

Results of NNSA Baseline Assessment of CAS Pilot Process and

Recommended Path Forward for Evaluation of CAS and the Effectiveness of LOCAS

Presentation to the EFCOG CAS Working Group, November 4,
2009

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Services

- Establish a Baseline for Contractor Assurance System (CAS) Implementation for NA-17
- Provide information to HQ on the status of CAS implementation
 - Improved allocation of resources and tools to foster corporate level improvement
 - Provide Independent Feedback on status of CAS implementation
- Conduct Pilot to Evaluate review methodology and implementation approach
 - Pilot Review completed at LANL in March 2009 and at Y-12 in May 2009

- Criteria and Review Approach Document (CRAD) provided to contractor
 - Four Performance Objectives included (CAS System Description, Assessments, Operational Awareness, and Issues Management) with 21 supporting criteria linked to DOE O 226.1A requirements
- Contractor conducted a self evaluation to the review criteria using existing CAS performance information
 - Primarily a table top evaluation using existing oversight and performance information, both internal and external.
 - May require some additional review and analysis if existing information not available or not current
- External Team reviews contractor self assessment results and conducts a separate independent review using the same CRADs

- Overall CAS System Description
 - Appropriate level of documentation
 - Description of interfaces between supporting processes, functional areas, and supporting mission areas could be improved.
- CAS Assessments
 - Assessment planning processes should clearly identify required/compliance assessments and basis for frequency and then add in discretionary assessments based on risk model
 - Planning process should include high level management selection of external corporate/parent/ or third party assessments and internal independent assessments
 - Improved quality of management assessments generally needed
 - Tendency to conduct document reviews or performance observations without clear criteria for review
 - Evaluation of the quality of management assessment using objective criteria a good practice
 - Some sites use core assessment personnel to support performance of management assessments within a particular functional area to ensure higher quality assessment results

- Performance Measures/Metrics
 - Tie to mission and program deliverables by identifying critical success factors
 - More leading (system level) indicators instead of traditional reliance in lagging/outcome based indicators
 - Metrics need to be visible part of the overall integrated management system that is consistently used by all levels of management
- Issues Management Systems
 - Clearly define performance expectations within the 11 elements of the issues management system to ensure that effective measures are identified and used to monitor effectiveness of the overall issues management system
 - Typically monitor quality of inputs (assessments) and outputs (timeliness and effectiveness of corrective actions), but need to monitor how well the entire process is operating as a system to drive improvements in mission delivery and operational efficiency

- Review tended to be focused on compliance to criteria and evaluation of overall effectiveness of CAS was subjective
 - Expectations for CAS will vary between sites based on contract requirements
 - LANL designed to meet H clauses, Y-12 primarily arranged to demonstrate compliance to O 226
- Review did not include an evaluation of the how the Site Offices were evaluating and using CAS information in the performance of line oversight
- Performance based assessment techniques difficult given the time to conduct the review
- The review approach was “transactional” and was not designed in a manner that incorporated LOCAS principles
 - HQ centric and not Site Office centric
 - Independent External Review instead of Shadowing Contractor Self Assessment

- Provide the Review Plan with CRADs to Site Offices with guidelines and expectations for the Contractor to perform a self assessment of CAS and the Site Office to perform a self assessment of their Line Oversight program
- The self assessments will be observed (shadowed) to ensure consistency in the approach and results
- The completed Site Office and Contractor Self Assessments, with any input from the Independent, would be provided to NA-17 for information
- The results of all the reviews could be used to support development and improvement of LOCAS metrics, including development of a core set of LOCAS Success Measures/Indicators

- Allows an evaluation of whether sites and contractors can critically self assess which is a key attribute to achieving the overall benefits of LOCAS
- The independent review panel concept is a shift to a more “systems based” oversight approach instead of current “transactional” approach
- Using HQ functional area managers on the independent shadow teams review teams provides an opportunity for these individuals to gain valuable operational awareness information
- Using LOCAS council members on the independent review will facilitate the identification and implementation of enterprise wide oversight improvement opportunities

