



Fluor Idaho, LLC Idaho Cleanup Project

**Report from the Department of Energy
Voluntary Protection Program
Onsite Review
June 5-14, 2018**



U.S. Department of Energy
Office of Environment, Health, Safety and Security
Office of Health and Safety
Office of Worker Safety and Health Assistance
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Foreword

The Department of Energy (DOE) recognizes that excellence can be encouraged and guided, but not standardized. On January 26, 1994, the Department initiated the DOE Voluntary Protection Program (VPP) to encourage and recognize excellence in occupational safety and health protection. This program closely parallels the Occupational Safety and Health Administration's (OSHA) VPP. Since its creation by OSHA in 1982 and implementation by DOE in 1994, VPP has demonstrated that cooperative action among Government, industry, and labor can achieve excellence in worker safety and health.

DOE-VPP outlines areas where DOE contractors and subcontractors can surpass compliance with DOE Orders and OSHA standards. The program encourages a *stretch for excellence* through systematic approaches, which emphasize creative solutions through cooperative efforts by managers and employees. Requirements for the DOE-VPP participation are based on comprehensive management systems with employees actively involved in assessing, preventing, and controlling potential health and safety hazards at their sites. All contractors in the DOE complex, including production facilities, laboratories, and various subcontractors and support organizations may participate in DOE-VPP.

However, in keeping with OSHA and DOE-VPP philosophy, *participation is strictly voluntary*. Additionally, any participant may withdraw from the program at any time. DOE-VPP consists of three programs with names and functions similar to those in OSHA's VPP: Star, Merit, and Demonstration. The Star program is the core of DOE-VPP. This program is aimed at recognizing outstanding protectors of employee safety and health. The Merit program is a steppingstone for participants that have good safety and health programs, but need time and DOE guidance to achieve true Star status. The Demonstration program, expected to be used rarely, allows DOE to recognize achievements in unusual situations about which DOE needs to learn more before determining approval requirements for the Merit or Star program.

By approving an applicant for participation in DOE-VPP, DOE recognizes that the applicant exceeds the basic elements of ongoing, systematic protection of employees at the site. The symbols of this recognition are certificates of approval and the right to use flags showing the program in which the site is participating. The participant may also choose to use the DOE-VPP logo on letterhead or on award items for employee incentive programs.

This report summarizes the results from the evaluation of Fluor Idaho, LLC (Fluor Idaho), conducted June 5-14, 2018, and provides the Associate Under Secretary for Environment, Health, Safety and Security with the necessary information to make the final decision regarding Fluor Idaho's continued participation as a DOE-VPP Star site.

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ABBREVIATIONS AND ACRONYMS

AMWTP	Advanced Mixed Waste Treatment Project
ARP	Accelerated Retrieval Project
ASTM	American Society of Testing and Materials
AU	Office of Environment, Health, Safety and Security
BBWI	Bechtel BWXT Idaho, LLC
BBS	Behavior-Based Safety
BEA	Battelle Energy Alliance, LLC
BLS	Bureau of Labor Statistics
CFR	Code of Federal Regulations
COBRA	Changing Our Behavior Reduces Accidents
CWI	CH2M Washington Group, LLC
DART	Days Away, Restricted or Transferred
D&D	Decommissioning and Demolition
DMR	Denitration Mineralization Reformer
DOE	Department of Energy
DOE-ID	Department of Energy Idaho Operations Office
ESIT	Employee Safety Improvement Team
Fluor Idaho	Fluor Idaho, LLC
FR	Flame-Resistant
FSC	Fluor Idaho Safety Council
ICP	Idaho Cleanup Project
ICP Core	ICP Core Contract
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
ISMS	Integrated Safety Management System
IST	Idaho Cleanup Project Safety Team
ITG	Idaho Treatment Group, LLC
ITP	Individual Training Plan
IWTU	Integrated Waste Treatment Unit
JSA	Job Safety Analysis
KEYS	Keep Everyone and Yourself Safe
MPE	Maturity Path Evaluation
NAICS	North American Industry Classification System
NTC	National Training Center
OSHA	Occupational Safety and Health Administration
OWL	Observe, Watch, and Learn
PD	Position Description
PPE	Personal Protective Equipment
QWL	Qualified Watch-Standing List
RWMC	Radioactive Waste Management Complex
SafT-Con	Safety Training for Construction
SME	Subject Matter Expert
SWB	Standard Waste Box
Team	Office of Environment, Health, Safety and Security DOE-VPP Assessment Team
TRC	Total Recordable Case
USW	United Steel Workers

VPP **Voluntary Protection Program**
WIPP **Waste Isolation Pilot Plant**

EXECUTIVE SUMMARY

The Department of Energy's (DOE) Voluntary Protection Program (VPP) Team (Team) from the Office of Environment, Health, Safety and Security (AU) recommends that Fluor Idaho, LLC (Fluor Idaho), the Idaho cleanup core contractor, continue to participate in DOE-VPP as a Star site. Fluor Idaho is the Idaho Cleanup Project (ICP) core contractor at the DOE Idaho Site. In 2016, DOE selected Fluor Idaho to support the Department's cleanup mission at the Idaho Site under a 5-year ICP Core contract (ICP Core). The ICP Core contract combined the continuing activities of the ICP and the Advanced Mixed Waste Treatment Project (AMWTP). Fluor Idaho, a wholly owned subsidiary of Fluor, leads a team that includes subcontractors CH2M; and Waste Control Specialists, LLC; and Idaho-based small businesses North Wind Inc.; and Portage, Inc. The ICP Core involves the safe environmental cleanup of specific portions of the Idaho National Laboratory (INL) site and the AMWTP, and operation of the Integrated Waste Treatment Unit (IWTU).

The ICP initially split from the INL operating contract in 2005. CH2M Washington Group, LLC (CWI) conducted cleanup work, including deactivation, decommissioning, decontamination, demolition, and remediation work at several locations on the INL site. The AMWTP continued to operate under contract with Bechtel BWXT Idaho, LLC (BBWI). DOE admitted CWI as a DOE-VPP Star site in June 2007, and recertified it as a Star site in 2010 and 2014. DOE admitted BBWI at AMWTP as a DOE-VPP Star site in 2009. The Idaho Treatment Group, LLC (ITG) took over operation of AMWTP in 2011, and completed transition of the DOE-VPP Star in 2014. In 2016, Fluor Idaho applied for and was granted VPP transition status to combine the two Star sites. That transition requires an assessment within 24 months of the initial contract transition to verify the safety programs and ensure that Fluor Idaho continues to meet DOE-VPP expectations.

Fluor Idaho is working to reduce the number of injuries and illnesses. The Fluor Idaho injury and illness rates are more than 50 percent less than comparable industry rates.

Fluor Idaho managers are working within the confines of a very difficult contract to accomplish the mission, empower the workforce, and protect the workers, the environment, and the local communities. They are committed to safely completing their mission and will not push to complete a milestone that cannot be achieved safely. They continue working to integrate the cultures from the two previous contractors and are trying to maintain the best practices from both previous contractors to the extent practical. Although frustrated with some issues, Fluor Idaho is striving to improve its relationship with DOE's Idaho Operations Office (DOE-ID).

Fluor Idaho maintains several programs to ensure effective employee involvement. As a result of the merger of the previous companies in the new contract, Fluor Idaho recreated a unified employee safety team program and behavior-based safety (BBS) program. The incorporation of the Maturity Path Evaluation (MPE) by the Idaho Cleanup Project Safety Teams (IST) is an excellent tool to ensure continuous improvement of the ISTs. Although the transition from two contractors to one did create some difficulties merging safety cultures of the previous contractors, employees remain involved with Fluor Idaho's safety improvement efforts.

