MANAGEMENT PLAN SYSTEM LEVEL PROCEDURE ISO 9001:2015 SOC NEVADA LLC	DOCUMENT NO. SOC.MP.SAF.0003
Title Index SOC Nevada LLC – Safety Program	REV. 3

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Approved By: Shawn Clark, Deputy Director of SDO	Date 5/14/19
Approved By: Theresa Vinson, Director BMO & Deputy General Manager	Date 5/14/19
Approved By: Louis Rutledge, Director of M&L	Date 5/14/19
Approved By: M.D. Stafford, General Manager	Date 5/14/19
[ ] Initial Release | [ ] Review, No Revision Required	[x] Review - Revision Required (See History)

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REVISION HISTORY			
REV	**CHANGE DESCRIPTION**	**AUTHOR**	**DATE**
1		**A. Greenfield**	**3/01/17**
2	**Review of written Safety Program.** Minor changes and formatting to the entire document.	**R. Weaver**	**3/1/18**
3	**Review of written Safety Program.** Re-ordered chapters to make them more dynamic and flow better throughout the document. Grammatical, formatting, and informational revisions to every chapter.	**N. Carriero**	**5/1/2019**

REFERENCE DOCUMENTS	
DOCUMENT NUMBER	**DOCUMENT TITLE**
SOC.MP.SP.0001	SOC Occupational Health & Safety Management Plan
SOC.OHS.PS.0003	SOC Process Safety Management (PSM) of Highly Hazardous Chemicals
SOC.QM.0001	Quality Manual
SOC.MS.MP.0001	Control of Documents
SOC.MS.MP.0002	Control of Records
	SOC Nevada LLC Corporate Policy Book
QP.GMO.HRD.0200	Depot Rules and Disciplinary Actions
MP.BMO.PCH.001	Purchasing Manual
QP.BOP.MUO.0001	Lockout-Tagout Procedures (UNIVERSAL)
QP.BOP.MUO.0002	Confined Space Program
QP.BOP.MUO.0003	Asbestos Control Program Operation & Maintenance Plan
W65XME-0000-A-001	SOP General Safety & Security Requirements
10 CFR 19	Nuclear Regulation Commission, Notices, Instructions & Reports to Workers
10 CFR 20	Nuclear Regulatory Commission, Standards for Protection Against Radiation
29 CFR 1910	OSHA Standards, General Industry
29 CFR 1926	OSHA Standards, Construction
40 CFR 61 Subpart M	National Emissions Standards for Hazardous Air Pollutants (NESHAP)
40 CFR 763 Subpart E	EPA – Asbestos Hazard Emergency Response Act (AHERA)
42 CFR Part 84	NIOSH Standard, Respiratory Protection Devices
49 CFR	Department of Transportation
ANSI	American National Standards Institute

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TM 5-627	Railway Track Maintenance
TM 5-628	Railroad Track Standards
TB 43-0142	Safety Inspection and Testing of Lifting Devices
TB 9-1300-214	Military Explosives
TB 9-1300-278	Guidelines for Safe Response to Handling, Storage, and Transportation Accidents Involving Army Tank Munitions or Armor Which Contain Depleted Uranium
AMC-R 350-4	Training and Certification Program for Personnel Working in Ammunition Operations
AMC-R 385-100	Army Safety Manual
AMC-R 700-107	Preparations of SOP's for Ammunition Operations
AR 190-13	Army Physical Security Program
DoD 4145.26-M	Contractor Safety Manual for Ammunition & Explosives
DoD 6055.9-M	DoD Ammunition and Explosives Safety Standards
DoD 4160.28-M	Defense Material Disposition Manual
DA PAM 40-506	Army Vision Conservation and Readiness Program
DA PAM 385-64	Army Ammunition and Explosives Safety Standard
DA PAM 385-24	Army Radiation Safety Program
NAC 618.850-984	Nevada Administrative Code, Abatement of Asbestos
NAC 444.965-980	Nevada Administrative Code, Disposal of Asbestos
MIL-STD-882E	Department of Defense: Standard Practice: System Safety
Federal Railroad Administration Interim Manual Part 234	Signal & Train Control Compliance Manual
GCOR	General Code of Operating Rules
NAVSEA OP 5	Ammunition and Explosive Safety Ashore Regulations
NAVSEA OP 3565	Electromagnetic Radiation Hazards
Standard 70	National Fire Protection Association, National Electrical Code
EM 385-1-97	Explosives Safety and Health Requirements Manual
EPA 560/5-85-030A	Sampling – Environmental Protection Agency (EPA) Federal Guidance
EPA 560/5-85-024	Purple Book – Federal Guidance
EPA 560-OPTS-86-001 & OPNAVINIST 5100.23	Respiratory Protection

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SUC-1380	NRC License
12-0072-07	NRC License
NRS 618.750-850	Nevada Revised Statute, Control of Asbestos

[ ] Initial Release	[ ] Review, No Revision Required	[x] Review - Revision Required (See History)

DOCUMENTS REFERENCED IN THIS PROCEDURE ARE APPLICABLE TO THE EXTENT SPECIFIED HEREIN.

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1. PURPOSE

1.1. The SOC Safety Program establishes policies, procedures, requirements, responsibilities, and guidance contained in the Department of Defense (DoD) Safety Manual, Occupational Safety & Health Administration (OSHA) regulations, Nevada State regulations, and the SOC Occupational Health and Safety Management System (OH&S also referred to OHSAS 18001 & ISO 45001) . This program has been developed to provide SOC employees with incident prevention standards and occupational health and safety requirements.

1.2. This revision supersedes all prior versions and revisions of the safety program.

1.3. This revision supersedes all safety programs which may have been written under the following company names: SOC Hawthorne Division, DZHC, Day & Zimmermann and DZB.

2. SCOPE & CHAPTER

2.1. This Safety Program is directive in nature and all SOC Nevada LLC employee's and subcontractor employees are required to comply with its contents. The following is an index of all chapters and some of the chapter's components:

Chapter 1 - General Information & Responsibilities

Chapter 2 - Occupational Safety and Health

Chapter 3 - Depot (Local) and Office Safety Requirements

Chapter 4 - Explosive Safety

Chapter 5 - Incident (Accident) and Injuries

Chapter 6 - Workplace Violence Program

Chapter 7 - Safety Action Team (SAT)

Chapter 8 - Hazard Communication Program

Chapter 9 - Personal Protective Equipment

Chapter 10 - Inspection of Tools and Equipment

Chapter 11 - Industrial Hygiene Program

Chapter 12 - Respiratory Protection Program

Chapter 13 - Hearing Conservation Program

Chapter 14 - Vision Conservation Program

Chapter 15 - Ergonomics

Chapter 16 - Blood Borne Pathogen Exposure

Chapter 17 - Lead Safety Program (LSP)

Chapter 18 - Asbestos Awareness

Chapter 19 - Crystalline Silica Awareness

2. SCOPE & CHAPTER (CONTINUED)

Chapter 20 - Radiation Protection

Chapter 21 - Lockout/Tagout

Chapter 22 - Fall Protection

Chapter 23 - Elevated Work Surfaces

Chapter 24 - Confined Space Program

Chapter 25 - Excavation Standard

Chapter 26 - Hot Work Permit

Chapter 27 - Material Handling

Chapter 28 - Compressed Gas Safety Program

Chapter 29 - Severe Weather

Chapter 30 - Railroad Safety

3. POLICY

3.1. SOC Nevada LLC has a written Workplace Violence #1122 in the company policy book. Copies of the policy are available through management and are contained in the SOC Policy binders dispersed throughout depot. Contact your Supervisor or Manager for a current copy.

4. DEFINITIONS AND ACRONYMS

4.1. **AE -** Ammunition and Explosives

4.2. **ANSI -** American National Standards Institute

4.3. **AR -** Army Regulation

4.4. **ASME -** American Society of Mechanical Engineers

4.5. **BOP -** Base Operations

4.6. **BO & F/UO -** Base Operations & Facilities/Utilities Operations

4.7. **CARMA -** Corrective Action Risk Management Analysis

4.8. **CFR -** Code of Federal Regulations

4.9. **COR -** Contractor Representative

4.10. **DA PAM -** Department of the Army Pamphlet

4.11. **DoD -** Department of Defense

4.12. **DZHC -** Day & Zimmerman Hawthorne Corp.

4.13. **GCOR -** General Code of Operating Rules

4.14. **GSR -** General Safety Requirements

4.15. **HARA -** Hazard Analysis/Risk Assessment

4.16. **HR -** Human Resources

4.17. **HWAD -** Hawthorne Army Depot

4.18. **ISO 45001 -** Occupational Health & Safety Management System

4.19. **JSA -** Job Safety Analysis

4.20. **LOTO -** Lockout/Tagout

4.21. **MIL-STD -** Military Standard

4.22. **MP -** Management Plan

4.23. **M&L -** Munitions and Logistics

4.24. **NAVSEA -** Naval Sea Systems Command

4.25. **NFPA -** National Fire Protection Association

4.26. **NIOSH -** National Institute of Occupational Safety & Health

4.27. **NRS -** Nevada Revised Statutes

4.28. **OSHA -** Occupational Safety & Health Administration

4.29. **PMO -** Project Management Office

4.30. **POV -** Privately Owned Vehicle

4.31. **PPE -** Personal Protective Equipment

4.32. **QA -** Quality Assurance

4.33. **QP -** Quality Plan

4.34. **SDO -** Standard Depot Operations

4.35. **SOC -** SOC Nevada LLC.

4.36. **SOP -** Standard Operating Procedure

4.37. **TB –** Technical Bulletin

4.38. **TM -** Technical Manual

4.39. **UXO -** Unexploded Ordnance

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. SOC's current Safety Program applies to all personnel assigned to the installation regardless of origin of work. This program covers, but is not limited to, SOC employees, contractors, sub-contractors, tenants, lessees, and visitors.

6. RESPONSIBILITIES (CONTINUED)

6.2. It is the responsibility of SOC personnel to maintain compliance to the requirements of this Safety Program and comply with all applicable federal, state, and local laws, ordinances, codes, and regulations. This program and policy(s) provide guidance to SOC employee's, contractor, sub, tenants and lessees who design, install, approve, operate, and maintain processes that deal with highly hazardous chemicals and explosives to ensure compliance with the Process Safety Management Standards (29 CFR 1910.119).

6.3. Employees are responsible and accountable for their own behavior and each employee deliberately chooses safe or at-risk behavior throughout their work shift.

6.3.1. Non-compliance with this written Safety Program and other applicable federal, state, and local laws, ordinances, codes, and regulations by any contractor (SOC) employee, can result in disciplinary action, loss of privileges, and possibly loss of access or restriction to depot.

6.4. Contractors and sub-contractors will comply with all safety and health regulations as stated in the OSHA Construction and General Industry Standards, and all programs and policies mandated by SOC.

6.4.1. Non-compliance with this written Safety Program and other applicable federal, state, and local laws, ordinances, codes, and regulations by any sub, tenants and lessees can result in loss of privileges, loss of access to depot and possibly breach of contract.

6.5. It is the responsibility of the SOC Safety Office to maintain, review, and revise this Safety Program a minimum of once per year to assure that it is kept current with referenced standards.

6.6. Along with this Safety Program. Diversity & Inclusion shall be instilled in everything we do.

6.6.1. All meets shall start with a safety, diversity, & inclusion message.

7. PROCEDURE

7.1. There are no procedures associated with this chapter.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. The SOC Safety Program establishes policies, procedures, requirements, responsibilities, and guidance contained in the DoD Contractor Safety Manual, Occupational Safety & Health Administration (OSHA) regulations, and Nevada State regulations. This program has been developed to provide SOC Nevada LLC (SOC) employees with incident prevention standards and occupational health and safety requirements.

2. SCOPE

2.1. This Safety Program is directive in nature and all SOC and subcontractor employees are required to comply with its contents.

3. POLICY

3.1. It is the policy of SOC to promote safety awareness, prevent incidents, and protect all resources to the maximum extent possible; thus providing more efficient utilization of resources. The creation of safe and healthful work conditions promotes safe practices by employees both on and off duty. SOC's Safety Program involves continuing vigorous efforts toward the prevention of incidents in all operations and activities on the Depot, ensuring that safe practices and safe physical standards

are incorporated into policies, Standing Operating Procedures (SOP), and training doctrines. Continuous enforcement by supervisors of safety rules and procedures is mandatory. All employees are required to adhere to safe procedures at all times. Supervisors are the key to an effective safety and health program and should lead the way so their employees will fulfill their safety and health responsibilities.

4. DEFINITIONS AND ACRONYMS

4.1. There are no definitions and acronyms associated with this chapter.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **Each person employed by SOC is required to comply with this Safety Program and the safety and health rules set by State and Federal Agencies.**

6.1.1. The General Manager (GM) is responsible for:

6.1.1.1. Promoting a safety awareness program involving all employees, for the primary purpose of detecting and correcting actual and potential safety hazards and creating an environment in which safe work practices are maintained.

6.1.1.2. The GM or his/her designated officer is responsible for all notifications to the Government staff pertaining to accidents or incidents that are items covered under the contract as CDRL's.

6. RESPONSIBILITIES (CONTINUED)

6.1.2. Directors are responsible for:

6.1.2.1. Educating and training their employees. Each director or his/her designated officer shall document that all employee's within their directorate have received and understood the content and the intent of the safety program (SOC.OHS.SP.0002 Rev. 4 or most current version). This training shall be documented on Form DZHC 84-E, Training Report. A copy of the training report shall be submitted to the Compliance & Training Department. The original shall be retained in a file at the Directors office.

6.1.2.2. Creating an atmosphere of safety awareness for the inspection, detection, and correction of actual and potential safety hazards of those activities within their control.

6.1.3. Manager, Safety & Health is responsible for:

6.1.3.1. Planning the Safety Program, IAW the DoD Contractor Safety Manual, and all applicable Federal, State, and Local Regulations.

6.1.3.2. Managing the Industrial Hygiene Program.

6.1.3.3. Maintaining an adequate inspection program, to include submitting reports to supervisors responsible for correcting safety deficiencies as well as monitoring follow up inspections to ensure compliance and adequacy of corrective measures, which aids in eliminating unsafe acts and conditions.

6.1.3.4. Conducting safety analysis of operations, incident case studies and hazardous conditions discovered.

6.1.3.5. Conducting safety review of all plans for building construction, modification, and layout of operating facilities.

6.1.3.6. Preparing a Safety Program which provides specific safety action to offset incident trends revealed by analysis of incident experience, thus eliminating potential incidents in high-risk areas.

6.1.3.7. Ensuring that Safety Site Plans are submitted to the Government Safety Office for construction or modification of facilities.

6.1.3.8. Reviewing specifications for machinery, equipment, tools, personal protective equipment, and clothing to ensure compliance with pertinent safety standards, including those set forth by OSHA.

6.1.3.9. Preparing, conducting or providing assistance with safety training courses in coordination with SOC's Master Training Plan.

6.1.3.10. Reviewing and approving all Standing Operating Procedures (SOP) prior to being forwarded for review by the General Manager.

6.1.3.11. Reviewing and overseeing investigations of all personnel injuries, illnesses, incidents and near misses.

6. RESPONSIBILITIES (CONTINUED)

6.1.4. Managers and Deputy Directors are responsible for:

6.1.4.1. Reviewing Standing Operating Procedures and Standard Procedures (SOP/SP), when required.

6.1.4.2. Ensuring that work areas are kept clean and hazard free.

6.1.4.3. Allowing representatives to serve on Safety Action Team, when they volunteer, to ensure adequate representation of each respective work area.

6.1.4.4. Utilizing the assistance and guidance of the Safety Office.

6.1.4.5. Reporting all injuries, illnesses, near misses, and explosive incidents to SOC's Safety Office.

6.1.4.6. Reporting all property damage incidents to the SOC Security Office.

6.1.4.7. Submitting specifications for operating machinery, equipment, tools, and personal protective equipment, previously approved through the Safety Office, to the Procurement Branch.

6.1.4.8. Submitting all drawings and plans for the construction or modification of facilities, housing ammunition, explosives, or related activities to the Safety Office. Prior to completion of detailed plans or initiating any construction work or contractual obligations, the Safety Office will review and approve the design.

6.1.5. Supervisors are responsible for:

6.1.5.1. Preventing incidents by employees and injuries to employees.

6.1.5.2. Enforcing safety regulations and establishing work habits.

6.1.5.3. Correcting any unsafe acts, mechanical problems, and/or physical conditions, necessary to ensure the safety of employees.

6.1.5.4. Ensuring that tools and equipment have all necessary safety devices, and these devices are in good operating condition.

6.1.5.5. Reporting all Injuries/Illnesses and Near Misses to the SOC Safety Office.

6.1.5.6. Reporting all Property Damage Incidents to the SOC Security Office.

6.1.5.7. Providing training and documentation as required by OSHA standards.

6.1.5.8. Conducting incident investigations.

6.1.6. Employees, as a condition of employment, are responsible for:

6.1.6.1. Learning and complying with all safety instructions and regulations.

6.1.6.2. Generate Job Safety Analysis (JSA) per OH&S Management System for work and tasks performed.

6. RESPONSIBILITIES (CONTINUED)

6.1.6.3. Properly using required personal protective clothing and equipment.

6.1.6.4. Complying with equipment safety, by using protective devices required for machinery, equipment, tools, and operations.

6.1.6.5. Promoting the development of intelligent and safe work habits.

6.1.6.6. Correcting observed unsafe work habits or conditions.

6.1.6.7. Reporting all Injuries/Illnesses and Near Misses immediately to their Supervisor.

6.1.6.8. Reporting all Property Damage Incidents immediately to their Supervisor.

6.1.7. Contract Administration and Purchasing Division are responsible for:

6.1.7.1. Arranging pre-award conferences prior to the onset of operations by subcontractors. These will be attended by representatives of Fire Department, SOC COR, Procurement, Safety, Security, Environmental (and or any other divisions deemed needed) and the subcontractor. Procurement will include incident prevention and safety clauses in the subcontracts administered by SOC for construction, maintenance, or other work required.

6.1.8. SOC COR is responsible for:

6.1.8.1. Inspecting subcontractor operations on the installation to ensure safety of HWAD personnel and property.

6.1.8.2. Ensuring subcontractors have required Safety Hot Work Permits (DZHC 508-E) as outlined in Chapter 10 of this program for the work to be performed.

6.1.8.3. Ensuring Subcontractor has any required permits to perform work at HWAD.

6.1.9. Manager, Human Resources, is responsible for:

6.1.9.1. Maintaining documentation of federally required training.

6.1.9.2. Monitoring compliance for training that meets the Master Training Program.

6.1.10. Manager, Security Division is responsible for:

6.1.10.1. Investigating all Property Damage Incidents (i.e. MHE, vehicle, etc.).

6.1.10.2. Providing investigation reports of all Material Damage Incidents to the Safety Office.

6.1.11. Manager, Quality Assurance is responsible for:

6.1.11.1. Reviewing and approving all SOPs.

6. RESPONSIBILITIES (CONTINUED)

6.1.11.2. Ensuring that ammunition operations comply with explosive safety Principles and regulations from a quality standpoint.

6.1.11.3. Monitoring operations for compliance with SOP requirements when these operations require QA surveillance.

6.1.11.4. Enforcing Safety Requirements spelled out in SOPs.

7. PROCEDURE

7.1. There are no procedures associated with this chapter.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Hot Work Permit	Maintenance Control	1 Year	Shred
Training Report	Directorate	3 Years	Storage

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
DZHC 508-E	Hot Work Permits
DZHC 84-E	Training Report

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. To ensure safe and healthful working conditions for every employee at this Depot. This chapter applies to all SOC employees. If there are any question about your work environment, compliance with industry regulations, OSHA may be found online at *www.osha.gov*. OSHA provides information on safe working environments and employer/employee responsibilities. Every employee at SOC has the right to correct the unsafe conditions.

2. SCOPE

2.1. Compliance with applicable OSHA standards and the DoD Contractor's Safety Manual.

3. POLICY

3.1. **SAFETY** is SOC's No. 1 Value. The policy is to provide and maintain a safe and healthful working environment for all employees.

4. DEFINITIONS AND ACRONYMS

4.1. There are no definitions and acronyms associated with this chapter.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. Each person employed by SOC is required to comply with this Safety Program and the safety and health set by State and Federal Agencies.

6.2. SOC Top Management will comply with applicable OSHA standards, and the DoD Contractor Safety Manual, ensuring safe operations and practices for the prevention of incidents within their area of responsibility.

6.3. **The Safety Office will be responsible for:**

6.3.1. Promoting and enforcing the applicable Occupational Safety and Health Administration's regulations at HWAD.

6.3.2. Advising and assisting the General Manager, Directors, Managers, and supervisory personnel on safety matters related to OSHA.

6.3.3. Preparing and conducting safety training for SOC employees, and tenant units (when requested).

6.3.4. Conducting occupational safety and health surveys. Any deficiencies will be directed to the affected Director / Manager and will include recommendations for corrective measures.

7. PROCEDURE

7.1. **In compliance with ISO 45001, SOC OH&S Audit/Walk-Through Program Inspections shall be as follows:**

7.1.1. The current scope of SOC OH&S Audit/Walk-Through Program includes all SOC employees, facilities and sites *in use* at the workplace and all significant jobs of routine and non-routine nature that are within the scope of the Prime Contract at the Hawthorne Army Depot (HWAD). This includes SOC subcontractor(s), employees and SOC visitors having access to the workplace.

7.1.2. The scope of an audit encompasses a single Directorate (*macro level)* and all the many components *(macro level)* that contribute to the mission of that directorate.

7.1.3. The scope of a walk-through encompasses any single or multiple component(s) which contribute to the mission of SOC.

7.1.4. Buildings and sites, which are inactive or, which are rarely accessed by personnel, and thereby pose minimal risk, whether due to remote location or low-risk, are not included on audit or walk-through schedules. In the event significant hazards are identified, buildings or sites may be upgraded to audit/walk-through status.

7.2 **In compliance with ISO 45001 Non-Conformance, Corrective and Preventive Action Standard Procedure:**

7.2.1 To establish and maintain a procedure(s) for managing nonconformities, safety deficiencies, corrective and preventive actions for audit findings and walk-through findings. This procedure supports the SOC OH&S policy.

7.2.2 A copy of each CARMA will be sent to the General Manager, respective Director and Manager for corrective action. The reverse side of the form will be used for reply to the deficiency showing corrective action taken. The CARMA will be acknowledged within seven (7) working days of receipt.

8. METRICS

8.1 There are no metrics associated with this chapter.

9. RECORDS

9.1 The following Safety Records shall be generated and managed in accordance with SOC.QP.QMS.0002.

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Corrective Action/ Risk Management Analysis (CARMA)	Safety	3 Year	Shred

10. FORMS

10.1 The following forms are associated with this chapter:

APPLICABLE FORMS	
FORM NUMBER	**TITLE**
DZHC 372-E	Corrective Action/Risk Management Analysis
DZHC 551-E	SOC OH&S Management System Internal Audit

11. ATTACHMENTS

11.1. Corrective Action/Risk Management Analysis

CONTINUOUS IMPROVEMENT
CORRECTIVE ACTION/RISK MANAGEMENT ANALYSIS

DATE:	ORIGINATOR & TITLE	EXT:	CONTROL NUMBER

BLDG SUPERVISOR & PERSON NOTIFIED	SHIFT			BUILDING/LOCATION
	DAY	SWING	GRAVE	

GOAL/OBJECTIVE/REQUIREMENT/POTENTIAL NON-CONFORMITY&/OR-RISK ASSESSMENT
(List References – Use Additional Pages as Necessary)

CARM LEVEL

A-Immediate Action Required or IDLH Work Stoppage Until Corrected 2 Day Suspense	
B-Safety/OSHA/Environmental NC 5 Day Suspense	
C-Major Risk 10 Day Suspense	
D-Minor Risk and/or OFI	

NARRATIVE – DESCRIPTION OF NON-CONFORMANCE/RISK ASSESSMENT
Use Additional Pages as Necessary

ANALYSIS: STATE ANALYSIS OF THE NON-CONFORMANCE/RISK ASSESSMENT USING ALL RESOURCES
(Supervisor, employees, maintenance, etc. will fill out fishbone 5 whys) Use Additional Pages as Necessary

ACTION TAKEN TO PREVENT RECURRENTCE OF NON-CONFORMITY AND RISK MITIGATION
Including in other areas/operations that can have the same Non-conformance.
Use Additional Pages as Necessary

NO ACTION OR RESPONSE REQUIRED (INFORMATION ONLY)		CORRECTIVE ACTION & ROOT CAUSE ANALYSIS REQUIRED:		RESPONSE SUSPENSE DATE:	

ACTION EFFECTIVENESS

ACTION TAKEN EFFECTIVE				REMARKS ON EFFECTIVENESS REVIEWED BY SUPERVISOR OVER 10 WORKING DAYS
	YES		NO	
ADDITIONAL ACTION REQUIRED				
	YES		NO	

RESPONSIBLE MANAGER SIGNATURE & DATE

RESPONSIBLE SUPERVISOR SIGNATURE & DATE

REVIEW OF ACTION & CONCURRENCES

RESPONSIBLE DIRECTOR SIGNATURE & DATE

ISSUING MANAGER SIGNATURE & DATE

OFI is Opportunity For Improvement

DZHC 372-E REV. 7 11/2017

11.2. Audit Form

SOC
SECURING OUR COUNTRY

DZHC 551-E
REV.1 3/31/11

Internal Audit Findings Audit Number: 16-BOP-002

Site: 39 Non-Conformance Number _____
(MAJ/MIN/OFI)

Date: 11/15/16 Auditor: Anne Wright

To: _____ Through: _____

OHSAS 18001 Element(s): 4.2 OH&S Policy

_Some employees could not discuss any part of the SOC Safety Policy.

Findings/Observations _Some employees struggled to tell me what is in the OH&S safety policy

Root Cause of Nonconformance (*to be completed by auditee*): _____

Intended Corrective Action (*to be completed by auditee*): _____

Expected Corrective Action Completion Date (*to be completed by auditee*): _____

Signature (*Director or designee*): _____ Date: _____
Earnie Wood Deputy Dir. BOP

Internal Auditor Use Only

Root Cause, Corrective Action Approved: YES ____ NO ____

Auditor's Signature: _____ DATE: _____

Follow-up requirements: _____

Nonconformance Closure Verification: _____ _____
Date Verified Verified By Auditor

1. PURPOSE

1.1. This chapter outlines SOC requirements for specific operations as they apply to this Depot.

1.2. The information contained in this chapter applies to all SOC employees. Each person should use the evaluation sheet to review his or her work area. Office safety is as important to successful operations on this Depot as safety is for industrial operations. Office work is commonly considered a non-hazardous occupation; however, there are some hazards of which everyone should be aware; e.g., lifting, falling and electrical hazards, etc.

2. SCOPE

2.1. This document applies to all employees required to perform their job around the equipment and in the areas listed herein.

2.2. Covers all office-type environments on the HWAD installation.

3. POLICY

3.1. Before any new employee is placed on the job, or any employee is assigned to a different job, the supervisor will ensure the employee knows the specific safety rules and regulations of the assigned activity. Each employee ***will be trained*** for the specific job he/she is performing. Whether this training is accomplished by the supervisor, special instructors, experienced workers/co-workers, or through an understudy program, the ***employee shall*** be thoroughly instructed in the efficient and safe method of the assigned work, as well as SOC requirements, before being permitted to work on their own. **This training has to be documented and kept on file**. It is SOC's policy that all workers perform their job in the safest manner. This includes work procedures, and HARAs/JSAs which promote an awareness of hazardous conditions that may cause incidents.

4. DEFINITIONS AND ACRONYMS

4.1. There are no definitions and acronyms associated with this chapter.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. The safety requirements covered in this chapter include only those considered most applicable. For area's not specifically covered or provided for in this Safety Program, contact your Supervisor, Manager or Directorate leaders for internal guidelines used such as Internal Operating Procedures (IOP). The SOC Safety Office can be contacted and consulted for proper procedures pertaining to specific operations.

6.2. **Personal Conduct**

6.2.1. Unauthorized experiments and/or operations that are not covered by operating procedures are not to be performed without the express approval of the General Manager.

6. RESPONSIBILITIES (CONTINUED)

6.2.2. Matches and spark or flame producing devices *shall not* be carried in the ordnance area and other posted locations, except as authorized by the Fire Marshall. This includes cigarette/cigar lighters. Electronic cigarettes/cigars in privately owned vehicles (POV) entering and parking within HWAD restricted areas.

6.2.3. Any employee who observes an unsafe condition shall report it to the supervisor in charge immediately. It is each employee's responsibility to warn a fellow employee to stop if engaged in an unsafe act. Should the employee engaged in the unsafe act fail to stop, the supervisor shall be notified.

6.2.4. Any person entering a shop or ordnance operating building must report to the building supervisor or designated representative. All visitors will be required to sign in and out on the building log at any explosive operation site.

6.2.5. Employees shall operate only those machines and power tools that he/she has been specifically qualified and authorized to operate.

6.2.6. Employees ***shall not*** engage in horseplay at any time.

6.2.7. Personnel with long hair working in industrial/ordnance operations are to wear head coverings to prevent the employee's hair from being caught in moving machinery or work place equipment.

6.2.8. Food shall be eaten only in designated lunchrooms or other locations as authorized by the Safety Office or their designated representative. No food or drink shall be consumed in the vicinity of exposed explosives or other toxic substances. Food and/or drink shall not be taken into any production building or explosive magazine.

6.2.9. Signs or placards with displayed instructions or directions shall be complied with.

6.2.10. Operators lifting material will use proper safe handholds, assume proper lifting position, avoid twisting when lifting or carrying, and avoid sharp objects. Two operators will work together to lift, carry or move heavy items weighing more than 50 pounds.

6.3. **Standard Operating Procedures (SOP)**

6.3.1. Adequate Standing Operating Procedures shall be developed and approved prior to starting any operation involving ammunition, explosives, or other hazardous materials.

6.3.2. Applicable portions of the approved SOP shall be conspicuously posted at all stations involved in the operation. Operations of a hazardous nature other than ammunition/explosive operations may require Standing Operating Procedures. The Manager, Safety & Health will make a determination as to whether an operation requires an SOP. No deviations from this procedure shall be permitted.

6.3.3. All personnel involved in these operations must read and sign the SOP to become cognizant of their respective duties prior to starting the job. The supervisor shall maintain copies of the SOP, and be responsible for the enforcement of its provisions.

6. RESPONSIBILITIES (CONTINUED)

6.3.3.1. Documentation will be maintained at work site showing signature and date that the SOP was reviewed.

6.4. **Appropriate Apparel in Office/Shop/Storage Area's**

6.4.1. Provisions for everyday work attire are the responsibility of each employee, and are considered a condition of employment. Therefore, employees will wear clothing appropriate to an industrial environment. Such clothing will be practical and protective in nature. Any clothing, which does not adequately protect the individual, is prohibited in areas where conditions, equipment, or operations exist which will create a potential safety hazard. Examples of wearing non-appropriate apparel consist of, but are not limited to, the following:

6.4.1.1. Clothing with loose or dangling cuffs, sleeves or ornamentation.

6.4.1.2. Loose or dangling jewelry.

6.4.1.3. Trousers/slacks with wide flare bottoms.

6.4.1.4. Shorts (Bermuda, hot pants, etc.).

6.4.1.5. Sandals, open toed shoes, thin soled shoes, or other cloth shoes.

6.4.1.6. Tank top or undershirt that leaves exposed portions of skin on sides or front.

6.4.1.7. Finger rings when working on drill presses, horizontal boring mills, and vertical boring mills, engine lathes, milling machines, injection molding machines, wood lathes, radial arm saws, and electronics or electronic work.

6.4.1.8. Where analysis has indicated specific articles or kinds of attire may be hazardous when worn on certain jobs or locations, their use will be prohibited in the SP, IOP or SOP covering that procedure.

6.4.1.8.1. Clothing containing the following: silk, wool, rayon, nylon, or other Synthetic fiber outer or under garments shall not be worn in any operation where the generation of static electricity would create a hazard. In operations where static electricity creates a hazard, only cotton undergarments shall be worn with powder uniforms (flame retardant coverall).

6.5. **Industrial Shops**

6.5.1. All machines and mechanical parts used for the transmission of power will be provided with adequate guards for all points of operation. The guard will in no way create a hazard in and of itself. Personnel will be adequately trained and qualified, and be authorized by the supervisor, to operate, clean, or repair machines and equipment.

6. RESPONSIBILITIES (CONTINUED)

6.6. Housekeeping

6.6.1. The floors of all work areas will be kept dry (except when wet floors are required by an approved SOP), clean, and free from obstructions. Spilled oil, or similar material, etc. will be promptly cleaned up. No accumulation of scrap metal, lumber, shavings, dust or dirt will be allowed. All aisles shall be free of material and/or tripping hazards.

6.7. Welding and Cutting

6.7.1. Whenever welding or cutting operations begin, the following conditions shall exist. For explosive areas, all requirements of Chapter 10 and Chapter 23 shall be met.

6.7.1.1. Adequate ventilation is required during all welding operations. Local exhaust systems will be provided, if necessary, to reduce the hazards of harmful gases, fumes, and dust.

6.7.1.2. Electric arc welding operations shall be screened when other employees are in the vicinity. Multiple operations will be shielded from each other.

6.7.1.3. Oxygen and acetylene welder valves shall be shut off at the cylinders and bled at the torch when not in use.

6.7.1.4. Oxygen and acetylene welder hoses and gauges will have a flashback arrester between the regulator and hoses.

6.7.1.5. After welding/heat treating operations are complete, hot metal will be guarded to warn others of the hazard.

6.7.1.6. A minimum distance of 20 feet, or a non-combustible barrier that is at least five feet high and has a fire resistance rating of at least one-half hour, shall separate oxygen cylinders in storage from fuel gas cylinders or combustible material (especially oil or grease).

6.7.1.7. All cylinders in use, or ready for use, will be secured to avoid accidental movement. All oxygen and fuel cylinders will be stored with valves closed, protective caps in place, and secured in such a manner that they cannot be knocked over.

6.7.1.8. Fire resistant gauntlets, aprons, and welders gloves will be worn, when appropriate, during welding operations.

6.7.1.9. Prior to welding, cutting, or the use of any spark producing devices inside an explosive area, a Hot Work Permit (DZHC 508-E), must be approved and signed by the Safety Office and Fire Department.

6.7.1.10. If a cylinder is empty it shall be marked "EMPTY" or "MT."

6.7.1.11. Protective valve caps shall be replaced on cylinders.

6.7.1.12. Cylinders shall NOT be moved with regulator valves connected to cylinders, except on dollies provided at work station.

6. RESPONSIBILITIES (CONTINUED)

6.7.1.13. Whenever cylinders are being transported in vehicles they shall be properly secured.

6.8. **Portable Hand Tools**

6.8.1. Supervisors will designate competent employees to inspect all tools. General information includes, highly tempered steel heads will not be used on hard steel. To avoid flaking/flying metal particles, heads of chisels, punches, nail sets, and other tools of this type will be kept dressed. Small parts should be placed in a vise to be repaired, avoiding injury occurring as a result of holding an object in one hand and the tool in the other. All portable electric tools shall be equipped with a dead man switch.

6.9. **Working above Ground/Floor Level**

6.9.1. All runways, ramps, or other working surfaces more than four feet above an adjoining surface shall be effectively guarded with a guardrail system. The guard railing will be 42-inches (plus/minus 3-inches) high, securely fastened, and of sufficient strength.

NOTE: Refer to Chapter 23 of this Safety Program for additional info on working above ground.

6.9.2. Workers shall use fall protection to be determined as required when performing operations from heights 6-feet or greater.

6.10. **Material Handling Equipment (MHE)**

6.10.1. All materials shall be piled in a manner that ensures and facilitates removal. Whether in a stationary pile or on equipment to be moved, material shall be secured to prevent any tipping or slipping in movement.

6.10.2. Refueling gasoline/diesel powered MHE shall be done outside of buildings, at least 20 feet from warehouses, or other inert buildings and 100 feet from an explosive location or building. A bonding wire will be connected between the equipment being refueled and the fuel dispenser.

6.10.3. Extra clothing not being worn, lunch boxes, newspapers, riders, etc. shall not be permitted on MHE's at any time.

6.10.4. When a forklift is being used inside or on a tractor and trailer, the wheels of the trailer and the tractor will be chocked. The truck will be placed in gear with the engine turned off and the emergency/parking brake engaged.

6.10.5. No one shall ride on any equipment that is not specifically designed to accommodate operators and/or passengers.

6.10.6. A hard hat will be worn at all times while operating a forklift when the overhead guard has been removed for operational necessity.

6. RESPONSIBILITIES (CONTINUED)

6.11. **Air Pressure**

6.11.1. Compressed air shall only be used for cleaning purposes when absolutely necessary. In all cases the pressure will not exceed 30 psi with effective chip guarding, and all personal protective equipment. If greater pressures are needed for cleaning, approval by the Safety Office is required.

6.12. **Flammable or Combustible Liquids:**

6.12.1. All flammable and combustible liquids shall be carried, handled, and dispensed from approved safety cans. All safety cans containing flammable liquids shall be painted red with a yellow band around the can and/or the name of the contents conspicuously stenciled or painted on the can in yellow. All safety cans which are not in use, containing flammable liquids, will be stored in approved safety cabinets marked **FLAMMABLE KEEP FIRE AWAY.** Approved safety cleaning tanks using flammable or combustible liquids to clean parts and materials shall have a cover controlled by a fusible link that will shut automatically to extinguish a flash fire. Small parts shall be cleaned using approved plunger cans or bench cans. Coffee cans or similar containers shall not be used under any circumstances. All drums used for storage of flammable liquids must be grounded and equipped with a bonding wire.

6.13. **Explosive / Powder Actuated Tools:**

6.13.1. The following requirements provide safety procedures for employees who operate explosive-actuated tools, which propel a stud, pin, or other fastening device into surfaces. These requirements shall apply to all places of employment where explosive actuated tools are utilized. If determined that a low/poor success rate of powder charged fasteners is achieved, other methods shall be used to set anchors or fasteners into concrete.

6.13.1.1. Only qualified operators shall utilize tools. Persons must be issued an operators card by a SOC authorized instructor.

6.13.1.2. Tool operators and personnel working in the vicinity of explosive actuated tool operations shall wear eye, ear, head, and face protection.

6.13.1.3. Explosive actuated tools used at HWAD for design, operation, and maintenance shall meet all of the requirements found in the latest edition of ANSI A10.3-Safety Requirements for Powder-Actuated Fastening Systems.

6.13.1.4. A danger sign, 10 x 14 inches, using bold-face type not less than 2" in height, shall be posted in plain view on all projects where explosive actuated tools are in use. The sign shall read: **"Danger-Powder Actuated Tools in Use".**

6.13.1.5. Explosive actuated tools shall not be used where flammable substances, explosive gases, vapors, or dusts may be present.

6. RESPONSIBILITIES (CONTINUED)

6.13.1.6. Explosive actuated tools shall be handled like fire arms, with hands clear of the muzzle and the barrel pointed away from all persons. Extra care shall be taken when the tools are being closed or assembled after loading. No tool shall be loaded unless being prepared for immediate use. A loaded tool shall not be left unattended.

6.13.1.7. If a misfire occurs, the operator must continue to hold the muzzle of the tool firmly against the work surface in firing position for 30 seconds, then follow the tool manufacturers' instructions in attempting to fire a misfired cartridge.

6.13.1.8. Studs or pins shall not be driven into brittle materials such as thin slate, glass, glazed brick, tile or other materials that can be easily penetrated. Easily pierced materials, or material of unknown resistance to piercing, shall be backed with a box of sand or wood at least 6" thick and of adequate area where practical. Two inches of concrete is considered easily penetrated.

6.13.1.9. Studs or pins shall not be driven into high tensile steel, steel hardened by treatment, armor plate, or cart iron.

6.13.1.10. The projectile, charge, and breech plug shall be suitable for the work to be done. At no time shall the force be such that the stud or pin penetration is beyond work requirements. Excessive explosive force introduces unnecessary rebound and flying particle hazard, as well as the hazard from flying missiles driven entirely through material surfaces.

6.13.1.11. A metal storage box used exclusively for the explosive actuated tool shall be provided. The metal box shall be equipped with a lid or cover that shall be kept locked when the tools are not utilized. The supervisor must safeguard the key and control its issue.

6.13.1.12. All explosive actuated tools shall be inspected, cleaned, and maintained in a metal box after each day of service. Tools shall be stored with barrel removed or breech open. No tool shall be stored loaded.

6.13.1.13. Cartridges of varied power levels shall be kept segregated from each other and in the original packages.

6.14. **Installation of Antennas and Towers:**

6.14.1. The installation of vehicular antennas, tower antennas, and metal poles will be done IAW the manufacturers' installation procedures and Technical Manuals

6. RESPONSIBILITIES (CONTINUED)

6.15. **Vehicle Incident Prevention:**

6.15.1. Incident prevention is accomplished by the following methods:

6.15.1.1. Driver selection, testing, licensing, and training.

6.15.1.2. Promotion of motor vehicle safety.

6.15.1.3. Installation of motor vehicle Safety Codes and Standards.

6.15.1.4. Motor vehicle safety inspection and maintenance.

6.15.1.5. Motor vehicle safety devices.

6.15.1.6. Traffic flow engineering.

6.15.1.7. Enforcement of installation motor vehicle safety regulations.

6.15.1.8. Road design, construction and maintenance.

6.15.1.9. Traffic control devices.

6.15.1.10. Seat belt utilization. Seat belts will be worn in all SOC vehicles both on and off HWAD. Seat belts will be worn in all privately owned vehicles while on HWAD. Child restraints will be used for all children six years old and younger or as specified by weight requirements in Nevada Revised Statutes (NRS).

6.15.1.10.1. Personnel are not allowed to ride in the rear of any open vehicle (cargo area or truck bed) where seatbelts are not available.

6.15.2. There are two areas on this depot that all personnel need to be aware of while driving.

6.15.2.1. Crossing US highway 95 between the Central and South Magazine areas. This is a very dangerous section of road and on-coming vehicles are difficult to see. The approach to this crossing is at an odd angle, ensure that your vehicle is at a right angle to the road and then proceed only when safe to do so.

6.15.2.2. Rail equipment is used on the entire depot. Safety rules around trains include not trying to beat the engine to the crossing. These engines are very big and hard to stop.

NOTE: AT ALL TIMES RAIL EQUIPMENT HAS THE RIGHT OF WAY.

6.16. **Parking Cone Policy**

6.16.1. Once the vehicle is parked the employee(s) shall:

6.16.1.1. Place a traffic cone at the left rear or right rear of the vehicle whichever is applicable.

6.16.1.2. Prior to re-entering the vehicle to leave the parked location the employee will pick up the cone, walk around vehicle to look for hazards and to insure that they have room to back up in a safe manner.

6. RESPONSIBILITIES (CONTINUED)

6.16.1.3. Once the employee(s) have picked up the traffic cone they shall place the cone in the trunk, truck bed or proper location on/in the vehicle.

6.16.2. The traffic cone is a reminder to see that:

6.16.2.1. You have parked the vehicle in a safe manner.

6.16.2.2. That you have room behind the vehicle.

6.16.3. Always:

6.16.3.1. Think safety,

6.16.3.2. Look for hazards,

6.16.3.3. Check your mirrors,

6.16.3.4. Look out the front, side and back windows,

6.16.3.5. Proceed safely.

6.16.4. Permitted Cones:

6.16.4.1. Cones must be either orange or lime in color.

6.16.4.2. The cone should have reflective tape placed horizontally on the cone.

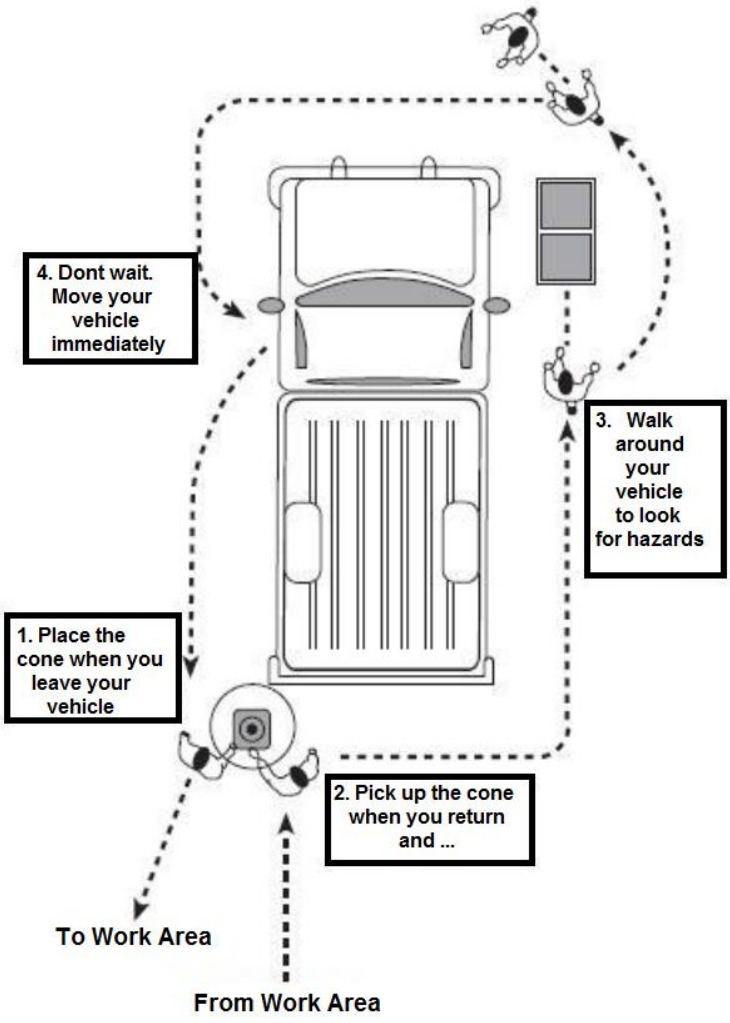
6.16.4.3. The cone may have the department name running down the cone in black lettering.

6.16.4.4. The cone shall be between 18 inches and 24 inches in height.

6.16.5. Exceptions to this policy include:

6.16.5.1. Emergency vehicles parked inside a garaged bay.

6.16.5.2. Inside vehicle maintenance facility during repair.



6.17. **Cell Phone Use**

6.17.1. The following company policy is applicable to all employees. Any contractors, sub-contractors or visitors should be reported for violation of this policy and their unsafe driving actions. Contact the Guard Operations Center (GOC) at x7555 with name (if known), vehicle description, license plate #, area viewed in, and time of violation.

6.17.2. Any employee who allows another employee to do an unsafe act such as driving and talking or driving and texting on a cell phone, can be disciplined in accordance with (IAW) Document **SOC.QP.HRD.0200 - Plant Rules & Disciplinary Action** under:

6. RESPONSIBILITIES (CONTINUED)

6.17.2.1. **Neglect of Duty-** Engaging in activities while on Company time, other than assigned work, including, but not limited to, performing unauthorized work, loitering, joy riding, gambling while on duty, reading non-work related materials, etc.

6.17.2.2. **Equipment Care/Use**- **UNSAFE** – Operation of a motor vehicle – SOC or Government owned in an unsafe manner, or violation of Depot traffic rules/regulations – including seatbelts, while operating a motor vehicle (May also be a violation of 2.A.1 or 2.A.2).

6.18. **Safety Checklists:**

6.18.1. The attached checklist is general in nature and only indicate some, but not all of the physical conditions and employee actions often associated with office incidents and their corrective action. All personnel should use this checklist to evaluate their working conditions, create JSAs and/or HARAs.

7. PROCEDURE

7.1. There are no procedures associated with this chapter.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Record Required	Custodian	Retention	Disposition
DZHC 508-E	Maintenance Control Center	1 year	Shred
HARAs/JSAs	Office Manager/Supervisor	Update or rewrite at least annually, or as needed	Dispose - Trash

10. FORMS

10.1. The following forms are applicable to this chapter.

APPLICABLE FORMS	
FORM NUMBER	TITLE
DZHC 508-E	Hot Work Permit

11. ATTACHMENTS

11.1. SOC Policy 1124:

Cell Phone Use

General

Company Value: Safety is of primary importance in all SOC operations to include the operation of motor vehicles and other motorized equipment. In the course of such operation, employees are expected to exercise good judgment and safe-driving practices at all times, including avoiding any activity, which may distract their attention from the road or violate any law. Distracted driving has been a contributing factor in 80% of all motor vehicle accidents. Cell phone conversations and text messaging, while operating a motorized vehicle, increases the risk and probability of being involved in an accident up to four times.

Individual Responsibility: SOC Hawthorne employees can expect a healthy and safe work environment; therefore, it is each employee's responsibility for adhering to the cell phone use policy and holding other SOC employees accountable to this policy.

Scope: This policy is intended to establish necessary safety precautions and requirements for the use of cell phones by SOC employees. This policy is not intended to negate or supersede any or all Federal, State, and Local laws. Any violation of this policy will result in disciplinary action up to and possibly including termination.

Cell Phone Use: SOC employees are prohibited from operating an SOC vehicle or any SOC motorized equipment while conversing on a cell phone or while text messaging on a cell phone. This applies to operation of Company vehicles, both on and off, the Hawthorne Army Depot. Additionally, SOC employees are prohibited from having cell phone conversations or text messaging while operating a Privately Owned Vehicle (POV) on the Hawthorne Army Depot.

SOC employees are prohibited from utilizing a cell phone inside or in the close proximity of a building containing explosives or conducting any type of explosive operations. SOC employees shall not utilize a cell phone while adding fuel to a motor vehicle or any type of motorized equipment.

11.2. Office Safety Checklist:

Office Safety Checklist

OFFICE FURNITURE/EQUIPMENT			
☐	Are electrical appliances arranged to obtain the maximum safe utilization?	☐	Are desks, work areas, walkways, and stairways well lighted?
☐	Is equipment located next to overhead lighting, wall outlets telephone outlets, etc.?	☐	Is defective equipment, desks, chairs and other office furniture promptly reported via trouble calls?
☐	Are desk, file cabinets and drawers arranged so they do not open toward aisles or walkways?	☐	Are office equipment and furniture repairs performed by authorized personnel only?
☐	Are employees briefed not to open more than one drawer at a time?	☐	Is weight distributed in file cabinets so the top drawer is not over loaded/top heavy?
AISLES AND FLOORS			
☐	Are aisles wide enough to allow two-way traffic?	☐	Are electrical and phone cords protected to prevent tripping hazards?
☐	Are aisles and exits/entries unobstructed?	☐	Are wastebaskets, briefcases or other objects removed from tripping hazard areas?
☐	Are floors clean, dry and clear of loose objects?	☐	Are holes, loose boards, and tiles promptly repaired?
☐	Have torn, badly worn, or curling edges of carpet been repaired?	☐	Are mats and floor pads flush with floor?
STAIRS			
☐	Do all stairs have a suitable hand rail on at least one side?	☐	Are severely worn stair treads replaced?

ELECTRICAL EQUIPMENT			
☐	Are all electrical fans protected with guards less than one half inch mesh?	□	Are electrical cords inspected annually for wear?
☐	Are loose outlet plates, worn cords or plugs promptly replaced?	□	Are cords checked to ensure they are not placed over radiators, steam pipe, or running through doorways?
☐	Are appliances and equipment grounded properly?	□	Are cords checked to ensure they are not placed over radiators, steam pipe, or running through doorways?
☐	Are light fixtures guarded and secured properly?	□	Do all circuit breakers and circuit boxes have free access (minimum of 36 inch clearance – front and sides)?
FIRE PROTECTION			
☐	Are fire exits clearly marked?	☐	Are doors free of obstruction?
☐	Are extinguishers marked so they can be seen from a distance?	☐	Are emergency lights working?
☐	Are extinguisher inspections current and ready for use?	☐	Are walking/working surfaces free of tripping and slipping hazards?
☐	Do employees know the location of exits, fire alarms and extinguishers?	☐	Is asbestos on pipes encapsulated?
☐	Are emergency phone numbers posted by phones?		
HOUSEKEEPING			
☐	Are areas organized and well maintained?	☐	Are food items stored in a separate cabinet than office supplies and materials?
☐	Are refrigerator and microwaves cleaned on a regular basis?	☐	Are liquid spills cleaned before leaving the area?

GENERAL OFFICE SAFETY

☐	Are windows fixed for easy opening and closing?	□	Are employees instructed that “horseplay” is prohibited?
☐	Is good housekeeping practiced to minimize incident exposure?	□	Are cleaning fluids used in well ventilated areas?
☐	Are sturdy ladders used when reaching for material on stocked shelves?	☐	Are warning signs placed around repair work as required?
☐	Are employees instructed to seek help while moving heavy items?	☐	Are restrooms kept clean?
☐	Are flammable materials stored in approved containers?	☐	Are blind cords and drapes kept off of steam pipes and heat sources?
☐	Are employees instructed that “horseplay” is prohibited?	☐	Are warning signs placed around repair work as required?
☐	Are cleaning fluids used in well ventilated areas?	☐	Are transparent glass doors marked so they can be seen?
☐	Are warning signs posted at doors where required?	☐	Do self-closing doors have proper spring tension?
☐	Are SDS maintained and updated for material being used?	☐	Are new employees briefed on hazards in the work area?
☐	Do paper cutters have proper guards?	☐	Are safety meetings held periodically to remind employees of hazards in the area?

1. PURPOSE

1.1. To establish procedures for safe explosive operations.

2. SCOPE

2.1. Covers all SOC employees and sub-contractors.

3. POLICY

3.1. All employees must understand that this chapter gives guidance to implement safe explosive operations. The use of this chapter and specific publications will be used in writing Standing Operating Procedures (SOP), Letters of Instruction (LOI), and possibly Internal Operating Procedures (IOP) that may be relevant to the work being performed.

3.2. **Personnel and Explosive Limits**:

3.2.1. Operations must be conducted in a manner, which exposes the *minimum* number of people to the *minimum* (smallest) quantity of explosive for the *minimum* (shortest) period of time consistent with the operational requirements.

3.2.2. Explosive and Personnel limits will be determined by the type work to be performed and limited as authorized by an approved SOP for that operating building.

3.2.2.1. Control will be established in accordance with DoD Contractors' Safety Manual for Ammunition and Explosives (DoD 4145.26-M; ref. C3) entailing approved Standing Operating Procedures (SOP's), postings on building interiors, as well as controlled by operations front line supervision supported by periodic Quality Assurance and Safety inspections.

4. DEFINITIONS AND ACRONYMS

4.1. There are no definitions and acronyms for this chapter.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. SOC is committed to operating Hawthorne Army Depot in a safe and efficient manner. To ensure this goal is attained, Company employees are expected to conduct themselves in a professional and conscientious manner at all times, dedicating themselves to constant safety awareness, efficiency in all operations, quality of workmanship, and team work.

6.2. All employees must understand this chapter gives guidance to implement safe explosive operations. Each operation shall be run in the safest manner possible. The use of this chapter and specific publications from Military, State and Federal resources will be used in writing policies and procedures used throughout the depot.

6.3. Personnel shall receive appropriate training before performing work that involves exposure to ammunition and explosives (AE). The training shall include safety and health hazards, emergency procedures including shutdown, and safe work practices applicable to the employee's job task be cognizant of their respective duties. Supervisors or designated instructors shall be responsible for

6. RESPONSIBILITIES (CONTINUED)

this indoctrination and shall ensure that each employee has received and understood the training and receives appropriate refresher training. The supervisor or designated instructor ***shall document*** all training and prepare a record that contains the identity of the employee, the date of training, and the ***means used to verify that the employee understood the training***.

6.4. Supervisory personnel shall maintain a complete copy of the SOP and other relevant documents and be responsible for the enforcement of its provisions. Applicable portions of the approved SOP shall be conspicuously posted convenient to all stations involved in the operation for the guidance of all personnel.

6.4.1. **All supervisors and employees will sign the SOP:**

6.4.1.1. When first assigned to the operation.

6.4.1.2. When an approved formal or interim change is made.

6.4.1.3. At least once per quarter during continuing operations.

6.4.1.4. After absence from the job in excess of 15 consecutive days.

6.5. All employees shall participate in company provided training. Each employee is responsible for his/her own safety and as such should have a good understanding of all components related to their job and any assigned tasks.

6.5.1. Failure to follow prescribed safety requirements or written procedures while working at the Hawthorne Army Depot or company supported work off station can result in disciplinary action by management.

6.5.2. Failure to comply with situational awareness rules and/or to willingly disregard company policies, written procedures, or any other type of written directives given by a Director, Manager, QA or Supervisor can result in disciplinary action possibly up to the immediate termination of the employee.

6.5.3. Any employee who knowingly endangers himself/herself or others by their actions and intentionally or unintentionally is in noncompliance with the written guidelines issued by the company which includes State and Federal Regulations can be terminated and possibly held liable for wrongful death or dismemberment to a fellow employee and have legal action brought upon them.

6.5.4. **All employees have the right to stop any unsafe action.**

7. PROCEDURE

7.1. The following clarifies SOC's requirements for maintenance and repairs to explosive contaminated equipment that is used in melt out operations, such as 117-5, and 117-6 in the WADF compound. Additionally, an APPENDIX has been inserted in section 11.1. This information is directly from the *DOD 4145.26-M*, Contractor Safety Manual, and is applicable and referenced in contract 52P1J-11-D-0002, as one of the manuals the operating contractor must be in compliance with.

7. PROCEDURE

7.1.1. Decontamination and Cleaning

7.1.1.1. Whenever potentially contaminated facilities or equipment are being placed in standby, or shut down for maintenance, repairs, alterations, or modifications, regardless of who performs the work, the items that will be disposed of two other government agencies, qualified users in industry, or to the general public, will be adequately decontaminated prior to disposition.

7.1.1.2. Each item offered for disposal to the Property Resource Office (PRO) will have been inspected 100% by the generator and be certified by a qualified individual after such inspection is completed.

7.1.1.3. All contaminated items planned for release to the general public will be decontaminated IAW specific Standard Operating Procedures prior to transfer to the installation PRO.

7.1.1.4. SOC Quality Assurance Inspectors will certify that the items for release to the general public are free of contaminated explosives/explosive residue and apply a properly filled out decontamination tag.

7.1.1.5. A permanent record of decontamination will be maintained by the QA Division and the PRO.

7.1.1.6. All SOC/HWAD employees bearing responsibility in the decontamination processes will follow all general safety requirements and those specified in the SOP's for the specific operation.

