2018 VOLUNTARY PROTECTION PROGRAM ANNUAL REPORT – HANFORD TANK WASTE TREATMENT AND IMMOBILIZATION PLANT PROJECT

The 2018 annual evaluation on the effectiveness of the Waste Treatment Completion Company's VPP is presented in this report. The scope of this evaluation is to assess WTCC's VPP and its programmatic elements.

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Executive Summary

In alignment with the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP), the U.S. Department of Energy's (DOE) VPP recognizes sites for effective implementation of safety and health programs and for maintaining injury and illness rates below national averages as computed by the Bureau of Labor Statistics. As the name suggests, participation is voluntary and undergoes a thorough application process. Based upon a DOE-VPP onsite review, the Hanford Tank Waste Treatment and Immobilization Plant (WTP) received VPP Star Certification in August 2010. To maintain Star status, an assessment is performed annually to evaluate the implementation and effectiveness of the five core elements of VPP Management Leadership, Employee Involvement, Worksite Analysis, Hazard Prevention and Control, and Safety and Health Training - in accordance with programmatic requirements established by DOE HQ VPP Handbook and guidance documents.

WTP maintains safety as a value. Upon the creation of the Waste Treatment Completion Company (WTCC), Senior Management made the request to WTP/BNI to transfer the DOE VPP star to WTCC who has the responsibility for WTP site activities. WTCC received confirmation from WTP/BNI along with DOE ORP that the transfer of the DOE VPP star was accepted allowing WTCC to manage and continue to develop the safety system at WTP. This transfer was documented by DOE HQ on May 16, 2017 with DOE ORP concurrence.

Facts at a Glance

- **Company:** Waste Treatment Completion Company (WTCC)
- **Date of Company Inception:** 27 March 2017
- **Number of Employees:** 1,647 employees (approximate)
  2,652 employees (WTP Project)
- **Total Hours Worked in 2018:** 5,378,161

2018 Injury/Illness Rates:

NAICS Code/Bureau of Labor Statistics Incident Rate classification: 237

- Total Recordable Case Rates (TRCR): 0.52
- Days Away, Restricted, or Transferred (DART): 0.30

WTCC 2018 Injury/Illness Rates Compared to CY 2017 U.S. Department of Labor Bureau of Labor Statistics (BLS) Code[1] Rates for Heavy and Civil Engineering/Construction:

	Total Recordable Injury/Illness (TRC)		Injuries/Illnesses Requiring Days Away from Work, Work Restrictions, or Transfer (DART)		Injuries/Illnesses Requiring Days Away from Work (DAFW)	
	Cases	Rate	Cases	Rate	Cases	Rate
Waste Treatment Completion Company[2]	14	0.52	8	0.30	2	0.07
BLS Case Rates (NAICS Code 237 [CY 2017])	N/A	2.5	N/A	1.5	N/A	0.9

Note: Additional WTP Project injury/illness rate information can be found in section 4.

[1] United States Bureau of Labor Statistics (BLS) are classified in accordance with the North American Industry Classification System (NAICS). WTCC is classified as Sector 23, Construction, 237, *Heavy and Civil Engineering Construction*.

[2] WTCC became active on March 27, 2017. This is data from March 27 – December 31, 2017.

Acronyms

AST	Area Safety Team
AJHA	assisted job hazard analysis
BBS	behavior based safety
BCSP	Board of Certified Safety Professionals
BLS	Bureau of Labor Statistics
BNI	Bechtel National, Inc.
BOF	Balance of Facilities
CCN	correspondence control number
CY	calendar year
DAFW	Days Away from Work
DART	Days Away, Restricted, or Transferred
DFLAW	Direct-Feed Low Activity Waste Facility
DOE	U.S. Department of Energy
HQ	DOE Headquarters
EJTA	employee job task analysis
ES&H	Environmental Safety & Health
ESRB	Executive Safety Review Board
HLW	High-Level Waste (Facility)
HPI	Human Performance Improvement
ISMS	Integrated Safety Management System
LAB	Analytical Laboratory
LAW	Low-Activity Waste (Facility)
LBL	LAW, BOF, and LAB
LLC	limited liability company
MSA	Mission Support Alliance
NAICS	North American Industry Classification System
ORP	DOE Office of River Protection
OSHA	Occupational Safety and Health Administration
PPE	personal protective equipment
PT	Pre-Treatment Facility
SCWE	Safety Conscious Work Environment
SDS	safety data sheet
SGE	Special Government Employee
SME	subject matter expert
SSW	Senior Supervisory Watch
STARRT	Safety Task Analysis and Risk Reduction Talk
STS	Safety Trained Supervisor
TRC	Total Recordable Case
VAT	Voluntary Protection Program Action Team
VPP	Voluntary Protection Program
VPPPA	Voluntary Protection Programs Participants' Association
WRPS	Washington River Protection Solutions
WTCC	Waste Treatment Completion Company
WTP	Hanford Tank Waste Treatment and Immobilization Plant
ZAC	Zero Accident Council

1.0 Background

1.1 WTP Mission

One of the primary missions of the U.S. Department of Energy (DOE) is the environmental cleanup of legacy wastes at DOE sites across the country. In December 2000, DOE entered into the Hanford Tank Waste Treatment and Immobilization Plant (WTP) Contract (DE-AC27-01RV14136 [DOE 2000]) with Bechtel National, Inc. (BNI) to design, construct, and commission a waste treatment plant to remediate the large inventory of mixed radioactive and hazardous waste stored in the Hanford Site tank farms. The waste is a legacy of the production of special nuclear material during the Cold War. DOE assigned responsibility for managing and overseeing the BNI contract to the DOE Office of River Protection (ORP).

In 2013, ORP devised a strategy to complete the WTP in phases. The first phase will treat and separate the waste in the tank farms rather than in the WTP, and the low activity fraction will then be fed directly to the LAW Facility, bypassing the PT and HLW facilities. Design in this configuration is called Direct Feed Low-Activity Waste (DFLAW). The DFLAW configuration will allow waste to be retrieved and immobilized at an earlier date while the design, construction, and commissioning of the PT and HLW facilities are still being completed.[3]

1.2 Creation of the Waste Treatment Completion Company, LLC

The DFLAW approach entails commissioning of the LAW/BOF/LAB (LBL) facilities with subsequent design, procurement, and construction of the HLW and PT facilities. When the LBL facilities are fully commissioned, the expectation is that both construction and commissioning will be simultaneously occurring on the site. In considering the implications of the DFLAW approach, BNI determined that greater management attention was going to be needed to minimize interferences between construction, startup, and commissioning activities. As a result, BNI developed a proposal to join with AECOM and form a new company. Creation of the new company was approved by DOE.

