

**Independent Assessment of
Work Planning and Control by
Hanford Mission Integration
Solutions, LLC
at the Hanford Site**

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Acronyms

CAS	Contractor Assurance System
CFR	Code of Federal Regulations
CRAD	Criteria and Review Approach Document
CSHA	Craft Specific Hazard Analysis
DEAR	DOE Acquisition Regulation
DOE	U.S. Department of Energy
EA	Office of Enterprise Assessments
ESRB	Executive Safety Review Board
EU	Electrical Utilities
EZAC	Employee Zero Accident Council
FWS	Field Work Supervisor
GHA	General Hazard Analysis
HMESC	Hanford Mission Essential Services Contract
HMIS	Hanford Mission Integration Solutions, LLC
iCAS	Integrated Contractor Assurance System
IH	Industrial Hygiene
ISM	Integrated Safety Management
JHA	Job Hazard Analysis
LO	Line Organization
LOTO	Lockout/Tagout
MOP	Management Observation Program
NPR	No Planning Required
OFI	Opportunity for Improvement
PJB	Pre-job Briefing
PPE	Personal Protective Equipment
RCO	Radiological Control Organization
RCT	Radiological Control Technician
RWP	Radiological Work Permit
S&H	Safety and Health
SME	Subject Matter Expert
TAF	Tagout Authorization Form
VPP	Voluntary Protection Program
WD	Work Document
WO	Work Order
WP&C	Work Planning and Control

**INDEPENDENT ASSESSMENT OF WORK PLANNING AND CONTROL
BY HANFORD MISSION INTEGRATION SOLUTIONS, LLC
AT THE HANFORD SITE**

Executive Summary

The U.S. Department of Energy Office of Enterprise Assessments (EA) conducted an independent assessment of work planning and control (WP&C) at the Hanford Site from September 2025 to January 2026. The assessment focused on elements of Hanford Mission Integration Solutions, LLC's (HMIS's) implementation of the integrated safety management (ISM) core functions (define the scope of work, identify and analyze hazards, develop and implement hazard controls, perform work within controls, and provide feedback and improvement). The assessment also evaluated the effectiveness of HMIS's contractor assurance system and flowdown of safety and health (S&H) requirements to subcontractors.

EA identified the following strengths:

- HMIS has developed a WP&C institutional program framework to support implementation of the ISM core functions with a detailed job hazard analysis process that uses a graded approach.
- Workers, field work supervisors, and subject matter experts are actively involved in the implementation of the ISM process and in safety culture promotional activities, such as the Employee Zero Accident Council and the voluntary protection program.
- HMIS's procurement process effectively flows down S&H requirements, including ISM, WP&C, and HMIS-specific processes, to construction subcontractors and their lower tiers, applying a graded approach based on task complexity and risk.

EA also identified several weaknesses, as summarized below:

- Implementation of the HMIS and construction subcontractor job hazard analysis processes and the Radiological Control Organization's radiological hazard screening process has not consistently resulted in the proper identification and documentation of all radiological hazards, required hazard screenings, and requisite radiological controls.
- HMIS does not always ensure that work planning is sufficient to adequately protect workers from unnecessarily being exposed to hazards or performing tasks due to incomplete or incorrect information within work packages or planning documents.
- Observed weaknesses associated with scaffolding inspections, electrical insulated glove personal protective equipment, danger postings, machine guarding, and use of a spotter and/or boundary control near operating heavy equipment created potential safety hazards.

In summary, HMIS has developed and implemented a generally effective WP&C framework to support the implementation of the ISM core functions and the safe performance of work. The institutional S&H programs include positive attributes, such as employee engagement and effective safety requirement flowdown to subcontractors. However, weaknesses were identified in the planning and execution of some observed work activities. Until the concerns identified in this report are addressed, some workplace hazards may not be properly identified or controlled, resulting in reduced protection of worker S&H for HMIS work activities at the Hanford Site.

INDEPENDENT ASSESSMENT OF WORK PLANNING AND CONTROL BY HANFORD MISSION INTEGRATION SOLUTIONS, LLC AT THE HANFORD SITE

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) Office of Worker Safety and Health Assessments, within the independent Office of Enterprise Assessments (EA), conducted an assessment of work planning and control (WP&C) at the Hanford Site. This assessment was requested by the Hanford Field Office Assistant Manager for Safety and Quality and was conducted from September 2025 to January 2026.

In accordance with the *Plan for the Independent Assessment of Work Planning and Control at the Hanford Site, November 2025*, this assessment evaluated Hanford Mission Integration Solutions, LLC's (HMIS's) established WP&C processes and implementation of the five core functions of integrated safety management (ISM). DOE's ISM policy defines the following five core functions to ensure systematic and effective WP&C: define the scope of work, identify and analyze hazards, develop and implement hazard controls, perform work within controls, and provide feedback and improvement. The assessment also evaluated the effectiveness of HMIS's contractor assurance system (CAS) and flowdown of safety and health (S&H) requirements to subcontractors performing work at the Hanford Site. HMIS integration with other Hanford contractors was not evaluated during this assessment.

HMIS supports DOE and other Hanford Site management and operations contractors under the Hanford Mission Essential Services Contract (HMESC), providing infrastructure and site services that are integral and necessary to accomplish the environmental cleanup mission. Among the site services provided by HMIS are utilities and infrastructure services (e.g., electrical transmission and distribution, water, sewer, roads and grounds, railroad services, information technology), crane and rigging services, site safety standards management, radiological services¹, quality assurance, training, physical security, fire system maintenance, and fire and emergency response services.