7.1.1.7. Operating procedures shall specifically cover decontamination. These procedures should cover methods, inspection, marking, control, dismantling, maintenance, final disposition, etc.

7.1.1.8. Hot water or steam (225 degrees Fahrenheit as a minimum) may be used to clean or remove explosives contamination from equipment. If necessary, solvents that have been tested for and are compatible with explosives can be used. Operating procedures must specify controls for their use. When cleaning or removing explosives material from equipment, work surfaces, and floors, only clean cloth rags, paper wipes, and approved non-metallic brushes or scrapers should be used in conjunction with hot water, steam, and solvents.

7.1.1.9. Disposal of waste generated during decontamination shall be coordinated with site environmental/waste management personnel.

7.1.2. Cleaning Contaminated Equipment

7.1.2.1. Items to be cleaned should be positioned so that water and residue will drain directly into an approved collection system.

7.1.2.2. Personal protective equipment as required shall be used by personnel decontaminating facilities and equipment. Emergency shower and eyewash shall be provided where needed.

7.1.2.3. Exhaust ventilation may be required to remove toxic explosives fumes or vapors and/or steam from the decontamination area.

7. PROCEDURE (CONTINUED)

7.1.2.4. Inaccessible surfaces can be accessed for inspection/test by disassembly. Care must be taken when disassembling equipment with known or suspected explosives residues. All threaded connections, flanges, mating surfaces, etc., should be soaked with penetrating oil and allowed to sit for 24 hours before disassembly. Pipes and tanks with known or suspected explosives residues can be filled with water before disassembly. Disassembly can be performed manually, or with remotely controlled power equipment. Manual disassembly poses greater hazards to operators: do not use chisels, saws, or drills; do not loosen threaded connections by using cheater bars on wrenches; do not pound equipment with hammers; and do not hammer wedges into mating surfaces to separate them. If manual disassembly is not selected, then powered disassembly (saws, shaped charges, shears, etc.) can be done, but it must be must be done remotely if explosives are present or the absence of explosives cannot be verified. To determine the separation distance from remotely controlled disassembly operations, contact the Safety Office.

7.1.2.5. Inaccessible surfaces that cannot be disassembled can sometimes be inspected by specialized equipment (such as borescope pipe inspection “snakes”). Examples are the interiors of piping, vessels, and other inaccessible surfaces. However, such equipment normally lacks the discrimination of the human eye and is often unable to render an image that allows personnel to determine whether the surface is merely discolored, or whether there is material (explosive or otherwise) on the surface. If any foreign material is seen, assume it presents explosive hazards and perform a Webster’s test.

7.1.2.6. Inaccessible surfaces that are not disassembled or remotely inspected/tested shall be considered to contain explosives residues presenting explosive hazards. In place of disassembly, it is often most effective to simply assume the inaccessible surfaces contain significant explosives residues, and alternate remediation is required.

7.1.2.7. **Cracks**. Cracks may hide contamination. Cracks often occur in welds or joints, but can occur in other areas as well. Experience has shown the amount of explosive contaminant in cracks is sufficient to create a hazard where the outside surfaces are confirmed clean. Assume all nonporous materials over 1/8-inch thick have cracks, unless a detailed visual inspection proves otherwise.

7.1.3. **Cleaning Screw Threads**

7.1.3.1. To avoid the necessity of cleaning explosives from threads, explosives processing techniques shall be designed to avoid the deposition of explosives on threaded fasteners. When it is necessary to use screw threads, some type of covering or protection (i.e., RTV cement) over the exposed threads should be provided.

7.1.3.2. Threads should be cleaned by judicious use of approved nonmetal "picks," solvent, or hot water, or steam. Soaking in solvents and the application of penetrating oil may be useful.

7.1.3.3. After decontaminating threads of screws, bolts, pipe, etc., operator protection may still be required to facilitate safe disassembly.

7. PROCEDURE (CONTINUED)

7.1.4. **Final Decontamination for Maintenance and or Disposal of Equipment**

7.1.4.1. If the item to be decontaminated has only smooth, flat surfaces (i.e., no cracks, seams, voids, or other places where explosive residue may be inaccessible), hot water, steam, or solvents may be employed to effect total decontamination. Any explosives contamination of concern will be visible to the unaided eye and will have dimensions (length, width, and depth).

7.1.4.2. If the item to be decontaminated has tight places where explosives may remain lodged following normal cleaning procedures, the item shall be subjected to final decontamination techniques that may include partial disassembly.

7.1.4.3. Items undergoing final decontamination by thermal techniques shall be subjected to sustained heating at a temperature at least 140º F (60º C) higher than required for decomposition of the most thermally stable explosive substance present. The item shall be kept at that temperature for a sufficient period of time to ensure that all parts have reached the temperature and all explosives material is decomposed. Thermal decomposition is usually accomplished by placing the items to be decontaminated in a high-temperature sustained furnace. Utilization of 117-16 Hotgas process or 117-3 Flashing Furnace shall be performed to complete decon requirements. This operation shall be conducted remotely or with operator protection.

7.1.4.4. Final decontamination also may be accomplished by immersing the item in a chemical cleaning agent. The period of immersion shall be sufficient to ensure that all explosive material is chemically decomposed. The chemical cleaning agent shall be one that the Department of Army TM 9-1300-214 has approved for use. Chemical cleaning agents for decontamination or destruction of explosives should not be used for more than about 1 oz (or about 28 g) of explosives. Reference TM 9-1300-214 for decontaminating chemicals for explosives and for color tests for identification of energetic materials.

7.1.4.5. Before subjecting the item to final decontamination by thermal or chemical techniques, as much explosive as possible shall have been removed by approved means (hot water, steam, and approved solvents in conjunction with cloth or paper wipes and non-metallic brushes or scrapers).

7.1.5. **Inspection**

7.1.5.1. After decontamination procedures are complete and ***before transfer to a non-explosive area***, the item **shall** be inspected. The degree of decontamination **shall be determined/documented** and the item **shall** be labeled to indicate its decontaminated state. Representatives of at least two departments, such as operations, QA or safety, should accomplish the inspection.

7.1.5.2. Decontaminated items shall be marked to indicate the degree of decontamination and stored separately from non-contaminated items until final disposition is made.

7.1.5.3. Degrees of decontamination shall be designated and all items shall be tagged and/or marked with this designation.

7. PROCEDURE (CONTINUED)

7.1.5.4. Guidelines for establishing a system for designating degrees of decontamination are provided in the SOC Decontamination Plan which is available through the Munitions and Logistics Directorate. Information from that plan is shown below:

7.1.5.4.1. X - A single X indicates that the facilities or equipment have been partially decontaminated. Additional decontamination processes are required before facilities or equipment is moved or any maintenance, repair, etc. is performed. The X rating would apply to facilities, rooms, bays, or equipment that has been subjected to routine decontamination performed by an operator at the close of the workday.

7.1.5.4.2. XXX - Three X's indicate the equipment or facilities have been examined and decontaminated by approved procedures; no contamination can be detected by appropriate instrumentation, test solutions, or by visual inspection on easily accessible surfaces or in concealed housings, etc. and are considered safe for the intended use. Items decontaminated to this degree cannot be furnished to qualified, DOE, DoD, or industry users or be in direct contact with an open flame (cutting, welding, high temperature heating devices), or operations which generate extreme heat, such as drilling and machining unless the following two conditions are met:

7.1.5.4.3. It is determined that decontamination to the XXXXX level will destroy the item's usefulness.

7.1.5.4.3.1. Decontamination to a degree less than XXXXX in combination with administrative and technical safeguards will eliminate risk of injury. As a minimum, an approved SOP setting forth the specific operational limitations, precautions, and monitoring necessary to assure safety will be available and decontamination will be performed under the direction of the inspectors who will certify decontamination.

7.1.5.4.4. XXXXX - Five X's indicate the equipment or facilities are completely decontaminated, hazard-free, and may be released for general use or to the general public.

7.1.5.4.5. O - A (Zero) indicates the item, although located in a contaminated area, was never directly exposed to contamination.

7.2. **Waste Material:**

7.2.1. Waste material (oily rags or hazardous material (explosive scrap, wood, paper, and combustible packing materials) will not be mixed. Each of these materials will be separated, placed in approved containers and properly marked. The containers will be placed outside the facilities, except for containers required inside the work place during operations. Containers inside facilities will be emptied as needed but at least once in an eight/ten-hour shift.

7. PROCEDURE (CONTINUED)

7.3. **Testing, Disassembly and Modification Operations**

7.3.1. All testing, disassembly and modification operations will be done by qualified technicians according to approved SOP's or written test plans. Operational shields, remote controlled devices, fire protection systems, and ventilating systems will be used, where needed, for protection of personnel and property.

7.3.2. At no time shall an explosive handling operation be permitted without written approval and concurrence of the SOC Directorates, up to and with no less than four (4) approving signatures from the following: Safety Manager, Quality Assurance Manager, PMO Manager and the Director of Munitions and Logistics (M&L) or his designated staff member.

7.4. **INCIDENT REPORTING:**

7.4.1. Ammunition and explosive incidents shall be reported to the Safety Office and investigated in accordance with DOD 4145.26-M, Contractors Safety Manual for Ammunition and Explosives, Chapter 2.

7.4.2. For proper reporting instructions refer to Chapter 12, Pg. 3, Para 7.1 through Para 7.1.1.8

7.5. **Fire Prevention:**

7.5.1. Where explosives, highly flammable, or energetic material are involved, a written permit is required for using heat-producing equipment or power hand tools. Review Chapter 10 of this manual, Safety Hot Work Permit, for further information.

7.6. **Operating Support Equipment:**

7.6.1. The following applies to all support equipment powered by internal combustible engines used in connection with explosives.

7.6.2. Equipment should be located 50 feet or more from explosive, but in no case less than 25 feet.

7.6.2.1. Equipment will be inspected prior to use. Equipment with defects or malfunctions that presents a hazard will be removed from service.

7.6.2.2. Two fire extinguishers will be readily available.

7.6.2.3. Equipment will not be refueled within 90 feet of explosives.

7.6.3. Locomotives and other rail vehicles

7.6.3.1. Locomotives used within the depot shall be designed and equipped to prevent starting of fires. Diesel or gasoline-powered and other self-propelled rail vehicles shall have spark arresters properly installed on exhaust stacks. The spark arresters shall be adequately maintained. The Electro-Motive spark arrester manifold is approved for use on diesel-powered locomotives. Portable fire extinguishers (a minimum of one class 40BC) must be carried on all diesel locomotives and self-propelled vehicles. (Ref: AMC R 385-100 para 17-2 b)

7. PROCEDURE (CONTINUED)

7.7. **Handling and Movement Precautions:**

7.7.1. Explosives will only be handled by trained personnel who understand the hazards and risks involved in the operation. Supervisors will be trained to recognize and abate hazards associated with their operations. Safe Handling procedures shall be used at all time.

7.7.2. Initiating devices will be carried in protective containers, no item-to-item contact. Containers shall be marked to identify contents.

7.7.3. Bale hooks will not be used to handle explosives.

7.7.4. Munitions will not be tumbled, dragged, dropped, thrown, rolled, or walked.

7.7.5. Conveyors, chutes, hand trucks, and forklifts may be used in atmospheres and locations where they will not create hazards. They should be reviewed to ensure static reducing measures are in place.

7.7.6. Hand tools will be made of non-sparking or spark-resistant metal. Tools containing copper or zinc will not be used in proximity to lead acid.

7.7.6.1. Review Chapter 11 for further information on material handling.

7.8. **Electrical Service and Equipment:**

7.8.1. The installation and use of electrical equipment within buildings, magazines, operational locations, shelters, and so forth, containing explosives will comply with the latest edition of the NFPA, Standard 70.

7.9. **Static Electricity:**

7.9.1. Explosives and explosive components may be sensitive to static discharge. Operational SOP's will address proper grounding of personnel and equipment in accordance with DOD 4145.26-M and NFPA standards. All personnel in explosive buildings shall be properly grounded, except personnel working with electrical equipment. In these cases, building supervisor shall be notified and ungrounded personnel are prohibited from touching munitions or any equipment that explosive residue. They shall be escorted into the facility and observed from a safe distance while performing work.

7.9.1. Personnel working with electro explosive devices (EED) in the field where grounding is not supplied will ground themselves to earth with a bare hand prior to handling EED'S.

7.10. **Electromagnetic Radiation (EMR):**

7.10.1. Electro explosive devices (EED)'s are initiated electrically. One aspect of possible hazards is the accidental firing of EED's by EMR. A large number of these devices are initiated by low levels of electrical energy and are susceptible to unintentional ignition by many forms of direct or induced stray electrical energy. Stray electrical energy may be formed by lightning discharges, static electricity, generators, and radio frequency (RF) transmitters. EED's will be shielded from EMR IAW DA PAM 385-64. (14-9) another resource for information is NAVSEA OP 3565, Electromagnetic Radiation Hazards.

7. PROCEDURE (CONTINUED)

7.11. **Hazardous Items Which Cannot Be Moved:**

7.11.1. If there is a situation where an item of ammunition is suspect for any reason, such as deterioration, being dropped, or other rough handling, and is questionable whether further movement would create additional hazards, the following actions will be taken.

7.11.2. The Director of Munitions & Logistics and the Manager, Safety & Health will be notified immediately. These personnel will decide what action is to be taken following an assessment by Qualified UXO Personnel. The suspect items will not be moved and no other action will be taken until the decision is made.

7.11.3. If Explosive Ordnance Disposal (EOD) support is required, the area will be evacuated and closed off until EOD can respond. EOD will be given a name and phone number for the point of contact (POC). All known information will be given to EOD by the POC.

7.11.3.1. EOD support will be requested by the Operations Review Division of the Government Staff, or when approved by GM, as needed for any incidents within depot boundaries.

7.11.3.2. For additional information on proper reporting instructions refer to Chapter 12, Pg. 3, Para 7.1 through Para 7.1.1.8.

7.12. **Hazardous Rejects Which Are Safe to Move:**

7.12.1. Reported ammunition rejects which Quality Assurance, Qualified UXO Personnel, Safety, building Supervisor or QASAS has determined will not create abnormal or hazardous conditions, will be stored in the designated areas for unserviceable items. An unserviceable sign shall be posted to designate the area. Pallets and/or containers are to be used for such reject items to protect them and ensure that no unsafe movement can happen.

7.13. **Explosives in Railcars:**

7.13.1. Train or engine service personnel must never move locomotives or cars, nor couple to standing cars, when a blue **"Do Not Couple"** sign is displayed on the car. These signs shall be placed on the end car that is open for coupling. When both ends can be coupled, blue signs will be put at both ends. Signs shall be used during loading and unloading of railroad cars and shall remain in place until:

7.13.1. Material in car is cribbed.

7.13.2. All personnel are in the clear.

7.13.3. Dock plates are removed.

7.13.4. Doors are closed.

7.13.5. Car is ready to be safely moved.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. Attachments

11.1. DOD 4145.26-M, March13, 2008 Chapter 3

C3. CHAPTER 3

GENERAL SAFETY REQUIREMENTS

C3.1. GENERAL. This chapter provides general safety requirements for all AE operations addressed in this Manual. When these practices exceed or differ from local or national codes or requirements, the more restrictive shall apply.

C3.2. PERSONNEL AND MATERIAL LIMITS

C3.2.1. The cardinal principle of AE safety is to limit exposure to a minimum number of personnel, for a minimum amount of time, to the minimum amount of the hazardous material consistent with safe and efficient operations. To implement this principle, contractors shall establish AE and personnel limits at all AE operations. Contractors shall examine all operations and devise methods for reducing the number of people exposed, the time of exposure, and the quantity of material subject to a single incident.

C3.2.2. Determination of AE limits requires a careful analysis of all facts including normal operation times, intraplant transportation methods, net explosive weight, and the chemical and physical characteristics of the AE. More sensitive and more energetic hazardous materials require lower limits. Contractors shall base limits on safe and efficient operational requirements and not on the maximum quantity of explosives allowed by QD requirements. Contractors may express limits either in units of weight or in the number of each item (tray, box, rack, or other unit) that operators can more easily observe and control.

C3.2.3. Determination of personnel limits requires separation of unrelated jobs and controlled limited access of unrelated personnel from a particular hazardous operation. Hazard analysis shall determine the need for dividing walls, firewalls, or operational shields to protect operators at frequent, consecutive operations in the same room or building. Personnel limits shall include a maximum number of operators and a maximum number of transients including supervisors, workers, and visitors.

C3.2.4. Military Services may have documentation which requires contractors to use special procedures for developing standard operating procedures (SOPs). Therefore, before starting operations involving AE, qualified personnel shall develop, review, and approve written procedures in accordance with the Military Services guidelines or the instructions below.

C3.3. SOPs. Clearly written procedures are essential to avoid operator errors and ensure process control. Therefore, before starting operations involving AE, qualified personnel shall develop, review, and approve written procedures.

C3.3.1. Preparation. Contractors shall examine all aspects of an AE operation and shall determine a safe and orderly course of action for accomplishing the work. Certain AE operations may require controlled tests to validate the safety of procedural steps in the SOP. At a minimum, SOPs shall include:

C3.3.1.1. The specific hazards associated with the process.

C3.3.1.2. Indicators for identifying abnormal process conditions.

C3.3.1.3. Emergency procedures. (SOP may include a separate emergency procedure SOP by reference.)

C3.3.1.4. Personal protective clothing and equipment required for process personnel.

C3.3.1.5. Personnel and AE limits.

C3.3.1.6. Specific equipment, tools, and expendable supplies permitted for use by the process operator.

C3.3.1.7. The location and sequence of job steps the operator is to follow in performing the work.

C3.3.1.8. Instructions for spill cleanup and disposal of any scrap and waste AE.

C3.3.2. Dissemination and Posting. The supervisors shall be responsible for explaining duties prescribed by the SOP to all personnel involved in an AE operation. Written operating procedures need not be posted, but shall be available at the workstation to personnel involved in AE processes and operations or AE equipment maintenance.

C3.3.3. Training. Personnel shall receive appropriate training before performing work that involves exposure to AE. The training shall include specific safety and health hazards, emergency procedures including shutdown, and safe work practices applicable to the employee's job tasks. The contractor shall ensure that each employee involved in an AE process has received and understood the training and receives appropriate refresher training. The contractor shall prepare a record that contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

C3.3.4. Emergency Procedures. The contractor shall instruct employees on procedures to follow in the event of electrical storms, utility or mechanical failures, equipment failures, process abnormalities, and other emergencies occurring during AE operations.

C3.3.5. Control and Monitoring. The contractor shall establish and maintain written procedures that define methods for controlling and monitoring outside subcontractors who perform work on the contractor's premises that may affect AE operations. The procedures shall also include: the method used by the contractor to determine that subcontractors are qualified to perform the work safely; and the steps that will be followed by the contractor to limit the subcontractors' exposure to AE operations.

C3.3.6. Revalidation. The managing authority shall ensure that qualified personnel review and update SOPs as often as necessary to reflect improved methods, equipment substitutions, facility modifications, or process changes.

C3.4. STORAGE IN OPERATING BUILDINGS

C3.4.1. The contractor may store limited quantities of hazardous materials in Classes 2 through 9, as defined by part 173 of title 49, CFR (Reference (g)), which are essential for current operations in an operating building.

C3.4.2. The contractor shall store AE materials that exceed the minimum quantity necessary for sustained operations in a service magazine located no closer than intraline distance (ILD) (based on the quantity in the magazine) from the operating building or area. If ILD is not available for a separate service magazine, the contractor may designate storage locations closer than the ILD or within the operating building. The NEW of AE in any designated outside storage location at less than ILD shall be added to the NEW in the operating building and shall be considered as part of the operating building when measuring QD separation distances to other ESs. Designated storage locations must be located at distances to prevent immediate propagation of the stored AE in the event of an explosion in the operating area. The quantity of AE material in the designated storage location shall not exceed that needed for one half of a work shift. The contractor should consider personnel exposure, structural containment afforded, and the venting ability of the proposed storage location when determining where to locate a designated storage location. When storage containers are designed to completely contain all fragments, debris, and overpressure, AE material may be stored without regard to QD requirements listed in paragraph C5.1.2. In-process AE materials and subassemblies awaiting subsequent steps in the manufacturing process are not considered storage and are not subject to the half of a work shift limitation.

C3.4.3. At the end of the workday, personnel should remove all AE material from processing equipment and store it in an appropriate magazine or designated storage location. If operationally required, personnel may store in-process AE materials in the building during non-operating hours provided the physical characteristics and stability of the AE materials are not degraded and the AE material would not compromise the safety of the process equipment or personnel when the process is restarted.

C3.4.4. The contractor may use a separate enclosed room or bay in an operating building specifically adapted for the interim storage of production items awaiting the results of testing before final pack-out. The NEW of the interim storage facility shall be added to the total NEW of the operating building for QD determination. The room or bay must afford the equivalent of service magazine distance protection to other parts of the building. Such a room or bay is limited to its defined and designed function and items, but is not subject to the one half of a work shift limitation for the building or the ultimate pack-out operation.

C3.5. HOUSEKEEPING IN HAZARDOUS AREAS

C3.5.1. Contractors shall keep structures containing AE clean and orderly.

C3.5.2. Contractors shall establish a regular cleaning program to maintain safe conditions. Personnel shall not perform general cleaning concurrently with hazardous operations.

C3.5.3. Explosives and explosive dusts shall not be allowed to accumulate on structural members, radiators, heating coils, steam, gas, air or water supply pipes, or electrical fixtures.

C3.5.4. Contractors shall use proper design of equipment, training of employees, and catch or splash pans to prevent spillage of explosives and other hazardous materials. Operators shall promptly remove spillage of explosives and hazardous materials following proper procedures established per section C8.4.

C3.5.5. Personnel shall use cleaning methods, such as hot water, steam, etc., that do not create ignition hazards for cleaning floors in buildings containing explosives. When these methods are impractical, personnel may use nonabrasive sweeping compounds that are compatible with the explosives involved. Flammable compounds shall not be used. Combustible sweeping compounds (closed cup flash point less than 230°F) are acceptable for use. Personnel shall not use sweeping compounds containing wax on conductive floors if the wax can reduce conductivity. Personnel shall not use cleaning agents containing alkalis in areas with nitrated organic explosives, since these materials are incompatible and can form sensitive explosive compounds.

C3.5.6. Cleaning methods may use nonferrous wire brushes to clean explosives-processing equipment only when other methods of cleaning are ineffective. A thorough inspection should follow such cleaning to ensure that no wire bristles remain in the equipment. This also applies to cleaning magnesium ingot or other metal molds used in explosives processing. Cleaning methods should substitute fiber brushes for hairbrushes to reduce generation of static.

C3.5.7. Contractors shall dispose of all loose explosives swept up from floors of operating buildings. Responsible personnel shall thoroughly inspect and determine disposition of explosives recovered from sources other than ammunition breakdown operations and equipment.

C3.6. EXPLOSIVES WASTE IN OPERATING AREAS

C3.6.1. Explosives safety shall not be compromised while meeting environmental considerations.

C3.6.2. All waste material generated in an explosives area shall require analysis to determine appropriate methods for safe handling and disposition. All explosives waste and contaminated materials shall be kept in covered containers marked to indicate their contents, preferably located in isolated bays or outside the buildings.

C3.6.3. Containers for scrap black powder shall contain water. Waste pyrotechnic, tracer, flare, and similar compositions shall be totally immersed in water, mineral oil, or fuel oil in the waste containers, unless a hazard analysis indicates that it is unnecessary. Waste-initiating explosives shall be kept to a minimum, usually under water or other desensitizing media, and shall be handled with great care. Explosives waste materials should not be left in operating buildings overnight during normal periods of shutdown or over weekends and holidays.

C3.6.4. Workers shall transport explosives wastes in designated vehicles (see section C3.16., paragraph C8.3.12., and subparagraph C15.8.3.1.) to storage locations specifically assigned for that purpose. Explosives waste shall not be stored with serviceable explosives. A minimum of magazine distance shall be maintained between locations where explosives wastes are stored and locations used for serviceable AE.

C3.7. PROCEDURE BEFORE ELECTRICAL STORMS

C3.7.1. A system for monitoring the approach of electrical storms shall be established that provides for the timely shut down of operations and evacuation of personnel from PESs where lightning could initiate explosives. When an electrical storm approaches, all personnel shall evacuate to at least PTRD, or a shelter providing equivalent protection, from:

C3.7.1.1. Operating buildings or facilities containing explosives or explosives-loaded ammunition not equipped with lightning protection systems.

C3.7.1.2. Buildings containing explosives dust or vapors, whether or not equipped with lightning protection systems.

C3.7.1.3. Magazines, open storage sites, or loading docks not equipped with lightning protection systems.

C3.7.1.4. Locations, with or without lightning protection, where operations involving unprotected electro-explosive devices (EEDs) or circuitry are being performed.

C3.7.2. Contractors shall prepare an SOP for electrical storms that defines distances from lightning strikes that trigger an evacuation and provide adequate time for employees to shut down AE operations. The SOP shall establish instructions for notification of affected employees and shall identify safe locations at PTRD (or equivalent protection) to which employees retreat when notified of electrical storm evacuation. Explosives processes requiring constant attention should not be started when an electrical storm threatens.

C3.7.3. During evacuation of explosives buildings due to approaching electrical storms, some operations may still require constant attention. The minimum number of personnel, consistent with safety requirements, shall work these operations until the process reaches a condition that allows personnel to safely evacuate the building. Explosives processes requiring constant attention should not be started when an electrical storm threatens.

C3.8. PRECAUTIONS FOR MAINTENANCE AND REPAIRS TO AE EQUIPMENT AND BUILDINGS

C3.8.1. Before maintenance or repairs can proceed in areas or on equipment previously exposed to explosives; operators shall decontaminate the AE areas and equipment to the degree necessary to perform the work safely and shall place a decontamination tag, signed by the supervisor, on the equipment. The tag shall certify the removal of all explosives from the equipment. When complete removal of explosives is not possible, the tag shall identify areas and parts of the equipment that operators could not clean and shall provide maintenance personnel with specific instructions for safe handling. Prior to maintenance or repair operations, the immediate vicinity shall be inspected to assure no explosives remain.

C3.8.2. Contractors shall establish written procedures that require responsible personnel to clean and decontaminate all AE areas where accumulated AE residue may pose a hazard (i.e., equipment, crevices, vents, ducts, wall cavities, pipes, and fittings) before performing maintenance or repair operations. The decontamination procedures shall apply to tooling and equipment previously exposed to AE, whether removed from or remaining in the AE area for maintenance and repair.

C3.8.3. The contractor shall examine and test all new or repaired AE processing equipment prior to placing the equipment in service in order to ensure that it is safe to operate.

C3.8.4. After repairing, maintaining, or adjusting machines and equipment, an inspection shall be made to assure all tools used for the work are removed. Before work resumes, operators should check their own equipment to ensure its safe operating condition.

C3.8.5. Electricians shall not wear conductive shoes while working on electrical equipment. Exposed explosives and other static-sensitive hazardous material shall be removed before work begins.

C3.8.6. Safe practices specified elsewhere in this Manual shall also apply to maintenance employees.

C3.8.7. Maintenance and tool rooms in an operating line should be separated from explosives by ILD. When ILD is not available, a suitable barrier or shield shall provide equivalent protection. Protective construction designs require DDESB approval for facilities on DoD property. (See paragraph C5.1.2.)

C3.9. SAFETY HAND-TOOLS

C3.9.1. Unless a hazard analysis indicates otherwise, only hand tools constructed of wood or non-sparking metals such as bronze, lead, and "K" Monel shall be used for work in locations and on equipment that contain exposed explosives or hazardous concentrations of flammable dusts, gases, or vapors that are susceptible to mechanical spark. Hand tools shall be cleaned and inspected prior to use. Be aware that nonferrous metals used in so-called non-sparking tools may produce sparks. If the use of ferrous metal tools is required because of their strength and wear characteristics, the contractor's safety office shall approve their use.

C3.9.2. If their strength makes the use of ferrous metal hand tools necessary during maintenance and repair operations, exposed explosives and other highly flammable and combustible materials shall be removed from the area. In addition, explosives operations in the immediate vicinity shall be discontinued to guard against accidental ignition of materials by flying sparks, and potential contact surfaces should be oiled or covered to reduce the likelihood of sparks.

C3.10. OPERATIONAL SHIELDS

C3.10.1. The purpose of operational shields is to prevent propagation of AE material from one AE operation or location to another, protect facilities and equipment, and provide personnel protection. Shields used for these purposes require an evaluation to determine their suitability for their intended purpose (paragraph C5.1.2.). All AE operations and processes require a hazard assessment prior to work performance to determine the type of hazard involved, the level of risk associated with the AE material or item, and the corresponding level of protection required.

C3.10.2. The primary hazards that accompany explosions and deflagrations are blast overpressure, fragmentation (primary and secondary), and thermal effects. The hazard assessment shall consider these hazards and the quantity of AE materials, initiation sensitivity, heat output, burn rate, potential ignition and initiation sources, protection capabilities of shields, various types of protective clothing, fire protection systems, and the acute and chronic health hazards of vapors and combustion products on exposed personnel.

C3.10.3. When the hazard assessment indicates an unacceptable probability of explosion or deflagration, operations or processes shall be conducted remotely. When an analysis of the hazard assessment indicates the hazards associated with an explosion or deflagration are controllable by using operational shields, the contractor shall design, install, and use shields that effectively protect personnel from the hazards. Shields complying with MIL-STD-398 (Reference (h)) are acceptable protection.

C3.10.4. The contractor shall test operational shields under conditions that simulate the operational environment. AE materials or items used in the test shall correspond to those involved in an MCE, plus 25 percent. The contractor shall maintain records of the tests that demonstrate the shields will function as planned. Analysis rather than testing of shields may be acceptable on a case-by-case basis.

C3.10.5. When the doors of AE processing equipment function as operational shields, interlocking devices shall prevent the operator from opening the door while the equipment is in operation or operating the equipment when the door is open.

C3.11. PROTECTIVE CLOTHING

C3.11.1. All AE operations require a hazard assessment to determine the need for protective clothing and personal protective equipment. The assessment shall include an evaluation of all hazards and factors contained in paragraph C3.11.2.

C3.11.2. The contractor shall provide a changing area for employees who must remove their street clothes to wear protective clothing, such as explosive plant clothing, anti-contamination clothing, or impervious clothing. To minimize the risk of exposure to unrelated personnel, AE operators shall not remove contaminated clothing from the AE areas. Employees shall not wear any static-producing clothing in areas where electrostatic discharge (ESD) is a hazard.

C3.11.3. Explosives plant clothing, generally referred to as powder uniforms, shall have nonmetallic fasteners and be easily removable.

C3.11.4. When sending explosives-contaminated clothing to an off-plant laundry facility, the contractor is responsible for informing the laundry of the hazards associated with the contaminants and any special laundering or disposal requirements.

C3.12. MATERIAL HANDLING EQUIPMENT

C3.12.1. The contractor shall not refuel gasoline, diesel, or liquefied petroleum gas (LPG) powered equipment inside buildings containing AE. Personnel shall locate refueling vehicles and refueling operations at least 100 ft [30.48m] (50 ft [15.24] from non-combustible structures) from structures or sites containing AE. This distance is called the fire protection distance. Doors and windows through which vapors may enter the building shall be closed during refueling.

C3.12.2. The contractor shall store gasoline-, diesel-, and LPG-powered equipment at the appropriate fire protection distance from buildings, loading docks, or piers containing AE.

C3.12.3. Gasoline-, diesel-, and LPG-powered equipment shall have spark arrestors. The contractor shall perform and document inspections of the exhaust and electrical systems of the equipment, as necessary, to ensure that the systems are functioning within the manufacturer's specifications. The contractor shall maintain documentation of the two most recent inspections.

C3.13. IGNITION SOURCES IN HAZARDOUS AREAS

C3.13.1. Personnel shall not carry matches, cigarette lighters, or other flame-producing devices into AE areas.

C3.13.2. Smoking in AE operating areas shall be permitted in approved locations only.

C3.14. OPERATIONAL EXPLOSIVES CONTAINERS

C3.14.1. Containers used for intraplant transportation or temporary storage of process explosives and energetic materials shall be designed to prevent leakage. These containers shall be equipped with covers (lids) and should be constructed of (in order of precedence):

C3.14.1.1. Conductive rubber or conductive plastic;

C3.14.1.2. Nonferrous metal-lined boxes without seams or rivet heads under which explosive dusts could accumulate;

C3.14.1.3. Paper-lined wooden boxes; or

C3.14.1.4. Fiber drums.

C3.14.2. These containers shall be marked with the name, hazard division, and quantity of the explosive involved.

C3.14.3. Because of their fragility and potential for fragmentation, glass containers shall not be used for explosives.

1. PURPOSE

1.1. This chapter is to inform all SOC employees about the proper procedures to be followed in the case of occupational injury or property damage incidents (accidents).

2. SCOPE

2.1. Covers all SOC employees and sub-contractors.

3. POLICY

3.1. It is the policy of SOC that all employees comply with these procedures for injuries and incidents. The information that is outlined in this policy shall be followed by all employees as a condition of employment.

4. DEFINITIONS AND ACRONYMS

4.1. There are no definitions and acronyms for this chapter.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. The responsibility of each group is outlined below, full compliance is essential to ensure all documentation is complete.

6.1.1. **Employees:**

6.1.1.1. Report all injuries to supervisor immediately.

6.1.1.2. If injury is discovered after regular work hours, report to supervisor upon arrival to job site on the next scheduled work day.

6.1.2. **Supervisors:**

6.1.2.1. Investigate all incidents/accidents, the circumstances of the incident/accident and complete form, DZHC 166-E, Investigation of Incident/Accident, and follow the routing instructions on the bottom. The investigations and all documentation shall be completed and turned into the SOC Safety Department within twenty-four (24) hours after the incident.

6.1.2.2. Implement corrective actions noted as a result of investigation.

6.1.2.3. Ensure injured employee reports to SOC Occupational Health Clinic following medical treatment not provided by SOC Occupational Health Clinic.

6.1.2.4. Evaluate the effectiveness of corrective action at pre-determined length of time following implementation.

6.1.3. **Fire Department:**

6.1.3.1. Investigates all fires.

6.1.3.2. Implement findings from investigation and document.

6. RESPONSIBILITIES (CONTINUED)

6.1.3.3. Investigates all sprinkler and deluge dumps.

6.1.3.4. Responds to all **7911** calls.

6.1.3.5. Transports all injured employees to SOC Clinic or Mount Grant General Hospital, as circumstances require.

6.1.3.5.1. EMT may treat and release employees back to work for injuries requiring first aid.

6.1.4. **Security:**

6.1.4.1. Investigates all property damage incidents (e.g., vehicles, broken glass, Material Handling Equipment, etc.).

6.1.5. **Safety:**

6.1.5.1. Investigates all injuries, illnesses, and safety related incidents.

6.1.5.2. Investigates all explosive incidents involving any type of ammunition or explosives (A&E).

6.1.5.3. Investigate all significant Near Miss incidents.

6.1.5.4. Reviews all DZHC 166-E and associated documents.

6.1.5.5. Follows-up on corrective actions to ensure implementation and effectiveness.

7. PROCEDURE

7.1. **Incidents Involving Ammunition Or Explosives (AE)**

7.1.1. The following section applies to all occurrences involving ammunition or explosives (AE) including damaged material, mishandling of (dropping, crushing, or hearing odd sounds from inside container), and discovery of damaged materials upon entry and vehicle/forklift incidents with or without personal injury. The following steps shall be followed if an incident occurs:

7.1.1.1. Protect the AE material against further damage, safeguard against theft or loss, and prevent disturbing or moving any materials from the scene including vehicles or any other types of conveyances.

7.1.1.1.1. If there is an immediate danger to the life and health of the employee(s) and they must flee the scene to protect themselves and prevent exposure to a dangerous substance, then a vehicle can be moved to ensure safe escape.

7.1.1.1.2. Promptly report incident to the Guard Operations Center, ext. **7555** or ext. **7911** or "Net Control" on channel 1. This will activate the emergency response system. The following information is critical and must be reported to GOC giving as many details as possible.

7. PROCEDURE (CONTINUED)

7.1.1.1.3. The accident involves ammunition or explosives. (type, total amount, hazard class, leaking containers, broken open, smoking, etc.) If unknown report it as potential unexploded ordnance (UXO).

7.1.1.1.4. If the AE is possibly damaged, material is spread across the road way or if there is the potential of endangering responders. Please provide a road block-aid for the area(s).

7.1.1.1.5. An employee is injured and requires medical assistance.

7.1.1.2. GOC will contact appropriate personnel to respond to incident (EMS, Safety, Security, and Environmental). Employee reporting the incident should then contact immediate Supervisor/Manager to make them aware of the situation.

7.1.1.2.1. Once the incident scene is assessed and made secure and safe to enter, the investigation team will enter and start cataloguing information such as statements, photographs, measurements, sampling of water/dirt or contaminated areas. The investigation team will be composed of the immediate Supervisor, Explosive Safety Specialist (or designated Safety Officer) and/or EOD Supervisor. Other Divisions employees may be called upon for assistance once the scene is cleared as safe to enter.

7.1.1.3. The scene of serious AE and or property damage incidents will not be disturbed until released by the SOC Safety Office or SOC Security Division.

7.1.1.4. Any time an investigation is required, SOC employees shall ensure that operations in the immediate vicinity are halted. Phone calls are made to nearby operations if warranted to warn about possible road closure and delays in shift changes.

7.1.1.5. As needed instructions on safe handling, clean up, or removal of materials shall be discussed and documented to ensure appropriate personnel understand the measures that shall be taken to safely handle, package, and move material involved in incident.

7.1.1.6. Countermeasures after incidents shall initiate corrective action to preclude a like accident, which may also involve coordination with other appropriate staff officials.

7.1.1.6.1. Repair physical or mechanical defects and when appropriate, initiate preventive action on a team level. Leading investigators shall make appropriate recommendations and follow up to ensure compliance.

7.1.1.6.2. Any questions involving suspect AE should be addressed to the employee's immediate Supervisor, who shall also contact the Director of Munitions and Logistics or his designated representative for appropriate review and action.

7. PROCEDURE (CONTINUED)

7.2. Incidents

7.2.1. The following section applies to all occurrences of property damage, mishandling of government property, and vehicle incidents without personal injury. (The incident does not involve ammunition or explosive materials in any way.) The following steps shall be followed if an incident occurs:

7.2.1.1. Protect property against further damage, safeguard against theft or loss, and prevent disturbing or moving any materials from the scene until the scene is released by the Security and/or Safety persons conducting the investigation.

7.2.1.2. Promptly report incident to the Guard Operations Center, ext. 7555 or SOC Security Office, ext. 7601. The scene of serious property damage incidents will not be disturbed until released by the Safety Office or Security Division.

7.2.1.3. Countermeasures after incidents shall initiate corrective action to preclude a like accident, which may also involve coordination with other, appropriate staff officials. Repair physical or mechanical defects and when appropriate, initiate preventive action on a team level. Make appropriate recommendations and follow up to ensure compliance.

7.2.1.4. All property damage incidents exceeding $2,000.00 will be reported to the SOC Safety Office as soon as possible. The safety office will notify the HWAD Commander or designated representative.

7.3. Injury/Illness Investigation Procedures

7.3.1. The following steps shall be followed for all incidents/accidents involving personal injury or illness:

7.3.1.1. Notify Guard Operation Center (GOC) at ext. 7911, or "Net Control" on channel 1. This will activate the emergency response system.

7.3.1.2. The injured employee will then be transported to either SOC's Occupational Health Clinic or Mount Grant Hospital for treatment. (*Exceptions apply after regular work hours. EMTs may opt to treat and release employees with minor injuries.*)

7.3.1.3. All injuries, incidents shall be investigated. This investigation team will include the injured employee, supervisor, team safety representative, and the Safety Office.

7.3.1.4. Near Misses should be conducted by the supervisor and crew, unless the incident was potentially severe.

7.3.1.5. The purpose of the investigation is to determine causal factors of the incident and, as a team, find feasible corrective actions.

7.3.1.6. During the investigation the DZHC 166-E will be filled out. The completed SOC 166-E should be routed to the Safety Office within 24 hours of the accident. If this

injury is an OSHA Recordable Injury, an OSHA Form 301 will be completed and attached to DZHC 166-E.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
DZHC 166-E	Safety Office	3 years	Shred
OSHA 301	Safety Office	5 years	Shred

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
DZHC 166-E	Investigation of Incident/Accident
OSHA 301	OSHA Recordable Injury Form
C-1	Notice of Injury or Occupational Disease Incident Report

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. The purpose of this chapter is to make SOC management and employees aware of what constitutes workplace violence and define the company's responsibility to plan, prevent and respond to workplace violence.

2. SCOPE

2.1. The Workplace Violence Prevention & Response Program addresses workplace violence that may occur at SOC or at work-related actives occurring off-site. This program applies to all SOC employees. Certain aspects and elements of the program may apply to visitors, subcontractors and government tenants.

3. POLICY

3.1. SOC Nevada LLC, has a strong commitment to provide a safe workplace for its employees and takes a ZERO TOLERANCE position on violent and/or dangerous behavior in the workplace. Therefore, reasonable measures will be taken to protect personnel from workplace violence, to educate SOC employees and to discipline violators of workplace violence rules, up to and including termination.

4. DEFINITIONS AND ACRONYMS

4.1. **Abatement Methods -** Ways to reduce or eliminate the hazard of workplace violence. Catastrophic Event The hospitalization of three or more employees resulting from a work-related incident or hazard. A work-related fatality.

4.2. **CISM -** Critical Incident Stress Management

4.3. **CMB -** Community Management Briefing – conducted by General Manager and other relevant parties; i.e., Safety Manager Fire Chief, Security Chief, Public Health Nurse, etc. for the purpose of informing community of the incident, reducing stress and anxiety, providing health related information and other offered resources.

4.4. **Intervention -** Action taken by SOC management and employees in the event of an actual workplace violence incident to mitigate harm to individuals and damage to facilities and reputation of the corporation.

4.5. **TAT -** Threat Assessment Team

4.6. **Postvention -** Action taken by SOC in the aftermath of a workplace violence incident to prevent further harm to employees, damage to facility and reputation of the company and to prevent similar incidents from occurring in the future. NAS Naval Air Station.

4.7. **Prevention -** Action taken by SOC to prevent workplace violence; i.e., awareness training, planning, drills, etc.

4.8. **Workplace Violence**

4.10.1. The following are examples of workplace violence which include but are not limited to:

4.8.1.1. Any verbal threat or act of physical aggression that causes the victim to believe they are in danger of bodily harm.

4. DEFINITIONS AND ACRONYMS (CONTINUED)

4.8.1.2. Threatening phone calls and/or text messaging and other means of electronic communications.

4.8.1.3. Any assault upon the body which appears to have intent of intimidation, coercion, instilling fear, pain or harm.

4.8.1.4. Mob-like behavior in which an individual(s) is singled out by a group of peers for torment, bullying and harassment.

4.8.1.5. Rioting. A riot is defined as a noisy, violent public disorder of the workplace caused by a group or crowd of persons.

4.8.1.6. Acts of terrorism. Terrorism is defined as a violent act or an act dangerous to human life, in violation of criminal laws to intimidate or coerce a government, company or the civilian population, in furtherance of political or social objectives.

4.8.1.7. Bullying. Repeated mistreatment of an employee by another that can take on one or more of the following forms:

4.8.1.8. Verbal abuse.

4.8.1.9. Offensive conduct/behaviors (including nonverbal) which are threatening, humiliating, or intimidating.

4.9. **Work interference - sabotage -** which prevents work from getting done, destroys the work or property (personal or SOC issued) of another employee.

4.10. **Workplace Violence is categorized into four types:**

4.10.1. **Type I - Criminal Intent:** In this kind of violent incident, the perpetrator has no legitimate relationship to the business or its employee(s). Rather, the violence is incidental to another crime, such as robbery, shoplifting, or trespassing. Acts of terrorism also fall into this category.

4.10.2. **Type II - Customer/Client:** When the violent person has a legitimate relationship with the business and becomes violent while being served by the business.

4.10.3. **Type III - Worker-on-worker:** The perpetrator is an employee or past employee of the business who attacks or threatens other employee(s) or past employee(s) in the workplace.

4.10.4. **Type IV - Personal relationship:** The perpetrator usually does not have a relationship with the business but has a personal relationship with the intended victim. This category includes victims of domestic violence who are assaulted or threatened while at work.

5. FLOWCHART

5.1. There is no flow chart for this chapter.

6. RESPONSIBILITIES

6.1. **Safety Director:**

6.1.1. Ensure a workplace violence policy and awareness, prevention and response plan is written, communicated and implemented.

6.1.1.1. Reviewed annually and as-needed.

6.1.1.2. Develop a Threat Management Team to investigate physical assaults, escalating verbal violence; i.e., threats, and critique, assess/evaluate post- incidents.

6.1.1.2.1. Investigate physical assaults and other forms of workplace violence.

6.2. **Safety Office:**

6.2.1. Responsible for conducting on site investigations of incidents involving physical assaults.

6.2.1.1. To be conducted in cooperation with Human Resources Manager.

6.2.1.2. Preparing report or statement of findings based on investigation.

6.3. **Top Management:**

6.3.1. Responsible for providing a safe workplace for SOC employees and visitors by supporting the SOC Workplace Violence Awareness, Prevention and Response Plan through:

6.3.1.1. Provision of resources in terms of :

6.3.1.1.1. Training.

6.3.1.1.2. Administrative and engineering abatement methods.

6.3.1.1.3. Cooperation and participation in responding to workplace violence.

6.3.1.1.4. Cooperation and participation in restoring work environment back to safe and secure workplace in aftermath of violence.

6.3.1.1.5. Protecting and restoring image and reputation of the corporation.

6.3.1.1.6. Media management in times of crisis.

6.4. **Managers:**

6.4.1. Responsible for:

6.4.1.1. Reviewing documentation of workplace violence complaint.

6.4.1.2. Interviewing employees involved in complaint.

6.4.1.3. Ensuring employees are safe and cared for until incident is resolved.

6.4.1.4. Consulting with HR following complaints of bullying, harassment, and other forms of workplace violence.

6. RESPONSIBILITIES (CONTINUED)

6.5. **Supervisors:**

6.5.1. Responsible to:

6.5.1.1. Enforce zero tolerance for any type of workplace violence in the workplace.

6.5.1.2. Listen to and document all employee concerns and complaints regarding bullying, harassments, threats, etc.

6.5.1.3. Ensure employee(s) involved in complaint are separated, counseled and safe until situation is resolved.

6.5.1.4. Call 7911 in the event of physical violence.

6.5.1.5. Ensure safety of other employees.

6.5.1.6. Consult with and provide documentation to the Division Manager and HR.

6.6. **Employees:**

6.6.1. Responsible for reporting all assaults, threats, bullying, etc., to a supervisor or manager.

6.7. **Manager, Human Resources (HR):**

6.7.1. The Human Resource Office works closely with the Security Office, Supervisors and Managers, and the EAP to help prevent and respond to workplace violence by:

6.7.1.1. Participating on the Threat Assessment and Incident Response Teams.

6.7.1.2. Providing supervisory training which may include basic leadership skills (e.g., setting clear standards of conduct and performance, addressing employee problems promptly, and using probationary periods wisely), performance management, counseling, discipline, and other management tools.

6.7.1.3. Providing technical expertise and consultation to help Supervisors determine what course of administrative action is most appropriate in specific situations.

6.7.1.4. Ensuring accurate position sensitivity and risk designations are established for all positions in collaboration with Component Security Offices.

6.7.1.5. Cooperating with Security and external investigators in connection with required background investigations.

6.7.1.6. Collaborating with the Component Security Office to determine whether sufficient evidence exists to justify taking disciplinary or corrective action (once the investigation of any misconduct is complete) and advising management accordingly.

6.7.1.7. Helping Supervisors, in collaboration with the employee and the EEO/Disability Program Manager, determine proper reasonable accommodation if necessary.

6.7.1.8. Working with the Depot Protection and Safety Office to investigate complaints of workplace violence.

6. RESPONSIBILITIES (CONTINUED)

6.7.1.9. Imposing discipline upon perpetrators of workplace violence.

6.7.1.10. Maintaining recordkeeping system designed to report incidents.

6.7.1.10.1. Address each specific workplace-violence related hazard identified in the workplace evaluation.

6.7.1.10.2. Reports/Investigations must be in writing and maintained for review after each incident and at least annually to analyze incident trends.

6.7.1.10.3. Coordinate with Depot Protection and the Safety Office to regularly inform them of incidents which require onsite investigation, trends and escalation of verbal and physical harassment.

6.8. **Fire and Emergency Services (FES):**

6.8.1. Responsible for initiation of Emergency Response Plan in the event of a workplace violence incident that may require security guards, medical services and/or mutual aid from outside agencies.

6.9. **Security Office:**

6.9.1. The Security Office is the front line for addressing workplace violence. The Security Office has response procedures in place for actual and potential acts of workplace violence. In accordance with Company policy, the Security Office may also do the following:

6.9.1.1. Participate on the Threat Assessment Team.

6.9.1.2. Provide properly trained and equipped security forces to prevent, deter, and respond to threats and/or incidents of workplace violence.

6.9.1.3. Conduct investigations into threats and incidents, as appropriate.

6.9.1.4. Conduct regular threat assessment surveys of the installation and individual facilities to determine emergency plans, evaluate the level of security preparedness, and detect and cure any gaps in security policies and procedures.

6.9.1.5. Serve as the security expert by keeping management advised of the risk of violence, the security gaps identified by threat assessments, and the means to close those gaps, including use of latest technology.

6.9.1.6. Work with management personnel to improve the physical security aspects of the buildings, grounds, parking lots, etc. Assist the Safety and Training Departments with training personnel in security measures and violence prevention techniques.

6.9.1.7. Work closely with employees to ensure buildings, areas, and grounds are safe for employees and visitors.

6.9.1.8. Determine jurisdictional restrictions and identify alternative law enforcement agencies that may be able to provide assistance, including notification and liaison planning.

6. RESPONSIBILITIES (CONTINUED)

6.9.1.9. Provide threat assessment personnel who can assist the Threat Management Team in determining the best way to protect personnel. Suggest safety and security measures that need to be implemented.

6.9.1.10. Escort potentially violent individuals safely off the premises, suspending access to the premises until they have been cleared by HR or EAP for re-entry, and handle individuals who have been terminated.

6.10. **Union representatives:**

6.10.1. Be familiar with and actively support policy and contract language on workplace violence prevention.

6.10.2. Stay alert to security issues and potential threats and report issues accordingly.

6.10.3. Stay informed of procedures for addressing workplace threats and emergencies.

6.10.4. Stay up-to-date on programs offered by the EAP, as well as the procedures/policies regarding the ability of designated union officials to make employee referrals to EAP.

6.10.5. Work closely with all levels of management to ensure that employees are up-to-date on Department and workplace violence policies and procedures.

6.10.6. Participate fully with management in all phases of workplace violence prevention and response, including membership on Threat Assessment and Incident Response Teams, as appropriate.

7. PROCEDURE

7.1. **Prevention – Abatement Methods**

7.1.1. **Administrative Controls**

7.1.1.1. Policy and Procedure – Refer to SOC Policy #1122.

7.1.1.2. Awareness & Prevention Training includes but not limited to:

7.1.1.2.1. Workplace violence prevention.

7.1.1.2.2. Recognition of high risk situations.

7.1.1.2.3. Ways to defuse hostile situations.

7.1.1.2.4. Potential workplace risk factors.

7.1.1.2.5. Identify the different types of workplace violence.

7.1.1.3. HARAs/JSAs should reflect consideration of workplace violence hazards.

7.1.1.4. Management of change – assess any changes to facilities, procedures that may contribute to workplace violence; e.g., ease of access to a building from non-employees, environmental stressors such as heat, nuisance noise or high winds.

7. PROCEDURE (CONTINUED)

7.1.2. Engineering Controls - examples include but are not limited to:

7.1.2.1. Ensure bright, effective indoor/outdoor lighting.

7.1.2.2. Placement of curved mirrors at hallway intersections or concealed areas.

7.1.2.3. Lock facilities and vehicles when not in use (*when doing so does not pose a greater hazard; e.g., vehicles parked outside buildings containing explosives should remain unlocked for rapid departure*).

7.1.2.4. Door buzzers to notify occupants when someone enters building; e.g., HR, back door of Finance, Clinic, etc.

7.1.2.5. Barrier methods to prevent access into work areas; e.g., receptionist desk and window at the Clinic.

7.2. **Intervention**

7.2.1. Non-Emergency Incident:

7.2.1.1. Upon receipt of a complaint, management and/or HR will investigate and take appropriate actions to ensure the situation is defused and all parties concerned are safe and separate until the issue is resolved.

7.2.2. Emergency Incident - may require the dispatch of the following:

7.2.2.1. Security Guards

7.2.2.2. FES

7.2.2.3. MCSO

7.2.2.4. Safety Office

7.2.2.5. SOC UXO / Fallon NAS EOD

7.2.3. Contain event:

7.2.3.1. Utilize various agencies and/means to prevent the incident from spreading.

7.2.3.2. Ensure safety of employees, visitors, witnesses, etc.

7.2.3.3. Provide Community Management Briefings (CMB) to the community during extended incidents.

7.2.3.4. Manage media during and following incident.

7.3. **Postvention**

7.3.1. Return to normal operations as quickly and safely as possible:

7.3.1.1. Provide medical care to all victims.

7.3.1.2. Ensure threat is removed and scene has been thoroughly investigated prior to clean up.

7. PROCEDURE (CONTINUED)

7.3.1.3. Provide follow up CISM and/or mental health services to victims and employees as needed.

7.3.1.4. Manage the media to close out their coverage of the event.

7.3.1.5. Critique, assess/evaluate post-incident for purpose of:

7.3.1.5.1. Preventing future violence.

7.3.1.5.2. Improving prevention, intervention, and postvention action and response.

7.3.1.5.3. Reporting incident investigation findings and recommendations to Top Management.

7.4. **Reporting**

7.4.1. SOC employees and visitors who observe, experience, or become aware of violence or threats of violence that constitute actual or potential workplace violence under this program, shall report the information immediately to Guard Operations/Security. Reports made to other departments or to external law enforcement shall be forwarded immediately to the Safety Department for evaluation and any necessary assessment by the Threat Assessment Team. The Safety Department will receive, assess, and document all incidents and reports of workplace violence and, when appropriate, will activate the Threat Assessment Team.

7.4.2. Any SOC employee that receives or becomes aware of a restraining order or stalking protective order that lists SOC as a protected location should report the existence of the restraining order to Security.

7.4.3. Actual or imminent violence on at SOC should be first reported to GOC by calling 7911. Other locations should contact local law enforcement via the 911 system with a follow-up report to the Safety Department as soon as possible.

7.5. **Incident Response**

7.5.1. The Safety and Security Departments will evaluate reports of violence and respond as provided below. Security will request assistance from other agencies, departments and/or the SOC Threat Assessment Team as appropriate.

7.5.2. The Safety Department shall record, respond to, track, and document all reports per this policy in compliance with applicable rules, regulations, and laws.

7.5.3. The Safety Department along with TAT will insure that all response plans and safety planning related to work place violence and potential work place violence meet federal and state requirements.

7. PROCEDURE (CONTINUED)

7.6. Threat Assessment Team

7.6.1. Purpose

7.6.1.1. The SOC Safety Department shall maintain a standing, multi-disciplinary Threat Assessment Team that is capable of rapidly assessing threats. The Threat Assessment Team's primary purpose is to evaluate threats of violence made or posed by individuals toward SOC, HWAD and its community.

7.6.1.2. The Threat Assessment Team may also make recommendations to individuals, departments, and groups within or outside of SOC regarding specific threat factors, threat mitigation tactics, and violence prevention, as appropriate to the situation. The Threat Assessment Team, through its members and/or any other individual or group, may investigate any potential threat covered by this program and may request cooperation and assistance necessary to fulfill its role.

7.6.2. Governance

7.6.2.1. The Threat Assessment Team shall be formed and administered according to the Threat Assessment Team Charter and Bylaws.

7.6.3. Membership

7.6.3.1. The Threat Assessment Team will be chaired by the Safety & Health Manager or a designee. Permanent membership of the Threat Assessment Team shall include a primary and backup representative from the following SOC departments:

7.6.3.2. Safety & Health Department

7.6.3.3. Security Department

7.6.3.4. Human Resources

7.6.3.5. Fire & Emergency Services

7.6.3.6. SOC Clinic

7.6.3.7. Ethics Division

7.6.4. Ad-Hoc Membership

7.6.4.1. Ad-hoc committee members may include individuals from any department, or operating unit within SOC and/or individuals from external organizations (e.g., law enforcement, joint program partners, etc.) based on the specific threat being assessed.

7.6.5. Cooperation with Public Safety and the Threat Assessment Team Required

7.6.5.1. All SOC Employees shall cooperate fully with the Safety Department and any member of the Threat Assessment Team designated by the Threat Assessment Team Chair to assist in assessing a threat. Such cooperation may include, but is not limited to, being interviewed, providing requested materials or information, and

7. PROCEDURE (CONTINUED)

being available to the Threat Assessment Team as necessary to assess a potential threat.

7.7. **SOC has many programs in place to help prevent workplace violence. Some of the programs available to help ensure a safe workplace are:**

7.7.1. **Pre-Employment Screening –** SOC has comprehensive, pre-employment screening requirements which consist of background investigations based on position risk and sensitivity levels and reference checks. Drug testing is also conducted if it is appropriate for the position under consideration and consistent with Federal laws and regulations.

7.7.2. **Security –** There are a variety of ways that SOC helps to ensure safety and security, including: employee photo identification badges, security guards and Federal Police services.

7.7.3. **Employee Assistance Program (EAP) –** This program provides professional counselors who are available to discuss problems that can adversely affect job performance and conduct. EAP counselors help employees deal with alcoholism, drug abuse problems, or marital and financial issues that may underlie potentially violent situations.

7.7.4. **Threat Assessment Team –** This interdisciplinary team will work with management to assess the potential for workplace violence and, as appropriate, develop and execute a plan to address it.

7.8. **Workplace violence awareness and training -** Training is necessary for employees, as well as for the staff in offices that may be involved in responding to an incident of workplace violence.

7.8.1. All employees should be trained on how to recognize and report incidents of violent, intimidating, threatening, and disruptive behavior. All employees should know to contact 7911 during a crisis or an emergency.

