



## Department of Energy

Washington, DC 20585

February 14, 2014

The Honorable Peter S. Winokur  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, DC 20004

Dear Mr. Chairman:

This letter and the enclosed report provide the Department of Energy's (DOE) assessment of the effectiveness of the actions the Department has taken to improve work planning and control (WP&C) programs, and are in response to the request for a twelve-month assessment of the effectiveness of the measures DOE has undertaken in response to your letter dated August 28, 2012. The specific actions and commitments, as detailed in DOE's November 30, 2012 letter to the Defense Nuclear Facilities Safety Board (Board), reflect the Department's commitment to continuous WP&C improvement in the following categories:

1. Enhancing complex-wide awareness of, and reinforcing, the need for rigorous activity-level WP&C.
2. Strengthening guidance and formality associated with contractor implementation and Federal monitoring of activity-level WP&C through the development of an implementation Handbook for contractors and a DOE Guide on oversight and evaluation of the effectiveness of activity-level WP&C.
3. Enhancing Federal and contractor oversight of activity-level WP&C, including a Deputy Secretary memorandum to communicate the special emphasis on oversight of activity-level WP&C.

The Department has made significant progress on each of our stated commitments by working together across DOE program and staff offices, as well as seeking inputs on WP&C best practices and lessons-learned from DOE contractor organizations and from the Board's staff. The commitments that have been completed, specifically the convening of the Special Integrated Safety Management (ISM) Champions Workshop on WP&C, and the issuance of the report, *Analysis of Integrated Safety Management at the Activity Level: Work Planning and Control*, have focused and communicated the Department's attention on areas of weakness and on ways to improve WP&C implementation and oversight performance. For efforts that are in progress, specifically the development of new DOE directives and the revision of existing DOE directives, it is premature to assess the effectiveness of these commitments at this time. However, the Department aims to use these directives to build a solid foundation to achieve effective WP&C program implementation and oversight. These directives are currently in the Department's formal review and comment process.

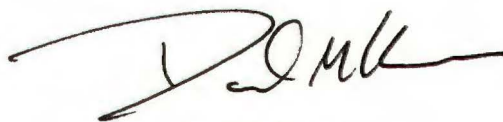


The enclosed report provides further details, specific examples, and effectiveness assessments of the many activities taken by the National Nuclear Security Administration, the Office of Environmental Management, the Office of Science, and the Office of Health, Safety and Security (HSS) to improve and strengthen WP&C implementation and oversight.

As indicated in Deputy Secretary Poneman's November 30, 2012 letter, WP&C is at the core of the ISM System which, for more than 15 years, has served as DOE's overarching framework to safely plan, execute, and monitor work activities. Thus, DOE has undertaken, and will continue to undertake, concerted efforts to apply lessons-learned to address WP&C challenges.

If you have any questions, please contact Dr. Patricia R. Worthington, Director, Office of Health and Safety, within HSS. Dr. Worthington has been assigned as the responsible manager for coordinating the Department's commitments and activities concerning WP&C. Dr. Worthington may be reached at (301) 903-5926 or via e-mail at [pat.worthington@hq.doe.gov](mailto:pat.worthington@hq.doe.gov).

Sincerely,



David M. Klaus  
Deputy Under Secretary  
for Management and Performance

Enclosure

cc w/enclosure:

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**Report to Defense Nuclear Facilities Safety Board—  
Status and Effectiveness Assessment of Actions to Improve  
Work Planning and Control**

**Background**

On August 28, 2012, the Defense Nuclear Facilities Safety Board (DNFSB or Board) issued a letter to the Department of Energy (DOE) expressing concern associated with deficiencies and weaknesses in the implementation of work planning and control (WP&C) at the activity level.

Enclosed with this letter is the report, DNFSB/TECH-37, *Integrated Safety Management at the Activity Level: Work Planning and Control*, which provides the technical basis for the Board's conclusion that DOE's previous improvement actions have not resulted in sustained improvement and consequently have not been effective. The Board believes that this is, in large part, due to a lack of formalized requirements and guidance within DOE's directives system and the resulting lack of DOE and contractor oversight in this area. With this letter, the Board requested: (1) a report that details DOE's actions taken and planned to address the WP&C deficiencies and weaknesses; and (2) a report within 12 months that details DOE's assessment of the effectiveness of these actions.

In the November 30, 2012, letter and report to the Board, DOE detailed specific commitments that comprise DOE's continued efforts to develop a complex-wide solution and to build on ongoing efforts to improve WP&C at the activity level. These specific commitments, or tasks, are grouped into three categories and are listed below:

1. Enhancing complex-wide awareness of, and reinforcing, the need for rigorous activity-level WP&C:
  - a. Convene a special Workshop of Integrated Safety Management (ISM) Champions focused on Activity-Level Work Planning and Control;
  - b. Conduct an analysis of the WP&C deficiencies identified by the DNFSB to determine common trends, causal factors, or systematic weaknesses with DOE's WP&C processes or implementation.
2. Strengthening guidance and formality associated with contractor implementation and Federal monitoring of activity-level WP&C through the development of an implementation Handbook for contractors and a DOE Guide on oversight and evaluation of the effectiveness of activity-level WP&C.
  - a. Develop contractor implementation guidance (following DOE O 252.1A, *Technical Standards Program*, process for a DOE Handbook) to provide DOE performance expectations for a fully effective activity-level WP&C system;
  - b. Develop a DOE Guide on Federal oversight and evaluation of the effectiveness of activity-level WP&C;
  - c. Develop a DOE Criteria and Review Approach Document (CRAD) to assess the effectiveness of activity-level WP&C implementation; and
  - d. Evaluate the current ISM clause in DOE contracts.

3. Sustained Federal and contractor oversight of effectiveness of activity-level work planning and control. The objective of this activity is to maintain technical vigilance and focus by ensuring that oversight of activity-level WP&C is a visible element of the DOE Federal (HSS and line management) and contractor assessments/oversight plans.

This report follows the November 30, 2012, letter and responds to the Board's request for DOE's assessment of the effectiveness of the actions listed above.

### **Status and Effectiveness Assessment**

Over the past year, the Department has completed, or has made significant progress for each of its stated commitments by working together across DOE program and staff offices, as well as seeking inputs on WP&C good practices and lessons-learned from DOE contractor organizations and from the Board's staff. For commitments that have been completed, DOE assesses these efforts to have been effective in focusing and communicating the Department's attention on areas of weakness, on ways to improve WP&C implementation, and on oversight performance. It is premature to assess the effectiveness of efforts that are in progress and have not been completed, specifically the development of new DOE directives and the revision of existing DOE directives. However, the Department is confident that through these efforts, it is building a solid foundation to ensure effective WP&C program implementation and oversight for many years to come. The status and effectiveness assessment for each task is provided below.

#### ***Task 1a – Convene a special Workshop of ISM Champions focused on Activity-Level Work Planning and Control.***

##### **Office of Health, Safety and Security**

On May 15-16, 2013, the Office of Health, Safety and Security (HSS) convened a Special ISM Champions Workshop entitled, *Optimizing Activity-Level Work Planning and Control*. The Workshop was organized and supported through cooperation and collaboration among a wide spectrum of stakeholders and decision-makers representing the National Nuclear Security Administration (NNSA), Office of Environmental Management (EM), Office of Science (SC), Office of Nuclear Energy (NE), HSS, contractors, Energy Facility Contractors Group (EFCOG), labor representatives, and the DNFSB. The Workshop was designed to solicit feedback and facilitate dialogue on site-specific activity-level WP&C practices, issues, challenges, and lessons learned. The Workshop benefited from reaffirmation by then Acting Secretary of Energy, Daniel Poneman, of DOE's continued commitment to improving implementation of WP&C at the activity level.

