# Independent Assessment of Conduct of Operations at the Y-12 National Security Complex Building 9215

July 2025

U.S. DEPARTMENT of ENERGY | Office of Enterprise Assessments

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## Acronyms

| | |
|---|---|
| AOM | Assistant Operations Manager |
| CAAS | Criticality Accident Alarm System |
| CFR | Code of Federal Regulations |
| CNS | Consolidated Nuclear Security, LLC |
| CRAD | Criteria and Review Approach Document |
| DOE | U.S. Department of Energy |
| EA | Office of Enterprise Assessments |
| FR | Facility Representative |
| NNSA | National Nuclear Security Administration |
| OFI | Opportunity for Improvement |
| SM | Shift Manager |
| SSCs | Structures, Systems, and Components |
| TSR | Technical Safety Requirement |
| Y-12 | Y-12 National Security Complex |
| YFO | Y-12 Field Office |

# INDEPENDENT ASSESSMENT OF CONDUCT OF OPERATIONS AT THE Y-12 NATIONAL SECURITY COMPLEX BUILDING 9215

## Executive Summary

The U.S. Department of Energy Office of Enterprise Assessments (EA) conducted an independent assessment of the implementation of the conduct of operations program at the Y-12 National Security Complex (Y-12) Building 9215. This assessment focused on depleted uranium operations in the Building 9215 Complex, which consists of interfacing facilities including Buildings 9212, 9215, 9996, and 9998. Hereafter, this suite of facilities will be referred to as the 9215 Complex. Consolidated Nuclear Security, LLC (CNS) is the management and operating contractor at Y-12, with the National Nuclear Security Administration Y-12 Field Office (YFO) having field element oversight responsibilities. The assessment also evaluated the effectiveness of YFO oversight of the CNS conduct of operations program implementation. The assessment was conducted in March and April 2025.

EA identified the following strengths, including one best practice:

- The organization of the YFO Operations oversight division into Facility Representative groups, in which each Facility Representative in a given group is qualified on all group facilities, provides for effective backup coverage during temporary absences and maintains continuity of coverage during personnel turnover. This structure also reduces the need for ad-hoc cross-qualifications. (Best Practice)
- CNS operators effectively used three-way communications and procedure placekeeping techniques during observed evolutions.
- Shift turnover and pre-job briefings were thoroughly conducted and covered facility conditions.

EA also identified several areas of concern, as summarized below:

- CNS's operator rounds process is not adequate to identify waste, debris, and other material condition issues such that adverse material conditions are evaluated and promptly corrected to eliminate personnel safety hazards and facility fire risk.
- CNS has not ensured that all control areas have been demarcated and formally controlled.
- In several instances, CNS did not follow its processes for the control of equipment, which could lead to a loss of control of equipment or exposure of workers to hazardous energy sources.
- Multiple observed field activities performed by CNS revealed procedure inadequacies associated with a technical safety requirement surveillance, the number of actions within a single procedure step, and the silencing of alarms.
- YFO did not reevaluate Facility Representative coverage at each hazardous facility on a required biennial basis.

In summary, CNS has adequately implemented a conduct of operations program at the 9215 Complex such that performance of operations related to the control of nuclear safety hazards is effective. In addition, the oversight provided by YFO adequately supports effective performance of the CNS conduct of operations program. However, EA identified several instances where program elements were inadequately implemented. Until the concerns identified in this report are addressed or effective mitigations are put in place, elevated risk associated with depleted uranium conduct of operations within the Building 9215 Complex remains.

# INDEPENDENT ASSESSMENT OF CONDUCT OF OPERATIONS AT THE Y-12 NATIONAL SECURITY COMPLEX BUILDING 9215

## 1.0 INTRODUCTION

The U.S. Department of Energy (DOE) Office of Nuclear Safety and Environmental Assessments, within the independent Office of Enterprise Assessments (EA), conducted an assessment of the implementation of the conduct of operations program at the Y-12 National Security Complex (Y-12) Building 9215.[1] Consolidated Nuclear Security, LLC (CNS) is the management and operating contractor at Y-12, with the National Nuclear Security Administration (NNSA) Y-12 Field Office (YFO) having field element oversight responsibilities. The assessment also evaluated the effectiveness of YFO oversight of CNS's activities with respect to the conduct of operations program. The assessment was conducted in March and April 2025 in accordance with the *Plan for the Independent Assessment of Conduct of Operations at the Y-12 National Security Complex Building 9215, April 2025.*