7.8.2. Annual training on workplace violence is crucial to maintaining an informed workforce. Workplace violence training for employees may include the following topics:

7.8.2.1. SOC workplace violence policy.

7.8.2.2. Encouragement to report incidents and the procedures to do so.

7.8.2.3. Ways of preventing or defusing volatile situations or aggressive behavior if possible.

7.8.2.4. Diversity training to promote understanding, acceptance, and tolerance of co-workers and customers from different races, genders, religions, abilities, ethnic backgrounds, and sexual orientations.

7.8.2.5. Ways to deal with hostile persons.

7.8.2.6. Managing anger.

7.8.2.7. Techniques and skills to resolve conflicts.

7.8.2.8. Stress management, relaxation techniques, and wellness training.

7. PROCEDURE (CONTINUED)

7.8.2.9. Security procedures (e.g., the location and operation of safety devices such as alarm systems).

7.8.2.10. Personal security measures.

7.8.2.11. Programs operating within SOC that can assist employees in resolving conflicts (e.g., EAP).

7.8.3. **Supervisors**

7.8.3.1. In addition to the training suggested above for employees, special attention should be paid to general supervisory training. Supervisory training includes basic leadership skills such as setting clear standards, addressing employee problems promptly, and using probationary periods, performance counseling, discipline, and other management tools conscientiously.

7.8.3.2. The following are areas that may be included in supervisory training:

7.8.3.2.1. Ways to encourage employees to report incidents in which they feel threatened for any reason by anyone inside or outside the organization.

7.8.3.2.2. Procedures for consulting Safety, HR, EAP, Security, or SOC Ethics Office, with any questions regarding the seriousness of a reported incident.

7.8.3.2.3. Skills in behaving compassionately and supportively towards employees who report incidents.

7.8.3.2.4. Procedures for taking disciplinary actions.

7.8.3.2.5. Basic skills in handling crisis situations.

7.8.3.2.6. Basic emergency procedures, including who to call and what support resources and services are available.

7.8.3.2.7. Basic skills in conflict resolution.

7.8.4. **Responders to Workplace Violence Issues**

7.8.4.1. Safety, Security, FES, HR, EAP, and other responding staff that may respond to workplace violence issues should be trained on how to respond to such issues.

7.8.4.2. Agency personnel who serve on assessment and response teams need to be competent in the skill area they are representing and need to know when and who to call for additional help. Participating in programs and training sessions sponsored by government and professional organizations, reading professional journals or other literature, and networking with others in the profession they are representing, are all helpful tools for team members to use in preparing to deal with workplace violence situations.

7. PROCEDURE (CONTINUED)

7.8.4.3. These staff members also need to understand enough about each other's professions to allow them to work together effectively. Assessment and response team training should include discussion of policies, legal constraints, technical vocabulary, and other considerations that each profession brings to the interdisciplinary group.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. The following forms are applicable to this chapter.

11. ATTACHMENTS

11.1. Appendix A: Warning Signs of Escalating Behavior

Confusion	
Warning Signs	**Possible Response**
Behavior characterized by bewilderment or distraction. Unsure or uncertain of the next course of action	• Listen to their concerns. • Ask clarifying questions. • Give them factual information.

Frustration	
Warning Signs	**Possible Response**
Behavior characterized by reaction or resistance to information. Impatience. Feeling a sense of defeat in the attempt of accomplishment. May try to bait you	• See steps above. • Relocate to quiet location or setting. • Reassure them. • Make a sincere attempt to clarify concerns

Blame	
Warning Signs	**Possible Response**
Placing responsibility for problems on everyone else. Accusing or holding you responsible. Finding fault or error with the action of others. They may place blame directly on you. Crossing over to potentially hazardous behavior	• See steps above. • Disengage, bring second party into discussion. • Use teamwork approach. • Draw client back to facts. • Use probing questions. • Create "Yes" momentum

Anger — Judgment call required	
Warning Signs	**Possible Response**
Characterized by a visible change in body posture and disposition. Actions include pounding fists, pointing fingers, shouting or screaming. This signals very risky behavior.	• Utilize venting techniques. • Don't offer solutions. • Don't argue with comments made. • Prepare to evacuate or isolate. • Contact supervisor and/or security office

11.2. Appendix B: Active Shooter Situations

An Active Shooter is an individual actively engaged in killing or attempting to kill people in a confined and populated area; in most cases, active shooters use firearms(s) and there is no pattern or method to their selection of victims.

Active shooter situations are unpredictable and evolve quickly. Typically, the immediate deployment of law enforcement is required to stop the shooting and mitigate harm to victims.

Because active shooter situations are often over within 10 to 15 minutes, before law enforcement arrives on the scene, individuals must be prepared both mentally and physically to deal with an active shooter situation.

How to Respond When an Active Shooter is in Your Vicinity

If you hear shots fired, resist the temptation to investigate the cause. Do not go to the area. Do not attempt to try to determine what is happening.

Quickly determine the most reasonable way to protect your own life. Remember that customers and clients are likely to follow the lead of employees and managers during an active shooter situation.

RUN

If there is an accessible escape path, attempt to evacuate the premises. Be sure to:

- Have an escape route and plan in mind.
- Evacuate regardless of whether others agree to follow.
- Leave your belongings behind.
- Help others escape, if possible.
- Prevent individuals from entering an area where the active shooter may be
- Keep your hands visible.
- Follow the instructions of any Security, Federal or local police officers.
- Do not attempt to move wounded people.
- Call 911 when you are safe.

HIDE

If evacuation is not possible, find a place to hide where the active shooter is less likely to find you. Your hiding place should:

- Be out of the active shooter's view.
- Provide protection if shots are fired in your direction (i.e., an office with a closed and locked door).
- Not trap you or restrict your options for movement.

To prevent an active shooter from entering your hiding place:

- Lock the door.
- Blockade the door with heavy furniture.

If the active shooter is nearby:

- Lock the door.
- Silence your cell phone and/or pager.
- Turn off any source of noise (i.e., radios, televisions).
- Hide behind large items (i.e., cabinets, desks)..
- Remain quiet.

If evacuation and hiding out are not possible:

- Remain calm.
- Dial 911, if possible, to alert police to the active shooter's location If you cannot speak, leave the line open and allow the dispatcher to listen.

FIGHT- Against the active shooter

As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter by:

- Acting as aggressively as possible against him/her.
- Throwing items and improvising weapons.
- Yelling
- Committing to your actions.

When Law Enforcement Arrives

Law enforcement's purpose is to stop the active shooter as soon as possible. Officers will proceed directly to the area in which the last shots were heard.

The first officers to arrive to the scene will not stop to help injured persons. Expect rescue teams comprised of additional officers and emergency medical personnel to follow the initial officers. These rescue teams will treat and remove any injured persons. They may also call upon able-bodied individuals to assist in removing the wounded from the premises.

How to react:

- Remain calm, and follow officers' instructions.
- Put down any items in your hands (i.e., bags, jackets).
- Immediately raise hands and spread fingers.
- Keep hands visible at all times.
- Avoid making quick movements toward officers such as holding on to them for safety.
- Avoid pointing, screaming and/or yelling.
- Do not stop to ask officers for help or direction when.

1. PURPOSE

1.1. SOC is dedicated to protecting the safety and health of its employees. SOC has established a safety and health program to prevent injuries and illnesses due to hazards. Employee involvement at all levels of the company, is critical for us to be successful in this effort. To accomplish this task, a joint worker/management Safety Action Team (SAT) has been established to bring workers and management together in a non-adversarial, cooperative effort to promote safety and health in the workplace. The Safety Action Team will provide information and recommendations to management about occupational safety and health conditions and practices at SOC, and will provide a forum for information exchange.

2. SCOPE

2.1. The Safety Action Team may be comprised of any combination of employees to include hourly, exempt, and supervisor/management employees. It is up to the participants of the action team to determine membership criteria in order to be most effective. The Safety Office will have representation at the meeting.

2.2. Management/Top Management will ensure that safety is infused into their meetings, granting ample time to discuss safety concerns and solutions, especially those that are passed on to them from the SOC Safety Action Team.

3. POLICY

3.1. The Safety Action Team is established as a management tool to recommend improvements to the SOC workplace safety program and to identify corrective measures needed to eliminate or control recognized safety and health hazards. The number of safety committee management representatives will not exceed the number of employee representatives.

3.2. The Safety Action Team shall meet monthly on a designated day set by the Safety Action Team charter. The meetings will be documented and minutes will be publicized throughout the company.

4. DEFINITIONS AND ACRONYMS

4.1. There are no definitions and acronyms associated with this chapter.

5. FLOWCHART

5.1. There are no flow charts associated with this chapter.

6. RESPONSIBILITIES

6.1. **Safety Action Team Committee Responsibilities and Functions:**

6.1.1. Identify unsafe work practices and conditions, and suggest appropriate remedies.

6.1.2. Obtain and analyze available data on past injuries and illnesses, identify trends, and suggest appropriate corrective actions.

6.1.3. Accept and address anonymous complaints and suggestions from employees.

6.1.4. Review accident or incident reports. The Committee shall identify types of accidents, causes, and trends, as well as suggest appropriate corrective actions.

6. RESPONSIBILITIES (CONTINUED)

6.1.5. Promote safety and health awareness and develop programs for co-worker participation through continuous improvements to the workplace safety program.

6.1.6. Assist in the development and implementation of effective health and safety awareness programs.

6.1.7. Encourage feedback from all individuals with regard to health and safety related ideas, problems, and solutions.

6.1.8. Make recommendations on behalf of the committee, and in making recommendations, permit any members of the committee to submit separate views to the employer for improvements in the employer's safety and health program and for the correction of hazards to employee safety or health. The recommendations are advisory only and the employer will retain full authority to manage the worksite.

6.1.9. Provide support and serve as a resource in the development, implementation, and maintenance of a comprehensive safety, loss prevention, and loss control programs.

6.2. **Safety Action Sub-Committees**

6.2.1. The Safety Action Team will have two separate sub-committees under it which will represent two separate directorates on Depot. One will represent Base Operations and the other will represent Munitions and Logistics.

6.3. **Safety Action Team Meetings**

6.3.1. Safety Action Team meetings are held the last Tuesday of each month and more often as determined by management and the safety committee.

6.3.2. Safety Action Sub-Committees will meet independently each month before the Safety Action Team meeting where each sub-committee representative can discuss safety related topics and concerns within their directorate.

6.3.3. Each committee or sub-committee member who is not a salaried employee will be compensated at his or her hourly wage when engaged in Safety Committee activities.

6.3.4. Safety Action Team minutes of each meeting will be posted in a conspicuous place and the minutes will be available to all employees.

6.3.5. All safety committee records will be maintained at the Safety Department for not less than 1 year.

6.4. **Safety Action Team Officers**

6.4.1. **The Safety Action Team Committee consists of:**

- A Safety and Health Representative.
- A Union Representative.
- A Secretary.

6. RESPONSIBILITIES (CONTINUED)

6.4.2. **Safety Action Sub-Committees consist of:**

- A Designee assigned by their Director to represent their directorate
- A Secretary
- A Safety and Health Representative

6.4.3. **Vacancies**

6.4.3.1. If there is an employee-elected member vacancy, a new member will be elected before the next scheduled meeting.

6.5. **SAT Committee Officer Training**

6.5.1. The SOC Safety Department will ensure that SAT Officers receive appropriate training to carry out their committee responsibilities.

6.5.2. SAT Officers will have access to copies of safety and health laws, regulations, and any company policies that apply to the particular work site and be given verbal instructions regarding their use.

6.5.3. All Safety Action Team Officers will receive training and information regarding:

- Safety committee purpose and operation.
- Basic requirements of workplace safety rules and their application.
- Methods of conducting safety committee meetings.
- Hazard identification in the workplace.
- Principles regarding effective accident and incident investigations.
- Employee and employer rights and responsibilities under applicable state and federal employment and labor laws or rules.
- Injury and illness recordkeeping requirements.
- Most common causes of on-the-job accidents at the work site.
- Committee procedures.

7. PROCEDURE

7.1. **Meeting Agenda**

7.1.1. Agenda items may be submitted to the designees by any member and will be distributed to members at least one (1) week before the next scheduled meeting.

7.2. **Hazard Assessments**

7.2.1. The SAT will assist SOC to conduct evaluations of existing or potential occupational hazards, and make written recommendations to minimize or eliminate the hazards where feasible. The SAT will:

- Establish procedures for workplace evaluations and inspections by the safety committee inspection team to locate and identify safety and health hazards.
- Conduct workplace inspections**.**

7. PROCEDURE (CONTINUED)

- Recommend to the employer how to eliminate hazards and unsafe work practices in the workplace.

7.3. **Inspections**

7.3.1. The SAT inspection team or designees will conduct safety inspections as directed by the Safety Department. The person or persons designated to carry out inspection activities will be selected by the SOC Safety Department and will receive training in hazard identification in the workplace.

7.3.2. The inspection team will include management and employee representatives and will document in writing the location and identity of the hazards and make recommendations to management regarding correction of the hazards.

7.4. **Accident Investigations**

7.4.1. Safety Action Team members who have been trained in accident investigation procedures will participate in accident investigations upon the request of the Safety Department.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
SAT Minutes	Safety Department	1 Year	Shred

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. Appendix A - SOC Safety Action Team Charter:

SOC Safety Action Team Charter

Mission Statement:

The mission of the SOC Safety Action Team is to develop and promote a safe and healthy environment for all employees and visitors through the involvement of all individuals with regards to education, communication, and safe work practices.

Activities:

The safety and health activities of the Safety Action Team will include, but are not limited to, the following:

- Identify unsafe work practices and conditions, and suggest appropriate remedies.
- Obtain and analyze available data on past injuries and illnesses, identify trends, and suggest appropriate corrective actions.
- Accept and address anonymous complaints and suggestions from employees.
- Review accident or incident reports. The Committee shall identify types of accidents, causes, and trends, and suggest appropriate corrective actions.
- Promote safety and health awareness and co-worker participation through continuous improvements to the workplace safety program.
- Assist in the development and implementation of effective health and safety awareness programs.
- Encourage feedback from all individuals with regard to health and safety related ideas, problems, and solutions.
- Make recommendations on behalf of the committee, and in making recommendations, permit any members of the committee to submit separate views to the employer for improvements in the employer's safety and health program and for the correction of hazards to employee safety or health. The recommendations are advisory only and the employer will retain full authority to manage the worksite.
- Provide support and serve as a resource in the development, implementation, and maintenance of a comprehensive safety, loss prevention, and loss control programs.

Safety Action Team Officers:

The Safety Action Team Officers will consist a Safety and Health representative, a Union representative, and a Secretary. Each Safety Action Sub-Committee with consist of a Designee assigned by the Director of their respective directorate, a Safety and Health representative, and a Secretary. When necessary, the Safety Action Team members shall elect the officers in October with tenure to start in November.

Responsibilities:

Management:

- Enforce all Safety and Health rules and procedures.
- Actively promote Safety and Health.
- Allow time for Committee representatives to participate in meetings and assigned responsibilities.
- Allocate funds or resources necessary to implement Safety and Health SAT activities.
- Lead by example in following all Safety and Health policies, procedures, regulations, and programs.
- Support SAT decisions.
- Provide timely feedback to the Safety Action Team.
- Assist the Safety Department in performing investigations of all injuries, incidents, and near misses.

Directorate Designee:

- Actively promote Safety and Health.
- Act as communication liaison between management and the Safety Action Team.
- Facilitate the Safety Action Sub-Comittee meetings.
- Coordinate the assignment of activities to SAT members.
- Establish necessary deadlines based on member input.
- Follow-up on assigned responsibilities.
- Schedule and develop an agenda for meetings based on member input.
- Prepare an annual report of the Safety Action Team’s accomplishments.
- Prepare a report of the Safety Action Team’s objectives for next calendar year.
- Introduce new members.
- Ensure the effectiveness of the meeting by directing discussions to meet mission and objectives.

Safety and Health Representative:

- Actively promote Safety and Health.
- Serve in the capacity as a resource to the Safety Action Team on Safety and Health issues.
- Review incident investigation and near miss reports.
- Conduct health and safety inspections and prepare reports.
- Assist with the development of the agenda.

Union Representative:

- Actively promote Safety and Health.
- Serve as a member of the various project teams or sub-committees.

- Facilitate meeting agendas and monitor meeting times.
- Assist with the development of the agenda.

Secretary:

- Actively promote Safety and Health.
- Ensure the meeting minutes are recorded, completed, and distributed in a timely manner.
- Distribute the agenda with minutes to employees at least one (1) week prior to each scheduled meeting.
- Take and record attendance.
- Make arrangements for the meeting room.
- Distribute any correspondence or directives developed by the Safety Action Team.
- Develop and maintain files of meetings and correspondence.

Committee Members:

- Actively promote Safety and Health.
- Attend all Safety and Health meetings on time.
- Communicate SAT activities to his or her department.
- Serve on appointed project teams or sub-committees.
- Bring Safety and Health concerns to SAT meetings or to the attention of the affected employee's supervisor.
- Assist with the development of the agenda upon request.
- Serve as an example by following all safety rules and work practices.

Employee:

- Actively promote Safety and Health.
- Bring Safety and Health concerns to his or her supervisor or Committee representative immediately.
- Learn and follow all health and safety rules and procedures.
- Attend all health and safety training courses relevant to his or her job classification.

Meetings:

- Safety Action Team meetings will be held monthly, preferably on the last Tuesday of each month from 7:00 a.m. to 8:00 a.m.
- Safety Action Sub-Committee meetings will be held monthly sometime before the last Tuesday of the month.
- Special meetings of the Safety Action Team may be called by a Designee upon his or her initiative, or upon the request of at least five (5) members.

- Special meetings will be equal to regular meetings.
- The minutes of the meeting will be available to each employee and Department Heads.

Quorum:

- A quorum for the conduct of business at each meeting shall be a simple majority (>50%) of the Safety Action Team Officers.

1. PURPOSE

1.1. The purpose of the Hazard Communication Program (HazCom) is to ensure employees are aware of hazardous chemicals in the workplace and are provided information regarding the potential hazards associated with exposure to these chemicals. Specifically, hazardous chemicals produced or imported into the workplace are to be evaluated for physical and health hazards; this information is to be provided to employees. The program also covers container labeling, pictograms, Safety Data Sheets (SDS), and employee training. Applicable regulations are the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HazCom Standard) 29 CFR 1910.1200, and the Environmental Protection Agency (EPA) Community Right-To-Know Standard (SARA), 40 CFR Part 370.

1.2. To identify the hazards of all chemicals in the workplace. The health and physical hazards of these chemicals will be conveyed to each utilizing employee. This will be accomplished by standardized container labeling, pictograms, the new 16-section Safety Data Sheets (SDS) and employee training.

2. SCOPE

2.1. This program shall apply to all SOC personnel. Subcontractors shall adhere to this program and all Federal, State, and Local regulations pertaining to them.

2.2. All employees that work with or use hazardous chemicals in a non-laboratory environment are subject to the requirements outlined in this policy. Employees who work in laboratories are covered under a different regulation called the OSHA Laboratory Standard (29 CFR 1910.1450).

3. POLICY

3.1. It is SOC's policy, as well as an OSHA requirement, that all SOC personnel abide by this written program. All employees will be trained under this standard and in turn will follow its requirements.

3.2. Specifications for consumable hazardous chemicals shall require that safety precautions and directions be clearly stated on all unit packages of the material.

3.3. When the use of hazardous chemicals is required, adequate engineering measures and protective equipment shall be specified and used to ensure the health and safety of exposed personnel, as well as protection for the environment.

3.4. Instructions, Technical Manuals, specifications, and criteria for safe use, packaging, safe handling, shipping, and storage of hazardous chemicals shall be consistent with all Federal, State and Local laws and regulations.

3.4.1. Some items are exempted from this policy.

3.5. Laboratories are exempt from this policy with the following exceptions:

3.5.1. Supervisors will ensure labels on incoming containers of hazardous materials are not removed or defaced.

3.5.2. Safety Data Sheets (SDS) received with incoming shipments will be maintained and employees will have access to the SDS. In addition, Safety Data Sheets will be requested for hazardous material received without an SDS.

3. POLICY (CONTINUED)

3.5.3. Employees will receive training on the hazards of materials in the work area.

3.6. Warehousing or other operations where employees only handle materials in sealed containers which are not opened under normal conditions of use are exempt from this policy with the following exceptions:

3.6.1. Supervisors will ensure labels on incoming containers of hazardous materials are not removed or defaced.

3.6.2. Safety Data Sheets (SDS) received with incoming shipments will be maintained and employees will have access to the SDS. In addition, Safety Data Sheets will be requested for hazardous material received without an SDS.

3.6.3. Employees will receive training on the hazards of materials in the work area.

3.7. Biological such as vaccines serums and blood products are exempt from the HAZCOM standard. However, pharmaceuticals such as chemotherapeutic agents **are** included.

3.8. SOC employees purchasing hazardous chemicals will require the vendor provide the new 16 section format of the SDS.

4. DEFINITIONS AND ACRONYMS

4.1. **HAZCOM -** Hazard Communication; may be used in context with the OSHA 1910.1200 Standard or the SOC Hazard Communication Program.

4.2. **Hazardous Chemical -** Any chemical which is a physical hazard or a health hazard..

4.3. **Health Hazard -** A chemical for which there is statistically significant evidence based on at least one study conducted IAW established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizes, hepatoxins, neurotoxins, agents which act on the hematopoietic (blood making) system of the body and agents which damage the lungs, skin, eyes or mucous membranes.

4.4. **Physical Hazard-** A chemical for which there is scientifically valid evidence that it is an explosive, flammable, combustible liquid, organic peroxide, oxidizer, compressed gas, pyrophoric, unstable (reactive) or water reactive material.

4.5. **SDS-** Safety Data Sheets (formerly referred to as MSDS) with standardized 16 section format.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **Supervisors have the primary responsibility of implementing the hazard communication program for all activities under their control. Specifically, these responsibilities include:**

6.1.1. Ensuring that SDS's are readily available to employees.

6. RESPONSIBILITIES (CONTINUED)

6.1.2. Ensuring that all chemicals are labeled, marked or tagged and that appropriate hazard warning information is contained on each label. Labels must be in English.

6.1.3. Maintaining a list of all chemicals used in the workspace under their control.

6.1.4. Safety Data Sheets (SDS), received with incoming shipments will be maintained in an established location where employees will have access to the SDS. In addition, Safety Data Sheets (most current version) will be requested for hazardous material received without an SDS.

6.1.5. ***Employees shall*** receive training on the hazards of materials in the work area. Employee's must document and sign that the training was received and understood.

6.1.6. Employees are responsible for taking the initiative to utilize the information sources within the Hazard Communication Program and to practice safe chemical handling.

6.2. A copy of this workplace written program, including the work area hazardous chemical inventory, and a list of the non-routine tasks involving hazardous materials, shall be maintained at each work area.

6.3. **Containers of hazardous materials brought into, or used within this installation will be labeled, tagged, or marked with the following information:**

6.3.1. Identity of the hazardous material.

6.3.2. Appropriate hazard warnings.

6.3.3. Name, address, and phone number of the manufacturer.

6.3.4. These labels will not be removed, defaced, or changed.

6.4. **Department of Defense Form 2521 (8 1/2" x 11") or Form 2522 (4" x 6"), Hazardous Chemical Warning Label, may be used as a uniform labeling system to meet the labeling requirements for:**

6.4.1. Existing stocks or unlabeled materials.

6.4.2. Transferring, packaging, or distributing of bulk quantities of hazardous materials into other containers.

6.4.3. Labeling hazardous material containers when labels have been accidentally defaced or lost.

6.4.4. The sources for this labeling information are:

6.4.4.1. Hazardous Material Information System labeling field.

6.4.4.2. Label on bulk or packaged material.

6.4.4.3. Hard copy of the manufacturer's SDS.

6.4.4.4. Manufacturer, importer or other responsible party.

6. RESPONSIBILITIES (CONTINUED)

6.5. **Directors** are responsible for ensuring all on-site tanks, vessels, and other non-moveable containers are marked IAW 29 CFR 1910.1200.

6.6. **Safety Data Sheets (SDS)** The master file of the standardized, 16-section SDS will be maintained by the Environmental Services Office. This master file consists of the Hazardous Material Information System (HMIS) and Occupational Safety & Health Administration (OSHA) Form 174, "Safety Data Sheet", or equivalent forms. This SDS information will be readily accessible to all workers. Prior to the commencement of work at a job site, the foreman or other authorized supervisor will ensure SDS for all hazardous substances used on the job are available.

6.7. **Training** all employees who handle, use, or are potentially exposed to hazardous materials/chemicals, are provided information and training on the SOC HAZCOM Program and the specific hazards in their work area utilizing Form # DZHC 649-E. This training will be conducted upon initial work area assignment, whenever a new hazard is introduced into their work area, annually and when the supervisor feels it's necessary. The initial training will occur before employees are exposed to hazardous materials. If new materials, processes, operations, and/or conditions have hazards for which employees have not been trained, training is required and will normally consist of the following sixteen components:
Identification

6.7.1. Hazard(s) Identification.

6.7.2. Composition/ Information on Ingredients.

6.7.3. First-Aid Measures.

6.7.4. Fire-fighting Measures.

6.7.5. Accidental Release Measures.

6.7.6. Handling and Storage.

6.7.7. Exposure Controls/Personal Protection.

6.7.8. Physical and Chemical Properties.

6.7.9. Stability and Reactivity.

6.7.10. Toxicology Information.

6.7.11. Ecological Information (non-mandatory).

6.7.12. Disposal Considerations (non-mandatory).

6.7.13. Transport Information (non-mandatory).

6.7.14. Regulatory Information (non-mandatory).

6.7.15. Other Information.

6. RESPONSIBILITIES (CONTINUED)

6.8. Hazard Communication Standard Labeling

6.8.1. The following are examples from OSHA's website of the label and pictogram changes and additions.

6.8.2. Sample Label from OSHA

6.8.3. Pictogram Sample

SAMPLE LABEL

PRODUCT IDENTIFIER

CODE _____
Product Name _____

SUPPLIER IDENTIFICATION

Company Name_____
Street Address _____
City _____ State _____
Postal Code _____ Country _____
Emergency Phone Number _____

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measure against static discharge.
Ground and bond container and receiving equipment.
Do not breathe vapors.
Wear Protective gloves.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO_2) fire extinguisher to extinguish.

First Aid
If exposed call Poison Center.
If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

HAZARD PICTOGRAMS

SIGNAL WORD
Danger

HAZARD STATEMENT

Highly flammable liquid and vapor.
May cause liver and kidney damage.

SUPPLEMENTAL INFORMATION

Directions for use
_____
_____
_____

Fill weight: _____ Lot Number _____
Gross weight: _____ Fill Date: _____
Expiration Date: _____

6. RESPONSIBILITIES (CONTINUED)

Hazard Communication Standard Pictogram

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

HCS Pictograms and Hazards

Health Hazard	Flame	Exclamation Mark
		
▪ Carcinogen ▪ Mutagenicity ▪ Reproductive Toxicity ▪ Respiratory Sensitizer ▪ Target Organ Toxicity ▪ Aspiration Toxicity	▪ Flammables ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Self-Reactives ▪ Organic Peroxides	▪ Irritant (skin and eye) ▪ Skin Sensitizer ▪ Acute Toxicity ▪ Narcotic Effects ▪ Respiratory Tract Irritant ▪ Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder	**Corrosion**	**Exploding Bomb**
		
▪ Gases Under Pressure	▪ Skin Corrosion/Burns ▪ Eye Damage ▪ Corrosive to Metals	▪ Explosives ▪ Self-Reactives ▪ Organic Peroxides
Flame Over Circle	**Environment** (Non-Mandatory)	**Skull and Crossbones**
		
▪ Oxidizers	▪ Aquatic Toxicity	▪ Acute Toxicity (fatal or toxic)

For more information:
OSHA® Occupational Safety and Health Administration
U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)

6. RESPONSIBILITIES (CONTINUED)

6.9. **Supervisors shall document all training sessions they conduct. Supervisors shall have employees sign a training record (Form DZHC 84-E, Training Report) stating that they have received this training. The original record will be sent to the Training Office (HR), a copy of the record will be maintained by the supervisor, and upon job completion the Directorate. The Training Office will make the records available upon request.**

6.9.1. The supervisor shall use Form DZHC 649-E to document that each individual employee has received his/her hazard communication training and understands how to properly handle, use and wear any appropriate PPE required when handling the chemical or materials identified on the job site. This form will be retained at the job site and produced upon request to any inspection team. This form will be utilized every time a new chemical or hazardous material is introduced into the job site.

6.10. **All supervisors will receive additional training on HAZCOM. Supervisors shall take the responsibility for training their workers on the following:**

6.10.1. Existence of the HAZCOM standard and its requirements.

6.10.2. Operations in the work area where hazardous materials are present.

6.10.3. Where the written HAZCOM Program and SDS's are kept.

6.10.4. Details of SOC's HAZCOM Program.

6.10.5. How to obtain, read, understands and uses the appropriate chemical hazard information, including explanations of SDS and labeling system.

6.10.6. Information about the health & safety hazards including specific safe work practices, emergency procedures, and the use of personal protective equipment, i.e. goggles and gloves, etc.

6.10.7. Observations that can be made, such as odor and appearance, to detect the presence of the hazardous chemicals they could be exposed to.

6.10.8. Signs/symptoms of exposure – who to contact in case of emergency.

6.11. **Secondary Labeling System**

6.11.1. When transferring a chemical from one container to another, or replacing a damaged label, SOC employees are required to label the new container properly to include:

6.11.1.1. Identity of the chemical.

6.11.1.2. Appropriate hazard warnings.

6.11.1.3. Signal Word

6.11.2. Empty containers that may be reused for other purposes must have their original labels removed or obliterated and relabeled.

6.11.3. Labeling is not required of secondary containers which are intended only for the immediate use of the person who mixes the chemical or performs the transfer from the original labeled container.

6. RESPONSIBILITIES (CONTINUED)

6.12. **Hazardous Chemical Inventory**

6.12.1. The hazardous chemical inventory will be developed by the work area supervisor. The supervisors will maintain the chemical inventory in the work area and update it as necessary. When new chemicals are introduced into the work area, the supervisor will add it to the chemical inventory list and provide the Environmental Office, in writing, with the necessary information within five working days.

6.13. **Hazardous Substance in Unlabeled Pipes**

6.14. **Supervisors must ensure that all pipes containing hazard materials (i.e. natural gas lines, waste lines) are labeled with the contents of the pipe. Employees are not to work on any unlabeled pipes until the contents of the pipe are determined and appropriate safety precautions have been determined for the work. Employees should notify their supervisors whenever their work involves disturbing unlabeled pipes.**

6.15. **Non-Routine Tasks**

6.15.1. Temporary duties outside an individual's normal job classification, and/or those tasks included within a work area's normal activities but performed infrequently. For example, cleaning a solvent tank and changing the solvent, or cleaning up spills.

6.15.2. The area supervisor will list all non-routine tasks performed in this work area, which involve hazardous materials. The supervisor will ensure work area Operating Instructions (OI) or Job Safety Analysis (JSA) thoroughly describe non-routine tasks, associated hazards, and controls, for the infrequent tasks to be performed in this work area. LOI's do not need to be prepared if other official documents adequately describe these tasks. Supervisors will ensure workers review these procedures before performing the non-routine tasks.

6.15.3. When workers temporarily perform duties outside their normal jobs, the supervisor of the activity will ensure these workers receive the following training prior to beginning the activity.

6.15.4. Initial HAZCOM training for workers not previously trained.

6.15.5. Supplemental training, as necessary, on work area specific chemical hazards and associated controls.

6.15.6. The supervisor of the activity will communicate to the worker's formal supervisor describing the training conducted so the individuals training record can be updated.

6.16. **Contractor Interface**

6.16.1. Contractors are required to train their own personnel according to the OSHA Hazard Communication Standard. In each contract where hazardous materials are involved, the Procurement Officer will conduct a pre-performance conference. At this conference, the Procurement Officer will advise contractors of hazardous chemicals used in HWAD operations they may encounter and protective measures needed in the normal course of their work on the Depot. The Procurement Officer will inform the contractor where SDS information is available and provide information on the labeling system. The Safety Office will assist the Procurement Officer if requested. At the pre-performance

6. RESPONSIBILITIES (CONTINUED)

conference, and subsequently during the contract performance period, the requiring activity quality assurance evaluator will advise work area supervisors and SOC employees monitoring the performance of contractors, of hazardous chemicals introduced by the contractor. The contractor is required to submit information on the use of hazardous materials.

6.17. **Exemptions**

6.17.1. Finished articles – this exemption applies to ammunition, explosive-activated devices, weapons, explosives, propellants, pyrotechnics, chemical and biological warfare materials and nuclear materials in so much as referring to the handling of these items for storage purposes.

6.17.2. Food, drugs, cosmetics, or alcoholic beverages in a retail establishment, which are packaged for sale to consumers.

6.17.3. Consumer products which are used in the workplace in the same manner as normal consumer use, and whose use results in a duration and frequency of exposure which is not greater than exposures experienced by consumers. This will be a case-by-case judgment performed by the Safety Office.

6.17.4. Laboratories

6.17.4.1. Laboratories shall comply with all the same requirements, regulations for labeling, SDS, training, Right To Understand with the following exceptions:

6.17.4.2. Labeling of pesticides, toxic substance, food, food additive, drug cosmetic, etc. as outlined in 1910.1200(b)(5)(iii), distilled spirits, agricultural or vegetable.

7. PROCEDURE

7.1. There are no procedures associated with this chapter.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	**CUSTODIAN**	**RETENTION**	**DISPOSITION**
Safety Data Sheets	1)Environmental Division 2) Worksite; i.e., Office, Shop, Right to Understand Stations	As long as the chemical remains in the worksite	Trash Disposal
DZHC 649-E	Directorate/Division	3 years	Destroy
DZHC 84-E	Compliance and Training	Life of Contract	N/A
DZHC 595-E	PP&PE	6 Months after job completion	Destroy

10. FORMS

10.1. The following forms are applicable to this chapter.

APPLICABLE FORMS	
FORM NUMBER	**TITLE**
DZHC 84-E	Training Report
DZHC 595-E	Job Safety Analysis (JSA)
DZHC 649-E	Hazard Communication Training

11. ATTACHMENTS

11.1. Hazard Communication Training Form

HAZARD COMMUNICATION TRAINING

This training is being provided to you in accordance with 29 CFR 1910.1200. the purpose of this training is to inform you of the potential hazards in this work place and the protective measures used.

After completion of this training you should be familiar with the following:

- Methods and observations that may be used to detect the presence or release of a hazardous material in the work area.
- The hazards of all chemicals in your work area and the danger of any job you may have to do.
- The measures employees can take to protect themselves from hazards; e.g., personal protective equipment, administrative controls, emergency procedures....
- Product warning labels.
- Location and availability of the hazardous chemical inventory and MSDS master file.
- How employees can obtain and use the appropriate MSDS.
- DZHC hazard communication program.
- Non-routine tasks (if applicable).
- Any other pertinent information under the Haz Com standard.

The hazardous chemical(s)/families in this work place are:

1._____ 7._____

2._____ 8._____

3._____ 9._____

4._____ 10._____

5._____ 11._____

6._____ 12._____

- The use, care, maintenance, and disposal of PPE required _____

Comments or additional information for this work place:_____

Work place:_____

I certify I have received and understand the above training

_____

Employee Name Date Employee Signature

_____

Supervisor Name Date Supervisor Signature

1. PURPOSE

1.1. This chapter specifies the responsibilities and establishes the policies and procedures for providing personal protective clothing and equipment (PPE).

2. SCOPE

2.1. The requirements in this chapter apply to all SOC employees and subcontractor employees.

3. POLICY

3.1. Continuous action will be taken to provide personnel working at SOC with reasonable protection from injury. All protective clothing, equipment, or devices used must meet or surpass minimum standards prescribed by ANSI, OSHA, NIOSH or MIL Specs. All PPE required by SOC Nevada, LLC shall be provided by the company at no expense to the employee. PPE that is not procured and provided by the company will not be allowed at SOC.

4. DEFINITIONS AND ACRONYMS

4.1. **Hazard Assessment -** Identification of physical and chemical hazards in the workplace.

4.2. **Personal Protective Equipment (PPE) -** Equipment worn to minimize exposure to a variety of hazards. Examples of PPE include items such as gloves, foot and eye protection, protective hearing devices (earplugs), hard hats, and respirators.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **The Manager, Safety & Health is responsible for:**

6.1.1. Assisting all SOC Managers and Supervisors in determining requirements for protective clothing and/or equipment.

6.1.2. Ensuring established standards for protective clothing and equipment are met.

6.1.3. Approving the purchase or procurement of protective clothing and equipment.

6.1.4. Inspecting employees at work sites to ensure that prescribed protective clothing and equipment is being worn and/or used correctly.

6.1.5. Periodic inspection of emergency eyewash/shower units to assure equipment is inspected weekly by building occupants and that equipment is operating properly. Make building occupants/equipment users aware of proper use and performance of equipment.

6.1.6. Perform annual inspections on emergency eyewash/shower units (including supplemental devices) in accordance with ANSI Z358.1-2014

6. RESPONSIBILITIES (CONTINUED)

6.2. **Directors are responsible for the following:**

6.2.1. Ensuring that the proper type of protective clothing and equipment for each operation, under their control, is available.

6.2.2. Ensuring sufficient quantities of equipment and clothing are available to handle all emergencies that could arise.

6.2.3. Processing Purchase Requests for personal safety clothing and equipment through the Safety Office to the Tool room (Building 7).

6.2.4. Ensuring that the protective clothing and equipment under their control is properly stored, adequately protected, and ready for immediate use.

6.3. **Supervisors are responsible for the following:**

6.3.1. Ensuring that employees utilize the protective clothing and equipment prescribed in the SOP, IOP or other SOC controlled documents for a particular job. If a situation arises where an employee has to perform a non-routine task, the supervisor will re-evaluate the requirements and contact the Safety Office for assistance in recommending personal protective equipment.

6.3.2. Training:

6.3.2.1. Definite rules governing the use of PPE shall be formulated and published. On-the-job training must include requirements for the use of PPE. Supervisors shall ensure that the care and use of personal protective clothing and equipment is performed in accordance with appropriate standards and SOC guidance. Special emphasis should accompany the introduction of new items in order to increase the level of acceptance and use. Supervisors shall be especially careful to wear PPE where it is required in order to set an example and to gain experience in solving problems created by the use of these devices. Adequate attention to cleaning and disinfecting is especially important for equipment worn about the face.

6.3.3. Maintenance:

6.3.3.1. PPE must be properly maintained since the life of the wearer may be dependent on its proper functioning. Provisions shall be made for laundering and disinfecting protective garments and devices so that decontamination and sanitary standards are met. An appropriate inspection schedule should be established with the frequency of inspection dependent on the various types of equipment involved. In establishing an inspection schedule, recommendations of national standards, size of operations, and the amount of use should be given consideration. The proper maintenance of PPE is an ***inherent responsibility of supervision***, and where necessary to assure a high standard of maintenance, personal weekly inspection of the equipment should be conducted by supervisory personnel. It is the responsibility of the director's to assure that the program is being conducted in a satisfactory manner for their directorates.

6. RESPONSIBILITIES (CONTINUED)

6.3.4. Supervisors shall know the occupational hazards in operations under their control, through the Hazard Analysis Risk Assessment (HARA) process. They will ensure that the appropriate PPE for the operations is available. They shall review PPE to ensure it meets the employee's needs and is providing proper protection. They shall perform training ensuring that each affected employee has received and understands the required training and provides signed documentation for this training on DZHC 84-E.

6.3.5. Supervisors shall review the need for protective clothing and equipment and are responsible for coordinating proposed changes with the Safety Office. Supervisors shall instruct each individual in the proper care and use of protective clothing and equipment and will prevent the use of unapproved or unauthorized protective clothing and equipment.

6.3.6. Ensure that emergency eyewash/shower equipment and supplemental devices are inspected, operating properly and no obstructions exist in paths to the equipment. Weekly inspections are to be entered on equipment inspections tags. The manufacturer's written operation, inspection and maintenance instructions shall be readily accessible to maintenance and training personnel.

6.4. **All employees are responsible for the following prior to using personnel protective equipment** (PPE):

6.4.1. SOC makes every effort to remove hazardous substances from the work area through engineering controls; however, quite often hazardous conditions and substances remain which require barrier methods of protection provided by personal protective equipment (PPE). PPE shall be provided and used where it is impractical to enclose or isolate the process or equipment, to make process material substitutions, to provide ventilation, or to use other control measures. In addition, where there are short exposures to hazardous airborne concentrations of contaminants, and where unavoidable or accidental spills may occur, PPE shall be provided and used. ***PPE does nothing to reduce or eliminate a hazard and its failure means immediate exposure to the hazard.*** The fact that it may become ineffective or misused without the knowledge of the wearer is particularly serious. **It is necessary to have a thorough understanding of when PPE is required.**

6.4.2. PPE is not to be confused with safe work attire, such as short sleeves, cuff-less trousers, pocket-less shirts, substantial shoes or clothes that fit properly. Provision of every day attire that is worn by prudent individuals to avoid unnecessary risk is the responsibility of the employee and shall be considered a condition of employment. **It is necessary to know what PPE is required.**

6.4.3. Knowing how to properly don (put on), doff (take off), adjust, and wear PPE.

6.4.4. Comprehending the limitations of PPE.

6.4.5. Having a thorough understanding of the proper usage, care, maintenance, useful life, and disposal of PPE.

6.4.6. Immediately reporting any faulty or unserviceable PPE to their supervisor.

6. RESPONSIBILITIES (CONTINUED)

6.4.7. All employees should refer to their SOP/IOP's for more information on proper PPE for the operations they are working on. Any questions about PPE may be referred to the Safety Office for consultation and/or recommendations.

6.5. **Tool Crib (Building 7):**

6.5.1. This central point of control is established for the Safety Office and the Contract Administration Division to determine what standard items need to be in the Tool Crib, and that the items meet safety requirements. The Safety Office must approve all requests for safety equipment. DZHC 63-E must be filled out for safety supplies not in stock and processed through the tool crib.

6.6. **Safety Glasses:**

6.6.1. It is the responsibility of the Supervisor of the individual needing prescription safety glasses to forward forms to the Human Resources Department, Building 37.

6.7. **Safety Shoes:**

6.7.1. Supervisors will determine if the individual is required to have safety shoes and make the necessary notations on DZHC 36-E selecting conductive or non-conductive. Safety will be consulted if questions arise as to the type of shoe needed for work environment.

6.8. **Other Protective Equipment and Clothing:**

6.8.1. Will be determined by the supervisor and/or employee on a case by case basis dependent upon job requirements.

6.8.2. Company issued clothing is for use on the depot only. Clothing shall not be removed from the depot at the end of the shift. It should be placed in appropriate receptacle staged at buildings. Clothing that is removed by employees is considered to be theft of Company property and the Company has the right to pursue disciplinary action.

6.8.2.1. From the Plant Rules & Disciplinary Action SP under procedures, Pg. 8, "7.2.1: Certain violations may warrant immediate discharge or immediate suspension, pending completion of an investigation. Some examples of such violations include, but are not limited to security violations; workplace violence, theft or attempted theft".

6.8.3. Clothing that is used in hazardous operations such as production jobs that have open explosive environments, require special laundering that meets DoD approved standards per DA PAM 385-64, Ch. 16, 16-19 Laundries.

6.8.3.1. Clothing that is worn in open explosive environments shall be handled with due caution. Prior to leaving the production building to go to change room(s) employee's shall brush clothing off, unfold-unroll cuffs on legs and arms, and make sure that they are not transporting material inadvertently to outside areas.

7. PROCEDURE

7.1. **Prescription and Non-Prescription Safety Glasses:**

7.1.1. **The following procedure will be utilized to requisition prescription safety glasses**

7.1.1.1. The Supervisor of the individual needing prescription safety glasses will send the completed DZHC 159-E, Authorization for Prescription Safety Glasses, and Vision Service Plan Form 00581**,** to the Human Resources Benefits Administrator.

7.1.1.2. The Human Resources Benefits Administrator will send the VSP card to Vision Service Plan; after approximately five to ten working days, VSP sends the employee a voucher and a list of eye doctors.

7.1.1.3. The employee schedules an appointment with the doctor and presents the voucher at the appointment.

7.1.2. **Non-prescription glasses:**

7.1.2.1. All eye safety equipment, to include nonprescription safety glasses, goggles, welding helmets, shades, etc., will be stocked in the Tool Crib at Building 7.

7.1.2.2. Eye and Face Protection. Suitable eye protection must be provided in accordance with a sight conservation program that meets the requirements specified in chapter 24, SOC Vision Conservation Program. Suitable eye protection devices must be worn by all personnel when working or visiting in eye hazard areas including aisles and hallways. Industrial safety eyeglasses shall meet all the requirements of ANSI/ASME Standard Z87.1 and 29 CFR 1910.133.

7.1.2.3. Specific requirements related to ammunition and explosives operations include the following**:**

7.1.2.3.1. Eyeglasses conforming to Food and Drug Administration (FDA) requirements ***will not*** be considered as substitutes for industrial safety glasses.

7.1.2.3.2. Photo chromic lenses will be permitted based on a complete justification provided by the employee's visual specialist, including the specific ophthalmic problem and the prescription.

7.1.2.3.3 Contact lenses cannot be considered as substitutes for appropriate eye protection. In some instances, contact lenses may increase the hazard to the eyes. The work environment in eye hazard areas should be thoroughly evaluated to determine the advisability of wearing contact lenses. Contact lenses shall not be worn in work environments where there are explosive powders or vapors, chemicals, fumes, smoke, dusts, particles, or molten metals. When the use of contact lenses is prescribed as necessary by a **bona fide visual specialist**, other eye protection, such as tight fitting goggles, shall be required. Reference: AMC-R 385-100, Ch. 9, 9-8.c.

7. PROCEDURE (CONTINUED)

7.1.2.3.3.1. Employee shall provide documentation to the medical clinic from ophthalmologist stating medical requirement for contacts.

7.1.2.3.4. Individuals wearing Prescription safety glasses will apply safety side shields prior to entering areas which require safety glasses.

7.1.3. **Other Protective Equipment**

7.1.3.1. Personnel exposed to flying sparks, shavings, light fragments, chemical splash hazards, molten explosives, or tar shall wear goggles, spectacles with side shields or safety glasses designed with wrap-around lenses. For severe exposures, wear a face-shield over goggles or spectacles with side shields.

7.1.3.2. Eye hazardous areas will be designated clearly by posting caution signs that require the wearing of eye protection as a condition of entry (see 29 CFR 1910.144/145). It shall also be written in standard operating procedures or company plans and policies governing depot regulations.

7.2. **Safety Shoes:**

7.2.1. Personnel will wear non-sparking conductive safety footwear when working on conductive flooring, matting, runners, and where conductive materials are required by SOP or other standards and regulations. When working on production and inspection lines dealing with ammunition, employees will be issued conductive safety shoes. Conductive footwear requires care to ensure retention of their conductive properties. When not in use, they should be stored in lockers close to the room where they are to be worn. Employees issued conductive footwear should not wear them between their place of work and home. At the end of each shift, safety shoes will be left in the workplace. All employees, other than those addressed in 7.2.1, requiring safety shoes will be issued non-conductive shoes. To obtain Safety shoes:

7.2.1.1. The supervisor of the individual needing safety shoes either conductive or non-conductive will fill out a DZHC 36-E for that individual. The Safety Office is no longer required to sign the form.

7.2.1.2. The person filling out DZHC 36-E will leave the stock number and the shoe size blank. The employee shall then send the DZHC 36-E to the Tool Room for ordering.

7.2.2. **Turn in/exchange procedures for safety shoes:**

7.2.2.1. Employee will turn in old safety shoes to the Tool Room before new safety shoes are issued **(as long as they are not explosive contaminated)**.

7.2.2.1.1. Explosive contaminated shoes should be turned into Supervisor who will phone Building 7 and inform them that shoes require special handling, and the employee is cleared/approved for receiving new shoes.

7. PROCEDURE (CONTINUED)

7.2.3. Upon termination of employment, employees are required to turn in safety shoes to the Human Resources Division (as long as they are not explosive contaminated). See note above (7.2.2.1.1).

7.3. **Specialty Shoes:**

7.3.1. An employee requiring specially fitted safety shoes due to medical reasons will be evaluated by the SOC Medical Clinic. Once it is ascertained that standard sized shoes, either stocked or available by order are not acceptable, a copy of the medical determination will be provided to the Contract Administration and Purchasing Division for special order.

7.3.2. Should the employee require medically specified safety shoes, the Contract Administration and Purchasing Division will make the necessary arrangements with a vendor to provide shoes meeting the specifications. Arrangements will be made by the vendor to ensure invoicing SOC upon receipt and acceptance of items.

7.4. **Other Protective Equipment and Clothing:**

7.4.1. **The following equipment can be obtained from the Tool Crib, Building 7:**

7.4.1.1. Respirators

7.4.1.2. Face shields

7.4.1.3. Sand/dust goggles

7.4.1.4. Chemical splash goggles

7.4.1.5. Disposable coveralls

7.4.1.6. Hearing protection

7.4.1.7. Welding helmets/lens

7.4.2. **Gloves of various types. Protective Gloves** - Appropriate gloves should be provided for personnel who come in contact with toxic materials, materials that can cause cuts, splinters, or burns including acid or caustic mixtures, and extreme heat. Protective gloves fall into the following general categories:

7.4.2.1. **Fabric or coated fabric.** Cotton gloves protect hands from dirt and abrasions. Fabric gloves coated with plastic (rubber) help prevent objects from slipping out of an employee's hands.

7.4.2.2. **Leather, canvas, or metal mesh**. Gloves made of these materials shield employees from cuts and burns. Employees working with high temperatures may be protected by leather or canvas gloves. Aluminized and aramid fiber gloves protect against extreme hot or cold temperatures.

7. PROCEDURE (CONTINUED)

7.4.2.3. **Chemical resistant.** Employees who handle chemicals should wear gloves made of rubber such as butyl, natural rubber, neoprene, nitrile, or fluorocarbon, or gloves made of plastic such as polyvinyl chloride, polyvinyl alcohol, or polyethylene. When employers look for gloves to prevent chemical hazards, they should consider the type of chemical used, its effect on the skin, and its ability to be absorbed. An employee's ability to remove the gloves without exposing the skin to the chemical also is important.

7.4.2.4. **Insulated rubber**. Gloves made of insulated rubber protect employees working with electrical hazards.

7.4.2.5. **Heat Protection**. Environments where steam heat is required to melt out ammunition require the use of steam wands for cleaning. Employees may also handle projectiles that have been melted out and require further cleaning. Temperatures of materials to be handled can exceed 200 degrees Fahrenheit.

7.4.2.6. **PPE** must be used properly to protect employees, so Supervisors must instruct employees on how and when to use and care for their hand protection. As with all PPE, hand protection should be inspected, cleaned, and properly maintained.

7.4.3. If there are any questions about PPE, contact your supervisor and or the Safety Office.

7.5. **Eyewash/Shower**

7.5.1. It shall be made known to all building personnel and visitors that hazardous substances and/or materials exist during the hazardous communication briefing and what PPE is required and locations of emergency eyewash/shower equipment.

7.5.1.1. The first seconds following an eye injury are often critical to keeping eye injury to a minimum. Personal wash units shall be placed in the immediate work area to supplement first aid in hazardous areas.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Purchase Request	Manager	3 years	Shred
PPE Inventory	Manager	3 years	Shred
DZHC 36E	Tool Crib	3 years	Shred
Request for Safety Equipment	Tool Crib	3 years	Shred
Authorization for Prescription Safety Glasses	Tool Crib	3 years	Shred
Vision Service Plan Form	Tool Crib	3 years	Shred
Request for Safety Shoes	Tool Crib	3 years	Shred

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
DZHC 63-E	Request for Safety Equipment
DZHC 159-E	Authorization for Prescription Safety Glasses
00581	Vision Service Plan Form
DZHC 36-E	Request for Safety Shoes
DZHC 84-E	Training Attendance Form

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. SOC has developed this chapter to ensure the safety of employees working with hand and portable powered tools and other hand-held equipment. This program is intended to comply with the Occupational Safety and Health Administration (OSHA) Standards contained in 29 CFR 1910.241-244.

2. SCOPE

2.1. This document applies to all employees who may use hand and portable powered tools and equipment during the course of work.

3. POLICY

3.1. All affected employees that are required to work with tools and equipment, will be made aware of the steps outlined below. Procedures for periodic inspection of equipment and tools, as well as responsibility are covered in this chapter.

4. DEFINITIONS AND ACRONYMS

4.1. There are no definitions and acronyms associated with this chapter.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **The Manager, Safety & Health shall be responsible for the following:**

6.1.1. Shall ensure that hand and portable powered tool safety measures are in place according To this program and the applicable OSHA standards.

6.1.2. Shall be responsible for surveillance and spot check of the inspection program to ensure its adequacy.

6.1.3. Periodically evaluating program implementation.

6.2. **Supervisors shall be responsible for the following:**

6.2.1. Ensuring that all hand and portable powered tools and other hand held equipment used at SOC are free from defects and are working and maintained properly.

6.2.2. Ensuring that tools are used in accordance with manufacturer recommendations.

6.2.3. Ensuring that all affected employees have been trained.

6.2.4. Ensuring that all affected employees comply with this program.

6.2.5. Taking damaged tools out of service immediately if they are defective.

6.2.6. Conducting periodic inspections of work areas.

6. RESPONSIBILITIES (CONTINUED)

6.3. **Maintenance Operations shall be responsible for the following:**

6.3.1. Prescribing procedures for the annual inspection of single-phase electric hand tools, portable electric equipment and extension cords. Fans, typewriters, calculators, and other similar equipment is excluded.

6.3.2. Conducting the necessary tests to ensure that new single phase portable equipment is in safe operating condition. Prior to release for issue, the item will have been labeled to show the date of testing. A control number will be assigned and a preventive maintenance record will be prepared before the item is delivered to the user.

6.3.3. Performing inspections and tests to determine the condition of the equipment. A label showing the date of inspection and test will be placed on the equipment. A test record card will be posted.

6.4. **Equipment Operators shall be responsible for:**

6.4.1. Arranging with BOP for availability of equipment during the inspection and test schedule.

6.4.2. Maintaining surveillance over equipment in use.

6.4.3. Withdrawing any item not having a label showing test and approval within the last 12 months.

6.4.4. Returning items requiring repair to BOP.

6.4.5. Inspecting hand and portable powered tools and equipment for defects or possible hazards prior to use.

6.4.6. Tagging any defective tools as out of service immediately.

6.4.7. Reporting any defects to their supervisor immediately.

6.5. **Inspection, Testing, and Maintenance of Lifting Devices:**

6.5.1. All lifting devices will be inspected and tested IAW ASME B30 (References B30.1 through B30.25), NAVSEA OP 5, and NAVSEA OP 2173 and SOC checklists.

6.5.2. The following inspection schedule shall be followed:

6.5.2.1. Lifting devices used for handling hazardous materials, including explosives, ammunition, weapons and associated parts must be inspected every 12 months.

6.5.2.2. Lifting devices other than those listed in paragraph above will be inspected and tested annually and after any repair or modifications.

6.5.2.3. Lifting devices (e.g. cranes, aerial lifts, forklifts) used for personnel.

6.5.2.4. A crane which has been idle for a period of 6 months or more shall be given a complete inspection before placing in service.

7. PROCEDURE

7.1. General Safety Requirements

7.1.1. Tools and equipment shall be kept in safe condition. The following help prevent hazards associated with the use of hand and power tools:

7.1.1.1. Keep all tools in good condition with regular maintenance

7.1.1.2. Use the right tool for the job.

7.1.1.3. Inspect each tool for damage before use.

7.1.1.4. Never use damaged tools - take damaged tools out of service immediately.

7.1.1.5. Operate tools according to the manufacturers' instructions.

7.1.1.6. Use the proper personal protective equipment (PPE).

7.1.2. **Guards**

7.1.2.1. The exposed moving parts of power tools shall be guarded. Safety guards must never be removed when a tool is being used. Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded.

7.1.2.2. Machine guards must be provided to protect the operator and others from the following:

7.1.2.2.1. Point of operation.

7.1.2.2.2. In-running nip points.

7.1.2.2.3. Rotating parts.

7.1.2.2.4. Flying chips and sparks.

7.1.2.3. Personal Protective Equipment (PPE) Employees who use hand and power tools and are exposed to the hazards of noise, vibration, falling, flying, abrasive, and splashing objects, or to harmful dusts, fumes, mists, vapors, or gases must be provided with the appropriate personal protective equipment.

7.1.2.4. The following considerations should be evaluated at a minimum in the selection and use of PPE when using hand and portable powered tools:

7.1.2.4.1. Safety glasses or goggles must be worn at all times when using hand and powered tools.

7.1.2.4.2. A face-shield may be used in addition to safety glasses or goggles to protect the face and neck.

7. PROCEDURE (CONTINUED)

7.1.2.4.3. Composite-toe leather shoes should be worn while working with power tools to prevent injury from dropped tools.

7.1.2.4.4. Hearing protection is recommended when using power tools.

7.1.2.4.5. Before working with hand and power tools consult the Job Safety Analysis (JSA) evaluation for the job you will be conducting to determine if additional PPE will be needed. Refer to SOC's PPE Program for specific information regarding the safe use of PPE.

7.1.3. **Hand Tools**

7.1.3.1. Hand tools are tools that are powered manually. Some examples of hand tools include anvils, axes, chisels, files, hammers, hand boring tools, planes, pliers, punches, saws, scissors, screw drivers, tin snips, and wrenches. Hazards associated with hand tools result from misuse and improper maintenance. To prevent injury, follow the guidelines listed below:

7.1.3.1.1. Hand tools shall be used for their intended purpose. For example, if a screwdriver is used as a chisel, the tip of the screwdriver may break and fly off, hitting the user or other employees.

7.1.3.1.2. Inspect tools for damage prior to use.

7.1.3.1.3. Hand tools shall be maintained in good condition free of damage. For example, wooden handles on tools, such as a hammer or an axe, shall be tight and free from splinters or cracks.

7.1.3.1.4. Bent screwdrivers or screwdrivers with chipped edges shall be replaced.

7.1.3.1.5. Always direct tools such as knives, saw blades, etc. away from aisle areas and away from other employees working in close proximity.