2.0 METHODOLOGY

The DOE independent oversight program is described in and governed by DOE Order 227.1A, *Independent Oversight Program*, which EA implements through a comprehensive set of internal protocols, operating practices, assessment guides, and process guides. This report uses the terms "best practices, deficiencies, findings, and opportunities for improvement (OFIs)" as defined in the order.

As identified in the assessment plan, this assessment considered objectives and criteria from DOE Guide 226.1-2A, *Federal Line Management Oversight of Department of Energy Nuclear Facilities*, appendix D, *Activity Level Work Planning and Control Criterion Review and Approach Documents with Lines of Inquiry*. In addition, EA used selected objectives and criteria from the following EA CRADs:

- EA-30-01, Rev. 1, *Contractor Assurance System*
- EA-30-09, Rev. 0, *Occupational Radiation Protection Program*

¹ Most HMIS radiological work falls into the low-radiological hazard category due to the nature of HMIS's contracted work scope, being principally related to provision of Radiological Site Services (RSS) to other Hanford contractors that perform higher-hazard radiological work (e.g., Tank Farms). The HMIS RSS work includes radiological instrument calibration services, internal and external dosimetry services, and some hands-on field work where radiological hazards could be encountered.

- EA-32-03, Rev. 1, *Industrial Hygiene Program*
- EA-32-11, Rev. 0, *Control of Hazardous Energy (Lockout/Tagout)*
- EA-32-12, Rev. 0, *Material Handling Safety*
- EA-32-13, Rev. 1, *Electrical Safety*
- EA-32-17, Rev. 0, *Cranes and Hoisting and Rigging Operations.*

EA examined key documents, such as system descriptions, work packages, procedures, manuals, analyses, policies, and training and qualification records. EA also interviewed key personnel responsible for developing and executing the associated programs; observed 74 maintenance and construction activities including planning walkdowns, pre-job briefings (PJBs), and safety inspections; and attended various committee and executive meetings. The members of the assessment team, the Quality Review Board, and the management responsible for this assessment are listed in appendix A.

There were no previous EA findings to follow up on during this assessment.

3.0 RESULTS

3.1 Work Planning and Control Institutional Programs

This portion of the assessment evaluated HMIS's WP&C institutional programs and processes that flow down worker S&H program requirements into WP&C procedures to support the safe performance of work.

HMIS has developed an adequate WP&C institutional program framework, described in HMIS-PLN-SP-003, *Integrated ES&H Management System Description*, using company-level policies, service/facility--level management plans, and activity-level implementing procedures. This framework supports implementation of the core functions of ISM in accordance with DOE Acquisition Regulation (DEAR) 970.5223-1, *Integration of environment, safety and health into work planning and execution*, and DOE contract directives within the HMESC (DOE contract 89303320DEM000031, attachment J-2, *Requirements Sources and Implementing Documents*). HMIS-PLN-SP-32219, *Worker Safety and Health Program (WSHP)*, appropriately implements the requirements of 10 CFR 851, *Worker Safety and Health Program*, subpart C, *Specific Program Requirements*, including the functional areas referenced in 10 CFR 851, appendix A, *Worker Safety and Health Functional Areas*. DOE-0343, *Hanford Site Stop Work Procedure*, is adequately referenced and integrated into several work procedures, including the job hazard analysis (JHA) checklist and the PJB procedure.

HMIS has established adequate work control and hazard identification programs and processes. HMIS-PRO-WC-12115, *Work Management*, effectively describes the planning and conduct of work activities, including detailed roles, responsibilities, and processes used to incorporate ISM at the activity level through the development and use of technical work documents (WDs). The types and levels of WDs are based on task risk criteria (i.e., complexity, hazard level, multiple organizations, frequency) and use type (i.e., continuous – high risk/rigor, or reference – low/medium risk). An initial screening of task scope and associated hazards is conducted using HMIS-PRO-SP-079, *Job Hazard Analysis*, to determine the appropriate JHA category. This procedure adequately describes a hazard-based graded approach to ISM core function implementation, including criteria used to select, apply, and document the appropriate JHA category. JHA category types include general hazard analysis (GHA), craft specific hazard analysis (CSHA) and chemical use attachment (if chemicals are used), and various forms/permits/plans (e.g., confined space, excavation, hot work). Site form A-6007-189, *Job Hazards Analysis Checklist*, is used for hazards not identified in the three JHA category types listed above.

Worker and leadership engagement is emphasized throughout HMIS's S&H program. Active worker input is required in the planning and execution of work, including hazard identification, analysis and implementation of controls, and pre- and post-job briefings. In addition, employees are encouraged to participate in the Employee Zero Accident Council (EZAC), the voluntary protection program (VPP), and other safety awareness and recognition programs. Leadership engagement was observed during the VPP Core Team meeting, where a senior HMIS vice president was an active participant. Discussion on sitewide safety standards by craft representatives, technical subject matter experts (SMEs), and management was observed at the sitewide Lockout/Tagout (LOTO) Committee meeting.

The HMIS industrial hygiene (IH) program adequately establishes policies and procedures for identifying, evaluating, and controlling IH hazards by using baseline hazard assessments and subsequent exposure assessment programs (SP-PRO-SP-17916, *Industrial Hygiene Baseline Hazard Assessments*) as well as the JHA process (HMIS-PRO-SP-079), which requires IH input and approval. High-noise areas were appropriately posted, and reviewed documentation verified that noise assessments were performed (e.g., Buildings 609J, 182B, and 282W). Workers were observed using appropriate hearing protection devices. Reviewed records demonstrated that selected workers in high-noise areas or performing high-noise work were included in the hearing conservation program.