Y-12 serves DOE's nuclear security enterprise by maintaining the safety, security, and effectiveness of the U.S. nuclear weapons stockpile, thereby reducing the global threat posed by nuclear proliferation and terrorism, and by providing feedstock to fuel the U.S. Nuclear Navy. The 9215 Complex is a hazard category 2 nuclear facility providing uranium machining and finishing capabilities for production activities. While the Uranium Processing Facility (presently under construction) will replace most of Y-12's aging production facilities and operations, the 9215 Complex facilities are expected to continue their current functions for several decades following the startup of the Uranium Processing Facility.

## 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, the criteria used to guide this assessment were based on EA CRAD 31-39, Revision 0, *Review of Conduct of Operations*. In addition, elements of EA CRAD 30-07, Revision 0, *Federal Line Management Oversight Processes*, were used to collect and analyze data on YFO oversight activities. To gather relevant assessment data, EA reviewed CNS and YFO policies, processes, procedures, and records supporting the implementation of the conduct of operations program at the 9215 Complex. EA also interviewed key contractor and Federal personnel responsible for developing, implementing, and overseeing the conduct of operations program, and walked down significant portions of the 9215 Complex, focusing on the implementation of conduct of operations practices. 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 findings for follow-up addressed during this assessment.

[1] This assessment focused on depleted uranium operations in the Building 9215 Complex, which consists of interfacing facilities including Buildings 9212, 9215, 9996, and 9998. Hereafter, this suite of facilities will be referred to as the 9215 Complex.

## 3.0 RESULTS

### 3.1 Shift Routines and Operating Practices

This portion of the assessment evaluated CNS's established shift routines and operating practices.

CNS has established and implemented generally adequate procedures addressing shift routines and operating practices in accordance with DOE Order 422.1, *Conduct of Operations*, attachment 2, requirement 2.b. Procedure Y14-001, *Conduct of Operations Manual*, chapter 2.2, *Shift Routines and Operating Practices*, appropriately establishes requirements necessary to ensure that operators are alert, informed of conditions, and operate equipment properly. Procedure Y14-001 adequately defines the responsibility for developing round sheets (data sheets that identify important equipment and acceptable equipment instrumentation readings), conducting rounds, and reviewing completed round sheets. These requirements are properly flowed into Y14-001, chapter 2.1, *Round Sheets*, and N9998-CAST-0038, *9998 Foundry Checklist/Roundsheet*. Procedure Y14-001, chapter 2.1, and N9998-CAST-0038 appropriately include requirements for inspections, equipment checks, and round sheets. The round sheets provide adequate instructions and data recording forms to ensure all facility equipment is performing within tolerance and provide data for performance trends and appropriately specify response to out-of-tolerance equipment indicators. The operators, Assistant Operations Manager (AOM), and shift manager (SM) demonstrated their understanding of the requirements for shift routines and cognizance of current facility conditions.

Observed work activities were appropriately authorized and released, pre-job briefings were well conducted and stop/pause work authority was well understood. Observed work was planned at the appropriate level, authorized and released by the SM, and listed on the approved plan-of-the-day. Observed pre-job briefings for operations and rounds were generally comprehensive, covered the scope of work, and identified hazards and controls needed to perform work. Pre-job briefings were conducted formally using a checklist that ensured all pertinent details and hazards were appropriately covered. Stop/pause work authority was emphasized during observed pre-job briefings, and interviewed workers were aware that they had stop/pause work authority. Operators demonstrated a good questioning attitude as work was appropriately paused on two separate occasions after they encountered unexpected conditions.

During observed operator rounds for the Building 9998 Foundry, operators demonstrated strict compliance with round sheet instructions. Operators were knowledgeable about the facility and equipment. Reviewed completed round sheets for the Building 9998 Foundry from March 2025 recorded the time to conduct the round as five minutes, even though the round sheet completion takes more than a half hour; CNS personnel investigated, determined that a recording error was the cause of this discrepancy, and corrected the round sheet completion time.