A detailed account of the workshop proceedings is currently available as part of a multi-media Web site to ensure ready and continued access by the DOE community. This Web site includes all presentations, questions and answers, as well as video recording of presentations.

Based on the feedback from workshop participants and attendees, we assess that the workshop was an effective and successful event where useful information was exchanged across multiple programs and various sites.

### National Nuclear Security Administration

The workshop was well attended by ISM Champions, senior leaders and managers, WP&C practitioners, NNSA staff, and Management and Operating (M&O) partners. Participation in the workshop provided field and Headquarters participants a greater understanding of ongoing enterprise actions and led directly to improved engagement on Task 2 actions within NNSA. The workshop also provided NNSA with a focused platform to share and learn field insights on WP&C implementation. Based on the HSS analysis report on WP&C deficiencies and the workshop presentation on the topic, NNSA was better equipped to develop oversight and performance priorities in the Fiscal Year 2014 integrated assessment planning process and the contractor performance evaluation plans, respectively.

### Office of Environmental Management

Personnel from EM Headquarters (HQ), field elements, and contractor organizations participated in the Workshop through direct attendance or via video conference. This participation included an EM-40 presentation furnishing perspectives on WP&C issues across the EM complex, a presentation by DOE-Idaho's WP&C Subject Matter Expert (SME) detailing WP&C improvements and weaknesses identified across the EM complex, and presentations by several EM contractors providing activity-level WP&C lessons learned.

The Workshop provided insight into activity-level WP&C weaknesses across the DOE complex, along with actions other organizations were taking to address these weaknesses. The Workshop also afforded good reinforcement for many of the ongoing WP&C oversight and improvement initiatives across the complex. Actions taken by EM personnel performing WP&C oversight include increased WP&C SME involvement in WP&C activities, coordination between WP&C SMEs and other personnel performing WP&C oversight (e.g., facility representatives, safety and health SMEs, safety system engineers), and cross-pollination of WP&C oversight expertise through personnel from different sites or HQ participating in HQ or field element oversight activities. Additional actions included renewed focus on addressing the aforementioned weaknesses, such as ensuring appropriate personnel, including appropriate workers and SMEs, are involved in the planning process; incorporation of identified hazard controls into work control documents (WCD); adequacy of WCD work instructions; effectiveness of WCD approval, authorization, and release processes; execution of work in accordance with approved WCDs; and evaluation of lessons learned from previous work activities during the planning of future work and improvements in ongoing work. These actions are discussed further in Task 3.

### Office of Science

There was active participation by SC Laboratory and Federal employees at the special Integrated Safety Management Workshop on May 15-16, 2013. Attendees included eight Science laboratories, six Site Offices, the Integrated Support Center and Science Headquarters personnel, including SC senior management.

**Task 1b** – *Conduct an analysis of the WP&C deficiencies identified by the DNFSB to determine common trends, causal factors, or systematic weaknesses with DOE's WP&C processes or implementation.*

### Office of Health, Safety and Security

The report entitled, *Analysis of Integrated Safety Management at the Activity Level: Work Planning and Control*, was completed on August 1, 2013. The report provides an analysis of activity-level WP&C across the DOE Complex for Defense Nuclear Facility operations, identifies a set of observed deficiencies, and provides recommendations for continuous improvement. The principal data sources applied in this analysis initiative are from assessments of activity-level WP&C and occurrence reports on adverse operating incidents. This analysis, conducted by HSS, benefited greatly from the participation of NNSA, EM, and SC personnel who provided program- or site-specific data inputs and conducted factual accuracy reviews. The report's recommendations are being addressed by DOE's ongoing actions to strengthen guidance for contractor implementation and DOE oversight as listed under Tasks 2a, 2b, and 2c. This report was posted on the Special ISM Champions Workshop Web site, as well as on the HSS Web site to ensure that it is accessible by both the DOE community of practice and by the wider DOE community.

In a November 12, 2013, memorandum, entitled *Strengthening Implementation of Work Planning and Control at the Activity Level*, Deputy Secretary Daniel B. Poneman referred to the August 1, 2013, analysis report and encouraged the Department's managers to determine the extent to which these deficiencies are found in their respective program-specific, site-specific, or contractor-specific settings. Deputy Secretary Poneman further stated that the report's recommendations should then be considered to develop, as needed, specific corrective actions to address these deficiencies and facilitate continuous improvement in day-to-day, activity-level WP&C practices. Based on this direction, NNSA, EM, and SC are taking efforts to work with their respective Field Offices to identify, implement, and track corrective action plans.

DOE assesses this task as effective as it resulted in a comprehensive analysis report that pointed to specific areas of WP&C deficiencies and provided recommendations on how best to address such deficiencies. In addition, this report has provided a common foundation that guided the development of the WP&C implementation Handbook, oversight guide, and CRADs. It is premature to provide an effectiveness assessment of the site-specific corrective action plans. DOE will continue to provide to the Board's staff information relating to these follow-on activities.

### National Nuclear Security Administration

Based on the Deputy Secretary's memorandum of November 12, 2013, NNSA distributed the August 1, 2013 HSS analysis report to its field offices for action in a memorandum dated November 19, 2013. The HSS analysis of WP&C deficiencies identifies common trends, causal deficiencies, or systemic weaknesses with WP&C processes or implementation and will be reviewed to identify corrective actions specific to each NNSA site with nuclear facilities by February 19, 2014. Further, NNSA field sites will collaborate and develop NNSA-wide corrective actions by March 19, 2014. Both of these actions are intended to broaden awareness and continue to improve in the implementation of activity-level work planning and control.

### Office of Environmental Management

EM HQ and field element personnel participated in the development of the analysis report, and the report's conclusions and recommendations were considered during the development of the

DOE Handbook (Task 2a), WP&C Oversight Guidance (Task 2b), and activity-level WP&C CRADs and associated lines of inquiry (Task 2c). EM HQ and field elements have reviewed the report for WP&C oversight improvement opportunities. Additionally, the field elements have shared the report with their contractors for consideration in improving their WP&C programs. When the Handbook and Guide are issued in 2014, EM will direct field elements and their contractors to evaluate existing DOE oversight and contractor WP&C programs against the Analysis report and new Directives. Corrective actions for identified weaknesses or opportunities for improvement will be developed using the Handbook and Oversight Guidance as touchstones. EM's evaluation will include individual contractor organizations, across EM sites, and across the EM complex. Feedback and lessons learned from these evaluations will be provided for DOE and contractor organizations' use in their ongoing improvement efforts.

#### Office of Science

There was active participation by SC representatives in the development of the report entitled, *Analysis of Integrated Safety Management at the Activity Level: Work Planning and Control*, dated August 1, 2013.

With the official release of the report on *Analysis of Integrated Safety Management at the Activity Level: Work Planning and Control* dated August 1, 2013, SC has been working with the appropriate Field Offices to identify the applicable recommendations and implementation plans.