7.1.3.1.6. Knives and scissors must be sharp; dull tools can cause more hazards than sharp ones.

7.1.3.1.7. Cracked saw blades must be removed from service.

7.1.3.1.8. Wrenches must not be used when jaws are sprung to the point that slippage occurs.

7.1.3.1.9. Impact tools such as drift pins, wedges, and chisels must be kept free of mushroomed heads.

7.1.3.1.10. Iron or steel hand tools may produce sparks that can be an ignition source around flammable substances. Spark resistant tools made of non-ferrous materials should be used where flammable gases, highly volatile liquids, and other explosive substances are stored or used.

7.1.3.1.11. Keep the work area and tools clean. Dirty, greasy tools and floor may cause accidents.

7. PROCEDURE (CONTINUED)

7.1.3.1.12. Tools shall be stored in a dry secure location.

7.1.3.1.13. Carry and store tools properly. All sharp tools shall be carried and stored with the sharp edge down. Do not carry sharp tools in a pocket.

7.1.3.1.14. Wear the proper personal protective equipment (PPE).

7.1.4. **Power Tools**

7.1.4.1. Power tools must be equipped with guards and safety switches. They can be hazardous when used improperly. Types of power tools are determined by their power source: electric, pneumatic, liquid fuel, hydraulic, and powder-actuated.

7.1.4.2. To prevent hazards associated with the use of power tools, workers should observe the following general precautions:

7.1.4.2.1. Read the owner's manual to understand the tool's proper applications, limitations, operation, and hazards.

7.1.4.2.2. Never carry a tool by the cord or hose.

7.1.4.2.3. Never yank the cord or the hose to disconnect it from the receptacle.

7.1.4.2.4. Keep cords and hoses away from heat, oil, and sharp edges.

7.1.4.2.5. Ensure tools are properly grounded; use Ground Fault Circuit Interrupter (GFCI) for corded tools.

7.1.4.2.6. Disconnect tools when not using them, before servicing and cleaning, and when changing accessories such as blades, bits, and cutters.

7.1.4.2.7. Keep all people not involved with the work at a safe distance from the work area.

7.1.4.2.8. Secure work with clamps or a vise, freeing both hands to operate the tool.

7.1.4.2.9. Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.

7.1.4.2.10. Maintain tools sharp and clean.

7.1.4.2.11. Be sure to keep good footing and maintain good balance when operating power tools.

7.1.4.2.12. Wear proper apparel for the task. Loose clothing, ties, or jewelry can become caught in moving parts.

7.1.4.2.13. Inspect tools for damage before each use. Remove all damaged portable electric tools from use and tag them: "Do Not Use."

7. PROCEDURE (CONTINUED)

7.1.5. **Electric Tools**

7.1.5.1. Electric tools may cause electrical burns and shocks. To prevent the user from electrocution, electric tools shall have a three-wire cord with a ground and be plugged into a grounded receptacle, be double insulated, or be powered by a low voltage isolation transformer to protect from burns and shocks. Three-wire cords contain two current carrying conductors and a grounding conductor. When an adapter is used to accommodate a two hole receptacle, the adapter wire must be attached to a known ground. The third prong must never be removed from the plug.

7.1.5.2. Double-insulated tools are available that provide protection against electrical shock without third-wire grounding. On double insulated tools, an internal layer of protective insulation completely isolates the external housing of the tool.

7.1.5.3. The following general practices should be followed when using electric tools:

7.1.5.3.1. Operate electric tools within their design limitations.

7.1.5.3.2. Use gloves and appropriate safety footwear when using electric tools.

7.1.5.3.3. Store electric tools in a dry place when not in us.

7.1.5.3.4. Do not use electric tools in damp or wet locations unless they are approved for that purpose.

7.1.5.3.5. Keep work areas well lighted when operating electric tools.

7.1.5.3.6. Ensure that cords from electric tools do not present a tripping hazard.

7.1.6. **Pneumatic Tools**

7.1.6.1. Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders. Some hazards associated with pneumatic tools include noise, vibration, fatigue, and strains. Additional hazards are described below:

7.1.6.1.1. The greatest hazard is being hit by one of the tool's attachments or by a fastener used with the tool. Eye protection must be worn for employees working with pneumatic tools.

7.1.6.1.2. Pneumatic tools must be checked to ensure that they are fastened securely to the air hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must also be used and will serve as an added safeguard.

7.1.6.1.3. If an air hose is more than 1/2-inch in diameter, a safety excess flow valve must be installed at the source of the air supply to shut off the air automatically in case the hose breaks.

7. PROCEDURE (CONTINUED)

7.1.6.1.4. When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments such as chisels on a chipping hammer from being ejected during tool operation.

7.1.6.1.5. Pneumatic tools that shoot nails, rivets, staples, or similar fasteners and operate at pressures more than 100 pounds per square inch, must be equipped with a special device to keep fasteners from being ejected, unless the muzzle is pressed against the work surface.

7.1.6.1.6. Airless spray guns that atomize paints and fluids at pressures of 1,000 pounds or more per square inch must be equipped with automatic or visible manual safety devices that will prevent pulling the trigger until the safety device is manually released.

7.1.6.1.7. Screens must be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.

7.1.6.1.8. Compressed air guns should never be pointed toward anyone. Workers should never “dead-end” them against themselves or anyone else.

7.1.7. **Liquid Fuel Powered Tools**

7.1.7.1. Fuel-powered tools are usually operated with gasoline. The most serious hazard associated with the use of fuel-powered tools is from fuel vapors that can burn or explode and also give off dangerous exhaust fumes. Fuel must be handled, transported, and stored only in approved flammable liquid containers, according to proper procedures for flammable liquids. Before refilling a fuel powered tool tank, shut down the engine and allow it to cool to prevent accidental ignition of hazardous vapors. When a fuel powered tool is used inside a closed area, effective ventilation and/or proper respirators such as atmosphere-supplying respirators must be utilized to avoid breathing carbon monoxide. Fire extinguishers must also be available in the area.

7.1.8. **Hydraulic Power Tools**

7.1.8.1. The fluid used in hydraulic power tools must be an approved fire resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed. The exception to fire-resistant fluid involves all hydraulic fluids used for the insulated sections of derrick trucks, aerial lifts, and hydraulic tools that are used on or around energized lines. This hydraulic fluid shall be of the insulating type.

7.1.8.2. The manufacturer’s recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

7.1.8.3. All jacks—including lever and ratchet jacks, screw jacks, and hydraulic jacks—must have a stop indicator, and the stop limit must not be exceeded. Also, the manufacturer’s load limit must be permanently marked in a prominent place on the jack, and the load limit must not be exceeded.

7. PROCEDURE (CONTINUED)

7.1.8.4. A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up. Place a block under the base of the jack when the foundation is not firm, and place a block between the jack cap and load if the cap might slip.

7.1.8.5. To set up a jack:

7.1.8.5.1. The base of the jack shall rest on a firm, level surface.

7.1.8.5.2. The jack must be correctly centered.

7.1.8.5.3. The jack head must bear against a level surface.

7.1.8.5.4. The lift force must be applied evenly.

7.1.8.6. All jacks must be lubricated regularly. Each jack must be inspected according to the following schedule: (1) for jacks used continuously or intermittently at one site—inspected at least once every 6 months, (2) for jacks sent out of the shop for special work inspected when sent out and inspected when returned, and (3) for jacks subjected to abnormal loads or shock— inspected before use and immediately thereafter.

7.1.9. **Operating Controls and Switches**

7.1.9.1. **T**he following hand-held power tools must be equipped with a constant-pressure switch or control that shuts off the power when pressure is released:

7.1.9.1.1. Drills

7.1.9.1.2. Tappers

7.1.9.1.3. Fastener drivers

7.1.9.1.4. Horizontal, vertical, and angle grinders with wheels more than 2 inches in diameter.

7.1.9.1.5. Disc sanders with discs greater than 2 inches.

7.1.9.1.6. Belt sanders

7.1.9.1.7. Reciprocating saws

7.1.9.1.8. Saber saws, scroll saws, and jigsaws with blade shanks greater than 1/4-inch wide.

7.1.9.1.9. Other similar tools.

7.1.9.2. These tools also may be equipped with a “lock-on” control, if it allows the worker to also shut off the control in a single motion using the same finger or fingers.

7.1.9.3. The following hand-held power tools must be equipped with a positive “on-off” control switch, a constant pressure switch, or a “lock-on” control:

7.1.9.3.1. Disc sanders with discs 2 inches or less in diameter.

7. PROCEDURE (CONTINUED)

7.1.9.3.2. Grinders with wheels 2 inches or less in diameter.

7.1.9.3.3. Platen sanders, routers, planers, laminate trimmers, nibblers, shears, and scroll saws.

7.1.9.3.4. Jigsaws, saber, and scroll saws with blade shanks a nominal 1/4-inch or less in diameter.

7.1.9.4. The constant-pressure control switch should be regarded as the preferred device. Other hand-held power tools such as circular saws having a blade diameter greater than 2 inches, chain saws, and percussion tools with no means of holding accessories securely must be equipped with a constant-pressure switch.

7.1.10. **Powder-Actuated Tools**

7.1.10.1. Powder-actuated tools require special training and shall not be used at SOC without prior approval from SOC Safety.

7.2. **All employees shall be trained in the proper use of tools prior to using hand and power tools and other hand-held equipment. Employees shall be trained in the following:**

7.2.1. Recognition of the hazards associated with different types of tools and the safety precautions necessary for use.

7.2.2. The PPE required during use.

7.2.3. The proper use of hand and power tools and other hand-held equipment.

7.3. Employees shall be retrained as necessary to maintain their understanding and knowledge on the safe use of hand and power tools and other hand-held equipment.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Inspection Testing/Maintenance	Supervisor	3 Years	Shred

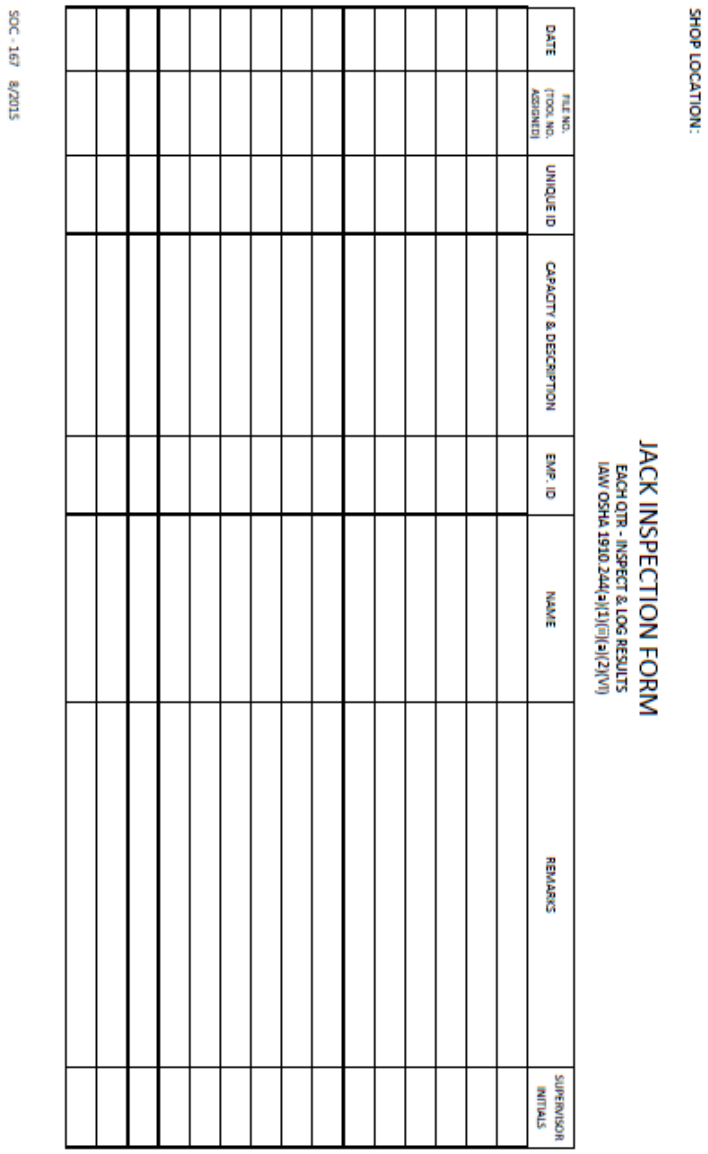
10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
SOC-167	Jack Inspection Form

11. ATTACHMENTS

11.1. Jack Inspection Form (SOC-167):



SOC - 167 8/2015

SHOP LOCATION:

JACK INSPECTION FORM

EACH QTR - INSPECT & LOG RESULTS
IAW OSHA 1910.244(a)(1)(i)(e)(2)(vi)

DATE	FILE NO. (TOOL NO. ASSIGNED)	UNIQUE ID	CAPACITY & DESCRIPTION	EMP. ID	NAME	REMARKS	SUPERVISOR INITIALS

1. PURPOSE

1.1. To maintain an Industrial Hygiene Program (I.H.P.) Occupational Safety and Health Act of 1970, Public Law 91-596 and applicable state laws. The I.H.P. will focus on preventing and controlling occupational health hazards that arise as a result of the work environment.

2. SCOPE

2.1. Applies to all SOC Management and Employees.

3. POLICY

3.1. All SOC employees will adhere to the I.H.P. requirements as they apply to their work environment.

4. DEFINITIONS AND ACRONYMS

4.1. **Dust -** Solid particles generated by the handling, crushing, grinding, colliding, exploding, and heating organic or inorganic materials such as rock, ore, metal, coal, wood, and grain.

4.2. **Fibers -** Solid particles whose length is several times greater than their diameter, such as asbestos.

4.3. **Fumes -** Formed when material from a volatilized solid condenses in cool air. In most cases, the solid particles resulting from the condensation react with air to form an oxide.

4.4. **Gases -** Formless fluids that expand to occupy the space and enclosure in which they are confined.

4.5. **Mist -** Generated by liquids condensing from a vapor back to a liquid or by a liquid being dispersed by splashing or atomizing.

4.6. **Vapors -** The volatile form of substances that are normally in a solid or liquid state at room temperature and pressure.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **Safety Office/Sub-Contractors:**

6.1.1. Familiarizing himself/herself with all operations and regularly visiting areas where potential toxic exposures and/or occupational hazards exist.

6.1.2. Making recommendations to Maintenance & Engineering Functions for engineering controls of physical/chemical exposures at the SOC operations.

6.1.3. Establish a baseline for New/Changed Operations.

6. RESPONSIBILITIES (CONTINUED)

6.2. **Managers Responsibilities:**

6.2.1. Arranging for employee to undergo required medical surveillance examinations as required.

6.2.2. Coordinating with the Safety Office any changes in operations involving potentially hazardous material or equipment.

6.2.3. Coordinating with the Safety Office the implementation of suggested changes and/or alternate methods of alleviating hazards.

6.2.4. Obtaining SOC Safety Office approval for initial purchases of toxic materials (see SP 250-0300, Requisitioning Procedure).

6.3. **Eye Protection:**

6.3.1. The Safety Office/Sub-contractor will insure that an eye protection program is maintained IAW applicable OSHA Standards. Mandatory eye protection is required as follows:

6.3.1.1. When conspicuously posted, warning signs dictate a hazardous area.

6.3.1.2. Where dusty conditions exist.

6.3.1.3. While exposed to hazardous chemicals or airborne contaminants such as foreign particles, gases, vapors, and fumes.

7. PROCEDURE

7.1. **Safety Office/Sub-contractor:**

7.1.1. Periodically inspecting work areas for noise levels, toxic vapors, fumes, aerosols, acids, caustics, dusts, and other environmental factors, which are occupationally hazardous. Where required, appropriate sampling procedures and follow-up analysis will be performed.

7.1.2. Safety Office/Sub-contractor will enforce illumination standards and sample lighting conditions for work areas and offices, IAW the American National Standards Institute (ANSI).

7.1.3. When such hazards exist, conduct a study to determine corrective action, and notify the appropriate Manager of existing occupational hazards and coordinates, as necessary, corrective action to be taken.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Any Industrial Hygiene Documents	Industrial Hygienist	3 Years	Shred

10. FORMS

10.1. There are no applicable forms to this chapter.

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. There are multiple state and federal regulations that govern the occupational use of respiratory protection. The purpose of this document is to establish requirements to ensure regulatory compliance, and safe and effective use of respiratory protection equipment by SOC personnel. However, the primary objective of the SOC Respiratory Protection Program is to prevent and control diseases which may be caused by exposure to hazardous atmospheres through the following:

1.1.1. The elimination of hazardous atmospheres wherever possible through the implementation of effective control measures.

1.1.2. Where adequate control measures are not feasible, or while such measures are being implemented or evaluated, the use of respiratory protection to ensure exposures to hazardous atmospheres do not exceed applicable exposure limits.

2. SCOPE

2.1. In the Respiratory Protection Program, hazard assessment and selection of proper respiratory PPE is conducted in the same manner as for other types of PPE. In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished, as far as feasible, by accepted engineering control measures such as enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials. When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used.

2.1.1. References: OSHA Standards Respiratory Protection (29 CFR 1910.134).

2.2. This program applies to all SOC personnel involved in the administration, implementation and participation in the Respiratory Protection Program. This includes, but is not limited to the Safety Office, Health Clinic, Supervising Physician, management and employees whose jobs necessitate the need for respiratory protection.

3. POLICY

3.1. SOC is committed to providing a safe work environment for its employees. The SOC Respiratory Protection Program is designed to ensure that each employee whose job may expose them to airborne hazardous substances is trained and demonstrates skill and comprehension in the proper utilization of respiratory PPE. This QP meets and/or exceeds OSHA 1910.134 respiratory protection regulations.

4. DEFINITIONS AND ACRONYMS

4.1. **Air-purifying respirator -** A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

4.2. **Assigned protection factor (APF) -** The level of respiratory protection that a respirator or class of respirators is expected to provide.

4.3. **Atmosphere-supplying respirator -** A respirator that supplies the user with breathing quality air from a source independent of the work environment. This includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

4. DEFINITIONS AND ACRONYMS (CONTINUED)

4.4. **Canister or cartridge -** A container with a filter, sorbent media, catalyst, or combination of these items, that removes specific contaminants from the air.

4.5. **Demand respirator -** An atmosphere-supplying respirator that supplies breathing air to the user only when a negative pressure is created inside the face piece by inhalation.

4.6. **Emergency situation -** Any occurrence that may result in an uncontrolled significant release of an airborne contaminant. This may include equipment failure, rupture of containers, or failure of control equipment.

4.7. **End-of-service-life indicator (ESLI) -** A system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent media is approaching saturation or is no longer effective.

4.8. **Escape-only respirator -** A respirator intended to be used only for emergency exit from a contaminated area.

4.9. **Filter or air purifying element -** A component used in respirators to remove solid or liquid aerosols from the inspired air.

4.10. **Filtering facepiece respirator (dust mask) -** is a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

4.11. **Fit factor -** A quantitative estimate of the fit of a particular respirator to a specific individual, and typicallyestimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

4.12. **Fit test -** The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

4.13. **High efficiency particulate air -** A filter that is at least 99.97% efficient in removing (HEPA) filter mono disperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

4.14. **Immediately dangerous to life -** An atmosphere that poses an immediate threat to or health (IDLH) life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

4.15. **Loose-fitting face piece -** A respiratory inlet covering that is designed to form a partial face-to-facepiece seal.

4.16. **Maximum use concentration (MUC) -** The maximum atmospheric concentration of a hazardous substance from which an individual can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.17. **Negative pressure respirator -** A respirator which uses a tight face-to-facepiece seal **(tight-fitting)** to create negative pressure inside the mask during inhalation with respect to the ambient air.

4.18. **Oxygen deficient atmosphere -** An atmosphere with oxygen content below 19.5% by volume.

4.19. **Physician or other licensed health -** An individual whose legally permitted scope or **care** professional (PLHCP) practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by the regulations.

4.20. **Positive pressure respirator -** A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

4.21. **Powered air-purifying respirator (PAPR) -** An air-purifying respirator that uses a built-in fan to actively filter ambient air through air-purifying elements to the inlet covering.

4.22. **Pressure demand respirator -** A positive pressure atmosphere-supplying respirator that supplies breathing air to the facepiece when the pressure inside the facepiece is reduced by inhalation.

4.23. **Program Administrator -** An individual appointed by the SOC Safety Office who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the Respiratory Protection Program, and conduct the required evaluations of program effectiveness.

4.24. **Qualitative fit test (QLFT) -** A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

4.25. **Quantitative fit test (QNFT) -** An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

4.26. **Respiratory inlet covering -** That portion of a respirator that forms the protective barrier between the user's respiratory tract and an air purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

4.27. **Respirator Use Area -** An area where the use of respiratory protection is required. Respirator Use Areas shall be clearly marked using appropriate signage or by other effective means.

4.28. **Respirator Users -** Are SOC personnel who utilize respiratory protection while engaged in SOC related activities.

4.29. **Self-contained breathing apparatus (SCBA) -** An atmosphere-supplying respirator for which the breathing air source is contained within a portable compressed gas cylinder designed to be carried by the user.

4.30. **Service life -** The period of time that a respirator, filter or sorbent media, or other respiratory protection equipment provides adequate protection to the wearer.

4.31. **Supplied-air respirator (SAR) -** An atmosphere-supplying respirator for which the air or airline **respirator** supply is provided by an external, fixed compressed gas source or compressor. The SAR air supply is not typically carried by the user.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.32. **Tight-fitting facepiece -** A respiratory inlet covering that forms a complete face-to-facepiece seal.

4.33. **User seal check -** An action conducted by the respirator user to determine if the respirator is properly seated to the face.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. The OSHA Standard 1910.134, states that each company will designate a Program Administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program, to administer the Respiratory Protection Program and conduct the required evaluations of program effectiveness. The Program Administrator for SOC's Respiratory Protection Program is the Industrial Hygienist/ Safety Office.

6.1.1. **Program Administrator**

6.1.1.1. Developing and maintaining the SOC Respiratory Protection Program and ensuring it meets all applicable regulatory requirements. Assisting departments and Supervisors in performing hazard assessments when requested, and recommending appropriate controls.

6.1.1.2. Ensuring appropriate respiratory protection equipment is issued, and developing cartridge change schedules where applicable.

6.1.1.3. Providing oversite for training, fit-testing, and other technical assistance to SOC personnel regarding respirator use.

6.1.1.4. Monitoring for unauthorized and/or improper respiratory protection equipment use.

6.1.1.5. Assessing the overall effectiveness of the SOC Respiratory Protection Program.

6.1.1.6. Implement the requirements of the respiratory protection program.

6.1.1.7. Ensure adherence to all provisions of the program.

6.1.1.8. Monitor for compliance with the program.

6.1.2. **Safety Office**

6.1.2.1. Designating a Respiratory Protection Program Administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the Respiratory Protection Program and conduct the required evaluations of program effectiveness.

6.1.3. **Industrial Hygienist**

6.1.3.1. Coordinate air sampling to determine concentration of exposure levels at work sites. Industrial Hygienist/or contracted IH will conduct air sampling.

6.1.3.2. Determine appropriate level of respiratory protection required specific to each work site.

6. RESPONSIBILITIES (CONTINUED)

6.1.3.3. Determine change out schedule for cartridges based on objective data or information that will ensure that they are changed before the end of their service life.

6.1.3.4. Ensure that Standard Operating Procedures (SOPs) state the site-specific, appropriate level of NIOSH approved respirators and cartridges to be used and the change out schedule for the cartridges.

6.1.3.5. Review compliance with monthly inspections of SCBA and other emergency respirators.

6.1.3.6. Coordinate with supervisors and Clinic to determine which employees are covered under the Respiratory Protection Program.

6.1.3.7. Review the respirator sanitation/storage procedures at the tool room as well as the work site.

6.1.3.8. Perform routine inspections to determine compliance with various elements of the program.

6.1.3.9. Conduct regular evaluation of the program by surveying employees at various work sites where respiratory protection is required.

6.1.3.10. Report non-conformities, corrective actions and recommendations to the Program Administrator.

6.1.4. **Health Clinic**

6.1.4.1. Provide medical screening.

6.1.4.2. Provide copy of annual fit test to the respirator maintenance personnel (Tool Room) in the absence of the IH.

6.1.4.3. Maintain medical and fit test records.

6.1.5. **Training and Compliance**

6.1.5.1. Maintain medical and fit test records.

6.1.5.2. Report any unusual findings to the Supervising Physician obtained during the medical screening or respirator fit testing in the absence of the IH.

6.1.5.3. Provide annual training for affected employees.

6.1.5.4. Maintain fit test records.

6.1.6. **Directors/Department Chairs**

6.1.6.1. Ensuring departmental compliance with the SOC Respiratory Protection Program; Identifying departmental Supervisors and ensuring they are trained on their safety and responsibilities.

6.1.6.2. Providing the necessary resources to ensure the safety and health of their employees.

6. RESPONSIBILITIES (CONTINUED)

6.1.6.3. Understand OSHA Standard 1910.134.

6.1.6.4. Ensure that the SOC Respiratory Protection Program and OSHA Standard 1910.134 are accessible to employees and encourage them to read the program and standard.

6.1.6.5. Ensure monthly inspection of all emergency respirators.

6.1.6.6. Ensure respirators are properly stored, inspected, and maintained.

6.1.6.7. Provide time and materials for regular disinfecting of respirators (see Appendix B-2 of OSHA Standard 1910.134): respirators that are used frequently should be disinfected once a week.

6.1.6.8. Ensure employees are properly wearing and caring for their respirators.

6.1.6.9. Notify Clinic if there is a noticeable change in employees' health, weight, facial structure, (i.e., dentures, cosmetic surgery, broken facial bones, etc.).

6.1.6.10. Notify Safety Office if there is a significant change in work or environmental conditions such as temperature, humidity, introduction of new contaminant, or increased intensity of physical exertion required.

6.1.7. **Managers and Supervisors**

6.1.7.1. Understanding and complying with SOC Respiratory Protection Program requirements.

6.1.7.2. Ensuring documented Job Safety Analysis (JSAs) are performed for all job tasks using hazardous substances, or requiring the use of Personal Protective Equipment (PPE).

6.1.7.3. Identifying respiratory hazards and ensuring that they are eliminated or properly controlled.

6.1.7.4. Identifying personnel who may need to be enrolled in the Respiratory Protection Program and contacting the Program Administrator for further evaluation.

6.1.7.5. Ensuring all use of respiratory protection equipment has been evaluated and approved by the Program Administrator.

6.1.7.6. Ensuring personnel who use respiratory protection equipment are enrolled in the Respiratory Protection Program and are in compliance with program requirements.

6.1.7.7. Enforcing the use of respiratory protective equipment where required.

6.1.7.8. Notify Clinic if there is a noticeable change in employees' health, weight, facial structure, (i.e., dentures, cosmetic surgery, broken facial bones, etc.).

6.1.7.9. Ensuring their Respirator Users complete their Respirator/Cartridge Usage Logs, and that they receive new cartridges when needed.

6. RESPONSIBILITIES (CONTINUED)

6.1.7.10. Notify Safety Office if there is a significant change in work or environmental conditions such as temperature, humidity, introduction of new contaminant, or increased intensity of physical exertion required.

6.1.7.11. Ensuring their Respirator Users understand and comply with all other SOC Respiratory Protection Program requirements.

6.1.8. **Fire Department**

6.1.8.1. Ensure that compressors used to supply breathing air to respirators are constructed and situated so as to:

6.1.8.1.1. Prevent entry of contaminated air into the air-supply system.

6.1.8.1.2. Minimize moisture content so that the dew point at I atmosphere pressure is 10 degrees F (5.56 deg. C) below the ambient temperature.

6.1.8.1.3. Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beads and filters shall be maintained and replaced or refurbished periodically following the manufacturer's instructions.

6.1.8.1.4. Have a tag containing the most recent change date and the signature of the person authorized by the Fire Department to perform the change: to be maintained at the compressor.

6.1.8.1.5. For compressors that are not oil-lubricated, the SOC/Fire Department shall ensure that carbon monoxide in the breathing air does not exceed 10 ppm. For oil-lubricated compressors, the employer shall use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm. SOC/Fire Department will ensure that breathing air couplings are incompatible with outlets for non-compatible worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines. SOC/Fire Department will use breathing gas containers marked IAW the NIOSH respirator certification standard, 42 CFR part 84.

6.1.8.2. Ensure monthly inspection of all SCBA.

6.1.8.3. Maintain records and ensure compliance with 29 CFR 1910.134 for supplied medical oxygen, compressed air tanks, and equipment.

6.1.8.4. Ensure annual training is provided to firefighters and HazMat team members on respiratory protection, and maintain training records.

6.1.9. **Respirator Maintenance Personnel (Tool room)**

6.1.9.1. Receive and issue respirators to employees.

6.1.9.2. Inspect condition of used respirators.

6. RESPONSIBILITIES (CONTINUED)

6.1.9.3. Clean respirators according to OSHA Standard 29 CFR 1910.134 Appendix B-2.

6.1.9.4. Replace respirator parts as needed.

6.1.9.5. Order respirators and parts.

6.1.9.6. Maintain records as needed.

6.1.10. **Respirator Users**

6.1.10.1. Understanding and complying with all SOC Respiratory Protection Program requirements.

6.1.10.2. Notifying their Supervisor or the Safety Office about any hazardous conditions observed on the worksite.

6.1.10.3. Only using respiratory protection equipment if they are currently enrolled in the Respiratory Protection Program and are in compliance with all program requirements.

6.1.10.4. Using respiratory protection equipment where required and in accordance with instruction and training provided by Program Administrator, their Supervisor, and/or Compliance and Training Department.

6.1.10.5. Only using respiratory protection equipment for which they have been trained and fitted.

6.1.10.6. Informing the Occupational Health Clinic, their Supervisor, or the Program Administrator, of any discomfort or personal health problems, caused by, or that could be aggravated by the use of respiratory protection equipment.

6.1.10.7. Guarding their respirator against damage and ensuring it is not disassembled, modified, or otherwise altered in any way.

6.1.10.8. Reporting any observed or suspected malfunctioning of respiratory protection equipment to their Supervisor or the Program Administrator.

6.1.10.9. Recording their respirator use on their Respirator Usage Log after each use.

6.1.10.10. Report significant changes in your health (i.e., noticeable weight gain/loss, facial surgery, broken facial bones or swelling, dentures or loss of teeth or dentures) to your supervisor.

6.1.10.11. Do not wear contacts with full-face respirators or at any time out in the area other than the Industrial side of the depot.

6.1.10.12. Be clean shaven before wearing the respirator.

6.1.11. **Supervising Physician**

6.1.11.1. Conducting medical evaluations to determine the prospective Respirator User's ability to use a respirator.

6. RESPONSIBILITIES (CONTINUED)

6.1.11.2. Informing the Program Administrator and prospective Respirator User of any restrictions regarding respirator use.

7. PROCEDURE

7.1. **Voluntary Use of Respirator is Prohibited:**

7.1.1. OSHA requires that voluntary use of respirators, when not required by the company, must be controlled as strictly as under required circumstances. To prevent violations of the SOC Respiratory Protection Program, employees are not allowed voluntary use of their own or company supplied respirators of any type with two exceptions:

7.1.1.1. The voluntary use of filtering (non-sealing) face pieces (dust masks). These employees will be provided the information in Appendix B of 1910.134 in any written or oral format.

7.1.1.2. Any employee who has been medically diagnosed as “sensitized" to a specific chemical and who therefore is negatively affected by it at levels below the permissible exposure limits (PEL). This employee will receive the same medical screening, training and fit testing as other employees under the Respiratory Protection Program.

7.2. **Program Evaluation:**

7.2.1. Evaluations of the workplace are necessary to ensure that the written Respiratory Protection Program is being properly implemented. This includes consulting with employees to ensure that they are using their respirators properly. The Safety Office shall evaluate the program to ensure its ongoing effectiveness. Program evaluation will include, but is not limited to, surveys or discussions with employees to assess their views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be documented and corrected. Factors to be assessed include, but are not limited to:

7.2.1.1. Respirator fit (including the ability to use the respirator without interfering with effective workplace performance).

7.2.1.2. Respirator and cartridge selection appropriate to the contaminant.

7.2.1.3. Knowledge of the change out schedule for the cartridges.

7.2.1.4. Proper respirator use under the workplace conditions.

7.2.1.5. Proper respirator maintenance.

7.3. **Training:**

7.3.1. Effective training for employees who are required to use respirators is essential. The training must be comprehensive and taught at the employee level on an annual basis, more often if necessary. Training will be provided prior to requiring the employee to use a respirator in the workplace.

7. PROCEDURE (CONTINUED)

7.3.2. The employee will not be allowed to wear a respirator or work in areas where respirators are required if they are not clean shaven or if annual training, medical evaluation or fit test has expired. Retraining shall be conducted annually and when:

7.3.2.1. Changes in the workplace or the type of respirator render previous training obsolete.

7.3.2.2. Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill (management or Safety Office may request retraining at any time for an employee).

7.3.2.3. Any other situation arises in which retraining appears necessary to ensure safe respirator use.

7.3.3. The basic advisory information on respirators, as presented in appendix B of the OSHA standard, shall be provided by the Tool Room or the supervisor in any written or oral format, to employees who wear filtering, non-sealing face pieces (dust masks).Instructors approved by the Program Administrator, will conduct training. Training is conducted annually immediately prior to the fit test and covers the following:

7.3.3.1. Overview of the Respiratory Protection Program & Standard 1910.134.

7.3.3.2. Inspection.

7.3.3.3. Cleaning.

7.3.3.4. Proper fitting.

7.3.3.5. Respirator operation and use.

7.3.3.6. Record keeping.

7.3.3.7. Storage.

7.3.3.8. Limitations and capabilities of the respirator.

7.3.3.9. Donning and doffing the respirator.

7.3.3.10. Seal checks.

7.3.3.11. Medical signs and symptoms that may limit or prevent the effective use of respirators.

7.3.3.12. Change out schedules for cartridges.

7.3.3.13. Basic Safety Procedures:

7.3.3.14. Only authorized and trained employees may use respirators. Those employees may use only the respirator that they have been trained on and properly fitted to use.

7.3.3.15. Only medically qualified employees will be trained and authorized to use respirators. A pre-authorization and annual certification by a qualified physician will be required and maintained. Any noticeable changes in an employee's

7. PROCEDURE (CONTINUED)

health or physical characteristics that may affect respirator fit will be reported to the Health Clinic and will be evaluated by the Supervising Physician.

7.3.3.16. Only the proper prescribed respirator or SCBA may be used for the job or work environment. Air purifying respirators may be worn in work environments when oxygen levels are between 19.5 percent and 23.5 percent. The appropriate NIOSH approved cartridge, as determined by the Safety Office or SOPs, for the known hazardous substance will be used.

7.3.3.17. Employees working in environments where a sudden release of a hazardous substance is likely will wear an appropriate respirator for that hazardous substance (example: employees working in an ammonia compressor room will have an ammonia APR respirator on their person).

7.3.3.18. SCBAs will be used in:

7.3.3.19. Oxygen rich and deficient environments (above 23.5 percent and below 19.5 percent).

7.3.3.20. Environments with an unknown hazardous substance.

7.3.3.21. Unknown quantity of a known hazardous substance.

7.3.3.22. Any environment that is determined “Immediately Dangerous to Life or Health (IDLH)”.

7.3.3.23. Employees will be responsible for their respirator’s sanitation, proper storage, and security.

7.3.3.24. The last employee using a respirator and/or SCBA will be responsible for proper storage and sanitation. All SCBA and other emergency respirators will be inspected monthly and after each use with documentation to assure its availability for use (this is the responsibility of the Fire Department).

7.3.3.24.1. All respirators will be located in a clean, convenient and sanitary location.

7.3.3.24.2. Management and Safety Office personnel shall establish and maintain a system of surveillance of work area conditions and a degree of employee exposure and/or stress. Changes in work conditions, exposure or stress level of employees may require the reevaluation of the effectiveness of the current respirator protection used for that work site.

7.3.3.24.3. Management will establish and maintain operating procedures IAW this Respiratory Protection Program, QP HSE.SAF.017, for the safe use of respiratory protective equipment (RPE) with strict enforcement and disciplinary action for failure to follow all general and specific safety rules. Standard Operation Procedures (SOPs), which contain directives for RPE use, will be considered an attachment to the

7. PROCEDURE (CONTINUED)

Respiratory Protection Program as long as the project that the SOP covers is in operation.

7.4. Respirator User Guidelines:

7.4.1. Adherence to the following guidelines will help ensure the proper and safe use of respiratory equipment:

7.4.1.1. Wear only the respirator you have been instructed to use. For example, do not wear SCBA if you have been assigned and fitted for a half face respirator. Likewise, if you have been certified to wear a North medium size, half face, do not wear a mask made by a different manufacturer or a size other than medium.

7.4.1.2. Wear the correct respirator and cartridges for the particular hazard. Some situations, such as chemical spills or other emergencies, may require a higher level of protection than your respirator can handle, therefore, the proper cartridge must be matched to the hazard (a cartridge designed for dusts and mists will not provide protection for chemical vapors). Consult with the SOPs, Supervisor, or the Safety Office when the correct type of any PPE is in question.

7.4.1.3. Check the respirator for a good fit before each use. Positive and negative seal checks should be conducted.

7.4.1.4. Check the respirator for deterioration before and after use. Do not use a defective respirator.

7.4.1.5. Recognize indications that cartridges are at the end of their service life. Consult with supervisors or Safety Division personnel on change out schedules. If in doubt, change the cartridges before using the respirator.

7.4.1.6. Practice moving and working while wearing the respirator to get accustomed to wearing it.

7.4.1.7. Clean the respirator after each use, thoroughly dry it and place the clean respirator in a sealable plastic bag.

7.4.1.8. Store respirators carefully in a protected location away from excessive heat, light, and chemicals.

7.4.1.9. Shave prior to respirator use or remain clean shaven in areas where respirators are or may be required.

7.4.1.10. Those working as emergency responders need to remain clean shaven at all times. i.e. Firefighters, ERT Members, Water Operators and Security Guards.

7.5. **Workplace Surveillance:**

7.5.1. Evaluation of contaminant concentration to which a person wearing a respirator may be exposed is an integral part of an effective respirator program. Air sampling data is important in the selection of the appropriate respirator and cartridges and should include:

7.5.1.1. Identification of the contaminant.

7. PROCEDURE (CONTINUED)

7.5.1.2. Chemical state and the physical form of the contaminant.

7.5.1.3. Concentration of the contaminant at the breathing zone.

7.5.1.4. This data is also helpful in estimating the possible levels of exposure that may have occurred during the use of respirators.

7.6. **Respirator/Cartridge Selection:**

7.6.1. Respirators should be used only when engineering and administrative controls are not feasible. The Safety Office will evaluate the respiratory hazard(s) in each workplace and will base the appropriate respiratory protection on the objective information or data collected and analyzed. The appropriate type of respirator, cartridges and change out schedule will be written into the SOP for each area and/or operation that has respiratory hazards.

7.6.2. SOPs will be reviewed and updated at least annually and whenever any change in the type of contaminant or significant level of exposure to contaminant is made in the work environment. A significant change in the level of exposure is defined as:

7.6.2.1. A decrease of the contaminant in the work environment below the PEL so that respirators are no longer needed.

7.6.2.2. An increase in the level of contaminant or the introduction of a new respiratory hazard that would require an upgrading of the current mode or type of respiratory protection.

7.6.3. SOC will make available a sufficient number of respirator models and sizes (a minimum of two manufacturer, 2 models and 3 sizes) so that the respirator is acceptable to and correctly fits the user.

7.6.4. The Safety Office will maintain data, calculations, and any other information used for determination of exposures, change out schedules, etc., and the basis for reliance on the data.

Note: This section has included appropriate protective respirators for use in IDLH atmospheres, and has limited the selection and use of air-purifying respirators. All selected respirators are NIOSH-certified.

7.6.5. **Filter Classifications: These classifications are marked on the filter or filter package.**

7.6.5.1. N-Series: Not Oil Resistant, approved for non-oil particulate contaminants such as dust, fumes and mists not containing oil.

7.6.5.2. R-Series: Oil Resistant, approved for all particulate contaminants, including those containing oil such as dusts, mists and fumes. There is a time restriction of 8 hours when oils are present.

7.6.5.3. P-Series: Oil Proof, approved for all particulate contaminants including those containing oil. See Manufacturer's time use restrictions on packaging.

7. PROCEDURE (CONTINUED)

7.6.6. **The following respirators will be used in IDLH atmospheres:**

7.6.6.1. A full face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes.

7.6.6.2. A combination full-face piece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

7.6.6.3. Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

7.6.7. Respirators for atmospheres that are not IDLH: The air purifying respirators (APR) and Powered Air Purifying Respirator (PAPR) selected shall be adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements under routine and reasonably foreseeable emergency situations. The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

7.6.8. Identification of Filters & Cartridges: All filters and cartridges shall be labeled and color-coded with the NIOSH approval label and the label will not be removed and should remain legible. A change out schedule for filters and cartridges will be developed to ensure these components of the respirator remain effective.

7.6.9. Respirator Filter & Cartridge Replacement**:** An important part of the Respiratory Protection Program includes identifying the useful life of cartridges and filters used on air-purifying respirators. Each filter and cartridge shall be equipped with either an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant or a change out schedule will be posted in a prominent place for filters and cartridges. The change out schedule will be based on objective information or data that will ensure that filters and cartridges are changed before the end of their service life.

7.6.10. Filter & Cartridge on Site Supply: Stock of spare filters and cartridges shall be maintained at the work site to provide immediate change when required, or desired, by the employee

7.6.11. **Cartridges shall be changed based on the factors below:**

7.6.11.1. After each use (asbestos contamination).

7.6.11.2. When requested by employee.

7.6.11.3. When contaminate odor is detected while wearing respirator.

7.6.11.4. When it becomes difficult to breathe through the cartridges.

7.6.11.5. Cartridges shall remain in their original sealed packages until needed.

7.6.11.6. SOPs and/or the Safety Office's recommendation.

7.6.11.7. Manufacturer's recommendation for use and environment.

7. PROCEDURE (CONTINUED)

7.7. **Physical And Medical Qualifications:**

7.7.1. **Medical evaluation required**: Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job type, and workplace conditions in which the respirator is used, and the medical status of the employee. SOC provides a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace.

7.7.2. **Medical evaluation procedures**: The employee will be provided a medical questionnaire by the designated Occupational Health Care Provider (Clinic).

7.7.3. **Follow-up medical examination**: The OSHA Standard states that follow-up medical examinations shall be provided if the employee gives a positive response to any of the questions in Part B. However, it is the company's practice to have the supervising physician review Part B as well as the results of a pulmonary function screening test and vitals for every employee who will wear a respirator (dust masks not included). The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the supervising physician deems necessary to make a final determination. The supervising physician will determine what physiological factors and/or medical criteria will determine an individual's ability to wear respiratory protection.

7.7.4. **Administration of the medical questionnaire and examinations**: The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours, or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. SOC shall provide the employee with an opportunity to discuss the questionnaire and examination results with the supervising physician.

7.7.5. **Supplemental information for the physician**: The following information must be provided to the physician before the physician makes a recommendation concerning an employee's ability to use a respirator:

7.7.5.1. The type and weight of the respirator to be used by the employee.

7.7.5.2. The duration and frequency of respirator use.

7.7.5.3. The expected physical work effort.

7.7.5.4. Additional protective clothing and equipment to be worn.

7.7.5.5. Temperature and humidity extremes that may be encountered.

7.7.5.6. Any supplemental information provided previously to the supervising physician regarding an employee need not be provided for a subsequent medical evaluation if the information and the Physician remain the same.

7.7.5.6.1. SOC will provide the Supervising Physician with a copy of the written Respiratory Protection Program and a copy of the OSHA Standard 1910-134.

7. PROCEDURE (CONTINUED)

7.7.6. **Medical determination:** In determining the employee's ability to use a respirator, SOC shall obtain a written certification regarding the employee's ability to use the respirator from the supervising physician. The certification shall provide only the following information:

7.7.6.1. Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.

7.7.6.1.1. The need, if any, for follow-up medical evaluations.

7.7.7. A copy of the medical certification will be provided to employee upon request.

7.7.7.1. The supervising physician will document his comments relating to the employee's physical condition in the employee's medical chart.

These comments are part of the medical record and will be treated with confidentiality.

7.7.8. **Additional Medical Evaluations**: At a minimum, SOC shall provide additional medical evaluations that comply with the requirements of the OSHA Standard 1910.134 if:

7.7.8.1. An employee reports medical signs or symptoms that are related to his/her ability to use a respirator.

7.7.8.2. A physician, management, or the Respirator Program Administrator informs the Clinic that an employee needs to be reevaluated.

7.7.8.3. Observations made during fit testing by Clinic staff which indicate a need for employee reevaluation.

7.7.8.4. A change occurs in workplace conditions (e.g., physical work effort, protective clothing, temperature, increased exposure levels or new respiratory hazards requiring upgrade of protection) that may result in a substantial increase in the physiological burden placed on an employee.

7.8. **Respirator Fit Testing:**

7.8.1. Before an employee is required to use any respirator with a negative or positive pressure tight-fitting face piece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used by the employee in the work place. SOC shall ensure that an employee will be fit tested for each respirator they will use and at least annually thereafter. Additional fit tests will be conducted whenever the employee reports, or the Clinic, Supervising Physician, or Management makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery or an obvious change in body weight. Employees will be fit tested with any personal protective equipment (PPE) that they normally wear that might interfere with the respirator.

7.8.2. The SOC Compliance and Training Department will conduct quantitative fit tests (QNFTS) utilizing the Porta Count by TSI. CAT will maintain records of the quantitative fit tests administered to employees, which will include:

7. PROCEDURE (CONTINUED)

7.8.2.1. Name or identification of the employee tested.

7.8.2.2. Type of fit test performed.

7.8.2.3. Specific make, model, style, and size of respirator tested.

7.8.2.4. Date of test.

7.8.2.5. The fit factor recording of the test results.

7.8.2.6. If after passing a QNFT, the employee notifies the supervisor that the fit of the respirator is unacceptable; the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.

7.8.3. **Types of Fit Tests:**

7.8.3.1. The fit test shall be administered using OSHA QNFT protocol. The QNFT protocols and procedures are contained in Appendix A of OSHA Standard 1910.134.

7.8.3.2. If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight-fitting full face pieces, the QNFT has been passed with that respirator.

7.8.3.3. Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

7.8.3.4. Quantitative fit testing of these respirators shall be accomplished by modifying the face piece to allow sampling inside the face piece. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate face piece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the face piece.

7.8.3.5. Any modifications to the respirator face piece for fit testing shall be completely removed, and the face piece restored to NIOSH approved configuration, before that face piece can be used in the workplace.

7.8.4. Fit test records shall be retained for respirator users until the next fit test is administered, as a minimum.

7.9. **Respirator Operation and Use**

7.9.1. Respirators will only be used IAW the respiratory protection safety procedures established in this program. For continued protection of respirator users, the following general use rules apply:

7.9.1.1. Users shall not remove respirators while in a hazardous environment.

7.9.1.2. Respirators are to be stored in sealed containers out of harmful atmospheres.

7.9.1.3. Store respirators away from heat and moisture.

7.9.1.4. Store respirators so that the sealing area does not become distorted or warped.

7. PROCEDURE (CONTINUED)

7.9.1.5. Store respirator so that the face piece is protected.

7.9.2. Face piece seal protection: SOC does not permit respirators with tight-fitting face pieces to be worn by employees who have:

7.9.2.1. Facial hair other than a narrow mustache that does not protrude beyond the upper corners of the top lip.

7.9.2.2. Any condition that interferes with the face-to-face piece seal or valve function.

7.9.3. The employee must remain clean shaven while working at a jobsite that requires respiratory protection (i.e. Fire and Emergency Services, Security Guards, Water Operators, and ERT Members). It is not satisfactory to shave for the fit test and then allow the facial hair to grow back. Supervisors must ensure that their employees are clean-shaven before they don the mask and enter a contaminated work area.

7.9.4. If an employee wears corrective glasses or goggles or other personal protective equipment, SOC shall ensure that such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.

7.9.5. **Continuing Effectiveness of Respirators:** Supervisors shall maintain appropriate surveillance of work area conditions and degree of employee exposure and/or physical stress. Changing conditions may affect respirator effectiveness and warrant evaluation by the Safety Office. Supervisors shall require the employee leave the respirator use area:

7.9.5.1. To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use.

7.9.5.2. If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece.

7.9.5.3. To replace the respirator cartridges at times specified by SOPs and/or Safety Office.

7.9.6. If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece SOC will replace or repair respirator cartridges or the respirator itself before allowing the employee to return to the work area.

7.9.7. **Procedures for IDLH atmospheres:** For all IDLH atmospheres, SOC shall ensure that:

7.9.7.1. At least two employees are located outside the IDLH atmosphere so that visual, voice, or signal line communication is maintained between the employee(s) inside the IDLH atmosphere and the employees located outside the IDLH atmosphere.

7.9.7.2. The employees located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue.

7.9.7.3. The SOC designee is notified before the employees located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue.

7.9.7.4. The authorized SOC designee, once notified, provides necessary assistance appropriate to the situation.

7. PROCEDURE (CONTINUED)

7.9.8. **Employees located outside the IDLH atmospheres will be equipped with:**

7.9.8.1. Pressure demand or other positive pressure SCBAS, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA.

7.9.8.2. Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or equivalent means for rescue where retrieval equipment is not required.

7.9.9. **Procedures for Interior Structural Fire Fighting**: In addition to the requirements set forth in the previous procedures for IDLH atmospheres, SOC shall ensure that in interior structural firefighting:

7.9.9.1. At least two firefighters enter the IDLH atmosphere and remain in visual or voice contact with one another at all times.

7.9.9.2. At least two employees are located outside the IDLH atmosphere.

7.9.9.3. All firefighters engaged in interior structure firefighting shall use an SCBAs

7.9.10. **It is acceptable that one of the firefighters located outside the IDLH** atmosphere may be assigned an additional role, such as incident commander or safety officer, so long as this individual is able to perform assistance and/or rescue without jeopardizing the safety or health of any firefighter working at the incident. These procedures should not be interpreted to preclude firefighters from performing emergency rescue activities before an entire team has assembled.

7.10. **Maintenance**, **Inspection And Repair:**

7.10.1. SOC will provide the means for the cleaning and disinfecting, storage, inspection and repair of respirators used by its employees.

7.10.2. SOC shall provide each respirator user with a respirator that is clean, sanitary, and in good working order.

7.10.3. Respirators/SCBA issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition. It is acceptable for an employee to clean his or her own respirator with an alcohol wipe or a wet paper towel before and after use. It is recommended, however, that frequently used respirators be broken down, washed and disinfected on at least a monthly basis. Supervisors will provide the means and the time necessary to accomplish this.

7.10.4. Respirators maintained for emergency use shall be cleaned and disinfected after each use (alcohol wipes are adequate). This does not apply to single user respirators/SCBA such as belongs to the firefighters, rather, this is applicable to the respirators/SCBA used by the Emergency Response Team.

7.10.5. Respirators used in fit testing and training shall be cleaned before and after use. Alcohol wipes are sufficient for this purpose.

7. PROCEDURE (CONTINUED)

7.10.6. **Monthly Cleaning Procedures:**

7.10.6.1. Remove filters and cartridges. Disassemble face pieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts. Supervisors/leaders may consult Tool Room personnel for instruction on how to disassemble and reassemble respirators if necessary.

7.10.6.2. Wash components in warm water (no greater than 110 degrees F) with a mild detergent or with a cleaner. A stiff bristle brush (not wire) may be used to scrub the respirator.

7.10.6.3. Rinse components thoroughly in clean, warm, running water and drain.

7.10.6.4. **When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:**

7.10.6.4.1. One milliliter of laundry bleach to one liter of water (110 degrees F.).

7.10.6.4.2. Other commercially available cleansers of equivalent disinfectant quality when used as recommended by the manufacturer.

7.10.6.5. Rinse thoroughly in clean, warm running water. Drain. The importance of thorough rinsing cannot be stressed enough. Detergents or disinfectants that dry on face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

7.10.6.6. Hand dry with a clean lint-free cloth or air dry.

7.10.6.7. Reassemble face piece.

7.10.6.8. Test the respirator to ensure that all components work properly.

7.10.7. **Storage:**

7.10.7.1. All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. They shall be packed or stored to prevent deformation of the face piece and exhalation valve, which means do not store them where heavy objects can push up against them or fall on them.

7.10.7.2. Emergency respirators/SCBAs will be kept accessible to the work area, stored in compartments or in covers clearly marked as emergency respirators/SCBA, and IAW any manufacturer instructions.

7.10.8. **Respirator Inspection:**

7.10.8.1. All respirators will be inspected before and after each use and during cleaning. Emergency respirators/SCBAs will also be inspected on a monthly basis, regardless of frequency of use. Damaged respirators and parts will be repaired

7. PROCEDURE (CONTINUED)

or replaced at the Tool Room. SCBA repair and replacement is the responsibility of the Fire Department.

7.10.8.1.1. When respirators shall be inspected.

7.10.8.1.2. All respirators used in routine situations shall be inspected before each use and during cleaning.

7.10.8.1.3. All respirators maintained for use in emergency situations (ERT) shall be inspected at least monthly and IAW the manufacturer's recommendations, and shall be checked for proper function before each use. Monthly inspections should be documented and made available upon request to the Safety Office.

7.10.8.1.4. A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, cartridges or filters.

7.10.8.1.5. Check of elastic snaps for stretch and signs of deterioration.

7.10.8.1.6. Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The Fire Department shall determine that the regulator and warning devices function properly.

7.10.9. **For Emergency Use Respirators the additional requirements apply:**

7.10.9.1. Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the technician who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator.

7.10.9.2. Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.

7.10.9.3. Respirators that fail an inspection or are otherwise found to be defective will be removed from service to be discarded, repaired or adjusted IAW the following procedures:

7.10.9.4. Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator.

7.10.9.4.1. Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed.

7. PROCEDURE (CONTINUED)

7.10.9.4.2. Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

7.11. **Breathing Air Quality And Use:**

7.11.1. SOC Fire Department shall provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with breathing gases of highest purity. SOC shall ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration comply with the following specifications:

7.11.1.1. Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen.

7.11.1.2. Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include, Oxygen content (v/v) of 19.5-23.5%.

7.11.1.3. Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less.

7.11.1.4. Carbon monoxide (CO) content of 10 ppm or less.

7.11.1.5. Carbon dioxide content of 1,000 ppm or less.

7.11.1.6. Lack of noticeable odor.

7.11.1.7. Compressed oxygen will not be used in atmosphere-supplying respirators that have previously used compressed air.

7.11.1.8. Oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.

7.11.2. Cylinders used to supply breathing air to respirators will meet the following requirements:

7.11.2.1. Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173, part 178, and part 180).

7.11.2.2. Cylinders of purchased breathing air must have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air.

7.11.2.3. Moisture content in the cylinders does not exceed a dew point of -50 deg. F (-45.6 deg. C) at 1 atmosphere pressure.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

9.1.1. SOC will retain written information regarding training, medical evaluations, and fit testing for the respirator program. This information will facilitate employee involvement in the respirator program, assist in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

9.1.2. All records related to the employee's medical condition shall be considered part of the official medical chart and shall be regarded as confidential. The company shall retain medical records for a period of no less than 30 years beyond the termination date of the employee.

9.1.3. All other records shall be retained for a length of time to be determined by the issuing party. A minimum of two years is strongly recommended.

9.1.4. Records of medical evaluations must be retained and made available IAW 29 CFR 1910.1020.

9.2. The following Safety Records shall be generated and managed in accordance with:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Medical Chart	Clinic	30 Years	Shred

10. FORMS

10.1. There are no forms associated with this chapter.

11. Attachments

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. This written program establishes the requirements for a hearing program IAW 29 CFR 1910.95. This program shall apply to all SOC personnel who are exposed to noise levels averaging above 85 dB for an 8-hour period, or impulse noise of 140 dB or greater.

2. SCOPE

2.1. Hearing conservation measures will be initiated whenever personnel are known to be exposed to hazardous noise levels of 85 dB (A scale), Time Weighted Average (TWA) over an 8 hour time period and 140 dB (A scale) for impulsive noise, and anytime hearing protection is recommended per manufacturer. Whenever feasible, hazardous noise levels will be eliminated or reduced to a minimum by engineering noise control methods. Hearing protective devices will be fitted and dispensed to personnel working in noise hazardous areas with instructions on proper use. Noise Hazardous areas and equipment are to be posted conspicuously with signs and/or decals that describe the hazard involved and the required protective actions. These signs and decals alert the worker and visitor that a noise hazard exists and that proper precautions are to be taken. Surveillance of known and suspected noise hazardous areas will be accomplished periodically to identify changes in noise levels and assure employee adherence to precautionary measures.

3. POLICY

3.1. To provide procedures to prevent noise induced hearing loss for personnel employed by SOC.

4. DEFINITIONS AND ACRONYMS

4.1. **Cal Lab** - Calibration Laboratory

4.2. **Criterion sound level -** A sound level of 90 decibels.

4.3. **Decibel (dB) -** Unit of measurement for sound level.

4.4. **Hertz (Hz) -** Unit of measurement of frequency, numerically equal to cycles per second.

4.5. **Noise dosimeter -** An instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.

4.6. **TWA -** Time Weighted Average

5. FLOWCHART

5.1 There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **Safety Manager:**

6.1.1. Ensuring this program is adhered to.

6.1.2. Routinely sampling noise areas for hazardous noise levels.

6.2. **SOC Occupational Health Clinic:**

6.2.1. Maintaining medical surveillance and performing periodic audiometric exams on personnel whose duties involve exposure to hazardous noise levels.

6. RESPONSIBILITIES

6.2.2. Fit Testing and training personnel on the proper usage and limitations and maintenance of earplugs. Training concerning effects of noise on hearing.

7. PROCEDURE

7.1. Sound level measurements in noise areas will be done with a calibrated sound meter. Slow meter response and a dB-A scale will be used. A reading will be taken at the approximate position of the workers exposed ear.

7.2. An acoustic calibrator will be used to verify before and after calibration of the sound level meter the day that measurements are taken. The sound level meter and acoustic calibrator will receive annual calibration from the SOC Calibration Lab.

7.3. The Clinic conducts daily calibrations of the audiometer prior to conducting audiometry testing. The audiometer receives annual calibration and maintenance at the factory.

7.4. All areas which are noise hazardous must be surveyed at least once a year and within 30 days of any change in the operation affecting noise levels. Caution signs will be positioned at entrances to, or on the periphery of, all such hazardous areas where they are most visible to personnel entering or working.