The HMIS Radiological Control Organization (RCO) has an extensive document hierarchy that appropriately includes program plans/manuals, technical basis documents, and implementing procedures that effectively flow down 10 CFR 835, *Occupational Radiation Protection*, requirements to the working level. HMIS-MAN-RC-5173, *HMIS Radiological Control Manual*, and several implementing procedures adequately address radiological WP&C requirements. For example, HMIS-MAN-RC-5173 appropriately addresses ISM and radiological work planning requirements. HMIS-PRO-RC-46882, *Radiological Hazard Screening*, defines the requirements and methods for planning radiological work, including determining whether work is radiological and the radiological risk level (low, medium, or high), and developing radiological controls.

Work Planning and Control Institutional Programs Conclusions

HMIS's WP&C policies, documents, and procedures adequately support implementation of the ISM core functions. Workers are provided opportunities for engagement in the WP&C process and participate in safety culture promotional activities, such as the EZAC and the VPP.

3.2 Work Planning and Control Implementation

This portion of the assessment evaluated HMIS's implementation of the WP&C institutional programs through the ISM core functions of defining the scope of work, identifying and analyzing hazards, developing and implementing hazard controls, and performing work within controls (providing feedback and making improvements is addressed in section 3.4 of this report).

Defining the Scope of Work

Reviewed scopes of work were generally adequate. Work scopes for most observed HMIS preventive and corrective maintenance and construction work were sufficiently defined to permit the identification of applicable hazards and necessary controls, with few exceptions. Work orders (WOs) for five observed work activities (breaker maintenance, Electrical Utilities (EU) phase testing of power poles, Refrigeration Equipment Services troubleshooting and repair of packaged heat pumps, fire maintenance activities, and quick connect replacements at bottle air fill stations) appropriately described tasks and included the associated JHA, CSHA, and/or GHA. Statement-of-work documents for observed construction projects

(L-888, *Eastern Plateau Fire Station*, and L-898, *100 Area Mission Critical Distribution Feeders Replacement Segments 2 and 3*) provided detailed descriptions of the work at the task level; scopes for daily activities were well described on daily work release site forms (A-6001-394, *Work Release for Construction/Service Organizations Form*). However, the work scope/resource list for one observation (WO 1271836, *Repair Leak on 37.5 KVA Transformer C7502L in the Transformer Maintenance Shop*) did not include a forklift even though one was used, and one planning meeting (a walkdown for modifications at Mobile Office 2106) did not include all required craft representatives needed to identify the appropriate hazards and controls.

Identifying and Analyzing Hazards

Reviewed HMIS WDs and related work observations demonstrated that the hazards associated with most work were effectively identified through JHAs, CSHAs, permits/forms, and/or GHAs. During observed task planning walkdowns attended by work planners, supervisors, craft workers, and area-specific SMEs, the work and associated hazards were adequately discussed for inclusion in the WDs. For example:

- WOs 1257236/C, *Trouble Shoot and Repair of 2 Packaged Banks of 2 Heat Pumps* [2268E], and 1276416/W, *HMIS 200E 274W – Switching Support XFMR C6118L*, included appropriate CSHAs for the identified hazards.
- HM090036, *Maintenance Procedure*, included in WO 1278979/P, *6701 WYE Barricade Generator ATS Inspection*, appropriately identified hazards and controls and included a tagout authorization form (TAF) describing LOTO steps.
- Hazards and controls associated with WO 1286205/V, *B3709A - Troubleshooting and Repair/Relamp and Clean*, were appropriately identified and described in the GHA, CSHA-SSIM.MS, *Electricians*, and two electrical risk assessments, which included the use of a platform scissor lift, ladders, glass cleaner, and LOTO, if necessary.
- For WO 1283580/2, *ERMA 282W Erect/Construct Scaffold*, a PJB followed by a site walkdown was conducted to analyze and plan the mitigation of hazards created by a newly erected scaffold, as the top deck required modification to optimize safe access and the work surface. The modification was appropriately planned, new hazards were identified, and the scaffold green tag was switched to red, prohibiting access until the modification could be made.
- During the planning walkdown for 1283602-H2C, *200E 242A-BA - Tank Farm Switching (CBX589) at Pole E1278*, the EU planner, with support from EU dispatch, craft linemen, a meter technician, a radiological technician, and a field work supervisor (FWS), appropriately discussed potential hazards (e.g., radiological dust on transformer pole components, traffic), needed equipment and resources (e.g., bucket truck, number of linemen/meter technicians), and coordination and responsibilities for the TAF (needed for LOTO).

While HMIS properly identified most hazards associated with observed work, an unrecognized hazard was identified by EA related to the operation of the inspector's test valve (ITV) during the performance of work for WO FP25-06130, *MO720 12-Month Fire Backflow/Forward Flow Preventer Preventative Maintenance*. The ITV was manually opened during testing to discharge pressurized water to the exterior of the building. The work package did not include a step to ensure that the area around the discharge point was clear of people and obstructions before opening the ITV from inside the building. Though environmental hazards were noted in the work package, a safety issue pertaining to bystander safety was not recognized, potentially exposing employees to an unaddressed risk during water flow sequences.

HMIS's current processes for identifying and documenting radiological hazards, hazard screenings, and controls are not consistently effective. Contrary to HMIS-PLN-SP-003, section 3.1; HMIS-PRO-RC-

46882, section 4.1; HMIS-PRO-SP-079, appendix B; and the HMIS-MAN-RC-5173 glossary definition of radiological work, the implementation of HMIS and construction subcontractor JHA processes and the RCO radiological hazard screening process has not resulted in the identification and documentation of all work-related radiological hazards, the proper performance and documentation of all required radiological hazard screenings to categorize low-hazard radiological work, and the necessary controls. (See **Deficiency D-HMIS-1.**) Not properly identifying, analyzing, and documenting all potential radiological hazards and performing required radiological hazard screenings could result in low-risk radiological work being performed without adequate controls in place. RCO is aware of shortfalls in the radiological hazard screening process and has started an improvement initiative, including revisions to the radiological hazard screening procedure and forms as well as a specific determination to categorize work as non-radiological where appropriate.

In particular, HMIS-PRO-RC-46882 requires line organization (LO) work planners to communicate to the RCO any activity that could be deemed radiological work. HMIS-PRO-SP-079, appendix B, includes the following information/requirements for radiological hazards: “Radiological work. (see definition in HMIS-MAN-RC-5173 Glossary)” and “required form or permit: Radiological Hazard Screening Form (A-6003-838).” The HMIS-MAN-RC-5173 glossary states: “Due to the nature and history of the Hanford site, all work should initially be evaluated as radiological work and be presented to the Radiation Protection organization for hazard screening” unless the work sponsor can verify that a number of specific conditions are met. However, interviews with the RCT supervisors revealed that LO work planner notification to the RCO was not always accomplished, resulting in a lack of required hazard screenings for some low-risk radiological work, including no-planning-required (NPR) and subcontractor excavation work.

Further, several examples (with one notable exception) were observed of HMIS and subcontractor low-risk radiological work where use of the JHA process did not result in the formal documentation of radiological hazards (even though radiological controls, such as radiological control technician [RCT] coverage and/or assigned radiological work permits [RWPs], were sometimes used). A possible cause of this condition is that the HMIS JHA checklist (the only tool from HMIS-PRO-SP-079 where radiological hazards can be systematically identified through use of a formal checklist of hazards) was not required for the observed low-risk radiological work, for which the hazard category fell below the threshold requiring use. HMIS-PRO-SP-079 states that use of the JHA checklist is “allowed” (but not required) when the hazard category falls below the threshold requiring use. For any hazard category, not using the JHA checklist could result in radiological hazards not being specifically documented through the JHA process, thereby not prompting formal involvement and review from the RCO as required by HMIS-PRO-RC-46882. (See **OFI-HMIS-1.**) Work instruction 1257366/D, *623B Permanently Remove Backup Battery System and Cabling*, was an observed example of appropriate checklist use that resulted in the successful documentation of radiological hazards, an appropriate radiological hazard screening, and radiological controls that were flowed into the work instructions. Conversely, the following examples of radiological hazards not specifically documented through the JHA process were identified for several categories of observed work, including NPR work, WOs, and construction subcontractor work:

- No formal process exists to identify potential radiological hazards for NPR work. For example, for WO 1204645, *Overhead re-lamping/fixture replacement 4722C (body shop) facility modifications*, which was conducted as an NPR task, the LO work planners did not communicate to the RCO that the activity could be deemed radiological work, as required for screening. As a result, the potential for radiological hazards was not evaluated for this legacy building, and no RCTs were assigned. In general, there is a potential for unposted radiological hazards within DOE legacy buildings, particularly when working at heights over eight feet.
- Observed HMIS WOs 1282436/C, *CHILD-MO720-TS&Repair/Relamp Parking lot lights to the West and North*, and 1276416/W did not systematically document radiological hazards through the HMIS

JHA process or completion of the JHA checklist. However, RCO assigned RCT coverage and an RWP to this work (expert based).

- The L-898 construction project JHA included required tasks, hazards, and control sections for 28 separate tasks but did not identify radiological hazards known by RCO for several of the tasks. However, the permit section of the JHA listed the need for an RWP without any identified radiological hazards in the JHA. Further exacerbating this concern, the JHA did not include a section for Radiological Control review and signature, thereby precluding RCO involvement in formally identifying and addressing the missing hazards; signature requirements were limited to Industrial Safety and IH.
- The L-888 construction project JHA identified a radiological hazard associated with tying into the preexisting sewer line but did not identify the potential for radiological hazards for several other major excavation evolutions, thereby not prompting the formal involvement of the RCO to complete radiological screening forms for those tasks.

Developing and Implementing Hazard Controls

Many observed work evolutions included hazard controls that were appropriately developed and implemented. For example:

- Work for WO 1218229/P, *Breaker Maintenance at 282WC EW Pump House*, was appropriately authorized and conducted under approved LOTO 121-8229 (no title), which included five individual lock-tag-verification tasks. WDs required workers to use appropriate personal protective equipment (PPE), including flame-resistant work clothing, 40-calorie arc flash suits, safety glasses, face shields, and voltage-rated gloves, in accordance with controls stipulated in the JHA.
- Appropriate controls were established for WOs 127147/P, *EU A6 251E Sump Pump Inspection Monthly (January 2026)*, and 1246519, *Hanford January 2026 Meter Reading*. These controls included metal gratings covering confined spaces (to prevent workers from breaching the plane of the confined space) and high-visibility vests worn by workers adjacent to vehicle parking lots and streets. HMIS workers were escorted while performing work in the Central Waste Complex's waste storage-controlled areas in accordance with Hanford Site requirements.
- Comprehensive safety measures were implemented for WO 1057078/C, *Troubleshooting Repair of Walk-In Coolers in Building 6267*, including LOTO permits for internal and external hazardous energy control, a hot work permit to manage ignition sources, and fall protection systems.

While many observed work evolutions included proper hazard controls, some weaknesses were identified. Contrary to HMIS-PLN-SP-003, section 3.2, which discusses the degree of care required in work planning to ensure that employees, the public, and the environment are adequately protected, several work activities were not sufficiently planned. (See **Deficiency D-HMIS-2.**) Inadequate work planning resulted in the potential for workers being unnecessarily exposed to hazards or performing tasks based on incomplete or incorrect information within work packages or planning documents. Specifically:

- Following the PJB for WO 1218229/P, over a dozen craft workers were dispatched and assembled at the jobsite. After numerous phone calls, the FWS concluded that planning concerns existed with the Fire Marshal permit, which was issued for one day even though the proposed activities would take two days. The crew was disbanded after over two hours at the jobsite, and work was rescheduled for later in the week.
- For WO 1282436/C, workers used a bucket truck and fall protection PPE to inspect and troubleshoot a parking lot light. After attempting to change the photo eye and lamps, workers determined that the breaker identified in building drawings as feeding the parking lot was open, resulting in no power

being supplied to the lights. Workers would not have been exposed to the hazards associated with mobilization and troubleshooting while working at height if the available drawing had identified which breaker supplied power to the parking lot such that the power to the lights could have been verified prior to the commencement of elevated work.

- Following the PJB for WO 1121307/C, *182D - Replace Export Pump #2*, workers were dispatched to the jobsite and a LOTO verification for pump #2 was performed, where it was discovered that the TAF was not correct. Work was stopped, and workers returned to the maintenance shop or were dispatched to other jobs, until the discrepancy could be addressed. Upon investigation, it was discovered that the most current TAF had not been included in the work package.
- During the PJB for WO 1265640/C, *283WR Replace Acid Transfer Pump in the Acid Room*, the two stationary operators/engineers (SOEs) who were to perform the LOTO had questions about the LOTO procedure. The SOEs had not been included in the planning walkdown. The planner was called to the jobsite, and, together with the Technical Advisor for Commissioning and Startup, they reviewed the procedure while looking at the piping system and found the procedure to be deficient. Work was stopped until the LOTO procedure could be corrected.
- FP-26966, *2721E Wet Riser Maintenance*, resulted in workers preparing and cutting piping based on an issue identified the previous day during initial maintenance testing. However, when a different work crew was assigned to complete the task on a subsequent day, an opportunity was identified during the PJB to upgrade the check valve, thereby rendering the pipe cutting preparation task unnecessary.

Performing Work Within Controls

Observed PJBs were generally effective in conveying readiness to perform work, including an overview of the specific work to be performed and a discussion of hazards and controls. RWP briefings were also performed as part of the PJBs when RWPs were assigned to the work. Stop work was discussed and emphasized at most PJBs. Furthermore, during the actual work, stop work was observed on several occasions when clarification of work instructions (primarily pertaining to LOTO) was required. For example:

- WO 1282436/C included an appropriate PJB that discussed anticipated hazards and controls. The RWP briefing discussed the use of gloves when touching electrical components, expected radiological conditions, and action levels that would prompt notification to the RCO.
- The PJB for WO 1057078/C was attended by all assigned craft workers with IH and safety support to ensure a thorough understanding of the hazards.
- The PJB for WO 1121307/C was well presented and included a discussion of LOTO, emergency instructions, flange gasket sampling/removal, and stop work authority. At the jobsite, work was stopped during LOTO verification because the TAF in the work package did not align with the tag and lock on the pump #2 disconnect.
- The PJB for WO 1265640/C discussed work instructions, LOTO, work hazards, required PPE, and stop work. During a review of LOTO at the jobsite, it was discovered that some steps were not in the correct order. Work was stopped until the work instructions could be corrected and approval signatures acquired.
- The January 13, 2026, PJB for the L-888 construction project, included a discussion of all jobsite daily work activities (e.g., water utility tie-ins/excavation, steel delivery and off-loading, electrical vault work), stop work reminder, pre-use equipment inspections, safety hazards and controls, and the importance of having a questioning attitude. Workers were asked questions to confirm hazard awareness and then participated in a stretch-and-flex program.

In most cases, observed work was performed in accordance with required controls from JHAs, CSHAs, GHAs, and RWP's where appropriate. For example:

- Most observed low-hazard radiological work was appropriately performed with an RCT present to conduct radiological surveys to ensure the absence of any radiation hazards. In several cases, an RWP with specific controls was also assigned for work that has historically involved radiological hazards, including fixed and/or removable contamination, such as high voltage powerline work and de-energized power line demolition work. Radiological survey instruments used for job coverage surveys were within required calibration intervals, and RCT radiological survey reports were appropriately documented, legible, and often accompanied by helpful photos.
- WO 1276416/W was appropriately authorized and conducted using switching orders, EU outage permit, and EU walkdown checklist. The work adhered to the CSHA-EU-Line, *Electrical Utilities Lineman Hazard Analysis*. A records inspection revealed that the bucket truck, hot stick, and fall protection equipment were within their required inspection periods.
- FP-26966 work activities were performed within the controls defined in the associated CSHAs. Pipe was appropriately secured in place, then cut into pieces while workers wore grip gloves and eye protection. A watchperson was present to prevent entry into the cutting work area, and metal shavings were promptly cleaned up after the cutting was completed. During the check valve replacement, appropriate PPE (i.e., safety glasses, work gloves, protective toe shoes, and hearing protection) and ergonomic controls (kneeling pad and two-person lift of the 30- to 35-pound check valve) were used.
- For WO 1278979/P, workers followed maintenance procedure HM090036 and a TAF, and electricians wore rated and tested insulated electrical gloves and safety glasses while opening and closing breakers and established a LOTO boundary for untrained individuals. The mechanic and oiler servicing the generator wore appropriate PPE while following, verifying, and initialing the items on the inspection checklist.

While workers followed controls most of the time, the following weaknesses were observed:

- Contrary to HMIS-PRO-SP-095, *Scaffolding*, sections 4.3(1), scaffold users did not verify special conditions on the scaffold inspection tag and did not make required notifications that the tag was illegible. (See **Deficiency D-HMIS-3**.) By not verifying conditions on the tag or contacting the facility point of contact for assistance, the safe use of the scaffold could have been impacted. Specifically, for WO 1218229/P, work tasks included the use of scaffolding to access rooftop breakers. Workers did appropriately verify that the scaffold inspection tag showed completion of a daily inspection prior to use; however, the actual inspection (conducted December 11, 2025) did not identify that the green tag containing the approval information for the scaffold was illegible. The condition of the green tag was not observed or questioned by the inspector, workers, or the FWS. Information that was required for use approval that was illegible included contact phone number, date, special conditions, and the competent person.
- Contrary to DOE-0359, *Hanford Site Electrical Safety Program*, section 4.6(9)(a)(i), and 29 CFR 1910.137(c)(2)(viii) table I-5, a verification of the test date on voltage-rated insulating gloves used to confirm PPE compliance was not performed. (See **Deficiency D-HMIS-4**.) Not verifying the test date on gloves could result in a worker's use of ineffective PPE, increasing the risk of injury, illness, and exposure to workplace hazards. Specifically, for WO 1279628/P, *Battery testing PM for 181B pump station*, an appropriate PJB was conducted, and, with one exception, appropriately controlled testing of the battery banks was performed, including shock hazard risk assessment and use of PPE for protection against acid contact. However, during electrical testing, EA observed and advised the FWS that the assigned worker was preparing to test with voltage-rated insulating gloves beyond their six-month test interval (marked test date of March 18, 2025). The FWS, who had not initially

observed the expired date stamped on the gloves, confirmed with EU that the appropriate interval for use was six months from the date of testing/issue. After a brief pause, the assignment was given to another worker with appropriately tested voltage-rated insulating gloves and electrical testing continued without further incident.

- Contrary to HMIS-RD-SP-29096, *Tags, Signs and Barriers*, section 1.0, workers and FWSs did not adhere to worker safety requirements associated with the use of signs, colors, and symbols intended to identify and warn against specific hazards. (See **Deficiency D-HMIS-5.**) Not adhering to safety requirements could lead workers to assume controls (e.g., LOTO) that may not actually be in place, increasing the risk of injury. Specifically, during the conduct of testing activities for WO 1279628/P, the work area was barricaded with warning tape and the posting “Danger Do Not Enter Lock & Tag Boundary,” even though this task had no LOTO associated with it. In another observation, during EU’s conduct of daily operator rounds and cold weather checks of the A6 (251E) and A8 (251W) switchgear facilities and switchyards, there were numerous posted confined spaces, including permit-required confined spaces, in both switchgear facilities and switchyards where confined space postings/signage were damaged, faded, and/or illegible.
- Contrary to HMIS-PLN-SP-32219, section 3.7, and 29 CFR 1910.212(a)(2), *General requirements for machine guards*, workers and FWSs did not adhere to worker safety requirements associated with machine guards to be affixed to the machine where possible and secured elsewhere if attachment to the machine is not possible. (See **Deficiency D-HMIS-6.**) Not properly securing machine guards could allow operator access to hazardous, moving, or rotating parts, resulting in worker injury. Specifically, during the adjustment of shaft packing on diesel pump #2 for WO 1226209/C, *Adjust/Replace Packing on Diesel Pump #2 at 182B*, protective guards of the rotating shafts on several of the diesel pumps (#1 and #2) were not affixed to equipment as required.
- During excavation for a water pipe tie-in, the sub-tier track excavator operator did not consistently look for workers or use a spotter when backing up, which conflicted with pre-job briefing instructions from the L-888 subcontractor construction manager. Additionally, no standing or exclusion barricades were established to control access. This omission, combined with the excavation site’s proximity to a major roadway and accessible shoulder parking, allowed unauthorized personnel into the unbarricaded area behind the excavator, creating a significant risk of injury. (See **OFI-HMIS-2.**)

Work Planning and Control Implementation Conclusions

Implementation of WP&C institutional programs, including the ISM core functions, for observed HMIS and construction subcontractor work was generally adequate. Workers, FWSs, and SMEs were directly involved in the implementation of ISM processes. In most cases, observed work was performed in accordance with required controls. However, implementation of the HMIS and construction subcontractor JHA processes and the RCO radiological hazard screening process has not resulted in proper identification and documentation of all radiological hazards, hazard screenings, and radiological controls. In addition, although workers followed controls most of the time, weaknesses were observed related to scaffolding inspections, electrical insulated glove PPE, danger postings, machine guarding, and use of a spotter and/or boundary control near operating heavy equipment.

3.3 Flowdown of Safety Requirements to Subcontractors

This portion of the assessment evaluated HMIS’s flowdown of safety requirements to its subcontractors and lower-tier subcontractors.

DEAR 970.5223-1 and HMIS’s S&H requirements, including a hazard-based graded approach to ISM, are adequately flowed down through the procurement contractual process (*Special Provisions 5-On-Site*

Services, no document number) to subcontractors and lower-tier subcontractors performing construction activities. Procurement maintains an external subcontractor website with information pertaining to relevant S&H requirements, including HMIS-PRO-SP-48065, *Subcontractor Safety Processes*. This procedure appropriately establishes the overall safety requirements for the scope of work to be performed, including appendix B, *HMIS Worker Protection Virtual Manual*, which lists S&H policies, plans, requirements documents, procedures, the HMIS GHA, and sitewide standards. HMIS communicates known site conditions and hazards (e.g., asbestos, hexavalent chromium, radiological contamination) to subcontractors contractually in section 3.5, *Site Conditions and Known Hazards (Facility Specific)*.

Reviewed contracts for the L-888 and L-898 construction projects appropriately included DEAR 970.5223-1, 10 CFR 851, detailed scopes of work, qualifications for onsite safety personnel, HMIS's WP&C processes including JHAs, and training. Field documentation reviews (i.e., JHAs, training records, inspections, permits) and observations at the two construction projects demonstrated that the flowdown of S&H requirements to subcontractors was effectively accomplished through the HMIS procurement process with a few implementation weaknesses as discussed above in section 3.2.

Flowdown of Safety Requirements to Subcontractors Conclusions

The HMIS subcontractor procurement process appropriately flows down DEAR 970.5223-1 and HMIS S&H requirements. A review of two subcontracts, including field documentation verification and observations of associated construction work, demonstrated that the flowdown of S&H requirements to subcontractors and their lower tiers was effectively accomplished with a few implementation weaknesses.

3.4 Contractor Assurance System/Feedback and Improvement

This portion of the assessment evaluated HMIS's CAS program, assessments, issues management, and processes for performance feedback and lessons learned to enable the continuous improvement of WP&C.

Contractor Assurance System Program

HMIS has established a generally adequate CAS program as required by the HMESC, section C.4.12.6.2.8, in accordance with DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*. HMIS-PLN-PA-29238, *Contractor Assurance System Description*, was approved by the DOE Hanford Contracting Officer on November 24, 2020, with no later substantial changes requiring DOE approval.

Assessments

HMIS has established and implemented a generally effective risk-based assessment program to evaluate performance and determine the effectiveness of programs and procedures. Assessments are adequately scheduled in accordance with HMIS-PRO-PA-62598, *Assessment Scheduling Process*. Management assessments are appropriately performed in accordance with HMIS-PRO-PA-246, *Management Assessment*. Independent assessments are properly conducted in accordance with HMIS-PRO-PA-62599, *Non-Standard Assessments*. Sampled assessments included proper scope, summaries, lines of inquiry, and conclusions, as required. HMIS appropriately uses information such as regulatory requirements, past performance, issue reports, assessment results, and trending to collect and consider risk during the development of assessment schedules. Approximately 150 CAS assessments are conducted annually. Five reviewed management assessments and one reviewed self-assessment conducted in the last two years related to the CAS program, the LOTO program, and work scheduling demonstrated adequate rigor and depth of review. Ten reviewed management observation program (MOPs) covering various worker safety areas were adequately performed. However, MOPs are not required by the CAS program. (See **OFI-HMIS-3**.)

While HMIS-PRO-PA-62598 addresses an adequate process for considering risk, it does not result in a documented risk assessment for the CAS functional areas. Additionally, a review of integrated Contractor Assurance System (iCAS) assessment and issues data for the past three years revealed that several CAS functional areas showed little evidence of contractor-conducted assessment. These functional areas included industrial safety (9 of 13 sub-areas identified in iCAS had not been assessed), electrical safety (one assessment conducted in the past three years), hazardous energy control program (one assessment conducted in the past three years), conduct of operations (9 of 18 sub-areas were not covered), conduct of maintenance (7 of 9 sub-areas had not been assessed), and activity-level work planning and control (5 of 8 sub-areas had not been assessed). None of the reviewed functional areas specified risk level. Further, HMIS management has no mechanism for monitoring the overall performance of assessments to ensure that a balanced, risk-based approach is being achieved. (See **OFI-HMIS-4**.)

Issues Management

HMIS has established and implemented effective processes for event and issue analysis, development of corrective actions, and tracking of corrective action status. Action requests are appropriately screened frequently by a team of program SMEs and line managers and dispositioned in iCAS according to the level of significance (Levels A-D, with Level A being the highest risk/significance) as required by HMIS-PRO-PA-052, *Issues Management*. The Executive Safety Review Board (ESRB) appropriately reviews causal analyses and effectiveness reviews for significant issues. The timeliness of corrective actions is a key metric instituted this past year that is effectively driving down the time to completion to under 120 days.

The iCAS application effectively supports tracking of issues and events, causal analyses, corrective actions, extent-of-condition reviews, development of lessons learned, and effectiveness reviews. Two observed causal analysis meetings demonstrated effective facilitation by CAS personnel and full engagement by HMIS management. A process mapping observed during a root cause evaluation meeting, along with the observed causal analysis meetings, confirmed that proper attention is being applied to ensure that causal analyses are diligently performed.

Performance of Feedback and Improvement and Lessons Learned

HMIS has established adequate programs, procedures, and tools to support feedback and improvement and lessons learned. Periodic performance reviews and reports appropriately include monthly metrics provided for ESRB meetings and monthly safety and operational performance summaries. Performance feedback and improvement is appropriately governed by HMIS-PLN-SP-003. Also, HMIS-PRO-WC-14047, *Conducting Pre-Job and Post-Job Reviews*, appropriately uses the level of risk and task complexity to determine required detail and formality. One observed informal post job review pertaining to a battery terminal polarity issue was properly attended by a variety of participants, including craft workers who developed appropriate corrective actions.

While feedback and improvement mechanisms are in place, one instance of HMIS not implementing feedback was observed. Specifically, EA identified a scaffold green tag legibility issue on December 11, 2025 (as discussed above in section 3.2). Upon EA's return on January 15, 2026, a follow-up inspection confirmed that the deficiency had not been corrected, despite the scaffold having been reinspected by workers on January 8, 2026.

Most reviewed WDs demonstrated appropriate inclusion of lessons learned by work planners. However, some lessons learned in multiple WDs lacked direct relevance to work scope hazards, leading FWSs to either ignore them or spend time on irrelevant safety topics. Examples included lessons learned pertaining to snow and ice ground hazards when work was performed in mid-60°F conditions; electrical safety when no electrical work was associated with the work task; and snake bites occurring outdoors in highly vegetated areas when the work occurred indoors in an occupied building. HMIS was made aware of this issue during

the first week of the onsite assessment and began instituting corrective training for work planners. An improvement in topic relevance was observed during the second week of the onsite assessment.

Contractor Assurance System/Feedback and Improvement Conclusions

HMIS has established a generally adequate CAS that provides appropriate processes, assessments, issues management tools, and periodic performance reports. Reviewed formal assessments were generally comprehensive and a systematic approach is used for event and issue analysis, development of corrective actions, and tracking of corrective action status. However, HMIS's assessment process for determining risk does not result in a documented risk evaluation to develop an informed assessment schedule. Issues identified pertaining to lessons learned relevance are being addressed.

4.0 BEST PRACTICES

No best practices were identified during this assessment.

5.0 FINDINGS

No findings were identified during this assessment.

6.0 DEFICIENCIES

Deficiencies are inadequacies in the implementation of an applicable requirement or standard. Deficiencies that did not meet the criteria for findings are listed below, with the expectation from DOE Order 227.1A for site managers to apply their local issues management processes for resolution.

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Deficiency D-HMIS-1: Implementation of HMIS and construction subcontractor JHA processes and the RCO radiological hazard screening process has not resulted in the identification and documentation of all work-related radiological hazards, the proper performance and documentation of all required radiological hazard screenings to categorize low-hazard radiological work, and the necessary controls. (HMIS-PLN-SP-003, sec. 3.1; HMIS-PRO-RC-46882, sec. 4.1; HMIS-PRO-SP-079, app. B; and the HMIS-MAN-RC-5173 glossary definition of radiological work)

Deficiency D-HMIS-2: HMIS does not always ensure that work planning is sufficient to adequately protect workers from unnecessarily being exposed to hazards or performing tasks based on incomplete or incorrect information within work packages or planning documents. (HMIS-PLN-SP-003, sec. 3.2)

Deficiency D-HMIS-3: HMIS does not ensure that inspectors, workers, and FWSs adhere to worker safety requirements associated with special conditions on scaffold inspection tags. (HMIS-PRO-SP-095, secs. 4.3(1))

Deficiency D-HMIS-4: HMIS does not ensure that workers and FWSs adhere to worker safety requirements associated with verifying the test date on rubber insulating gloves to confirm periodicity. (DOE-0359, sec. 4.6(9)(a)(i), and 29 CFR 1910.137(c)(2)(viii) table I-5)

Deficiency D-HMIS-5: HMIS does not ensure that workers and FWSs adhere to worker safety requirements associated with the use of signs, colors, and symbols intended to identify and warn against specific hazards. (HMIS-RD-SP-29096, sec. 1.0)

Deficiency D-HMIS-6: HMIS does not ensure that workers and FWSs adhere to worker safety requirements associated with machine guards to be affixed to the machine where possible and secured elsewhere if attachment to the machine is not possible. (HMIS-PLN-SP-32219, sec. 3.7, and 29 CFR 1910.212(a)(2))

7.0 OPPORTUNITIES FOR IMPROVEMENT

EA identified the OFIs shown below to assist cognizant managers in improving programs and operations. While OFIs may identify potential solutions to findings and deficiencies identified in assessment reports, they may also address other conditions observed during the assessment process. These OFIs are offered only as recommendations for line management consideration; they do not require formal resolution by management through a corrective action process and are not intended to be prescriptive or mandatory. Rather, they are suggestions that may assist site management in implementing best practices or provide potential solutions to issues identified during the assessment.

Hanford Mission Integration Solutions, LLC

OFI-HMIS-1: In addition to ongoing efforts by the RCO to improve the radiological hazard screening process, consider providing additional training for LO and construction subcontractor work planners on the HMIS-MAN-RC-5173 glossary definition of radiological work. Also, consider making the use of the HMIS JHA checklist (or equivalent) mandatory for work that meets the definition of radiological work, requiring documented RCO hazard screening to ensure that radiological hazards are formally identified, documented, and controlled.

OFI-HMIS-2: Consider focused oversight of subcontractor excavator operations to ensure that workers and subcontractor construction managers adhere to worker safety requirements related to the use of spotters and/or a warning system when mobile equipment is being used.

OFI-HMIS-3: Consider requiring MOPs to be performed so that all functional areas show evidence of some contractor-conducted assessment.

OFI-HMIS-4: Consider instituting a corporate approach to monitoring the planning and execution of assessments, to include documenting risk assessment of functional areas, to ensure a balanced coverage of potentially high-consequence activities.

Appendix A Supplemental Information

Dates of Assessment

September 23, 2025, to January 22, 2026

Office of Enterprise Assessments (EA) Management

Mark D. Barth, Acting Director, Office of Enterprise Assessments
William F. West, Deputy Director, Office of Enterprise Assessments
Kevin G. Kilp, Director, Office of Environment, Safety and Health Assessments
David A. Young, Deputy Director, Office of Environment, Safety and Health Assessments
Tamara D. Powell, Director, Office of Nuclear Safety and Environmental Assessments
David Olah, Director, Office of Worker Safety and Health Assessments
Terrance J. Jackson, Acting Director, Office of Emergency Management Assessments
Brent L. Jones, Director, Office of Nuclear Engineering and Safety Basis Assessments

Quality Review Board

William F. West, Advisor
Kevin G. Kilp, Chair
Christopher E. McFearin
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