While shift routines and operating practices are generally adequate, contrary to DOE Order 422.1, attachment 2, requirement 2.b, and Y14-001, chapter 2.2, CNS's operator rounds process is not adequate to identify waste, debris, and other material condition issues such that adverse material conditions are evaluated and promptly corrected to eliminate personnel safety hazards and facility fire risk. (See **Deficiency D-CNS-1**.) This condition could lead to a loss of control of equipment or worker injury. Specifically, the following material condition/housekeeping issues were observed during rounds, facility tours, and the performance of operations:

- Step ladders and scaffolding blocked several egress paths.
- Dirty rags, abandoned tools and equipment, debris from construction or maintenance activities, and other trash—including poorly marked bags of waste containing hazardous constituents—were present

in multiple locations throughout the facility and had to be stepped over by operators to check or operate equipment.

- Thirty-two broken custody seals were present on a criticality accident alarm system (CAAS) panel.
- A free-standing uninstalled equipment control panel was unsecured in the middle of a room, presenting a tip-over hazard with no barriers or warnings to protect personnel in the area.
- Two electrical junction boxes were open with bare wires present, insufficient control to prevent personnel from contacting the wires, and no postings regarding equipment status.

**Shift Routines and Operating Practices Conclusions**

CNS has established and implemented generally adequate shift routines and operating practices through operating procedures. Pre-job briefings were well conducted. Facility equipment rounds are appropriately required by procedure and were adequately performed during the assessment. However, a weakness associated with the level of rigor in checking facility conditions and equipment was identified based on numerous observed material condition/housekeeping issues.

### 3.2 Control Area Activities

This portion of the assessment evaluated CNS's control area procedures and operational performance.

CNS has established and implemented control area access in accordance with DOE Order 422.1, attachment 2, requirement 2.c, for the vacuum arc remelt control area. Procedure Y14-001, chapter 3, *Control Area Activities*, appropriately addresses control area access, specifying that a hard copy or electronic list of personnel with authorization access be developed and managed. For the one established control area, CNS has developed an electronic control area access/operations authorization list, specifying the personnel and their corresponding positions who are authorized to access the control area. Appropriate protocols for entry to this area, including limiting access as well as ensuring that performed activities remain focused on facility operations, have been established. However, similar controls have not been established for other areas of the facility where processes are controlled.[2] For example, the control area for the press was an individual room, fully segmented from other areas of the facility, but access protocols were not established. Other processes were controlled from facility areas adjacent to equipment being operated, with no formal control areas demarcated and no entry protocols established, including during observed operations from the control area for the 2N furnace. Consequently, contrary to DOE Order 422.1, attachment 2, requirement 2.c.(2), and Y14-001, chapter 3, section G, CNS has not ensured that all control areas have been demarcated and formally controlled. (See **Deficiency D-CNS-2**.) Inadequate identification of boundaries for control areas could result in non-essential personnel, activities, or other distractions within the control area.

[2] DOE Order 422.1 defines a Control Area as "The physical area (e.g., room, booth, desk) where the facility or portions of the facility operations are monitored and controlled." Y14-001, chapter 3, inappropriately excludes most portions of the facility where operations are monitored and controlled from Control Area requirements with a note stating, "At Y-12, control stations are not Control Areas." However, the procedure defines a "Y-12 control station" as "an area, not a Control Area…, established by the Responsible Manager to control processes and systems to eliminate noise and distractions, with boundaries, signs, and access controls." No boundaries, signs, or access controls were implemented during observed facility operations. Therefore, even if the exclusion of these areas from Control Area requirements had been appropriate, conduct of operations requirements were not met.

**Control Area Activities Conclusions**

CNS has established and implemented generally adequate control area operations practices for the established control area for one process. However, a weakness associated with the demarcation and formal control of control areas for other processes was identified.

## 3.3 Communications

This portion of the assessment evaluated CNS's communications procedures, operational performance, and systems.