7.4.1. **Special Area**:

7.4.1.1. Hearing protection will be used while block and bracing activities are being performed in truck vans, MILVANS, or railroad boxcars.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
DA Form 7372	Cal Lab	3 years	Shred
Audiometric Tests	Clinic	30 years beyond last day of employment	Shred

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
DA Form 7372	TMDE Calibration and Repair Data

11. Attachments

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1 The purpose of this program is to establish the requirements for a vision conservation program IAW 29 CFR 1910.133 and DA PAM 40-506 as applicable to SOC.

2. SCOPE

2.1 This vision program applies to all SOC employees. Certain aspects and elements of the program may apply to visitors, subcontractors and government tenants, i.e. non-prescription safety glasses, vision screening, etc. The SOC Vision Conservation Program (SVCP) shall encompass 3 elements: Occupational vision, Eye safety, and Environmental vision.

3. POLICY

3.1 The SVCP shall promote a visually safe and healthful work environment through: 1) Vision Readiness – ensuring SOC employees have the visual ability required to perform their mission safely and effectively 2) Optical Readiness – insuring SOC employees have the appropriate optical devices needed to function safely and effectively 3) Eye Health Readiness- ensuring SOC employees have baseline ocular health evaluations and thereafter annual screenings IAW The SOC Occupational Medical Surveillance Matrix (*medical surveillance specifications based on job classification*). Any conditions that compromise eye safety or effectiveness will be addressed through the Safety Office and Industrial Hygiene Program.

4. DEFINITIONS AND ACRONYMS

4.1. **SVCP -** SOC Vision Conservation Program

4.2. **VSP -** Vision Service Plan

5. FLOWCHART

5.1. There is no flow chart for this chapter.

6. RESPONSIBILITIES

6.1. **The Medical Director**

6.1.1. Responsible for overseeing the medical aspects of the SVCP.

6.1.1.1. Implements protocols for vision screening, referral criteria, emergency procedures and training.

6.2. **Clinic Administrator**

6.2.1. Responsible for implementing medical aspects of the SVCP.

6.2.1.1. Coordinating vision screenings.

6.2.1.2. Referrals to specialists per medical direction.

6.2.1.3. Eye safety training.

6. RESPONSIBILITIES (CONTINUED)

6.3. **Industrial Hygienist**

6.3.1. Responsible for surveying and characterizing worksites.

6.3.1.1. Recognizing and evaluating eye hazards.

6.3.1.2. Documenting hazards and locations.

6.3.1.3. Providing recommendations on hazard controls.

6.4. **Safety Manager**

6.4.1. Responsible for awareness of potentially hazardous conditions to eye safety.

6.4.1.1. Ensures the appropriate administrative and engineering controls are. implemented

6.4.1.2. Implement the PPE Program.

6.4.1.3. Ensure compliance with PPE Program requirements.

6.4.1.4. Provides safety-related training.

6.4.1.5. Collects, maintains and analyzes eye accident/injury data.

6.5. **Managers**

6.5.1. Responsible for identifying eye hazards, assessing risk and applying appropriate controls to mitigate those risks.

6.5.1.1. HARAs

6.6. **Supervisors**

6.6.1. Responsible for ensuring employees identify eye hazards of tasks performed and apply appropriate controls to protect themselves and co-workers. Provide assistance.

6.6.1.1. Weekly safety meetings.

6.6.1.2. JSAs

7. PROCEDURE

7.1. **Occupational Vision –** ensure that SOC employees have the necessary vision readiness to work safely, efficiently and comfortably.

7.1.1. Baseline vision screening conducted at pre-placement physical.

7.1.2. Basic awareness and eye protection training at time of pre-placement and annual medical surveillance physicals.

7.1.3. Referrals to specialists based on physical examination findings.

7.1.4. Emergency response and care for eye-related injuries.

7.1.5. Prescription safety glasses provided to SOC and ACO employees.

7. PROCEDURE (CONTINUED)

7.2. **Eye Safety – prevent eye injuries**

7.2.1. Identify and evaluate mechanical, chemical, biological and radiation eye hazards in the worksite.

7.2.2. **Establish controls to eliminate/minimize hazards**

7.2.2.1. Administrative controls – policies, signage, training and education.

7.2.2.2. Engineering Controls – abatement.

7.2.3. PPE, i.e., goggles, face shields, clear and shaded safety glasses, provided at SOC Tool room.

7.2.4. Report, analyze and evaluate eye hazards

7.2.4.1. HARAs/JSAs

7.2.4.2. Near Miss Reports.

7.2.4.3. Safety inspections and audits.

7.2.4.4. Post-accident investigations.

7.3. **Environmental Vision –** evaluate and provide solutions for environmental factors (i.e., illumination, radiation and ergonomics) which may reduce visual efficiency, safety and/or ocular health.

7.3.1. Evaluate the workplace environment related to visual performance.

7.3.2. Advise on use of PPE for specific hazards.

7.3.3. Provide guidance on the visual effects of specific hazards, i.e.:

7.3.3.1. Thermal injury.

7.3.3.2. Glare.

7.3.3.3. Radio frequency radiation.

7.3.3.4. Airborne contaminants.

7.3.3.5. Illumination.

7.3.3.6. Other.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
DA Form 7372	Calibration Lab	3 years	Destroy
Vision Screening Tests	SOC Occu. Health Clinic	30 years beyond last day of employment	Destroy

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
DZHC 615-E	Vision Screening
DZHC 616-E	Physician Referral

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. The purpose of the SOC Ergonomic Program is to establish procedures, responsibilities, and apply ergonomic principles to the workplace in an effort to reduce the number and severity of musculoskeletal disorders (MSDs), thus decreasing workers' compensation claims and, where possible, increasing productivity, quality and efficiency. An ergonomically-designed work environment maximizes employee comfort while minimizing the risk of undue physical stress that often leads to injuries.

2. SCOPE

2.1. SOC strives to ensure that this program is applied to all SOC employees that through their work activities are at risk of developing a Work-Related Musculoskeletal Disorder (MSD). The scope of the Ergonomic Program is to improve the safety, comfort, and efficiency of our workers, to prevent MSD injuries, incidents and to eliminate ergonomic hazards.

3. POLICY

3.1. To provide procedures to prevent ergonomic injuries for personnel employed by SOC.

4. DEFINITIONS AND ACRONYMS

4.1. **Administrative controls -** Procedures for safe and proper work that are used to reduce the duration, frequency or severity of exposure to a hazard. They include work methods training, job rotation and gradual introduction to work.

4.2. **Awkward posture -** Deviation from the ideal working posture of elbows at the side of the torso, with the wrists neutral. Awkward postures typically include reaching behind, twisting, forward or backward bending, pinching and squatting.

4.3. **Duration -** The length of any period of work activity that poses a MSD risk.

4.4. **Engineering controls -** A method of controlling worker exposure to risk factors by redesigning equipment, tools and work stations.

4.5. **Ergonomic Evaluation & Control -** Process for identifying, analyzing and using feasible engineering and administrative controls to prevent MSD.

4.6. **Ergonomic Hazards -** Workplace conditions that pose a biomechanical stress to the worker or that contribute to the risk of developing MSDs. Such hazardous workplace conditions include but are not limited to, faulty workstation layout, improper work methods, improper tools, and job design problems such as awkward postures, force requirements, and repetition rate.

4.7. **Engineering Controls -** MSD risk control measures, which include but are not limited to: Devices (such as adjustable workstations, tables, chairs, ergonomic accessories, equipment, and tools) and physical modifications to work stations, equipment, tools, production processes, or any other aspect of the work environment.

4.8. **Ergonomics -** The scientific study of human work. The term comes from the Greek words "ergos" meaning work, and "nomos," meaning natural laws of. Ergonomics considers the physical and mental capabilities and limits of the worker as he or she interacts with tools, equipment, work methods, tasks and the working environment.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.9. **Ergonomics team -** Those responsible for identifying and correcting musculoskeletal hazards in the Industrial Ergonomics Program.

4.10. **Fatigue -** A condition that results when the body cannot provide enough energy for the muscles to perform a task.

4.11. **Force -** Level of physical exertion by or pressure to any part of the body.

4.12. **Forcefulness -** The amount of physical effort a person uses to do a task.

4.13. **Frequency -** The rate at which specific physical motions or exertions are repeated.

4.14. **Hand-arm vibration -** Vibration (generally from a hand tool) that goes through the hand then travels through the rest of the body.

4.15. **Hazard prevention and control -** Eliminating or minimizing the hazards identified in the worksite analysis. It is changing the jobs, workstations, tools or environment to fit the worker.

4.16. **Incidence rate -** The rate at which new injuries and illnesses occur for a given job, production line, work area, department or company.

4.17. **Mechanical Stress -** Stress on a small area of soft tissue, by a small, firm surface or object.

4.18. **Medical management -** The effective use of available healthcare resources to prevent or manage work-related musculoskeletal disorders.

4.19. **Mechanical contact stress -** The contact of the body with a hard surface or edge that results in the compression of tissue. This can also result when using a part of the body as a hammer or striking instrument.

4.20. **MSD Signs and Symptoms -** Workers suffering from MSD may experience less strength for gripping, less range of motion, loss of muscle function and inability to do everyday tasks. Common symptoms include:

4.20.1. Painful Joints;

4.20.2. Pain, tingling or numbness in hands or feet;

4.20.3. Pain in wrists, shoulders, forearms, knees;

4.20.4. Fingers or toes turning white;

4.20.5. Back or neck pain;

4.20.6. Stiffness;

4.20.7. Shooting or stabbing pains in arms or legs;

4.20.8. Swelling or inflammation; or

4.20.9. Burning sensation.

4.21. **Musculoskeletal Disorders (MSD) -** MSD's are disorders of the muscles, nerves, tendons, ligaments, joints or spinal discs that are the result of exposure to ergonomic risk factors over time. Acute trauma or injury caused by a single instantaneous event does not fall within this definition.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.22. **Musculoskeletal system -** The bones, muscles, tendons, ligaments, cartilage, nerves and blood vessels in the human body.

4.23. **Neutral posture -** Comfortable working posture that reduces the risk of musculoskeletal disorders. The joints are naturally aligned with elbows at the side of the body and wrists straight.

4.24. **Personal protective equipment (PPE) -** Gloves, kneepads and other equipment that may help reduce hazards until other controls can be implemented, or to supplement existing controls.

4.25. **Posture -** The position of a body part during work activity.

4.26. **Records review -** Reviewing company records to identify patterns of injuries (or potential injuries) to help find the jobs and workstations that may contain musculoskeletal hazards.

4.27. **Recovery Time -** The amount of time separating repetitive motions or exertions, or the amount of time separating periods of any work activity posing a MSD risk, which is needed to prevent fatigue of the body parts performing the activity.

4.28. **Repetition -** Performing the same motions repeatedly. The level of risk associated with a particular task depends on the frequency of repetition, speed of the movement or action, the number of muscle groups involved, and the required force.

4.29. **Risk factors -** An aspect of a job that increases the worker's chance of getting a work-related musculoskeletal disorder.

4.30. **Severity rate -** The cost in terms of lost workdays (or dollars) of new injuries and illnesses occurring in a given job, production line, work area, department or company.

4.31. **Static loading/sustained exertions -** Physical effort or posture that is held and requires muscle contraction for more than a short time. As muscles remain contracted, the blood flow to the muscles is reduced.

4.32. **Vibration and Temperature -** Exposure to localized or whole body vibration or exposure of hands and feet to temperature extremes which causes discomfort.

4.33. **Worksite (or workstation) analysis -** A safety and health review that addresses work-related musculoskeletal disorders. It is a structured way of identifying jobs and workstations that may contain musculoskeletal hazards, the risk factors that pose the hazards, and the causes of the risk factors

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **Employee:**

6.1.1. Use the appropriate tools, equipment, parts, materials and procedures in the manner established by managers and supervisors.

6.1.2. Ensure that equipment is properly maintained in good condition and when not, report it immediately.

6. RESPONSIBILITIES (CONTINUED)

6.1.3. Provide feedback to managers and supervisors regarding the effectiveness of design changes, new tools or equipment, and other interventions.

6.1.4. Attend ergonomics training as required and apply the knowledge and skills acquired to actual jobs, tasks, processes and work activities.

6.1.5. Report MSD signs or symptoms and work-related MSD hazards to their manager, supervisor, or the SOC Clinic as early as possible to facilitate medical treatment and initiate proactive interventions.

6.2. **Managers/Supervisors:**

6.2.1. Remain accountable for the health and safety of all employees within their departments through the active support of the Industrial Ergonomics Program.

6.2.2. Attend ergonomics training to familiarize themselves with the elements of the program, recognition and control of work-related ergonomic risk factors, MSD signs and symptoms, early reporting requirements and procedures, and medical management/return to work processes.

6.2.3. Ensure that employees in their areas have received the appropriate training.

6.2.4. Ensure that ergonomics practices and principles are considered when conducting worksite evaluations.

6.2.5. Ensure that recommended controls are implemented and used appropriately through active follow-up.

6.2.6. Provide employees with and ensure the use of the appropriate tools, equipment, parts and materials in accordance with ergonomic requirements.

6.2.7. Ensure that employees understand the MSD signs and symptoms and early reporting system, and respond promptly to employee reports of possible MSDs.

6.2.8. Provide appropriate workers' compensation documentation to employees as required by state regulations.

6.2.9. Seek guidance from the Program Administrator or Human Resources department to aid in return to work directives from the healthcare provider.

6.2.10. Maintain clear communication with managers and employees.

6.3. **Management**:

6.3.1. Incorporate Ergonomics evaluation of worksite into Safety inspections.

6.3.2. Support the efforts of the Program Administrator and the Safety Department by pledging financial and leadership support for the identification and control of ergonomic risk factors.

6.3.3. Support an effective MSD reporting system and will respond promptly to reports. Management will regularly communicate with employees about the program.

6. RESPONSIBILITIES (CONTINUED)

6.4. **Program Administrator**: The Program Administrator will report to the Safety Manager and be responsible for this program. All evaluations, controls and training will be coordinated under the direction of the Program Administrator in collaboration with management. The Program Administrator will monitor the results of the program to determine additional areas of focus as needed.

6.4.1. Ensure that evaluators performing worksite evaluations and training are properly trained.

6.4.2. Ensure that control measures are implemented in a timely manner.

6.4.3. Ensure that a system is in place for employees to report MSD signs or symptoms and suspected work-related risk factors to managers and supervisors.

6.4.4. Ensure that accurate records are maintained and provide documentation upon request.

6.4.5. Schedule manager, supervisor and employee training and maintain records to include date, name of instructor, topic and materials used.

6.4.6. Follow up with any ergonomics strategy and/or solutions.

6.4.7. Monitor the program on a quarterly basis and provide an annual review.

7. PROCEDURE

7.1. **Identifying Ergonomic Risks -** SOC will use both passive and active surveillance to identify jobs with ergonomic risks.

7.1.1. Passive surveillance involves conducting a records review, which looks at existing data such as OSHA 300 logs, workers' compensation claims, trips to the medical facility, and absentee records. Records may also indicate a frequency of worker complaints due to undue strain, fatigue or pain, or show a history of high turnover in certain departments or positions.

7.1.2. Active surveillance uses observations, interviews, surveys, questionnaires, checklists and formal worksite evaluation tools to identify specific high-risk activities.

7.2. **Workstation Ergonomic Evaluations -** Workstation evaluations are a critical component of our Industrial Ergonomics Program. Workstation evaluations may be triggered by any of the following:

7.2.1. An employee reports an MSD sign or symptom (See Appendix F for a written evaluation request form.) Verbal communication is also acceptable through the employee's supervisor.

7.2.2. Jobs, processes or work activities where work-related ergonomic risk factors have been identified which may cause or aggravate MSDs.

7.2.3. Any change of jobs, tasks, equipment, tools, processes, scheduling or changes in work shift hours.

7.2.4. When a safety walk-through or scheduled inspection or survey uncovers potential MSD hazards.

7.2.5. Risk Factors.

7. PROCEDURE (CONTINUED)

7.2.5.1. Work-related risk factors to be considered in the evaluation process include, but are not limited to:

7.2.5.1.1. Physical risk factors including force, postures (awkward and static), static loading and sustained exertion, fatigue, repetition, contact stress, extreme temperatures and vibration.

7.2.5.1.2. Administrative issues including job rotation/enlargement, inadequate staffing, excessive overtime, inadequate or lack of rest breaks, stress from deadlines, lack of training, work pace, work methods and psychosocial issues.

7.2.5.1.3. Environmental risk factors including noise, lighting, glare, air quality, temperature, humidity and personal protective equipment and clothing.

7.2.5.1.4. Combination of risk factors such as, but not limited to, highly repetitive, forceful work with no job rotation or precision work done in a dimly lit room.

7.2.6. Workstation Evaluation Methods**.** Various methods will be used to evaluate problem jobs including:

7.2.6.1. Walk-through and observational assessments including photographing and/or video recording.

7.2.6.2. Employee interviews.

7.2.6.3. Surveys and questionnaires.

7.2.6.4. Ergonomic Checklists.

7.2.6.5. Detailed worksite evaluations, including formal job hazard analysis (JHA/JSA).

7.3. **Controlling Ergonomic Hazards**

7.3.1. Engineering controls. The most desirable and reliable means to reduce workplace exposure to potentially harmful effects. This is achieved by focusing on the physical modifications of jobs, workstations, tools, equipment or processes.

7.3.2. Administrative controls. This means controlling or preventing workplace exposure to potentially harmful effects by implementing administrative changes such as job rotation, job enlargement, rest/recovery breaks, work pace adjustment, redesign of methods and worker education.

7.3.3. Personal protective equipment (PPE). Although not recognized as an effective means of controlling ergonomic hazards and does not take the place of engineering or administrative controls; however, there are forms of PPE which can make employees more comfortable, e.g., kneepads, anti-vibration gloves, etc.

7. PROCEDURE (CONTINUED)

7.4. Reporting Procedures/Medical Management

7.4.1. All employees who report RMIs will have access to prompt and effective medical management, including access to health care professionals for evaluation, treatment, and follow up. When possible, employees will be assigned to jobs that meet work restrictions recommended by health care providers.

7.4.1.1. Any employee who experiences a RMI is required to immediately report the injury to his/her supervisor and then seek medical attention at the Clinic.

7.4.1.2. The supervisor must complete the ”SUPERVISOR’S REPORT OF INJURY” form and return it to the Workers’ Compensation Office within 24 hours of the injury

7.4.1.3. The Workers’ Compensation Office will monitor the employee throughout the recovery period and will ensure that appropriate treatment/rehabilitation is provided in order for the worker to return to work as soon as possible.

7.4.1.4. Workers’ Compensation will provide timely notification of suspected RMI incidents to Safety department.

7.5. Process Management

7.5.1. At least annually, the Program Administrator will conduct a program review to assess the progress and success of the program. The review will consider the following:

7.5.1.1. Evaluation of all training programs and records.

7.5.1.2. Evaluation of all new equipment put in place since the last review.

7.5.1.3. The need for retraining of managers, supervisors and employees.

7.5.1.4. The jobs, processes or operations which have produced a high incidence rate of work related MSDs.

7.5.1.5. The length of time between a request for an ergonomic evaluation and the actual evaluation.

7.5.1.6. The length of time between the point at which the results of the evaluation are known and when implementation of controls begins.

7.5.1.7. The length of time between the beginning and completion of implementation of controls.

7.5.1.8. The program’s success based upon comparison to previous years using the following criteria:

7.5.1.8.1. Number and type of lost workdays associated with OSHA recordable cases.

7.5.1.8.2. Cost of workers’ compensation cases.

7.5.1.8.3. Employee feedback through direct interviews, walk-through observations, written surveys and questionnaires, and reevaluations.

7. PROCEDURE (CONTINUED)

7.6. **Employee Training -** Training is intended to enhance the ability of managers, supervisors and employees to recognize work-related ergonomic risk factors and to understand and apply appropriate control strategies.

7.6.1. To all new employees during orientation.

7.6.2. To all employees assuming a new job assignment.

7.6.3. When new jobs, tasks, tools, equipment, machinery, workstations or processes are introduced.

7.6.4. When high exposure levels to ergonomic risk factors have been identified.

7.6.5. The training for all managers, supervisors and employees will include the following elements:

7.6.5.1. An explanation of SOC's Ergonomics Program and their role in the program.

7.6.5.2. A description of MSD signs and symptoms and consequences of injuries caused by work and non-work-related risk factors.

7.6.5.3. An emphasis on the importance of early reporting of MSD signs and symptoms and injuries to management.

7.6.5.4. The methods used by SOC to minimize work and non-work-related risk factors (i.e., engineering controls, administrative controls and any appropriate personal protective equipment).

7.6.6. Training will be provided in one, or a combination, of the following formats:

7.6.6.1. Oral presentations

7.6.6.2. Videos

7.6.6.3. Distribution of educational literature.

7.6.6.4. Hands-on equipment and work practice demonstrations.

7.6.7. Trainers will be experienced in delivering training programs that address all work and non-work-related risk factors, and will be familiar with SOC operations. Training will be provided from one, or a combination, of the sources listed below:

7.6.7.1. Internally developed resources.

7.6.7.2. Our workers' compensation carrier.

7.6.7.3. An outside consultant.

7. PROCEDURE (CONTINUED)

7.6.8. Training will be provided to employees diagnosed by a physician with a repetitive motion injury (RMI), employees performing an identical job, work process, or operation as the individual diagnosed with an RMI, as well as any individual requesting training or concerned about the ergonomic safety of their work environment. The Ergonomic Safety training course will introduce the concept of ergonomics, explain why an ergonomics program is necessary, provide an overview of the SOC Ergonomic Program, and identify the exposures which have been associated with RMIs, emphasize the importance of reporting symptoms and injuries to a supervisor, and provide methods to minimize RMIs.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. Workstation Layout Survey:

Workstation Evaluated:	**Date of Evaluation:**		
"NO" responses indicate areas which should be investigated	**Yes**	**No**	**NA**
Does the work space allow for full range of movement?			
Are mechanical aids and equipment available?			
Is the height of the work surface adjustable?			
Can the work surface be tilted or angled?			
Is the workstation designed to reduce or eliminate… a. Bending or twisting at the wrist? b. Reaching above the shoulder? c. Static muscle loading? d. Full extension of the arms? e. Raised elbows?			
Are the workers able to vary posture?			
Are the hands and arms clear from contact with sharp edges?			
Is an armrest provided where needed?			
Is a footrest provided where needed?			
Is the floor surface free of obstacles and level?			
Are cushioned floor mats provided for employees who stand for long periods?			
Are chairs and/or stools easily adjustable and suited to the task?			
Are all task elements visible from comfortable positions?			
Is there a preventive maintenance program for mechanical aids, tools, etc?			

11.2. Task Analysis Checklist:

Workstation Evaluated:	**Date of Evaluation:**		
"NO" responses indicate areas which should be investigated	**Yes**	**No**	**NA**
Does the design of the primary task reduce or eliminate: a. Bending or twisting of the back or trunk? b. Crouching? c. Bending or twisting the wrist? d. Extending the arms? e. Raised elbows? f. Static muscle loading? g. Clothes wringing motions? h. Finger pinch grip?			
Are mechanical devices used when necessary?			
Can the task be done with either hand?			
Can the task be done with two hands?			
Are pushing or pulling forces kept minimal?			
Are required forces judged acceptable by the workers?			
Are the materials: a. Able to be held without slipping? b. Easy to grasp? c. Free from sharp edges and corners?			
Do containers have good handholds?			
Are jigs, fixtures and vises used where needed?			
When needed, do gloves fit properly and made of an appropriate fabric?			
Does the worker avoid contact with sharp edges when performing the task?			
When needed, are push buttons designed properly?			
Do the job tasks allow for ready use of required personal equipment?			
Are high rates of repetitive motion avoided by: a. Job rotation? b. Self-pacing? c. Sufficient pauses? d. Adjusting the job skill level of the worker?			
Is the employee trained in: a. Proper work practices? b. When and how to make adjustments? c. Recognizing signs and symptoms of potential problems?			

11.3. Hand Tool Checklist:

Workstation Evaluated:	**Date of Evaluation:**		
"NO" responses indicate areas which should be investigated	**Yes**	**No**	**NA**
Are tools selected to limit or minimize: a. Excessive vibration? b. Excessive force? c. Bending or twisting the wrist? d. Finger pinch grip? e. Problems associated with trigger finger?			
Are tools powered where necessary and feasible?			
Are tools evenly balanced?			
Are heavy tools suspended or counterbalanced in ways to facilitate use?			
Does the tool allow adequate visibility of the work?			
Does the tool grip/handle prevent slipping during use?			
Are tools equipped with handles of textured, non-conductive material?			
Are different handle sizes available to fit a wide range of hand sizes?			
Is the tool handle designed to not dig into the palm of the hand?			
Can the tool be used safely with gloves?			
Can the tool be used by either hand?			
Is there a preventive maintenance program to keep tools operating as designed?			
Have employees been trained: a. In the proper use of tools? b. When and how to report problems with tools? c. In proper tool maintenance?			

11.4. Material Handling Checklist:

Workstation Evaluated:	**Date of Evaluation:**		
"NO" responses indicate areas which should be investigated	**Yes**	**No**	**NA**
Are the weights of loads to be lifted judged acceptable by the workforce?			
Are materials moved over minimum distances?			
Is the distance between the object load and the body minimized?			
Are walking surfaces: a. Level? b. Wide enough? c. Clean and dry?			
Are objects: a. Easy to grasp? b. Stable? c. Able to be held without slipping?			
Are there handholds on these objects?			
When required, do gloves fit properly?			
Is the proper footwear worn?			
Is there enough room to turn and maneuver?			
Are mechanical aids used whenever possible?			
Are working surfaces adjustable to the best handling heights?			
Does material handling avoid: a. Movements below knuckle height and above shoulder height? b. Static muscle loading? c. Sudden movements during handling (jerking)? d. Twisting at the waist?			
Is help available for heavy or awkward lifts?			
Are high rates of repetition avoided by: a. Job rotation? b. Self-pacing? c. Sufficient pauses?			
Are pushing or pulling forces reduced or eliminated?			
Does the employee have an unobstructed view of handling the task?			
Are workers trained in correct handling and lifting procedures?			

11.5. Workstation Evaluation Request:

Workstation Evaluation Request

Employee Information	
Employee Name:	Job/Title:
Department:	Supervisor:
Describe areas of concern or discomfort:	
Are you seeing a medical provider related to this discomfort? Yes No	
Employee Signature:	Date Submitted:
Program Administrator Response	
Workstation evaluated by:	Date Evaluation is Scheduled:
Evaluator's Assessment:	
Follow-Up Action Plan:	
Evaluator's Signature:	Date of Evaluation:

SOC 773 3/18

1. PURPOSE

1.1 The purpose of the Bloodborne Pathogen Exposure Control Plan is to protect the health and safety of the persons directly involved in handling the materials, SOC personnel, subcontractors and the general public by ensuring the safe handling, storage, use, processing, and disposal of infectious medical waste.

2. SCOPE

2.1. Applies to all SOC employees. This exposure control plan applies to all occupational exposure to blood or other potentially infectious materials at SOC, all employees, and subcontractors. This exposure control plan will be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

3. POLICY

3.1. It is the policy of SOC that all employees be informed about bloodborne pathogens and universal precautions. These guidelines are set to ensure that the injured employee, the employee rendering aid or bystanders are aware of proper procedures to follow when contact with bloodborne pathogens or other bodily fluid has occurred or if the potential for exposure exists. SOC will make every effort to comply with the U.S. Department of Labor Occupational Safety and Health Administration Bloodborne Pathogen Standard (29 CFR 1910.1030). Universal precautions will be utilized to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

4. DEFINITIONS AND ACRONYMS

4.1. **Bloodborne Pathogens -** Pathogenic microorganisms that are present in human blood and can cause disease in humans. These disease causing organisms can be found in all body fluids, unfixed tissue, cell lines, and in situations where it is difficult or impossible to differentiate between body fluids and other materials.

4.2. **Contamination -** The presence of blood or other potentially infectious materials on an item or surface.

4.3. **Contaminated Sharps -** Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

4.4. **Decontamination -** The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

4.5. **Engineering Controls -** Controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

4. DEFINITIONS AND ACRONYMS (CONTINUED)

4.6. **Exposure Incident -** A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

4.7. **HBC -** Hepatitis C Virus

4.8. **HBV -** Hepatitis B Virus

4.9. **HIV -** Human Immunodeficiency Virus

4.10. **Occupational Exposure -** Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

4.11. **Parenteral -** Piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

4.12. **PPE -** Personal Protective Equipment is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothing (e.g., uniforms, pants, shirts, or blouses) not intended to function as protection against a hazard is not considered to be personal protective equipment.

4.13. **Regulated Waste -** Liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

4.14. **Source Individual -** Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee.

4.15. **Universal Precautions -** Is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

4.16. **Work Practice Controls -** Controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. The individual's responsibility for reporting injuries, which includes exposure to bloodborne pathogens and other body fluids, is outlined in Chapter 12, Incidents and Injuries. Report exposure to supervisor, call **7911**.

7. PROCEDURE

7.1. **Bloodborne pathogens and universal precautions.**

7.1.1. In the event an accident results in exposure to potentially infectious materials, the injured employee and the employee rendering aid and assistance shall practice universal precautions. All questions about universal precautions and blood borne pathogens and/or requests for training should be directed to the Fire Department.

7.1.1.1. Blood/Body fluids - Utilize PPE such as rubber gloves, face shield and gown if they are available. In the absence of PPE:

7.1.1.1.1. The injured employee will use paper towels and apply pressure to wound until Fire Department arrives.

7.1.1.1.2. Employees rendering aid to the injured should ensure that there are sufficient protective barriers in between victim and themselves; i.e., paper towels, cloth, newspapers. Employees should use latex gloves when available as a first line of defense.

7.1.1.2. Contamination – Call **7911**, report blood/body fluid spill. Fire Department will respond to clean and decontaminate.

7.2. **Communication of Hazards to Employees (Biohazard Warning Label)**

7.2.1. Biohazard warning labels shall be affixed to containers of blood or regulated waste, refrigerators and freezers containing blood or other potentially infectious material and other containers used to store, transport or ship these materials.

7.2.2. Biohazard labels will be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color: These labels will be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

7.2.3. Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment, or disposal are exempted from the labeling requirement.

7.2.4. Regulated waste that has been decontaminated need not be labeled.

7. PROCEDURE (CONTINUED)

7.3. Engineering and Work Practice Controls

7.3.1. Engineering and work practice controls will be used to eliminate or minimize employee exposure. Engineering controls will be examined and maintained or replaced to ensure their effectiveness. Personal protective equipment will also be used if there is exposure potential.

7.3.2. SOC will provide readily accessible hand washing facilities for employees use. When hand washing facilities are not possible, appropriate antiseptic hand cleanser or antiseptic towelettes will be provided. Employees will be trained to wash their hands with soap and running water as soon as possible after any exposures and after removing personal protective equipment.

7.3.3. Contaminated needles and other contaminated sharps will not be bent, recapped, or removed unless no alternative is feasible or that such action is required by a specific medical procedure. Such bending, recapping, or needle removal must be accomplished through the use of a mechanical device or a one-handed technique.

7.3.4. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.

7.3.5. Food and drink will not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench tops where blood or other potentially infectious materials are present.

7.3.6. All procedures involving blood or other potentially infectious materials will be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

7.3.7. Specimens of blood or other potentially infectious materials will be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping. Containers used for storage, transport, or shipping will be biohazard labeled and closed prior to being stored, transported, or shipped.

7.3.8. The primary container will be placed within a biohazard labeled second container to prevent puncture and leakage during handling, processing, storage, transport, or shipping.

7.3.9. Equipment which may become contaminated with blood or other potentially infectious materials will be decontaminated prior to servicing or shipping. A readily observable biohazard label will be attached to the equipment stating which portions remain contaminated. SOC will ensure that this information is conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate, and prior to handling, servicing, or shipping so that appropriate precautions will be taken.

7.4. Personal Protective Equipment

7.4.1. When there is occupational exposure, SOC will provide, at no cost to the employee, appropriate personal protective equipment such as gloves, gowns, laboratory coats, face shields, eye protection, masks, mouthpieces, resuscitation bags, pocket masks, or other ventilation devices.

7. PROCEDURE (CONTINUED)

7.4.2. Personal protective equipment will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's clothes, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

7.4.3. SOC will ensure that the employee uses personal protective equipment and that appropriate sizes are readily accessible at the worksite or is issued to employees.

7.4.4. Personal protective equipment will be repaired or replace as needed to maintain its effectiveness, at no cost to the employee.

7.4.5. All personal protective equipment will be removed prior to leaving the work area and/or if the protective clothing is contaminated with blood or infectious material. SOC will clean, launder, and dispose of personal protective equipment.

7.4.5.1. When personal protective equipment is removed it will be placed in designated areas or containers for storage, washing, decontamination, or disposal.

7.5. **Housekeeping**

7.5.1. SOC will ensure that the worksite is maintained in a clean and sanitary condition. SOC will determine and implement an appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area.

7.5.1.1. All contaminated equipment and work surfaces will be decontaminated immediately or as soon as feasible with an appropriate disinfectant after completion of procedures and at the end of the work shift if the surface may have become contaminated since the last cleaning.

7.5.1.2. Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces will be removed and replaced when they become contaminated.

7.5.1.3. All bins, pails, cans, and similar receptacles intended for reuse will be decontaminated immediately if they are contaminated with blood or other potentially infectious materials.

7.5.1.4. Broken glassware which may be contaminated will not be picked up directly with the hands. Mechanical means, such as a brush and dust pan, tongs, or forceps will be utilized for cleaning.

7.5.1.5. Reusable sharps that are contaminated with blood or other potentially infectious materials will not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

7. PROCEDURE (CONTINUED)

7.6. Regulated Waste

7.6.1. Disposal of all regulated waste will be in accordance with SOC policy as well as applicable federal, state, and local regulations. Contaminated sharps and other regulated waste will be discarded immediately or as soon as feasible in biohazard labeled containers that are closable, puncture resistant, and leak-proof. Containers for contaminated sharps will be maintained upright throughout use, easily accessible to personnel, replaced routinely, and not be allowed to overfill.

7.6.2. When moving contaminated sharps or other regulated wastes the containers will be biohazard labeled and closed to prevent spillage or protrusion during handling, storage, transport, or shipping.

7.6.3. Secondary containers will be used if leakage is possible. The second container will also be biohazard labeled, closable, and constructed to contain all contents and prevent leakage.

7.7. Laundry

7.7.1. Contaminated laundry will be handled as little as possible while being placed in biohazard labeled transport bags or containers. Contaminated laundry will not be sorted or rinsed in the location of use. Wet contaminated laundry will be place in appropriate leak proof bags or containers.

7.7.1.1. SOC will ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.

7.8. Training

7.8.1. If an employee has occupational exposure or potential exposure to human blood or human fluids they must take part in the Bloodborne Pathogen Exposure Control Plan training to control exposure. Training will be provided at the time of initial assignment to tasks where occupational exposure may take place and annually thereafter.

7.8.2. SOC will provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.

7.8.3. SOC shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.

7.8.4. SOC shall ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are made available at no cost to the employee.

7.8.5. Hepatitis B vaccination shall be made available after the employee has received the training required within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.

7. PROCEDURE (CONTINUED)

7.9. **Communications of hazards to employees**

7.9.1. Warning labels shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials.

7.9.2. Labels and signs required by this section shall include the following Legend:

7.9.3. These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.

7.9.4. Labels shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

7.9.5. Regulated waste that has been decontaminated need not be labeled or color-coded.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. SOC values the safety and health of all workers including our subcontractors. SOC is committed to having incident-free operations.

2. SCOPE

2.1. Compliance with applicable OSHA standards.

3. POLICY

3.1. SOC is required to provide an information and training program for all employees exposed to lead above the action level or who may suffer skin or eye irritation from lead.

4. DEFINITIONS AND ACRONYMS

4.1. **Action Level -** Employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 ug/m^3) averaged over an 8-hour period.

4.2. **LSP -** Lead Safety Program

4.3. **MSP -** Medical Surveillance Program

4.4. **PEL -** Permissible Exposure Limit

4.5. **PPE -** Personal Protective Equipment

4.6. **QP -** Quality Plan

4.7. **RPP -** Respirator Protection Program

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **SOC Has the responsibility:**

6.1.1. To assure that no employee is exposed to lead in excess of the PEL.

6.1.2. Shall have a Respiratory Protection Program (RPP).

6.1.3. Provide Protective Clothing.

6.1.4. Provide Medical Surveillance Program (MSP).

6.1.5. Provide Appropriate Hygiene facilities.

6.1.6. Comply with all applicable federal and state regulations with regard to lead exposure.

6.2. **Management has the responsibility:**

6.2.1. To assure all Supervisors and Employees adhere to LSP.

6.2.2. Provide Annual Training to all Supervisors and Employees.

6. RESPONSIBILITIES (CONTINUED)

6.2.3. Ensure all employees have access to OSHA 1910.1025, SOC RPP, and SOC LSP encourage employees to read the Program and Standard.

6.3. **Supervisor has the responsibility:**

6.3.1. Ensure all Employees adhere to LSP.

6.3.2. Ensure all Employees are wearing Proper Personal Protective Equipment (PPE) correctly and maintain in a serviceable condition.

6.3.3. Ensure Employees have been trained for Lead Exposure.

6.4. **Employees Shall:**

6.4.1. Employees shall comply with OSHA 1910.1025, 1926.62.

6.4.2. Report all unknown possible exposure to lead.

6.4.3. Adhere to the LSP and RPP.

6.5. **Safety Office has the responsibility:**

6.5.1. Coordinate with the Clinic to determine which employees are required to be covered under the RPP, and MSP.

6.5.2. Conduct regular evaluation of the program by surveying employees at various work sites.

6.5.3. Perform routine inspections to determine compliance with various elements of the Program.

6.5.4. Report non-conformities and corrective actions to Supervisor.

6.5.5. Shall monitor exposure.

6.6. **Occupational Health Clinic Shall:**

6.6.1. Provide Medical Surveillance IAW 1910.1025(j).

6.6.2. Maintain medical records for at least 40 Years, or for the duration of employment plus 20 years, whichever is longer.

7. PROCEDURE

7.1. **Auditing:**

7.1.1. Evaluations of the workplace are necessary to ensure that the written LSP is being properly implemented. This includes consulting with employees to ensure that they are using their respirators properly. The Safety Office shall evaluate the program to ensure its ongoing effectiveness. Program evaluation will include, but is not limited to, surveys or discussions with employees to assess their views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be documented and corrected.

7. PROCEDURE (CONTINUED)

7.2. **Training:**

7.2.1. Each employee that has a potential exposure to airborne lead at any level shall be informed of appendices A and B of 1910.1025

7.2.2. While doing Hazard Communications the following hazards shall be addressed: Reproductive/developmental toxicity; central nervous system effects; kidney effects; blood effects; and acute toxicity effects.

7.2.3. Each employee who is subject to exposure to lead at or above the action level, or for whom the possibility of skin or eye irritation exist must be trained initially prior to the job assignment and annual after initial training.

7.3. **Medical Surveillance:**

7.3.1. Identification -To effectively provide medical surveillance to employees at risk to lead exposure, it is necessary to maintain and update a Lead Medical Surveillance List of employees and job titles that are within the category of possible lead exposure.

7.3.2. Utilize the Occupational Medical Surveillance Matrix to determine which job classifications have potential exposure to lead.

7.3.3. Utilize Employee Baseline published monthly by Human Resources for employee names and job classifications.

7.3.4. Coordinate with Managers/Supervisors to determine employees who require lead medical surveillance.

7.4. **Laboratory Tests** - Blood lead levels will be drawn on an annual basis for employees on the Lead Medical Surveillance List. The Medical Director may change the frequency of testing based on work activity and exposure levels.

7.5. **Laboratory Test Results** - File in employee medical chart.

7.5.1. Medical Director will review test results and consult with employee as required.

7.6. **Abnormal Test Results** - The following will take place if the blood lead levels meet or exceed 20 mg/100g (half of the acceptable range, according to 29CFR10.1025 para k.1.i) or are of concern to our Medical Director.

7.6.1. Notify the Manager, Safety & Health.

7.6.2. Test results will be evaluated by the Medical Director.

7.6.3. Employee Notification – Employees with abnormal blood lead test results will be notified for:

7.6.3.1. Consultation with Medical Director to include written notification.

7.6.3.2. Temporary medical removal from contaminated worksite.

7.6.3.3. Follow-up blood sampling test two weeks or more after the initial blood sampling tests were done.

7. PROCEDURE (CONTINUED)

7.6.3.4. Consultation with Medical Director following the second blood test.

7.6.4. Follow up Results

7.6.4.1. If blood lead results continue to be abnormally high, the Medical Director will inform employee *in writing* and may:

7.6.4.1.1. Require further blood tests.

7.6.4.1.2. Extend restricted duty.

7.6.4.1.3. Impose a mandatory referral to higher level of medical care.

7.6.4.2. If the results return to a normal level, the employee will be return to full duty.

7.6.5. Written notification will be issued to employees whose blood lead level exceeds 40 mg/100g; notification will indicate:

7.6.5.1. The employee's blood lead level.

7.6.5.2. The standard required temporary medical removal IAW para (k) (1) (i), of 29 CFR part 1910.1025.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. The purpose is to provide SOC employees in areas where asbestos is suspected on an awareness level basis about the properties and dangers of asbestos, general guidelines and training requirements and to provide basic precautions and protections for employees to avoid exposure to Asbestos containing Material (ACM) or Presumed Asbestos Containing Material (PACM) at HWAD.

2. SCOPE

2.1. This covers all employees whose work activities may be in the vicinity of asbestos containing materials during their work activities, who work in asbestos abatement, and all employees who might become exposed to asbestos fibers.

3. POLICY

3.1. All SOC employees shall be made aware of their occupational exposure to asbestos. Some job classifications require extensive training in proper handling of asbestos material, while others only require awareness training.

4. DEFINITIONS AND ACRONYMS

4.1. **ACM -** Asbestos containing materials.

4.2. **Amosite -** About 7% of this type of asbestos is used in buildings and factories. Brown or tan in color with a stout fiber. Found primarily around boilers and pipes.

4.3. **Asbestos -** A generic term used to describe a number of naturally occurring, fibrous mineral silicates that differ in chemical composition. Asbestos fibers are characterized by high tensile strength, flexibility, heat and chemical resistance, and favorable frictional properties. For these reasons asbestos has been widely used throughout the world and is still being used today. Certain grades of asbestos can be carded, spun, and woven, while others can be laid and pressed to form paper, or used for structural reinforcement of materials such as cements, plastic and asphalt. Asbestos is used in the manufacture of heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials, including floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe, sheeting and fire-resistant drywall. Asbestos is also present in pipe and boiler insulation materials and in sprayed-on or troweled materials on walls, ceilings, beams, crawlspace, and between walls. These processed materials that contain asbestos are called asbestos containing materials – ACM.

4.4. **Chrysotile -** 90% of all asbestos containing material (ACM) is of this type. Long wavy fibers, white or off-white in color. These fibers are used in the production of fire and heat resistant cloth, building material, and other compounds.

4.5. **Crocidolite -** About 2-3% of-ACM is this type. Blue in color with long very straight fibers.

5. FLOWCHART

5.1. No flow charts associated with this chapter.

6. RESPONSIBILITIES

6.1. **Director of Base Operations:**

6.1.1. Evaluating the asbestos areas in order to plan, design, estimate cost, and apply for project funding to encapsulate or remove the asbestos material in coordination with the Asbestos Program Manager.

6.1.2. Administering all asbestos removal jobs or projects, including the actual removal processes, disposal, procedure development, and subcontract inspection in coordination with the Asbestos Program Manager per the Asbestos Control Program Operations and Maintenance Plan.

6.1.3. Ensuring all employees who work in asbestos abatement are trained and licensed.

6.1.4. Staging and disposing of all asbestos containing material (ACM) or presumed ACM (PACM) debris.

6.2. **Director of Human Resources:**

6.2.1. Providing EPA approved training for all asbestos abatement workers, supervisors, planners, inspectors and project designers.

6.2.2. Maintaining documentation of all asbestos awareness training.

6.2.3. Responsible for ensuring that employees receive asbestos awareness training via new hire training.

6.3. **Manager, Safety & Health:**

6.3.1. Assisting all organizations in controlling employees' exposure to asbestos fibers.

6.3.2. Providing medical surveillance and maintaining medical files on all asbestos workers.

6.4. **EPA Accredited Personnel:**

6.4.1. EPA Accredited Workers with a minimum of four days training shall carry out response actions and maintenance activities that do not generate more disturbed asbestos containing waste than can be held in a 60-inch by 60-inch asbestos waste bag.

6.4.2. EPA Accredited Contractor/Supervisor with a minimum five days training shall supervise/conduct response actions and maintenance activities. He shall advise the Asbestos Program Manager of actions and activities prior to performance for identifying suspect ACM and for all necessary sampling. 6.4.3 EPA Accredited Inspector with a minimum three days training shall identify suspect ACM for the performance of work at HWAD. Sampling of ACM according to AHERA protocol shall be performed or the material shall be assumed to contain asbestos.

6.4.3. EPA Accredited Management Planner with a minimum 2 days training and having previous EPA Inspector accreditation shall conduct hazard assessments, recommend appropriate response actions or preventive measures consistent with AHERA regulations and assist with generation and approval of management plans involved with response actions and maintenance activities per the Asbestos Control Program Operations and Maintenance Plan.

6. RESPONSIBILITIES (CONTINUED)

6.4.4. EPA Accredited Project Designer with a minimum 3 days training shall design response actions and maintenance activities larger than small-scale short duration jobs.

6.5. **Managers/Supervisors**

6.5.1. Implement site controls isolating employees from asbestos hazards when asbestos is discovered or suspected on a jobsite.

6.5.2. Ensure proper employee asbestos awareness training is completed.

6.6. **Employees**

6.6.1. All employees are required to act in strict compliance with the requirements of this program and delay or discontinue work if there is ever an unresolved concern regarding exposure to asbestos.

6.6.2. Immediately report any suspected asbestos containing material to their supervisor.

6.6.3. Protect themselves and others from unnecessary asbestos exposure.

7. PROCEDURE

7.1. **Housekeeping:**

7.1.1. Be aware that walls and ceilings may contain asbestos fibers. Therefore, hammering nails into the wall may release asbestos. "Dropped Ceilings" and "Acoustical Sprayed on" ceilings often contain asbestos. If there is a sprayed-on surface material, it should not be disturbed by a broom or other means. Compressed air should not be used around material that contains asbestos. Floor tiles and window putty contain small amounts of asbestos. The most common friable or regulated form of asbestos at HWAD is AC thermal system insulation (TSI) on water, steam and condensate pipes. Most building materials contain asbestos, and become dangerous when the material matrix is changed during deterioration, damage or cutting, sawing or sanding and asbestos fibers becomes airborne.

7.2. **Specific Job Requirements:**

7.2.1. Only trained qualified employees are permitted to work in the removal, encapsulation or enclosure of ACM. These areas need to be posted, to warn other personnel of the work being performed. Examples of these areas are; Bldg. 42 (basement) and Bldg. 64 (brake and clutch removal area). Specific job classifications that require extended training are:

7.2.1.1. Carpenters.

7.2.1.2. Pipe Fitters and Laborers.

7.2.1.3. Building and Grounds personnel.

7.2.1.4. Electricians.

7.2.1.5. Painters.

7.2.1.6. Vehicle Maintenance Mechanics.

7. PROCEDURE (CONTINUED)

7.2.1.7. Custodians.

7.3. Asbestos training shall be provided to employees prior to assignment in such areas or prior to the start of asbestos related jobs.

7.4. **Regulated Areas:**

7.4.1. A regulated area is an area established to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos, exceed or there is a reasonable possibility they may exceed the exposure limit.

7.4.1.1. Warning signs that demarcate the regulated area shall be provided and displayed at each location where a regulated area is required to be established. Signs shall be posted at such a distance from such a location that an employee may read the signs and take necessary protective steps before entering the area marked by the signs.

7.4.1.2. The warning signs required by this section shall bear the following information:

DANGER
ASBESTOS
CANCERAND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

7.4.1.3. In addition, where the use of respirators and protective clothing is required in the regulated area under this section, the warning signs shall include the following:

RESPIRATORS AND PROTECTION CLOTHING ARE REQUIRED IN THIS AREA

7.5. **Engineering Controls**

7.5.1. **Engineering Controls may include the following:**

7.5.1.1. Vacuum cleaners equipped with HEPA filters to collect all debris and dust.

7.5.1.2 Wet methods, or wetting agents, during asbestos handling, mixing, removal, cutting, application, and cleanup.

7.5.1.3 Prompt clean-up and disposal of wastes and debris.

7.6 **Health Effects:**

7.6.1 **Pneumoconiosis:** a lung disease that is caused by prolonged exposure to metallic or mineral dusts. It can develop as long as 15 to 20 years after regular exposure to asbestos has ended.

7. PROCEDURE (CONTINUED)

7.6.2. **Asbestosis:** a form of pneumoconiosis. Asbestosis results from the inhalation of respirable asbestos fibers, 50 microns or more in length, .05 micron or less in diameter. These fibers assume a longitudinal orientation in the airway and move in the direction of airflow. After they penetrate the respiratory bronchiole and alveolar walls, they then act like a barb and work their way into the lining that covers the lungs. The immune system tries to remove the foreign particle and causes a scar to form. With time, the scars will cause the lining to become hard and brittle. Asbestos exposure is evident by characteristic manifestations on X-rays, by restrictive pulmonary functions, or by clinical signs, such as finger clubbing or dry, cracking sounds within the lungs. The most important symptom is dyspnea or undue shortness of breath. The diseases from asbestos exposure may be progressive, even in the absence of further exposure; the inhaled fibers trapped within the lungs continue the biological action. The worst case would be death from the body's inability to obtain enough oxygen or from the heart's failure to pump blood through the scarred lungs.

7.6.3. **Mesothelioma:** a cancer of mesothelial tissue, associated especially with exposure to asbestos.

7.7. **Relationship Between Smoking and Asbestos Exposure:**

7.7.1. The first lines of defense to filter particles out of the body are the coarse hairs inside your nose. These hairs trap large particles as you inhale. Air then passes through your trachea (windpipe), crossing over cilia, which are tiny hairs lining your entire respiratory tract. The cilia beat rapidly to move mucus and small particles to the back of your throat, to be swallowed or coughed out of the body.

7.7.2. Cigarette smoking (nicotine) temporarily paralyzes these ciliated cells, inhibiting the body's defenses to filter out the part l4'-C'16s. This can be seen from the following study.

7.7.2.1. Selikoff Synergistic Study (1980) the study analyzed 12,051 asbestos workers and 73,763 non-asbestos workers from 1967- 1976. By comparing the non-smokers to smokers in each group the following results were concluded:

7.7.2.2. DATA:

Exposure	Death per 100,000	Mortality Rate
No smoking, No asbestos	11.3	1.0
No smoking, Asbestos	58.4	5.17
Smoking, No asbestos	122.0	10.58
Smoking, Asbestos	590.0	53.24

In the same report Selikoff reported that 48% of wives, 21% of daughters, and 42% of sons of asbestos workers were affected by the asbestos that was brought home by the workers.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Asbestos Awareness Training Record	Compliance and Training	Duration of Employment	Shred
Asbestos Worker Training Record	Compliance and Training	Duration of Employment	Shred
Asbestos Contractor/Supervisor Training Record	Compliance and Training	Duration of Employment	Shred
Asbestos Inspector Training Record	Compliance and Training	Duration of Employment	Shred
Asbestos Management Planner Training Record	Compliance and Training	Duration of Employment	Shred
Asbestos Project Designer Training Record	Compliance and Training	Duration of Employment	Shred

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
N/A	Asbestos Awareness Training Certificate of Completion
N/A	Asbestos Worker Training Certificate of Completion
N/A	Asbestos Contractor / Supervisor Certificate of Completion
N/A	Asbestos Inspector Training Certificate of Completion
N/A	Asbestos Management Planner Certificate of Completion
N/A	Asbestos Project Designer Certificate of Completion

11. Attachments

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. To describe policies and procedures to identify, reduce or eliminate the health hazards associated with occupational exposure to crystalline silica through inspection, testing and engineering controls. The purpose of this Crystalline Silica Dust Safety Program is to identify the hazards associated with silica dust and outline the steps to take to ensure employees who work with, or around silica are not exposed to hazardous levels of silica dust; and to provide procedures for common silica related work duties to minimize exposure in accordance with the OSHA Respirable Crystalline Silica (29 CFR 1910.1053 and 29 CFR 1926.1153).

2. SCOPE

2.1. To target crafts, tasks and worksites that may have or create elevated exposure to crystalline silica. This applies to all occupational exposures to respirable crystalline silica in construction work, except where employee exposure will remain below 25 micrograms per cubic meter of air (25 µg/m³) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

3. POLICY

3.1. All SOC employees shall be made aware of their possible occupational exposure to crystalline silica and to have in place written responsibilities and procedures for precautions and engineering controls.

4. DEFINITIONS AND ACRONYMS

4.1. **Action level -** a concentration of airborne respirable crystalline silica of 25 µg/m^3, calculated as an 8-hour TWA.

4.2. **Authorized person -** An employee who has received proper training and exposure monitoring to safely work with silica containing materials.

4.3. **Crystalline Silica -** A basic component of soil, sand, granite, and other minerals that may become respirable size particles when workers chip, cut, drill or grind materials that may contain crystalline silica. Common forms are quartz, cristobalite and tridymite. Crystalline silica is classified as a human lung carcinogen.

4.4. **Employee exposure -** the exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.

4.5. **HEPA -** High Efficiency Particulate Air. A filtering system capable of trapping and retaining at least 99.97% of all particles of 0.3 micron in diameter and larger.

4.6. **Permissible Exposure Limit (PEL) -** the OSHA limit for silica dust exposure. It is set at 50µg/m3, averaged over an 8-hour workday, as a TWA.

4.7. **Regulated area -** an area, demarcated by the employer, where an employee's exposure to airborne concentrations of respirable crystalline silica exceeds, or can reasonably be expected to exceed, the PEL.

4. DEFINITIONS AND ACRONYMS (CONTINUED)

4.8. **Respirable crystalline silica -** Means quartz, cristobalite, and/or tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle-size-selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality — Particle Size Fraction Definitions for Health-Related Sampling.

4.9. **Silica Containing Material -** Any material, which has the potential to contain silica at levels, which may pose a hazard to employees when the material is manipulated to create airborne particles

4.10. **Silicosis -** Caused by the entering of respirable sized dust that causes the formation of scar tissue that diminishes the lungs ability to take in oxygen. There is no cure for silicosis. Smoking cigarettes complicates and increases lung damage. Silicosis is classified into three types: chronic/classic, accelerated, and acute.

5. FLOWCHART

5.1. No flow charts associated with this chapter.

6. RESPONSIBILITIES

6.1. It is the responsibility of the employer to identify jobs and tasks that may exceed PEL's per OSHA 29 CFR 1926.55 or 1910.1000 to significantly reduce / eliminate employee overexposures to crystalline silica at SOC. Communication of crystalline silica hazards shall be relayed to employees through new hire awareness classes, hazardous material handling classes and on the job training.

6.2. High risk jobs identified but not limited to include sand blasting, construction workers, gravel crushing operations, sand and gravel excavation and transporting, crane operators, demolition, concrete mixing and cutting, masonry work, jack hammer operations, railroad track repair, heavy equipment mechanics and operators, welder, machinist, janitor. Materials on site: abrasives, concrete, sand, gravel, paints, asphalt pavement, Portland cement, soil.

6.3. The employer shall make Safety Data Sheets (SDS) available to all employees. Carcinogen warnings are required on containers of materials consisting of more than 0.1% crystalline silica by weight or volume.

6.4. The employer shall provide respiratory protection through the SOC Respiratory Protection Program when suspect crystalline silica dust and emission cannot be controlled through good engineering and work practices.

6.5. The employer shall assure good housekeeping and hygiene practices are in place when work is performed with a material suspected to contain crystalline silica.

7. PROCEDURE

7.1. Below are general steps that will be taken to protect employees and reduce or remove the chances of crystalline silica exposure above PEL's. The responsible Directorate will develop its own Quality Plans/IOPS with detailed procedures to ensure compliance with OSHA guidelines and regulations.

7.1.1. When possible, substitute with non-crystalline silica materials such as abrasive blast (sandblasting) media.

7. PROCEDURE (CONTINUED)

7.1.2. Provide engineering or administrative controls, where feasible such as local exhaust ventilation, blasting cabinets and training.

7.1.3. Use proper PPE such as gloves, disposable coveralls with booties and hood (preferred), eye protection and respiratory protection.

7.1.4. Use all available work practices to control dust exposures, such as water spray, tools with dust collection systems and HEPA filtered vacuums.

7.1.5. Do not use compressed air for cleaning contaminated surfaces or clothing. A HEPA vacuum cleaner is required.

7.1.6. Provide training, exposure monitoring, and health screening and surveillance programs to monitor any adverse health effects caused by crystalline silica exposures.

7.1.7. Eating, drinking, smoking, or applying cosmetics in areas where crystalline silica dust may be present will be prohibited. Hands and face will be washed outside of dusty areas before performing any of these activities.

7.2. **Material Assessment**

7.2.1. Any time there is a potential for silica containing materials to be involved in a project, sources of silica must be assessed prior to disturbing. An authorized contractor or otherwise qualified person can perform building material assessments to determine silica content in materials.

7.2.2. Crystalline silica occurs naturally in the earth's crust and is a basic component of sand, concrete, brick, asphalt, granite, some blasting grit and wall spackling materials. Employees can be exposed to silica when conducting activities such as:

- Abrasive blasting
- Jack hammering
- Concrete crushing
- Concrete drilling
- Rock drilling
- Mixing of concrete or grout
- Moving or dumping piles of concrete, rock or sand
- Chipping or scarifying concrete
- Rock crushing
- Sawing concrete or bricks
- Demolition of concrete or brick
- Using coatings containing silica
- Removing coatings containing silica
- Sawing concrete or bricks

7.2.3. If airborne silica is expected to be generated during the project, it will be presumed that levels exceed PEL and employees will wear appropriate PPE. Appropriate measures will be taken to protect the public who may be exposed to silica dust in the air caused by drifting.