**Task 2a** – *Develop contractor implementation guidance (following DOE 0 252.1A process for a DOE Handbook) to provide DOE performance expectations for a fully effective activity-level work planning and control system.*

On November 7, 2013, the draft DOE Handbook entitled, *Activity-Level Work Planning and Control Implementation*, entered the Department's formal review and comment (RevCom) process. This comprehensive WP&C implementation Handbook is intended to be a resource for improvement in the performance of work at the activity-level by the DOE contractor community with Hazard Category 1, 2, and 3 nuclear facilities. The Handbook places greater emphasis on reference information and good practices for activity-level work execution by DOE's contractors within the DOE Technical Standards System. Throughout the Handbook, DOE requirements and directives relating to WP&C have been referenced in the form of "Performance Expectations" to provide context for the described implementation approaches of activity-level WP&C. The Handbook further describes attributes and good practices for effective WP&C implementation. In addition, this Handbook complements the WP&C oversight approach described in the DOE Guide, which is being revised per Task 2b.

In order to ensure that the DOE contractor community is aware of this Handbook and encourage widespread use following its issuance, DOE will:

- Reference the Handbook within DOE Guide 226.1-2, *Federal Line Management Oversight of Department of Energy Nuclear Facilities*;
- Reference the Handbook within DOE Guide 450.4-1C, *Integrated Safety Management System Guide*;
- Reference the Handbook within DOE Order 422.1, *Conduct of Operations*;

- Discuss the Handbook through the many formal and informal interactions (e.g., National Laboratory Directors Council and DOE EFCOG working group meetings); and
- Discuss the Handbook in meetings and correspondences with DOE ISM champions.

DOE assesses this task as effective because it has resulted in a comprehensive and detailed WP&C implementation Handbook that can be used for a diverse range of work activities and hazard conditions. This effectiveness is also a result of the collaboration and participation by SMEs from NNSA, EM, SC, HSS, and NE. While it is premature to assess the implementation effectiveness of this Handbook, the Department is confident that it are in the process of building a good foundation to ensure effective WP&C program implementation for many years to come.

**Task 2b** – *Develop a DOE Guide on Federal oversight and evaluation of the effectiveness of Activity-Level WP&C.*

On November 8, 2013, the draft revision to DOE Guide 226.1-2, *Federal Line Management Oversight of Department of Energy Nuclear Facilities*, entered the Department’s formal review and comment (RevCom) process. This revision included new content devoted to Federal oversight and evaluation of the effectiveness of activity-level WP&C at Hazard Category 1, 2, and 3 nuclear facilities. The new content has been designed to: (1) provide recommended WP&C oversight processes to measure the effectiveness of contractors' WP&C programs; (2) identify situations in which the desired outcome is not achieved; (3) contain a clear set of expectations and criteria to evaluate the effectiveness of contractors' WP&C processes in ensuring safe and effective work activities; and (4) share best practices rather than promote a single acceptable approach to oversight of WP&C.

We assess this task as effective because it resulted in comprehensive and detailed WP&C oversight and evaluation guidance. This effectiveness is also a result of the collaboration and participation by SMEs from NNSA, EM, SC, HSS, and NE. While it is premature to assess the implementation effectiveness of the revised Guide 226.1-2, the Department is confident that it is in the process of building a good foundation to ensure effective WP&C program oversight for many years to come.

**Task 2c** – *Develop a DOE CRAD to assess the effectiveness of activity-level WP&C implementation.*

The draft revision to DOE Guide 226.1-2, discussed above, contains an Appendix entitled, *Activity-Level Work Planning and Control Criteria Review and Approach Documents with Lines of Inquiry*. This appendix provides CRADs, including lines of inquiry, for the evaluation of contractor WP&C Program Definition and Program Implementation. These CRADs are designed for use during field element and Headquarters organizations’ assessments of contractor WP&C programs.

Similar to Tasks 2a and 2b, DOE assesses this task as effective since it resulted in a comprehensive and detailed set of WP&C CRADs and associated lines of inquiry. This effectiveness is also a result of the collaboration and participation by SMEs from NNSA, EM, SC, HSS, and NE. While it is premature to assess the implementation effectiveness of the



revised Guide 226.1-2, the Department is confident that it is in the process of building a good foundation to ensure effective WP&C program oversight for many years to come.

**Task 2d** – *Evaluate current ISM clause in DOE contracts.*

Office of Health, Safety and Security

HSS, in consultation with the Office of Management (MA) and working with the Program Offices, examined the title 48, Code of Federal Regulations (CFR), § 970.5223-1, *Integration of Environment, Safety and Health into Work Planning and Execution* (also known as the ISM Department of Energy Acquisition Regulations (DEAR) Clause) to evaluate the clarity of DOE expectations associated with activity-level WP&C, including expectations for defining scope of work, hazard identification and analysis, and feedback and improvement. Based on evaluations conducted by HSS, MA, NNSA, EM, and SC, the Department believes that the ISM DEAR Clause continues to drive improvements in the ISM System with the appropriate level of rigor and formality, and at the same time, allows for tailored implementation of ISM requirements at DOE defense nuclear facilities. In addition, DOE also determined that it would not revise the DEAR Clause to provide references to the WP&C Implementation Handbook.

National Nuclear Security Administration

NNSA Field Office Managers were tasked at the NNSA Leadership meeting (January 2013) to evaluate the ISM DEAR Clause (48 CFR § 970.5223-1) and determine whether it is sufficient to provide the requirements base for activity-level work planning and control. All Field Offices responded and a summary of their feedback was provided to the NNSA Chief Operating Officer in February 2013.

The objective of this action was to evaluate the clarity of DOE expectations associated with WP&C, including expectations for defining scope of work, hazard identification and analysis, and feedback and improvement. Any needed adjustments would be vetted within DOE and addressed as part of formal DOE processes prior to inclusion in contracts.

All seven (7) Field Offices reported that 48 CFR § 970.5223-1, *Integration of Environment, Safety and Health into Work Planning and Execution*, is incorporated within their respective M&O contracts. All Field Offices concluded that the ISM DEAR Clause was sufficient to address WP&C, and the DEAR Clause is further supported by WP&C requirements contained within DOE regulations (e.g., 10 CFR part 851, *Worker Safety and Health Program*) and DOE directives (e.g., DOE O 433.1B, *Maintenance Management Program for DOE Nuclear Facilities*).

In reviewing the ISM DEAR Clause, the following principal requirements were noted in their evaluation of whether the requirements were sufficient:

1. The Contractor shall manage and perform work in accordance with a documented Safety Management System;
2. The Contractor shall submit documentation of the Safety Management System to the DOE Contracting Officer for review and approval;
3. The Safety Management System shall be integrated with the Contractor's business processes for work planning, budgeting, authorization, execution, and change control;

4. In performing work, the Contractor shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work;
5. The Contractor shall ensure that management of environment, safety and health (ES&H) functions and activities becomes an integral but visible part of the Contractor's work planning and execution processes; and
6. Finally, each of the five (5) Core Functions and seven (7) Guiding Principles of ISM are included as requirements within the ISM DEAR Clause.