The new company is called the Waste Treatment Completion Company, LLC (WTCC). BNI awarded a subcontract to WTCC to take over the construction, startup, and commissioning scope of the WTP Contract, and the new company became active in March 2017. The BNI subcontract with WTCC does not alter the terms of the primary WTP Contract. BNI retains full responsibility for execution of the WTP scope, including the portion assigned to WTCC.[4]

In April 2017, WTCC senior management requested that BNI transfer the DOE Voluntary Protection Program (VPP) conditional Star status to WTCC. This transfer was documented by DOE Headquarters on May 16, 2017 with ORP concurrence (CCN 298523). Where appropriate, quotes from external documents that are reproduced in this report have been updated to reference WTCC where BNI was previously referenced.

[3] Text in this section was excerpted and adapted from 24590-WTP-ISMSD-ESH-01-001, Revision 16

[4] Text in this section was excerpted and adapted from 24590-WTP-ISMSD-ESH-01-001, Revision 16.

2.0 VPP and the Annual Self-Assessment

In alignment with the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP), the U.S. Department of Energy-VPP (DOE-VPP) recognizes sites for effective implementation of safety and health programs and maintaining injury and illness rates below national averages as computed by the Bureau of Labor Statistics. Participation in the VPP is voluntary and applicants to the program undergo a thorough review process that includes an onsite evaluation. Following a successful DOE-VPP onsite appraisal, the WTP Project received VPP Star certification in August 2010 and was recertified as a Star site in 2013. Maintenance of Star status requires a triennial DOE-HQ onsite review and an annual self-assessment.

2.1 2018 WTCC VPP Annual Self-Assessment

The WTCC Voluntary Protection Program Action Team (VPP Action Team) conducted the annual self-assessment of the DOE VPP elements and concluded that the areas of need identified by the DOE VPP HQ team in 2018 were addressed by the 2018 WTCC Safety Culture Improvement Plan, 26030-PL-18-00002. WTCC Management, supervision, and employees are implementing improvements to the program each month and have confirmed that the implementation of the DOE VPP elements for Management Leadership, Employee Involvement, Worksite Analysis, Hazard Prevention and Control, and Safety and Health training are demonstrated by WTCC employees.

Self-Assessment Dates:	November 05 – 27, 2018
Self-Assessment Team:	VPP Action Team (VAT) Safety Committee, WTCC Management, WTCC Alumni members, and Subject Matter Experts for VPP from Mission Support Alliance (MSA) and Washington River Protection Solutions (WRPS)
Personnel Interviewed:	203 WTCC Employees: @12% of population. Employee experience ranged from 2 months to 17 years on the project
Evaluation Criteria Used:	Conducted a review of the five DOE VPP Elements using the DOE VPP Handbook

Over 96% of employees interviewed stated that WTP was a safe place to work. There is a strong confidence in the workforce across all disciplines that employees are provided the necessary training and tools to perform work safely every day as well as having a confident understanding of hazards and hazard recognition. Employees demonstrate pride in participating in job walk downs, pre-jobs, and STARRT cards. Employees state that these processes help to create a safe working environment. WTCC continues to demonstrate a strong safety culture by providing several methods and processes to identify hazards which allow employees to provide feedback and open communication.

Several areas that the site has improved upon were noted during the self-assessment. Overall, personnel took great pride and ownership in safety and understood their roles and responsibilities of stop work and reporting safety concerns. Notable areas with improvement for 2018 include:

- Personnel's overall safety perception of the project
- Increase in craft involvement in planning and pre-jobs
- Safety committee involvement and availability
- Employee recognition improvements and participation
- Employee participation in recognition of hazards and site safety walkdowns

3.0 VPP Mentoring and Outreach

In 2018, WTCC completed VPP mentoring and outreach activities and attained VPP-related achievements/awards/recognition. These are detailed below.

3.2 VPP-Related Mentoring and Outreach Activities

- WTCC Employee – Re-Elected to the VPPPA Board of Directors as the DOE VPP representative for the nation.
- Coordinated the DOE VPP HQ update at 2018 National Conference and provided breakout sessions and award information to the DOE Complex attendees. Attended VPPPA Region X Conference (6 employees) and the National VPPPA Annual meeting (6 employees) and shared feedback and lessons learned with WTCC employees and management personnel with presentations from the attendees.

3.3 VPP-Related Achievements/Awards/Recognition

- Many accomplishments were achieved over the year to promote a strong nuclear safety and quality culture and safety conscious work environment (SCWE) including: completion of actions to address the opportunities for improvement identified in the 2017 NSQC Employee Survey, implementation of the Good Ideas Reward Challenge Program, completion of the SCWE Workshops, collaboration with ORP to prepare responses to lines of inquiry for the DNFSB Safety Culture Review, and completion of Ethics Awareness Workshops. WTP Project Management also recognizes the need to identify areas where improvement of the Project's nuclear safety and quality culture is needed. These include continuing to make improvements to the People-Based Quality (PBQ) program, review by the NSQC program manager of previous self-assessment actions to verify adequacy and taking actions to address the OFIs identified in a Voluntary Protection Program (VPP) self-assessment conducted in November 2018.
- The *2018 WTCC Safety Culture Improvement Plan*, 26030-PL-18-00002, continuously improved throughout 2018 resulting from team reviews of the DOE OFIs with WTCC Management, DOE ORP, DOE HQ, and other Hanford Star Sites to obtain a structured and sustained safety system improvements. The WTCC Safety Culture Improvement Plan was reviewed, revised, and updated monthly.