7.3. Exposure Controls

7.3.4. Pre-project planning

7.3.4.1. Prior to projects taking place affecting HWAD buildings/facilities, planning documents will be reviewed to determine potential exposures to hazardous materials, including silica.

7. PROCEDURE (CONTINUED)

7.3.4.2. Authorized contractor or qualified SOC personnel will conduct building material assessments to make determinations if there are any silica containing materials.

7.3.4.3. During the planning process, any silica containing materials are addressed and methods for exposure control are determined provided prior to work beginning.

7.3.4.4. If silica containing materials are to be disturbed during the project, the appropriate exposure control methods will be determined and implemented.

7.4. Administrative/Engineering Controls

7.4.1. Where silica exposures at or above the Permissible Exposure Limit have been documented, or are expected, the appropriate engineering or administrative controls will be implemented, where feasible. Follow-up exposure monitoring may be necessary when administrative or engineering exposure controls are utilized.

7.4.2. Typical controls may involve:

7.4.2.1. Substituting non-silica containing materials for use while abrasive blasting.

7.4.2.2. Alternative methods such as pre ordering grout already mixed instead of on-site mixing in bulk.

7.4.2.3. Local exhaust ventilation.

7.4.2.4. General ventilation.

7.4.2.5. Vacuum methods with HEPA filters.

7.4.2.6. Distance

7.4.2.7. Dust control products

7.4.2.8. Containment

7.4.2.9. Use of water to keep dust down.

7.4.2.10. General work practices such as good housekeeping, worker rotation, development of specific SOPs to minimize exposure.

7.4.3. Personal Protective Equipment (PPE)

7.4.3.1. In addition to administrative/engineering controls, employees may be required to wear specific PPE during the disturbance of silica containing materials and/or when airborne silica is present. The level of protection will depend on the task being conducted and the tools being utilized to complete the task.

7.4.3.2. Recommended PPE will typically include:

7.4.3.2.1. Respiratory Protection

7.4.3.2.2. Disposable or reusable work clothing to keep from spreading the dust or bringing the dust home.

7.4.3.2.3. Leather gloves

7. PROCEDURE (CONTINUED)

7.4.3.2.4. Safety glasses or goggles.

7.4.3.2.5. Face shield

7.4.3.2.6. Boot covers or rubber boots.

7.4.3.3. The following table provides recommended respiratory protection levels based on or anticipated exposure levels:

Respirator		Typical Silica Activity
Half-face with HEPA filters		- Housekeeping (wet method) - Saw cutting (wet method) - Drilling concrete (wet method) - Power tools with dust collection - Equipment operating with open cab
Full-face with HEPA filters		- Chipping concrete - Jack Hammering - Power tools without dust collection - Mixing grout in bulk - Vacuum abrasive blasting
SCBA		- Abrasive blasting

7.5. **Housekeeping & Hygiene Facilities**

7.5.1. In areas where silica containing dust may be present, all surfaces must be maintained free from accumulations of dust to minimize potential silica exposure. Dust and other silica containing debris must be removed from the work area as soon as possible.

7.5.2. Acceptable method of silica dust removal includes the use of HEPA vacuum or wet methods such as wet mopping.

7.5.3. SOC does not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica unless wet sweeping, HEPA-filtered vacuuming or other methods that minimize the likelihood of exposure are not feasible.

7.5.4. Unacceptable methods of silica dust removal include dry sweeping, vacuum cleaners, shop vacuums, and compressed air.

7.5.5. Follow all recommended procedures and utilize recommended PPE during silica containing debris cleanup activities. PPE should be removed upon work completion and disposed of after each use.

7.5.6. Employees must wash hands after leaving contaminated area and are recommended to shower prior to leaving work.

7.5.7. Ensure contaminated PPE, including footwear is not worn outside the work areas.

7. PROCEDURE (CONTINUED)

7.6. Medical Surveillance

7.6.1. Industrial Hygienist/Safety Office in collaboration with SOC management will identify employees at risk to silica exposure. Clinic will maintain and update a Silica Medical Surveillance List.

7.6.2. SOC Medical Director coordinates medical surveillance with the Industrial Hygienist/Safety Office.

7.7. Training and Recordkeeping

7.7.1. Hazard Communication training is required by all SOC employees and should be conducted initially upon hiring.

7.7.2. Silica Awareness Training is available and must be offered to affected employees prior to working with silica and annually thereafter.

7.7.2.1. Silica Awareness Training should include the following:

7.7.2.1.1. Potential health effects and symptoms of exposure to respirable silica.

7.7.2.1.2. Safety data sheets for silica, quartz, and applicable products containing silica.

7.7.2.1.3. The purpose and set up of regulated areas to mark the boundaries of work areas containing silica dust.

7.7.2.1.4. The use of engineering controls, work practices, good housekeeping, and PPE to control exposure to silica.

7.7.2.1.5. Use and care of PPE.

7.7.2.1.6. Expected exposures to silica dust.

7.7.2.1.7. Medical surveillance process.

7.7.3. Respiratory protection training, medical clearance, and quantitative fit testing is required under the Respiratory Protection Program.

7.7.4. SOC is required to maintain all training, medical surveillance, and exposure monitoring results.

7.8. Signage

7.8.1. In areas where exposure to silica dust may exceed the PEL the following type of signage must be in place to warn employee of hazards.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. To establish a comprehensive Radiation Safety Program designed to keep the occupational radiation exposure of SOC personnel as low as reasonably achievable. To prevent radiological illnesses/incidents, and to minimize the effects if such illnesses/incidents should they occur.

2. SCOPE

2.1. Applicable to Directors, Managers, and Traffic and Storage personnel who direct movement and shipping of radioactive items.

3. POLICY

3.1. It is the policy of SOC to protect the health of all personnel handling or using radioactive materials or radiation equipment, and to minimize dangers to life and property resulting from such handling and use. SOC employees will coordinate with the Radiation Safety Officer (RSO) prior to shipping, moving, or handling radioactive material.

4. DEFINITIONS AND ACRONYMS

4.1. **ALARA -** As Low as Reasonably Achievable.

4.2. **Depleted Uranium (DU) -** Uranium having a smaller percentage of Uranium-235 than the 0.7% found in natural uranium.

4.3. **Gray (Gy) -** The International System of Units measurement of absorbed dose. One gray is equal to an absorbed dose of 1 Joule/kilogram (100 rads).

4.4. **Quality Factor -** the modifying factor that is used to derive dose equivalent from absorbed dose.

4.5. **Rad -** the special unit of absorbed dose. One rad is equal to an absorbed dose of 100 ergs/gram or 0.01 joule/kilogram (0.01 gray).

4.6. **Radioactive Materials -** Any material that emits ionizing radiation.

4.7. **Radiation Safety Officer (RSO) -** An individual appointed by the General Manager who is responsible for management of the Radiation Safety Program. As a minimum, the formal training of the RSO must include a successful completion of a Radiation Safety Officer Course.

4.8. **Radiation Incident (RI) -** Any event which results in the unplanned exposure of personnel to ionizing radiation, the spread of radioactive contaminated material outside of areas designed to handle it, or the subjection of radioactive materials/radiation producing equipment to extreme environments (i.e., fire or vehicle incidents).

4.9. **Radiation Incident Control (RIC) -** Those measures used to assist injured personnel, minimize property damage, control the spread of contamination, and minimize exposure of personnel to ionizing radiation.

4.10. **Radiation Equipment -** Equipment that produces or uses ionizing radiation to perform its designed function (X-Ray machine).

4.11. **Rem -** the special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rems is equal to the absorbed dose in rads multiplied by the quality factor (1 rem=0.01 sievert).

4. DEFINITIONS AND ACRONYMS (CONTINUED)

4.12. **Sievert (Sv) -** The International System of Units measurement of any of the quantities expressed as dose equivalent. The dose equivalent in sieverts is equal to the absorbed dose in grays multiplied by the quality factor (1 Sv=100 rems).

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **The RSO is responsible for:**

6.1.1. Establishing appropriate measures to control ionizing radiation so that the total radiation exposure of each person will be maintained As Low as Reasonably Achievable (ALARA).

6.1.2. Ensuring that radiation source materials and equipment are properly used and stored.

6.1.3. Preparing all reports required as part of the Radiation Safety Program.

6.1.4. Ensuring that RIC procedures are kept current and that materials and trained personnel are on hand.

6.1.5. Maintaining DD Form 1141, Record of Occupational Exposure to Ionizing Radiation and DD Form 1952, Dosimeter Application and Record of Occupational Radiation Exposure or equivalent computer generated product when required.

6.1.6. Ensuring that the RSO and Alternate RSO receive a minimum of 24 hours of radiation safety training every 2 years.

6.1.7. Ensuring all new hire and annual refresher training on radiation awareness is being completed by the Training Department.

6.1.8. Conducting wipe test prior to all shipments of DU ammunition.

6.1.9. Conducting yearly wipe testing of ¼ or 25% of all areas storing DU ammunition.

6.2. **The Alternate RSO is responsible for:**

6.2.1. Assisting the RSO in the accomplishment of assigned duties and responsibilities.

6.2.2. Assuming Radiation Safety Program responsibilities during the absence of the RSO.

6.3. **If necessary a Radiation Control Committee (RCC) will be established**. If established RCC is responsible for:

6.3.1. Advising the General Manager on matters of radiation safety; its members include the primary and alternate RPO, the Safety Manager, the Depot Environmentalist and the Manager of Quality Control.

6.4. **Deputy Director of Depot Operations is responsible for:**

6.4.1. Ensuring that all radioactive items are stored in locations marked for storage of radioactive material.

6.4.2. Providing the RSO with a semi-annual inventory of radioactive items.

6. RESPONSIBILITIES (CONTINUED)

6.4.3. Ensuring the RSO is notified upon any location changes or receipt of any radioactive material.

6.4.4. Notifying the RSO of all scheduled shipments of DU ammunition (at least 48 hours' notice).

6.5. **Director of Munitions & Logistics Services is responsible for:**

6.5.1. Placing all employees working with radioactive items (except Depleted Uranium) on the Radiation Protection Program.

6.6. **Deputy Director of Compliance and Training is responsible for:**

6.6.1. Keeping records on all personnel who have received Radiation Safety training.

6.6.2. Ensuring Radiation Safety classes are scheduled, as required.

6.6.3. Conducting all new hire and annual refresher training on radiation awareness.

6.6.4. Requiring the Calibration Lab to maintain all Radiation Detection Devices (equipment) and advising the RSO of availability.

6.7. **Fire Chief of Fire and Emergency Services is responsible for:**

6.7.1. Ensuring the Fire Department has a Radiation Safety Plan for fires or hazardous material situations involving radioactive items.

7. PROCEDURE

7.1. **Shipping and Storage of Radioactive Material:**

7.1.1. Guidelines for the handling of radioactive items are contained in SOP HW-0000-L-002 AEDA Logistics Services (Item Specific Guidelines). All radioactive items will be shipped IAW 10 CFR and 49 CFR requirements. There are no placard requirements for shipment of DU Rounds.

7.2. **Accidents/Incidents or Unusual Conditions**

7.2.1. In the event of an accident/unusual occurring or an unusual condition being observed when working with radioactive material, all work will cease immediately, and the RSO will be notified. The RSO or alternate will then determine the course of action to be taken.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Results from yearly wipe tests performed on magazines storing DU ammunition	Radiation Safety Officer	5 years	Shred

10. FORMS

10.1. There are no forms are associated with this chapter.

11. Attachments

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. This written program establishes the requirements for control of energy. This chapter is written IAW 29 CFR 1910.147. The primary purpose of this program is to prevent worker injury or mishaps and secondarily to prevent equipment damage due to the accidental or unexpected start-up, operation or energizing of equipment or the release of stored energy, while personnel are working on equipment. This program establishes the process for ensuring that no SOC personnel (employee or contractor) are exposed to hazards associated with a release of hazardous energy or deficiencies with, or inadequacies of control of hazardous energy in the SOC buildings and grounds.

2. SCOPE

2.1. This program applies to all employees of SOC. In the event contractors (or any subcontractors) come into contact with a hazardous energy control while in the SOC buildings and/or grounds, contractors shall supply the Safety office with a copy of their written Lockout/Tag out program. In the event the contractor does not have a written program, they shall be trained to SOC procedures.

2.2. This program applies to all energy sources including, but not limited to: mechanical, electrical, pneumatic, steam, or hydraulic systems at SOC facilities.

3. POLICY

3.1. It is SOC's policy that all employees will use proper lockout/tagout (LOTO) procedures when servicing equipment or performing maintenance on a service line with an energy source. All employees shall be aware of SOC's locks and tags used for energy isolation. Under no circumstances shall a lock or tag be removed by an unauthorized person.

4. DEFINITIONS AND ACRONYMS

4.1. **Affected Area -** A vicinity around equipment/systems on which maintenance is being performed under the LOTO program.

4.2. **Affected Employee -** An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tag out, or whose job requires him/her to work in an area in which such service or maintenance is being performed.

4.3. **Authorized Employee -** An employee who locks out or tags out a machine or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance under this section.

4.4. **Boundary Lock -** One of a set of locks used for locking isolation boundaries. These locks must be opened by one, and only one, key. The lock and key must be identifiable as a matching set by either prominent numbers or other such identification on both the lock and key. These locks are the first locks installed upon positioning an energy-isolation device for a LOTO. A boundary lock must have a label indicating that it is a lockout lock.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.5. **Capable of being locked out -** An energy isolating device is capable of being locked out if it is designed with a hasp or other means of attachment, to which or through which, a lock can be affixed or a locking mechanism is built into. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

4.6. **Closeout Inspection -** The final inspection on equipment/systems that have been locked out/tagged out prior to returning the equipment/system to service. The closeout inspection includes verifying that: All authorized employees have removed their personal locks. The scope of work is complete. The equipment/system is ready to return to service. All boundary lock(s)/tag(s) have been removed from the energy-isolating device(s). All specialized LOTO energy-isolating devices have been removed and all critical safety equipment/systems have been restored to normal condition by qualified individuals.

4.7. **Electrical Testing -** Verification and diagnostic evaluations performed on electrical circuits, components or systems.

4.8. **Electrical Work -** Repair, maintenance, or testing on electrical circuits, components or systems.

4.9. **Energized -** Machines or equipment that are connected to an energy source or those that contain residual or stored energy. This may also include equipment/systems that may have the potential to create and /or store energy due to chemical reaction, evaporation or condensation of liquids, or inadvertent energization from environmental sources such as lightning.

4.10. **Energy Isolating Device -** A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches, and other controls circuit type devices are not energy isolating devices.

4.11. **Energy Source -** Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

4.12. **Hot Tap -** A procedure used in the repair, maintenance, and service activities which involves welding on a piece of equipment (pipelines, vessels, or tanks) under pressure, to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of services such to air, gas, water, steam, and petrochemical distribution systems.

4.13. **Lockout -** The placement of a lockout device, on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

4.14. **Lockout Device -** Any device that uses positive means, such as a lock, blank flanges, and bolted slip blinds, to hold an energy-isolating device in a safe position, thereby preventing the energizing of machinery or equipment, or grounding devices put in place with the intent to shunt inadvertent application of electrical energy to ground.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.15. **Lockout/Tagout (LOTO) -** A written authorization that permits individuals to safely perform work on designated equipment, the operation or energizing of which could constitute a safety hazard to the individual or others associated with the equipment.

4.16. **Normal production operations -** The utilization of a machine or equipment to perform its intended production function.

4.17. **Service/Maintenance -** Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining/servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

4.18. **Setting up -** Any work performed to prepare a machine or equipment to perform its normal production duty.

4.19. **Tagout -** The placement of a tagout device, on an energy-isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

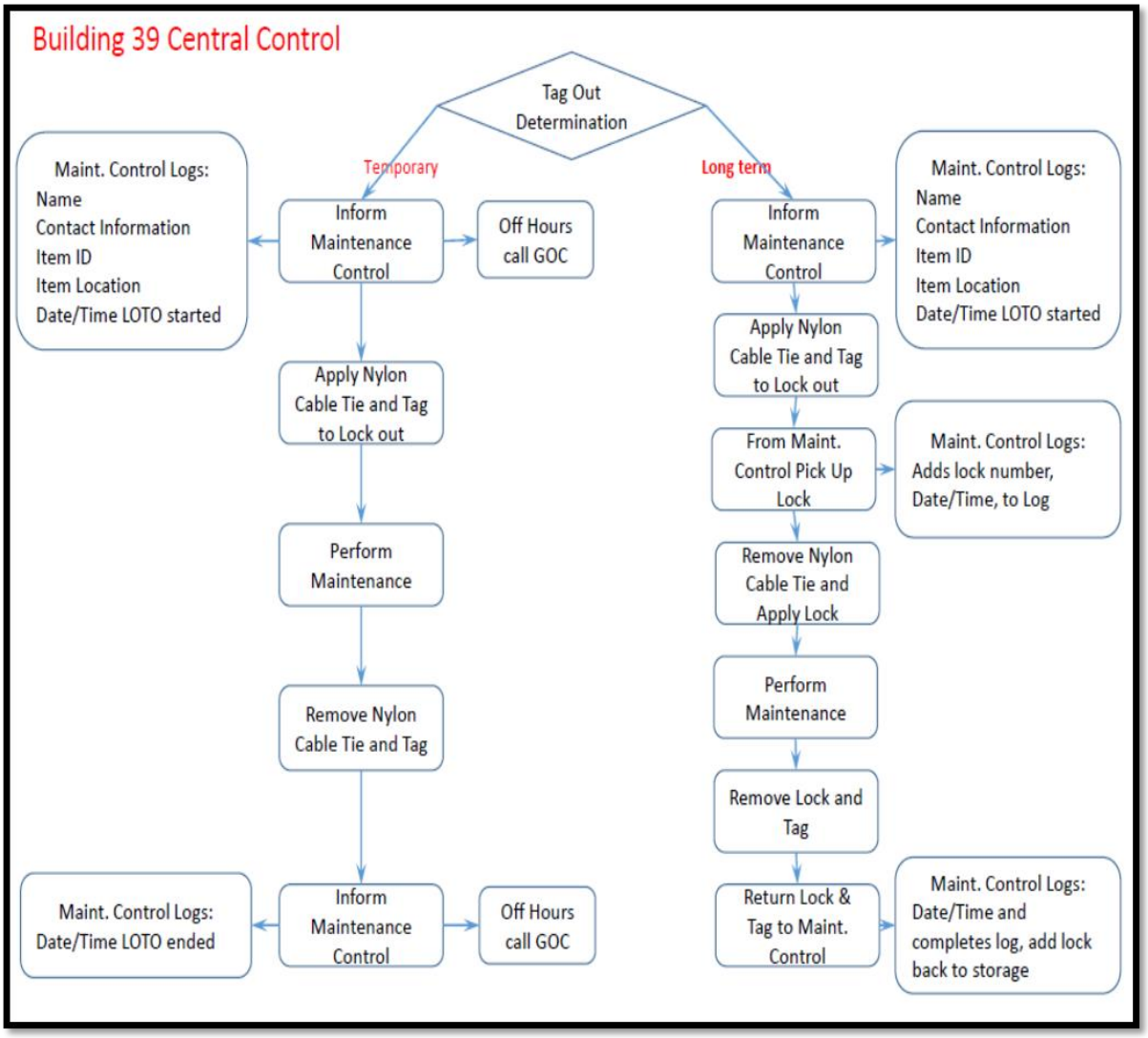
4.20. **Tagout Device -** A prominent device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tag out device is removed.

4.21. **Testing -** Any circumstances where equipment or devices under an active LOTO must be operated before the final release of the LOTO.

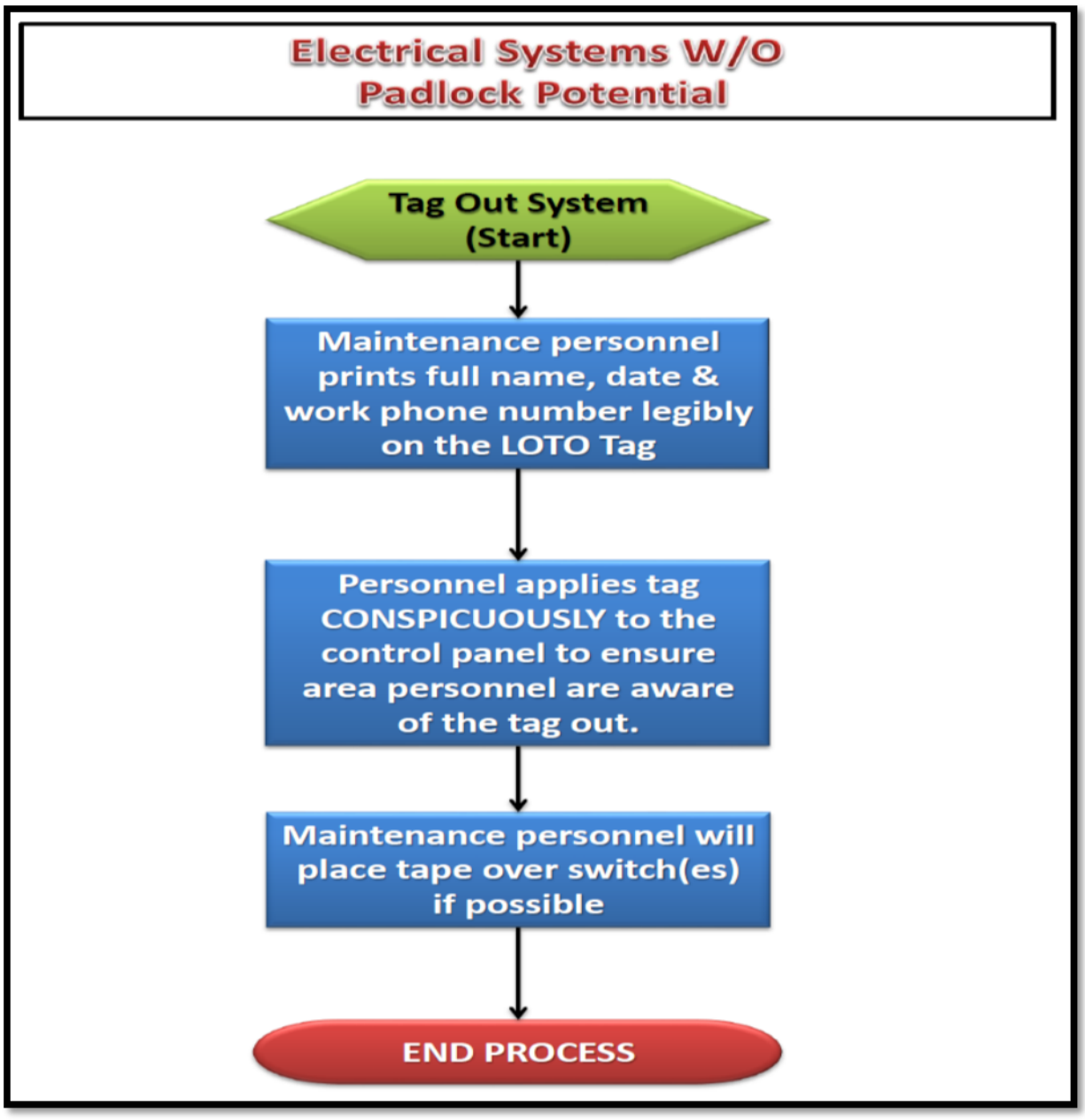
4.22. **Test Out -** Physical testing of the machine, equipment, or circuit, prior to the placement of the lockout/Tagout device to ensure the machine, equipment, or circuit is inoperable or de-energized.

5. FLOWCHART

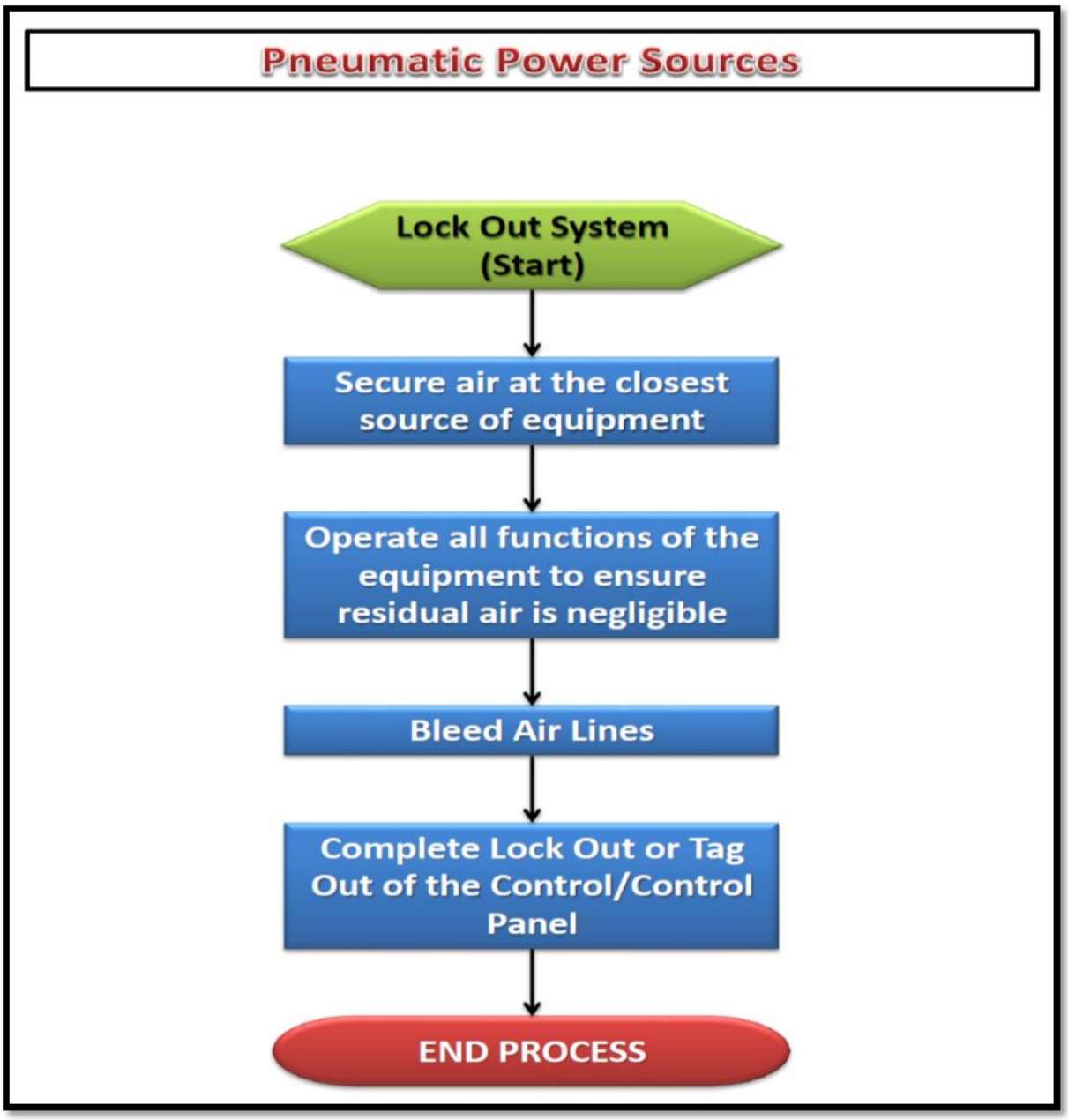
5.1. LOTO Determination Chart



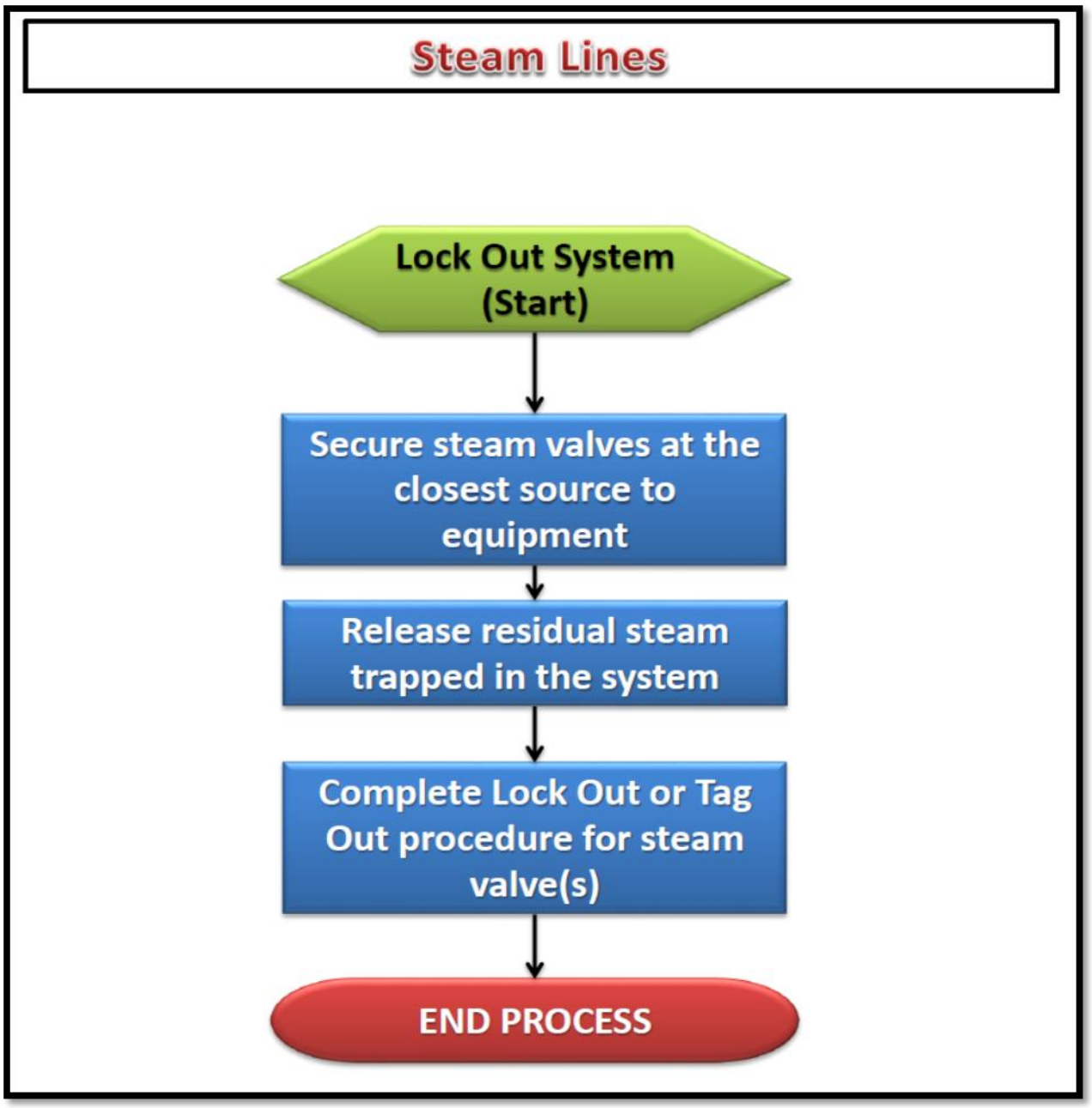
5.2. Electrical Systems w/o Padlock Potential Diagram



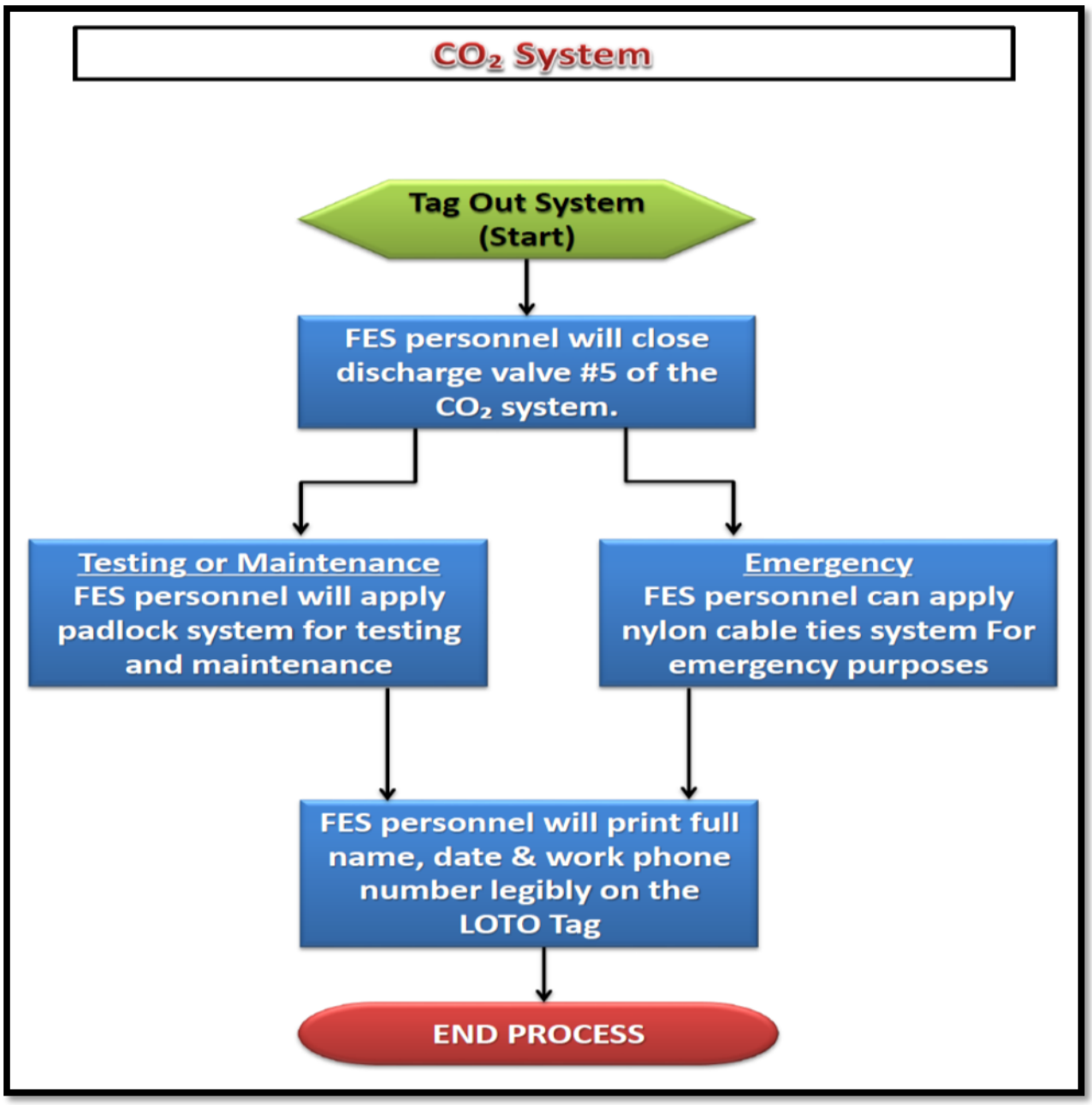
5.3. Pneumatic Power Source Diagram



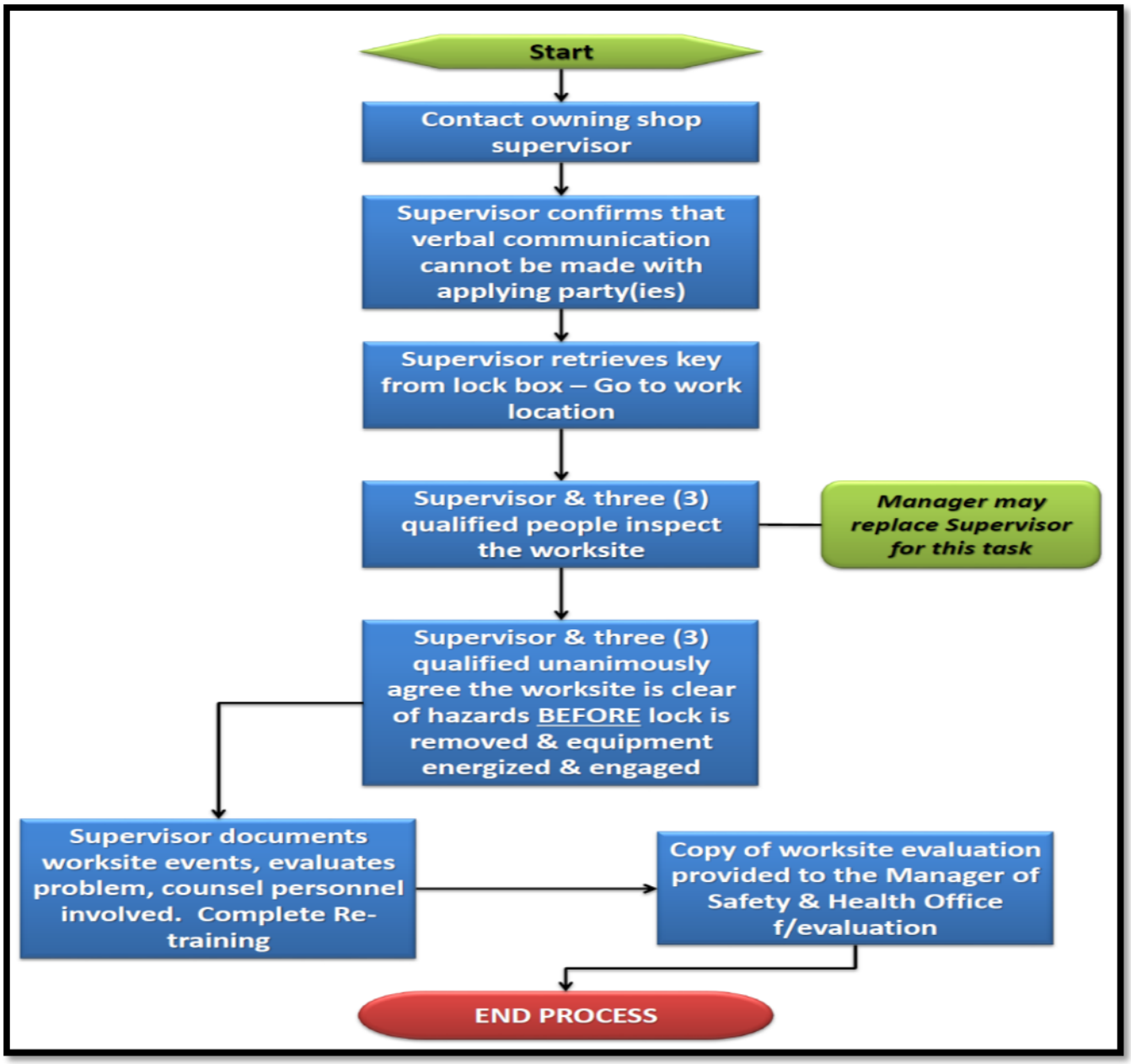
5.4. Steam Lines Diagram



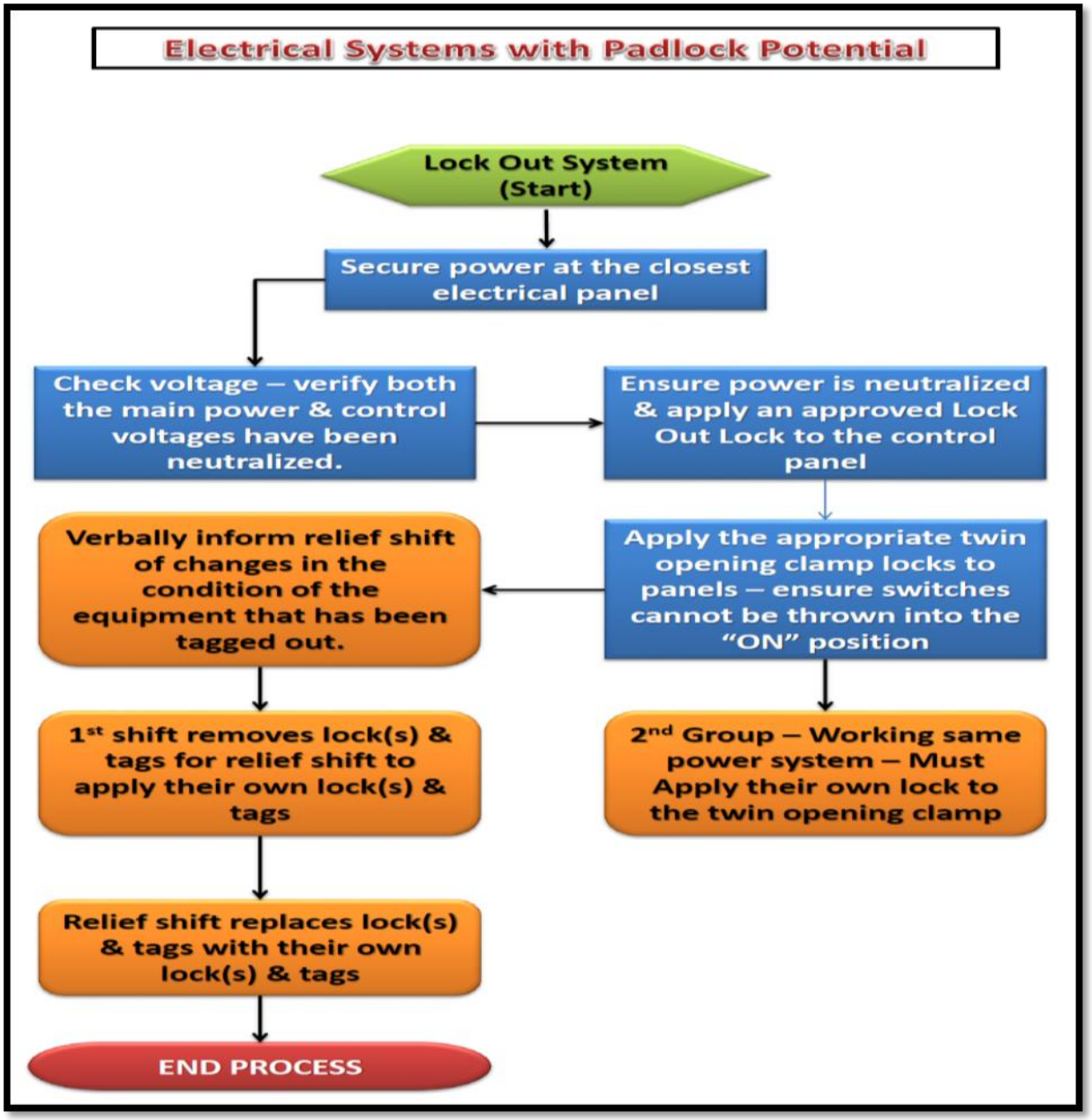
5.5. CO2 system Diagram



5.6. LOTO Diagram



5.7. Electrical Systems with Padlock Diagram



6. RESPONSIBILITIES

6.1. Written Energy Control Procedures

6.1.1. The supervising department shall develop, document, and use energy control procedures to control potentially hazardous energy before workers perform service/maintenance activities covered by the Control of Hazardous Energy (LOTO) Standard.

6.1.2. These written, machine or equipment specific procedures must identify the information that the authorized employee(s) must know to control hazardous energy (steam, water, natural gas, compressed air, chemical, electrical, hydraulic, nuclear, mechanical, and others) during servicing or maintenance. If this information is the same for various machines or equipment or if other means of logical grouping exists, then a single energy control procedure may be sufficient. If there are other conditions, such as multiple energy sources, different connecting means, or a particular sequence that must be followed to shut down the machine or equipment, then the supervising department must develop separate, machine or equipment specific, written energy control procedures to protect the employees.

6.2. Exclusions

6.2.1. Work on cord and plug-connected electric equipment for which exposure to the hazards of unexpected energization or startup of the equipment is controlled by the unplugging of the equipment from its single energy source and by the plug being under the exclusive control of the one and only employee performing the servicing.

6.2.2. Minor tool changes and adjustments, and other minor servicing activities, which take place during normal production operations, if they are routine, repetitive, and integral to the use of the equipment, provided that the work is performed using alternative measures which provide effective protection.

6.2.3. Hot tap operations involving transmission and distribution systems for substances such as gas, steam, water, or petroleum products when they are performed on pressurized pipelines, provided that the supervising department demonstrates to the satisfaction of the Safety Coordinator, Department of Radiological and Environmental Management, that (1) continuity of service is essential; (2) shutdown of system is impractical; and (3) documented procedures are followed, and special equipment is used which will provide proven, effective protection for employees.

6.2.4. Testing or positioning of machines, equipment, or components thereof following the sequence outlined in 29 CFR1910.147 (f)(1).

6.3. Safety Manager:

6.3.1. Development of written procedures for guiding staff in general safe work practices, concerning the areas worked in and equipment/articles used within the SOC.

6.3.2. Provide Health and Safety information to SOC personnel regarding the content of this program.

6.3.3. Coordinate with maintenance on new equipment installation of facility/layout design.

6. RESPONSIBILITIES (CONTINUED)

6.3.4. Reporting any questionable conditions that are discovered through audits/observations to appropriate departments.

6.3.5. Evaluating any incoming (new) equipment/articles to be utilized at SOC by the work force, and conditions created due to revision in operations or facility layout changes.

6.4. **Supervisors/Managers, Base And Facilities/Utilities Operations:**

6.4.1. Ensuring proper LOTO devices are purchased for the installation.

6.4.2. Coordination with Safety Department for installation/use of new equipment requiring energy control devices in their department.

6.4.3. Coordination with Safety Department for temporary and permanent signage and posting ("ensure equipment is de-energized before performing maintenance").

6.4.4. Implementing engineering controls to safeguard against the hazard posed by the accidental release of hazardous energy.

6.4.5. Ensuring all LOTO devices are used and replaced as required.

6.4.6. Properly guarding, marking, covering, or cordoning off areas to prevent injury.

6.4.7. Assess the use of all LOTO devices prior to use.

6.4.8. Performing and certifying inspections at least annually.

6.4.9. Maintaining QO.BOP.MUO.0001, LOTO procedures, and monitoring for compliance when removal of locks or tags is being done.

6.5. **Manager, Human Resources:**

6.5.1. Maintaining documentation that required LOTO training has been completed. Such documentation should include the employee's name, the date of the training, and the signature of the trainer.

6.6. **Employees:**

6.6.1. Reading, understanding, and complying with all aspects of this program.

6.6.2. Visual inspection of LOTO equipment/devices prior to use.

6.6.3. Proper set up and positioning of all switches/LOTO devices prior to work.

6.6.4. Ensuring that a machine or piece of equipment that is locked out is not started, energized, or used for any purpose.

6.6.5. Notification concerning articles/equipment, work zones, and unhealthful conditions to affected employees, supervisory panel, or safety department.

6.7. **Qualified Electrician (QE):**

6.7.1. Determine if a potential exists for inadvertent energizing of associated electrical equipment and take necessary precautions.

6. RESPONSIBILITIES (CONTINUED)

6.7.2. Assess the requirements for LOTO and comply with the LOTO procedure as appropriate.

6.7.3. Check test equipment for proper operation immediately before and after testing energized circuits.

6.7.4. Use test equipment to test circuit elements and electrical parts of equipment to which employees will be exposed and verify the equipment is safe for the scope of work.

6.7.5. Determine nominal AC/DC voltages, use appropriate equipment, use appropriate PPE, set approach boundaries for electrical work, and control access to the work area.

7. PROCEDURE

7.1. **Lockout/Tagout Devices:**

7.1.1. Lock out devices shall be substantial enough to prevent removal without the use of excessive force or unusual techniques (i.e., bolt cutters). Only locks and tags furnished by SOC are to be used.

7.1.2. If the equipment was installed prior to 1981, then it may be “tagged”, if a lockable device is not available. If old equipment is replaced, requires major repairs, renovation or modification, or new equipment is installed, it must accommodate locks. Lock out and tag out devices, locks, fasteners, and other hardware used for attachment to energy isolating devices shall be durable and capable of withstanding the environment to which they are exposed, and shall indicate the identity of the employee attaching the device. Tag out devices and labels shall be constructed to withstand exposure to wet conditions without causing the tag to deteriorate or the message to become illegible, and shall be substantial enough to prevent inadvertent or accidental removal. Tag out devices shall also warn against hazardous conditions if the machine or equipment is energized, and shall include a legend such as:

“DO NOT START, DO NOT OPEN, DO NOT CLOSE, DO NOT ENERGIZE, OR DO NOT OPERATE.

7.1.3. STANDARDIZED LOCKS: “MASTER” brand padlocks or their equivalent shall be used. Locks will be individually keyed, with the authorized employee only having one key. These padlocks shall be used for lock out purposes only. Keys shall be stamped with an identifying number. Supervisors/Shop foremen’s shall record all information regarding issue locks and keys (i.e., employees name, key number, date of issue, etc.).

7.1.4. AUTHORIZED TAGS: only SOC issued tags shall be used for energy isolation. The red and white “candy striped” tags shall be used for all LOTO procedures.

7.1.5. In the event that an employee loses a key, he/she shall immediately notify the supervisor/shop foremen. The supervisor/shop foremen’s shall then issue a new lock and key to the employee.

7.1.5.1. THE “ONE PERSON, ONE LOCK, ONE KEY” PRACTICE, AS STATED IN LETTER OF INTERPERTATION (29 CFR 1910.147 (e)(3), IS THE PERFERRED POLICY BY OSHA AND IS ACCEPTED ACROSS INDUSTRY LINES.

7. PROCEDURE (CONTINUED)

7.1.5.2. THE DESTRUCTIVE REMOVAL OF A LOCKOUT/ TAGOUT DEVICE IS REQUIRED BY THE STANDARD, AND THERE IS NO EQUIVALENT "MASTER KEY" CONCEPT FOR LOCKOUT/TAGOUT DEVICES.

7.1.5.3. ONLY THE PERSON ASSIGNED TO THE PERSONAL LOCKOUT DEVICE CAN REMOVE THAT PERSONAL LOCKOUT DEVICE, WHICH HE/SHE INSTALLED, WITH THE KEY.

7.2. **Equipment**:

7.2.1. All new equipment and machinery purchased by SOC shall be designed to accept lock out devices, and this shall be so stipulated on purchase orders. This also applies to equipment, which has been repaired, renovated, or modified by SOC or an outside vendor.

7.2.2. The department supervisors/shop foremen's shall maintain a current list showing all equipment having lock out capability. Machinery and equipment having only tag out capability shall also be identified. This equipment, when feasible, shall be equipped with lock out devices as soon as possible.

7.2.3. The depot wide goal is to have appropriate lock out devices installed, where feasible, on all applicable machinery and equipment.

7.3. **Preparation For Lock Out:**

7.3.1. Prior to performing any maintenance, authorized employees shall be certain as to which switch, valve, or other energy isolating devices apply to the equipment being locked out.

7.3.2. Questions as to the identification of energy sources to the equipment shall be directed to the employee's supervisor/shop foremen or the maintenance department before proceeding.

7.3.3. The employee shall receive job authorization before commencing lock out.

7.4. **Lockout - Tagout Procedures:**

7.4.1. All affected employees shall be notified that LOTO procedures will be in affect and the reason for the LOTO. The authorized employee shall be familiar with the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards associated with that energy.

7.4.2. If the machine or equipment is operating, the authorized employee shall shut down the machine or equipment by the normal shut down procedures.

7.4.3. Operate the switch, valve, or other energy-isolating device so the equipment/machine is isolated from its energy source. Stored energy, such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must be dissipated or restrained by methods such as repositioning, blocking, bleeding, etc**.**

7.4.4. If the energy-isolating device cannot be physically locked out, the machine or equipment must be tagged with a warning label indicating the equipment is being repaired or serviced.

7. PROCEDURE (CONTINUED)

7.4.5. LOTO the energy-isolating device with a lock and/or tag that has been assigned to each authorized employee. All personal locks are to be removed prior to leaving the depot, by the individual assigned to the lock. Locks and tags shall be standardized throughout the depot.

7.4.6. Ensure that no personnel are exposed, and check the disconnected energy sources by operating the “ON” button or other normal operating controls to make certain all stored energy has been released and the equipment will not operate.

7.4.7. If the equipment may be operated from a remote station or computer control system the authorized employee MUST verify that the equipment will not start remotely.

7.4.8. RETURN CONTROLS TO “NEUTRAL” OR “OFF” POSITION AFTER CONFIRMING THE EQUIPMENT IS INOPERABLE.

7.4.9. The equipment is now locked and/or tagged out.

7.5. **Multiple Locks for One System:**

If a situation occurs where more than one individual will need to LOTO a machine or piece of equipment, the same procedures as outline in section 7.4 of this procedure shall be in effect, with the exception that each authorized employee shall attach their own personal LOTO device before commencing work.

7.5.1. At the end of their shift or if work has been completed, employees shall remove their own LOTO devices. PERSONAL LOCKOUT LOCKS MUST BE REMOVED PRIOR TO LEAVING DEPOT.

7.6. **Continuity of Protection:**

7.6.1. It is of the utmost importance to preserve continuity of protection in LOTO operations.

7.6.2. Employees who have attached a lock or tag shall be responsible for ensuring an orderly transfer of LOTO devices during shift changes in order to guarantee continuing protection.

7.6.3. If no transfer occurs at shift change, a multi-source maintenance lock shall be transferred in place of the personal lockout device.

7.7. **Testing or Positioning of Machines, Equipment and/or Components:**

7.7.1. Should situations arise where the LOTO device(s) must be removed temporarily to allow for testing or positioning of the machine or equipment, the following steps shall be taken:

7.7.1.1. Clear the machine or equipment of tools and materials.

7.7.1.2. Remove employees from the area around the machine or equipment.

7.7.1.3. Remove the LOTO device(s).

7.7.1.4. Energize the machine or equipment and proceed with testing and/or positioning.

7.7.1.5. De-energize all systems and re-apply energy control measures as outlined in section 7.4.

7. PROCEDURE (CONTINUED)

7.8. **Restoring Machines or Equipment to Normal Operation**:

7.8.1. After completion of maintenance and/or servicing and the equipment is ready to be put back into service, perform a closeout inspection by checking the area around the machine/equipment, making sure no employees are exposed and all tools are removed from the area.

7.8.2. Remove the LOTO devices.

7.8.3. Energize the machine/equipment by normal start up procedures.

7.9. **Multi-Source Energy Lockouts:**

7.9.1. Multi-source energy lockouts (i.e., more than one energy source (electrical, mechanical, hydraulic, pneumatic, etc.)) may be involved. Supervisors/Shop Foreman will deactivate the energy isolating devices so that the machine/equipment is isolated from all energy sources.

7.9.2. Supervisors/Shop Foreman will identify and lockout all energy isolating device(s) with the appropriate maintenance multi-source lockout locks (i.e., electrical or mechanical), dependent upon the work being done.

7.9.3. Multi-source lockout keys shall then be placed in a lockout box in preparation for personal lockout.

7.9.4. The lockout box shall then be locked with a multiple lockout lock in which the key shall be kept by the Supervisor/Shop Foreman, until the completion of the service or maintenance.

7.10. **Spare Keys and Destruction of Personal Lockout Device:**

7.10.1. Spare keys for personal lock out devices shall not be kept by anyone.

7.10.2. If an employee loses a lockout key, bolt cutters or other means of destructive removal of the lock out device is the only acceptable means of removing the device.

7.10.3. If an employee forgets to remove a lockout device, the employee shall be notified and asked to return and remove the personal lockout device.

7.10.4. If an employee refuses to return and remove their lockout device, that employee can be subject to disciplinary action, up to and including, termination.

7.10.5. Following employee notification and either refusal or attempted notification with no success, the following steps shall be followed prior to destructive removal of the personal lockout device and to ensure there is no danger to employees or equipment:

7.10.5.1. The area of the lock out and respective equipment shall be thoroughly inspected for personnel and tools.

7.10.5.2. After verification that employees are clear and all tools have been removed from the equipment/machine, guards or other safety devices have been reinstalled; a supervisor shall be notified for approval for destruction of the lockout device.

7. PROCEDURE (CONTINUED)

7.10.5.3. The supervisor shall attempt to contact the worker who attached the LOTO device at least three times.

7.10.5.4. A supervisor shall give verbal notification that the lockout device can be removed. After ensuring all efforts to contact the employee has been made and that there is no safety risk by re-energizing the equipment. The person who is destroying the lockout device shall document this on the Lock Removal Form (SOC 322). Include name, date, time, name of manager, reason for removing lock, and keep destroyed lock to turn over to supervisor.

7.10.5.5. Any incident involving the destruction of a personal lockout device shall be documented and signed by the supervisor/manager and all qualified craftsman currently onsite. Unanimous consent of all qualified craftsmen and the supervisor is required prior to removing the lock and the equipment being energized.

7.10.5.6. The Safety department must be notified on the day of removal or within 24 hours of the removal of the lock.

7.11. **Hot Tap Operations:**

7.11.1. These procedures apply to all hot tap and pressurized air lines.

7.11.2. The valves should be turned to the off position.

7.11.3. A chain lock and tag combination shall be used to secure the valve.

7.11.4. Valve covers or other safety devices can be used in place of the chain, lock and tag combination. These devices shall be substantial enough to withstand the environment of the work area.

7.11.5. If a hot tap operation must be shut down for more than 48 hours, then the red and white tag shall be replaced with a **"DO NOT OPERATE"** tag.

7.11.6. Excluded from coverage are hot tap operations involving gas, steam, water or petroleum products when it can be shown that continuity of service is essential, shut down is impractical and documented procedures are followed. In this situation the Safety Office Manager shall by informed about the process and a determination will be made as to procedures. Each manager that deals with Hot Tap operations shall have Internal Operating Procedures for these processes.

7.12. **Training Requirements:**

7.12.1. All new employees shall be trained to ensure that the purpose and function of the LOTO program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of energy controls are acquired by employees prior to assignment.

7.12.1.1. Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

7. PROCEDURE (CONTINUED)

7.12.1.2. Each affected employee shall be instructed in the purpose and use of the LOTO program.

7.12.1.3. All other employees whose work operations are or may be in an area where LOTO procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

7.12.2. Documented training for employees shall be conducted annually to ensure that this program and its procedures are fully understood, and that the employees can apply, use and remove the energy controls when required.

7.12.3. Should there be any changes in equipment, the addition of equipment, process changes, or introduction to new hazards, employees shall be retrained**.**

7.12.4. Retraining shall also be conducted if an incident involving the release of hazardous energy or if an employee is observed not following proper LOTO procedures.

7.13. Retraining shall also be conducted if energy control procedures are shown to be inadequate.

7.14. **Outside Contractor Personnel:**

7.14.1. Whenever outside contractors or other personnel are engaged in work covered by this standard, they shall be informed of this procedure. SOC employees shall be required to understand and comply with any restrictions and prohibitions of the energy control procedures used by the outside contractor.