Fluor Idaho's work planning process demonstrates an effective method to ensure proper identification and analysis of hazards in the workplace. A mature, written safety and health

program that includes procedures, such as job safety analysis (JSA) and workplace inspections, provides a safe workplace.

Fluor Idaho effectively uses the hierarchy of controls to protect workers, prevent injuries, and minimize workplace hazards. However, the Team did identify some opportunities for improvement. Fluor Idaho should accelerate its work with its outside vendor to remove arc-rated/flame-resistant (FR) clothing issued to electricians and welders from service when the number of wash cycles exceeds the manufacturer's recommended limits. It should also review its policies and practices to ensure that controls for waste container movement inside facilities are as effective as those controls applied for waste container movement between facilities.

Fluor Idaho maintains an effective safety and health training program. The training organization proactively identified several areas where training needed to be improved or new training developed to address potential weaknesses. Fluor Idaho actively supports Safety Culture Awareness Training providing TLP 200/150/100 training from senior managers to the workers.

Fluor Idaho has faced several significant challenges over the past 2 years. Some of those challenges resulted from its initial approach to operating the new contract, some challenges resulted from differing workers' expectations for the change, and some challenges resulted from the contract structure itself. Although Fluor Idaho expected some of these challenges, the new senior management team was surprised by others. Fluor Idaho recognized all these challenges within the first few months of the contract and has been working to reverse the negative consequences on the workforce culture. The workforce remains committed to completing the mission safely, but injury and illness rates reflect workers' distraction resulting from the changes. Fluor Idaho has integrated operations from the two previous contractors and established effective processes and procedures that establish safe work methods and practices. Fluor Idaho is performing some very hazardous work that will continue to challenge the workforce to remain alert, recognize changed conditions, and exercise pause and stop work on a frequent basis. Fluor Idaho recognizes the risks, provides workers the resources they need to perform work safely, and encourages workers not to put themselves at risk.

TABLE 1
OPPORTUNITIES FOR IMPROVEMENT

Opportunity for Improvement	Page
Fluor Idaho should emphasize to firstline and middle managers that Fluor Idaho depends on their expertise to identify issues and not wait for the program manager to tell them everything they need to do.	7
Fluor Idaho should ensure craft employees serving as IST chairs and cochairs have dedicated access to computer systems (beyond shared computers) to ensure they can accommodate their committee needs.	10
Fluor Idaho should ensure the MPE process is captured and described in the IST documentation to institutionalize its use and to promote continuous improvement.	11
Fluor Idaho should further modify TPR-8114 to reference that any waste container moves should be performed in accordance with TPR-8083, and modify TPR-8083 to include procedure steps that ensure payloads are secured to the transporting vehicle before moving the payload.	17
Fluor Idaho should review any other relevant waste handling and package assembly procedures to ensure the procedures are integrated with each other, including appropriate procedural cross references.	17

I. INTRODUCTION

Fluor Idaho is responsible for work performed on the ICP Core contract at DOE's Idaho Site. The ICP Core contract (ICP Core) is funded primarily by DOE's Office of Environmental Management through Fluor Idaho's contract with DOE. In 2016, DOE selected Fluor Idaho to support the Department's cleanup mission at the Idaho Site under a 5-year contract. The ICP Core combined the continuing activities of the ICP and AMWTP. Fluor Idaho, a wholly owned subsidiary of Fluor, leads a team that includes subcontractors CH2M; Waste Control Specialists, LLC; Idaho-based small businesses North Wind Inc.; and Portage, Inc. The ICP Core involves the safe environmental cleanup of specific portions of the INL site and the AMWTP. The ICP Core also includes operation of the IWTU. The IWTU is a newly constructed facility designed to treat 900,000 gallons of radioactive liquid waste stored in underground tanks at a former Cold War spent nuclear fuel reprocessing facility located at INL. The value of the contract is \$1.4 billion (including options). Fluor Idaho performs cleanup of toxic and radioactive contaminations, watches over spent nuclear fuel, and conducts other duties at INL, which is located west of Idaho Falls. DOE-ID provides direction to and oversight of Fluor Idaho.

The ICP initially split from the INL operating contract in 2005. DOE-ID divided ICP into two operating contracts. CWI conducted cleanup work, including deactivation, decommissioning, decontamination, demolition, and remediation work at several locations on the INL site. The AMWTP continued to operate under contract with BBWI. DOE admitted CWI as a DOE-VPP Star site in June 2007 and recertified it as a Star site in 2010 and 2014. DOE admitted BBWI at the AMWTP as a DOE-VPP Star site in 2009. ITG took over operation of AMWTP in 2011 and completed transition of the DOE-VPP Star in 2014. In June 2016, DOE-ID combined the CWI workscope with the AMWTP operating contract into a single request for proposal and awarded that contract to Fluor Idaho. In 2016, Fluor Idaho applied for and was granted VPP transition status to combine the two Star sites. That transition required an assessment within 24 months of the initial contract transition to verify the safety programs and ensure that Fluor Idaho continues to meet DOE-VPP expectations.

As part of its contract, the Fluor Idaho scope of work includes the IWTU. IWTU is a newly constructed facility that is designed to treat 900,000 gallons of radioactive liquid waste stored in underground tanks. IWTU is a 53,000-square foot facility that will use a steam-reforming technology to heat up the liquid waste, essentially drying it; consolidating the solid, granular material, packaging it in stainless steel canisters; and storing the containers in above-ground concrete vaults at the site. Ultimately, the treated material will be transported to a national geologic repository for permanent disposal. Fluor Idaho expected IWTU to be operational at contract transition, but for a variety of reasons, CWI was unable to complete commissioning and startup before Fluor Idaho took over. Since contract transition, Fluor Idaho has implemented a series of modifications to remedy its mechanical and chemical process challenges. The modifications included a redesigned auger-grinder with a more aggressive blade pattern and higher horsepower output, and modifications to the Denitration Mineralization Reformer (DMR), the IWTU's primary reaction vessel. IWTU had begun heating up prior to this assessment in preparation for an extended demonstration. Current plans have IWTU processing waste sometime in 2019.

Fluor Idaho employs approximately 1,700 people. Because the new contract blended the workforces from CWI and ITG, workers for Fluor Idaho are represented by multiple unions. The former CWI workers at the Radioactive Waste Management Complex (RWMC), the Idaho

Nuclear Technology and Engineering Center (INTEC), and IWTU are represented by the United Steel Workers International (USW), Local 652, and the Idaho Building and Construction Trades Union, and the Amalgamated Transit Union Local 1517. Workers under the former ITG (AMWTP) are represented by the International Union of Operating Engineers Local 302.

II. INJURY INCIDENCE/LOST WORKDAYS CASE RATE

Injury Incidence/Lost Workdays Case Rate (Fluor Idaho)					
Calendar Year	Hours Worked	Total Recordable Cases (TRC)	TRC Incidence Rate per 200,000 hours	DART* Cases	DART* Case Rate per 200,000 hours
2016 (June – December)	1,825,916	9	0.99	4	0.44
2017	3,320,662	20	1.20	9	0.54
2018 (through May)	2,548,172	10	1.46	6	0.88
24 Months – Total [#]	6,515,828	39	1.20	19	0.58
Bureau of Labor Statistics (BLS-2016) average for NAICS** 562 Waste Management and Remediation Services			4.0		2.6

[#] Fluor Idaho’s contract began June 1, 2016

* Days Away, Restricted or Transferred

** North American Industry Classification System

TRC Incidence Rates, including subcontractors: 1.20

DART Case Rates, including subcontractors: 0.58

Discussion

The rates reported here represent the 24 months that Fluor Idaho has existed. Fluor Idaho is working to reduce the number of injuries and illnesses. During the first full contract year (2017), Fluor Idaho experienced 20 recordable cases, 9 of which were DART cases. Five of the recordable cases involved significant injuries that included broken bones and/or surgeries. As of this report, Fluor Idaho is experiencing a similar number of injuries and illnesses in 2018. Fluor Idaho injury and illness rates are more than 50 percent less than comparable industry rates and meet expectations for VPP participation.

