



# CH2M-WG Idaho, LLC Idaho Cleanup Project

**Report from the DOE  
Voluntary Protection Program  
Onsite Review  
June 4-15, 2007**



**U.S. Department of Energy**  
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## Foreword

The Department of Energy (DOE) recognizes that true excellence can be encouraged and guided but not standardized. For this reason, on January 26, 1994, DOE initiated the DOE Voluntary Protection Program (DOE-VPP) to encourage and recognize excellence in occupational safety and health protection. The DOE-VPP closely parallels the Occupational Safety and Health Administration (OSHA) Voluntary Protection Program (VPP), which was established by OSHA in 1982 and has demonstrated that cooperative action among government, industry, and labor can achieve excellence in worker health and safety.

DOE-VPP outlines areas where DOE contractors and subcontractors can comply with DOE Orders and OSHA standards while also “stretching for excellence.” DOE-VPP emphasizes systematic and creative approaches involving cooperative efforts of everyone in the contractor or subcontractor workforce at DOE sites, including contractor managers and workers.

Requirements for DOE-VPP participation are based on comprehensive management systems, with employees actively involved in assessing, preventing, and controlling the potential health and safety hazards at their sites. DOE-VPP is designed to apply to all contractors in the DOE complex and encompasses production facilities, research and development operations, and various subcontractors and support organizations.

DOE contractors are not required to apply for participation in the DOE-VPP. In keeping with OSHA’s VPP philosophy, participation is strictly voluntary. Additionally, participants may withdraw from the program at any time.

DOE-VPP consists of three programs, which are based on and similar to those in OSHA’s VPP. These programs are Star, Merit, and Demonstration. The Star program is the core of DOE-VPP, and its achievement indicates truly outstanding protectors of employee safety and health. The Merit program is a steppingstone for contractors and subcontractors that have good safety and health programs but need time and DOE guidance to achieve Star status. The Demonstration program is expected to be used rarely; it exists to allow DOE to recognize achievements in unusual situations about which DOE needs to learn more before determining approval requirements for the Star program.

By approving an applicant for participation in DOE-VPP, DOE recognizes that the applicant is meeting, at a minimum, the basic elements of ongoing, systematic protection of employees at the site. The symbols of this recognition are DOE-provided certificates of approval and the right to fly the VPP flags (e.g., VPP Star flag for sites with Star status). The participant may also choose to use the DOE-VPP logo on letterhead or on award items for employee incentive programs. Further, each approved site will have a designated DOE staff person to handle information and assistance requests from DOE contractors, and DOE will work cooperatively with the contractors to resolve health and safety problems.

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**ABBREVIATIONS AND ACRONYMS**

AJHA	Automated Job Hazard Analysis
ALARA	As Low As Reasonably Achievable
BLS	Bureau of Labor Statistics
CH2M-WG Idaho, LLC	CWI
CBT	Computer Based Training
COBRA	Changing Our Behavior Reduces Accidents
D&D	Decontamination and Decommissioning
DART	Days Away, Restricted, or Transferred
DOE	U.S. Department of Energy
DOE-VPP	U.S. Department of Energy Voluntary Protection Program
DSA	Documented Safety Analysis
ECP	Employee Concerns Program
EMD	Executive Management Directives
ES&H	Environmental, Safety and Health
ESH&QA	Environmental, Safety, Health, and Quality Assurance
EST	Employee Safety Teams
FHL	Facility Hazard List
GFCI	Ground Fault Current Interrupter
HRP	Human Reliability Program
HSS	Office of Health, Safety and Security
ICP	Idaho Cleanup Project
IH	Industrial Hygienist
IDLH	Immediately Dangerous to Life or Health
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
ISMS	Integrated Safety Management System
IWTU	Integrated Waste Treatment Unit
JSA	Job Safety Analysis
M&O	Management and Operating
MSCP	Miscellaneous Sites Cleanup Project
MSDS	Material Safety Data Sheet
NAICS	North American Industry Classification System
OSH	Occupational Safety and Health
OSHA	U.S. Department of Labor's Occupational Safety and Health Administration
PBF	Power Burst Facility
PPE	Personal Protective Equipment
RTC	Reactor Technology Complex
RWMC	Radioactive Waste Management Complex
SAC	Safety Assessment Center
S&H	Safety and Health
TAN	ICP Test Area North
TRAIN	Training Records and Information Network
TRT	Technical Response Team
VPP	Voluntary Protection Program
WAG-7	Waste Area Group 7
WG	Washington Group