- SNL and B&W Pantex performing self assessment of implementation of CAS using standard CAS CRAD
 - Federal Staff from NNSA Site Offices shadowing contractor self assessments
 - Independent personnel supporting NA-171 observing and monitoring process to ensure consistency in the conduct of the reviews
 - These reviews to completed with reports submitted to site office
 - Site office review report, provide any information/clarification from shadowing activities, and will forward the report to NA-171 for information
- Remaining NNSA Sites (NTS, Kansas City, and SRS) scheduled to complete the review by the end of May 2010

- Pilot the Site Office LOCAS self assessment at NNSA Site (Site and Timeframe TBD)
- To be conducted by the Site office using locally developed review plan and observed by external team (Pilot only)
- Self assessment will include evaluation of how well the site office is executing local oversight and contract management procedures
- Self assessment will also include a verification of compliance with O 226 and NNSA SD conducted using CRAD developed by NNSA HQ (e.g. CRAD 5)

- The model contracts (SNL, LANL, LLNL) have contract clauses that were intended to drive the improvements in mission performance and operational efficiency using an integrated management system and assurance system
- Select one site to do an overall LOCAS effectiveness review focusing on how well the site (both contractor and site office) is achieving the performance objectives in the H clauses
- If achievement of these performance objectives has not been fully realized, the team would then identify what are the barriers that are hindering fully meeting these performance objectives
- For example, the team may identify situations where DOE order compliance is discouraging or hindering the use of benchmarking/commercial practices, where federal oversight is still in the what and not the how and hindering contractor accountability, and where PEP measures and PBIs have not been effective in supporting the intended improvement in mission performance

- **Clause H-1 REDEFINING THE FEDERAL/CONTRACTOR RELATIONSHIP TO IMPROVE MANAGEMENT AND PERFORMANCE**
- To clarify the contractual relationship, NNSA will provide program and performance direction regarding **what** NNSA wants in each of its programs. The Contractor shall determine **how** the program is executed and shall be accountable for performance in accordance with the terms and conditions of this Contract
- The Contractor will have the flexibility to use its expertise and ingenuity to determine how the work is to be accomplished in the most effective and efficient manner
- NNSA will rely on increased Contractor accountability as a result of implementation of the Contractor's Site Assurance System. In certain areas, NNSA oversight will focus on evaluating systems and performance rather than transactions
- NNSA will transition its oversight of programs, projects, business systems and ongoing operations from a transactional to a performance and systems based approach
- NNSA will allow the Contractor to identify and evaluate, for NNSA approval, best commercial standards and best business practices and to continuously pursue improvements in aspects of Contract performance where cost effective and efficient improvements can be achieved
- The Contractor is also encouraged to use the private-sector expertise of its parent organization to improve Contract performance as appropriate

- The CAS will include:
 - Rigorous, risk based credible self-assessments, feedback and improvement activities, including utilization of nationally recognized experts, and other independent reviews to assess and improve its work process and to carry out independent risk and vulnerability studies
 - Identification and correction of negative performance/compliance trends before they become significant issues
 - A method for validating assurance processes
 - A process for defining performance metrics and performance targets to assess performance, including benchmarking of key functional areas with other NNSA/DOE contractors and industry and research institutions to enhance processes and to assure development of performance metrics and performance targets that will result in achievement of best in class/industry performance where efficient and cost effective
 - NNSA will revise its oversight in accordance with the Contract Clause entitled “NNSA Oversight” when the Contractor has demonstrated to the Contracting Officer’s satisfaction that the Contractor Assurance System or components of the system are operating effectively

- NNSA site offices evaluate the effectiveness of CAS as part of system based oversight using a variety of methods
- Site offices use the results of systems based oversight activities including evaluation of CAS information to focus oversight activities on the areas of highest importance to achieving the mission in a safe, secure, and cost effective manner
- Site office oversight is evolving along with the CAS, and the nature of federal oversight has shifted to a greater reliance on the CAS
- As CAS and supporting processes mature, the information generated from CAS activities is verified to be reliable through independent federal or external oversight activities
- The level of site office contract management and oversight activities are consistent with and aligned with the contractors critical success factors (goals, commitments, performance measures and indicators) for achieving the supported NNSA mission objectives in a safe, secure and cost effective manner
- NNSA Site Office Oversight activities (including operational awareness and assessments) are derived using a site specific risk model and are balanced between activities to
 - Confirm adequate performance across all supporting functions and supported missions (e.g is the mission being achieved in a safe, secure, and cost effective manner)
 - Identify areas of needed improvement across all mission and functional areas
 - Evaluate whether previously identified issues have been effectively resolved