III. MANAGEMENT LEADERSHIP

Management leadership is a key element of developing and sustaining an effective safety culture. The contractor must demonstrate a senior-level management commitment to exceeding occupational safety and health requirements and meeting the expectations of DOE-VPP. Management systems for comprehensive planning must address health and safety requirements and initiatives. Elements of the management system include: (1) clearly communicated policies and goals; (2) clearly defined and assigned responsibilities and authority; (3) adequate resources; (4) accountability for both managers and workers; and (5) managers must be visible, accessible, and credible to employees. Authority and responsibility for employee health and safety must be integrated with the management system and must involve employees at all levels.

In March 2014, CWI had maintained its high level of commitment to safety and health while efficiently completing its mission. Managers' willingness to be present in the work areas, listen to and implement workers' ideas, provide resources to encourage worker participation, and community outreach were significant strengths of the program. Senior managers led by example and expected everyone in the organization to accomplish work safely or stop work until issues were resolved.

In June 2014, ITG completed its contract transition from BBWI. Initially after contract transition, ITG had experienced unanticipated instability in its senior management team. The initial team focused heavily on meeting challenging production goals and had difficulty establishing trust with the workforce. ITG overcame those issues, stabilized its management team, gained approval of its integrated safety management system (ISMS), and regained the trust of the workers. It had invested in safety controls and processes necessary to protect workers from potential exposures and encouraged greater worker involvement.

Fluor Idaho managers firmly believe safety is a core value. The program manager and his direct reports repeatedly emphasize this value at every opportunity. Fluor Idaho has assembled an experienced team of managers with extensive experience across the DOE complex. The Team heard these managers supporting workers and thanking workers that stopped or paused work for safety concerns. Interviewed managers stated to the Team that Fluor Idaho would not perform a task that it could not complete safely, even if that meant missing a contract milestone.

One of Fluor Idaho's challenges in the months after transition was establishing Fluor Idaho as an identity for the workforce. Fluor Idaho has taken actions to promote the one company concept, such as purchasing coats for everyone in the company with the Fluor Idaho name, developing slogans, and rebranding programs with new identities and logos bearing the Fluor Idaho name. These approaches have achieved some success, but barriers to the integration across previous contractor boundaries remain. For example, workers at RWMC, which is the integration point for the previous two contractors, still harbor some resentment for Fluor Idaho picking the other contractor's procedures.

Fluor Idaho retained some managers that were very popular with its workforce. These managers continue to support workers' ideas, suggestions, and concerns. The RWMC Operations Director holds regular sessions with employees (e.g., "Hash Browns with Hoss") that permit firstline supervisors to raise any issues or questions they may have. He also continues the practice of stopping all program work during safety committee meetings. Under the new contract, these

practices have been extended beyond the Accelerated Retrieval Project (ARP) and now include AMWTP.

Fluor Idaho is seeking effective methods to communicate with the workforce. It recognizes that its current mechanisms (*Core Notes, Fred's Comments, and Daily Core Briefs*) are not always effective at reaching workers who do not have convenient access to e-mail. Fluor Idaho does offer to allow workers to use their personal cell phones to access company e-mail if their managers agree it is necessary, but many workers (up to 40 percent) are not using this option. Fluor Idaho does offer a stipend to employees to use their personal cell phones if employees load the correct encrypted e-mail program (Blackberry UEM).

Fluor Idaho must meet some very challenging milestones in order to make money on this contract. Fluor Idaho had to complete an ISMS phase I in 4 months, and phase II, 4 months after that. To meet that goal, Fluor Idaho was forced to exclude most workers from the process of merging processes and procedures from the two incumbent contractors. This initially led to some dissatisfaction among employees that believed the processes they were accustomed to were not adequately considered or included in the final approved procedures. Some employees still do not believe that AMWTP and RWMC/ARP needed to combine their procedures for any purpose other than Fluor Idaho wanted it that way.

Fluor Idaho also initially abandoned some simple reward processes used by both previous contractors, such as providing candy bars as a benefit for participating in BBS observations. Fluor Idaho believed it should not need to reward workers for observations. Subsequently, many employees believed that Fluor Idaho did not support employee involvement, and quit performing observations. As observations dropped off, injury rates began to rise to levels that Fluor Idaho and DOE-ID both considered unacceptable.

Recognizing the impact a small investment can have in promoting observations, Fluor has opened an "Observe, Watch, and Learn (OWL) Depot" where workers that have performed the required number of observations can cash in their OWL points for merchandise. Award levels are 25 points, 50 points, 75 points, and 100 points. Popular items in the OWL Depot include a pair of zero gravity chairs, a Kindle Fire 8, and Titleist® Pro V1 golf balls. Fluor Idaho does require that OWL points be used within the calendar year they are earned to simplify any tax implications for the employee and the company. Although not a one-to-one correlation, the OWL points have roughly \$1 value. Fluor Idaho has extended the deadline to use OWL points to March 30, but as a means of preventing employees from losing an earned award, it should consider allowing employees to keep their earned points, regardless of how long they wait to redeem them. This might help other workers that perform OWLs less frequently to become more inspired to perform observations as they become accustomed to the process. It also resumed providing candy bars for participating in behavior-based observations in July 2017. Fluor Idaho hopes that it can restore the strength of the safety observation program as a means of reducing accidents and injuries.

Fluor Idaho has run a multitude of safety campaigns and promotions, including company-level and IST-level campaigns. While well intentioned, some employees expressed concerns during Fluor Idaho's latest self-assessment that they were confused over which campaigns were going on, what activities they needed to perform, and what the reward was for participation. Many of the activities were focused on short activities that employees could perform in less than 30 minutes, and then submit the completed activity to participate in the drawing. This practice

was carried over from the previous contractors, but the experience of transition may have exposed the ineffectiveness of these types of promotions at altering employee habits and behaviors. Fluor Idaho should consider a more strategic approach to its promotions and campaigns, and focus on campaigns that require multiple or repeated activities over several weeks (e.g., a calendar quarter) as a means of promoting safer and healthier habits.

For example, Fluor Idaho did run a “Biggest Loser” campaign to promote weight loss. That campaign was popular, and many employees saw improvement in their personal health. The potential downside of such a campaign is that it promotes rapid weight loss that may be unhealthy and is probably not permanent. Fluor Idaho decided not to run another campaign over concerns that some employees might rapidly gain weight between campaigns, and then lose that weight solely to win the competition. As an alternative, Fluor Idaho might consider running parallel “biggest loser” competitions with each competition beginning in a different quarter and lasting for 6 months. Employees would be competing within a specific cohort based on when they start. Fluor Idaho could also limit employees to only competing once every 12 months.

Several conditions are creating schedule pressure and friction between Fluor Idaho and its DOE-ID counterparts. This friction could lead to distractions or other issues among workers. Additionally, this friction and schedule pressure could lead to worker tendency to work through problems versus stopping and getting issues resolved via proper channels.