One significant concern raised by the NNSA Production Office (NPO) relates to the Department's governance reform efforts of the past couple years. DOE guidance on WP&C was reduced in the directives system (i.e., DOE M 450.4-1 and DOE G 450.4-1, Vols. 1-2). Further, the combination of NNSA guidance issued in 2006, guidance issued by EFCOG in 2012, and archived DOE guidance has resulted in multiple guidance sources, none of which are contained within the DOE directives system, for WP&C programs and their execution. New guidance in DOE G 450.2 is limited. NPO asserted that this sets up an expert-based or opinion-based measure of what is considered acceptable performance. NPO further recommended that NNSA develop a standard list of oversight lines of inquiry/CRADS for effective oversight of WP&C programs and their implementation and that NNSA develop a Work Planning and Execution Standard that can be referenced during work activities. The DOE Handbook (Task 2a) and the revised DOE Guide (Task 2b and 2c) were developed consistent with the NPO recommendations to address these concerns.

#### Office of Environmental Management

All EM prime contractors performing work in operating Hazardous Category 1, 2, or 3 nuclear facilities have 48 CFR § 970.5223-1, *Integration of Environment, Safety and Health into Work Planning and Execution*, in their contracts. EM HQ and field elements determined that, although 48 CFR § 970.5223-1 needs to be broad enough to address the wide variety of work activities performed across the EM complex, the Clause's guiding principles and core functions provide adequate requirements for implementing ISM at the activity level within EM's nuclear facilities.

#### Office of Science

SC conducted a detailed review of contract clauses relative to ISM and determined that all SC contracts had the ISM clause.

#### Summary

In the report accompanying Deputy Secretary Poneman's November 30, 2012, letter to the Board, DOE stated that the current set of directives provides sufficient clarity, requirements, and expectations governing activity-level WP&C. Such requirements have been compiled in the development of the draft DOE Handbook and DOE Oversight Guide. The Department believes that through our improvement efforts highlighted in this report, we will be effective in improving WP&C implementation. As part of the Department's continuous improvement efforts, it will monitor program implementation to determine whether additional requirements are necessary.

**Task 3** – *Sustained Federal and contractor oversight of effectiveness of activity-level work planning and control. The objective of this activity is to maintain technical vigilance and focus by ensuring that oversight of activity-level WP&C is a visible element of the DOE Federal (HSS and line management) and contractor assessments/oversight plans.*

On January 25, 2013, Deputy Secretary Poneman issued a memorandum that emphasized the importance of well-developed and consistent implementation of WP&C in ensuring the safety of our workers, the public, and the environment. The Deputy Secretary also requested that DOE managers and staff fully support the Department’s efforts to focus and improve WP&C implementation and oversight. The following DOE program and staff office oversight activities and commitments illustrate the Department’s efforts at continuous improvements. DOE assesses this task as effective based on the extensive activities by DOE HQ and Field Offices to emphasize WP&C oversight and implementation.

Office of Health, Safety and Security

On July 26, 2013, the Department’s Chief Health, Safety and Security Officer distributed a memorandum entitled, *Independent Oversight of Nuclear Safety – Targeted Review Areas Starting in FY 2014*, which highlighted the fact that in support of the Deputy Secretary’s commitment to include WP&C as a visible element of planned HQ and Field oversight activities, HSS' Independent Oversight will include WP&C as a targeted review area starting in fiscal year (FY) 2014.

Over the past 12 months, the HSS Independent Oversight Program issued two assessment reports that directly focused on WP&C implementation and oversight, and six assessment reports in which WP&C was examined within the Radiation Protection Program. Each of these assessment reports produced specific findings and opportunities for improvement for which DOE sites can develop corrective action plans to address WP&C deficiencies. These Independent Oversight Program assessment reports are:

- Independent Oversight Review of the Los Alamos National Laboratory Radiological Controls Activity-Level Implementation. November 2013
- Independent Oversight Review, Savannah River Field Office Tritium Facilities – Review of Savannah River Field Office Tritium Facilities Radiological Controls Activity-Level Implementation. November 2013
- Independent Oversight Review, URS CH2M Oak Ridge – Review of Oak Ridge Environmental Management Radiological Controls Activity-Level Implementation. June 2013
- Independent Oversight Review, Waste Isolation Pilot Plant – Review of the Waste Isolation Pilot Plant Work Planning and Control Activities. April 2013
- Independent Oversight Review, Advanced Mixed Waste Treatment Project – Review of Radiation Protection Program Implementation at the Advanced Mixed Waste Treatment Project of the Idaho Site. April 2013
- Independent Oversight Review, Portsmouth Gaseous Diffusion Plant – Review of the Portsmouth Gaseous Diffusion Plant Work Planning and Control Activities Prior to Work Execution. January 2013

- Independent Oversight Review, Hanford Tank Farms – Review of the Hanford Tank Farms Radiological Controls Activity-Level Implementation. December 2012
- Independent Oversight Review, Idaho Site – Review of Radiation Protection Program Implementation at the Idaho Site. November 2012

#### National Nuclear Security Administration

NNSA maintains technical vigilance and focus of activity-level WP&C by assurance activities performed by the contractor, oversight performed by Field Offices, and biennial reviews performed by NNSA HQ. The NNSA biennial reviews concentrate on field office performance of nuclear safety oversight and implementation of requirements. These activities and other independent assessments (e.g., HSS') are a visible element of enterprise operations through the integrated assessment planning process that has been applied since FY 2011 in pilot form and fully implemented in FY 2012 and beyond.

Oversight processes as implemented at NNSA field offices generally employ a risk-informed, data-driven approach intended to identify and address negative performance in a timely manner, thereby ensuring safe and effective performance of mission objectives. This risk-informed model requires, and relies upon, the contractor to continually self-assess performance through objective data obtained by various means, such as assessments and field observations. The contractor is expected to continuously and rigorously analyze this data, identify and track positive and negative trends, and use the results to improve performance and mission delivery effectiveness. WP&C performance is tracked by the contractor and NNSA through transparent metrics that undergo ongoing contractor and federal review.

In addition to being used to monitor program performance, metrics are used as input in the development of annual contractor and Federal assessment plans prior to the start of each fiscal year. Indicators of declining or unacceptable WP&C performance would indicate an increased level of risk and a probable need for attention (e.g., assessments). The performance indicators are factored into the development of annual contractor and NNSA assessment plans. The plans identify self-assessments in addition to independent assessments conducted by internal contractor oversight groups (e.g., Quality Assurance, Facility Evaluation Boards) and by independent Federal organizations, such as HSS or the Chief, Defense Nuclear Safety. Assessment plans are shared with NNSA stakeholders in an integrated assessment planning process. WP&C assessments are typically structured, utilizing CRADs developed from available guidance (e.g., 2006 NNSA Guidance, 2012 EFCOG Guideline Document). The draft DOE Guide and Handbook now in RevCom are being reviewed by the field and are expected to be additional resources in 2014.

Improvements to the NNSA biennial reviews in FY 2013 included changes to the Maintenance and Conduct of Operations CRADs. Approaches in each CRAD were modified to emphasize review of field office oversight in the area of WP&C programs and their implementation.

In addition to assessments specifically focused on WP&C, a significant number of reviews are performed for which WP&C is one of several functional areas in broader-scoped reviews and/or for functional areas that directly contribute to the success of some specific aspect of WP&C. Examples of such areas include Conduct of Operations, Maintenance, and Radiation Protection.

Informal oversight mechanisms are also employed to ensure work planning and control is effectively implemented. Routine operational awareness duties conducted by NNSA Facility Representatives provide opportunities to observe daily work activities, such as attendance at meetings, inspection of field conditions, and observation of work in progress. Work packages are routinely reviewed by NNSA Facility Representatives and functional area SMEs in addition to contractor reviews. Performance of work is monitored by random or scheduled walkdowns, “spot checks,” and/or full-time observation by contractor and NNSA personnel, including management, depending on the level of hazard and complexity of the job.

A summary of major WP&C-related oversight activities for FY 2013 and FY 2014 at each of the NNSA field offices includes:

- Los Alamos National Laboratory (LANL): WP&C improvement updates are provided and discussed at weekly and biweekly stakeholder meetings between the Field Office, contractor and DNFSB. Facility Representatives (FR) have been provided guidance on application of operational awareness activities as they pertain to WP&C and maintain awareness through time spent in the field, which has exceeded field time expectations as specified in DOE-STD-1063 (i.e., 65%). SMEs are also assigned to oversee field implementation of specific elements of WP&C (e.g., industrial hygiene, maintenance).

Five WP&C-related reviews were scheduled in the FY 2013 Integrated Assessment Schedule, including a Corrective Action Implementation Effectiveness assessment. Additional effectiveness assessments conducted during FY 2013 included a Voluntary Protection Program (VPP) status review and a Radiation Control event followup review. Seven additional WP&C assessments are scheduled for FY 2014.

- Lawrence Livermore National Laboratory (LLNL): The WP&C functional area was established in the spring of 2013 by LLNL and execution is emerging. Efforts are underway to develop, mature, and improve use of the Contractor Assurance System (CAS) tools, including metrics and performance analysis reports that support transparent communication with the Livermore Field Office (LFO). A broad range of assessments and reviews targeting WP&C are performed at LLNL by the contractor. Assessments span from internal, independent assessments and management assessments (MAS) to surveillance/walkthrough type inspections. Reviews have included management reviews, extent of conditions, and effectiveness reviews. WP&C-related corrective actions to address the LLNL Site 300 acid splash event are also underway. A WP&C Pilot Project focused on improving work planning and execution across the Site is underway within the Weapons and Complex Integration Directorate's Site 300 area. LLNL WP&C assessment activities will subsequently focus on the effectiveness of the improvement initiatives upon their completion.

Several different types of assessments targeting WP&C are also conducted by LFO. Assessments that focus on the implementation of WP&C at the activity level are typically completed by FRs, as well as technical SMEs, such as an Industrial Hygienist (IH), and/or Health Physicist (HP), etc. The scope of these assessments are aligned to the Integrated Safety Management System (ISMS) five-core functions and typically focus on the work

planning elements (scope definition/hazard analysis and control selection) or work performance elements (performance of work within controls/feedback for improvement). In addition to the above implementation/activity-level based assessments, LFO includes an evaluation of the Laboratory's institutional work planning and control program/processes as part of the required periodic ISMS Effectiveness Reviews. The ISMS review looks at both program definition (WP&C key elements are in place) and broader performance data and trends. During FY 2013, a total of 36 MAS targeted assessments were completed. Forty-seven (47) MAS- targeted assessments are scheduled for FY 2014.

- Sandia National Laboratories (SNL): The contractor continues to improve the WP&C program through an engineered safety-mode approach and has devoted management attention and resources toward improving safety culture and trending analysis. Sandia has developed a corporate WP&C training course, which has been provided to approximately 200 work planners. Sandia Field Office (SFO) has employed rollup assessments by WP&C SMEs to analyze data collected by the FRs for trends during each of the last 2 years. SFO SMEs will continue to periodically conduct these reviews through FY 2014.

In FY 2014, SFO SMEs will be performing limited scope reviews at 24 SNL facilities with lines of inquiry (LOI) on hazard analysis of activity-level work. SFO has also scheduled at least two multi-SME assessments to examine implementation of WP&C. NNSA and SNL have initiated an accident investigation into the December 11, 2013 explosion and personnel injury at Building 9920. SNL and SFO will remain vigilant to the outcomes of this investigation and how WP&C or related assurance and oversight priorities may need to change.

- Nevada Nuclear Security Site (NNSS): The Nevada Field Office (NFO) and National Security Technologies (NSTec) have well-established and functioning Line Oversight and CASSs, respectively, providing for periodic, structured, documented, and evidence-based monitoring of WP&C functional area health. These systems include performance metrics, formal assessments, informal operational awareness activity by qualified and experienced contractor and Federal personnel, trained and qualified work planners and managers and execution staff. NFO has a Senior Technical Adviser as the WP&C functional area representative with extensive experience as an FR in assessments, Conduct of Operations, quality, and performance assurance.

In FY 2013, NFO completed six internal (management) assessments, specifically targeting WP&C. In addition, 332 operational awareness activities (e.g., review of reports, attendance at meetings, inspection of field conditions, observation of work, evaluation of contractor performance data, etc.) were conducted that involved the observation of at least some part of the WP&C functional area scope. NFO hosted one independent assessment of WP&C during FY 2013, the NNSA biennial review, which included WP&C under the Conduct of Operations and Maintenance CRADs.

NSTec completed 10 internal assessments, which targeted WP&C, and has committed to completing 2 internal assessments specifically targeting WP&C. For FY 2014, NFO will shadow 5 contractor assessments that affect/touch the WP&C functional area.

- Savannah River Field Office (SRFO) and the Savannah River Tritium Enterprise (SRTE) have maintained a strong focus on improving WP&C performance across its Operations and Maintenance Functional Areas for several years. WP&C was previously recognized as a distinct functional area in calendar year (CY) 2011 and assigned a designated manager and SMEs for increased focus. Savannah River Nuclear Solutions, LLC (SRNS), the site M&O contractor and parent organization to SRTE, took the additional measure of designating WP&C as an FY 2013 Presidential Focus Area to ensure the highest level of attention was afforded to this functional area by senior management and this focus was applied at SRTE. As a result, SRTE has conducted fourteen (14) Internal Assessments since January 1, 2012, that focused on WP&C and eight (8) are scheduled for completion during the remainder of FY 2014. Sixty-five (65) additional Internal Assessments have been performed with a focus on procedural use and compliance as part of the Operations WP&C. Additionally, an HSS review of WP&C implementation was conducted during November 2013.

In addition, DOE's contractors employ extensive use of leadership tools to assist in the implementation of good WP&C practices including:

- Management Field Observations (MFO) (2,442 MFOs since January 1, 2012);
- Senior Supervisory Watches (SSW) within the facility line management chain, senior to the facility Shift Manager, is placed on shift to provide mature, experienced judgment, oversight, and advice to the Shift Manager (30 SSWs since August 1, 2013);
- Coaching Tours, which consist of assigned Management Teams directed to observe Facility Operations over a period of 1 week. Field work activities are observed and include all work organizations assigned to the shift (39 Coaching Tours since January 1, 2012); and
- Human Performance Initiatives are recognized as a set of tools to promote safe and reliable execution of work. Workers are safe to admit mistakes or identify issues to promote organizational learning. Tritium facilities have approximately 90 self-reported issues from all levels of the organization each month. The errors are addressed at daily management meetings and are analyzed for trends on a monthly basis.

SRFO oversight of WP&C has relied extensively on the monitoring of daily activities by FRs and management walkdowns. The FRs perform daily observations of the contractors' work planning and control process and observe conduct of work on a daily basis. Routine and frequent facility walkdowns are required of each manager per month and are tracked to ensure their completion. Walkdowns are often scheduled to observe specific work in progress. Since January 1, 2013, there have been 172 documented assessments by SRFO.

SRFO oversight efforts have identified programmatic weaknesses for which efforts are directed to strengthen the WP&C program. Issues identified include failure to identify all hazards associated with a work activity, missing work controls and inadequate implementation of controls. These issues are also formally documented to improve the front-end planning process, execution, and conduct of work feedback to promote holistic work practice improvements. For example, FR assessments identified sitewide deficiencies in the manner by which stored battery energy is controlled and a failure to consider all fire

scenarios for work, which included the generation of sparks by the grinding of metal. SRFO also identified opportunities for improvement, such as segmentation of a multi-room facility for hazards analysis purposes and modifications to performance metrics. The adequacy of implementation and effectiveness of corrective actions are routinely verified by SRFO through both formal and informal reviews and observations. SRFO and SRTE management teams meet on a routine basis, both formally and informally, to discuss areas of work planning and execution, which require further attention and monitoring of performance improvement.

- NNSA Production Office (NPO): An NPO commitment to the DNFSB that it will monitor and track contractor performance in improving WP&C at the Y-12 Site has been completed. Actions associated with this commitment include:
  - FRs and SMEs perform a set number of Maintenance quick check observations each quarter. Findings or observations are summarized in a monthly report to the contractor after being evaluated by the Assistant Manager for Operations Management (AMOM). The NPO performed more than 150 maintenance quick checks during FY 2013 and plan to perform at least 150 in FY 2014.
  - NPO FRs and maintenance SMEs team to perform targeted formal performance-based assessments based on the EFCOG guidance for Activity-Level Work Planning and Control. NPO performed 2 indepth work control assessments in FY 2013 and plans to complete at least two in FY 2014.
  - Other offices within NPO help maintain technical vigilance through Operational Awareness activities, which include activity-level WP&C observations. All issues are submitted to the contractor for action and/or information. There is a formal expectation for each employee to perform Shadow Assessments specified in the Site Integrated Assessment Plan.

Although no formal commitment was made to monitor and track contractor performance at the Pantex Site, all of the actions associated with the commitment are also implemented for the Pantex M&O Contractor.

In FY 2013, NPO performed seven activity-level WP&C shadow assessments with results transmitted to the contractor. A similar number is planned for FY 2014.

Oversight at all NNSA sites continues to identify areas of weakness or specific deficiencies in the WP&C program and its implementation. Examples of current issues being identified at NNSA facilities include:

- Inadequate work planning resulting from an incomplete identification of hazards, prescription of controls or implementation of effective controls;
- Lack of disciplined operations to ensure that work is conducted within the controls specified, or paused/stopped until it can be;
- Inadequate clarity and level of detail of work documents; and
- Less than adequate review of work packages.



Corrective actions resulting from assessments, walkdowns, and observations are entered into tracking databases and tracked to closure with independent verification of adequacy of corrective action implementation. Depending on the severity of the issue, effectiveness reviews may also be conducted to ensure effectiveness of the implemented corrective action by independent review.

NNSA communicates regularly with the site contractor on WP&C expectations and matters of performance through periodic meetings and formal correspondence by the Federal Contracting Officer. Acceptable performance is reinforced through a formal performance feedback process and tied to award fee. Inadequate implementation of the WP&C process is documented on a monthly, quarterly, and annual basis and can result in significant financial penalty, providing further incentive for program maintenance and vigilance.

#### Office of Environmental Management

Oversight of EM WP&C programs is conducted using a three-phase approach, which begins with our prime contractors. All EM contractors include WP&C oversight as part of their contractor assurance systems and have incorporated WP&C oversight into their annual assessment schedules. Additionally, URS conducted independent, corporate WP&C reviews at the five EM sites where it is the prime contractor lead during CY 2013.

The second phase of EM's WP&C oversight is our field element formal and informal evaluation of contractor WP&C activities. Each EM field element has identified a WP&C SME, incorporated WP&C oversight into its annual assessment schedule, conducted routine WP&C operational awareness activities (OA), assessed contractor WP&C oversight effectiveness, and evaluated contractor WP&C performance against established performance objectives and metrics.

The final phase is EM HQ WP&C oversight, which is performed by the Office of Operational Safety (EM-42). EM-42's oversight includes assessments, reviews, assist visits, and evaluation of field element oversight results, including each site's annual ISM declaration.

WP&C oversight at EM's sites has concluded, although contractor WP&C programmatic processes are satisfactory, contractors continue to experience implementation issues. EM's FY 2014 WP&C oversight will continue to focus on WP&C program implementation.

Implementation issues across the EM complex include:

- Involvement of appropriate workers and SMEs during planning;
- Activity-specific hazard identification and hazard control development;
- Incorporation of hazard controls into work control documents (WCD);
- WCD work instruction adequacy;
- WCD approval, authorization, and release;
- Execution of work in accordance with approved WCDs; and
- Evaluation of lessons learned from previous work activities during the planning of future work and improvements in ongoing work.

Summaries of each EM federal organization WP&C oversight processes, 2013 oversight results, and planned FY 2014 WP&C oversight activities are provided below.

*Office of Environmental Management Headquarters (EM-42)*

In FY 2013, EM-42 conducted WP&C oversight at six EM sites, including reviews of contractor WP&C programs at the following defense nuclear facilities: Oak Ridge (URS/CH2M Oak Ridge LLC (UCOR)), Richland (CH2M Hill Plateau Remediation Company (CHPRC)), Idaho (Idaho Treatment Group (ITG)), and the Waste Isolation Pilot Plant (Nuclear Waste Partnership (NWP)). EM-42 also participated in the Idaho Operations Office assessment of CH2M-WG Idaho's (CWI) WP&C program infrastructure and implementation. EM-42 oversight results included:

- During the UCOR assessment, which was conducted as part of UCOR's ISM Phase II review, EM-42 identified significant issues with K-25 WCD adequacy, implementation of credited criticality safety controls, and WCD compliance. Additionally, EM-42 identified significant deficiencies with Oak Ridge National Laboratory (ORNL) WCD adequacy resulting in the need to re-perform job hazard analysis (JHA) and rewrite the majority of the WCDs used by UCOR to conduct work at ORNL.
- During the CHPRC assessment, EM-42 identified weaknesses in program documentation and implementation, which included the lack of a rigorous work planner training and qualification program, less than adequate WCDs, and WCD compliance issues.
- During the ITG assessment, which was conducted as part of the Advanced Mixed Waste Treatment Project (AMWTP) ISM Phase II review, EM-42 identified issues included the failure to involve workers in the planning for an activity, failure to identify a hazardous energy source, WCD inadequacies, and failure to perform work instructions as written.
- During the NWP review, EM-42 identified approved WCDs, which could not be performed as written, the failure to address a workplace hazard/change in condition, which was not identified during the planning process, less than adequate work release authority deconfliction of work activities, failure to use WCD prescribed maintenance and test equipment, and numerous WCD compliance issues. One of these noncompliances resulted in EM-42 notifying NWP's maintenance foreman that workers were about to perform a step although the workers were not in the activity's hazard analysis prescribed chemical personal protective equipment (PPE), which resulted in the activity being stopped.
- During its participation in the CWI assessment, EM-42 identified significant issues with hazard identification and analysis, hazard control development and implementation, and WCD adequacy.
- During its review of EM field element annual ISM declarations, EM-42 noted that EM contractors continued to experience difficulties with the implementation of the following components of WP&C: (1) hazard control identification and implementation; (2) WCD adequacy; and (3) compliance with WCD hazard controls and work instructions.

