

Testimony

Dennis Ruddy, President and General Manager
BWXT Y-12, L.L.C.
Before the
Defense Nuclear Facility Safety Board

December 3, 2003

Mr. Chairman and members of the Defense Nuclear Facilities Safety Board, thank you for the opportunity to provide testimony on the actions underway at the Y-12 National Security Complex (NSC) to improve management systems and management accountability, including the current status of the Management Assessment and Issues Management processes. I will also cover our planned implementation of the Contractor Assurance System (CAS).

We strongly believe that the Government has the right to expect quality performance from its contractors. We also believe that we, as contractors, have an obligation to demonstrate compliance with the customer's requirements. In our three year tenure at Y-12 we have successfully instituted improvements to; nuclear and employee safety, program and project management, infrastructure management and safeguards and security. *We have achieved these improvements by emphasizing the Integrated Safety Management principles of clear roles and responsibilities and a feedback and improvement process which includes a very robust and layered Contractor self-assessment processes.* It is now time to continue to evolve our integrated safety management improvements through the addition of the *Contractor Assurance Management Process*. Prior to reviewing our approach to Contractor Assurance System (CAS), I'd like to review with you substantial progress we have made since we assumed M&O responsibilities at the Y-12 National Security Complex.

Progress To Date

Recent BWXT Y-12 management improvements have focused on four areas. First, we have improved our organizational structure to clarify roles and responsibilities and to provide responsive communication channels between all management levels and the worker on the floor. Second, we have established a very robust and layered Management Assessment program that capitalizes on internal resources as well as corporate and other expertise. Third, the issues management process has been improved so that issues are properly analyzed for causes and appropriate corrective actions are put in place, completed, and verified as effective. Finally, we have integrated BWX Technologies and Bechtel Corporate expertise into our Project Management and Program Planning processes to address long standing site infrastructure problems such as fire protection and the maintenance backlog.

This document has been reviewed by a Y-12 ADC/UCNI RO and has been determined to be UNCLASSIFIED and contains no UCNI. This review does not constitute clearance for Public Release.

Name Charlene C. Edwards Date 11-26-2003

As noted in the Columbia Accident Investigation Board Report, poor organizational structure can be as dangerous to a system as technical, logistical, or operational failures. In my initial evaluation of Y-12's management structure, it was evident that the senior manager structure required streamlining to ensure senior managers had clear roles and responsibilities along with accountability. As a result, we have gone from thirty-four Directors to a more focused group of twenty-two Division Managers. In addition, to ensure effective and responsive two-way communication from the General Manager to the floor, an on-going reorganization at Y-12 is requiring no more than four layers of management between the floor worker and the General Manager. We found that management layers as high as eight between the General Manager and the worker often contained impervious barriers that prevented effective two-way communication on performance requirements and expectations.

Pre-dating the arrival of BWXT, CY 2000 Y-12 ISM Verification had identified the Management Assessment Program as ineffective. At that time, over a thousand Management Assessments were being annually scheduled. However, many assessments were not completed as scheduled, and those conducted were not focused on performance and were not effective in identifying issues. Most managers were not using Management Assessment as an integral part of fulfilling their responsibilities to evaluate and improve performance in their organizations. However, as documented in our most recent DOE Office of Oversight and Corporate ISM Independent Assessments, our Management Assessment Program has significantly improved in the last several years. Improvement has resulted from a program that implements layers of performance evaluations including: a facility level Management Assessment Program, a Quality Division Independent Assessment and Facility Evaluation Program, and the frequent utilization of corporate resources and other outside experts in Independent Assessments and Corporate Challenge Teams. Last fiscal year we conducted over 400 facility Management Assessments and over 80 Independent Assessments.

Over the last year and a half we have also conducted Management Assessment training, including practical exercises, for the majority of BWXT Y-12 organizations. Well over 400 employees have been given Management Assessment awareness training, and over an additional 200 have received training in an intensive 4-day workshop setting. The greatest emphasis has been preparing line managers to schedule, plan, and execute an effective Management Assessment. The Management Assessment Program Manager has established a process, which evaluates completed Management Assessments and provides direct feedback to organization managers and assessors on assessment effectiveness.

The Quality Division at Y-12 oversees an annual Independent Assessment Program built on senior management's areas of recommended assessment emphasis that are important for Y-12's performance and safety. Some of the key areas of performance concerns evaluated in FY03 by Independent Assessments were the welding program, Management Assessments, and Issues Management. On a triennial basis, nuclear operating facilities are independently evaluated through Facility Evaluations, which look at operational performance and safety programs. In addition, the Internal Audit Division provides all levels of BWXT Y-12 management with an independent, objective evaluation on the adequacy and effectiveness of these management and independent assessments and

reviews. Internal Audit also reviews and evaluates the management systems of internal controls and the quality of performance. We currently have 25 qualified Level I Lead Assessors, assisted by a number of other qualified assessors, who collectively fulfill our Independent Assessment, Facility Evaluation and other requirements, and we continue to identify suitable candidates to backfill projected losses.