- Do site office line and functional managers (supporting functions and supported mission/program/project managers) periodically conduct systems level analysis of available contractor (Inputs and outputs of CAS processes, such as metrics, assessment results, indicators, corrective action management) and site office performance information (operational awareness information, trending and analysis of assessment results, analysis of site of performance indicators and measures) ?
 - Do site office personnel periodically (monthly, quarterly) analyze a wide range of operational awareness oversight information (such as event and near miss data, performance monitoring, contract performance, facility representative and other SME inputs)?
 - Do site office functional managers conduct a “systems level” analysis of performance to focus oversight and contract management activities on the areas of greatest importance to enabling the successful achievement of the supported mission objectives (on time delivery of mission objectives in a safe, secure, and cost effective manner)
 - Are the results of this periodic analysis of system and outcome performance is documented and used to adjust as needed the annual oversight plan?

- Site office oversight of nuclear safety sufficiently comprehensive to 1) allow the site office manager to *accurately evaluate and communicate contractor performance* against *all nuclear safety* requirements, 2) to identify nuclear safety performance issues *in a timely manner*, and 3) effectively resolve nuclear safety issues *without relying on external oversight* (NNSA SD Attachment 2, Nuclear Safety)
 - Is the responsible site office line management able to describe the top three nuclear safety issues and the current approach to resolving them?
 - How were these issues identified? Contractor, Site Office oversight, external oversight (DNSB or HSS)
 - How were these issues communicated (informally and formally)?
 - How much input/guidance/influence does the site office need to provide to ensure that identified issues are appropriately reviewed, evaluated, and corrected?

- What factors does the site office use when considering whether to use oversight or contract activities to drive needed performance improvement?
 - Is there a balanced and risk based approach to using contract direction and contract incentives {Performance Evaluation Plan (PEP) and Performance Based Incentives (PBIs)} coupled with oversight to drive contractor improvement?
 - Is contractor performance in other areas considered?
 - Is oversight used to identify the scope of a potential problem and contract management tools such as COR direction and PEP/PBIs used support corrective of these deficiencies
 - Is there an apparent over-reliance on incentives to drive needed improvements?
 - How are these decisions documented?

- Do NNSA oversight staff and line management routinely utilize CAS information in their functional and mission areas to validate contractor performance?
 - Does the evaluation of contractor performance predominately rely on independently derived federal oversight information?
 - Does the evaluation of contractor performance predominately rely on CAS information with limited validation by federal staff?
 - Has the site office established criteria for identifying the type (independent federal oversight activity or shadow a contractor assessment), the frequency, and the scope (breadth and depth) of assessments? Do the criteria include the following:
 - consideration of the significance of the functional area topic and applicable requirements to successful completion of the supported mission
 - the uniqueness and complexity of the supported contractor operations
 - the effectiveness of CAS in providing comprehensive and self critical evaluation of the level of performance in the related functional areas and supporting processes
 - the potential consequences of failing to meet contract requirements with respect to mission enablement

Sample CAS Effectiveness Lines of Inquiry

- Is the contractor using CAS as the overall management system to identify and measure critical success factors across all contractor mission areas and supporting functions (goals, commitments, measures, indicators)?
- Has the contractor identified critical success factors, the relative importance of these critical success factors (weighting), and identified appropriate measures for evaluating these critical success factors across all mission and supporting functional areas?
- Does the contractor line management periodically review performance across all mission/program and functional support areas?
- Are line managers able to identify conditions, situations, issues, and other factors that may be putting achieving a performance goal/objective/commitment at risk?
- Is line management aware of the status of actions to correct any identified condition that may put at risk achieving a performance goal/objective/commitment?
- Has the contractor identified an approach to improve overall safety of the workplace that includes specific activities and measures to evaluate progress in improving the safety culture?