EM-42 also provided technical support to the Carlsbad Field Office (CBFO) and NWP during FY 2013. EM-42 assisted CBFO in its efforts to improve the Field Office's oversight processes and facility representative program in the form of evaluation of WCD adequacy and execution,

documenting oversight results, and development of oversight processes and procedures. EM-42 assisted NWP's WP&C and maintenance program improvement efforts by recommending changes to WP&C programmatic documents, mentoring contractor personnel performing WCD verification and validation activities, and providing WCD execution and compliance guidance to operations and maintenance personnel.

Currently planned EM-42 defense nuclear facility WP&C assessments for CY14 include Office of River Protection Tank Farms, WIPP, Idaho Integrated Waste Treatment Unit (IWTU) and AMWTP, and the Oak Ridge TRU Waste Processing Center. In addition to addressing the aforementioned implementation issues, EM-42 will include evaluation of the effectiveness of contractor and field element WP&C oversight.

#### *Idaho Operations Office (DOE-ID)*

DOE-ID has incorporated the EM WP&C Guidelines into its oversight of both of its contractor's WP&C programs. DOE-ID has a dedicated WP&C Program Manager that conducts regularly scheduled oversight of the contractors' WP&C programs and coordinates WP&C oversight performed by facility representatives and ES&H SMEs. This collaboration has proven effective in conducting comprehensive WP&C oversight of CWI and ITG. In addition to his DOE-ID responsibilities, the WP&C Program Manager represented EM HQ during the Workshop and briefings to the DNFSB, participated in each of the other Tasks, and serves as the DOE field sponsor for the EFCOG WP&C sub-group.

DOE-ID noted the need for improvement in the ITG activity-level WP&C, along with ITG self-assessment of its WP&C program. DOE-ID WP&C oversight closely monitored the conduct of the July 2013 ISMS Phase II review of ITG in addition to conducting routine oversight of the WP&C process. DOE-ID concluded that the ITG WP&C process is partially effective, but significant improvement is needed to become fully effective. ITG recently elected to revise its WP&C process to be consistent with the EFCOG Guide. Implementation of that process continues to be a focus of oversight.

Along with performing routine OA oversight of the CWI WP&C program's implementation, DOE-ID performed a programmatic review with a focused look at field work conducted at the IWTU. The review team determined CWI WP&C process lacked specific direction in several key areas that contributed to execution deficiencies identified during the review. The lack of programmatic requirements resulted in an expert-based approach rather than a process-driven approach. Relying on such an approach resulted in deficient and inconsistent WCDs. DOE-ID also noted that key weaknesses in the CWI WP&C program were identified during DOE oversight rather than by the contractor. DOE-ID concluded that the CWI WP&C process was generally effective, but continued enhancement was warranted. CWI recently revised WP&C process to be consistent with the EFCOG guide released in May 2012.

Planned efforts for FY14 include conducting six assessments of EM contractor WP&C program implementation, ongoing OA, and working with the contractor to achieve alignment of their WP&C processes with the performance expectations provided in the upcoming DOE Handbook.

#### *Oak Ridge Office of Environmental Management (OREM)*

OREM developed WP&C CRADs based upon the EM WP&C Guidelines for performing oversight of its prime contractors. These CRADs were used in the most recent ISMS verifications for each of the primes. OREM determined that all of its prime contractors had implemented adequate WP&C programs. In order to improve its oversight of contractor WP&C programs, OREM identified a WP&C SME in FY13.

OREM is sustaining Federal and contractor oversight of effectiveness of activity-level WP&C through the assessment, surveillance, and OA programs. Contractor implementation and effectiveness of the WP&C program is reviewed bi-weekly with the OREM senior management and the OREM project team. In addition, FR oversight results are discussed in Integrated Project Team meetings and in the Facility Operations weekly report.

OREM's largest contractor, UCOR, had a combined Phase I/II ISMS verification review conducted by OREM and EM HQ in early 2013. Significant WP&C weaknesses, including WCD adequacy, implementation of credited criticality safety controls, and WCD compliance were identified. As a result, corrective actions were implemented; procedures revised; and an extent of condition was promptly conducted by the UCOR. OREM will perform an effectiveness assessment of the corrective actions in 2014. OREM also performed a shadow review of the URS Phase I and II reviews of UCOR's WP&C program.

With some notable issues identified, OREM has seen an overall improvement in the contractor WP&C programs. The WP&C program ownership displayed by both UCOR's project and support organizations has been noticeably improved as well.

Contractor actions resulting from DOE WP&C oversight included:

- UCOR identified a team to improve WP&C across all UCOR projects.
- UCOR performed an Independent Effectiveness Review of the corrective actions associated with the ISMS Verification, which noted improvements in the adequacy of JHAs; incorporating JHA identified hazard controls into WCDs; and the approval, authorization, and release of work activities.

In 2014, OREM WP&C oversight will focus on the main deficiency areas identified in the HSS Analysis Report (Task 1b). OREM will also conduct a review of another prime contractor's WP&C program.

#### *Office of River Protection (ORP)*

ORP evaluated the effectiveness of each of its prime contractors utilizing relevant aspects of the EM WP&C Guidelines. The Tank Farm Operations Division (TOD) Director and one of the TOD facility representatives serve as ORP's WP&C SMEs.

ORP identified 34 findings during its evaluation of Bechtel National Inc. (BNI) activity-level work and other elements of ISM, but determined that none of the issues had identified a major event or systematic breakdown in safety, quality or ISM. ORP noted that BNI had incorporated aspects of the EM WP&C Guidance into its oversight processes. ORP concluded that BNI had developed and implemented an effective WP&C process.

Washington River Protection Solutions (WRPS) implementation of activity-level WP&C has been improving over the last 2 years as evidenced by the ORP closure of a longstanding programmatic concern in March 2013 and the successful URS corporate Phase II WP&C verification completed in September. The WRPS and ORP oversight has been successful in identifying improvement opportunities that have been systematically addressed resulting in overall program improvement. In addition, WRPS participation in the EFCOG and URS standard activities has led to ongoing improvements in program definition and implementation in FY13.

#### ORP Tank Farms Contractor WP&C Timeline:

- Sept. 2009 - Initial ORP Concern with work control process and field implementation.
- March 2011 - Initial WRPS End Point Assessment (FY 2011-OPS-s-0355) that determined additional corrective actions were necessary.
- Sept. 2011 - WRPS Work Control Specialty Assessment (FY 2011-OPS-S-0380)
- Sept. 2011 - ORP Surveillance - (11-TOD-0064) Closure of 2009 process portion of work control concern, with additional actions for implementation issues.
- March 2012 - URS Phase I verification of WRPS Work Control.
- April 2012 - WRPS Establishment of Field Execution Oversight Team (FEOT) for field work performance issues.
- End of FY12 - Revision to the URS Work Control Standard.
- March 2013 - ORP Closure Verification of Work Control Implementation portion of ORP Work Control Standard.
- September 2013: URS Work Control Phase II Verification completed for WRPS met all objectives with some issues and opportunities for improvement.
- November 2013: ORP Closure of Radiological Control Concern (included elements of radiological work planning) with all elements effective.