- In April 2018, the Good Ideas Reward Challenge Program was implemented and communicated. The program is designed to stimulate the creation of ideas across the project in hopes of identifying and implementing those that can improve project delivery. Through the program, any employee can submit ideas on how we can reduce scope and cost and improve quality, safety, and schedule. Employees whose ideas are implemented receive a reward from their respective company. As of December 18, 2018, of the 150 ideas that have been submitted since the program began, 25 are in review, 108 have been closed, and 17 are in the process of implementation and have been rewarded.
- A survey was developed to evaluate the effectiveness of the dedicated time established in July 2017 for management engagement. Survey results were reviewed by the NSQC Monitoring Panel at the 1st Quarter 2018 NSQC Monitoring Panel meeting and communicated to senior management. Senior management requested additional data about management engagement be obtained. Additional management engagement information was reviewed at the 2nd Quarter NSQC Monitoring Panel meeting. A subcommittee of the NSQC Monitoring Panel was assigned an action to develop a recommendation for the next steps associated with management engagement. The sub-committee developed a proposal which was presented to senior management in September 2018. Next steps associated with management engagement are being tracked by the NSQC Monitoring Panel.
- Other achievements include:
    1. Developed SOAR forms for rapid response reporting of suggestions or safety concerns resulting in over 138 submissions from employees. 119 forms submitted have been resolved and completed with feedback provided to employees.
    2. Conducted monthly review of improvement actions with S&H and WTCC senior management to review progress, goals, and objectives to achieve improvements.
    3. Revised the *Executive Safety Review Board* (ESRB), 24590-WTP-CH-MGT-18-001, to convene WTCC senior managers, WTCC Committee Chairs, WTCC line managers and S&H Management to review the safety system and to ensure senior management support and knowledge of S&H programs, improvements, and ownership of the program. The WTCC Deputy General Manager is the Chair of this committee.
    4. Revised the Zero Accident Council Charter to the *WTCC Safety and Quality Committees,* 24590-WTP-CH-MGT-18-005, management policy and included the update to the current active standing committees and the creation of the Area Safety Team (AST) where all employees (manual and non-manual) would be represented by a WTCC site safety committee. A new overall committee structure was outlined with the WTCC President and General Manager as the chair of this committee.
    5. Updated the *VPP Action Team (VAT) Charter*, 24590-WTP-CH-SA-15-001, to reflect the role of this committee and the goals and objectives outlined in the committee charter. This committee is comprised of both staff and craft and improved to include maintenance, operations, commissioning and other WTCC personnel not previously included in a WTCC Safety or Quality Committee. This committee conducts the VPP annual self-assessment, provides the status of improvement actions supporting VPP and communicating VPP-related information through Stand up for Safety, Supervisor monthly meeting and general site communications (ZAC Newsletter, WTCC Employee News, and Safety VITals).

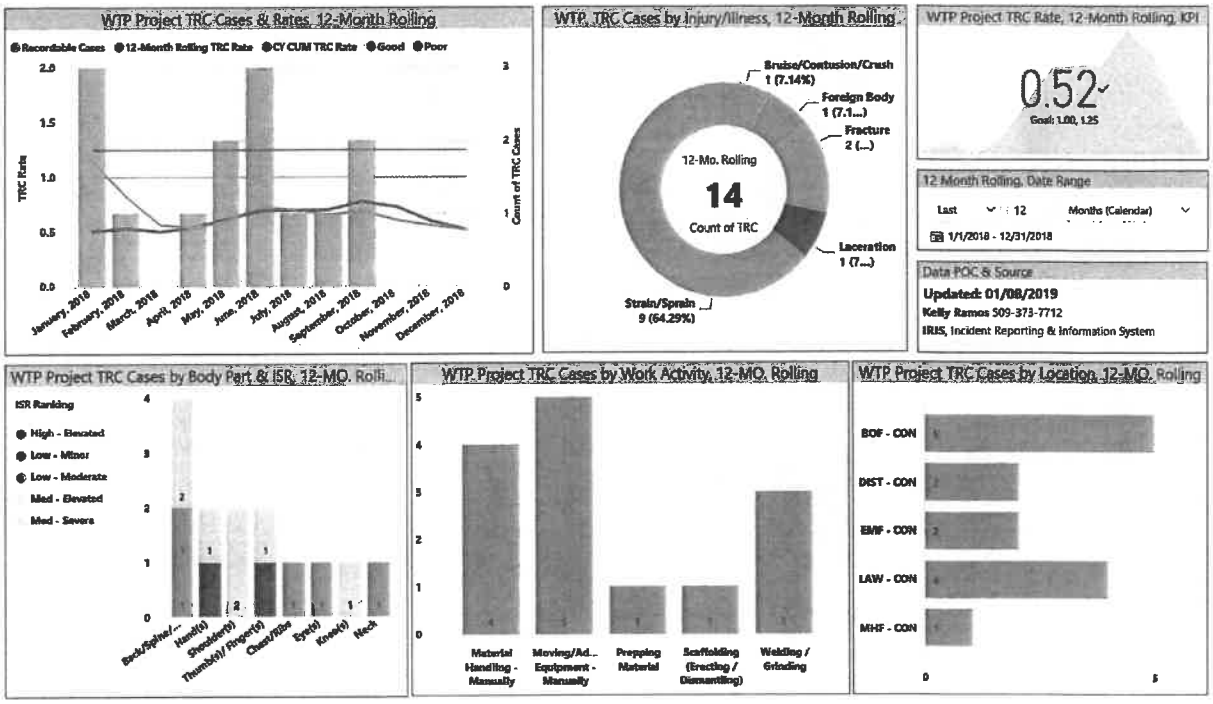
6. Outlined WTCC Management and Supervisor expectations during WTCC Leadership Alignment meetings for reinforcing the rights of all WTCC employees to have and be provided a safe and healthful place to work. Safety Conscious Work Environment (SCWE) refresher training provided to all WTCC employees to reinforce the rights of all employees to:
    - Raise concerns
    - Provide improvement suggestions to any level of management (WTCC, WTP/BNI/DOE)
    - Maintain a questioning attitude
    - Stop Work
7. Provided WTCC Management and Supervisors, S&H Staff, and WTCC Committee members with spot awards and recognition certificates to recognize all WTCC employees for safe acts and behaviors. Criteria for employee recognition provided along with incentive awards.
8. Developed S&H metrics to measure process improvements for VPP, Behavior Based Safety (BBS), and Human Performance Initiatives (HPI). These metrics include:
    - Management hours spent per month in field.
    - Management observations conducted each month
    - VPP improvements – work off curve.
    - WTCC committee participation
    - WTCC campaign – employee recognition per month
    - STARRT card evaluations and effectiveness
9. Developed and conducted 7 safety campaigns (approx. 30 days each) resulting in more than 200 recognition awards presented for positive safe behaviors. These campaigns were developed through the input of the employee led safety committees and teams and included:
    - VAT – Operation Designated Safe Walking Path
    - Area Safety Teams – Touch the Tag
    - DRIVES – Operation 360
    - VAT – Give us your 2 cents
    - Area Safety Teams – Ergonomics
    - PBQ – Designated Walkways
    - VAT – Hoodies under Hardhats
10. Added Management Field Observations and Hours in the Field to performance expectations for a designated set of WTCC management and S&H personnel to include the criteria and expectations for hours and observations expected each month.
11. Developed monthly communications for VPP and ISMS to include the Life Critical Behavior Requirements for the WTCC Newsletter, ZAC Newsletter, Stand up for Safety, and reader boards at the WTP site.