First, Fluor Idaho continues to face challenges on the contract, which is heavily weighted toward meeting particular milestones. Unfortunately, Fluor Idaho is unlikely to meet some of these milestones for reasons not within their control, primarily due to the long shutdown at the Waste Isolation Pilot Plant (WIPP), and changing waste acceptance criteria. For example, the WIPP waste acceptance criteria was recently revised (revision 9), but Fluor Idaho has been directed to continue packaging waste to revision 7, and is at risk of having to repackage waste. Further, Fluor Idaho is currently 600 shipments behind what was initially required to meet its contract milestones. Fluor Idaho does not control the scheduling of shipments to WIPP.

Second, Fluor Idaho performed some infrastructure improvements that it believes were beyond its contract scope, and reflected undisclosed conditions when it signed the contract. To date, Fluor Idaho has spent roughly \$2.5 million replacing roofs that were leaking on critical equipment, replacing road surfaces and sidewalks, and other improvements. Though Fluor and DOE-ID had some disputes over reimbursement of these funds, both sides agreed that the improvements were needed and time critical to safety, and so these were made with reimbursement negotiations taking place after the upgrades. Fluor Idaho is seeking an equitable adjustment, and negotiations are ongoing. The current situation may be creating conditions similar to conditions at WIPP and Los Alamos National Laboratory prior to the WIPP fire event and Americium release event. The combination of limited funding, aggressive contract milestones, and limited opportunity to earn a fee may lead to production pressures that drive employees to make nonconservative decisions to meet those milestones. Fluor Idaho is acutely aware of that potential and is continuing to work with DOE to come to an agreement.

Third, Fluor Idaho recently experienced an event in the ARP-V enclosure with four drums that vented inside the enclosure. Those drums had been recently repacked, but workers performing the work had not identified the conditions that caused the drums to vent. The investigation is currently ongoing. Several other recent events occurred that some DOE-ID personnel believe are a direct result of Fluor Idaho’s failure to address changing conditions on the project. Fluor

Idaho, while acknowledging the severity of the events, believes it is being unfairly treated in its performance evaluations, potentially affecting its fee and ability to perform its mission. Both Fluor Idaho and DOE-ID have acknowledged that communications between the two could be improved. To that end, Fluor brought in an external facilitator from Eckerd College in June 2017 for 2 days of teamwork training, which was done with their DOE counterparts. Both Fluor Idaho and DOE-ID should continue to evaluate and identify ways to improve team work and communications with each other.

Finally, workers at AMWTP are nervous about the facility's future mission. The current mission will be substantially complete in the next 6-8 months. This concern may be distracting workers and contributing to a loss of experienced workers that are already leaving for better, long-term job prospects.

DOE-ID and Fluor Idaho have held joint partnering meetings to discuss these issues, but managers in both organizations are frustrated with the limited progress to date. Fluor Idaho should consider working with DOE-ID to identify an outside facilitator to assist in the partnering sessions, help both parties identify workable solutions to address these issues, and prevent further deterioration of the relationship.

The Team observed some reticence among a few firstline supervisors and managers about exercising their authority to accomplish work. In a couple cases, supervisors were not willing to talk to the Team and were not cooperative. The Team sensed these individuals were "defensive," which may be a result of being blamed for events or accidents. In the wake of a couple events that occurred during the assessment, the program manager sought input from the entire organization about the potential for other similar events elsewhere in the project. This was interpreted by firstline and middle managers as not giving them enough direction so they could get work started again. They did not accept the lack of specific direction as a way for the program manager to not overly restrict firstline managers and supervisors in their ability to identify and complete corrective actions. Fluor Idaho should emphasize to firstline and middle managers that Fluor Idaho depends on their expertise to identify issues and not wait for the program manager to tell them everything they need to do.

Opportunity for Improvement: Fluor Idaho should emphasize to firstline and middle managers that Fluor Idaho depends on their expertise to identify issues and not wait for the program manager to tell them everything they need to do.

Despite these difficulties, Fluor Idaho remains committed to achieving excellent safety and health performance. Workers are accepting their roles in that effort. Over the past year, Fluor Idaho managers have been more intentional in their efforts to encourage workers, support worker involvement, and better demonstrate how they value workers' contributions. They are restoring reward and recognition mechanisms, stressing the value of performing OWL observations, helping the ISTs regain their autonomy, and becoming more visible in the work areas.

Conclusion

Fluor Idaho managers are working within the confines of a very difficult contract to accomplish the mission; empower the workforce; and protect the workers, the environment, and the local communities. They are committed to safely completing their mission, and will not push to complete a milestone that cannot be achieved safely. They continue to integrate the cultures

from the two previous contractors and are trying to maintain the best practices from both previous contractors to the extent practical. Although frustrated with some issues, Fluor Idaho is striving to improve its relationship with DOE-ID. Fluor Idaho demonstrates the expectations in Management Leadership for continued participation in DOE-VPP.

IV. EMPLOYEE INVOLVEMENT

Employees at all levels must continue to be involved in structuring and operating the safety and health program and in decision making that affects employee health and safety. Employee involvement is a major pillar of a strong safety culture in addition to the right to notify managers of hazardous conditions and practices. Managers and employees must work together to establish an environment of trust where employees understand that their involvement adds value, is crucial, and is welcome. Managers must be proactive in recognizing and rewarding workers for their contributions. Employees and managers must communicate and collaborate in open forums to discuss continuing improvements, to recognize and resolve issues, and to learn from their experiences.

In 2014, Employee Involvement was the strength of the CWI safety program. CWI employee safety teams were the primary vehicle to encourage employee engagement and participation in safety. Across CWI there was a strong sense of ownership of safety and a working relationship that made it difficult to differentiate between hourly and salaried employees. Employees used Changing Our Behavior Reduces Accidents (COBRA) as the CWI BBS program to provide behavioral observations and feedback to each other. Community outreach was well established and employees at all levels participated in these programs.

In 2014 the Employee Safety Improvement Teams (ESIT) were the primary safety committee for workers to raise and address safety issues and concerns. The ESIT meetings provided an effective forum for an involved workforce to address issues and voice a strong commitment to the safety and health of AMWTP work and workers. The Keep Everyone and Yourself Safe (KEYS) BBS program raised employee awareness of safety and performance concerns and continued to search for new ways to engage and improve the ITG BBS program.

CWI and ITG used COBRA and KEYS to implement their BBS observation programs. Fluor Idaho felt it important to combine those processes into one BBS system. Fluor Idaho asked its employees to select the name for the new BBS program. Employees made several suggestions for the program name and then voted for their favorite one. The result of the employees' selection process is the OWL program. Fluor Idaho has conducted several focused campaigns in the past year based on observations from the OWL program. Campaigns included "random acts of sweetness"; slips, trips, and falls; handrail use; hand safety; proper lifting; fitness for duty etc. OWL observations result in workers receiving safety bucks, which can be redeemed at the OWL Depot for safety related prizes.

To further consolidate the two companies into one organization, Fluor Idaho established an employee-driven campaign to solicit worker input for a new employee safety committee program. The result of the campaign was the creation of the IST. Fluor Idaho established and implemented a charter for the ISTs. The previous employee safety committee teams were transferred into the new program. Fluor Idaho established 11 ISTs across the ICP facilities. INTEC has four ISTs, RWMC has five ISTs, Waste Management/ARP have one, and the Sawtelle Building has one. The two IST meetings the Team observed were energetic, well attended, and included significant worker participation. Fluor Idaho encourages all employees to participate in the monthly IST meetings. At the observed meetings, the management champions were present and actively involved. Discussions after the meetings demonstrated workers were very pleased with the process and their manager's support. Workers' involvement in the IST process clearly demonstrated their effective participation and involvement in all aspects of safety

and health programs. Employee participation on safety teams, OWL observations, and use of step back/stop work authority were all testaments to the commitment to safety by employees.