## EXECUTIVE SUMMARY

CH2M-WG Idaho, LLC, (CWI) is responsible for the cleanup effort at the Idaho National Laboratory (INL) site. The scope of that effort includes treatment and disposal of various radioactive waste streams, management of spent nuclear fuel, disposal or disposition of nuclear materials, demolition of reactor and non-reactor nuclear facilities, and environmental remediation activities currently funded through DOE's Office of Environmental Management. CWI was awarded the \$2.9 billion contract in March 2005.

Although many CWI employees participated in DOE-VPP under the previous contract, significant changes to the management and project structure required that CWI apply to the DOE-VPP as a new applicant. The application for Star status was initially submitted in Spring 2006 but was rejected by the manager of the Idaho Operations Office. Since that time, CWI redoubled its efforts, and reapplied in February 2007.

CWI was scheduled to have an Independent Oversight (HS-64) assessment of Environment, Safety, Health, and Emergency Management from June 4-15, 2007. In order to reduce the number of inspections that CWI is subjected to, and to better utilize resources, HSS decided to conduct the VPP Site Certification concurrently with the Independent Oversight assessment. The VPP Certification team (Team) focused primarily on Management Leadership and Employee Involvement, while relying on the HS-64 team's results for Worksite Analysis, Hazard Prevention and Control, and Safety Training. The purpose of this report is to document the results of the Team review and provide the Chief Health, Safety and Security Officer with the necessary information to make the final decision regarding CWI's DOE-VPP status.

Based on extensive interviews with employees, foremen, supervisors, and managers, extensive observation of work activities, inspection of worksites and facilities within the project scope, and reviews of records, the Team determined that the CWI Idaho Cleanup Project (ICP) has established an exemplary safety culture and is performing well in all the tenets of DOE-VPP. Additionally, the accident, injury, and illness rates for the project are well below their industry averages and show an overall decreasing trend. Consequently, the Team recommends that the CWI ICP be awarded DOE-VPP Star status.

The standard for Star status is not perfection, but rather that, in addition to an excellent safety record, managers and workers are dedicated to and effectively pursuing excellence in safety performance. Consistent with that goal, some findings and opportunities for improvement were identified by the HS-64 assessment. These findings and opportunities reflect those areas where the CWI ICP can further improve its performance and are listed in the Independent Oversight Assessment report. A formal corrective action plan is required to address the results of the Independent Oversight report, and CWI is expected to consider and specifically address them in their annual status report.

## I. INTRODUCTION

The DOE-VPP onsite review of CWI was conducted from June 4-15, 2007. CWI is the prime contractor for the ICP at the INL. The DOE Idaho Operations Office provides direction to and oversight of CWI.

The ICP involves the safe environmental cleanup of specific portions of the INL site, located 45 miles west of Idaho Falls, Idaho. The 7-year, \$2.9 billion project funded through DOE's Office of Environmental Management (EM) targets legacy waste generated from munitions testing, Government-owned research and defense reactors, laboratory research, spent-fuel storage, and defense missions at other DOE sites.

The ICP work scope has four subtier organizations that have been established to accomplish this work scope. These subtier organizations are: (1) Idaho Nuclear Technology and Engineering Center (INTEC) Area Cleanup Project; (2) Radioactive Waste Management Complex (RWMC) Area Cleanup Project, (3) ICP Test Area North (TAN)/Reactor Technology Complex (RTC)/Power Burst Facility (PBF) Project; and (4) Miscellaneous Sites Cleanup Project (MSCP). Within this subtier organization structure are two projects that represent significant and difficult work: Integrated Waste Treatment Unit (IWTU) and Waste Area Group 7 (WAG-7).