12. Conducted daily interactions with employees using the 5 elements of VPP. Personnel from the Safety Culture Improvement team record the responses into the Chekhov database for continuous monitoring resulting in timely response of emerging concerns.
13. Developed the WTCC Lines of Inquiry interview questions and responses in preparation for the WTCC VPP self-assessment. Provided the VPP Action Team coaching and interview technique briefings to help with the internal VPP annual assessment. Obtained expertise for the WTCC VPP internal assessment by reaching back to past WTP VPP team members, assessment participants, and other Hanford Site Star Site contractors to obtain seasoned VPP assessment members and SGE's to enhance the effectiveness of the annual internal assessment.
14. Established the Safety Improvement Group (SIG), a top-management organization that builds consensus and makes decisions regarding improvements to the project safety management system. In that vein, the SIG reviews incidents to identify systemic gaps.
15. Established Active Construction Zones (ACZ) to ensure appropriate personal protective equipment is worn when site personnel walk in areas when construction activities are being conducted.
16. Reduced the number of dropped objects (tools, materials, etc.) through development of a site-specific procedure, identification and procurement of tool/equipment lanyards, and communication campaigns.
17. Revised the event notification, management and investigation process to make the process more manageable, efficient and consistent and to add value regarding identification of systemic causal factors and opportunities for improvement
18. Improved safe work practices and behaviors through better integration of safety into work planning by moving toward site developed Job Hazard Analyses (JHA) for maintenance and commissioning work.
19. Developed and executed WTCC-specific industrial hygiene plan for known hazards that has provided quantitative analysis of employee exposure to chemical and physical hazards to ensure that workers are adequately protected from potentially hazardous exposures.
20. Increased breadth and scope of Management Engagements by having more managers conduct assessments, added a risk-based engagement tool, provided more mechanisms for engagements and provided easier access to current online tools
21. Improved the Craft Safety Watch (CSW)/People-Based Safety (PBS) process by recruiting and training additional observers and developing WTCC-specific observation tool.
22. Conducted the following self-assessments:
    - OSHA Recordkeeping
    - Records/Reports to Individuals/Radiation Safety Training
    - Radiation Safety Training
    - Fire Protection Program (multiple LOIs)
    - Material Handling
    - Design and Control (RadCon)

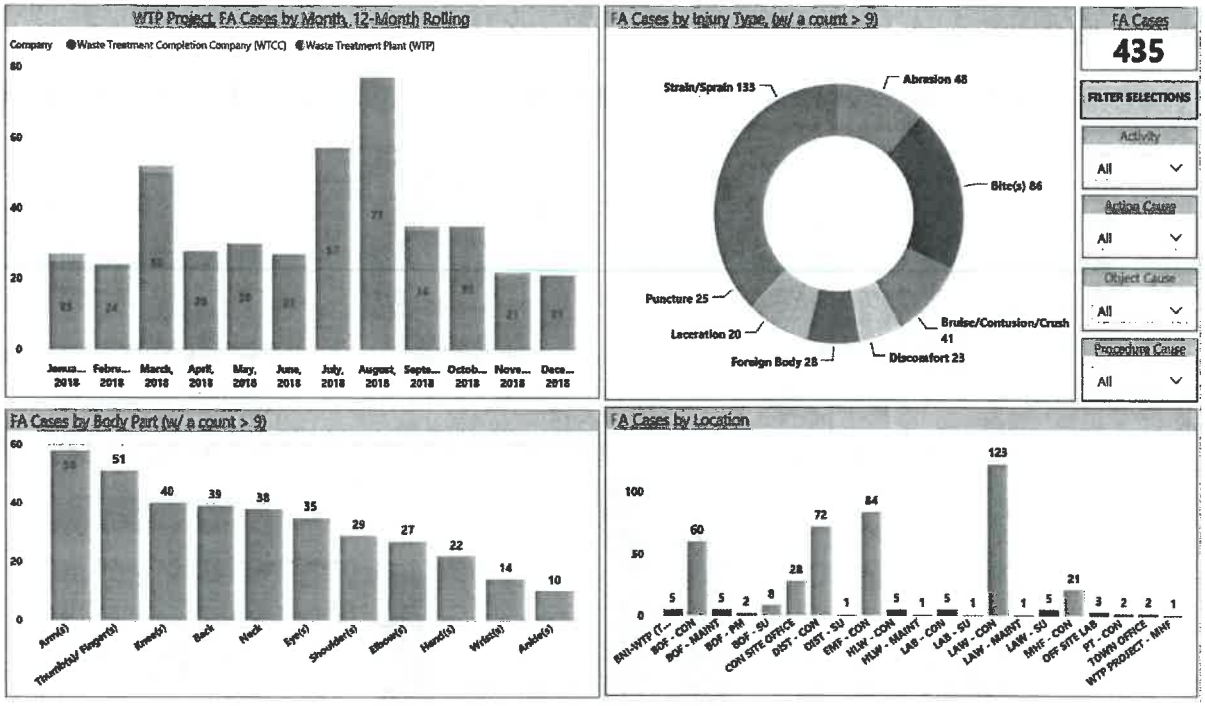
- Bloodborne Pathogens Program
- Annual Emergency Preparedness
- Emergency Exposure/Waste Management (RadCon)
- Electrical Safety
- Sealed Radioactive Source Control
- Respiratory Protection
- Confined Space Entry
- Falling Object Prevention and Protection
- Subcontractor Radiography