Most of the IST chairs and cochairs were elected using the established Fluor Idaho IST charter election process. However, at least two pairs of IST chairs and cochairs stated they were selected by managers for their positions rather than being selected by IST member votes as described in the IST charter. In both cases, the manager's selection was performed at "in the field" facilities where shift work may limit worker candidates without management encouragement. Fluor Idaho should be cautious using this approach ("voluntold" leadership selection) versus the charter-prescribed election approach to ensure the IST organizations are not perceived by employees as management hand-picked, run, and controlled committees. In the two cases where managers selected the chairs and cochairs, the Team considered the selected employees exceptional choices based on their energy and communication skills.

Interviews suggest that some of the IST committees do not use a dedicated tracking system for tracking employee-raised safety issues and concerns. Some IST chairs interviewed described tracking issues using logbooks, personal notes, or calendar reminders on their cell phones while more mature committees described organized databases on their individual IST Web sites. The difference between the identified committees appeared to be the ease of computer access. For example, the Sawtelle IST had its own IST Web site while one of the AMWTP ISTs used the chair's cell phone for issue tracking because the chair had limited computer access during work hours. ISTs at the site might benefit from additional administrative support and computer access to help them track safety concerns. While all IST chairs can use the OWL safety concerns database to track concerns, all ISTs are not using that system. Fluor Idaho should ensure craft employees serving as IST chairs and cochairs have dedicated access to computer systems (beyond shared computers) to ensure they can accommodate their committee needs.

Opportunity for Improvement: Fluor Idaho should ensure craft employees serving as IST chairs and cochairs have dedicated access to computer systems (beyond shared computers) to ensure they can accommodate their committee needs.

All Fluor Idaho safety committees collect IST members' opinions of the IST effectiveness every 6 months using the MPE process. The IST chairs use the results of this evaluation to make improvements to the IST's effectiveness based on members' recommendations. The MPE form provides each IST member the opportunity to evaluate 16 prescribed elements of the IST's performance. Each IST attendee completes an evaluation sheet that provides a 180-degree review of how the employees believe the IST is functioning. The 16 IST elements on the evaluation sheet include a ranking of the IST's ability to resolve issues; establish goals and objectives; promote issue awareness; sponsor awareness events; and the effectiveness of team utilization, communications, and recognition. Members rank those elements by maturity - *beginning, improving, succeeding, and leading*. The MPE is an excellent tool to evaluate an employee safety committee's effectiveness based on its members' input. For example, the IWTU IST performed an MPE 5 months ago that identified communication was rated low by the construction and force account crews because shift work resulted in limited communications of IST activities to them. In response to the crews' review and input, the IWTU IST chair added four new crew representatives to the IST leadership roles to ensure all construction crews (including backshift) have a voice in the IST meetings. While the MPE is an excellent practice, the process is not identified in any of the Fluor Idaho procedures or policies. Fluor Idaho should

ensure the process is captured and described in the IST documentation to institutionalize its use and to promote continuous improvement.

Opportunity for Improvement: Fluor Idaho should ensure the MPE process is captured and described in the IST documentation to institutionalize its use and to promote continuous improvement.

Based on concerns related to safety at INTEC, the INTEC IST created the INTEC Safety Resolution Committee to capture, track, and close safety issues from diverse sources at INTEC, and provide feedback to employees. The Safety Resolution Committee is an extension of the INTEC IST committee to specifically address safety concerns more effectively at INTEC.

Fluor Idaho maintains several methods for employee involvement including the step back/stop work procedure as described in MCP-553, OWL observations, Employee Concerns program, Hash Browns with Hoss (firstline supervisors), RWMC's "Mixed Bag of Waste" newsletter, and Management Workplace Visits.

The ISTs report up to the Fluor Idaho Safety Council (FSC). The FSC is an employee-driven safety team that supports safe, compliant work in conjunction with the established ISMS. The FSC is designed to promote communication and resolution of safety-related issues throughout all levels of all organizations. Also, the FSC is designed to ensure that employees at all levels have an equal opportunity to voice safety improvements and concerns in a manner that ensures that their issues are effectively heard, recognized, addressed and resolved, and that feedback is provided. The FSC core members include chairs, vice-chairs, and management champions for each IST; union safety and health representatives; the OWL chair; the human performance subject matter expert (SME); the FSC administrator; the Community Outreach Chair; the VPP lead; the Environmental, Safety, Health and Quality Assurance Director; and the ICP Core Program Director. The core members are also the voting members. FSC is championed by the Program Manager and includes the IST chairs so that important IST issues get upper managers' attention for resolution.

The Team attended three Fluor Idaho "Safety Day" events held during the assessment. The safety day events were well attended by all employees. The events were rotated throughout all the Fluor Idaho facilities over a 2-week period to ensure maximum employee participation. The events included participation by many vendors with varying safety messages. Also included were safety demonstrations related to Fluor Idaho work activities, including slip, trip, and fall awareness; safe driving observations and activities; and wellness activities. Employees interviewed during the events were supportive of the activities and actively involved. Many employees interviewed stated the safety day's events improved their safe performance at work and at home.

Conclusion

Fluor Idaho maintains several programs to ensure effective Employee Involvement. As a result of the merger of the previous companies in the new contract, Fluor Idaho recreated a unified employee safety team program and BBS program. The incorporation of the MPE by the ISTs is an excellent tool to ensure continuous improvement of the ISTs. Although the transition from two contractors to one did create some difficulties merging safety cultures of the previous contractors, employees remain involved with Fluor Idaho's safety improvement efforts.

Although not as prevalent as seen in the previous contractors at the ICP, Fluor Idaho demonstrates the necessary Employee Involvement for continued participation in DOE-VPP.

V. WORKSITE ANALYSIS

Management of health and safety programs must begin with a thorough understanding of hazards that might be encountered during the course of work and the ability to recognize and control any new hazards. Implementation of the first two core functions of an ISMS, defining the scope of work and identifying and analyzing hazards, form the systematic approach to controlling hazards. The results of the analysis must be used in subsequent work planning efforts. Strong safety programs also integrate feedback from workers regarding additional hazards that are encountered and include a system to ensure that new or newly recognized hazards are properly addressed. Successful worksite analysis also involves implementing preventive and/or mitigating measures during work planning to anticipate and minimize the impact of hazards.

In 2014, ITG continued to demonstrate an effective work control and hazard analysis process. Revisions to its processes had been made more effective with the solicitation of continuous improvement ideas from SMEs and work planners who used the system daily. These improvements helped tailor and improve the efficiency of the process.

CWI used numerous tools to identify and analyze hazards. After Fluor Idaho was awarded the contract for the ICP and assumed contract operations in June 2016, it consolidated work planning practices and procedures from the existing ICP and AMWTP into MCP-101, *Integrated Work Control Process*. MCP-101 forms the basis for all ICP project maintenance, decommissioning and demolition (D&D), and construction work. MCP-101 is based on the core functions and guiding principles of ISMS. All work, whether minor or planned work, is initiated through the Work Control Administration Center and planned using a graded approach. This approach includes the use of a general hazard analysis that credits worker training in general safety and health requirements. General hazards are those hazards located within a facility or area that personnel routinely encounter when entering, passing through, or inhabiting the facility or area. Workers mitigate or control the general hazards based on site/facility safety orientation and training, signs and warnings, and general personal protective equipment (PPE).