Complementing this robust structure of Management Assessments, Independent Assessments, and Facility Evaluations is the routine use of corporate and outside experts to conduct scheduled and emergent Independent Assessments of vital programmatic and safety performance. Recent Independent Assessment topics addressed by Corporate and outside experts include site-wide ISM performance, chemical safety, project management, and engineering performance.

The Legal Division also supplies important oversight through its Price-Anderson Amendments Act function and by providing information outside of BWXT Y-12 in accordance with a variety of DOE and other legal requirements. The Legal Division also provides oversight to other divisions to ensure that requirements are met, as a part of an integrated effort that includes QA, ES&H, Internal Audit, and other divisions to ensure compliance with a large number of DOE, NNSA, state and federal requirements.

Finally, BWXT Y-12 has invested significant technical resources in the improvement of Vital Safety Systems (VSS) as part of the implementation of the Defense Nuclear Facilities Board Recommendation 2000-2. The establishment of a System Engineer formal training and qualification program and the assignment of qualified system engineers to all VSS have been completed at BWXT Y-12. As a result we are now conducting routine assessments of all VSS to ensure their operability and reliability. In parallel with these improvements to the System Engineer program, BWXT Y-12 also has an independent Design Authority function based on nuclear industry practices. The Design Authority, independent of operations, has the final word for technical basis issues related to nuclear facilities and equipment. As noted in the Columbia Accident Investigation Board Report, it is vital to have such an independent technical engineering authority that is responsible for technical requirements. This change has resulted in significant improvements to configuration management in these facilities.

Over the last several years, we have aggressively evaluated and focused on maintaining our critical skills – skills related to scientific, technical or engineering disciplines required by the mission or for the management of a technical aspect of the mission. To enhance these efforts, we have identified a matrix of required critical skills and are working aggressively to maintain our technical expertise. Since November of 2000, through college recruiting efforts, we have brought in over 160 new college graduates in engineering and science fields. We have also focused on experienced, critical skill hires, bringing in experienced personnel in facility safety, nuclear criticality safety and manufacturing engineering.

The staffing necessary to implement the CAS improvements would use existing technical and assessment resources already noted above. In addition, I will be establishing a

CONOPS Representative program at Y-12 NSC nuclear facilities which will closely parallel the DOE Facility Representative program. We have recently posted positions for these CONOPS representative personnel and will begin their training early in CY 2004. The selection, training and certification will conform to the DOE Facility Representative program.

We are committed to maintaining and improving the Contractor self-assessment structure. Its complementary and extensive layering is serving us well, and we will continue to evaluate it critically and to improve it. Emphasis on improvement of self-assessment will endure since we recognize that it is absolutely vital to any Contractor Assurance System.

Another area of critical concern to an effective Contractor Assurance System is the issue resolution process. When issues are identified through assessments or critiques, they are prioritized according to their significance based upon the possible impact to the environment, safety, health, safeguards and security, quality and operations. Root cause analysis is required for those issues of higher significance or those deemed by management to warrant such an analysis. Throughout the late 90's, little training was offered in causal analysis. However, during the last 18 months, over 100 facilitators qualified in causal analysis have been certified to support formal causal analysis of issues, and personnel who previously performed such analysis were retrained to the new standard. This has led to an increase in the quality of the analysis performed and better corrective actions. In addition, personnel from the Quality Assurance Division are involved in the validation and verification process associated with these issues to ensure the adequacy of the plans submitted and the evidence demonstrating completion of corrective actions. Finally, the Quality Assurance Division instituted a sampling plan to randomly select issues for field verification/effectiveness reviews to demonstrate that the problem has actually been resolved in the field. We have noted substantive improvements in root cause analysis and corrective actions being identified properly; however, there are still isolated cases where we fail to appropriately close the issue due to an administrative or operational oversight. I have personally focused significant senior management attention on this area, and we have seen improvement, although we are not yet where I want to be.

We have also implemented improvements to corrective action plans that address substantial long-standing infrastructure problems. BWXT Y-12 has imported proven corporate processes in Project Management and Program Planning and estimating. In the past when corrective action plans for significant issues were put in place, little thought was given to prioritization of actions, availability of resources and scheduling; plans were developed but they were not executable. Today, we use project management and planning integration expertise and processes. As a result, corrective action plans to resolve infrastructure issues such as fire protection or the maintenance backlog are not approved unless actions are prioritized and scheduled and supporting resources are identified. Real benefits are being realized, and significant progress is being made in resolving long term infrastructure issues at Y-12.