8. METRICS

8.1. This written program shall be reviewed on an annual basis or as needed as a result of an incident, injury, or change to the standard.

8.1.1. Supervisors/Shop Foreman shall review, on an annual basis, their energy control procedures to ensure that not only are they adequate, but also are being followed.

8.1.2. Supervisors/Shop Foreman shall maintain files documenting any observations/actions related to provisions of their department specific lockout/tag out procedures.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
Training Records	Compliance and Training	3 years	Shred
SOC 322, Lock Removal Form	Maintenance Control	3 years	Shred

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	**TITLE**
QP.BOP.MUO.0001	LOTO Procedures
SOC 322	Lock Removal Form

11. ATTACHMENTS

11.1. SOC 322, Lock Removal Form:

LOCK REMOVAL FORM

This form is to be used any time a Lockout/Tagout (LOTO) device is to be removed by someone other than the person who placed the LOTO device. The person removing the LOTO device must be directed to do so by management. Failure to follow and document the appropriate steps to remove a LOTO device can result in serious injury or death.

Date		Time	

Name of LOTO device owner whose lock/tag is to be removed:

Phone number of device owner's:

LOTO device owner's Supervisor:

Document attempt to contact LOTO device owner (Must make 3 attempts)

Date/Time	Method of attempt contact	Result

Reason for removing lock (e.g. LOTO owner, LOTO device owner forgot to remove lock before leaving site, ect.)

Evaluate the entire affected system to ensure employee's safety before LOTO device is removed.
LOTO device(s) removed by:

By printing my name and signing this document I have found that the work site is clear of all hazards and personnel. And authorize the removal of the LOTO device(s).

Supervisor/Manager Name:	Signature:
Qualified Craftsman Name:	Signature:
Qualified Craftsman Name:	Signature:
Qualified Craftsman Name:	Signature:

Unanimous consent of all qualified craftsmen and the supervisor is required prior to removing the lock and the equipment energized. One (1) no signature and the equipment will not be energized until the problem can be resolved.

Safety Representative informed that a LOTO device has been removed within 24 hours of removal.

Safety Representative Notified:	
Date:	Time:

SOC 322 Rev. 0 02/2016

1. PURPOSE

1.1. The purpose of this chapter is to make SOC management and employees aware of what constitutes Fall Protection, when fall protection is required, where it is required, methods of providing fall protection and make known the requirements of OSHA 1910 and 1926.

2. SCOPE

2.1. This program applies to all SOC employees and all contract employees, contracting firms that will or may be working at height above which OSHA has determined fall protection is required and will be provided.

3. POLICY

3.1. SOC Nevada LLC, has a strong commitment to safe working practices and has zero tolerance for accidents and injuries that are avoidable and preventable. There are no exceptions for not using appropriate fall protection when working more than 4 feet above grade in industrial applications and 6 feet above grade for construction applications.

4. DEFINITIONS AND ACRONYMS

4.1. **Anchor Cable Harness -** Anybody wear system made of webbing, straps, clips and D rings designed, tested and listed to connect to a lanyard and anchor point to prevent a fall injury.

4.2. **Anchorage -** Means a secure point of attachment for lifelines, lanyards or deceleration devices.

4.3. **Body Belt -** Is a belt used only for proximity protection also known as Positioning Device System and is designed and intended only to prevent an employees from getting within 3 feet of a fall edge or hazard.

4.4. **Fall Arrest -** The system and components used in arresting a fall once it starts.

4.5. **Fatality -** An employee death resulting from a work-related incident or exposure, in general, from an incident caused by a workplace hazard

4.6. **Fall Protection -** The process and equipment required to prevent fall injuries and or death.

4.6.1. The following are examples of fall protection which include but are not limited to:

4.6.1.1. Permanently installed guard rails, which are not movable, portable and which will resist a horizontal force of 250 pounds or more. These are typically anchored in place with anchor plates which are welded to the guard rail system and bolted into concrete or some similar permanent building structure.

4.6.1.2. Portable guard rails with can be easily assembled in the field with weighted base plates which, when assembled into a system, will resist a horizontal force of 250 pounds or more.

4.6.1.3. Temporary rails, cables, metal mesh, fencing or other similar means which can be temporarily installed on a building or in a building that will resist a lateral force of 250 pounds or more. These systems may or may not be locally engineered, but are still required to resist the above mentioned forces.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.6.1.4. Covers or permanent walls that will act to prevent someone from falling through an opening or in a location where a temporary wall can be installed to prevent falling.

4.6.1.5. Fall Arrest; are devices and equipment used to stop a fall once it starts. Fall arrest systems will or may include the following:

4.6.1.5.1. Harness.

4.6.1.5.2. Lanyard with deceleration device included.

4.6.1.5.3. Anchor Points (5000 lb. rated).

4.7. **HARA -** Hazard Assessment Risk Assessment

4.8. **Intervention -** Action taken by SOC management and employees in the event of an actual workplace fall hazard occurs or is likely to occur.

4.9. **JSA -** Job Safety Analysis

4.10. **Personal Fall Arrest System -** Personnel requiring the use of personal fall protection equipment shall employ the “Buddy System” or have an observer to render assistance when and if required. There are three main components to the personal fall arrest system. This includes the personal protective equipment the employee wears, the connecting devices and the anchorage point. Prior to tying off to perform the work a means of rescue in the event of a fall must be immediately available. All personal fall arrest system components must meet the requirements of the ANSI Z359 Standards.

4.11. **Positioning Device System -** A system consisting of an anchor point, tether and safety belt or harness. This type system is designed to prevent an employee from approaching a potential fall hazard or edge.

4.12. **Post Event -** Investigations by the Safety Division after a near miss or fall occurs.

4.13. **Prevention -** Action taken by SOC, SOC Safety Division, or employee to prevent a fall.

4.14. **Safety Belt -** Same as a body belt.

4.15. **Tether -** The connecting device that attached is secure point to a harness or belt.

5. FLOWCHART

5.1. **The hierarchy of fall protection in descending order of preference is:**

5.1.1. **Elimination or Substitution** hazards. This entails eliminating a hazard by lowering the work surface to ground level, or substitute a process, sequence or procedure so that workers no longer approach a fall hazard.

5.1.2. **Passive Fall Protection** such as guard rails or covering exposed floor openings.

5.1.3. **Fall Restraint** which is a matter of securing the worker to an anchor using lanyard short enough to prevent workers center of mass from reaching the fall hazard.

5.1.4. **Fall Arrest** which includes systems designed to stop a worker’s fall after a fall has begun.

5. FLOWCHART (CONTINUED)

5.1.5. **Administrative Controls** which are practices or procedures signal or worn a worker to avoid approaching fall hazard.

6. RESPONSIBILITIES

6.1. **Elimination or Substitution**

6.1.1. Where ever and whenever possible, eliminate the hazard by moving work to the ground level, thereby eliminating the hazard.

6.1.2. Substitute or inject a process that removes the hazard, for example, an automated device or machine in a fall hazard area that eliminates the fall risk, such as a remotely controlled rover to inspect roofs.

6.1.3. A platform lift could also be an acceptable substitution for inspecting a roof or other elevated areas, equipment, poles, light fixtures, or other similar elevated area.

6.2. **Passive Fall Protection**

6.2.1. Passive fall protection is not a fall arrest device. Passive fall protection is simply a harness or belt and anchor cable and anchor point that prevents the wearer from getting close enough to the fall hazard to actually fall.

6.2.2. Passive fall protection is a prevention device.

6.2.3. Passive fall protection is not designed or intended to stop a fall once it begins.

6.3. **Fall Restraint**

6.3.1. Fall Restraint is the combination of a harness, non-elastic lanyard or point to point connector and an anchor point that is rated to 1500 lbs.

6.3.2. A fall restraint system will prevent a user from getting closer than 3 feet from a fall edge.

6.4. **Fall Arrest**

6.4.1. Fall Arrest systems are designed to slow and stop a falling person once a fall has begun.

6.4.2. Fall Arrest Systems contain the following devices and equipment:

6.4.2.1. Fully rated harness training.

6.4.2.2. Administrative and engineering abatement methods.

6.5. **Vertical Permanent Ladder Safety**

6.5.1. SOC Nevada has adopted and all employees shall follow the OSHA 1910.27 regulations.

6.5.2. The minimum design live load shall be a single concentrated load of 200 pounds.

6.5.3. The number and position of additional concentrated live-load units of 200 pounds each as determined from anticipated usage of the ladder shall be considered in the design.

6.5.4. Vertical permanent ladders over 24 feet high must have the following:

6.5.4.1. Cage surrounding the ladder up to and 3 feet above roof line.

6. RESPONSIBILITIES (CONTINUED)

6.5.4.2. If no cage is present, a Ladder Safety Device or a Self-retracting lifeline will be equipped.

6.5.5. The distance between rungs, cleats, and steps shall not exceed 12 inches and shall be uniform throughout the length of the ladder.

6.5.6. Permanent ladders must have a minimum of 7 inches from grab bar to nearest permanent object in back.

6.5.7. There must be a minimum of 2 ft. 6 (30 inches) in clear between the ladder and outside (climbing side) to any obstructions.

6.5.8. All rungs shall have a minimum diameter of three-fourths inch for metal ladders, and a minimum diameter of 1⅛ inches for wood ladders.

6.5.9. The rungs of an individual-rung ladder shall be so designed that the foot cannot slide off the end.

6.6. **Employee Responsibility:**

6.6.1. Employees are always responsible for their own safety. Employees are empowered to stop an unsafe task and or to say no to a task that is an unreasonable risk of falling and no fall protection is provided.

6.7. **Supervisor**

6.7.1. Analyze all potential fall hazards and develop a plan in conjunction with the Safety Division and Engineering Division that adequately addresses all potential fall hazards and mitigation methods.

6.7.2. Ensure all employees know, understand and follow written and verbal safety guidelines to prevent falls from occurring.

6.7.3. Ensure employee(s) involved in the project are also involved in the JSA and safety planning for the work to be done.

6.7.4. Every employee has the right to stop a project if he or she feels it is unsafe or someone may get hurt in the process of completing a job or task.

6.7.5. Ensure safety of other employees at all times.

6.7.6. Consult with the Safety Department whenever there is a question of fall protection requirements, regulations or best practices.

6.8. **Manager, Directors and HR:**

6.8.1. Insuring safe work policies and procedures are in place prior to work beginning.

6.8.2. Imposing discipline upon perpetrators of unsafe workplace violations.

6.8.3. Insuring the proper maintenance of records and training for all employees with respect to adequate and appropriate fall protection.

6. RESPONSIBILITIES (CONTINUED)

6.8.4. Addressing specific workplace complaints and training requests and insure compliance is met.

6.9. **Safety Division**

6.9.1. Investigates concerns, complaints and requests for guidance.

6.9.2. Investigates accident, injuries and near misses as they relate to fall protection

7. PROCEDURE

7.1. **Awareness of Fall Potential**

7.1.1. Following the Requirements of this chapter.

7.1.2. Awareness & Prevention Training includes but not limited to:

7.1.2.1 Fall Hazard Recognition

7.1.2.2 Understanding of Fall Protection Methods

7.1.2.3 Ways to Eliminate Fall Hazards

7.1.2.4 Potential Falls Where No Elimination Has Been Provided

7.1.2.5 Identify the Different Types of Fall Hazards

7.1.2.6 Implementation of Fall Hazard Prevention

7.1.3. HARAs/JSAs should reflect consideration of workplace Fall Hazards.

7.1.4. Management of change – assess any changes to facilities, procedures that may contribute to Fall Hazards: i.e. ease of access to a buildings from employees and contractors or access has become more difficult now requiring fall hazard analysis.

7.2. **Engineering Controls** - examples include but are not limited to:

7.2.1. Ensure engineering controls are the first line of defense in fall protection.

7.2.2. Provide permanent railing where ever possible.

7.2.3. Provide temporary railing whenever and where possible.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. This chapter was developed to inform SOC employees about the proper use of scaffolding, ladders, man lifts, fall protection, and cranes. Safety should be consulted before working with such items.

2. SCOPE

2.1. The following safety requirements and precautions apply to all SOC employees and subcontractor personnel. Constructing, maintaining, inspecting or using scaffolds on this depot should be done IAW the procedures outlined below.

3. POLICY

3.1. It is SOC policy that all employees working on elevated work surfaces comply with the following requirements.

4. DEFINITIONS AND ACRONYMS

4.1. **Aerial Device-** Is any device, extensible, articulating, or both which is primarily designed and used to position personnel. The device may also be used to handle material, if designed and equipped for that purpose.

4.2. **Competent Person-** Competent person means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

4.3. **Extensible-boom-** Is an aerial device, except the aerial ladder type, with a telescope or aerial Device extensible boom.

4.4. **Override-** Is the takeover of aerial device movement and winch control functions at the platform controls by the activation of the lower control station controls.

4.5. **Platform**- Is the personnel-carrying component of an aerial device, such as a bucket, basket, stand, or equivalent.

4.6. **Platform Height-** Is the distance measured at maximum elevation from the bottom of the platform to the ground.

4.7. **Walking/Working-** Means any surface, whether horizontal or vertical on which an Surface employee walks or works, including, but not limited to, floors roofs ramps, bridges, runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. SOC establishes policies, procedures, requirements, responsibilities, and guidance contained in the DoD Contractors Safety Manual, Occupational Safety & Health Administration (OSHA) regulations, and Nevada State regulations. This program has been developed to provide SOC employees with incident prevention standards and occupational health and safety requirements applicable to working on elevated surfaces.

7. PROCEDURE

7.1. **Scaffolding**:

7.1.1. A scaffold shall only be used when the engaged work cannot be done safely from the ground or other solid construction.

7.1.2. Scaffold footings/anchorages shall be sound, rigid, stable, and capable of supporting the intended maximum load without displacement. Barrels, boxes, loose bricks, concrete blocks, etc., shall not be used to support scaffolds or planks.

7.1.3. Supports shall be at no more than 8 foot intervals.

7.2. **Guardrails And Toe Boards:**

7.2.1. Guardrails and toe boards shall be installed on all open sides and ends of platforms more than 6 feet above the ground floor.

7.2.2. All guardrails shall be 2 x 4 inch lumber or the equivalent, installed at 42 inches high. All guardrails will have a mid-rail constructed of 1 x 4 inch lumber or equivalent.

7.2.3. Toe boards shall be a minimum of 4 inches in height.

7.3. **Elevated Work Surfaces:**

7.3.1. Scaffolds and their components shall be capable of supporting a minimum of four times the maximum intended load.

7.3.2. Scaffolds shall be maintained in a safe condition and not moved or altered while in use or occupied.

7.3.3. Damaged or weakened scaffolds shall be repaired immediately and not used until repair is completed.

7.3.4. Scaffolds shall not be loaded in excess of their capacity load.

7.3.5. All planking or platforms shall overlap supports a minimum of 12 inches and shall be secured from movement.

7.3.6. An access ladder or safe equivalent access shall be provided.

7.3.7. The legs or uprights of the scaffolds shall be securely plumbed and rigidly braced to prevent swaying and displacement.

7. PROCEDURE (CONTINUED)

7.3.8. Materials being hoisted onto a scaffold shall have a tag line.

7.3.9. Tools, materials, and debris shall not be allowed to accumulate in quantities to cause a hazard.

7.3.10. Head protection shall be worn by employees when exposed to overhead hazards.

7.3.11. When using a heat-producing process, special anchoring precautions shall be taken, using wire or fiber ropes, to protect scaffold personnel.

7.3.12. OSHA 1926.451(f) (3) Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity.

7.3.13. OSHA 1926.451(f) (7) Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.

7.3.14. All scaffolds will be inspected by the supervisor prior to use to ensure compliance with OSHA standards.

7.4. **Specific Requirements For Tubular Metal Scaffolds:**

7.4.1. Legs, runners, couplings, and braces of coupling devices shall be designed so they can be locked tightly together with through bolts or other positive locking means.

7.4.2. The planking used for flooring shall be secured or cleated to prevent displacement.

7.4.3. Tubular scaffolds mounted on casters shall provide a means for securely locking casters to prevent movement.

7.4.4. Personnel shall be prohibited from riding on scaffolds.

7.4.5. The recommended relation of width to height for scaffolding is:

7.4.6. Scaffolds up to 25 feet, not less than 1/5 the height.

7.4.7. Scaffolds up to 50 feet, not less than 1/4 the height.

7.4.8. Tubular scaffolds extended along the side of a building shall be tied to the building at intervals of every 20 feet of height and 30 feet of length.

7.5. **Inspection, Testing And Ladder Use:**

7.5.1. Inspection/testing of ladders will be done IAW SOC policies. The Tool Room personnel will inspect and certify the safety of all ladders before they are issued. The testing/inspection will be conducted by trained personnel. Only ladders and steps that have been properly tested and stenciled with expiration dates shall be used. Inspections will be made every six months.

7. PROCEDURE (CONTINUED)

7.5.2. Ladders shall be of the proper height and type for the job. All straight ladders shall be equipped with ladder shoes. Portable straight ladders shall be positioned at a safe angle. The distance between the foot of the ladder and the wall shall be one-fourth the length of the ladder. The top of a straight ladder shall extend at least three feet above the point of support.

7.5.3. Adequate means to divert traffic shall be taken when ladders are placed in front of doors. The ladder shall be securely tied in position, or an employee stationed at the base to steady and prevent it from falling when operations are such that the security of a ladder may be endangered.

7.5.4. No one shall stand on the second rung from the top platform or on the platform of a stepladder. All rungs shall be free of grease and oil.

7.5.5. Metal ladders will not be used in the vicinity of electrical equipment.

7.5.6. Ladders shall not be placed on boxes, pallets, barrels, the backs of vehicles, etc. to increase the working height of the ladder. A longer ladder shall be used.

7.5.7. Ladders will be inspected before they are used. Only approved repairs shall be performed. Ladders beyond repair shall be destroyed and disposed of at PRO.

7.5.8. When personnel are required to work at elevations of 6 feet or higher (feet height), a two-man policy will be in effect. The second individual will help secure the ladder and act as a guide.

7.5.9. "A-frame" type ladders shall not be used if supports are not fully extended and locked into place.

7.6. **Forklift And Platforms:**

7.6.1. Forklifts:

7.6.1.1. Operators shall be trained in the proper operating procedures and be licensed on the forklift being used.

7.6.1.2. Forklifts shall be in good operating condition (i.e.; brakes, hydraulic pressure).

7.6.1.3. Operators shall ensure that the fire extinguisher is fully charged and readily available.

7.6.1.4. The forklift operator shall remain on the forklift with the parking brake engaged, whenever the man lift is elevated.

7.6.2. Platforms:

7.6.2.1. Only personnel, tools and equipment needed for the working task shall be on platforms during lifting operation.

7. PROCEDURE (CONTINUED)

7.6.2.2. Only approved platforms which comply with OSHA regulations and ANSI standards shall be used.

7.6.2.3. Top guardrail is at least 42 inches (plus/minus 3-inches) above the working/walking surface.

7.6.2.4. Container either has a toe board (4 inches in height) or is constructed so that tools/material cannot fall from lift. Screen or mesh can be used so long as it extends from top rail to working/walking surface.

7.6.2.5. Sides and bottoms of the platform shall be constructed to prevent injury to employees from punctures or lacerations and to prevent snagging of clothing.

7.6.2.6. Chain or cable can be used to secure the entrance of the platform only when the gate is 30-inches or less in width.

7.6.2.7. Holes in the platform shall not exceed 2-inch square in size.

7.6.2.8. Platforms shall be secured to the forks, boom and / or pallet guard of the forklift.

7.6.2.9. Employee being lifted on aerial devices shall use body harness, tied off. This does not apply to scissor lifts.

7.6.3. Movement of Forklifts:

7.6.3.1. Forklifts shall not be moved vertically in excess of 2-feet while in the extended position.

7.6.3.2. Working/walking surface of the platform shall be no more than 18 inches above the floor to move from one working task to another, while personnel are in the platform.

7.6.3.3. Movement of forklifts while personnel are in the platform shall only be made on smooth, even surfaces.

7.7. **Personnel Lift With Cranes, Derricks, Hoists And Aerial Lifts:**

7.7.1. The use of a crane or derrick to hoist employees on a personnel platform is prohibited, except when the erection, use and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold, would be more hazardous, or is not possible because of structural design or worksite conditions. If required, it shall be performed in conformance with 1926.550(g) of Subpart N.

7.7.2. Aerial lifts include extensible boom platforms, aerial ladders, articulating boom platforms and vertical towers used to elevate personnel to job sites above ground. Aerial lifts may be field modified for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by equivalent entity.

7. PROCEDURE (CONTINUED)

7.7.3. Extensible and articulating boom platform operations shall:

7.7.3.1. Have lift controls tested each day prior to use.

7.7.3.2. Be operated by authorized personnel only.

7.7.3.3. Have no personnel belted off to adjacent poles, structures or equipment while working from the aerial lift.

7.7.3.4. Always have personnel standing firmly on the basket floor and shall not sit or climb on the edge of the basket, use planks, ladders or other devices to work from.

7.7.3.5. Have body belts and lanyards worn by personnel and attached to the boom or basket when working from an aerial lift. Note: The use of a body belt in a tethering system or in a restraint system is acceptable under 1926.502(e).

7.7.3.6. Never exceed specified manufacturer load limits for the boom and basket.

7.7.3.7. Have brakes set and outriggers positioned on pads or solid surface. Wheel chocks shall be used on inclines provided they can be safely installed.

7.7.3.8. Not be moved when the boom is elevated in a working position with men in the basket unless acceptable with specific types of equipment.

7.7.3.9. Have both platform (upper) and lower controls for articulating boom and extensible boom platforms.

7.7.3.10. Only be performed by personnel who have received “General Training” as detailed in ANSI/SIA A92.2, paragraph 8.12.1.

7.8. **Safety Precautions:**

7.8.1. Employees shall ***not*** work on elevated work platforms when the following conditions exist:

7.8.1.1. During storms or high winds.

7.8.1.2. When working surface is covered with ice or snow, unless it is removed. And only then after a Supervisor has inspected the work area and deemed safe to proceed.

7.8.2. When possible, scaffolds and ladders shall be secured to permanent structures, using anchor bolts or other equipment means.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
DZHC 683 R1	Maintenance Control	Minimum of 1 year	Dispose/Trash

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
SOC 683 R1	Elevated Work Permit

11. ATTACHMENTS

11.1. Elevated Work Permit:

SOC

Elevated Work Permit

Date:	**Permit #:**	**Work Order #:**
Work Location		
Work Description		
Type of Equipment Being Used (Manlift, scaffold, ladder, etc.)		
Schedule	Start Time/Date:	Finish Time/Date:
JSA Completed	☐ YES ☐ NO	Date Completed:
Onsite Review Required	☐ YES ☐ NO	Date of Review:
DOES THIS PERMIT COMBINE WITH ANY OTHER PERMITS?	☐ YES ☐ NO	
Permit Type:		Permit #:
Permit Type:		Permit #:
NAMES OF EMPLOYEES PERFORMING THE WORK		

SECTION 2: Work Details and Controls (To be completed by Permit Issuer & Permit Holder)

Crane Usage	**Y**	**N**
Will a crane be in use? **(if yes, please send a copy of the certificate)**	☐	☐
Is a Man Cage being used? **(If yes, please send copy of the certificate)**	☐	☐
Ladders	**Y**	**N**
Are ladders being used for Elevated Work **(if yes see below, if no go to next section)**	☐	☐
Is it the right type of ladder for this task? (e.g. fiberglass/electrical, extension, step ladder etc.)	☐	☐
Has the ladder been inspected and found to be in good working order?	☐	☐
Is a standby person on the ground required?	☐	☐
Ladder is installed at a 4:1 ratio?	☐	☐
Will ladder be secured / footed?	☐	☐
Will the ladder be positioned on a firm stable load supporting surface?	☐	☐
Will barricades / signs be required to protect personnel below?	☐	☐
Is extra fall protection equipment (i.e. harnesses) required to be used with the ladder? If so you must complete section (fall restraint/arrest system)	☐	☐

SOC 683 Rev. 1 02/2016

1. PURPOSE

1.1. In accordance with 29 CFR, Part 1910, Section 146, SOC has established this written procedure to control entry to the depot's permit required and non-permit required confined spaces.

2. SCOPE

2.1. Covers all employees and subcontract employees that enter confined spaces on HWAD property.

3. POLICY

3.1. It is the policy of SOC to ensure all its employees and subcontract employees that enter confined spaces have adequate training and equipment for the particular confined space that will be entered. Safety is the utmost concern and will not be violated for any reason. The responsibility for compliance rests with each employee who is required to enter a confined space.

4. DEFINITIONS AND ACRONYMS

4.1. **Acceptable entry conditions -** Conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

4.2. **Attendant -** An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

4.3. **Authorized entrant -** An employee who is authorized by the employer to enter a permit space.

4.4. **Blanking or blinding -** Absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

4.5. **Confined space -** Is large enough and so configured that an employee can bodily enter and perform assigned work; and has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and Is not designed for continuous employee occupancy.

4.6. **Double block and bleed -** The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

4.7. **Emergency -** Any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

4.8. **Engulfment -** The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

4.9. **Entry -** Action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

4.10. **Entry permit (permit) -** Written or printed document that is provided by the employer to allow and control entry into a permit space.

4. DEFINITIONS AND ACRONYMS (CONTINUED)

4.11. **Entry supervisor -** Person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry.

4.12. **Hazardous atmosphere -** An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

4.12.1. Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).

4.12.2. Airborne combustible dust at a concentration that meets or exceeds its LFL.

NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

4.12.3. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.

4.12.4. Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this Part and which could result in employee exposure in excess of its dose or permissible exposure limit.

4.12.5. Any other atmospheric condition that is immediately dangerous to life or health.

4.13. **Hot work permit -** Written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

4.14. **Immediately dangerous to life or health (IDLH) -** Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

4.15. **Inerting -** The displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

4.16. **Isolation -** The process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

4.17. **Line breaking -** The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

4.18. **Non-permit confined space -** Confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

4.19. **Oxygen deficient atmosphere -** An atmosphere containing less than 19.5 percent oxygen by volume.

4.20. **Oxygen enriched atmosphere -** An atmosphere containing more than 23.5 percent oxygen by volume.

4. DEFINITIONS AND ACRONYMS (CONTINUED)

4.21. **Permit-required confined space -** A confined space that has one or more of the following characteristics:

4.21.1. Contains or has a potential to contain a hazardous atmosphere.

4.21.2. Contains a material that has the potential for engulfing an entrant.

4.21.3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.

4.21.4. Contains any other recognized serious safety or health hazard.

4.22. **Permit required confined space program -** The employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

4.23. **Permit system -** The employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

4.24. **Prohibited condition -** Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

4.25. **Rescue service -** The personnel designated to rescue employees from permit spaces.

4.26. **Retrieval system -** The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

4.27. **Testing -** The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

5. FLOW CHART

5.1. Appendix A to 1910.146 - Permit required confined space decision flow chart shall be used as a guide for completion of the Site Specific JSA. Attached at end of chapter.

6. RESPONSIBILITIES

6.1. **Base Operations & Facilities/Utilities Operations (BO & F/UO):**

6.1.1. Will have prime responsibility for this program. All changes to the program will be routed through the SOC Safety Office. BO & F/UO will:

6.1.1.1. Inspect all confined spaces within the plant to determine if the confined space is permitted or non-permitted.

6.1.1.2. Maintain an accurate list of all permitted and non-permitted confined spaces. To be readily available upon request.

6.1.1.3. Provide a computer matrix of the inspection to the department head.

6.1.1.4. Coordinate required confined space rescue equipment with the Fire Department.

6. RESPONSIBILITIES (CONTINUED)

6.1.1.5. Perform spot inspections and report findings to ensure compliance.

6.1.1.6. An annual review will be performed at the start of the fiscal year on all permits issued and canceled. The annual review will be used to revise the program as necessary and to ensure that employees participating in entry operations are protected from permit space hazards.

6.1.1.7. Provide training to SOC employees and subcontractor employees of permit and non-permitted confined space requirements. Training will comply with 29 CFR 1910.146(g) at a minimum.

6.1.1.8. Ensure entry supervisors establish a record keeping system to control opened and canceled permits during the fiscal year.

6.1.1.9. Identify permit entries on plant requiring signs, then procure signs. The sign shall read: "***DANGER CONFINED SPACE, ENTRY BY SOC PERMIT ONLY".***

6.1.1.10. Hot work permits in a confined space will not be issued without consultation with the Fire Department. Review Chapter 10 of this manual for Hot Work Permit.

6.1.1.11. Canceled permits will be retained for one year.

6.2. **Fire Department:**

6.2.1. Ensure all personnel with Fire Emergency Services (FES) are trained for emergency entry procedures.

6.2.2. Provide each member of FES with personal protective equipment necessary for making rescues from permit spaces, and ensure personnel are trained to use the equipment properly.

6.2.3. Ensure each member practices making permit space rescues at least once every 12 months.

6.2.4. Identify and procure equipment necessary for entry into permit spaces such as air monitoring, communications, and retrieval equipment.

6.2.5. Develop an Internal Operating Procedure (IOP) for rescue coordinating with the Safety Office.

6.2.6. Provide guidance on all hot work in a confined space. Ensure continuous air sampling and a safe atmosphere is maintained while work is being performed.

6.2.7. FES shall follow the recommendations of NFPA 1006.

6.3. **Directorate of Human Resources:**

6.3.1. Maintains documents of trained authorized entrants, attendants, and supervisors.

6.3.2. Schedules employees identified as authorized entrants, attendants and supervisors for initial and annual training.

7. PROCEDURE

7.1. **Entry Team -** Normally there are three members that make-up a confined space entry team: Authorized Entrant, Authorized Attendant, and Entry Supervisor. The authorized entrant and attendant may alternate their duties provided it is stated on the entry permit. The entry supervisor may alternate between an attendant or entrant provided they are trained as, and have the authority of, a supervisor.

7.1.1. **Authorized Entrant:**

7.1.1.1. Know hazards that may occur during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

7.1.1.2. Recognize signs or symptoms of hazard exposure.

7.1.1.3. Understand the consequence of hazard exposure.

7.1.1.4. Know proper use of equipment.

7.1.1.5. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space.

7.1.1.6. Alert attendant of hazards:

7.1.1.6.1. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.

7.1.1.6.2. Exit the permit space quickly when required.

7.1.1.6.3. An order to evacuate is given by the attendant or the entry supervisor.

7.1.1.6.4. The entrant recognizes any warning sign or symptom of the exposure to a dangerous situation.

7.1.1.6.5. The entrant detects a prohibited condition.

7.1.1.6.6. An evacuation alarm is activated.

7.1.1.7. Be qualified to perform the task requiring the entry.

7.1.2. **Authorized Attendant**

7.1.2.1. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

7.1.2.2. Is aware of possible behavioral effects of hazard exposure in authorized entrants.

7.1.2.3. Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants accurately identifies who is in the permit space.

7.1.2.4. Remains outside the permit space during entry operations until relieved by another attendant.

7.1.2.5. Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.

7. PROCEDURE (CONTINUED)

7.1.2.6. Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:

7.1.2.6.1. If the attendant detects a prohibited condition.

7.1.2.6.2. If the attendant detects the behavioral effects of hazard exposure in an entrant.

7.1.2.6.3. If the attendant detects a situation outside that space that could endanger the entrant.

7.1.2.6.4. If the attendant cannot effectively and safely perform all duties required.

7.1.2.7. Summon rescue and other emergency services as soon as attendant determines that authorized entrants may need assistance to escape from permit space hazards.

7.1.2.8. Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

7.1.3. **Entry Supervisor**

7.1.3.1. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

7.1.3.2. Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.

7.1.3.3. If any confined space indicates an alarm reading through one of the employee's gas monitoring devices, notify GOC and Safety Office.

7.1.3.4. Perform emergency procedures if trained and equipped to do so, and an attendant is at the entry point.

7.1.3.5. Entry supervisors will establish a file to control opened and canceled permits.

7.1.3.6. Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations.

7.2. **Entry Permits**

7.2.1. Form DZHC 282-E R1 will be used as the Entry Permit. If that form is not available employees can reference Appendix D-1 and or D-2 of 29 CFR 1910.146. When the entry permit form is used correctly, it will identify acceptable entry conditions as, General Information, Space Hazards, Equipment Requirements, and Preparation for Entry, Communications, Authorized Entrants, Attendants and Entry Supervisor. Once the permit and JSA's are completed, it will be posted at the entry control point of the permitted space. The permit and JSA's are only valid for the date, time (**8 hours and overtime unless scheduled as 10 hour shift**), and personnel specified on the form. Only trained and authorized entrants, authorized attendants, and authorized supervisors may complete a

7. PROCEDURE (CONTINUED)

permit for entry, however, only trained entry supervisors may sign the permit for authorized entry, the authorizing supervisor will verify training requirements of entrants and attendants prior to signing permit.

7.3. **Hazards**

7.3.1. On this Depot employees may encounter an engulfment hazard in railroad hopper cars, bag houses and water tank towers. Some confined spaces may have a potential for hazardous atmospheres. The majority of the cause will be oxygen depletion; however traces of gas might be present in such areas as autoclaves or storage tank.

7.3.1.1. Ventilation by forced air into the confined space will be accomplished using blower for a minimum of ten minutes.

7.3.1.2. The space will be retested for hazardous atmosphere after ventilation.

7.3.1.3. The use of a tripod shall be evaluated and use as a rescue device when applicable

7.4. **Permit Cancellation**

7.4.1. If an entry into a confined space will not be performed and a permit has been issued for entry, call SOC Safety Office to cancel the permit. The permit will have a **red** diagonal line drawn through it to indicate cancellation.

7.4.2. The entry supervisor shall terminate and cancel the permit when:

7.4.2.1. The entry operations covered by the entry permit have been completed.

7.4.2.2. A condition that is not allowed under the permit arises in or near the permitted space.

7.5. **Inspection**

7.5.1. Trained and qualified supervisors should inspect each space as required.

7.6. **Rescue and Emergency Services**

7.6.1. An employer who designates rescue and emergency services shall:

7.6.2. Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified.

7.6.3. Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified.

7.6.3.1. Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified.

7.6.3.2. Is equipped for and proficient in performing the needed rescue services.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	**CUSTODIAN**	**RETENTION**	**DISPOSITION**
Entry Permit	Maintenance Control	3 Years	Shred
Training Records	Supervisor/Compliance and Training	3 Years	Shred

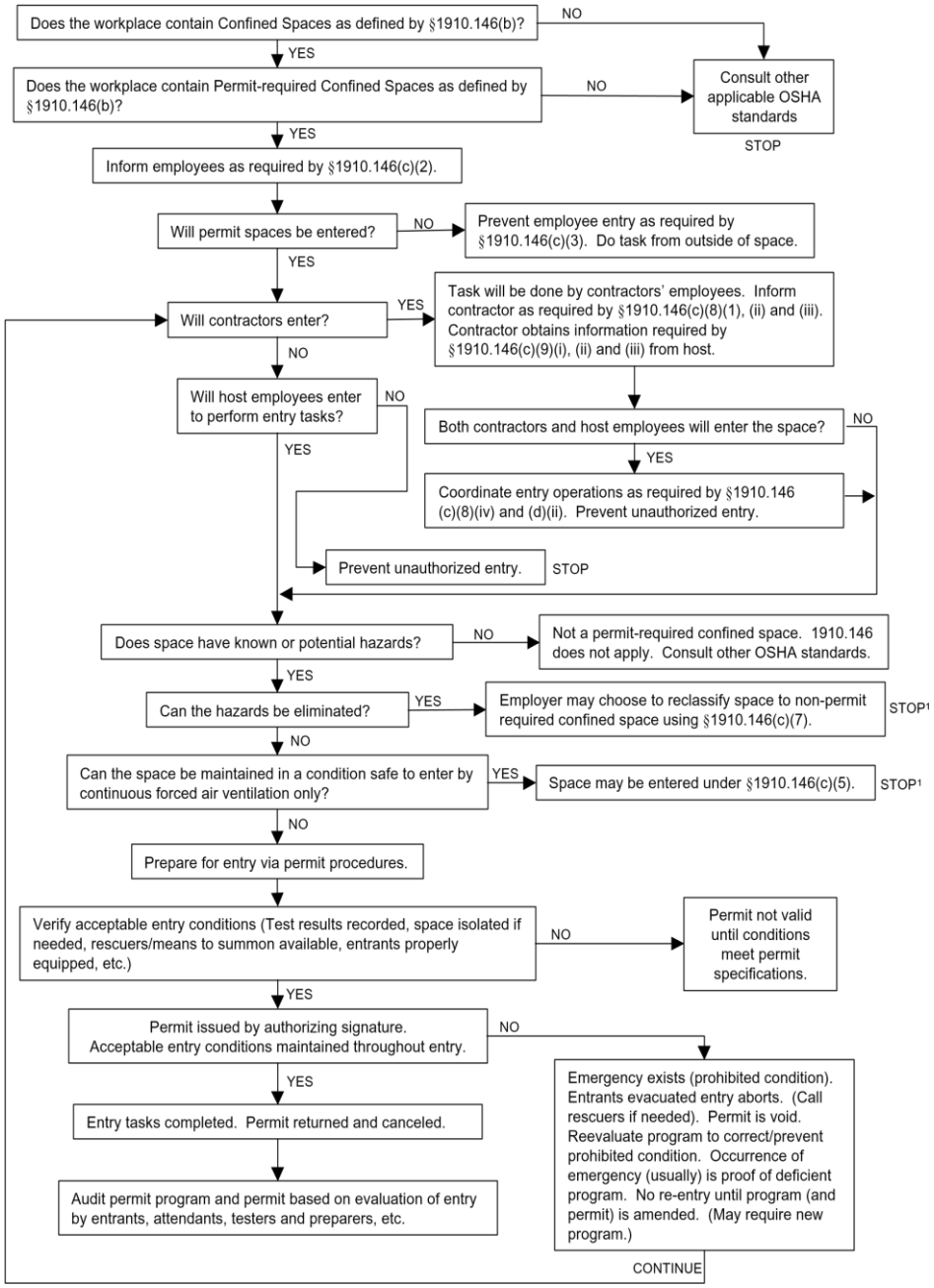
10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	**TITLE**
DZHC 282-E R1	Confined Space Entry Permit

11. ATTACHMENTS

11.1. Permit-required Confined Space Decision Flow Chart:



11.1. Confined Space Entry Permit:

CONFINED SPACE ENTRY PERMIT

Permit No.

Date & Time Issued:	Date & Time Expires:
Job Site:	Job Supervisor:
Equipment to be worked on:	Work to be performed:

Entry Attendant(s):

1. Source Isolation (No Entry):

	N/A	YES	NO
Pumps or Lines Blinded	( )	( )	( )
Disconnected or Blocked	( )	( )	( )

2. Ventilation Modification:

	N/A	YES	NO
Mechanical	( )	( )	( )
Natural Ventilation Only	( )	( )	( )

3. Atmospheric Check After Isolation and Ventilation:

Time _____
Oxygen _____% > 19.5%
Explosive _____% L.F.L. < 10%
Toxic _____ PPM < 10 PPM H (2) S

Tester's Signature:

4. Atmospheric Checks:

Time _____
Oxygen _____%
Explosive _____% L.F.L.
Toxic _____%

Tester's Signature:

5. Communication Procedures:

6. Rescue Procedures:

7. Entry Team/ Entry Attendant & Emergency Personnel:

	Yes	No
Successfully completed training?		
Is it current?	( )	( )

8. Equipment:

	N/A	Yes	No
Direct reading gas monitored-tested	( )	( )	( )
Safety harness and lifelines for entry and attendant(s)	( )	( )	( )
Hoisting equipment	( )	( )	( )
Powered communication	( )	( )	( )
Respiratory Protection for entry and attendant(s)	( )	( )	( )
Protective Clothing	( )	( )	( )
All electric equipment listed Class I, Division I, Group D and Non-sparking tools	( )	( )	( )

9. Periodic Atmospheric Tests:

Oxygen _____%	Time _____	Oxygen _____%	Time _____
Oxygen _____%	Time _____	Oxygen _____%	Time _____
Explosive _____%	Time _____	Explosive _____%	Time _____
Explosive _____%	Time _____	Explosive _____%	Time _____
Toxic _____%	Time _____	Toxic _____%	Time _____
Toxic _____%	Time _____	Toxic _____%	Time _____

10. Required Approval:

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit is not valid unless all appropriate items are completed.

Permit Prepared and Approved By: (Supervisor) _____

Fire Emergency Services:	_____ (Printed Name)	_____ (Signature)	_____ (Date/ Time)
Safety:	_____ (Printed Name)	_____ (Signature)	_____ (Date/ Time)

DZHC 282-E R1 THIS PERMIT MUST BE POSTED ON JOB SITE * GOOD ONLY ON INDICATED DATE

Confined Space Pre-Entry Check List

All copies of permit will remain at job site until job is complete.

Requirements Completed :

	Date/ Time
Lock Out/ De-energize/ Try-out	_____/_____
Line(s) Broken-Capped-Blanked	_____/_____
Purge-Flush and Vent	_____/_____
Ventilation	_____/_____
Secure Area (Post and Flag)	_____/_____
Breathing Apparatus	_____/_____
Resuscitator- Inhalator	_____/_____
Standby Safety Personnel	_____/_____
Full Body Harness x/ "D" ring	_____/_____
Emergency Escape Retrieval Equipment	_____/_____
Lifelines	_____/_____
Fire Extinguishers	_____/_____
Lighting (Explosive Proof)	_____/_____
Protective Clothing	_____/_____
Respirator(s)(Air Purifying)	_____/_____
Burning and Welding Permit	_____/_____

Note: Items that do not apply enter N/A in the blank.

Continuous Monitoring: *Record continuous monitoring results every 2 hours.*

Permissible _____

Test(s) to be taken:	Entry Level:								
Percent of Oxygen	19.5% to 23.5%	___	___	___	___	___	___	___	___
Lower Flammable Limit	Under 10	___	___	___	___	___	___	___	___
Carbon Monoxide	+35 PPM	___	___	___	___	___	___	___	___
Aromatic Hydrocarbon	+1 PPM * 5 PPM	___	___	___	___	___	___	___	___
Hydrogen Cyanide	(Skin) * 4 PPM	___	___	___	___	___	___	___	___
Hydrogen Sulfide	+10 PPM * 15 PPM	___	___	___	___	___	___	___	___
Sulfur Dioxide	+2 PPM * 5 PPM	___	___	___	___	___	___	___	___
Ammonia	*35 PPM	___	___	___	___	___	___	___	___

Short-term exposure limit: Employee can work in the area up to 15 minutes.
+8 hr. Time Weighted Average: Employee can work in area 8 hours (longer with appropriate respiratory protection).

Remarks:

Gas Tester Name	Instrument(s) Used	Model &/or Type	Serial &/or Unit No.
_____	_____	_____	_____
_____	_____	_____	_____

Entry Attendant is required for all confined space work.

Authorized Entry Attendant(s)/ Employee ID Number:

Authorized Entrant(s)/ Employee ID Number:

IN CASE OF AN EMERGENCY CALL x7911

DZHC 282-E R1 THIS PERMIT MUST BE POSTED ON JOB SITE * GOOD ONLY ON INDICATED DATE

1. PURPOSE

1.1. These procedures will outline general requirements for all excavations made by SOC Nevada, LLC employees. This chapter is intended to provide general safety procedures and guidance for all employees working in and around an excavation.

2. SCOPE

2.1. This document is applicable to all personnel performing utility clearances, excavations and personnel performing work in and around excavations.

3. POLICY

3.1. All procedures shall by followed and implemented. They have been written IAW the requirements of 29 CFR 1926 Subpart P of the Excavation Standard. Excavations shall apply to all man-made cuts, cavities, trenches, or depressions in an earth surface, formed by earth removal.

4. DEFINITIONS AND ACRONYMS

4.1. **Barricade -** Means to install fencing, rope, caution tape or other safeguards to prevent the entrance of unauthorized persons into the work area.

4.2. **Benching -** Means a method of protecting employees from cave-ins by removing the sides of an excavation or from one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

4.3. **Cave-in -** Means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and a sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

4.4. **Competent Person -** Means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt, corrective measures to eliminate them. The competent person shall also understand the requirements set forth by 29 CFR 1926 Subpart P, this chapter, and division IOPs.

4.5. **Excavation -** Means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

4.6. **Hazardous Atmosphere -** Means an atmosphere which by reason of explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient toxic or otherwise harmful, may cause death, illness or injury.

4.7. **Protective System -** Means a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

4.8. **Registered Professional Engineer -** Means a person who is registered as a professional engineer where the work is to be performed and is capable of tabulating data required by the project.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.9. **Shield -** Means a structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees within the structure. Shields can be permanent structures or can be designed to be portable and move along as work progresses. Additionally, shields can be either pre-manufactured or job-built IAW 29 CFR 1926.652 (c) (3) or (c) (4). Shields used in trenches are usually referred to as "trench boxes" or "trench shields".

4.10. **Shoring -** Means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

4.11. **Sloping -** Means a method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

4.12. **Structural Ramp -** Means a ramp built of steel or wood, usually used for vehicle access. Ramps made of soil or rock are not considered structural ramps. Structural ramps that are used solely by employees as a means of access or egress from excavations the walking surface will be treated with a non-slip material and have appropriate handrails. The structural ramp will be designed by a competent person.

4.13. **Trench -** Means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than fifteen feet (15').

5. FLOWCHART

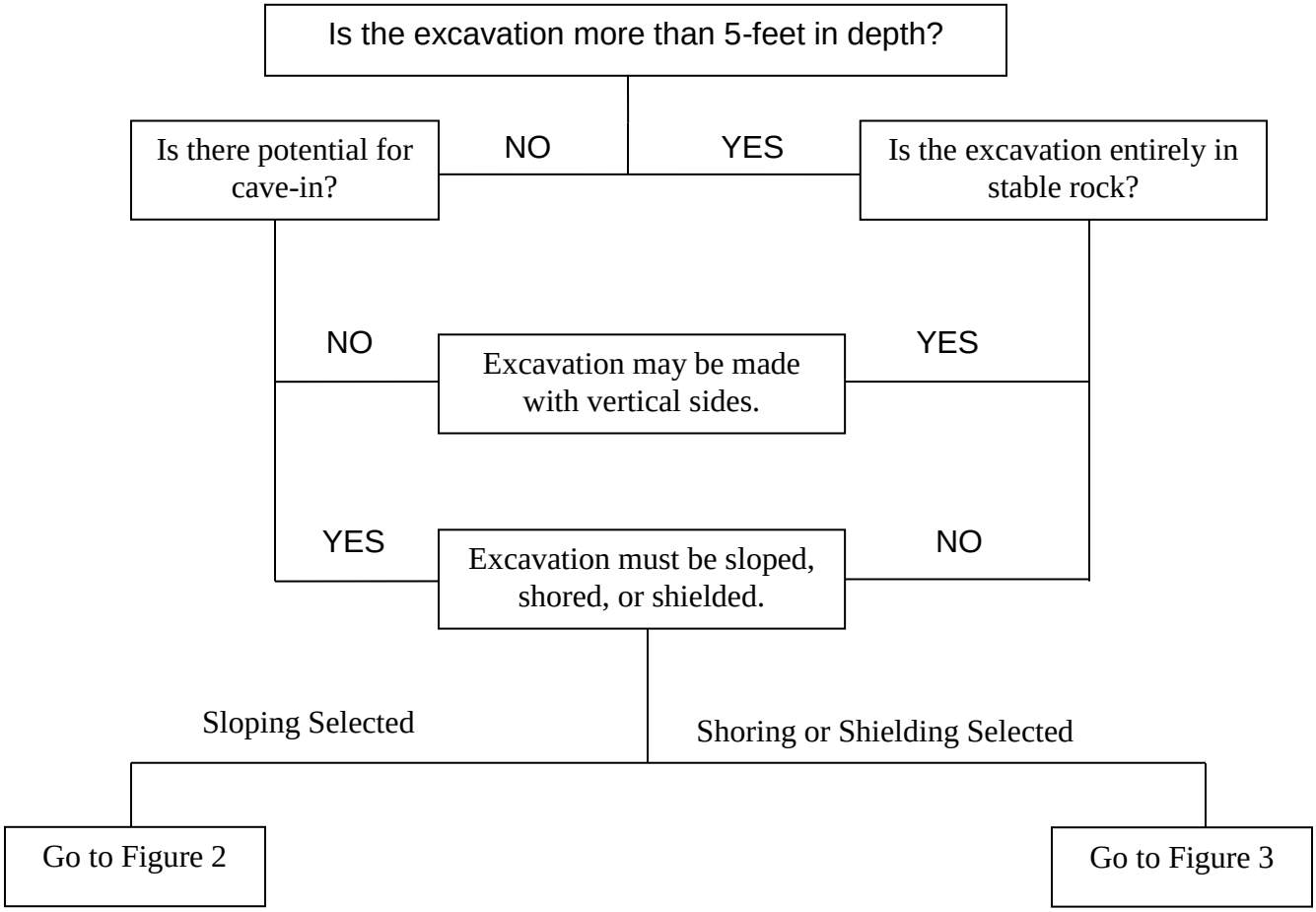
5.1. The following figures are a graphic summary of the requirements contained in 1926 Subpart P for Excavations.

NOTE: First and foremost, "Call Before You Dig" for identification of above and underground utilities at the Trouble Desk, x7098.

5. FLOWCHART (CONTINUED)

5.1. Preliminary Decisions:

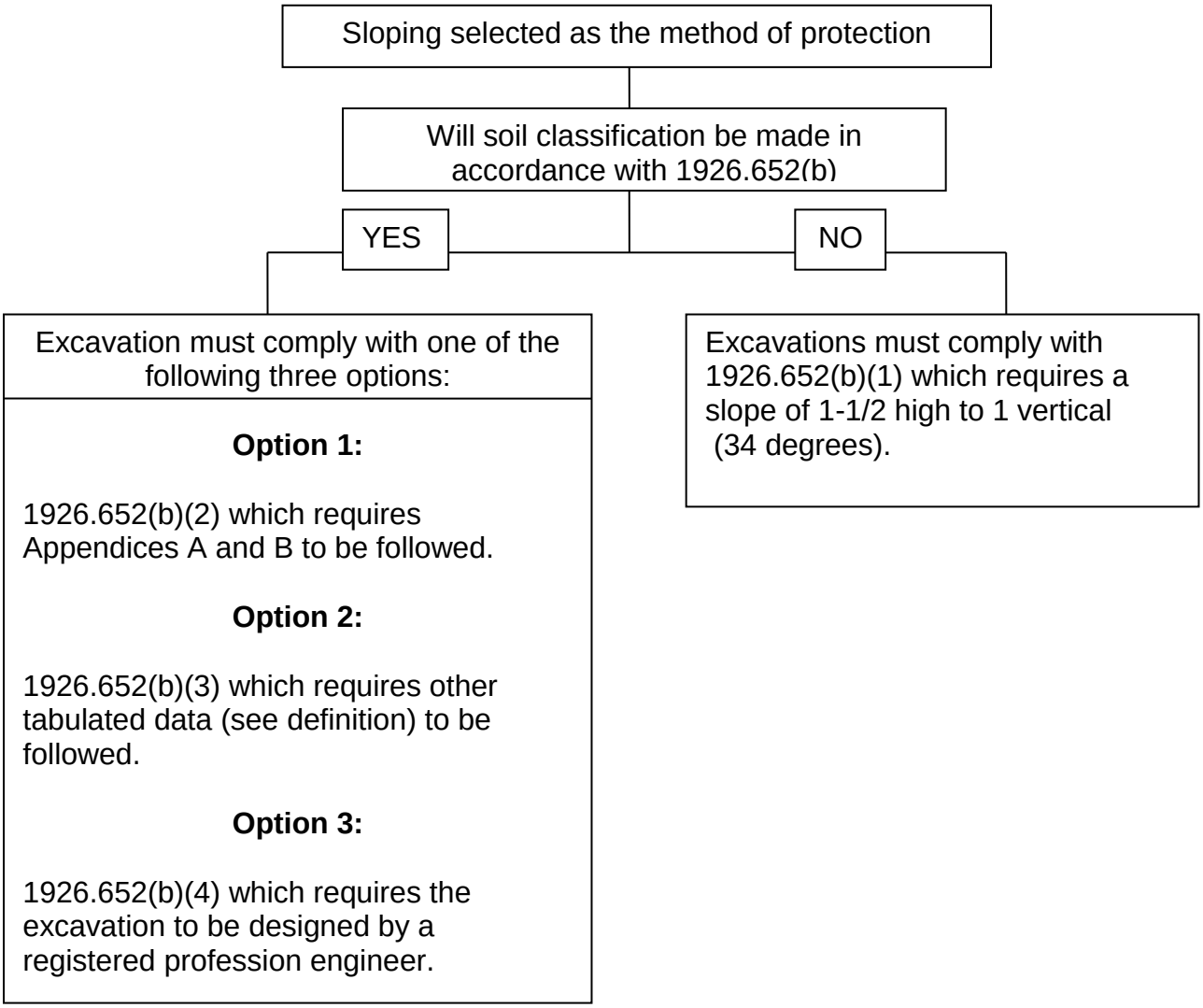
Figure 1. Preliminary Decisions



5. FLOWCHART (CONTINUED)

5.2. Sloping Options:

Figure 2. Sloping Options



5. FLOWCHART (CONTINUED)

5.3. Shoring and Shielding Options:

Figure 3. Shoring and Shielding Options

Soil classification is required when shoring or shielding is used. The excavation must comply with one of the following four options:

Option 1:
1926.652(c)(1) which requires Appendices A and C to be followed (e.g. timber shoring)

Option 2:
1926.652(c)(2) which requires manufacturer's data to be followed (e.g. hydraulic shoring, trench jacks, air shores, shields

Option 3:
1926.652(c)(3) which requires tabulated data (see definition) to be followed (e.g. any system as per the tabulated data).

Option 4:
1926.652(c)(4) which requires the excavation to be designed by a registered professional engineer (e.g. any designed system).

6. RESPONSIBILITIES

6.1. A Competent Person shall be designated for each excavation. This person shall be trained in soil classification, hazardous atmosphere recognition and on-site conditions, understand the requirements of Subpart P and to have authority to control hazards.

6.2. It shall be the responsibility of the Competent Person to assure that the following requirements have been evaluated and provided as necessary. They shall be implemented during performance of excavation in the form of auguring, boring digging, ditching, drilling, grading, plowing-in, ripping, scraping, trenching and/or tunneling.

6. RESPONSIBILITIES (CONTINUED)

6.3. This chapter along with Division IOP's shall be reviewed by all employees working around excavation projects. If there are any questions about the requirements or safe work practices, please contact the Safety Office or a Certified Profession Engineer.

7. PROCEDURE

7.1. Perform utility clearances identifying underground installations such as electric, communication (to include fiber optics and fire alarms), steam, water, sewer, fuel, air or any other underground installations e.g. ducts, drains, septic tanks that may be encountered during excavation work.

7.1.1. Underground installations shall be marked for locations, directions and depths with paint, stakes, flags and/or whiskers as accurately as can be performed by SOC personnel and equipment. Marking paint colors for each utility shall be in accordance with BOP.IOP.FUO.0304 or the most current IOP of that directorate.

7.1.2. Underground installations shall be represented on Form SOC 321 and drawing as located and marked. Overhead lines and above ground utilities shall be represented on the drawing as well. For assistance with plot plan drawings of specific areas involved, drawings can be obtained from Building 39 Engineering.

7.1.3. If an unreasonable amount of time should lapse between underground installations Identifications and performance of excavation, Form SOC 321 and drawings shall be reviewed and the identified underground installations remarked as necessary.

7.2. Soil classifications shall be identified in accordance with Appendix A to Subpart P of Part 1926.

7.3. Excavation sites shall be barricaded in a manner to prevent unauthorized personnel from entering the job site.

7.4. Exposure to hazardous atmospheres shall be prevented to assure acceptable atmospheric conditions exist in and around excavations.

7.4.1. When excavations are 4 feet or deeper and performed near landfills or where hazardous substances are stored the excavation shall be monitored for oxygen deficiency. Proper respiratory protection or ventilation shall be provided when necessary.

7.4.2. When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to insure that the atmosphere remains safe.

7.4.3. Workers shall not enter excavations in which water has or is accumulating until adequate precautions have been taken to prevent cave-ins, water removal performed or use of safety harnesses and lifelines are initiated.

7.5. Determine the final depth of the excavation and provide protection as stated below:

7.5.1. If excavation is 4-feet or greater in depth, access and egress of the excavation is required.

7.5.2. If excavation is 5-feet or greater, a protective system is required as detailed in Section 5 of this chapter.

7. PROCEDURE (CONTINUED)

7.5.3 All adjacent structures shall be evaluated to ensure that the stability of the foundation is not comprised.

7.6. The following personnel requirements must be met for all excavations:

7.6.1. Inspections of excavation shall be made by a competent person prior to employees entering.

7.6.2. If excavation is adjacent to a public traffic route, all employees shall wear ANSI approved warning vests, and excavations shall be barricaded during non-operational hours. Traffic shall be detoured as necessary.

7.6.3. No person shall be permitted under loads handled by lifting or digging equipment including power shovels, derricks, or hoists.

7.6.4. Employees will be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials.

7.6.5. Personnel shall be protected from overhead falling material.

7.6.6. Mobile equipment shall not be permitted within two feet of the excavation opening. Equipment operators shall have means of locating the excavation edge (i.e., barricades, spotters).

7.6.7. All excavated material shall be at least 2-feet from the excavation opening.

7.7. **All employees entering an excavation 4-feet or greater in depth, shall be provided with stairway, ladder, ramp or other safe means of egress.**

7.7.1. Ladders shall not exceed a distance in intervals of 25-lateral feet.

7.7.2. Structural ramps may be used if the walking surface is treated with a non-slip material and has appropriate handrails.

7.8. Employees in an excavation shall be protected from cave-ins by an adequate protective system in accordance with the Section 5 Flow Chart and Subpart P of 1926.

7.8.1. Sloping/Benching protective systems shall be used when excavation is less than 20-feet in depth measured from bottom to top of the excavation.

7.8.2. Sides of excavation when sloped shall not exceed a 1 (rise): 1½ (run) ratio. Some exceptions may be made to this requirement, with prior approval from the competent person for the excavation project and approval from the Safety Office.