Sample CAS Effectiveness Lines of Inquiry Continued

- Has the contractor identified key systems and process improvement activities as part of overall continuous improvement mechanisms?
- Have system/process improvement activities resulted in tangible savings (improved efficiency such as reduced time and resources, reduced production costs, etc)
- Is CAS viewed and operating as an integrated management system that operates on a continuous cycle to support the identification of mission objectives and strategic goals, the identification of measures/metrics/indicators to monitor the status of achieving these goals/objectives, performance assurance activities based on risk to verify performance to expectations, and feedback and improvement activities to support continuous improvement?
- Has the contractor identified a comprehensive suite of performance measures/metrics that includes a balance of lagging/outcome based indicators, system level process measures, and leading indicators?
- Is the contractor able to critically self assess performance and promptly identify conditions adverse to performance, properly evaluate these issues and identify appropriate corrective actions, and correct these issues in a timely manner with minimal influence from external oversight (NNSA site office and other external stakeholders)?

- Interview contractor line managers using the following questions (select a sample of functional support managers and mission/program line managers)
 - What are your performance objectives/goals/commitments in your area of responsibility?
 - How do you ensure that you are meeting these objectives/goals/objectives
 - What is the basis for your confidence assuring you are going to meet your performance objectives?
 - Should be able to discuss requirements assurance as well as performance assurance using internal and external audits, reviews, assessments, etc
 - What improvements are needed to achieve these objectives? How were these improvements identified?
 - Should be able to discuss the use of risk based oversight approach that includes operational awareness activities, management assessments, and independent assessments
 - How do you correct identified performance deficiencies?
 - Should be able to describe issues management system and how it functions to evaluate and correct identified performance deficiencies.
 - How are for continuous improvement opportunities identified and implemented?

- Review metrics/dashboard/other system designed to ensure visibility of overall performance
 - Are key success factors identified for each high level program/mission deliverable and are these weighted based on relative importance to achieving the mission?
 - Are there appropriate measures related to overall safety performance and safety culture? Do these measures indicate overall improvement in safety performance such as increase time between significant events?
 - Is there a balance of measures between outcome (deliverables)/ lagging indicators, system/process level measures (statistical measures such as CPI, SPI, etc), and leading indicators (# of first aid cases, # of procedural violations, near misses, etc)?
- Review issues management system information and associated performance measures/metrics
 - Are there measures/metrics for monitoring the performance of overall issues management system?
 - Do these measures provide an accurate indication of the effectiveness of the overall issues management system to evaluate the significance of issues, conduct causal analysis and identify and complete corrective actions in a timely manner based on significance, and to evaluate the effectiveness of completed corrective actions?
 - Is senior contractor management aware of significant issues and the status of associated corrective actions?
 - Does the NNSA site office have to resort to contract direction to ensure significant issues are promptly evaluated and corrected?

- NNSA CAS Baseline Criteria Review Approach Document
- Four Functional Areas CRADs
 - CRAD 1 - CAS Program Documentation (4 Criteria)
 - CRAD 2 - CAS Assessments (8 Criteria)
 - CRAD 3- CAS Operational Awareness (5 Criteria)
 - CRAD 4- CAS Issues Integration and Management (4 Criteria)

- Criteria 1.1: Contractors has established and documented a comprehensive and integrated contractor assurance system (CAS). (DOE O 226.1A, Attachment 1.2.b)
- Criteria 1.2: The CAS addresses the following assurance activities: (1) assessments; (2) incident/event reporting processes; (3) worker feedback; and (4) issues management; (5) lessons-learned; and (6) performance indicators/measures, and any other site specific criteria for CAS identified in the contract. (DOE O 226.1A Attachment 1, 2.b and NA-1 SD 226.1A, Attachment 1)

