was to create the iCAS tool and corresponding procedures by doing “what is required and no more.” This required distilling the expectations from multiple drivers such as NQA-1, DOE Orders 414.1D, and 226.1B, into minimum standards that would satisfy each of the applicable drivers. For example, Hanford made the decision to consolidate the use of “issue,” which varied across the multiple requirements documents, into “Adverse Condition.” The associated definition was meant to transcend the many ways issue was used in the various documents while ensuring the integrity of the spirit of use within each driver.

Although DOE Hanford’s version of iCAS was not void of any extraneous data fields, they were kept to a minimum with a final product that is clean, intuitive, and simple. While the iteration of iCAS developed by DOE Hanford was offered to each of the Hanford contractors and promoted to them as compliant, the contractors were free to make modifications to their particular workflows as they deemed appropriate for their internal needs.

The iCAS construct provided mechanisms so that upon DOE’s approval of one of their assessment reports, the report and any issues automatically populate the appropriate contractor’s assessments and issues management modules. No longer would the contractor need to transcribe the issue from the assessment report into the issues management process, nor would DOE need to prepare CO/COR letters to transmit the assessment because it was determined that the assessment and any associated issues were comprised of information and not contract direction. In this construct, contractor and DOE data are segregated by reporting authorities. In effect, contractor’s data is not visible to other contractors, but is visible to DOE. Further, contractors cannot see pre-decisional information contained in the DOE system. With assistance from the Hanford site integration contractor, DOE could manage the coordination of their own roll-out of iCAS amongst the two offices. In its approach, DOE opted to pursue the integration of contractor involvement as part of contract transitions given that each of the contracts were scheduled for competition in the near future. This approach also allowed for a smooth

transition to the new system as each new contract was let, rather than pushing modifications to each of the existing contracts at once. However, the coordination with multiple contractors would be more complex due to unanticipated impacts of contract extensions and the COVID-19 pandemic.

Key Take Away/Lessons Learned

The iCAS construct and overall approach has resulted in many efficiencies, increased the timeliness and effectiveness of communication, and ultimately will allow contractors to accomplish the Hanford mission in an a more effective, efficient, safe and secure manner. To help other DOE sites realize the potential benefits and overall applicability, we've identified a few crucial take aways in regard to Hanford's iCAS model.

Standardization of Assurance System Approach and Lexison

By implementing a standardized approach across the Hanford site, a multitude of inefficient and costly systems were able to be retired and replaced with a common process. The elimination of these expensive, outdated systems led to reduced costs overall and helped drive increased efficiencies. With the introduction of a common approach to assurance systems, the transparency and usefulness of data to better support trending as well as influence overall business decisions, has increased substantially.

Integration of Assessment Process with Issues Management

DOE took the concept of a common approach and began consolidating their oversight process to align with a more integrated and balanced approach across both Hanford DOE offices. The result of this effort was consolidating assessment and issues management processes and procedures. This coupled with the iCAS tool, allowed for the autonomous transmission of completed oversight reports and issues directly into the contractor's assessment and issues management modules. This eliminated the need for contractor's to manually transcribe any issues from the assessment report into their issues management system, allowing for the contractors to begin addressing issues in a timelier manner while also reducing the duplication of issues entered into the system. The autonomy and integrative nature of both DOE's oversight process coupled with the iCAS application, reduces the amount of necessary paperwork, and also improves the timeliness of communication as information and issues are transmitted near real-time.

CAS Forum Creates Synergies and Promotes Innovation to Optimize Performance

By allowing the overall standardized approach to be governed through a body composed of CAS officers and program owners, it allows for the proper identification and participation of critical players with a role in the management and implementation of contractor assurance elements. The forum in which this body participates in allows the vital members an opportunity to come together to have a focused discussion on continuous improvement, providing enhancements to the overall CAS performance, as well as the status of overall implementation or other necessary topics. This forum promotes effective communication by further leveraging synergy and innovative practices with the primary CAS officials.

DOE, Corporate Parent and Project Teams Ability to Gauge Performance

The collaborative governance relationship between DOE oversight, the contractor, and their corporate parent is a foundational structure built into the broader iCAS approach that allows for active participation by all 3 entities. This collaborative partnership not only ensures mission alignment and effective management of mission risk, needs, and performance consistent with contract requirements, but also provides data to the contractor's management decision-making process, and provides reasonable assurance that the contractors management controls are effective and efficient. This transparency helps foster trust, accountability, and integrity.

The consideration of other sites implementing a similar approach will help provide cost saving benefits, promote transparency and effectiveness of communication, as well as improvements in overall CAS performance.

CONCLUSION:

The scope of implementation of the iCAS encompasses the RL and ORP offices, including the current and future prime contractors. As of June 2021, all contractors, except for the Occupational Medicine and Waste Treatment Plant construction contractors, have transitioned to the iCAS. For each entity that is using iCAS, the integration and transparent communication of mission and operational performance information has enabled DOE to responsively determine the necessary level of federal oversight based on mission goals and needs as informed by the robustness of each contractor's effective use of CAS.

Certainly, each DOE site or organization may have different requirements and circumstances. All organizations may not directly use the overall iCAS tool but a single tool/platform supporting the CAS function/processes should be an approach to consider.

Most DOE sites have the benefit of having one DOE office and one contractor, others may have to coordinate with additional DOE entities. Regardless of the complexity of the organizational structure, the benefits of the iCAS tool will bring efficiency and continuity between DOE and its contractors. It provides the flexibility to meet unique business needs and creates a sense of ownership by both DOE and its contractors.

The iCAS approach also provides a means for a contractor's corporate parent to gauge performance, provide data to the contractor's management decision-making process, and allow the contractor to more effectively manage processes, resources, and outcomes. Under iCAS, contractors provide reasonable assurance that their management controls are effective and efficient.

REFERENCES:

NONE