CNS has established and implemented effective procedures addressing communications in accordance with DOE Order 422.1, attachment 2, requirement 2.d. Procedure Y14-001, chapter 4, *Communications*, adequately establishes requirements for accurate, unambiguous communications during normal and emergency operational situations. The procedure adequately details Y-12 communications systems that are available to support normal and emergency operations and describes the use of the radio system to make notifications. Procedure Y14-001, chapter 4, appendix B, *Spelling Alphabet*, and appendix C, *Commonly Used Terms in Verbal Communication*, appropriately govern the use of the phonetic alphabet and repeat-backs. Y14-001 also states that acronyms and abbreviations used in approved procedures are approved for communications.

Communications systems and an associated compensatory measure provide adequate personnel protection for notification of normal and emergency conditions within the 9215 Complex. Y-12 has a sitewide emergency notification system (ENS) and a sitewide public address system, as well as a local 9215 Complex public address system. Interviewed workers stated that, although the sitewide ENS announcements are audible in the SM's office, there are multiple locations within the 9215 Complex where ENS communications are inaudible. Consequently, compensatory measure 8.2, initiated on September 22, 2021, requires that the SM repeat ENS announcements over the local public address system. Per staff, ENS notifications are also frequently repeated via radio. The local public address system is appropriately used for normal and emergency operational situations.

The administrative control of communications equipment was adequate. For example, consistent with the requirements established in Y40-507, *Emergency Management Emergency Facilities and Equipment Manual*, only the SM is authorized to make announcements over the local public address system. Per interviews, there are no radio-prohibited areas within the 9215 Complex.

Effective radio use was demonstrated during the observed performance of work activities. All observed work teams appropriately carried radios. Observed communications were clear and concise and adhered to the requirements of Y14-001. Personnel are appropriately trained to understand the meaning of each different type of sound alert and announcement in Y-12's *General Employee Training*.

**Communications Conclusions**

CNS has established and implemented adequate operations communications practices that were properly implemented during all observed activities. Communications systems and an associated compensatory measure provide adequate personnel protection for notification of normal and emergency conditions within the 9215 Complex.

## 3.4 Control of Equipment and System Status

This portion of the assessment evaluated CNS's practices for the control of equipment and system status.

CNS has established and implemented adequate practices for initial equipment lineups and subsequent changes to ensure that facilities operate with known and proper configuration, as designed. Procedure Y14-001, chapter 8, *Control of Equipment and System Status*, adequately addresses DOE Order 422.1, attachment 2, requirement 2.h. Interviews with the Operations Manager, the AOM, the SM, and operators as well as observations of activities confirmed continuous awareness of facility equipment status, which included the use of SM status logs to monitor system deviations and lockout/tagout. The SM was aware of all equipment deficiencies and maintained a log of all deficient equipment.

CNS uses a rigorous, well-defined process for authorizing any work on safety structures, systems, and components (SSCs). The interviewed SM and operations personnel clearly understood their responsibilities for maintaining proper configuration and authorizing status changes for major equipment. Interviewed operations personnel were knowledgeable of the work authorization process and demonstrated the ability to access work authorization documents as needed.

While the procedure for the control of equipment and system status is adequate, several issues were observed. For example:

- Thirty-two broken custody seals were present on a CAAS panel, making it difficult to find the unbroken seal.
- Electrical breaker panels were observed with their doors unsecured and without the required 36 inches of clearance.
- Cables were dangling across filter banks in a filter room.
- Cables and hoses were in an area marked "Keep Clear," blocking access to CAAS monitors.
- Workers had to step over cables, hoses, trash, and equipment in several locations to conduct the CAAS surveillance and 2N furnace operations.

Consequently, contrary to DOE Order 422.1, attachment 2, requirement 2.h, and Y14-001, chapter 8, CNS has not consistently followed its processes for the control of equipment. (See **Deficiency D-CNS-3**.) This condition could lead to a loss of control of equipment or exposure of workers to hazardous energy sources.

**Control of Equipment and System Status Conclusions**

CNS has established and implemented adequate practices for initial equipment lineups and subsequent changes to ensure that facilities operate with known and proper configuration. However, a weakness associated with following the processes for the control of equipment was identified based on numerous observed issues.

## 3.5 Logkeeping

This portion of the assessment evaluated CNS's logkeeping procedures and processes, which are meant to ensure thorough, accurate, and timely recording of events and equipment information for performance analysis and trend detection.