- Criteria 1.3: The approved contractor assurance system program description addresses the following aspects of operations: (1) nuclear safety; (2) environment, safety and health; (3) safeguards and security; (4) emergency management; (5) cyber security; and (6) business management. (DOE O 226.1A Attachment 1, 2.c and NA-1 SD 226.1A, Attachment 1)
- Criteria 1.4: The contractor has established and maintains qualification standards for personnel with oversight responsibilities. (DOE O 226.1A Attachment 1, 2.f)

- Criteria 2.1: The CAS includes a self-evaluation process to ensure compliance with applicable laws, regulations, national standards, DOE directives, DOE-approved plans and program documents, site-specific procedures/manuals, contractual performance objectives and requirements. (DOE O 226.1A, 2.d and DOE O 226.1A, Attachment 1, 2.d)
- Criteria 2.2: Contractors have a rigorous and credible assessment program developed and implemented, which documents the performance of comprehensive assessments of all facilities, systems, and organizational elements, including subcontractors. (DOE O 226.1, CRD, Attachment I, 2)
- Criteria 2.3: Self-Assessment are periodically used to evaluate performance at all levels to determine the effectiveness of policies, requirements, and standards and the implementation status (DOE O 414.1C, Criterion 9, “Management Assessment” and DOE O 226.1, CRD, Attachment 1.2.a.)

- Criteria 2.4: Management self-assessments or management assessments are performed by contractor management, and are developed based on the nature of the facility/activity being assessed and the hazards and risks to be controlled. (DOE O 226.1, CRD, Attachment 1.2.a.(1))
- Criteria 2.5: Self-assessment results have been documented commensurate with the significance of and risks associated with activities being evaluated. (DOE O 226.1, CRD, Attachment 1.2.a.(5))
- Criteria 2.6: Internal independent assessments have been performed by contractor organizations or personnel that have authority and independence from line management. (DOE Order 414.1C, Criterion 10, “Independent Assessment” and DOE O 226.1, CRD, Attachment 1.2.b.)

- Criteria 2.7: Internal independent assessments are formally planned and scheduled based on the risk, hazards, and the complexity of the processes and activities to be evaluated. (DOE O 226.1, CRD, Attachment 1.2.b.(1))
- Criteria 2.8: Contractor personnel who manage and perform assurance functions possess experience, knowledge, skills, and abilities commensurate with their responsibilities. (DOE O 226.1A, Attachment 1.2.e)

- Criteria 3.1: Formal programs have been established and effectively implemented to identify issues and report, analyze, and address operational events, accidents, and injuries. (DOE O 226.1A, Attachment 1, Appendix A.3.)
- Criteria 3.2: The Contractor has developed and implemented a process to solicit feedback from workers and work activities. (DOE O 226.1A, Attachment 1, Appendix A.4.)
- Criteria 3.3: Formal programs have been established to communicate lessons learned during work activities, process reviews, and event analyses to potential users and applied to future work activities. (DOE Order 414.1C, Criterion 3, “Quality Improvement” and DOE O 226.1A, Attachment 1, Appendix A.6.)

- Criteria 3.4: Contractors have in place a process which identifies, monitors, and analyzes data by measuring the performance of facilities, programs, and organizations. (DOE Order 414.1C, Criterion 3, “Quality Improvement” and DOE O 226.1A, Attachment 1, Appendix A.7.)
- Criteria 3.5: Contractor personnel who manage and perform assurance functions possess experience, knowledge, skills, and abilities commensurate with their responsibilities. (DOE O 226.1A, Attachment 1.2.e)

- Criteria 4.1: Program and performance deficiencies, regardless of their source, are captured in a system or systems that provide for effective analysis, resolution, and tracking. (DOE O 226.1A Attachment 1, Appendix A 5.a.)
- Criteria 4.2: Issues management provides a process for rapidly determining the impact of identified weaknesses and taking timely action to address conditions of immediate concern. (DOE O 226.1A Attachment 1, Appendix A 5.b.)

- Criteria 4.3: Contractors have in place an effective process for communicating issues up the management chain to senior management. (DOE O 226.1A Attachment 1, Appendix A 5.d.)
- Criteria 4.4: Contractor personnel who manage and perform assurance functions possess experience, knowledge, skills, and abilities commensurate with their responsibilities. (DOE O 226.1A, Attachment 1.2.e)