Personnel request work using either a FIXIT e-mail or a work request form. Work request forms are available at both INTEC and the RWMC. Four separate e-mail addresses are used for D&D work or work at INTEC, RWMC, or the IWTU. Work planners screen incoming work requests to determine the priority (emergency, immediate, high, medium, or low). Next, using the risk-based screening criteria in MCP-101, planners screen work requests for complexity, the potential consequences, and frequency of the work. This risk determination, along with the information found in MCP-101, Appendix C, *Minor Work Criteria*, determines the work order category. The three categories are: *Minor Work, Planned Work Orders, or High Planned Work Orders*. MCP-101 defines minor work as work that is routine in nature, fairly simple, does not affect nuclear safety, does not increase the probability of upset conditions, and is performed frequently and relies on skill-of-the-craft.

Planners perform a preliminary hazard evaluation walkdown with appropriate personnel, including workers, using Form 430.10, *Hazard Profile Screening Checklist*. A separate planning walkdown is required for *Planned and High Planned* work orders to identify additional hazards using a job hazard analysis process, Form 442.17, *Job Safety Analysis*, to identify, evaluate and determine controls for hazards. The JSA form also allows work planners to identify appropriate SME involvement. MCP-101 and the JSA process integrate the hierarchy of controls for hazard mitigation. MCP-101 requires the completed JSA to be used for work order development and to

be included as an attachment to the final work order document. All types of work require a review of the facility hazards list (FHL) and a workability walkdown using Form 430.13, *Walkdown Checklist for Integrated Work Control Process*, to validate the hazards identified. The Fluor Idaho work control process is comprehensive, well documented, and effective at identifying, analyzing, and controlling hazards.

Employees are willing to use the step-back and stop-work process, and the majority of employees said they believe that Fluor Idaho managers are committed to providing a safe work environment. They also believe Fluor Idaho receives and responds appropriately to workers' concerns and collaborates with the workforce to resolve concerns.

Housekeeping at the Fluor Idaho facilities was good and the Team identified only minor safety and health issues. Walkways showed deterioration at INTEC and the RWMC due to extreme winter conditions from the previous winter. Fluor Idaho recognized these conditions and has made improvements to sidewalks with plans to do more to eliminate any potential hazards as funding permits. MCP-3449, *Safety and Health Inspections*, documents the procedure to conduct workplace safety and health inspections. Using this procedure, ISTs that include workers, SMEs, and supervisors conduct regular scheduled inspections. Fluor Idaho documents any identified safety issues in the approved corrective action system in accordance with MCP-598, *Corrective Action System*. The system includes any deficiencies that have already been corrected. The inspections were effective in identifying workplace safety and health issues. For instance, workers in one facility showed the Team an eyewash station installed because a worksite inspection identified the need. Fluor Idaho installed boundaries and signs in a machine shop at INTEC to prevent casual foot traffic through a work area. While the procedure has allowances for general area or facility inspections, most, if not all, documents provided to the Team involved focused inspections with special emphasis (i.e., electrical, slips, trips, and falls, etc.). Fluor Idaho should ensure that its system for conducting routine, general hazard control and compliance verifications for continuous activities covers the whole worksite and includes all safety and health potential worksite hazards (as well as those items contained in the focused area reviews) at least quarterly.

The Team reviewed the radiation protection program and identified that requirements from title 10, Code of Federal Regulations, part 835, *Radiation Protection*, (10 CFR 835) are flowed down to implementing documents. An adequate number of radiation controls technicians are available at Fluor Idaho facilities to support multishift operations.

Conclusion

Fluor Idaho's work planning process demonstrates an effective method to ensure proper identification and analysis of hazards in the workplace. A mature, written safety and health program that includes procedures, such as JSAs and workplace inspections, provide a safe workplace. However, Fluor Idaho should ensure that its system for conducting routine, general hazard control and compliance verifications for continuous activities covers the whole worksite and includes all safety and health potential worksite hazards (as well as those items contained in the focused area reviews) at least quarterly. Fluor Idaho satisfies the necessary elements for Worksite Analysis for continued participation in DOE-VPP.

VI. HAZARD PREVENTION AND CONTROL

The third and fourth core functions of an ISMS, identify and implement controls and perform work in accordance with controls, ensure that once hazards have been identified and analyzed, they are eliminated (by substitution or changing work methods) or controlled using engineered controls, administrative controls, or PPE. Equipment maintenance processes must ensure compliance with requirements and emergency preparedness. Safety rules and work procedures must be developed, communicated, and understood by supervisors and employees. These rules and procedures must also be followed by everyone in the workplace to prevent, reduce the frequency of, and reduce the severity of mishaps.

CWI effectively used the preferred hierarchy of controls for hazards throughout ICP and encouraged workers to be involved in the development of controls. CWI's success in implementing hazard controls had improved safety and production while reducing overall costs. Preventative maintenance, emergency planning, and occupational medicine were well-developed programs that supported safe CWI operations.

ITG used the hierarchy of controls on hazards at AMWTP with an emphasis on engineered controls. ITG continued to improve engineered controls with capital investments, such as contamination enclosures to control worker exposures and reduce PPE stresses. ITG also improved controls in the boxline to reduce exposures and contamination of Plutonium 238. The Team observed a number of individual conditions (eyewash stations, fire extinguishers, housekeeping, and extension cords) that indicated ITG should encourage workers to pay greater attention to their normal workplace inspections to ensure controls were not degraded over time.

Fluor Idaho has implemented several engineered controls based on worker suggestions for improving workplace safety. One example involved improving a task that involved ergonomic hazards. The task involved workers manually lifting/pulling crush waste "pucks" from a crusher at the RWMC and placing them on a transport. To avoid the ergonomic and physical hazards involved with manual lifting/pulling the waste pucks from a crusher, workers designed a swing-away cart with a roller conveyor that reduced the risks. Another engineered control identified by workers during a workplace inspection walkdown involved a 1½ inch diameter hose used for well-pumping operations. After use, the hose is mechanically retrieved onto a hose reel by a motorized spool. A hazard was eliminated by installing a hose guide arm. The hose guide arm feeds the hose back to the motorized spool and provides a handhold that keeps workers away from the in-running nip point. Additional use of engineered controls includes extensive use of gloveboxes, long-reach tools, and remotely operated valves and switches for motor control centers.

PPE is used extensively to address hazards that cannot be controlled through other means. Anticontamination clothing, respirators, and gloves are commonly used in contamination areas. For many years preceding this evaluation, workers, with assistance from supervisors and SMEs, have approached glove vendors in an attempt to find the next best glove for their work activity. As cut-resistant gloves came into the market, managers provided new gloves to address the variety of hazards while still providing the needed dexterity.

Fluor Idaho identified over a year ago that it was not ensuring that arc-rated and flame-resistant (FR) clothing for electricians and welders met current industry standards. Industry standards for worker protection from electrical hazards have significantly advanced in the last 20 years,

including changes and improvements to arc-flash-rated clothing. Manufacturers of arc-flash protective clothing establish user guidelines for their clothing to ensure the protective nature is not compromised by age, use, or laundering. The American Society of Testing and Materials (ASTM) has established performance requirements for arc-rated clothing (see ASTM F1506), and published ASTM F2757-09(2016), *Standard Guide for Home Laundering Care and Maintenance of Flame, Thermal and Arc Resistant Clothing*. Fluor Idaho has contracted with an offsite vendor to launder FR and arc-rated clothing, but the contract did not include those standards and requirements, nor was there a process that removed FR or arc-rated clothing from service when the number of wash cycles exceeded the manufacturer's recommendation. Fluor Idaho is revising the outside laundry contract. In the interim, Fluor Idaho expects electricians to wear additional arc-rated or FR clothing when performing tasks that expose them to arc-flash hazards.