Procedure Y14-001, chapter 11, *Logkeeping*, adequately addresses DOE Order 422.1, attachment 2, requirement 2.k, and appropriately specifies, in appendix B, *Y-12 Designated Key Positions*, those key positions that are required to maintain narrative logs. Procedure Y14-001, appendix C, *Content for Narrative Log Entries*, and appendix E, *E-Log Entries*, provide guidance on the types of information that should be recorded through each shift. Consistent with these requirements, Facilities Operations Management maintains an electronic log for equipment operations at the 9215 Complex. Reviewed

electronic logs over the period from January 2, 2025, through April 2, 2025, met the requirements of Y14-001, chapter 11. Logs appropriately contained a daily summary of changes in the status of major equipment, including configuration condition changes, abnormal events, status changes of safety-related or other major equipment, occurrence of reportable events, starting and completing of surveillance tests, activated alarms, and other important data specified in governing procedures. Due to its nature as an electronic log, recorded late entries are automatically placed in chronological order, and late entries are appropriately notated in the description of the log with "LATE ENTRY." Operators do not maintain separate narrative logs related to specific processes, given that no shift work is performed and data sheets are used to collect information related to specific batches of material.

**Logkeeping Conclusions**

CNS logkeeping practices result in adequately recorded events and equipment information important to facility operations. CNS personnel adequately performed logkeeping in accordance with governing procedures.

### 3.6 Turnover and Assumption of Responsibilities

This portion of the assessment evaluated CNS's operational shift and operator relief turnover (transfer of information) processes.

CNS operations personnel adequately performed turnovers during observed shift changes and operator relief. Procedure Y14-001, chapter 12.1, *Shift Turnover and Assumption of Responsibilities*, adequately defines all key positions and the process for formal turnover of operations from one shift to another and from one person to another to ensure thorough understanding of equipment status and in-progress or planned activities, in accordance with DOE Order 422.1, attachment 2, requirement 2.l. Procedure Y14-001, chapter 12.1, also adequately defines the process for turnover to include the defined content of turnover checklists, ensuring comprehensive communication and documentation of current operations. The on-coming and off-going SMs were fully aware of the facility conditions during the observed shift turnover. The shift turnover process used the 9215 Complex SM turnover review checklist and the off-shift status report. SM actions were recorded electronically in the SM logs, demonstrating understanding of the current facility conditions and turnover from off-going SM to on-coming SM. Observed shift crew briefings, governed by Y14-001, chapter 12.2, *Shift Briefings*, were thoroughly conducted. During the SM turnover meeting, the SM cubicle was noisy, with outside distractions that could have reduced the effectiveness of the meeting; however, no actual impact to the SM turnover meeting was observed.

**Turnover and Assumption of Responsibilities Conclusions**

CNS operations personnel adequately performed turnovers during observed shift changes and operator relief. Procedure Y14-001, chapter 12.1, defines an adequate process to ensure the transfer of information between off-going and on-coming shift personnel, and the observed SM turnover meeting was appropriately conducted.

### 3.7 Technical Procedures

This portion of the assessment evaluated CNS's processes for developing and maintaining technical procedures and the adequacy and implementation of selected procedures.

CNS has established generally adequate processes for developing and maintaining accurate, understandable written technical procedures that support safe facility and equipment operation. Procedure Y14-001, chapter 16, *Y12 Technical Procedures*, adequately addresses DOE Order 422.1, attachment 2, requirement 2.p, including procedure content, such as format and use of terms (e.g.,

prerequisites, warnings, cautions, notes, hold points), appropriate details for accomplishing the operation, technically accurate procedures capable of performance as written, and procedure conformance with the facility design and manufacturer documentation. Procedure Y14-001, chapter 16, flows into Y15-232, *Technical Procedure Process*, which appropriately provides additional guidance, including for procedure review, revision, and approval.