4.0 Injury Illness Rates

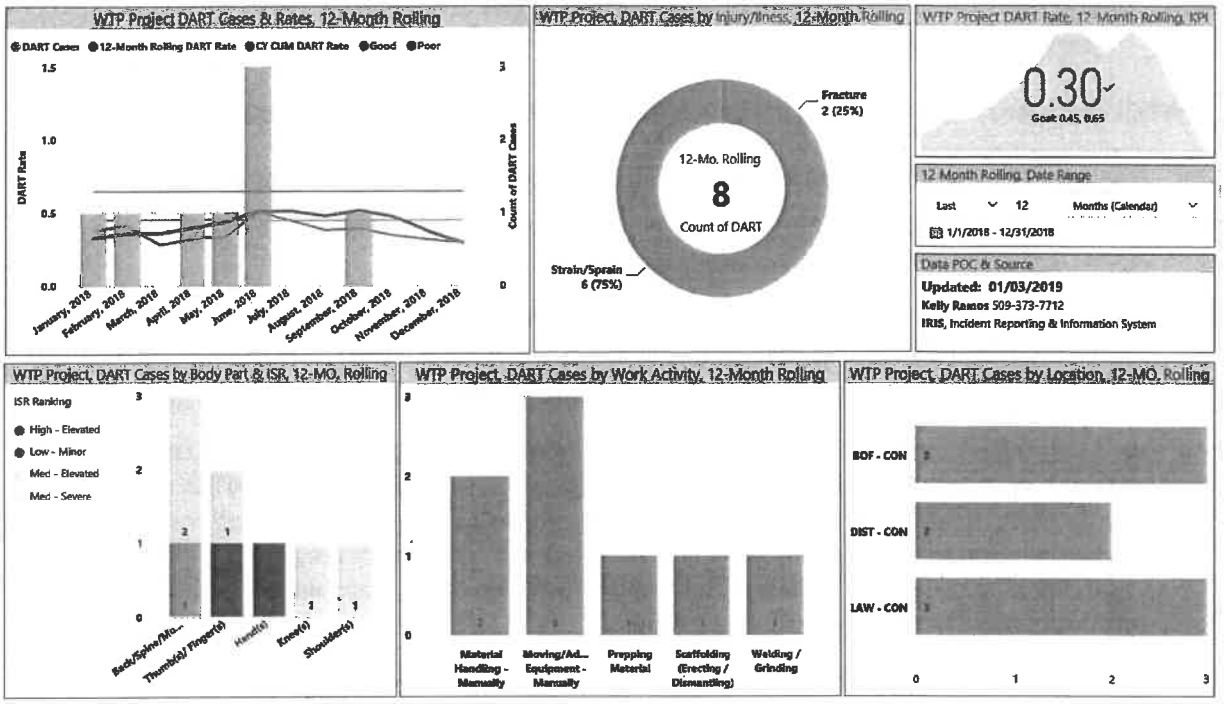
4.1 TRC 12 Month Rolling



4.2 First Aid Cases by Month



4.3 DART Cases by Month



5.0 VPP Tenet Evaluation and Continuous Improvements

5.1 Management Leadership

WTCC Continuous Improvements in Management Leadership Conducted Throughout 2018.

- Evaluate WTCC safety committees for effectiveness consistent with their charters: August 2018.
- Have each WTCC safety committee develop at least two safety campaigns per calendar year consistent with their respective charter: December 2018.
- Implement and communicate the revised safety recognition program to include recognition for positive safety culture during campaigns: June 2018.
- Improve tracking and effectiveness of the management observation program: July 2018.
- WTCC President and General Manager has made a significant impact on the WTCC employees demonstrating care and concern through feedback and positive interactions. WTCC senior management engaging in the field daily. Furthermore, WTCC has an experienced management team and are committed to achieving and maintaining a world-class safety program for WTCC. Safety is viewed as a value by WTCC management which encourages and empowers all employees to Stop Work and report safety concerns at any time.
- Resources and training provided to WTCC employees to conduct work safely. Resources allocated for new technology to improve hazard recognition and controls along with the investment in the Safety Trained Supervisor program. PPE, tools, and supplies readily available at tool issue locations.
- WTCC management expectation for field observations and hours effective in increasing management presence and observations documented and tracked through the **Chekhov** database.

WTCC Management Focus Areas (Contained in Safety Culture Improvement Plan).

- WTCC Management to engage a broader range of employees to be involved in site safety programs.
- 26030-PL-18-00002, WTCC Safety Culture Improvement (SCI) Plan, developed, reviewed and issued by WTCC Management.
- Updated Executive Safety Review Board (ESRB) – Zero Accident Council (ZAC) – Area Safety Teams (ASTs) for each area. The VPP Action Team (VAT) will report on status of the VPP improvements to the ESRB and ZAC.
- Evaluate each WTCC safety committee for effectiveness and efficiency consistent with its charter.
- Governance documents for the WTCC Executive Safety Council and Safety Culture Committees and Teams were developed, reviewed, and documented through PDC and located on VPP Web Site.
- ESRB Charter updated to include the SMPs within the DSA with a schedule of programs to be reviewed through August 2019.

- Development of safety campaigns, initiatives, and positive recognition includes monthly safety awareness topics, reviewing trends with WTCC safety committees, engaging management in the development and approval of a positive recognition program and items that would be provided to managers/supervisors to hand out to employees when positive safety behaviors are recognized. procurement of items, communication of campaigns, and the design and function of the campaigns and the mechanism to reward employees.
- Issued 24590-WTP-GPG-RAHR-HR-0005 Rev 1, WTP Employee Recognition Program. Updated new Rewards and Recognition Program for WTCC Spot awards and updated campaign and initiatives communicated to WTCC management and safety committees.
- 2018 Safety campaigns conducted to promote and recognize safe behaviors:

  July 2018 Complete:

  - Operation Safe Walk Path (VAT)
  - Designated Walk Path Quality Check (PBQ)

  Sep 2018 Complete:

  - Personal Protective Equipment (PPE) (CSW)
  - 360 Campaign (DRIVES)
  - Ergonomics (ASTs)

  Nov 2018 Complete:

  - Two Cents – Continuous improvement (VAT)
  - Hoodies under Hardhats (VAT)

WTCC to provide training/tools to Management, first line supervisors, superintendents, foreman, and committee/Team members.