Recognition in the DOE-VPP requires an onsite review by the Office of Health, Safety and Security (HSS) DOE-Team to determine whether the applicant is performing at a level deserving DOE-VPP recognition. The Team evaluated CWI's safety programs against the provisions of the DOE-VPP. During the site visit, the Team observed extensive work activities, evaluated relevant safety documents and procedures, and conducted interviews to assess the strength and effectiveness of CWI's health and safety programs. This onsite review was conducted concurrently and in cooperation with the HSS Independent Oversight Independent Assessment of Environment, Safety, Health, and Emergency Management, performed by HS-63 and HS-64. This approach ensured the results of the inspections were consistent, and allowed the Team to consider the results of the independent assessment in making a recommendation.

The Team interviewed many employees, managers, and supervisors, either formally or during observation of field activities. Hazards associated with work at CWI included, but are not limited to, the range of industrial hazards associated with construction or demolition work, and also extensive radiological contamination and residual process chemicals. Work observed included: demolition and disposal at TAN and the PBF; retrieval, sorting, and repackaging of targeted wastes at the RWMC; construction operations supporting tank closure at INTEC; hoisting and rigging operations in support of spent fuel disposition at INTEC; inspection of shop areas at INTEC; unloading and preparation of drums for waste packaging at RWMC; decontamination and demolition activities in the Engineering Test Reactor (ETR) and Materials Test Reactor (MTR) in the RTC. Additionally, the Team observed several Employee Safety Team meetings, multiple pre-job briefings, and a meeting of the Company Employee Safety Team.

**II. INJURY INCIDENCE / LOST WORKDAYS CASE RATE**

The Team conducted a review of the Occupational Safety and Health Administration (OSHA) 300 logs. The tables below summarize the OSHA reportable data for CWI employees as reported by CWI.

<b>Injury Incidence / Lost Workdays Case Rate (CWI)</b>					
Calendar Year	Hours Worked	Total Recordable Cases (TRC)	Total Recordable Case Rate (TRCR)	Days Away, Restricted or Transferred (DART) Cases	DART Case Rate
2005*	2,876,665	16	1.11	4	0.28
2006	3,966,520	37	1.87	13	0.65
Two Years	6,843,185	53	1.55	17	0.50
Bureau of Labor Statistics (BLS-2005) average for NAICS Code # 562 (waste management and remediation)			7.1		4.7

*Total Recordable Case Rate for ICP: 1.55*

*Days Away, Restricted or Transferred Case Rate: 0.50*

<b>Injury Incidence / Lost Workdays Case Rate (CWI - Subcontractors)</b>					
Calendar Year	Hours Worked	Total Recordable Cases (TRC)	Total Recordable Case Rate (TRCR)	DART Cases	DART Case Rate
2005*	179,756	1	1.11	0	0.00
2006	529,670	3	1.13	0	0.00
Two Years	709,426	4	1.13	0	0.00
Bureau of Labor Statistics (BLS-2005) average for NAICS Code # 562 (waste management and remediation)			7.1		4.7

*Total Recordable Case Rate for subcontractors: 1.13*

*Days Away, Restricted or Transferred Case Rate: 0.00*

*\*Contract started in May 2005 – No data for 2004*

**Conclusions**

CWI injury rates are well below the averages for the comparable industry and meet the criteria for participation in the DOE-VPP program at the Star level. The subcontractor two year average TRC rate and DART rate are below the comparable industry averages, and also meet the criteria.

### III. MANAGEMENT LEADERSHIP

Management leadership is a key element of obtaining and sustaining an effective safety culture. The contractor must demonstrate senior-level management commitment to occupational safety and health in general, and to meeting the requirements of the DOE-VPP. Management systems for comprehensive planning must address health and safety requirements and initiatives. As with any other management system, authority and responsibility for employee health and safety must be integrated with the management system of the organization and must involve employees at all levels of the organization. Elements of that management system must include clearly communicated policies and goals, clear definition and appropriate assignment of responsibility and authority, adequate resources, and accountability for both managers and workers. Finally, managers must be visible, accessible, and credible to employees.

Throughout the onsite visit, the Team interacted with each of the line managers, from the President and Chief Executive Officer down through the Project Area Managers, to the job supervisors. CWI has clearly established a management environment that supports safety as a cultural value. The company President has made it abundantly clear that his expectation is all work will be performed safely or it will not be done. He is dedicated to reaching zero accidents and injuries, and ensuring schedule pressures are not placed on workers. To that end, he has established a policy that employees are not provided with numerical indicators of cost and schedule performance, nor are they given numerical accident/injury goals. By insisting work be done correctly and safely, the project is actually ahead of schedule and on or under budget. CWI has contract incentives to save money, and splits any cost savings with DOE. The company commitment to safety is seen as a significant contributor to its ability to reduce costs.

CWI inherited an extensive set of policies and procedures from the previous contract. There are currently approximately 4000 policies and procedures within the CWI document control system. These policies and procedures establish a clearly defined Integrated Safety Management System (ISMS). CWI is reviewing these procedures in an effort to eliminate redundancy and ensure the necessary policies and procedures are easy to access and understand.

PDD-1005, *ICP Management and Operations Manual*, describes the CWI management structure. It identifies the line management and functional management structure, summarizes their roles and responsibilities, and outlines interfaces between them. Key organizational management expectations are described. The manual establishes three key management priorities:

- Employee safety is paramount;
- Employees must be able to trust management to address their concerns; and
- Employees must perform work using established processes.

As a result of problems identified in 2006, CWI has completely revamped its Employee Concerns Program (ECP). Changes include moving the ECP out of the Human Resources organization and having the manager report directly to the company President, establishing expectations that concerns are addressed in a timely manner, and conducting employee training and outreach. Additionally, CWI managers worked with their employees to define a specific set of expectations for managers, supervisors, and workers. Those expectations were captured, printed on a poster, and are now posted throughout the ICP.



Management visibility in the field is one of the strongest points of CWI. CWI has established a flat management structure, with minimal bureaucratic structure between the workers and the company President. Project Area Managers are regularly seen at the work sites, in some cases daily or even more frequently. The Decontamination and Decommissioning (D&D) Project Area Manager has established a Technical Response Team (TRT). This team is composed of various supervisors, and is a rotating assignment. This team is available for immediate consultation regarding problems encountered at the work sites. Additionally, the team meets daily to visit each active worksite within the project, inspect the worksites for hazards, discuss any support needs of the work supervisors, and correct any identified problems. The manager maintains a log of problems, and holds his supervisors accountable for corrective actions.

CWI conducts some formal management assessments. However, the continuous presence of managers in the field is far more effective in ensuring that managers are aware of developing issues and that corrective actions are effective.

An additional strength of the CWI safety program is the participation by the Project Area Managers on the Employee Safety Teams (EST). Each Project Area Manager is appointed as a Unit Champion of their individual EST and is responsible for providing resources and management support for the EST. One notable indicator of management support for the ESTs is the allocation of significant non-reimbursable funds (approximately \$350,000) to provide safety incentives, produce presentations and videos, and send employees to conferences and training. Safety awards are regularly handed out, ranging from small recognition awards such as pins and pens, to shirts, hats, jackets, and gift certificates. As a result, the ESTs have been able to implement many exemplary and imaginative ideas that promote a positive safety culture (See Section IV. Employee Involvement)

Managers have actively participated in safety promotions developed by the EST. For example, CWI identified that the days immediately after returning to work from the winter stand-down were higher risk for injuries from slipping and falling on icy walkways. The EST held a "Safety Strike" and had managers carrying signs and wearing sign boards greeting the buses as workers arrived on the first day back to work. The signs had safety slogans promoting winter safety awareness. Due in part to increased awareness, CWI saw a significant reduction in winter weather related injuries in 2007.

In addition to supporting the ESTs, managers have provided sufficient personnel resources in environment, safety, and health. The possible exception might be the availability of industrial hygiene technicians. The assigned industrial hygiene and safety personnel are dedicated to protecting workers, but there are some weaknesses in the exposure assessment program as discussed in the Independent Oversight Assessment. Additional resources may be required to ensure appropriate and timely exposure assessments are identified and performed.

CWI has established a Safety Assessment Center (SAC) to provide a centralized process for timely management involvement in routine reporting, reviewing, and assigning follow-up on safety events; support safety performance monitoring; and provide a resource for periodic safety performance summary reporting. Data is collected about events and conditions that have the potential to adversely affect safe operations now and in the future, as well as good practices. The data collected is analyzed for adverse and/or positive trends, and the results are disseminated to supervisors and workers. This information was regularly used in pre-job meetings as a "safety

share.” The SAC Council is made up of the President and Chief Executive Officer, the Chief Operating Officer, project managers, functional support managers, Environmental, Safety, Health, and Quality Assurance (ESH&QA) managers, Safety Assessment Center Manager, and others identified by senior management. The SAC Council convenes daily to identify, review, and analyze safety events and conditions. SAC Council meetings are open to DOE and CH2M-Hill and Washington Group International corporate participation.

## **Conclusions**

CWI managers demonstrate an exemplary level of commitment to the Safety and Health Program. Their nearly continuous presence in the field, participation and partnership with the Employee Safety Teams, and their very visible support for creative and innovative means of promoting safety have been effective in helping workers accomplish a hazardous and challenging mission. Moreover, CWI accident and injury statistics reflect the effectiveness of the CWI safety program in addressing project hazards. CWI meets all of the requirements of the Management Leadership tenet.

#### IV. EMPLOYEE INVOLVEMENT

Employees at all levels must be involved in the structure and operation of the safety and health program and in decisions that affect employee health and safety. Employee participation is in addition to the individual right to notify appropriate managers of hazardous conditions and practices.

The Team observed that employees continue to be strongly involved in the CWI Safety and Health (S&H) program. During the interview process, the Team received positive feedback from employees regarding their involvement. Employees indicated they feel responsible for their own safety and that of their co-workers as well as site/facility visitors. There is a very healthy sense of S&H ownership at the site as exhibited in the many programs developed by the employees that continuously promote and build on the site's safety culture. One such example is the ongoing development of the "CWI Light Zone" safety awareness videos. These short videos are developed by the CWI Changing Our Behavior Reduces Accidents (COBRA) team and highlight key areas where safety observations indicate a need for improvement in the workplace. The three videos completed at the time of this assessment included: using the proper tool for the job; using handrails and paying attention to the task at hand; and using the proper lifting techniques/procedures when lifting heavy objects.

A variety of communication efforts are underway to support employee involvement. Examples of these efforts are listed below.

- VPP homepages
- Posters
  - safe living (posted in restroom facilities and at various INL locations)
  - Inside the ICP
  - Hats-Off in ICliPs
- E-mail notices
- Personal cards

In addition, employees are involved in a variety of S&H committees, which are discussed later in this report. Employees are involved in the formal and informal reporting of hazards, they have stop-work authority, and they have input into systems and procedures for S&H incentive programs and disciplinary procedures. They are involved in S&H investigations of accidents, illnesses, and injuries, and receive appropriate training for this function. Of note is their "DO IT" (Define, Observe, Intervene and Test) program used to define critical behaviors, observe the work areas for such behaviors, intervene to change the behaviors, and test the result. Employees are part of the formal Integrated Work Control Process that helps to streamline work by making work planning and execution more efficient and safer. The Team found that communication also benefits from CWI's Union Safety Representative program, which was instituted in 1999 under the previous contract.

CWI has implemented two programs that have further enhanced its Environment, Safety and Health (ES&H) program. Under one program, management has communicated to employees that they are expected to "step back" from a particular job and/or work activity that they feel is unsafe and re-evaluate the conditions of the job and resolve any issues. "Safety Step Back" authorizes an employee to stop work when faced with a situation that is "readily fixable." In

most cases, employees noted that a step back has appropriately allowed them the latitude to avoid the more formal “stop work” authority. Another program improvement made to this tenet has been the creation of the behavior based safety program, COBRA, mentioned earlier. COBRA is a “no name/no blame” observation process that focuses on specific at-risk behaviors that have been contributing to accidents and injuries at ICP. At the time of this evaluation, approximately 2000 employees had been trained to observe work behaviors from a safety perspective. Through the COBRA process an observed employee is given immediate positive reinforcement for exemplary behaviors. Behaviors that may contribute to potential injury/illness or hazardous conditions are also discussed.

Another excellent example of employee-led safety improvements is the I-Stretch program. The I-Stretch program addresses injury prevention through stretching exercises at the start of every day and helps employees prepare for the physical demands of their jobs as well as adopt a more physically active lifestyle. This program is of great significance and benefit to an aging workforce. One subcontractor has over 80% employee participation in the I-Stretch program.

Workers were observed to be actively involved in pre-job briefings and providing valuable input to their supervisors about work planning and work activities. In that role, employees were observed providing “safety shares” at the beginning of pre-job briefings and other meetings. These safety shares came from a variety of sources including the DOE Lessons Learned program, the Safety Awareness Council, and worker’s personal experience. The willingness of workers to contribute these safety shares is a testament to their personal commitment and involvement in safety.

CWI uses the ESTs on a company-wide basis. A combined team known as the Company EST (CEST) includes representatives of each of the 6 CWI DOE-VPP units. Information moves back and forth between the teams, which were established under the previous contract organization in August of 1995. The current CEST held its first meeting in June 2005. The teams are continuing to improve in their ability to deal with a variety of safety-related subjects. The interviews indicated that employees have ample opportunity to serve on one of the teams. Furthermore, team members receive additional training in safety-related areas such as inspection techniques and hazard recognition.

## **Conclusions**

Employee Involvement is strongly rooted and demonstrated in all aspects of the S&H Program. Employee participation in the employee safety teams, willingness to use “*step back and stop work*” authority, and contribution to “*safety shares*” all clearly demonstrated employees’ personal commitment to safety. The CWI-Light Zone videos and the COBRA program are examples of some of the best practices used by VPP sites to promote employee involvement. CWI workers are effective in addressing existing and new hazards. CWI meets all of the requirements of the Employee Involvement tenet.

## V. WORK SITE ANALYSIS

*The information provided in this section includes input/feedback from the Independent Oversight Inspection Team.*

Management of health and safety programs must begin with a thorough understanding of all hazards that might be encountered during the course of work, and the ability to recognize and correct new hazards. There must be a systematic approach to identify and analyze all hazards encountered during the course of work. The results of the analysis must be used in subsequent work planning efforts. Effective safety programs also integrate feedback from workers about additional hazards that are encountered, and a system to ensure those new or newly recognized hazards are properly addressed.

Both the Team and the Independent Oversight Team found CWI has processes in place based on Integrated Safety Management System (ISMS) principles that are adequate to identify and mitigate potential hazards during the entire work process. CWI planners, supervisors, subject matter experts, and workforce employ a strong sense of teaming to effectively identify and analyze work-related hazards. ESTs have demonstrated a high degree of commitment to ensuring that CWI is a safe place to work by promoting safety throughout the company through their involvement in a number of behavior based work observations of co-workers through the COBRA program. The ESTs are also active in integrating human performance improvement initiatives into work planning and the feedback and improvement process.

Tools used to identify workplace hazards include executive management directives (EMDs), the Facility Hazard List (FHL) and the Job Safety Analysis (JSA). EMDs are used to rapidly disseminate management requirements of best practices identified as a result of issues that have arisen in day to day activities until the work control documents can be updated to reflect the new requirements. The FHL addresses mitigation requirements for hazards that have been identified in fixed facility equipment, structures, and processes. CWI uses the JSA in two ways: 1) it can be used to document a hazard evaluation for either a task performed in a work control document; or 2) as a stand alone document that addresses the scope, hazards, and hazard mitigation and proper work authorization. During the assessment, the Independent Oversight Inspection Team found that although CWI adequately addressed facility-related hazards in FHLs, some electrical, noise, inhalation, and exposure hazards were not sufficiently analyzed because of the lack of rigor in implementation of the ICP work control process.