As the General Manager, I regularly review corrective action plans for critical issues, and I expect my senior managers to review other corrective action plans with the same degree of accountability.

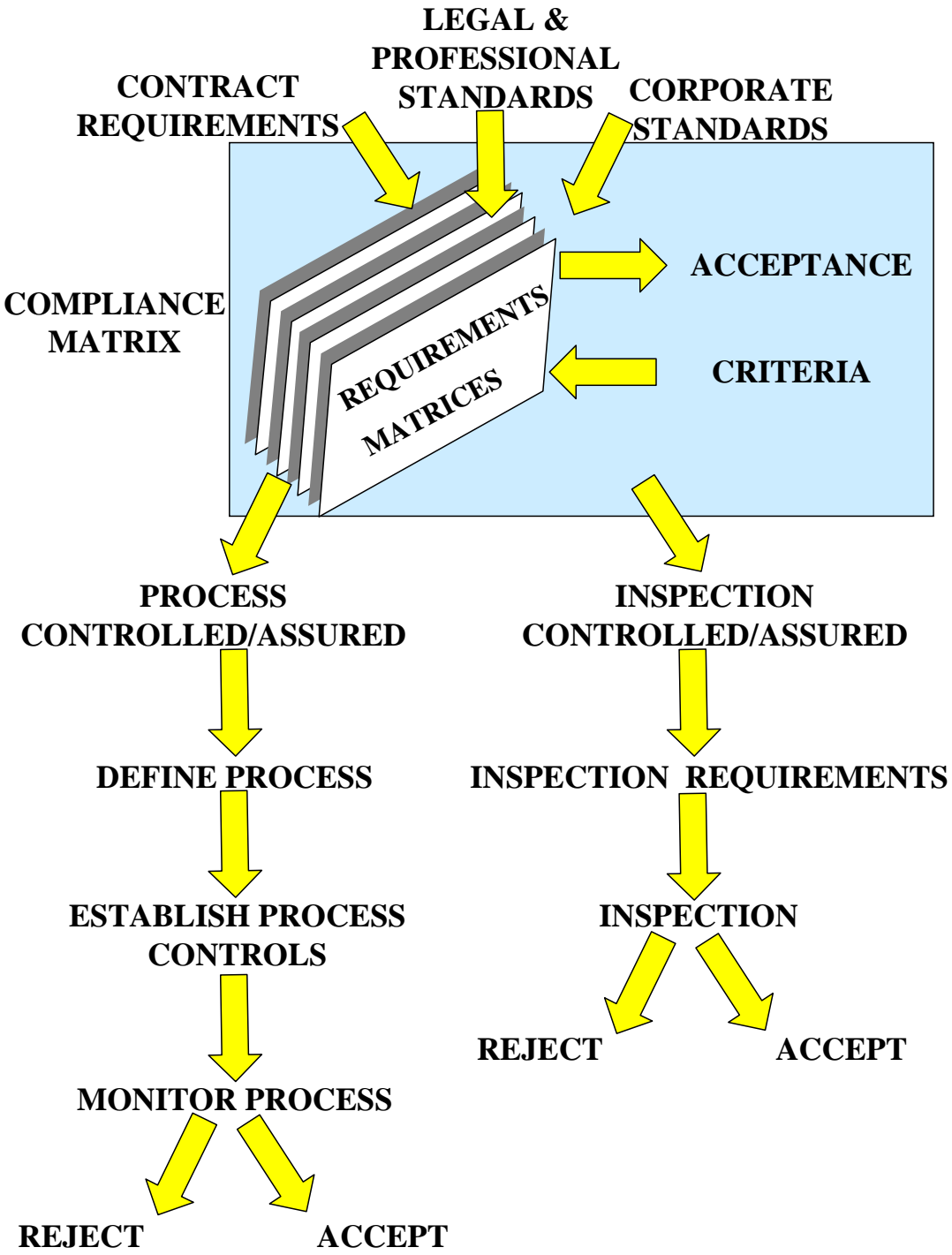
A final component of BWXT Y-12 safety oversight systems is an independent quarterly review of all internal and external assessments and feedback data by our Feedback and Improvement Working Group (FIWG). As outlined in our ISM program description, the FIWG reports directly to me quarterly with an independent appraisal of Y-12 safety performance based on a review of all internal and external performance feedback information. The FIWG appraisal identifies areas of noteworthy practices and areas where opportunities for improvement exist. I review this report with all my senior managers.