- Develop training/tools that cover expectations of all levels of management.
- Messages included in weekly safety meetings, POD meetings, and manager's meetings which are routinely flowed down to staff and craft.
- 24590-WTP-GPG-RAOP-OP-0005, Management Observation Program, Management implements guidance issued on interaction expectations and frequency expectations.
- Checklists developed and sent to management personnel.
- Updated Management Observations and Field Time forms and tracking information per assigned employee.
- Implemented the use of Chekhov to conduct management observations which include documentation of observations and the identification of issues

Increase managers' visibility in the work areas.

- Performance indicators were outlined for selected senior managers to interact with WTCC Team members in the areas where work is conducted. This include hazard recognition, work scope summaries, and general WTCC team member wellbeing.
- Additional supervisory team members for WTCC are being reviewed to determine if interactions could/should be completed and the desired success criteria and outcome identified by the indicator.
- Document observations and all concerns raised by employees.
- Development and implementation of SOAR (Safety Observations for Awareness and Risk-Reduction) for safety concerns by employees. SOARs are maintained and tracked to completion.

Ensure supervisors are leading by example.

- WTCC to develop written guideline and expectations for all levels of management.
- 24590-WTP-GPG-RAOP-OP-0005, Management Observation Program. Revision including requirements for interactions and observations in the field with minimum expectations on frequency, personnel, and content.

Assure workers' concerns are addressed without fear of retaliation or apprehension due to their rank or position (apprentice, journeyman).

- Confirm ALL employees feel free to raise safety concerns.
- Nuclear Safety and Quality Culture (NSQC) Surveys completed 3/17/18 and 4/17/18. Confirmed SCWE annual training attendance is being tracked via Learning Management System (LMS).
- NSQC WTP Site survey results indicate that WTCC team members are free to believe concerns can be raised without fear of retaliation.
- Results and follow up actions for improvement area are summarized and communicated to WTCC team. Presentation materials are documented and retained in PDC.

WTCC management needs to develop broader opportunities and activities that workers can participate in that reinforce and encourage safety awareness. These safe behaviors result in assured rewards for WTCC team members that are consistent with the level of effort and expected value of participation rather than cash awards from random drawings.

- Develop programs to reward all employees for awareness and safe behavior.
- 24590-WTP-GPG-RAHR-HR-0005, WTP Employee Recognition Program which includes criteria, methods, and mechanisms for recognition of an individual, team, group, and/or peer.
- Awards for Good Catch, On the Spot, and June VPP Campaigns (Operation Safe Walk Path and Designated Walkway Quality Check) provided recognition awards for WTCC Employees.
- Issued 24590-WTP-GPG-RAHR-HR-0005 Rev 1, WTP Employee Recognition Program.
- Employees were sent to the VPPPA Regional Conference in Alaska and provided lessons learned and feedback on sessions to the ZAC members.

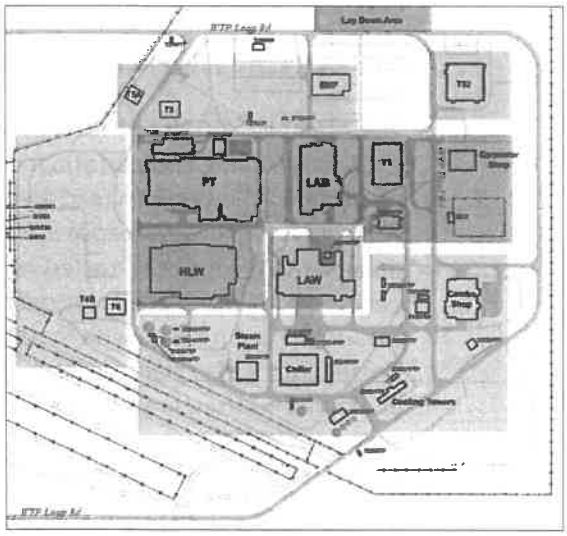
5.2 Employee Involvement

The WTCC team has accomplished improvement actions to promote the active engagement and participation of all employees.

WTCC Plant Management developed a Safety Culture Improvement (SCI) group to participate in safety interactions and observations throughout the site as well as providing safety related communications to site personnel. This group provides monitoring and administration of site safety recognition awards and improvements to items based on employee input.

As part of the continuous improvement to actively engage all WTCC employees, WTCC Management and Supervisor outlined expectations for allowing the participation in WTCC Safety and Quality Committees, provided recognition for managers and supervisors who have members of their crew on a WTCC Committee, and provided an overview of the WTCC Standing Committees and the need for additional employee participation.

5.3 Worksite Analysis



WTCC uses the Integrated Safety Management System core functions to define the scope of work and identify and analyze the hazards to ensure a systematic approach to hazard analysis and control in all phases of work. This process results in S&H incorporated into work planning, feedback from employees, technical expertise, incorporation of lessons learned and best practices, and a questioning attitude by all employees to ensure that new/emerging hazards are identified and analyzed.

Hazard analysis is conducted through 24590-WTP-GPP-WPHA-001, *Work Control and Work Packaging* in the development of work packages for construction. The process incorporates the automated job hazard analysis (AJHA) tool that assists the team in the analysis and evaluation of potential hazards for each scope of work implementing *Hazard Identification/Analysis and Control*, 24590-WTP-GPP-RAWS-WS-002. Field walk-downs are conducted to understand scope, hazards, and potential controls to ensure the safe execution of work. Project teams include supervision, field safety personnel, craft personnel conducting the work, and other technical experts to review the hazard, permits, and procedural requirements. Work packages are developed collectively, reviewed, and approved by the task lead, supervisor and S&H to verify analysis and control of hazards prior to the authorization of work. This ensures that the personnel conducting the work are aware of the hazards, the controls outlined, and the procedures and steps to be followed during the work process. The core functions and guiding principles of ISMS are steps in the process to integrate S&H in all phases of work.