In general, the Independent Oversight team observed some specific weaknesses in worksite analysis, including two findings that are required to be addressed in accordance with DOE orders governing corrective action plans for Independent Oversight findings. Despite those weaknesses and findings, the Independent Oversight team found that CWI has established an effective Integrated Safety Management (ISM) program, and that CWI managers have a good understanding of the weaknesses identified.

### **Conclusion**

Worksite analysis methods are effective in addressing existing and new hazards. Although corrective actions will need to be identified to address the findings of the Independent Oversight team, CWI meets all of the requirements of the Worksite Analysis tenet.

## VI. HAZARD PREVENTION AND CONTROL

Once hazards have been identified and analyzed, they must be eliminated (substitution or changing work methods) or addressed by the implementation of effective controls (engineered controls, administrative controls, and/or personal protective equipment [PPE]). Equipment maintenance, PPE, processes to ensure compliance with requirements, and emergency preparedness must also be implemented where necessary. Safety rules and work procedures must be developed, communicated, and understood by supervisors and employees, and followed by everyone in the workplace, to prevent mishaps or to control their frequency and/or severity.

The Team found that the level and complexity of hazard prevention and control by CWI meet DOE-VPP criteria. The sub-elements of this tenet have been spot-checked and confirmed through employee interviews conducted by the Team and input from the HS-64 Independent Oversight Inspection Team.

CWI has a full complement of safety and health professionals that promote and maintain a safe work environment. Included among the professional staff are: safety engineers; industrial hygienists; fire protection engineers and technicians; radiation control engineers and technicians; emergency response specialists; scientists; and management and technical support personnel.

Safety and Health personnel provide their expertise to the ICP as a whole and provide field deployed support to specific CWI projects. Their responsibilities include safety awareness training, consulting, workplace analysis, task guidance, radiological and industrial hygiene oversight, and the resolution of safety issues.

CWI has clearly defined safety and health requirements for all employees and managers. Employees receive positive reinforcement as well as disciplinary actions. CWI provides the necessary PPE to protect workers from hazards that cannot be otherwise eliminated or avoided by engineering or administrative controls. A variety of PPE is made available including gloves, boots, safety glasses, hearing protection, and respirators. Employees are trained and undergo appropriate medical evaluations before being permitted to use PPE.

CWI's engineered and administrative controls have been used to effectively ensure worker safety. However, as identified by the Independent Oversight team, controls could be further enhanced in the areas of ensuring the quality voltage-rated gloves, ensuring timely exposure assessments for individuals who may have worn defective respirators, ensuring that individuals in high noise areas are informed when hearing protection is required, and to ensure that lightning protection controls are optimally used.

The CWI as low as reasonably achievable (ALARA) radiation protection program has been effective in achieving and maintaining exposure levels far below the applicable controlling limits of 10 CFR 835, *Occupational Radiation Protection*. CWI also has an integrated medical services program in which medical personnel are involved in hazard analysis and early recognition of and treatment of potential exposures.

### Conclusions

CWI has implemented effective mechanisms to prevent and control employee exposure to hazards. The Independent Oversight team identified some specific weaknesses that should be addressed as opportunities for improvement, but noted that the weaknesses were exceptions in an

otherwise effective process for establishing and implementing hazard controls. Hazard prevention and control methods are effective in addressing existing and new hazards. CWI meets all of the requirements of the Hazard Prevention and Control tenet.

## VII. SAFETY AND HEALTH TRAINING

Training is necessary to implement management's commitment to prevent exposure to hazards. Managers, supervisors, and employees must know and understand the policies, rules, and procedures established to prevent exposure to hazards.

The Team verified that CWI's safety and health training program continues to be comprehensive and well administered. The sub-elements of this tenet have been spot-checked and confirmed through employee interviews and document reviews.

Employees at all levels receive training on general safety and health issues and on job-related functions. Some craft personnel felt the HAZWOPER segment of the block training was not as comprehensive or effective as it could be. However, they felt the HAZWOPER training provided the basic information necessary to do their jobs safely. CWI management felt that the computer based training (CBT) was quite effective and is permitted under OSHA regulations. The Team concluded that use of CBT is permissible to satisfy the HAZWOPER refresher requirement. The Team consistently heard employees remark that CWI's training program provides the tools needed to make sound decisions when employees are confronted with hazardous and potentially hazardous conditions.

CWI managers and supervisors are aware of their safety and health responsibilities for themselves and for their employees. During the Team's interviews, managers and supervisors were able to explain the training process and the procedures that have been instituted to ensure each employee receives the necessary training as it relates to his or her job function. Managers and supervisors also described the process for handling employees that do not meet the training objectives and requirements of the company.

Newly hired employees that were interviewed are aware of the general safety and health programs at the site and have a strong understanding of their future training requirements. In addition to the initial safety and health training received by all employees, CWI continues to require a wide range of annual safety and health refresher training that keeps its employees informed on procedural and regulatory updates as well as potential hazards.

All employees receive a number of formal safety and health training sessions. For example, all employees receive the Consolidated Safety, Health, and Environmental Training, General Hazard Communication, and General Employee Radiological Training. Additionally, job-specific training is also required for employees whose job requires that they work around certain hazardous materials or in hazardous environments. Examples of specific training areas include asbestos, emergency response organization, hoisting and rigging, nuclear safety, fall protection, and lockout/tagout. Additional facility specific training is provided for specific hazards and skills at various INL facilities.

The INL Training Records and Information Network (TRAIN) is a database that serves as a central repository for training information on all workers, including subcontractors. Subcontractors are required to provide records of their training history and qualifications for inclusion in the TRAIN system. The TRAIN database is available to all employees, training coordinators, supervisors, and managers. Workers are given qualification cards for jobsite training verification. The qualification card indicates all training courses with their expiration dates. This information can also be accessed via computer. All employees and their supervisors are notified in advance of upcoming training for scheduling purposes.



Along with EST training, members of the COBRA team receive additional training on the entire COBRA process of conducting and reporting worksite observations.

All ICP employees are issued updated versions of the "ICP Safety Toolbox." The "Toolbox" is a quick access pocket sized booklet that is updated on a regular basis that contains helpful information about emergency information, personal safety, 10 CFR 851, ISMS, VPP, Environmental Management System, Human Performance, and reporting employee concerns. Many employees carry this booklet on them or keep it in a place where they can readily access it to look up and/or reference important information as needed.

### **Conclusion**

Safety and health training methods are effective in addressing the hazards associated with ICP. CWI meets all of the requirements of the Safety and Health Training tenet.

## **VIII. Conclusions**

CWI has approached its participation in the DOE-VPP with enthusiasm and commitment. The result is a very strong partnership between managers and workers that effectively reduces the number of accidents and injuries, and clearly communicates an expectation that work will be performed safely or not at all. Not only is CWI a leader in its safety performance statistics, but they are clearly demonstrating how a commitment to safety contributes to the ability to accomplish hazardous missions on-time and on-budget. The commitment was demonstrated at all levels of managers and workers. Managers provide the resources for employees to implement innovative and creative means of improving worker awareness. Employee involvement is actively sought not only when accidents or injuries occur, but in proactively identifying unsafe or potentially unsafe behaviors. The COBRA program has been particularly effective in getting workers to be attentive to their coworkers. A philosophy of “Actively Caring for Everyone’s Safety” was readily apparent at all aspects of the project.

Some weaknesses and findings were identified by the Independent Oversight team that warrant management attention, but the nature and extent of those findings do not detract from an otherwise exemplary safety program. The Team recommends that CWI be granted DOE-VPP Star status.

## Appendix A

### Onsite VPP Audit Team Roster

<b>Name</b>	<b>Affiliation/ Phone</b>	<b>Project/Review element</b>
Bradley Davy	DOE/HSS 301-903- 2473	Team Lead Management Leadership
Carlos Coffman	DOE/HSS 301-903-6493	Employee Involvement, Safety Training