Five observed operations were governed by generally adequate procedure instructions. All observed operations were conducted using the current procedures. Procedure adherence was observed to be generally adequate, including operations governed by "reference use" procedures during which operators went beyond what was required by using formal placekeeping techniques. However, the following weaknesses regarding procedure adequacy and compliance were observed:

- Procedure Y52-07-9215-003, *Weekly Surveillance of CAAS Equipment*, is performed to meet a technical safety requirement (TSR) weekly surveillance requirement. During the performance of the surveillance, it was observed that the procedure has a "reference use" designation, which does not require the procedure to be in hand. This designation is not appropriate for the conduct of a TSR surveillance. Consequently, contrary to DOE Order 422.1, attachment 2, requirement 2.p, and Y14-001, chapter 16, appendix D, a procedure to conduct a TSR surveillance was incorrectly designated as "reference use." (See **Deficiency D-CNS-4**.) Incorrect designation of a procedure for the conduct of a TSR surveillance could lead to the improper performance of the surveillance.
- During the observed operation for Y50-24-18-176, *Operation of 2N-B-1000 Casting Furnace*, two actions were included in a single procedure step in two instances. Consequently, contrary to DOE Order 422.1, attachment 2, requirement 2.p; Y14-001, chapter 16; and Y15-030GUD, *Technical Procedure Writer's Guide*, steps 14.9[3]-[6], multiple actions were included in a single procedure step.[3] (See **Deficiency D-CNS-5**.) Including multiple actions in one procedure step could result in some required actions not being performed and precludes effective placekeeping.
- During the observed operation for Y50-24-18-176, operators silenced an alarm based on a note found at the beginning of the procedure, which allowed them to silence any alarm. This alarm-silencing action was taken from a section of the procedure not applicable to the process that the operators were performing. Consequently, contrary to DOE Order 422.1, attachment 2, requirement 2.p.(3), and Y14-001, chapter 16, a procedure step to silence an alarm was applied incorrectly. (See **Deficiency D-CNS-6**.) Incorrectly overriding and silencing alarms could lead to the masking of an unrelated valid alarm.

**Technical Procedures Conclusions**

CNS has established generally adequate processes for developing and maintaining accurate, understandable written technical procedures. However, weaknesses associated with procedure adequacy and compliance were identified.

### 3.8 Component Labeling

This portion of the assessment evaluated CNS's operations practices for clear, accurate equipment and component labeling.

[3] Y15-030GUD step 14.9[3] prohibits the use of "then" to join two actions in a single procedure step. Steps 14.9[4] through [6] govern the use of "and" to connect multiple conditions in conditional "if…then" or "when…then" procedure steps. Two observed steps in Y50-24-18-176 used "and" to join two distinct operator actions into non-conditional single procedure steps.

CNS has established and implemented an adequate process for equipment and component labeling. Procedure Y14-001, chapter 18, *Component Labeling*, and related implementing procedure Y14-176, *System Equipment and Component Labeling*, adequately address DOE Order 422.1, attachment 2, requirement 2.r. CNS engineering standard ES-0.1-1, *Equipment Identification and Labeling*, provides a list of equipment that requires labeling as well as detailed requirements, based on the type of equipment or component, for assigning standardized unique identification (UNID) numbers. Procedure Y14-176 requires field verification teams to verify that labels provide accurate information that uniquely identifies the components and are consistent with regulations, standards, and facility documents. Verifications performed by field verification teams are documented using form UCN-20213, *Record of Label Installation & Verification*. Procedure Y14-176 provides an adequate process for promptly identifying and replacing lost or damaged labels, as well as preventing the use of unauthorized or incorrect labels and controlling the use of temporary labels. Interviewed facility managers and operators were aware of their roles and responsibilities regarding component labeling. With one exception, observed labels on facility equipment in use were securely attached, were durable, and contained the required information, enabling facility personnel to accurately identify equipment. Observed valves, instruments, piping, and other SSCs exhibited the appropriate labels. Walkdowns confirmed adequate maintenance of component labels, ensuring that lost or damaged labels are promptly identified and replaced, and all observed permanent component labels were in good condition.

**Component Labeling Conclusions**

CNS has established and implemented an adequate process for equipment and component labeling to accurately identify process equipment. With one exception, observed labels on facility equipment in use were securely attached, were durable, and contained the required information. CNS performs walkdowns of component labeling as required.

### 3.9 Federal Oversight

This portion of the assessment evaluated the adequacy of YFO's oversight of CNS conduct of operations program implementation for the 9215 Complex, including program oversight and oversight of field activities.