Baseline hazard assessment are conducted for the site to include the review of safety data sheets (SDS), chemicals/substances, potential exposures from other processes, applicable standards, and the method/type of activity to determine exposure potentials. Each employee maintains an active *Employee Job Task Analysis (EJTA)*, 24590-WTP-GPP-RAWS-OM-0021, to identify the anticipated PPE, physical demands of the job, and the anticipated hazards associated with the execution of work. Certain hazards require additional training, monitoring, and medical evaluations to ensure each WTCC employee is provided a safe and healthful workplace. Managers and Industrial Hygiene personnel review EJTAs with employees to ensure hazards are up to date, controls and monitoring is in place, and each employee understands the hazards and potential exposures.

The Corporate ISMS Phase I review was completed during the performance period. This was a major effort involving all commissioning activities and many non-commissioning-related activities. Senior management was involved and monitored progress on the ISMS preparations on a routine basis. Requirement Area Managers (RAM) and requirement area Subject Matter Experts (RA-SME) developed and/or revised numerous documents and managed requirements flow down within the DOORS system. Training activities included performing and documenting training needs analysis and development and approval of numerous training courses to support the new program documents. An imminently qualified corporate review team from the parent companies performed an onsite, ISMS Phase I review and did not identify any findings. Formal notice of completion of the corporate ISMS Phase I review was provided to ORP.

5.4 Hazard Prevention and Control

The 24590-WTP-GPP-WPHA-001, *Work Control and Work Packaging,* implements the portion of the ISMS for planning and performance of work at the activity level. The work control process is applicable to all work activities managed and performed by WTCC and its subcontractors and is flowed down to subcontractors in accordance with subcontract terms and conditions as required by subcontract documents. (For subcontracted work, the work control key roles may be filled by WTCC or subcontractor personnel, as specified in subcontract documents.) Work packages identify the necessary controls for the work place hazards with most the controls implemented through overarching Hazard Control Documents. Signs, placards, barricades, personal protective equipment, and boundaries provide additional information and protection for employees conducting work in and around the areas in the control of WTCC.
Stop work examples include:

- Additional work or work scope not identified in the procedure needs to be performed
- A procedure step cannot be performed as written (including sequence)
- Following the procedure will create an unsafe or noncompliant condition
- An unexpected hazard or condition is encountered, or hazard controls are determined to be inadequate.
- For a stop work, workers shall complete the following:
    - Do not attempt to remedy changed conditions or fix problems beyond the minimum required to place the component, system, or work area in a stable and safe condition and stop work.
    - Immediately notify the manager/supervisor.

- WTCC management will assess new hazards and/or changed conditions.
- WTCC management will determine measures necessary to safely restart work.
- WTCC management will initiate appropriate changes to procedures and/or work areas to resolve the issue(s). Subcontractors will coordinate all such changes through the subcontractor technical representative.

Hazard controls identified during the hazard analysis are required to be incorporated into the work instructions, making them user friendly for managers/supervisors to implement and workers to use. The WTCC hazard analysis process is performed in real time by a contingent made up of planners, first-line supervisors, project safety representatives, appropriate craft, and SMEs. The process does not rely on automated systems but rather takes advantage of the synergistic group dynamic of performing the analysis real time, collectively. This provides for the most thorough hazards analysis possible.

5.5 Safety and Health Training

WTCC Project Training is responsible for identifying the appropriate training requirements to ensure that personnel are trained, qualified, and capable of performing their assigned tasks. Project Training is responsible for providing the support necessary to ensure that personnel are qualified to safely and effectively meet job requirements. Elements of the program include:

- Performing training needs analyses (based upon work location, hazards, work scope, and activities conducted)
- Writing training development plans
- Designing appropriate methodology of training delivery (classroom, Computer Based Training, Required Reading, Read and Review with SME, On the Job Training and Evaluations)
- Developing curriculum, courses, and web-based training
- Delivering training

Evidence from documents and interviews shows that top managers at the WTCC site receive both formal and informal training annually about their safety and health responsibilities. Managers and Supervisors receive training specific to safety line responsibility and leadership through ISMS and VPP training on an annual basis. Formal training also includes Safety Conscious Work Environment, Human Performance Initiative Training, Nuclear Safety and Quality Culture, Planning and Budgeting, and Management Self-Assessment process training. The WTP Project Director provides awareness information, management leadership tools/materials, and safety and quality expectations on a routine basis. Additional leadership awareness training is provided to managers and supervisors through Leadership effectiveness (Change Management), coordination training/teaming with subcontractors, People Based Quality Training-Quality Absolutes, and applying Lessons learned and best practices as part of learning organization. Management expectations for training and S&H are clear and agreed upon as evidenced by the Zero Tolerance for Retaliation declaration signed by the project senior leadership.

Evidence from documents and interviews shows that supervisors receive training on their responsibilities for worker safety and health and are actively involved in the safety and health culture, evaluation, and training assignments for their staff. A review of sample EJTAs and Training Outlines for several employees was conducted to determine if the assigned training matches the medical clearances and hazards identified in the EJTA. Employees included the prime and subcontractors and outlined the potential hazards and training needed to safely complete their assigned work. Training documentation and interviews provides evidence that all training required by standard or DOE order is being carried out systematically and thoroughly.

There is evidence that where personal protective equipment is required, employees understand the need for it, and demonstrate that they know how to use and maintain it. The DOE VPP assessment team was provided a briefing prior to entering the site and afforded PPE during that briefing. A summary of the potential hazards and the use of the PPE was offered. Personnel have the ability and the opportunity to obtain the necessary PPE through the tool crib which also provides a wide variety of glove options for use. This was an opportunity for improvement where WTP put together a team to review the safety trends, hazards on site, and the needed PPE for hand protection. Awareness briefing were provided to personnel on the uses and types of gloves available and the hazards associated with this protection.

Interviews with employees confirmed that the S&H training was effective with annual refresher training, briefings, and companywide communications when conditions and/or hazards change. A sampling of records indicated that all persons operating in contractor-controlled spaces at the site have received appropriate site orientation. This is demonstrated by the "brown" badge for unescorted access at the WTP Hanford site and briefings provided to those with escorted access.