To summarize, the foundation for our CAS initiative includes a streamlined senior staff with clarified roles and responsibilities, improved two way communication from top to bottom and an improving, robust and multi-layered self-assessment process which is supported by an improving issue resolution process.

BWXT Y-12's Contractor Assurance System

The goal of our Contractor Assurance System is for me, as the General Manager, to have the information I need to manage the Y-12 NSC effectively. Our initiative is drawn from my Naval Reactors background and from the operating principles of our parent corporations – BWX Technologies and Bechtel. Our approach is based on discipline, personal accountability and customer responsiveness. It requires managers to define their requirements, acceptance criteria, elements of risk, the controls placed on those risks, the metrics that depict the effectiveness of our controls and the validations we perform to assure ourselves that our metrics are giving us the right information. *The validation process depends on the effectiveness of our self- assessment program to evaluate performance, along with the use of the issue management process to resolve any identified problems.* This comprehensive and systematic information and feedback, along with the reinforcement of management accountability throughout the company, is what I need to ensure Y-12's success. Figure 1 provides a simple and concise view of Quality Assurance upon which our Contractor Assurance process is based. The figure depicts the classical flow of all requirements placed on an enterprise to the accept/reject decisions for compliance of the products and services. Simplistically, quality is determined and ensured by controlling the final product by direct inspections or by control of the processes that generate the product.

Figure 1
Quality Assurance System



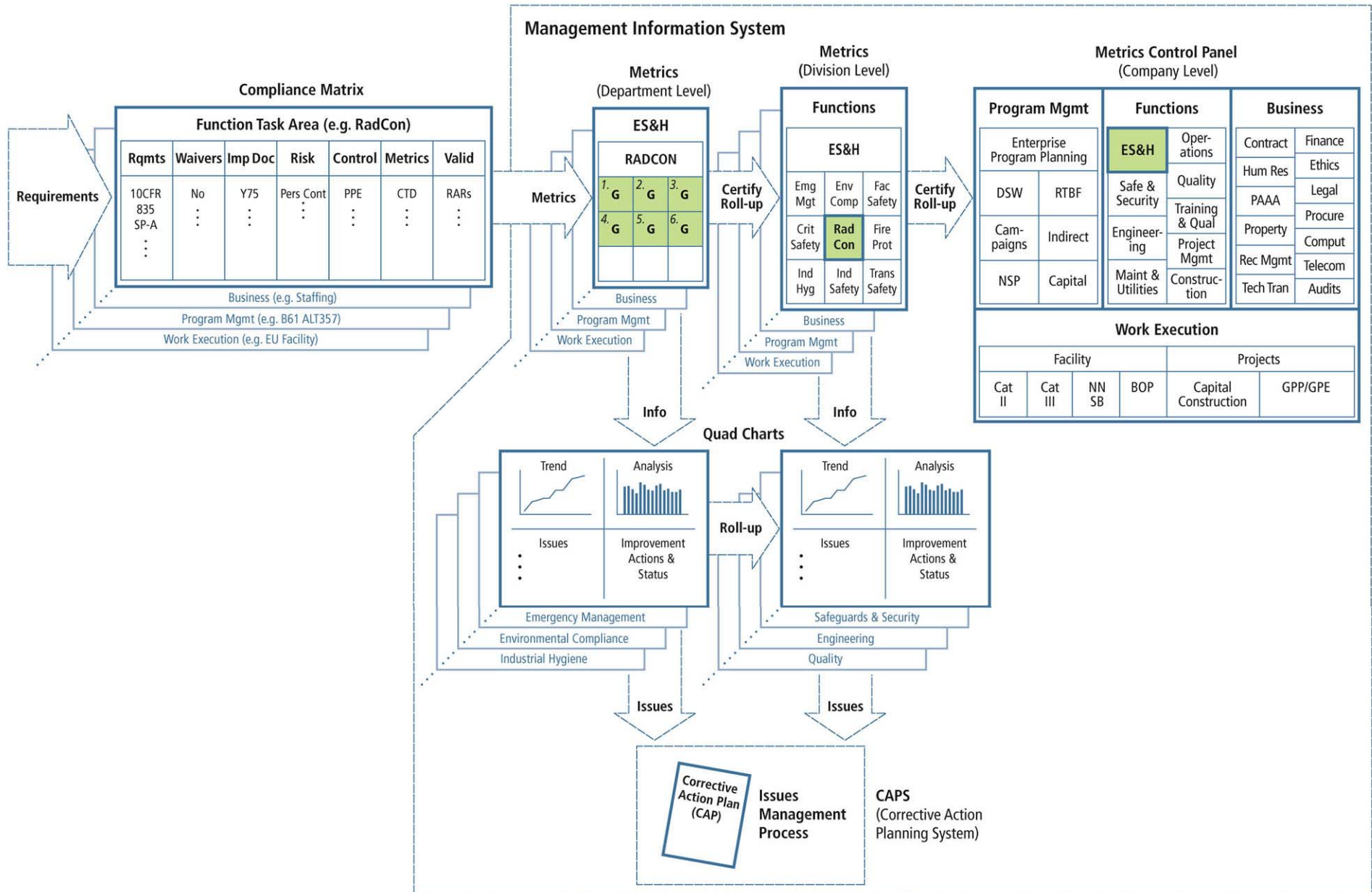
The BWXT Y-12 Contractor Assurance System will be based on fully developed compliance matrices for all requirements. By documenting the crosswalk of all requirements to the implementing processes and procedures, visibility of compliance will be enhanced and effective change control will be facilitated.