The CNS conduct of operations program was approved in accordance with DOE Order 422.1 by YFO's predecessor organization (NNSA Production Office) as required. However, the approved safety basis (SAR 9215-F-0001, *Safety Analysis Report for the 9215 Complex*) does not include the conduct of operations program as a TSR safety management program for the 9215 Complex. (See **OFI-YFO-1**.) 10 CFR 830, subpart B, appendix A, paragraph G.2, states: "*In most cases*…a contractor should consider safety management programs covering topics such as quality assurance, procedures, maintenance, personnel training, *conduct of operations*, criticality safety, emergency preparedness, fire protection, waste management, and radiation protection" (emphasis added). Additionally, DOE-STD-3009-94, *Preparation Guide for U.S Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*, and -2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, note the importance of a conduct of operations program to support criticality safety (not necessarily applicable to Building 9215 depleted uranium operations, but applicable to other operations at the 9215 Complex covered by SAR 9215-F-0001).

YFO oversight of the CNS conduct of operations program is performed using YFO-1.0, *Manual for Operating Management*, and YFO-3.4.1.1, *YFO Oversight Planning and Implementation Process*. YFO uses a risk-based approach in developing its fiscal year site integrated assessment plan (SIAP), which considers various weighting factors described in YFO-3.4.1.1, including negative trends, management input, and field observations. The SIAP fulfills requirements established in NNSA directive SD 226.1C, *NNSA Site Governance*, and DOE Order 226.1B, *Implementation of Department of Energy Oversight*

*Policy*, for establishing and conducting oversight assessments. Conduct of operations assessments performed in fiscal year 2024, designated in the CNS issues management system (Tools for Opportunities – Performance Improvements through Communication (TOPIC)) as AS-6176 (lockout/tagout), -7524 (timely orders), and -7525 (operations turnover), were completed and documented as required by oversight programs. In accordance with YFO-3.4.1.1, the Assistant Manager for Operations submits a monthly operational awareness report (*AMOM Monthly*) to CNS, which incorporates Facility Representative (FR) oversight activities. This monthly report process allows YFO to effectively provide identified concerns (e.g., findings) to CNS for tracking and correction. This process assigns approval responsibilities within TOPIC to YFO, thus requiring YFO's review and approval of how issues are resolved prior to closure. Field oversight results are entered into TOPIC as operational awareness activities, surveillances, or assessments in accordance with YFO-3.4.1.1. Once performed, the results of these reviews are documented and transmitted to CNS for action as appropriate.

FR oversight is performed in accordance with YFO-3.4.1.4, *Facility Representative Program*. Reviewed 9215 Complex operational awareness reports from October 2024 to March 2025 were compliant with YFO-3.4.1.4 and YFO-3.4.1.1. Reviewed qualification cards for active YFO FRs assigned to the 9215 Complex, and qualification cards for FR positions at other Y-12 facilities, demonstrated that the FRs had completed all qualification requirements as specified in DOE-STD-1146, *DOE General Technical Base Qualification Standard*; DOE-STD-1151, *Facility Representative Functional Area Qualification Standard*; and site directives.

FRs are organized into three groups within YFO's Operations division (YFO-40), with each group covering a suite of facilities. YFO also has plans in place to create a fourth FR group for the Uranium Processing Facility. YFO-Desk-Aid-019, *Y-12 Field Office (YFO) Job Specific Qualification Standard for YFO-40 Facility Representatives*, requires the completion of facility-specific qualification competencies for all facilities covered by the qualifying FR's assigned group, rather than only the facilities assigned to the FR. This organizational arrangement ensures that each FR is qualified on all facilities overseen by that group and is considered a **Best Practice**. Overlapping qualifications provide for backup coverage during temporary absences and continuity of coverage during personnel turnover, and consistent grouping and uniform qualification processes reduce the need for ad-hoc cross-qualifications.

The most recent staffing analyses for YFO, dated April 2022 and January 2025, were performed in accordance with DOE-STD-1063-2021, *Facility Representatives*. Contrary to DOE-STD-1063-2021, section 5.1.e, YFO did not reevaluate FR coverage at each hazardous facility on a biennial basis as required. (See **Deficiency D-YFO-1**.) Because of the length of time required to add or replace a fully qualified FR, not performing FR staffing analyses at the required periodicity could challenge future-state planning.

While the 2025 staffing analysis shows an FR staffing level of 81.5%, the analysis includes future-need positions to provide operational oversight of the Uranium Processing Facility, which is currently under construction. For operating facilities, there were no FR vacancies as of April 2025, with 8 of 14 incumbents fully qualified; however, there is a vacancy within YFO-40 for a Lead Operations Engineer, which YFO plans to fill in the future.

**Federal Oversight Conclusions**

YFO provides adequate oversight of the conduct of operations program implemented by CNS for the 9215 Complex. At the time of the assessment, there were no FR vacancies, and the organization and qualification of FRs within YFO's Operations division was identified as a best practice. However, a weakness was identified associated with performing FR staffing analyses at the required periodicity.

## 4.0 BEST PRACTICES

Best practices are safety-related practices, techniques, processes, or program attributes observed during an assessment that may merit consideration by other DOE and contractor organizations for implementation. The following best practice was identified as part of this assessment:

- The organization of the YFO Operations oversight division into FR groups, in which each FR in a given group is qualified on all group facilities, provides for effective backup coverage during temporary absences and continuity of coverage during personnel turnover and reduces the need for ad-hoc cross-qualifications.

## 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.

**Consolidated Nuclear Security, LLC**

**Deficiency D-CNS-1**: CNS's operator rounds process is not adequate to identify waste, debris, and other material condition issues such that adverse material conditions are evaluated and promptly corrected to eliminate personnel safety hazards and facility fire risks. (DOE Order 422.1, att. 2, requirement 2.b, and Y14-001, ch. 2.2)

**Deficiency D-CNS-2**: CNS has not ensured that all control areas have been demarcated and formally controlled. (DOE Order 422.1, att. 2, requirement 2.c.(2); Y14-001, ch. 3, sec. G)

**Deficiency D-CNS-3**: CNS has not consistently followed its processes for the control of equipment. (DOE Order 422.1, att. 2, requirement 2.h, and Y14-001, ch. 8)

**Deficiency D-CNS-4**: CNS incorrectly categorized a TSR weekly surveillance procedure as a "reference use" procedure. (DOE Order 422.1, att. 2, requirement 2.p, and Y14-001, ch. 16, app. D)

**Deficiency D-CNS-5**: CNS procedure Y50-24-18-176 did not include each action in its own procedure step. (DOE Order 422.1, att. 2, requirement 2.p; Y14-001, ch. 16; Y15-030GUD, steps 14.9[3]-[6])

**Deficiency D-CNS-6**: CNS procedure Y50-24-18-176 alarm-silencing instructions were not clearly written. (DOE Order 422.1, att. 2, requirement 2.p.(3), and Y14-001, ch. 16)

**Y-12 Field Office**

**Deficiency D-YFO-1**: YFO did not reevaluate FR coverage at each hazardous facility on a biennial basis as required. (DOE-STD-1063-2021, sec. 5.1.e)

## 7.0 OPPORTUNITIES FOR IMPROVEMENT

EA identified the OFI 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. This OFI is offered only as a recommendation for line management consideration; it does not require formal resolution by management through a corrective action process and is not intended to be prescriptive or mandatory. Rather, it is a suggestion that may assist site management in implementing best practices or provide potential solutions to issues identified during the assessment.

### Y-12 Field Office

**OFI-YFO-1**: Consider requiring CNS to credit its conduct of operations program in the 9215 Complex safety basis as a TSR-required safety management program.

# Appendix A
# Supplemental Information

**Dates of Assessment**

March 31 to April 29, 2025

**Office of Enterprise Assessments (EA) Management**

John E. Dupuy, 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
Brent L. Jones, Acting Director, Office of Nuclear Safety and Environmental Assessments
David Olah, Acting Director, Office of Worker Safety and Health Assessments
Jack E. Winston, 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
Thomas C. Messer
Harrichand Rhambarose
William A. Eckroade

**EA Site Lead for Y-12 National Security Complex**

Matthew M. Toth

**EA Assessment Team**

Matthew M. Toth, Lead
Eric A. Ruesch, Co-Lead
N. Scott Dolezal
Elizabeth F. Dunn