6.0 Noteworthy Areas

- WTP continues to promote transparency by inviting ORP to various project meetings including, but not limited to, monthly Project Reviews, Performance Improvement Review Board (PIRB), Corrective Action Review Board (CARB), NSQC Monitoring Panel, and weekly interface meetings with federal Project managers. Meetings focused on PEMP preparation and alignment allow for increased discussions and clarity.
- In the 2nd Quarter 2018, launched and completed the 2018 SCWE Workshop which began with the Project Director facilitating the workshop with his direct reports and was then flowed down throughout the organization. The WTCC General Manager administered the workshop at the jobsite in a similar manner. The workshop promotes the principles that advocate a healthy SCWE and helps the workforce understand the important roles and responsibilities that managers, supervisors, and employees have in maintaining and achieving a healthy SCWE. SCWE workshop completion was tracked by the Employee Concerns Program (ECP)/Ethics & Compliance Manager and the training department.
- Plan of the Day (POD) meeting information available for employees to view from the Project Controls POD page. The POD is a communications tool that enables each organization to share its top priorities that others need to be aware of to help the entire project better understand our priorities.

- The Project continues to positively recognize issue identification and resolution through commendable CRs. On an ongoing basis, commendable CRs are identified by the CR review committee, managers, and employees. Commendable CRs are reviewed by the PIRB or CARB and supervisors and managers, who are encouraged to recognize the CR originator and individuals or teams who resolve CRs. The percentage of commendable CRs in 2018 was 2.8 percent which is slightly higher than in 2017.
- For the majority of 2018, the 3-month average of Anonymous CRs submitted was in the good performance range at less than 1 percent, with an overall average of .54 percent. As of November 2018, there have been 6 anonymous CRs initiated out of 1,265 CRs. This provides an indication that employees are comfortable raising concerns.

7.0 Opportunities for Improvement

Management Leadership
Employee Involvement
(2018 DOE VPP HQ Assessment)

Management to improve communication regarding employee's safety suggestions.

1. Communicate actions to WTCC Team, BNI, and ORP suggestions taken as a result of employee safety related suggestions.
    a. SOAR forms developed and used throughout the facility resulting in submission of 138 safety related suggestions.
    b. SOAR log books maintained at each communication station for review by employees.
2. Improve "Safely Speaking" to "Stand up For Safety" topical areas and format.
    a. Stand up for Safety designed and utilized site wide. Information concerning safety issues, topics and concerns are relayed during daily POD meetings via the Stand up for Safety.

Management Leadership
Employee Involvement
(2018 DOE VPP HQ Assessment)

Management to clearly communicate progress on "Scope of Work Completion" to employees.

1. WTP employee communications strategy to directly target craft.
    a. Improved craft employees understanding of, and support for DFLAW, and progress priorities.
    b. All Hands meetings address project milestones and how all WTCC employees are involved in the accomplishment of these deliverables.
    c. 2018 Quarter 1, 2, 3, and 4 completed with all hands meetings and addressed milestone explanation and completion status.

Management Leadership **Employee Involvement** (2018 DOE VPP HQ Assessment) WTCC should work with the onsite medical provider to ensure work restrictions resulting from injuries are specifically written and reflect normally assigned duties.
Management Leadership (2018 VPP Self-Assessment) Is the communication between management and worker adequate? 1. 24590-WTP-GRN-MGT-18-00480 - 24590-WTP-SAR-OP-18-0004, Voluntary Protection Program 2018 Self-Assessment - WTP Construction Site, OFI for improving communication between management and workers.
Worksite Analysis (2018 VPP Self-Assessment) Do you feel safety violations are treated fairly between craft and non-manual? 1. 24590-WTP-GRN-MGT-18-00481 - 24590-WTP-SAR-OP-18-0004, Voluntary Protection Program 2018 Self-Assessment - WTP Construction Site, OFI for improving equality between craft and non-manual treatment when safety violations are identified.
Hazard Prevention & Control / Employee Involvement (2018 VPP Self-Assessment) Have you heard of self- reporting and positive recognition? 1. 24590-WTP-GRN-MGT-18-00479 - 24590-WTP-SAR-OP-18-0004, Voluntary Protection Program 2018 Self-Assessment - WTP Construction Site, OFI for improving self-reporting and positive recognition.

8.0 Documents Reviewed/Referenced

24950-WTP-G63-RAWS-WS-0001, Hanford Tank Waste Treatment and Immobilization Plan Worker S&H

24590-WTP-GPG-RAHR-HR-0005 WTP Employee Recognition Program

24590-WTP-CH-MGT-18-001, Executive Safety Review Board (ESRB)

24590-WTP-CH-MGT-18-005, WTCC Safety and Quality Committees

24590-WTP-LIST-RATQ-TQ-0001, List of Qualified Positions in Accordance with DOE Order 426.2

24590-WTP-PD-RAWS-WS-0002, Worker Safety Program Description,

24590-WTP-PD-RAWS-WS-0001, Worker Safety and Health Program Description

24590-WTP-GPP-MGT-RACA-AM-0002, WTP Self-Assessment process

24590-WTP-PL-RAWS-WS-0003, Worker Safety and Health Requirement Area Training Plan

24590-WTP-GPG-RATR-TR-100, Training Program Administration

24590-WTP-GPP-CTRG-004, Instructor Training Program Description

24590-WTP-GPP-CTRG-007, Commissioning and Operations Training Manual

24590-WTP-GPP-CTRG-009, Procedure Based Job Analysis for Training

24590-WTP-GPG-CTRG-002, Training Program Analysis Guide

24590-WTP-GPG-CTRG-003, Training Program Design Guide

24590-WTP-GPP-RAPS-PS-3010, Award

24590-WTP-GPG-RATR-TR-1001, Training Course Development

24590-WTP-PD-RATR-TR-0001, Project Training Program Description

24590-WTP-DRP-ESH-18-0037, Personal Protective Equipment

24590-WTP-CH-SA-15-001, VPP Action Team (VAT)

24590-WTP-GPP-WPHA-001, Work Control and Work Packaging

24590-WTP-GPP-RAWS-OM-0021, Employee Job Task Analysis (EJTA)

24590-WTP-GPG-RAOP-OP-0005, Management Observation Program

24590-WTP-PD-RAMS-MA-0001, Human Performance Improvement Program Description

24590-WTP-GPP-RACO-CO-0022, Senior Supervisory Watch (SSW)

24590-WTP-GPP-CON-7105, Subcontractor Submittals,

24590-WTP-GPP-RAPS-PS-3005, Prequalification of Bidders and Bid List Development

24590-WTP-GPP-GPX-00605, Terminations for Convenience and Default