With this linkage in place, metrics will be established at all levels of the organization to enable continuous monitoring of compliance requirements or attainment of organizational goals. Figure 2 depicts how this will work using the example of how Radiological Control (RADCON) would fit into Department, Division and Company Level monitoring. The linkage and roll-up of these metrics allows for “drill-down” capability, should negative results appear in higher level indicators. This drill-down will be used to ensure that the analysis tools (quad charts) are being used to identify issues and that the Issues Management systems are tracking corrective actions to effective and timely implementation.

The third aspect of contractor assurance for BWXT Y-12 is our management oversight. Today our system includes the full range of activities typical of any successful private enterprise or DOE site. These activities, summarized in Attachment 1, include informal management walk through, formal management assessments, quality surveillances, independent assessments, internal audits, inter-site cooperative assessments, and periodic reviews by our Board of Managers. Taken as a whole these reviews define the process for validating that the controls and associated metrics are providing an accurate picture of the control of risk. Future work in this area will be aimed at ensuring that the reviews conducted are comprehensive and provide full coverage of the risks identified. An example of the type of adjustment that will be made is the addition of the CONOPS Representative program mentioned earlier.

As we go forward with our Contractor Assurance activities, the strong Contractor self-assessment functions reviewed above will remain a feedstock of comprehensive performance information that will support CAS and thus ensure that I get the essential information to manage Y-12 efficiently and successfully. Finally, when CAS is implemented, our Annual Assurance Memorandum to the customer will be enhanced and based on systematic and comprehensive compliance assessments.

Figure 2
Metrics and Performance Improvement



Optimizing the Contractor-Federal Relationship

Once the CAS is fully implemented, management processes will be transparent to the customer and, in that sense, may influence how the government chooses to carry out its oversight responsibilities. NNSA's ability to clearly see each aspect of our performance will facilitate their decisions on how to optimize the use of oversight resources. As a result, NNSA should be able to efficiently target the most necessary validations of Contractor performance.

The CAS initiative is one that BWXT Y-12 would be carrying out even if NNSA's Contactor Assurance Initiative didn't exist. It is a timely yet challenging next step in our program of ISM improvements at Y-12. We defined the program based on the state of maturity of our management systems, and then checked to make sure we were being responsive to the Contractor Assurance attributes provided to us by NNSA. We appreciate the flexibility provided in the customer's guidance, which allows us to define a process that would have the most benefit to the Y-12 NSC, while avoiding the overlay of an additional process on management systems that had not yet been optimized.

For those areas where we receive our authority to operate from NNSA through Authorization Basis Documents or the Site Safeguards and Security Plan, we see little change in oversight from NNSA. While the discussions in this area will be healthy, NNSA must carry out oversight of the authorities they issued.

For other areas, the frequency and depth of federal oversight is dependant on level of risk and the history of demonstrated satisfactory performance. This CAS process will give NNSA the framework to optimize its assessment plan. We do not necessarily believe that this equates to reduced oversight, but to oversight that is well targeted on performance issues that will be more effectively identified through CAS. In other words, we believe that the CAS process will support the development of a federal assessment plan that can be built around clearer insight into risks, acceptance criteria and performance metrics.

Conclusion

Over the last several years, BWXT Y-12 has made substantial improvements to Y-12 NSC's Integrated Safety Management Systems, with specific emphasis on roles and responsibilities, Management Assessment and Issues Management Processes. The proposed CAS process is the next logical step to our commitment to the continual improvement of Integrated Safety Management. We do not underestimate the magnitude of this endeavor. Thank you again for the opportunity to present this information to the Board.

Attachment for the Record: