



## Department of Energy

Washington, DC 20585

June 9, 2011

Mr. Darrell Kohlhorst  
President and General Manager  
B&W Technical Services Y-12, LLC  
Y-12 National Security Complex  
P.O. Box 2009/MS8001  
Oak Ridge, Tennessee 37831-8001

Dear Mr. Kohlhorst:

The Office of Health, Safety and Security's Office of Worker Safety and Health Enforcement conducted an onsite regulatory assistance review of the Babcock & Wilcox Technical Services Y-12, LLC (B&W Y-12) worker safety and health regulatory compliance program during February 7 - 10, 2011. The review included an evaluation of B&W Y-12 programmatic processes for identification, reporting, and tracking of worker safety and health regulatory noncompliances; trending of regulatory compliance performance indicators; and self-assessment activities for monitoring the performance of the worker safety and health compliance program.

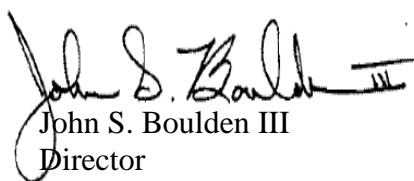
The B&W Y-12 worker safety and health regulatory compliance program is supported by documented policies and procedures, an extensive network of line management personnel resources, and an electronic noncompliance issue screening tool. Collectively, these program elements allow B&W Y-12 to effectively implement a functional worker safety and health regulatory compliance program that is generally in alignment with the guidance set forth within Department of Energy's *Enforcement Process Overview*.

The results of this review, described in the enclosed report, identified a number of strengths as well as recommendations for your consideration that provide opportunities to further improve the implementation of the B&W Y-12 worker safety and health regulatory compliance program. Most notably, B&W Y-12 should formalize the existing process for identifying and analyzing noncompliance trends, which would support your efforts to address program weaknesses before they result in operational events. We suggest B&W Y-12, in consultation with the Y-12 Site Office, evaluate the review recommendations for corrective action in light of the enforcement incentives described in the DOE Enforcement Policy (10 C.F.R. Part 851, Appendix B).



No reply to this letter is required. If you have any questions regarding this review, please contact me at (301) 903-2178, or your staff may contact Mr. Kevin Dressman, Director, Office of Worker Safety and Health enforcement at (301) 903-5144.

Sincerely,

A handwritten signature in black ink, appearing to read "John S. Boulden III". The signature is written in a cursive style with a horizontal line at the end.

John S. Boulden III  
Director  
Office of Enforcement and Oversight  
Office of Health, Safety and Security

Enclosure: Regulatory Assistance Review Report

cc: Conard Stair, B&W Y-12  
Theodore Sherry, YSO

**Office of Worker Safety and Health Enforcement  
Regulatory Assistance Review  
Babcock & Wilcox Technical Services Y-12, LLC**

**I. Introduction**

During February 7-10, 2011, the Office of Worker Safety and Health Enforcement, within the Office of Health, Safety and Security, conducted a regulatory assistance review of Babcock & Wilcox Technical Services Y-12, LLC (B&W Y-12), which is the National Nuclear Security Administration's (NNSA) prime contractor at the Y-12 Site. The Office of Worker Safety and Health Enforcement planned and conducted the regulatory assistance review in accordance with the guidance provided in the U.S. Department of Energy (DOE) *Enforcement Process Overview* (EPO), dated June 2009. The EPO document is located on the Office of Health, Safety and Security website at:  
[http://www.hss.energy.gov/enforce/Final\\_EPO\\_June\\_2009\\_v4.pdf](http://www.hss.energy.gov/enforce/Final_EPO_June_2009_v4.pdf)

The goal of the regulatory assistance review was to understand B&W Y-12's processes for noncompliance identification and reporting, implementation of B&W Y-12's internal self-assessment program, and B&W Y-12's trending of regulatory noncompliances. In addition, the regulatory assistance review evaluated B&W Y-12's effectiveness in resolving both noncompliant conditions and program deficiencies that can lead to noncompliances with the potential to adversely affect worker safety and health. The Office of Worker Safety and Health Enforcement gained first-hand information on B&W Y-12's program effectiveness and had the opportunity to exchange feedback regarding implementation of the B&W Y-12 program. Finally, regulatory assistance reviews assist the DOE contractor community by enhancing the uniformity of worker safety and health noncompliance identification and reporting.

During the onsite visit, the review team evaluated B&W Y-12's staff qualifications and experience, self-assessments, and noncompliance screenings for preselected operational events. In addition, the review team interviewed B&W Y-12 employees and subcontractor employees and observed operation of the electronic screening tool and Issues Management System (IMS). The regulatory assistance review report was prepared based on an evaluation of B&W Y-12 worker safety and health regulatory compliance program policies and procedures, issues screened for 10 C.F.R. Part 851 noncompliances, examples of corrective actions, content and screenings of internal/external assessments, and subcontractor worker safety and health program implementation.

Overall, B&W Y-12's regulatory compliance program enables B&W Y-12 to identify, evaluate, track, and correct worker safety and health noncompliances to prevent recurrence. The review team identified a number of program strengths as well as opportunities to enhance

the B&W Y-12 worker safety and health regulatory compliance program. B&W Y-12's regulatory compliance program would be improved by including additional sources for regulatory noncompliance screening (e.g., employee concerns, monthly secondary source summary reports, and walkthrough inspections), and establishing data sets for trending based on specific violations of regulatory requirements. Trending of regulatory noncompliances can indicate programmatic or recurring worker safety and health issues and improve the implementation of B&W Y-12's safety and health program. Strengths and recommendations are discussed in further detail in the appropriate sections of this report.

## II. General Implementation

The B&W Y-12 procedures Y73-004PD, *B&W Y-12 10 CFR 851 Worker Safety and Health Program* (4/27/2009), Y76-001, *Enforcement Compliance Program* (8/17/2010), and Y15-312, *Issues Management* (08/5/2010) establish the strategy and processes that B&W Y-12 uses to identify, evaluate, report, and track worker safety and health regulatory noncompliances. The review team examined management processes within B&W Y-12 policies and procedures, program implementation records, and responses from interviews with key Price-Anderson Amendments Act (PAAA) Program Office staff. The review team determined that the B&W Y-12 regulatory compliance program contains all elements of a mature process capable of meeting the guidance described within the EPO document.

The B&W Y-12 PAAA Program Office is the corporate organization charged by senior management to administer the B&W Y-12 regulatory compliance program, manage regulatory noncompliance data, and serve as the interface with DOE's Office of Worker Safety and Health Enforcement. The Y-12 enforcement program manager manages, and two enforcement coordinators support, the B&W Y-12 PAAA Program Office, which is an organization within the B&W Y-12 Legal Division. Members of the PAAA Program Office have been delegated sufficient authority and independence to make decisions without undue pressure from line or senior management.

A decentralized network of line representatives designated as Line Management PAAA Officers (LMPO) support the B&W Y-12 PAAA Program Office staff. The LMPOs monitor regulatory compliance of work activities and input noncompliance data into an electronic data management tool. All LMPOs are required to complete a 10-hour training program to ensure a minimum level of competency. The LMPO training program addresses the history of PAAA, B&W Y-12's regulatory compliance program, including but not limited to the roles and responsibilities of the LMPO, an overview of 10 C.F.R. Part 851, and the process for screening and reporting noncompliance issues. Each LMPO receives a handbook and performs hands-on exercises using the IMS Development Server during the LMPO training class.

B&W Y-12 had 75 individuals qualified as LMPOs at the time of this regulatory assistance review. LMPOs have varied educational background and experience levels. The review team interviewed LMPOs who had extensive safety and field experience; these LMPOs were considered highly qualified to assist in regulatory screening activities. However, some LMPOs had minimal training in the worker safety and health functional areas identified in

10 C.F.R. Part 851, which required the regulatory compliance staff and senior LMPOs to provide ongoing mentoring and review of their noncompliance screenings.

Subcontractors are required to perform work under B&W Y-12 procedures Y73-004PD and Y76-001 unless otherwise specified in a contract document. However, based on interviews with the B&W Y-12 PAAA Program Office, the Office of Worker Safety and Health Enforcement determined that B&W Y-12 has delegated to subcontractors the responsibility for identifying noncompliances and does not integrate subcontractor noncompliance information in the B&W Y-12 dataset for screening.

#### Strengths:

- B&W Y-12 has an active and functional regulatory compliance program that aligns with the guidance established in the DOE EPO. The regulatory compliance program provides a mechanism for B&W Y-12 to maintain an awareness of their compliance status across all organizational entities.
- B&W Y-12 effectively communicates subcontractor roles and responsibilities as they relate to 10 C.F.R. Part 851 and the B&W Y-12 regulatory compliance program, based on information provided to the review team during interviews with two subcontractors (Navarro and URS).
- The B&W Y-12 procedure Y76-001 clearly defines roles and responsibilities and describes a process for identifying, screening, and reporting worker safety and health regulatory noncompliances.
- A diverse network of personnel representing B&W Y-12 organizations are trained in the enforcement program procedures, screen issues for regulatory noncompliances, and demonstrate ownership of organizational noncompliant issues/conditions and corrective actions.

#### Recommendations:

- B&W Y-12 should have a process to collect noncompliance information from all subcontractors working under their 10 C.F.R. 851 program. Without this information, B&W Y-12 may not be aware of implementation deficiencies by subcontractors and overall worker safety and health programmatic weaknesses. In addition, B&W Y-12 should consider informing subcontractors and their lower tier subcontractors of EPO guidelines for tracking non-compliances below the reporting thresholds and the benefits of voluntarily reporting noncompliances to DOE.
- The LMPOs receive minimal information and training on the regulatory aspects of the worker safety and health topical areas invoked by 10 C.F.R. Part 851 (e.g., 29 C.F.R. Part 1910, National Fire Protection Association [NFPA] codes and standards), which may limit their ability to adequately identify noncompliances. In addition, during three meetings hosted by the B&W Y-12 PAAA Program Office for LMPOs in 2010, the group reviewed the PAAA performance metric, potential changes to the PAAA

program process, updates to the LMPO listing and secondary screening methodologies, changes to the program procedure Y76-001, the 2009 Safeguards and Security Focused Program Review, and recent Office of Enforcement activities. However, B&W Y-12 should also use these meetings as an opportunity to provide feedback on the quality of screenings performed by LMPOs, to summarize multi-organizational noncompliance trends observed by the B&W Y-12 PAAA Program Office staff, and to communicate regulatory updates that have not been incorporated into the electronic screening data tool.

### **III. Identification and Screening of Worker Safety and Health Noncompliances**

The B&W Y-12 LMPOs screen potential worker safety and health noncompliance issues using the electronic screening tool embedded within IMS. Procedure Y76-001 identifies data inputs for the screening process as a primary or secondary source, and establishes the timeline for the completion of screenings based on whether the data source has a designation of primary or secondary.

Additionally, Y76-001 indicates that B&W Y-12 screens a variety of documents. However, the review team determined that a number of worker safety and health data sources are not receiving regulatory compliance screenings. Examples of source documents that have not been screened include: employee concerns, subcontractor field inspections, medical monitoring reports, monthly secondary source summary rollups, and deficiencies that are corrected immediately during walkthrough inspections.

B&W Y-12 documents its noncompliance screening on an electronic form linked to the issues management database, IMS. Based on the information provided from the primary or secondary source, the LMPO determines if the issue resulted in an illness or injury or is related to one of the 10 worker safety and health functional areas identified in 10 C.F.R. Part 851. If the LMPO determines the issue is related to either of these categories, they proceed to identify potential violations of regulatory standards. The LMPO then identifies EPO reportability criteria, if appropriate, and writes a justification for the screening decision. All screenings are then submitted to the B&W Y-12 PAAA Program Office for review and approval by an enforcement coordinator. This review and approval process provides increased accuracy and consistency in screening determinations across the site. The review team examined a number of worker safety and health issue screenings and concluded that the questions asked in the “general applicability” section of this form could result in LMPOs not accurately assessing occupational conditions that represent a potential exposure to a hazard. As a result, LMPOs may be excluding issues that would ultimately have relevant worker safety and health regulatory noncompliances.

The screening reports associated with a number of worker safety and health issues or events did not consistently cite all of the applicable worker safety and health regulatory noncompliances within section 11 of the B&W Y-12 PAAA Screening Form Report. Examples of typical regulatory noncompliances B&W Y-12 excluded are: NFPA codes and standards, regulatory citations from 29 C.F.R. Parts 1910 and 1926 and 10 C.F.R. Parts 851 and 850, and violations of B&W Y-12 policies and procedures invoked by Y73-004PD.

B&W Y-12's difficulty with identifying relevant regulatory noncompliances on the B&W Y-12 PAAA Screening Form Report may be attributed to LMPOs' lack of knowledge in the numerous subject areas covered by 10 C.F.R. Part 851, inconsistent use of and referral to subject matter experts (SME), and the lack of references to regulatory noncompliances in assessment reports.

The review team evaluated a number of individual screenings for occurrence reports, which indicated that field organizations were not consistently meeting expectations for timeliness. Often, LMPOs were not able to meet B&W Y-12's metric for monitoring timeliness, which is currently a goal of completing 95 percent of screens within 15 days. B&W Y-12 has not consistently met this metric, and has not routinely submitted reportable events into the DOE Noncompliance Tracking System (NTS) within 20 days of identifying a reportable noncompliance consistent with the EPO.

#### Strengths:

- Each B&W Y-12 organization's LMPO reviews a large and diverse set of source documents for potential noncompliances. These include issue reports, occurrence reports, internal/external assessments, nonconformance reports, and injury/illness reports. Noncompliance screenings of source documents by the LMPOs are maintained in an electronic database embedded within IMS. Any issues resulting from an LMPO screening are entered into the issues management module of IMS and become readily available to all organizations and the LMPOs.
- The feedback and improvement working group (FIWG) monitors B&W Y-12's worker safety and health performance, evaluates and identifies issues across the organization, and provides recommendations to senior management. The FIWG quarterly reports are screened by the Environment Safety and Health Division LMPO as a secondary source of potential noncompliances.

#### Recommendations:

- B&W Y-12's regulatory noncompliance identification and screening program should be modified to include several additional sources, such as employee concern reports, medical monitoring data, field inspection checklists, or potential secondary data sources (e.g., on-the-spot fixes and quarterly summary noncompliance rollup reports).
- Several screening sheets indicated that LMPOs are not identifying all potential noncompliances related to an issue. LMPOs should routinely use health and safety SMEs to assist in screening issues for all potential worker safety and health noncompliances. Procedure Y76-001 and the screening process in the handout provided to LMPOs during training (ref. Flow Chart for PAAA NTS Reporting Process 09-02-09) do not indicate that SMEs are a critical element to the screening process.

- The decision logic within the B&W Y-12 Screening Report Form uses the potential for injury and illness rather than the potential for exposure to a hazard as a gateway for identifying potential worker safety and health noncompliances. Because the potential for an injury or illness does not equate with a noncompliance with 10 C.F.R. Part 851, LMPOs may not be accurately assessing worker safety and health events and conditions.
- B&W Y-12 should routinely review source documents linked to site operating experiences after they are designated as a final report (e.g., occurrence reports and individual accident/investigation reports). Screening of final reports may provide additional information on potential regulatory noncompliances that were not identifiable during the initial screening.

#### **IV. Evaluation for NTS Reportability**

The line organization LMPOs perform a review of worker safety and health issues for NTS reportability. The B&W Y-12 PAAA Program Office receives NTS-reportable noncompliance issues through the screening module in IMS. Multiple levels of B&W Y-12 senior management as well as the B&W Y-12 enforcement attorney approve NTS reports. Both the B&W Y-12 president and general manager, and the B&W Y-12 enforcement program manager have the authority to approve the submittal of an NTS report without receiving all of the concurrent approvals, as identified in procedure Y76-001.

The review team examined a select group of worker safety and health screenings and found them to be aligned with the reportability criteria identified on the B&W Y-12 PAAA Screening Form Report and the event reporting thresholds as defined in the EPO. However, the review team did not find a consistent level of quality in the narrative to justify the determination of whether an issue was reportable or not. In some cases, the narrative was not issue specific and contained boilerplate text taken directly from the EPO. A review of B&W Y-12's past and current NTS reports revealed that: submissions are based only on operational events; submitted NTS reports have not consistently met the EPO guideline for timeliness; issues identified by the DOE field office have been designated as self-disclosing events rather than "DOE identified;" and corrective actions included in NTS reports are not consistently linked to noncompliances identified in the screening of the event.

#### **Recommendations:**

- Since 2007, B&W Y-12 has submitted nine worker safety and health NTS reports based on operational events. B&W Y-12 should identify process enhancements that would ensure that internal self-assessments, line organization inspection activities, and regulatory compliance trending activities are promoting self-identification of noncompliances. Noncompliance identification practices should transition from a reactive, event-oriented approach to one that drives the organization to be proactive in the critical self-evaluation of its worker safety and health programs.



- B&W Y-12 should consider measures to promote consistent reporting of noncompliances into the NTS within the periods identified in Y76-001 and the EPO.
- LMPO justifications for reportability decisions are not consistently issue specific. In a number of cases, justifications included boilerplate narratives that were not directly relevant to the decision made by the LMPO after screening the issue. B&W Y-12 should evaluate this practice and identify measures to promote issue specific documentation of screening decisions.