Fluor Idaho workers faced significant challenges and hazards during the modification to the IWTU's DMR. They modified the vessel from a hemispherical bottom to a conical shape and installed directional nozzles or gas distributors to improve the movement of billions of tiny beads that form the fluidized bed. Hazards of the work included cramped and confined spaces, hot work environments, and ergonomically awkward working/welding positions. Craftsmen, SMEs, and supervisors worked together to develop methods and hazard controls for a successful outcome. During this review, the IWTU was heating up for its next demonstration run. Because of the design changes to the equipment, vessels, and controls, a review of the documented safety analysis was necessary that resulted in changes to the Technical Safety Requirement controls. Fluor Idaho faced some major design challenges and with additional outside expertise has made significant progress toward making IWTU operational.

Fluor Idaho maintains a sufficient cadre of certified professionals (certified safety professional, certified industrial hygienists, and certified health physicists) to satisfy its mission. Fluor Idaho recently hired several entry level industrial hygienists and has an active Safety and Health Intern program to develop and retain qualified SMEs in anticipation of potential senior-level SME retirements.

Many of the operations performed by Fluor Idaho involve waste handling activities. Drums and standard waste boxes (SWB) are retrieved, moved, emptied, filled, and packaged for shipment. During this assessment, two SWBs strapped one on top of another, were being moved by a fork truck and slid off a metal pallet at the AMWTP. The fork truck was moving the boxes from one area to another within the building. The route of travel involved negotiating an inclined concrete ramp. With the load on the downhill side of a concrete ramp, the operator turned the fork truck and the metal SWB on a metal transport pallet slid off and rolled onto its side. Traveling with the load on the downhill side is contrary to accepted forklift practice. OSHA expects loaded fork trucks to be driven with the load upgrade.

The Team requested the governing procedures and associated hazard analysis for this operation. Initially, Fluor Idaho provided JSA-161, *Moving Containers for Waste Management Activities*, and TPR-8083, *Waste Container Handling*. During factual accuracy review of this report, Fluor Idaho stated those documents did not apply, telling the Team that JSA-161 applied to waste handling operations at INTEC, not AMWTP. Fluor Idaho then provided TPR-8114, *Site-Specific Requirements for AMWTP Payload Assembly*, as the procedure the workers were using for the SWB move.

TPR-8114 contains the procedure hazard analysis for AMWTP Payload Assembly, which includes activity 1, *Performing payload assembly operation*. Under potential task hazards, the hazard analysis identifies 1k, *Mechanical material handling (industrial vehicles)*. The hazard controls include 1k.3, *Secure material being moved*. The procedure hazard analysis for TPR-8083 contains a similar control. Neither procedure included that control in the procedural steps. TPR-8114 contains no procedural steps or references to waste container movement. TPR-8114 identifies TPR-8083 as a reference. TPR-8083 specifically states: *This procedure applies to movement, handling, and storage of AMWTP barcoded waste containers in the mixed waste management units (MWMUs) of the AMWTP*. After dropping the SWB, Fluor Idaho modified TPR-8114 to include a step: *IF transporting the payload to storage on a payload transport pallet, THEN secure the payload to the pallet prior to transporting into storage*. Fluor Idaho did not modify TPR-8083. Fluor Idaho should further modify TPR-8114 to reference that any waste container moves should be performed in accordance with TPR-8083, and modify TPR-8083 to include procedure steps that ensure payloads are secured to the transporting vehicle before moving the payload. Fluor Idaho should also review any other relevant waste handling and package assembly procedures to ensure the procedures are integrated with each other, including appropriate procedural cross references.

Opportunity for Improvement: Fluor Idaho should further modify TPR-8114 to reference that any waste container moves should be performed in accordance with TPR-8083, and modify TPR-8083 to include procedure steps that ensure payloads are secured to the transporting vehicle before moving the payload.

Opportunity for Improvement: Fluor Idaho should review any other relevant waste handling and package assembly procedures to ensure the procedures are integrated with each other, including appropriate procedural cross references.

The Fluor Idaho Emergency Management Program is documented in PRD-155, 2016, *Emergency Management System*. Like the work planning and control documents, the Fluor Idaho emergency management program was created by blending the best of both CWI and ITG programs. During this effort, Fluor Idaho simplified the facility emergency procedures and standardized the format. In addition to an annual site-wide evacuation drill, Fluor Idaho plans and conducts approximately five drills at the RWMC and INTEC. Fluor Idaho investigates accidents and incidents using causal analysis techniques. Employees interviewed indicated investigations focused on cause and did not seek to assign blame. Fluor Idaho disseminates lessons learned from local and complex-wide events to all levels of the Fluor Idaho organization.

The Fluor Idaho injury and illness case manager has 10 years' experience in this position and was very knowledgeable of the recordkeeping requirements. A biased sample of recordable and first-aid cases did not identify any discrepancies. The case manager said that while there is interest in each injury or illness, no undue pressure has been made to change decisions for borderline cases. Employees interviewed indicated they did not have any fear of reporting hazards and that managers usually responded with appropriate corrective actions.

Fluor Idaho contracts with the Battelle Energy Alliance, LLC's (BEA) occupational medicine program for its medical support. BEA staffs and operates two medical clinics, one at the Central Facilities Area, and another in the Willow Creek building. BEA has a staff of two physicians, one part-time physician, two physician's assistants, seven nurses, x-ray technicians, managers,

and administration personnel, and one employee assistance program personnel. The Fire Department provides ambulance support for emergency response and may position ambulances throughout INL as needed. BEA provides first-aid medical support and advanced cardiac life support. The INL Fire Department regularly responds to on and offsite emergencies as part of a mutual aid agreement with local Idaho counties. Medics are located next to the Fire Station and respond with fire personnel to the emergency scenes and transport patients to the Eastern Idaho Regional Medical Center or another appropriate facility.

Conclusion

Fluor Idaho effectively uses the hierarchy of controls to protect workers, prevent injuries, and minimize workplace hazards. Because FR and arc flash-rated protective clothing can degrade with repeated laundering, Fluor Idaho should accelerate its work with its outside vendor to remove arc-rated/FR clothing issued to electricians and welders from service when the number of wash cycles exceeds the manufacturer's recommended limits. Many of the operations performed by Fluor Idaho involve waste handling activities. Drums and SWBs are retrieved, moved, emptied, filled, and packaged for shipment. It should also review its policies and practices to ensure that controls for waste container movement are identified in procedures, and waste package assembly and handling procedures are fully integrated. An Occupational Medical Program provides comprehensive services. Fluor Idaho continues to pursue additional improvements and meets the Hazard Prevention and Control expectations for continued participation in DOE-VPP.

VII. SAFETY AND HEALTH TRAINING

Managers, supervisors, and employees must know and understand the policies, rules, and procedures that prevent or reduce exposure to hazards. Training for health and safety must ensure that responsibilities are understood, personnel recognize hazards they may encounter, and employees are capable of acting in accordance with managers' expectations and approved procedures.

The 2014 reports concluded that the former contractors (CWI and ITG) continued to improve their safety training programs by refining and improving upon the "block and blend" training concepts. Discussions with employees indicated that most workers were satisfied that the scope and duration of training provided was adequate for the positions and tasks assigned. In an effort to develop employee skills, CWI provided continuing training for managers. USW continued to provide all the 10 CFR 851 and Hazardous Waste Operations training for CWI workers.

PDD-13, *Conduct of Training*, describes the Fluor Idaho training process. ICP Core training uses a systematic approach to training that defines the knowledge, skills, and abilities needed for an individual to perform a task competently and safely. The training process analyzes job tasks, determines employees' training needs and requirements, identifies appropriate training methods that meet those needs and requirements, develops and conducts that training, evaluates the effectiveness of training for potential improvements; and documents the training processes and programs.

Fluor Idaho uses the TRAIN Learning Management System to manage, track, and schedule training. The TRAIN system was already in use by CWI, and Fluor Idaho efficiently converted AMWTP to this system shortly after the contract began to improve the training programs' continuity.

The Fluor Training Group understands that ISMS integrates all elements that contribute to safe work, a safe work environment, and a safety-oriented workforce. A guiding principle of ISMS is competency commensurate with the responsibility to ensure that each employee is properly trained for all aspects of his or her work assignment. Fluor Idaho uses its training program to implement that guiding principle. The Training Group ensures that result by developing/maintaining position descriptions (PD), identifying an employee's training needs in an Individual Training Plan (ITP) within TRAIN, and electronically tracking and recording completed training using the ITP. Ninety percent of worker training is predefined according to an established job code (PD or ITP).

Supervisors verify the predefined training is adequate, then confirm workers' training is current on a daily basis. Fluor Idaho uses the qualified watch-standing lists (QWL) in TRAIN to help supervisors perform that daily verification. The QWLs list a supervisor's employees with the employees' training status. The QWLs can be designed to display all or part of their employees' training. The Fluor Idaho training group provides supervisors with the necessary training to develop their own QWLs and, in special cases, will help develop the QWLs with them. Fluor Idaho is in the process of implementing new software to update the QWL process to a more efficient process.

The Fluor Idaho training group has developed an additional notification process to inform workers when training is required. The process provides a visual traffic light icon on the employee's computer home screen. The traffic light shows yellow for upcoming training in

60 days, changes to a red light for 30 days, and a red stop sign for delinquent training. These icons appear immediately on workers' home pages when they sign in. Fluor Idaho also continues to use the 30/60/90-day e-mail notification process.

Fluor Idaho had to evaluate and merge the CWI and ITG training requirements. Fluor Idaho identified differences between the CWI and ITG respirator training and fit-testing processes. While both processes were compliant with regulatory requirements, the ITG process was less rigorous and did not meet expectations for the RWMC. As a result, the Fluor Idaho training group developed and initiated new training specifically for the AMWTP personnel to match the RWMC expectations. AMWTP employees demonstrated their appreciation for the respiratory program improvements and perceived the changes made them safer.

Fluor Idaho also identified that as the IWTU facility approached operations, operators would need to refresh their radiological worker training. The Training Group recognized that during the construction phase at the IWTU radiological concerns were minimal and as they began transition into operations, the workers would benefit from having their radiological training knowledge reinforced. The Training Group developed and scheduled the refresher training for all IWTU operators before IWTU begins processing radioactive waste.

Fluor Idaho works hard to ensure new employees are properly informed of the Fluor Idaho expectations for safe work as part of the new employee's onboarding training. However, managers recognized that construction workers were not provided that training. Recognizing this deficiency, the Training Group adopted and modified the Safety Training for Construction (SafT-con) class from similar training used by Fluor at the DOE Portsmouth facility. The SafT-con course was developed for construction workers (both subcontractor and force account) who did go through the new employee training process. SafT-con is a 4-hour training class that explains the company's safety expectations. The Training Group piloted the SafT-con training with at least 10 experienced force account construction workers, and the workers' feedback was used to refine the training material. SafT-con training is scheduled began in July 2018.

Fluor Idaho provides DOE's National Training Center's (NTC) TLP-200, 150, and 100 to its workforce. TLP-200, *Safety Culture for Senior Leaders*, was developed by the NTC in 2012 to improve DOE and DOE contractors' senior leaders' understanding of safety culture. TLP 200 curriculum focuses on the importance of maintaining a collaborative workplace and offers resources to assist senior leaders in fostering a work environment that promotes trust where employees feel free to raise concerns without fear of retaliation. The course emphasizes the importance of demonstrating consistent behaviors across the Department, in Federal and contractor organizations, and promotes a shift from "mere compliance" towards a "standard of excellence." Throughout the day-long course, leaders participate in individual, team, and group exercises and use a case study to apply safety culture practices, principles, tools, and resources based on decades of safety culture research and industry experience. The course supports DOE's expectations to maintain a positive safety culture and a Safety Conscious Work Environment. Fluor Idaho also provides the TLP 150, *Safety Culture Training for Front Line Leaders*, which trains DOE Federal and contractor frontline leaders to establish and maintain a trusting and collaborative safety culture with their subordinates. With assistance from the Eckert Training College, Fluor developed and implemented ICTLP 100, *Worker Level Leadership Training*, to ensure workers understand the intent of supervisors recently trained in the TLP 150 training. TLP 100 helps to ensure workers and supervisors trained in TLP 150 effectively understand each

other's message. TLP 100 is a 2-hour course focused on safety culture and safety conscious work environment. Union safety representatives teach the TLP 100 training.

Fluor Idaho continues the use of a modified version of the CWI Safety Tool Box Handbook called the Fluor Idaho One Safety ICP Core Pocket Safety Guide. The pamphlet reinforces the Fluor Idaho core worker safety training. The Toolbox describes the relationship between ISMS; 10 CFR 851, *Worker Safety and Health Program*; VPP; and includes a letter of support from the ICP Core Manager. The Pocket Safety Guide provides the necessary tools to help employees work safely. Fluor Idaho gives the Pocket Safety Guide to all ICP employees and reinforces the content through IST-sponsored safety campaigns.

Conclusion

Fluor Idaho maintains an effective safety and health training program. The training organization proactively identified several areas where training needed to be improved, or new training was developed to address potential weaknesses. Fluor Idaho actively supports Safety Culture Awareness training providing TLP training from senior managers to the workers. Fluor Idaho meets the Safety and Health Training expectations for continued participation in DOE-VPP.

VIII. CONCLUSIONS

Fluor Idaho has faced several significant challenges over the past 2 years. Some of those challenges resulted from its initial approach to operating the new contract, some challenges resulted from differing workers' expectations for the change, and some challenges resulted from the contract structure itself. Although Fluor Idaho expected some of these challenges, the new senior management team was surprised by others. Fluor Idaho recognized all these challenges within the first few months of the contract and has been working to reverse the negative consequences on the workforce culture. The workforce remains committed to completing the mission safely, but injury and illness rates reflect workers' distraction resulting from the changes. Fluor Idaho has integrated operations from the two previous contractors and established effective processes and procedures that establish safe work methods and practices. Fluor Idaho is performing some very hazardous work that will continue to challenge the workforce to remain alert, recognize changed conditions, and exercise pause and stop work on a frequent basis. Fluor Idaho recognizes the risks, provides workers with the resources they need to perform work safely, and encourages workers not to put themselves at risk. The Team recommends that Fluor Idaho continue to participate in DOE-VPP as a Star site.

Appendix A: Onsite VPP Assessment Team Roster

Management

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