#### Activity Level WP&C Federal/Contractor Oversight in 2013 (All ORP except as specified):

- January: Tank Farms Preventative Maintenance.
- January: Technical Procedures and Work Instructions (EFCOG CRAD WP&C1-3).
- March: Post FEOT actions and WP&C concern closure (WP&C2-4).
- February: Hazards Analysis and Control Development (WP&C1-2, WP&C2-2, WP&C2-3).
- February: Corrective action Management (WP&C1-5, WP&C2-5).
- March: Work Approval and Release.
- June: Post FEOT action progress.
- September: URS Corporate Phase II WP&C Verification.
- October: Tank Farms Work Control Implementation.
- November: Radiological Control Concern effectiveness evaluation.

#### Planned ORP WP&C Oversight in 2014:

- January: Maintenance.
- January: Tank Farms Electrical Outage Management.
- April: Analytical Instrument Maintenance.
- April: WP&C Implementation.

- June: AW Jumper/Funnel replacement planning and performance.

*Richland Operations Office (RL)*

RL utilized the EM WP&C Guidelines while developing assessment plans for assessments of each of RL's three major site contractors. Additionally, RL utilized the EFCOG WP&C Guideline document when developing assessment guides for RL's Conduct of Operations and Work Management reviews of each contractor. During these reviews, RL identified minor work management errors with the CHPRC program, determined that Mission Support Alliance (MSA) work management practices were adequate, and noted a trend of undisciplined and error tolerant approach to contracted work by Washington Closure Hanford (WCH). RL's facility representative team leads serve as the organization's WP&C SMEs conducting programmatic oversight of each contractor's WP&C program.

RL performed its oversight in accordance with the requirements of Richland Integrated Management System, Contractor Integrated Performance Evaluation processes. The system defines how oversight is planned (e.g., Integrated Evaluation Plans), executed (e.g., Assessments, Surveillances, OA Reports), and followed up (e.g., corrective action management, Conditional Payment of Fee). Included in the aforementioned oversight process is RL's development and use of Monthly Safety Reports. The reports include numerous functional areas that include WP&C. RL uses the report to determine and trend contractor performance in functional areas and then initiate actions as required. The Assistant Manager for Safety and Engineering (AMSE) organization performs primary safety oversight for RL. The AMSE organization consists of FRs, Safety and Health SMEs, Environmental Management SMEs, Radiological Protection SMEs, Quality Assurance, Nuclear Safety, and other Engineering SMEs.

In FY 2013 the AMSE organization completed approximately 55 formal surveillances that included Maintenance, Facility Safety Basis, Chemical Management, Fire Safety, Hoisting and Rigging, Radiological Controls, Fall Protection, and Corrective Action Management; most of which had WP&C attributes. In addition, AMSE staff completed over 4,800 OA Report entries resulting in more than 700 Observations and 400 Findings.

RL performed comprehensive site-wide surveillances on contractor maintenance and developed a specific Surveillance Guide that used LOI from the EFCOG WP&C Program Guidance document. The surveillances specifically evaluated maintenance programs and work packages and procedures, and observed maintenance work activities. The surveillances concluded that the contractors generally had adequate programs, although numerous findings and observations were cited. In addition, RL also provided oversight of the following significant contractor activities related to WP&C: URS Phase II review of WCH WP&C; Implementation of WCH Integrated Work Control Program, Revision 10; and WCH Performance Oversight Evaluation Team WP&C reviews and corrective actions. In addition, EM-42 performed WP&C oversight of specific CHPRC facilities identified by RL.

In the FY 2014 Integrated Evaluation Plan, RL has scheduled an assessment of all contractors in the area of WP&C. The assessment will include an evaluation of the corrective actions associated with DNFSB/TECH-37. In addition, RL initiated a process to specifically assess

(using LOIs from the new guides) and evaluate contractor's implementation of ISM and WP&C on a defined frequency to ensure it is in the forefront of all oversight.

In June 2013, RL sent letters to their contractors titled, "Sustained Federal and Contractor Oversight of Effectiveness of Activity-Level Work Planning and Control," identifying the need for oversight in the subject area. As a result, each of the contractors has included WP&C oversight in their FY14 assessment schedule. CHPRC plans to conduct 19 WP&C assessments, WCH plans to conduct 13, and MSA plans to conduct 4.

*Savannah River Operations Office (DOE-SR)*

DOE-SR has continued to strengthen the activity-level WP&C process through improvements to the Federal and contractor programs. DOE-SR has implemented the WP&C Guideline Document CRADs for use in its oversight of Savannah River contractors. DOE-SR has also assigned a WP&C SME who performs assessments and coordinates assessments performed by line organization and other SMEs (e.g., facility representatives, Radiological Protection, Industrial Safety, etc). DOE-SR determined that although each of its four prime contractors still needed improvement, the contractors had implemented effective WP&C programs.

The two major contractors have increased their performance of WP&C assessments and have proactively taken actions to institutionalize the EFCOG WP&C Guidance Document and URS Standard by initiating revisions to SRS Manual 1Q, Procedure 9-4, Work Planning and Control, and the associated WP&C Functional Area Procedures. DOE-SR evaluated the contractors' programs by observing and/or performing independent reviews of the controls. In general, the contractors have developed and implemented a program, which will improve the WP&C process. However, issues are still being identified with execution of the program. The majority of issues being identified are related to hazard identification and implementation of controls. This will continue to be a focus area during DOE-SR assessments.

The contractors perform a review of applicable data to identify trends (both positive and negative) and potential recurring problems. The data evaluated includes ORPS reports, self-assessments, management field observations, and the Tracking Analysis Reporting System. DOE-SR evaluates the results of the contractor's analysis and also performs an independent evaluation of identified deficiencies to determine if trends exist. The results of these reviews are utilized in the development of future assessment schedules, which will focus on areas of weakness. Additionally, Savannah River Remediation successfully completed its URS Phase II WP&C review in September.

*Carlsbad Field Office (CBFO)*

CBFO incorporated the EFCOG WP&C Guideline Document into its ISMS review and WP&C oversight. CBFO identified 5 deficiencies and 12 areas for improvement during the review. As part of its oversight improvement process, CBFO assigned a WP&C SME to perform programmatic oversight, along with focused evaluation of work activities. CBFO noted that its contractor had made significant efforts towards improving its WP&C program since being awarded the contract in October 2012 and concluded the program was partially effective.

In FY13, WIPP implemented enhanced WP&C with the development of a “CORE” team dedicated to the Preventive Maintenance (PM) WCD Re-Write Project, use of Quality Assurance personnel specifically involved in the WCD development and approval process, use of the team walkdown approach, the worker-to-management-to-worker feedback enhancement process, reach-back into URS for Mentoring personnel, use of Senior Management Review Board for WCD review, enhanced Management Assessments, URS Phase IIA and Phase IIB assessments, CBFO’s use of EM resources and resources of other FR programs to enhance CBFO oversight, and EM-42 Facility Representative Program Assessment.

For FY14, WP&C focus/actions include:

- Facility representative and SME assessment and OA of NWP’s WP&C implementation
- Addition of specific WP&C performance objectives and metrics for the PM rewrite project and maintenance backlog
- Oversight of NWP’s continuous improvement actions as outlined in the Work Control Continuous Improvement Plan
- Continuous training for both the contractor and federal staff in proper conduct and oversight of work with a specific example being Conduct of Operations training by NTS scheduled for February 2014.

#### Office of Science

SC will continue its oversight of work planning and control activities at its sites. When the Handbook and DOE guidance documents become available, we will utilize the portions applicable to our activities.