## V. Issues Management and Trending

B&W Y-12 has a mature issues management program to address conditions that are noncompliant with worker safety and health requirements. Procedure Y15-312 describes the management processes associated with the B&W Y-12 issues management program. B&W Y-12 staff enters incidents into the B&W Y-12 IMS, and those that are indicative of violations of regulations, requirements, procedures, or work documents require causal analyses and corrective actions. B&W Y-12 organizations track all corrective actions until final disposition. Resolution of issues is based on a graded, risk ranking approach with four levels of significance. The IMS is used to track and manage noncompliant issues to closure.

B&W Y-12 provided the review team with graphical trending representations for selected topical area safety and health metrics (e.g., housekeeping, electrical, barricades, personal protective equipment, ladders). Findings and observations from field and facility walkdowns are the data inputs for generating these graphs to monitor safety and health performance. The safety and health metrics were not directly associated with relevant worker safety and health regulatory citations.

The B&W Y-12 PAAA Program Office staff notifies senior management and functional area managers when systematic, cross-cutting issues become evident through routine reviews of LMPO screening reports. Once the B&W Y-12 PAAA Program Office identifies these issues, they enter them into IMS for tracking and resolution. B&W Y-12 procedure Y76-001 did not identify a process to recognize these systematic cross-cutting issues. The existing electronic screening tool does not have a statistical module to trend and analyze B&W Y-12 repetitive or recurring regulatory noncompliances. As a result, trending of regulatory worker safety and health noncompliances was not available.

### Strengths:

- B&W Y-12 has a mature issues management program. The issues management program contains mechanisms to analyze events for appropriate causal factors and requires the development and implementation of corrective action plans.

### Recommendations:

- B&W Y-12's issues management process requires that corrective actions developed from formal investigations/causal analyses focus on the identified causal factors.

B&W Y-12 should ensure that their enforcement program process verifies that corrective actions, including those in NTS reports, also address any identified worker safety and health regulatory noncompliances.

- The B&W Y-12 PAAA Program Office should establish and implement a well-defined process to identify and evaluate potential repetitive or programmatic worker safety and health noncompliances using primary and secondary data sources.
- The B&W Y-12 electronic screening tool should have the capability to collect pertinent noncompliance screening data so that it can be tracked and trended as a performance indicator for senior management. This process enhancement is particularly critical for ensuring B&W Y-12 identifies worker safety and health noncompliance conditions for corrective action before they result in safety significant events and potential enforcement investigation. DOE's enforcement policy provides incentives for contractors who promptly self-identify and appropriately report noncompliances to DOE.

## **VI. Assessments and Quality Improvement**

As part of the regulatory assistance review, the Office of Worker Safety and Health Enforcement performed a limited review of B&W Y-12's management and independent assessment programs. B&W Y-12 uses a variety of assessment tools to evaluate their worker safety and health programs. Internal and independent assessments result in reports designated as secondary sources to screen for regulatory noncompliances. The B&W Y-12 2010 and 2011 assessment schedules indicated that a diverse list of worker safety and health program areas were, or are planned to be, evaluated. Routine management assessments and SME observations of field implementation of worker safety and health programs augment assessment activities.

In response to issues identified by the DOE Y-12 Site Office as well as B&W Y-12's preparation for the Office of Worker Safety and Health Enforcement's regulatory assistance review, B&W Y-12 initiated an internal assessment of their regulatory compliance program. At the time of this review, the B&W Y-12 PAAA Program Office had not provided the draft report resulting from this program self-assessment to senior B&W Y-12 management because it was still undergoing internal review.

## **VII. Summary**

B&W Y-12 has established and maintains a mature regulatory compliance program that senior management fully supports. The B&W Y-12 regulatory compliance program contains all functional elements necessary for identifying, screening, and reporting worker safety and health regulatory noncompliances and managing corrective actions consistent with the guidelines delineated in the DOE EPO. Areas in need of further refinement include expanding the list of secondary sources for noncompliance screening, accurately screening issues for regulatory noncompliances, and initiating trending of the existing regulatory noncompliance data set.

B&W Y-12 should evaluate the recommendations identified during this review as opportunities for improving worker safety and health performance and avoiding or reducing the severity of worker safety and health noncompliances. This will also facilitate the Office of Worker Safety and Health Enforcement's exercise of discretion for noncompliant conditions considered to be less significant; support mitigation consideration in any future enforcement action; and ensure that worker safety and health program shortcomings receive appropriate recognition and corrective actions. Any corrective actions taken to address these weaknesses should be coordinated with the Y-12 Site Office.