7.8.3. Shoring for excavations greater than 20 feet shall be IAW the requirements in 1926 Subpart P and as designed and signed by a Certified Professional Engineer.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
SOC 321 R0	Maintenance Control	3 years	Shred

10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
SOC 321 R0	Excavation Permit

11. ATTACHMENTS

11.1. Excavation Permit Form (SOC 321 R0) Front:

EXCAVATION/DIGGING PERMIT

Site Location:	**Date:**	**Time:**
Competent Person:		**Badge Number:**
Project Manager:	**Contact Number:**	
Valid Period of Permit	**Start Date:**	**Completion Date:**
Scope of Work:		
Equipment to be used:		
Depth:	**Width:**	**Length:**
Number of Crew Members		**Number Working in Trench**
JSA for task submitted with this permit?	☐ YES	☐ NO
Does this permit combine with any other permits?	☐ YES	☐ NO
Permit Type:	Permit #:	

Type of Soil Materials		
☐ Type A Slope	☐ Type B Slope Angle	☐ Type C Angle

Type of Shoring		
☐ Timber	☐ Mechanical	☐ Hydraulic
☐ Approved Terrace	☐ Other _____	

ALL QUESTIONS MUST BE ANSWERED		
Employees are no farther than 25 feet from a ladder?	☐ YES	☐ NO
Ladders extend 3 feet above mouth of trench?	☐ YES	☐ NO
Spoil bank piled no closer than 2 feet of mouth of trench?	☐ YES	☐ NO
Electrical isolation required?	☐ YES	☐ NO
Mechanical isolation required?	☐ YES	☐ NO
Mobile equipment has warning system at trench mouth locations?	☐ YES	☐ NO
Are employees working outside the trench shoring area?	☐ YES	☐ NO
☐ If YES, move or extend the shoring area.		
Hazardous atmosphere exists?	☐ YES	☐ NO
☐ If YES, fill out a Confined Space Entry Permit		

UTILITIES	
Are there utilities within the excavation area? If yes, 1. All known utilities must be located and marked before digging. 2. Use of heavy machinery is not allowed within an ***exclusion zone*** (the width of the utility plus 18 inches in all directions) around the utility. 3. All utilities in the area must be de-energized/de-pressurized and locked and tagged before digging unless an exception is approved by the Safety Department. **Important:** These hazard mitigations must be included in the JSA and safety briefing for the days digging will occur.	☐ YES ☐ NO

SOC 321 Rev. 0 02/2016

11.1. Excavation Permit Form (SOC 321 R0) Back:

SAFETY PRECAUTIONS	
Maintain a safe access and exit route to and from excavation	☐
Prevent collapse of the excavation	☐
Perimeter protection system are in place	☐
Confirm materials and equipment does not fall onto the crew members in the excavation	☐
Avoid the undermining of other structures/nearby buildings	☐
Protect crew members from hazardous fumes	☐

SKETCH OF PROJECT
(All utilities, buildings, and/or hazards shall be identified on this sketch)

NORTH

COMMENTS

Required Approval:

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood.

Permit Prepared and Approved By: (Supervisor) _____

	(Printed Name)	(Signature)	(Date/Time)
CPC Worker:	_____	_____	_____
Fire Emergency Services:	_____	_____	_____
Safety:	_____	_____	_____

1. PURPOSE

1.1. To establish guidelines for persons, including contractors, in fire prevention, protection and suppression while using power tools and heat producing equipment on the Hawthorne Army Depot (HWAD).

2. SCOPE

2.1. Covers all areas and facilities on the installation where the utilization of heat producing devices and activities may cause fire and/or explosion.

3. POLICY

3.1. SOC is committed to performing all operations under safe conditions. The use of this chapter with applicable Federal, State and Local standards will help accomplish this commitment.

4. DEFINITIONS AND ACRONYMS

4.1. **AHJ -** Authority having Jurisdiction

4.2. **C.A.P.P. -** Chemical Accident Prevention Program

4.3. **Fire Watch -** Employee appointed to maintain a watch of the hot work site for designated period following the hot work to ensure there are no hot spots, sparks or flames remaining.

4.4. **NFPA70E -** Arc Flash/Electrical Safety

4.5. **PAI -** Permit Authorizing Individual (Safety Office and Fire & Emergency Services).

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **Maintenance Control Center**

6.1.1. It is the responsibility of SOC Permit Center to issue Hot Work Permits (DZHC 508-E) to SOC employees, SOC contractors, government contractors, and government staff. In certain circumstances, i.e., after regular work hours, holidays, etc., GOC will contact the Fire Department who will issue the permit and then advise the Permit Center on the next regular work day. The SOC Permit Center contacts the Fire Department for authorizations of Hot Work Permits.

6.1.2. It is the responsibility of the SOC Permit Center and the Individual requesting the Hot Work Permit to complete the Hot Work Permit. It is a requirement that all parties follow the below regulations:

NAC 459.95433 Hot Work Permits. The owner or operator of a facility with a process that is subject to C.A.P.P. shall:

6.1.2.1. Issue a Hot Work Permit for hot work conducted on or near a process.

6.1.2.2. Document in the permit:

6. RESPONSIBILITIES (CONTINUED)

6.1.2.2.1. That the fire prevention and protection requirements in 29 CFR 1910.252(a) are implemented before beginning hot work.

6.1.2.2.2. The dates which are authorized for hot work.

6.1.2.2.3. The object on which hot work is to be performed.

6.1.2.3. Keep the permit on file until completion of the hot work.

6.2. **Contracting Officer Representative responsibilities:**

6.2.1. (COR) to ensure subcontractors (SOC/Government) have the required permits and complies with all listed requirements and restrictions on the Hot Work Permit.

6.3. **Individual performing the hot work responsibilities:**

6.3.1. To be familiar with the SOC Fire Prevention Manual, Ch. 10, Sections N, O, and V.

6.3.2. Shall be aware of site specific explosives, flammable materials, hazardous processes, and conditions. Refer to Chapter 4 Titled 'Explosive Safety' for more information.

6.3.3. To be knowledgeable in the safe operation of equipment used to perform hot work. To examine equipment prior to performing hot work to ensure it is in safe operating condition. Unsafe/unreliable equipment will be repaired or substituted prior to commencement of hot work.

6.3.4. To notify the supervisor of the facility and discuss the nature of the work to be performed.

6.3.5. Where practicable, all combustibles shall be relocated at least 90 feet from the work site. Where relocation is impracticable, combustibles shall be protected with flame proofed covers or otherwise shielded with metal or curtains.

6.4. **Supervisor responsibilities**

6.4.1. Of the area/facility where the hot work is being performed to ensure flammable/combustible material is removed or protected from the hot work.

6.5. **Fire Inspector responsibilities**

6.5.1. To approve the hot work and visit the site if necessary.

6.6. **It is the responsibility of the Fire Watch:**

6.6.1. To be knowledgeable of the inherent hazards of the work site and of the hot work.

6.6.2. To ensure safe conditions are maintained during hot work operations and shall have the authority to stop the hot work operations if unsafe conditions develop.

6.6.3. To have fire extinguishing equipment readily available and be trained in the proper use of the equipment.

6.6.4. To be familiar with the facility/work environment, site specific conditions such as locations of alarms, evacuation procedures and personnel gathering locations.

6. RESPONSIBILITIES (CONTINUED)

6.6.5. To extinguish fires that are within the capacity of fire-fighting equipment issued to him/her or stationed at the facility. The Fire Watch will sound the alarm immediately if the fire is beyond his/her capability to extinguish.

6.6.6. To remain at the hot work site and maintain vigilant observation of the site and surrounding areas for any hot spots, smoke, sparks or flames for a minimum of 30 minutes and “as long as required” to ensure there is no risk of fire from the hot work conducted there. Upon completion of the fire watch, the responsible person will contact the Fire Department and obtain approval prior to leaving the hot work site.

7. PROCEDURE

7.1. **Open Fires or Use of Spark Producing Tools:**

7.1.1. Open fires shall not be permitted at any location on HWAD premises without advance notice to and approval from the SOC Fire Department. Burning of trash and debris is permitted only in locations approved by the Fire Department.

7.1.2. A Hot Work Permit shall be required for any spark-producing tool and/or open-flame device operated within (HWAD), except for specific operations **OR DESIGNATED AREAS**. Exceptions must be pre-approved by the Fire Inspector and Safety Office.

7.1.3. The Hot Work Permit is initiated at the Maintenance Control Center at building 9 (Base Operations). The supervisor of area/facility or the department performing the work where the hot work is conducted signs the permit. The Safety Office will perform an onsite inspection of the work area if needed and will sign the permit. At the discretion of the Fire Inspector, a site inspection may be conducted where the work will be conducted prior to approval and signature of the Hot Work Permit. Once the Fire Department and the Safety Office approves the permit it will be issued by the Maintenance Control Center

7.2. **Explosives Area:**

EXPLOSIVES

7.2.1. Upon notification, the building supervisor will make a determination if the work can be done without interrupting operations, or if the work should be done at a later date. Work will not be performed if there is any compromise to safety. The Safety Office will make a determination if ammunition or other material needs to be moved prior to beginning work. If flame or heat producing equipment is required to make the repairs, special safety instructions listed in this section shall apply.

7.2.2. Fire Watch will be posted on both sides of a deck, bulkhead, wall or ceiling being worked on when fire hazards (i.e., flammables, combustibles, explosives) exist on both sides. Fire Watch shall remain at his station for a minimum of 30 minutes after completion of the hot work to ensure that there are no sparks or smoldering fires present.

7.2.3. Prior to making any repairs or maintenance requiring welding, cutting, grinding, or other spark producing tools, to ammunition process buildings, storage magazines, mercury warehouses, surveillance facility or any process equipment, machinery, or installed equipment, a Hot Work Permit must be issued to the shop responsible for doing the work. ***Under no circumstances***

7. PROCEDURE (CONTINUED)

will any repair, maintenance, or modification be performed without a valid Hot Work Permit. The Hot Work Permit will be in the possession of the repairman or supervisor at the work site. Hot Work Permits are to be issued for the date the work is to start and will be valid only until the date the permit expires. If the work permit expires before the work is completed, a new work permit must be issued.

7.2.4. Process equipment, machinery or components that are removed from a production facility to be sent down to main base for machining, altering or modifying shall have a thorough inspection of exterior and interior to ensure removal of any explosive product it was expos to. **It *shall* have documentation certifying proof of decontamination prior to removal from the A&E area of the depot.**

7.2.4.1. Refer to Chapter 23 Explosive Safety, Sections 7.1.1 thru 7.1.6, et al.

7.2.4.2. Refer to standard operating procedures for the facility that material is being derived from as it may have additional safety guidelines that must be followed.

7.2.5. In the event that material is delivered to main base that has not been properly inspected, decontaminated and or does not have valid documentation providing signatures of inspectors which includes at a minimum an Munitions and Logistics (M&L) Supervisor, it shall be rejected and returned to the facility immediately.

7.2.5.1. All employees have the right to refuse material that they deem unsafe to work on. They should contact their Supervisor immediately to address any hazards that can compromise an employee's safety and health.

7.2.6. Work performed by subcontractors (SOC/Government) in the ordnance area also requires a Hot Work Permit. It is the responsibility of the Contracting Office Representative (COR) to ensure the subcontractor has the required permit and complies with all listed requirements and restrictions on the Hot Work Permit.

7.2.7. **Welding, Cutting, and Grinding:**

7.2.7.1. Welding: Standards for welding are set forth in NFPA 51B, NFPA 70E, OSHA 1910 Subpart Q and OSHA 1926 Subpart J.

7.2.7.2. Welding or cutting operations shall not be performed unless and until fire and explosives hazards have been eliminated according to applicable procedures.

7.2.7.3. Operators of welding or cutting equipment shall be properly trained and qualified to operate such equipment. Training shall include all hazards peculiar to the facility/area requiring hot work, as well as the operation of safety and fire extinguishing equipment required.

7.2.7.4. The use of power tools or heat producing equipment will be confined to essential, and/or temporary work only. Written instructions and a Safety / Hot Work Permit will be issued prior to beginning any work. Approval is required by the Safety Office and Fire Department and specific hazards and directives should be noted on the permit by the Permit Center. Use of, but not limited to.

7. PROCEDURE (CONTINUED)

7.2.7.5. The following steps may reduce fire hazards while working on doors to explosive facilities:

7.2.7.5.1. Any material closer than ten feet from the door shall be covered with a fire retardant covering.

7.2.7.5.2. The area in the immediate vicinity of the door will be swept and wetted Fireguard will be stationed immediately inside the door opening with a full water type fire extinguisher to cool any sparks that might enter magazine.

7.2.7.5.3. All doors will be closed when cutting, grinding, or welding on the outside of the doors.

7.2.7.5.4. Doors will be open when cutting, grinding, or welding on the inside or the top of the doors.

7.2.8. When a guard, Fire Watch or other person discovers smoke coming from a closed or opened magazine, or observes other evidence that there may be a fire in a magazine, an alarm shall be given and all personnel evacuated to a safe distance. The door to a suspected burning building will not be opened except by SOC Fire Department personnel.

7.2.9. If a fire is discovered in grass or other combustible material surrounding a magazine, activate the Emergency Response System at extension **7911** or contact Net Control on channel 1 via the depot radio system. Using firefighting tools and equipment, an attempt should be made to extinguish, contain, or control the fire until the firefighting force arrives.

7.2.10. If a fire is suspected in a building with personnel and explosives, evacuate to a known safe area. Ensure all personnel are accounted for. Direct an individual to meet with and inform Fire Department personnel of the status to personnel evacuated or not evacuated and explosive items in building.

7.2.11. Doors with Intrusion Detection System (IDS):

7.2.11.1. In addition to special instructions listed above and prior to welding door, the bottom 6 to 8 screws/bolts must be removed and grid board pried away from door sufficiently to allow inside to be thoroughly wetted.

7.2.11.2. Before grid is bolted/screwed back into place, the inside of the door must be carefully checked to ensure no burning or smoldering embers are present.

7.2.12. Confined Spaces:

7.2.12.1. Gas cylinders will be stationed outside confined spaces when welding or cutting activity is being performed. Exceptions must receive prior approval from the Fire Inspector.

7.2.12.2. While equipment is in use it shall be frequently inspected for evidence of leaks.

7. PROCEDURE (CONTINUED)

7.3. **Hot Work Areas:**

7.3.1. Designated areas exist at Buildings 10, 11, 63, 64, 150, 102-52, 103-28, and 117-17.

7.3.1.1. Designated areas are segregated from adjacent areas and identified with signage and/or floor markings. They are free of combustibles and flammable materials.

7.3.1.2. Designated area workers and supervisors will keep these areas clean and monitor the areas for any site condition changes that may occur.

7.3.2. Permit Required Area:

7.3.2.1. Permit required areas will be made safe by removing and protecting combustibles from ignition sources as required in this document and per SOC Fire Prevention Manual. See Appendix: Figure A. Hot Work Permit Decision Tree.

7.3.3. Hot Work Areas:

7.3.3.1. Are within a 35 foot radius of wall or floor openings and are exposed, including concealed spaces in walls or floors.

7.4. **Non Permissible Areas: Hot Work will not be permitted in the following areas:**

7.4.1. Areas not authorized by management.

7.4.2. Buildings where fire protection systems are impaired - ***unless SOC Fire Department requirements are met.***

7.4.3. In the presence of explosive atmospheres such as flammable gases, vapors, liquids or dust.

7.4.4. In the presence of unclean or improperly prepared equipment, drums, tanks or other containers that previously contained materials that could develop into explosive atmospheres.

7.4.5. **In areas where combustible materials:**

7.4.5.1. In building construction or contents are closer than 35 feet to the point of operation.

7.4.5.1.1. Are more than 35 feet away from the point of operation *but* are easily ignited by sparks.

7.4.5.1.2. Are adjacent to the opposite side of partitions, walls, doors, ceilings or roofs and are likely to be ignite.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
DZHC 508-e	Maintenance Control Center	Minimum of 1 year	Dispose/Trash

10. FORMS

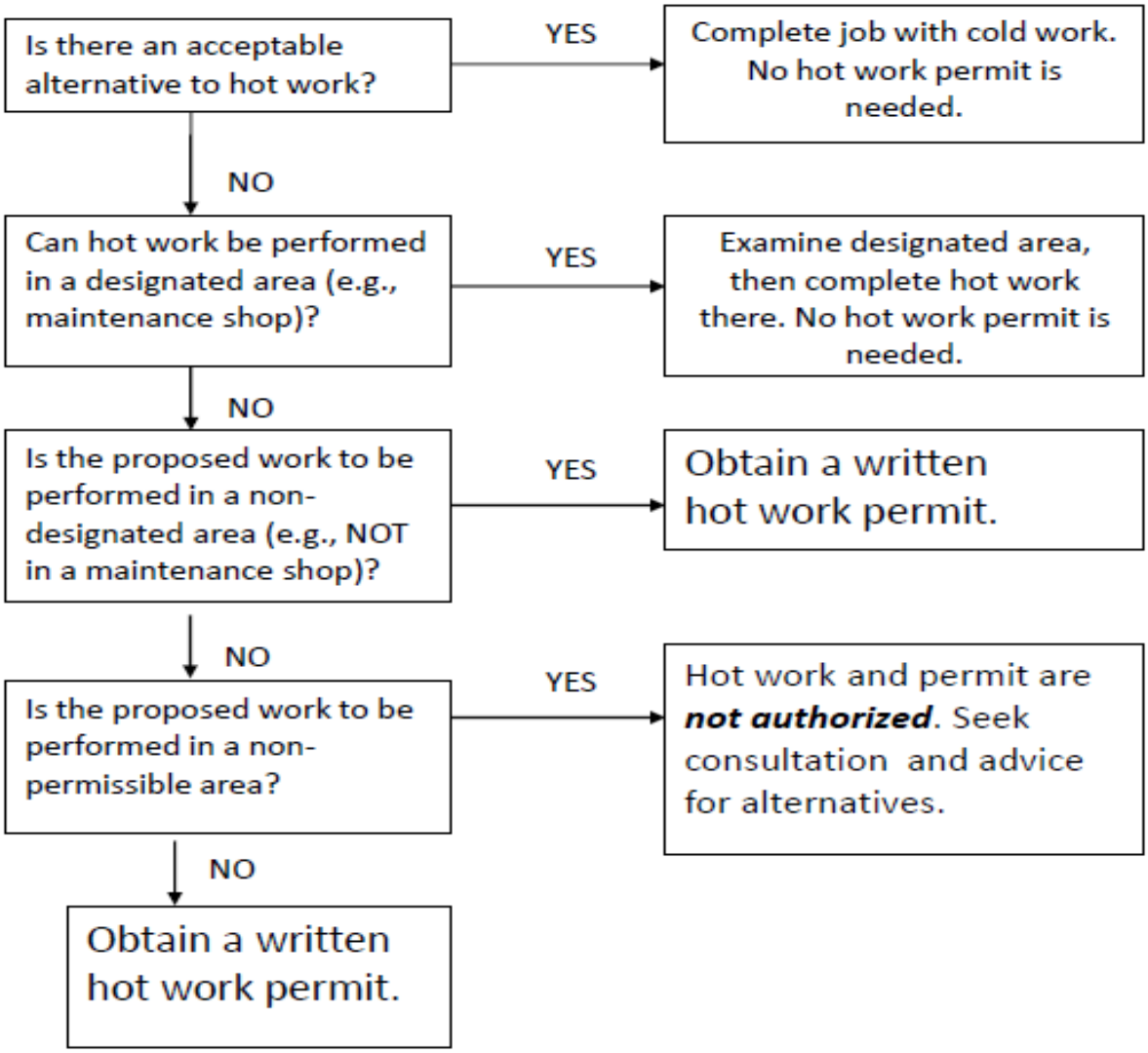
10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
DZHC 508-E	Hot Work Permit

11. Attachments

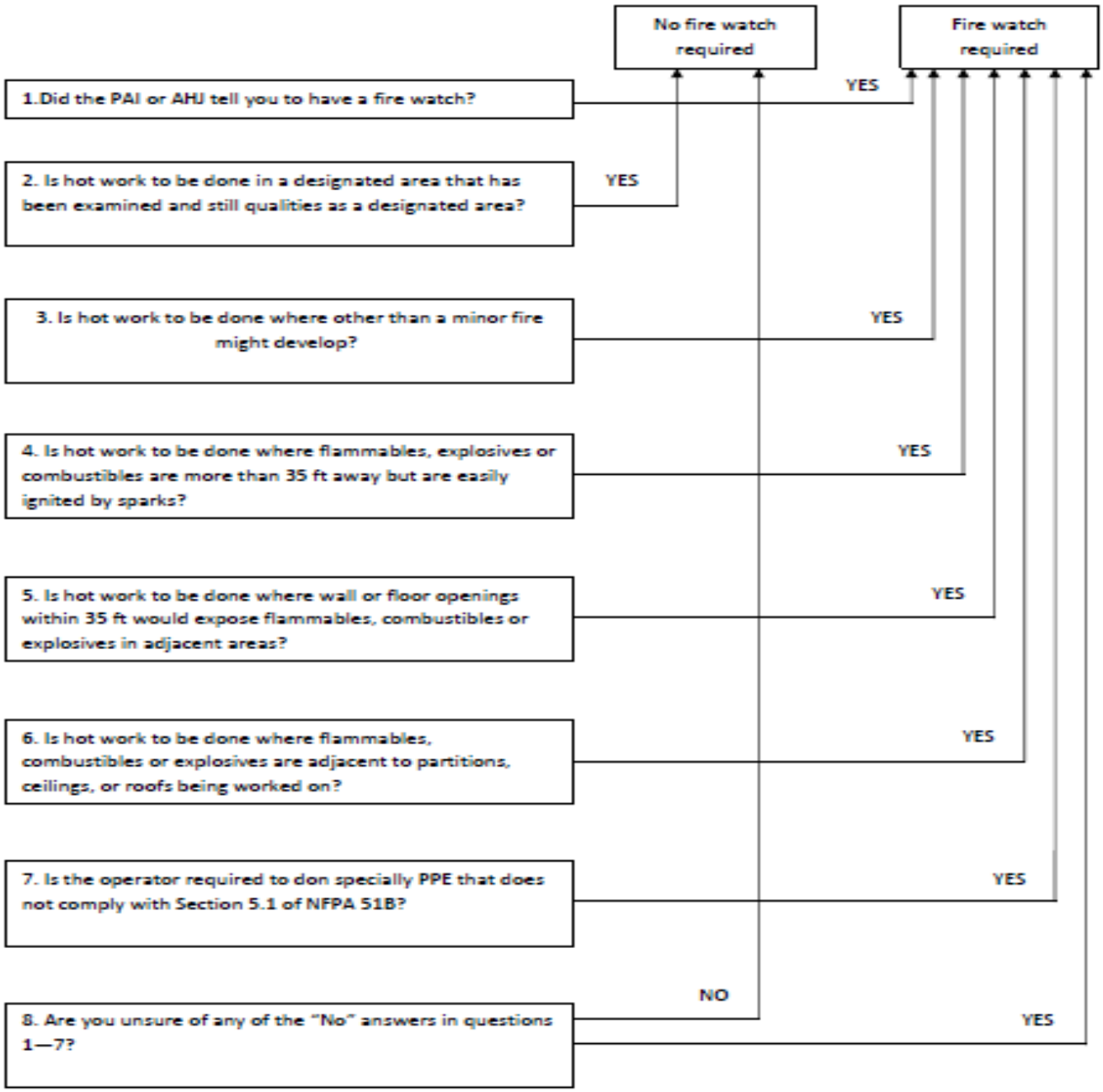
11.1. Hot Work Decision Tree

FIGURE A. Hot Work Permit Decision Tree



11.2. Fire Watch Decision Tree

FIGURE B. FIRE WATCH DECISION TREE



11.3. Hot Work Permit

Hot Work Permit

Date:	Permit Number:	☐ Copy of JSA for task submitted with this permit.

Instructions

Permit Information

Hot work done by:
- ☐ Employee
- ☐ Contractor

Location/ building and floor:	
Reason for job:	

PPE Required:
- ☐ Welder's hood with appropriate lenses
- ☐ Welder's gloves
- ☐ Leather jacket/clothing
- ☐ Head Protection
- ☐ Hearing Protection
- ☐ Respirator Type/cartridge:_____
- ☐ Other:_____

Hot Work Performer

Name:

Signature:

I verify the above information has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for this work.

Hot Work Supervisor Approval

Name:

Signature:

Date:

Permit Dates

Permit Activated	Date:	Time:
Permit Expires	Date:	Time:
Date and time work completed	Date:	Time:
Final Fire Watch Check-up	Date:	Time:

Fire Watch Signature (Only after 30 mins. After work completion)

Signature:

Required Precautions Checklist
- ☐ Sprinkler protection in service (if present) and hose and extinguishers available
- ☐ Hot work equipment is in good working order

Requirements within 35 ft. of hot work
- ☐ Flammable liquid, dust, lint and oily deposits removed and floor swept clean
- ☐ Explosive atmosphere in area eliminated (hot work is not to be conducted in a classified area unless made safe)
- ☐ Nearby activities evaluated for conditions that could be effected by hot work
- ☐ Path of likely sparks evaluated
- ☐ Combustible floors wet down, covered with damp sand or fire-resistive sheets
- ☐ Remove other combustible material where possible. Otherwise, protect with approved welding pads, blankets and curtains or metal shields
- ☐ All wall and floor openings covered
- ☐ Fire resistive covers and metal shields provided as needed
- ☐ Protect or shut down ducts and conveyors that might carry sparks to distant combustible material
- ☐ An appropriate fire extinguisher is located in the hot work area

Hot work on walls, ceilings or roofs
- ☐ Construction is noncombustible and without combustible covering or insulation
- ☐ Combustible material on other side of walls, ceilings or roofs is moved away

Hot work on enclosed equipment (i.e., welding on the outside of tanks)
- ☐ Enclosed equipment cleaned of all combustible material
- ☐ Containers purged of flammable liquid/vapor
- ☐ Pressurized vessels, piping and equipment removed from service, isolated and vented

Hot work inside of enclosed spaces (i.e., inside of tanks)
- ☐ Adequate ventilation provided
- ☐ Atmosphere checked with gas detector per confined space permit
- ☐ Area purged of any flammable or toxic vapors
- ☐ Other permits completed as required: Lock-out/tag-out, working at heights, live electrical work

Fire Watch/Hot work area monitoring
- ☐ Fire watch will be provided for a minimum of 30 minutes after work has ceased.
- ☐ Fire watch is provided with suitable extinguishers
- ☐ Fire watch trained in use of equipment and in sounding alarm

Other Precautions

Is air monitoring required for this task?	☐ YES	☐ NO
Does this task require any other permit?	☐ YES	☐ NO
Has Deluge been deactivated?	☐ YES	☐ NO

Permit Type: _____ Permit #: _____

Other Precautions/Special Instructions:

☐ _____

Required Approval:

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood.

Permit Prepared and Approved By: (Supervisor) _____

	(Printed Name)	(Signature)	(Date/Time)
CPC Worker:	_____	_____	_____
Fire Emergency Services:	_____	_____	_____
Safety:	_____	_____	_____

DZHC 508-E Rev. 1 02/2016

1. PURPOSE

1.1. This chapter informs employees of their obligation when handling explosive material. If there is any question regarding the safety of SOC personnel or equipment during material handling, this chapter in addition to Standard Operating Procedures should answer questions. If questions still exist the Safety Office should be consulted.

2. SCOPE

2.1. Standard Operating Procedure(s) shall be reviewed and signed by all personnel in the Munitions and Logistics Directorate who work in the Receiving, Storage, and Issue operations and in the Production Renovation and Demil operations. All explosive operations shall comply with their respective SOP's.

3. POLICY

3.1. This chapter applies to all employees that are required to handle or move explosive material. Safety is our most important value, and safety regulations shall not be neglected for speed and convenience.

4. DEFINITIONS AND ACRONYMS

4.1. **Material handling equipment -** Mechanical equipment used for the movement, storage, control and protection of materials, goods and products throughout the process of manufacturing, distribution, consumption and disposal.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **The Manager, Safety & Health:**

6.1.1. Assisting all SOC Managers and supervisors in determining requirements for equipment.

6.1.2. Ensuring established standards for equipment and its safe operation are met.

6.1.3. Approving the purchase or procurement of equipment.

6.1.4. Periodically surveying operations for compliance with SOP safety standards, or other approved procedures.

6.1.5. Inspecting employees at work sites to ensure that equipment is being properly used.

6.2. **Directors**:

6.2.1. Ensuring that the proper type of equipment for each operation, under their control, is available.

6.2.2. Ensuring sufficient quantities of equipment are available to handle all emergencies that could arise.

6.2.3. Processing Purchase Requests for equipment through Procurement (Building 9).

6. RESPONSIBILITIES (CONTINUED)

6.2.4. Ensuring that the equipment under their control is properly stored, adequately protected, and ready for immediate use.

6.3. **Supervisors**:

6.3.1. Ensuring that employees utilize the equipment prescribed in the SOP, IOP or other documents for a particular job. If a situation arises where an employee has to perform a non-routine task, the supervisor will re-evaluate the requirements and contact the Safety Office for assistance in recommending equipment.

6.3.2. Know the occupational hazards in operations under their control, through the Hazard Identification Risk Assessment process.

6.3.3. Ensure each affected employee has received and understands the required training for operating equipment and provides signed documentation for this training on DZHC 84-E.

6.3.4. Instructing each individual in the proper care and use of equipment.

6.3.5. Preventing the use of unapproved or unauthorized equipment.

6.4. **Employees:**

6.4.1. Having a thorough understanding of when equipment is necessary.

6.4.2. Knowing what equipment is necessary.

6.4.3. Knowing how to properly don, doff, adjust, and wear equipment.

6.4.4. Comprehending the limitations of equipment.

6.4.5. Having a thorough understanding of the proper care, maintenance, useful life, and disposal of equipment.

6.4.6. Reporting immediately any faulty or unserviceable equipment to their supervisor.

7. PROCEDURE

7.1. **Precautions**

7.1.1. Ammunition, explosive, and other hazardous materials shall be handled carefully to avoid shock or friction, which could cause fire, explosion, or damage to materials. Hazardous material shall not be thrown, dropped, dragged, tumbled, or otherwise subjected to shock. The handling of hazardous materials shall be held to a minimum to reduce chances of incidents and every effort shall be made to avoid contact with sand, earth, gravel, abrasive, or spark producing substances.

7.1.2. Any evidence indicating that loads of ammunition and explosives have been roughly or dangerously handled shall be reported promptly to the responsible supervisor, who will notify the Safety Office.

7.1.3. Smoking is prohibited in the Ordnance Area, except in designated areas approved by the Fire Chief. Smoking in vehicles passing through the Ordnance Area is also prohibited.

7. PROCEDURE (CONTINUED)

7.1.4. All rail cars must be posted with blue flags. See DA PAM 385-64 page 259, Section 20-12, paragraph L; Marking blue flags or signals. Blue flags or signals will be placed at both ends of a car or group of cars when personnel are working in, on or under the cars. Cars marked in this manner will not be coupled to or moved. The supervisor or foreman in charge of the personnel loading or unloading the cars will place and remove the blue flag or signal. The train crews will be informed of the use of blue flags or signals. (See Chapter 15).

7.1.5. In explosive loading or handling operations, no person shall be permitted to work alone.

7.2. **Moving Explosive Material**

7.2.1. When planning the movement of ammunition and explosives, the types and quantity of handling equipment that will be required to load/unload the conveyance must be considered. Selection of the correct capacity and type of equipment will enable the loading/unloading to proceed in a safe and efficient manner.

7.2.1.1. All personnel who are involved with handling ammunition and explosives must be properly and thoroughly trained IAW the SOC Master Training Plan.

7.2.1.2. When loading/unloading ammunition, a class 10-BC rated serviceable fire extinguisher or greater shall be on hand and ready for immediate use. Employees shall note the location of the nearest fire alarm in their work area. Fire extinguishers shall never be blocked by material or equipment.

7.2.1.3. Handling equipment such as trucks, conveyors, hoists, and slings shall be carefully checked prior to each use to determine if they are of proper strength for the work intended. All equipment shall be inspected daily by the supervisor or delegated representative, and all defective parts found shall be replaced or repaired. Lifting devices shall be tested and tagged IAW Chapter 6 of this manual and ASME B30 (References B30.1 through B30.25), NAVSEA OP 5, and NAVSEA OP 2173 and SOC checklists.

7.2.1.4. Industrial power truck operators shall look in the direction of, and keep a clear view of, the path of travel. Operators shall avoid making quick starts, stops, or turns, particularly when stacking materials. Operators shall stay on established paths or routes and not cut in or between objects.

7.2.1.5. Only one pallet or container of explosive material will be moved on the tines of a forklift at one time, unless the pallets or containers are strapped together vertically or have vertical interlocks, such as CBU's, 2,000LB Bombs, etc.

7.2.1.6. Special Instructions - When operating forklifts or clean-burners in the WADF compound, (117 group), use extreme caution. Any employees utilizing motor vehicles must always be on the lookout for forklifts, clean-burners, and skytraks.

7.2.1.6.1. Employees operating forklifts/clean-burners and moving ammunition on pallets or curbs on the interior roadways always have the 'Right of Way!'

7. PROCEDURE (CONTINUED)

7.2.1.6.2. The WADF driverless tractor roads will be utilized for forklift travel only. All other vehicles are to use designated roadways. Refer to Figure 1 on the last page of this chapter for detailed view of driverless tractor roads not accessible to vehicles other than forklifts.

7.2.1.7. When leaving a forklift unattended:

7.2.1.7.1. Controls shall be neutral position with parking brake set.

7.2.1.7.2. Power shut off and remove keys from ignition, if applicable.

7.2.1.7.3. Forks left in a down position, level with ground, with tips on the ground.

7.2.1.8. Forklifts equipped with a boom will be left in the full up position. Ensure key is in off position and the seat is in the up position.

7.2.1.9. When trucks, trailers, or railroad cars are being loaded or unloaded, the brakes of these vehicles must be set and the wheels chocked in a manner that will prevent movement. In addition, for trucks and trailers, the engine must be shut off, automatic transmission in park, or standard transmission in neutral if diesel engine, and low gear if gasoline engine.

7.2.1.10. Material and equipment loaded on a vehicle shall be properly secured with tie down chains or straps to prevent the load from sliding or falling from a truck. Side and end gates, when used, shall be in good condition, securely in place, and interlocked.

7.2.1.11. No person shall be allowed to ride in or on the body of motor vehicle transporting ammunition or explosives. When using a cargo vehicle for passengers, it must have fixed seats.

7.2.1.12. Transportation and/or moving of fuzed ammunition including bombs, directly or indirectly on the forks of forklift trucks without skids or pallets is prohibited unless the containers are designed to be safely carried in this manner. Loaded unfused bombs may be carried directly on the forks of the lift truck. Boxes of finished ammunition, when of sufficient length so as to be firmly supported on both forks, may be carried directly on the forks. Loads on forklifts must not extend more than one third of the height of the top tier of containers above the load backrest unless banded together. No attempt will be made to unload a cargo from a truck when there is a space between the truck and the dock, or the truck is lower than the dock. Unless a dock plate can safely be used, the truck will be unloaded by some other means.

7.2.1.12.1. When backing any vehicle, it is the operator's responsibility to assure that he or she has adequate clearance. Spotters should be used to assure proper clearance is maintained in congested areas.

7. PROCEDURE (CONTINUED)

7.3. **Equipment**

7.3.1. All equipment used around explosives shall meet safety requirements outlined in the SOP and other documents. The following is a brief list of some of the equipment that is authorized for use:

7.3.1.1. Only Bureau of Mines and NIOSH approved intrinsically safe flashlights may be used in the ammunition storage area.

7.3.1.2. Only authorized tools and equipment as listed in the appropriate SOP shall be used when working with ammunition or explosives.

7.3.1.3. Safety shoes, which meet the ANSI standard for protective footwear, shall be worn by all material-handling operators while on the job.

7.3.1.4. Safety glasses with side shields, face shield, and cut protective gloves such as kevlar gloves, and kevlar sleeves must be worn when cutting steel strapping, performing banding operations, handling banding steel, or working in the immediate vicinity of such operations.

7.3.1.5. Portable and powered bridge plates shall be strong enough to support the load imposed on them and inspected for cracks and serviceability prior to use. The plates shall be secured in position, either by being anchored or equipped with devices which will prevent their slipping.

7.3.2. Lightning: Ammunition handling operations shall be secured in the event of an electrical storm over the Depot. Please review the Standard Operating Procedure (SOP) for your work area or HW-0000-A-001 General Safety Requirements (GSR).

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

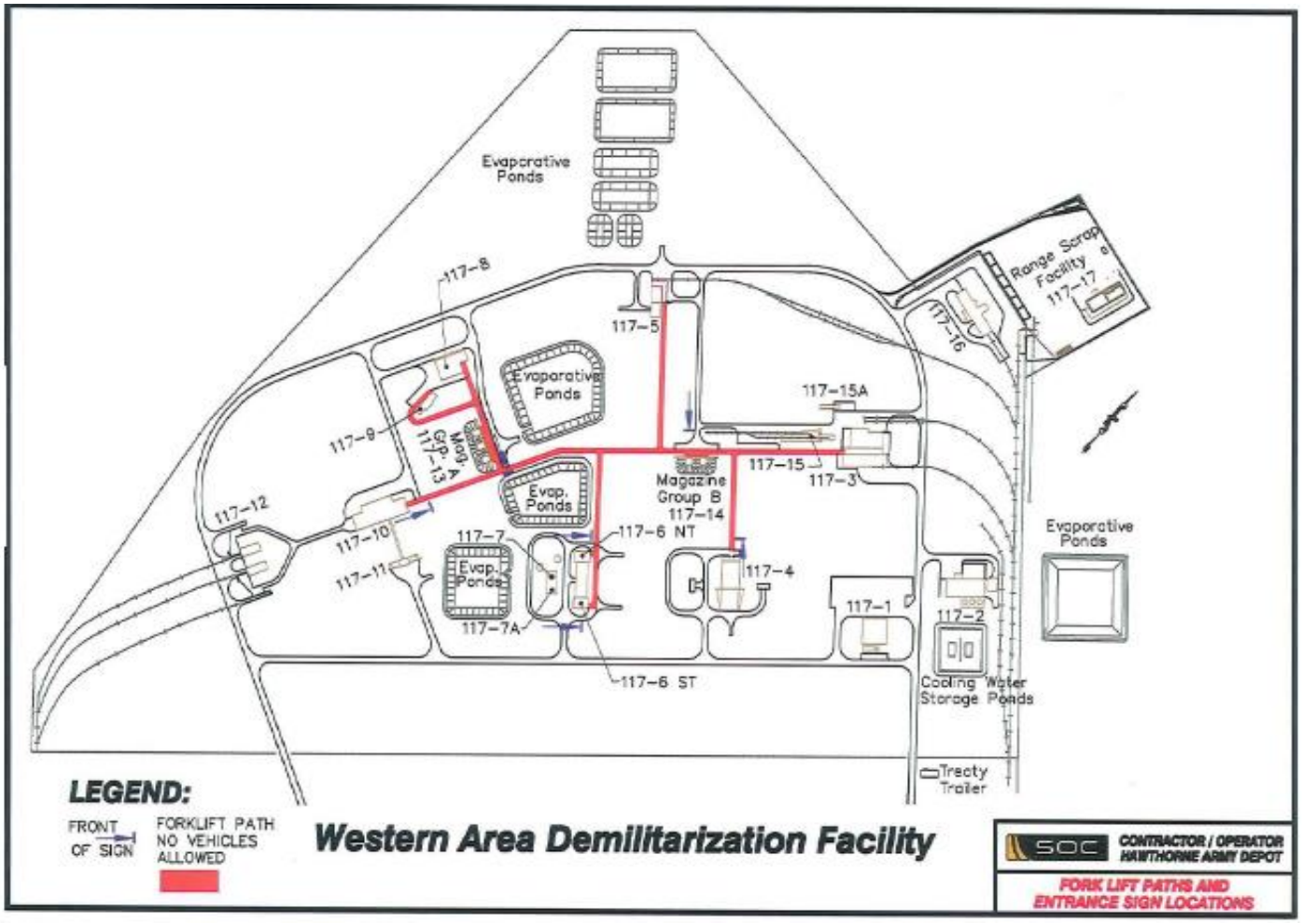
10. FORMS

10.1. The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
DZHC 84-E	Training Report

11. ATTACHMENTS

11.1. Western Area Demil Facility Map:



1. PURPOSE

1.1. This chapter informs employees of their obligation when handling explosive material. If there is any question regarding the safety of SOC personnel or equipment during material handling, this chapter in addition to Standard Operating Procedures should answer questions. If questions still exist the Safety Office should be consulted.

2. SCOPE

2.1. Compressed gas cylinders can present a variety of hazards due to their pressure and/or contents. This program covers requirements which must be followed for the use of all compressed gases. In addition, this program covers steps to take for hazardous compressed gases including controls, work practices, leak testing and the use of personal protective equipment. The SOC Nevada Compressed Gas Safety Program outlines acceptable storage, use and handling of gases in pressurized portable containers.

3. POLICY

3.1. It is the policy of SOC Nevada to take precautions to eliminate potential hazards in the workplace. The purpose of this Compressed Gas Safety Program is to provide the hazards associated with compressed gases and outline the steps to take to ensure employees who work with, or around compressed gases are not exposed to hazards; and to provide procedures for common compressed gas work duties to minimize exposure in accordance with the OSHA Hazardous Materials, Compressed Gas standards (29 CFR 1910.101); Department of Transportation Hazardous Materials Regulations; and Compressed Gas Association (CGA) guidelines.

4. DEFINITIONS AND ACRONYMS

4.1. **Authorized person -** An employee who has received proper training and PPE to safely work with compressed gases.

4.2. **Compressed Gas -** Any gas or mixture of gases in a container having a pressure exceeding 40 psi at 700F; or regardless of the pressure at 700F, having a pressure exceeding 104 psi at 1300F; or any liquid having an absolute vapor pressure exceeding 40 psi at 1000F. Compressed gases can be toxic, flammable, oxidizing, corrosive or inert. In the event of a leak, inert gases can quickly displace air in a large area creating an oxygen-deficient atmosphere, toxic gases can create poison atmospheres and flammable or reactive gases can result in fire and exploding cylinders.

4.3. **Cylinder -** Generally, a compressed gas container having a maximum water capacity of 1,000 pounds or approximately equivalent to 120 gallons.

4.4. **Flammable Limits -** The concentration of flammable vapor in air, oxygen, or other oxidants that will propagate flame upon contact with an ignition source. The lower explosive limit (LEL) is the concentration below which a flame will not propagate; the upper explosive limit (UEL) is the concentration above which a flame will not propagate.

4.5. **Ignition source -** Anything that provides heat, sparks, or flame sufficient to cause combustion or explosion.

4.6. **Inert gas -** Gases that do not readily react with other chemicals.

4. DEFINITIONS AND ACRONYMS (CONTNIUED)

4.7. **Pressure Regulator -** A device used to prevent the pressure from rising above a predetermined maximum, thereby, preventing rupture of a normally charged cylinder when subjected to a standard fire test.

4.8. **Restrictive Flow Orifice -** A safety device placed in the outlet of a cylinder valve that is intended to limit the release rate of a hazardous gas in the event of unplanned opening of the valve, or failure of the system.

4.9. **Valve Protection Cap -** A rigid removable cover provided for container valve protection during handling, transportation and storage.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **The Manager, Safety & Health:**

6.1.1. Provides program oversight and consultation to SOC Nevada work groups regarding potential risks, exposure prevention and training relating to compressed gas exposures.

6.1.2. Provide training and recommendations for departments utilizing compressed gases.

6.2. **Directors:**

6.2.1. Responsible for providing a safe workplace for SOC employees and visitors by supporting the safe storage and use of compressed gas cylinders.

6.3. **Supervisors:**

6.3.1. SOC Nevada employees who supervise personnel with responsibilities to work in areas where there is a risk of exposure to compressed gases, must ensure employees are properly trained on the applicable contents of the Compressed Gas Safety Program and are provided appropriate personal protective equipment (PPE) when conducting such work.

6.4. **All employees are responsible for the following prior to using equipment:**

6.4.1. Each department with responsibilities for purchasing and/or using compressed gases should:

6.4.1.1. Ensure the applicable components of the Compressed Gas Safety Program are available to all affected employees.

6.4.1.2. Provide applicable training to employees expected to work in, or with, building materials where there is a potential risk for compressed gas exposure.

6.5. **Authorized Person**

6.5.1. Employees working in areas where there is an identified risk of compressed gas must be properly trained on all applicable elements of the SOC Nevada Compressed Gas Safety Program; and be provided and utilize the appropriate PPE for the task being performed.

7. PROCEDURE

7.1. Personal Protective Equipment

7.1.1. The general requirements for the use of personal protective equipment (PPE) while handling or using compressed gases include, but are not limited to the following.

7.1.1.1. Eye protection – required any time compressed gases are handled or used.

7.1.1.2. Foot protection – required when moving or handling compressed gas cylinders.

7.1.1.3. Hand and body protection – to protect against cold exposure, corrosives and pinch points.

7.1.1.4. Respiratory protection – may be required depending on the type of gas being used and the procedures being used with the gas.

7.2. Inspection Procedures

7.2.1. Compressed gas cylinders should be inspected as necessary to ensure they are fit for use. Compressed gas cylinders should be visually inspected at the time of delivery and as necessary thereafter, depending on the manufacturer's recommendations.

7.2.2. Inspections of cylinders should be conducted in accordance with the following applicable standards:

7.2.2.1. 49 CFR 171-179 – Department of Transportation Hazardous Materials Regulations

7.2.2.2. Compressed Gas Association (CGA) Pamphlet C-6-1968 – Standards for Visual Inspection of Steel Compressed Gas Cylinders).

7.2.3. If a cylinder is found to be unfit for use, it must be taken out of service and returned to the manufacturer for repair or disposal.

7.3. Handling Procedures

7.3.1. Compressed gas cylinders are considered to be handled when an OSU staff/faculty member performs tasks including filling, changing gas service, maintaining and moving cylinders, connecting cylinders.

7.3.2. Compressed gas cylinders should be handled only by employees familiar with the hazards and who can demonstrate safety precautions working with cylinders. Compressed gas cylinders are heavy and awkward to move. Improper handling can result in injuries. Other hazards such as fire, explosion, chemical burns, poison and cold burns can occur due to mishandling.

7.3.3. The following precautions must be taken when handling compressed gas cylinders.

7.3.3.1. Wear the appropriate PPE as mentioned in section 4.0 of this program.

7.3.3.2. Cylinders must always be transported on wheeled cylinder carts with retaining straps or chains.

7.3.3.3. Do not drag a cylinder over a few feet necessary to position the cylinder. Rolling short distances is permitted only along the bottom rim.

7. PROCEDURE (CONTINUED)

7.3.3.4. Compressed gas cylinders must be transported with protective caps in place. Do not lift the cylinder by the protective cap.

7.3.3.5. Avoid dropping the cylinder; do not tamper with pressure-relief devices or remove any labeling or shipping hazard labels.

7.3.3.6. Do not allow grease or oil to come in contact with oxygen cylinder valves, regulator, gauges or fittings. Oxygen cylinders and apparatus must be handled with clean hands and tools.

7.3.3.7. Open cylinder valves slowly, directed away from your face.

7.3.3.8. Do not attempt to refill compressed gas cylinders unless fully trained to do so.

7.4. **Storage Procedures**

7.4.1. Compressed gas cylinders must be properly stored to prevent injury in the case of a container breech.

7.4.2. The following precautions must be taken during the storage of compressed gas cylinders.

7.4.2.1. Signage is required at compressed gas cylinder storage location including:

7.4.2.2. Cylinders must be stored in a cool, dry, well ventilated area.

7.4.2.3. Cylinders must be stored upright, with caps in place, and secured by chains, straps or in racks to prevent falling/tipping.

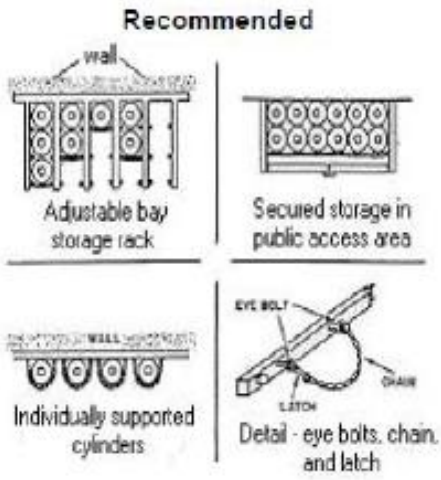
7.4.2.3.1. Cylinders must be secured in one or more of the following methods.

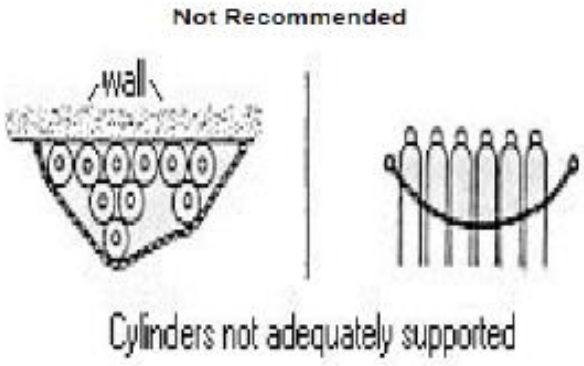
7.4.2.3.1.1. By a noncombustible, two-point restraint system (chain) that secures the cylinder. Nesting of cylinders is not an approved method that can be used to secure cylinders. Individual cylinders can use a bracket or saddle for support means.

7.4.2.3.1.2. By a noncombustible rack, framework, cabinet, approved strapping device, security to a cylinder cart or other substantial means that prevents the cylinder from falling.

7. PROCEDURE (CONTINUED)

7.4.2.3.1.3. Straps must surround the cylinder approximately ½ to 1/3 of the height of the cylinder measured from the floor.





7.4.2.4. Segregate cylinders in storage by contents. For example, flammable gases must be stored separately from oxidizing gases by a distance of 20 feet or a 5 foot high, one-hour fire rated wall.

7.4.2.5. Do not expose cylinders to corrosive materials such as corrosive gas or other combustible materials.

7.4.2.6. Segregate full and empty cylinders; use the first in first out inventory control method.

7.4.2.7. Store cylinders away from heavily trafficked areas and emergency exits.

7.4.2.8. Visually inspected stored cylinders on a routine basis to identify problems before an emergency occurs.

7.4.2.9. All cylinder storage areas, outside or inside, must be protected from extreme heat and cold and from access by unauthorized personnel. Prevent indoor or outdoor temperatures from exceeding 1250F.

7.4.2.10. Cylinders should be labeled full or empty when in storage.

7.5. **Usage Procedures**

7.5.1. The following precautions must be used to prevent injuries caused by the improper use of compressed gases and cylinders.

7. PROCEDURE (CONTINUED)

7.5.1.1. Know and understand the hazards associated with the gases and equipment being used.

7.5.1.2. Use only regulators approved for the gases and cylinders in use.

7.5.1.3. Never mix gases in a cylinder.

7.5.1.4. Do not allow cylinders to become part of an electrical circuit.

7.5.1.5. Use non-sparking tools (brass) when working with flammable/explosive materials.

7.5.1.6. Prevent sparks and flames from contacting cylinders.

7.5.1.7. Do not discharge the contents from any gas cylinder directly towards people.

7.5.1.8. Open cylinder valves slowly and carefully after the cylinder has been connected.

7.5.1.9. Never use compressed gases in a confined space.

7.5.1.10. Never work alone when using a compressed gas.

7.5.1.11. Never use compressed gas to dust off equipment or clothing.

7.6. **Tubing and Piping Connections**

7.6.1. Hazardous gases must be dispensed using systems that are properly designed and compatible with the gas in use. Tubing and piping must be burst resistant with a burst pressure twice the maximum pressure on the second stage regulator.

7.6.2. The following should be followed in regards to tubing and piping for compressed gas use.

7.6.2.1. Hard piping is the preferred method of piping for compressed gas use. Piping should be copper or stainless steel. Cast iron is not acceptable for use with compressed gases. Flexible tubing can be used in approved applications.

7.6.2.1.1. When flexible tubing must be used, select tubing compatible with the gas in use. Flexible tubing is not for use with highly toxic gases. Flexible tubing can only be used within “line of sight”. Do not run flexible tubing through walls, ceiling spaces, doorways or other non-visible pathways.

7.6.2.1.2. Always clamp flexible tubing connections. Use a clamp approved for the maximum allowable pressure that the connection is subject to. Never use wire, which may cut the tubing.

7.6.2.1.3. Flexible tubing deteriorates with age or exposure to chemicals or UV light. Inspect tubing regularly and replace when wearing is noticed.

7.6.2.2. Do not use Teflon tape on pipe threads where the seal is made at the threads. Compressed gas connections have metal to metal seals or gasket seals.

7.6.2.3. Leak-check tubing or piping connections when using hazardous gas.

7.6.2.4. Secure and support tubing or piping to keep it in place and to prevent injuries from whipping if the connection fails under pressure.

7. PROCEDURE (CONTINUED)

7.7. Regulators and Valves

7.7.1. Regulators reduce high pressure gas on a cylinder to a lower usable level. Regulators provide additional safety measures by preventing fire/explosions and exposure to chemicals or cold burns.

7.7.1.1. Ensure the appropriate regulator is selected for the compressed gas in use. It must be compatible and operate at the appropriate pressures.

7.7.2. Most compressed gas cylinders will be equipped with a valve to release gas from the cylinder. The cylinder valve is the most vulnerable part of the compressed gas cylinder. Leaks can also occur at the valve, cylinder stem and the hose connection.

7.7.2.1. Check valves are mechanical valves that permit gases and liquids to flow in only one direction, preventing reverse flow. Common types of valves include check, ball, disk, butterfly, gas, diaphragm, needle and solenoid and can be constructed of plastic, stainless steel, or other material. Ensure the proper check valve is selected for the compressed gas in use and the operations taking place.

7.7.2.1.1. If a valve becomes noisy or hard to turn, the cylinder should be taken out of service, capped and repaired before put back into use.

7.7.2.2. A flash arrestor prevents ignition sources from reaching regulator and cylinder for flammables.

7.7.2.3. Excess flow valves restrict flow in the event of a gas line break.

7.8. Other Considerations for Compressed Gas Cylinders

7.8.1. Restrictive Flow Orifices (RFOs): Used in conjunction with high purity, highly hazardous or pyrophoric compressed gas applications to limit the potential danger of an uncontrolled flow from a compressed gas cylinder. An RFO can cut the flow rate by a factor of 100 to add an extra level of safety in the event of an uncontrolled release.

7.8.2. Rupture Disc: A non-reclosing pressure relief device that protects a pressure vessel, such as a compressed gas cylinder from over pressurization or potentially damaging vacuum conditions. A rupture disc is designed to provide a leak-tight seal within a pipe or vessel, until the internal pressure rises to a predetermined level. At that point the rupture disc bursts preventing damage to the equipment from overpressure.

7.8.3. Compressed gas users must be informed and knowledgeable of the types of gases being used, the hazards associated with those gases, and the necessary safety components required for their use at all times.

7.9. Compressed Gas Types

7.9.1. Inert:

7.9.1.1. Inert gases such as Nitrogen is a gas that makes up 78% of the atmosphere, is a dry, colorless and odorless gas; it is nonflammable and noncorrosive. Inert gases can displace oxygen in an enclosed space.

7. PROCEDURE (CONTINUED)

7.9.1.2. Inert gases can be vented in occupied spaces if adequate ventilation is supplied to the area. This includes hallways and loading docks.

7.9.2. Oxidizers:

7.9.2.1. Oxidizing gases such as compressed oxygen or nitrous oxide, while not combustible, will cause many materials to burn violently.

7.9.2.2. Never use grease, solvents, or other flammable material on an oxygen valve, regulator or piping.

7.9.3. Flammables:

7.9.3.1. Flammable gases such as propane, hydrogen, and acetylene always have a red Flammable Gas label. Do not use the color of the cylinder as an indicator of hazard type.

7.9.3.2. Users should be knowledgeable of the flammable range of flammable gases. For example, Hydrogen Lower Flammable Limit (LFL) = 4%; Upper Flammable Limit (UFL) = 75%.

7.9.3.3. Users must know the auto-ignition temperature for flammable gases in use and ensure temperatures do not reach this point.

7.9.3.4. Flammable gases must be segregated from oxidizing gases.

7.9.4. Pyrophoric gases:

7.9.4.1. Pyrophoric gases, such as arsine, silane, phosgene, etc. must be stored in a suitable exhausted location or ventilated cylinder storage cabinet.

7.9.4.2. If a pyrophoric cylinder is found leaking, the area must be evacuated and emergency services utilized.

7.9.5. Toxic gases:

7.9.5.1. Toxic gas use should be done in conjunction with area air monitoring to ensure detection of leaks/releases of toxic gases.

7.9.5.2. Toxic gas use is approved only in well ventilated applications.

7.9.5.3. Respirator use may be necessary when toxic gases are used in a process. Contact SOC Nevada Health and Safety for a hazard assessment of toxic gas use.

7.10. **Emergency Procedures**

7.10.1. Emergencies involving compressed gas cylinders may arise due to fire threatening the cylinder; toxic gas leaks; inert gas leaks resulting in low oxygen within a room; or unplanned chemical or other reaction.

7.10.1.1. Most leaks occur at the valve and valve stem fittings, typically due to dirt/debris in the fitting. For small leaks, tighten fittings to attempt to rectify the problem. If leaks do not stop, remove the cylinder from service and properly repair.

7. PROCEDURE (CONTINUED)

7.10.2. If a cylinder is involved in an emergency, such as a fire, evacuate the area; do not attempt to move cylinders during an emergency; and notify emergency responders of cylinder location and contents.

7.11. **Training**

7.11.1. All employees who handle compressed gas cylinders should receive Compressed Gas Cylinder safety training initially and any time there are changes to the program.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. There are no attachments associated with this chapter.

1. PURPOSE

1.1. The purpose of this program is to establish the requirements the safety protection of employee's, visitors, depot property, and the surrounding environment. It is SOC Nevada LLC's goal as the operating contractor of the Hawthorne Army Depot, to protect the shipping and handling of employee's, visitors, depot property, and the surrounding environment.

2. SCOPE

2.1. The following safety requirements and precautions apply to all SOC employees and contractor personnel working on the base during severe weather conditions. While every effort is made to address and anticipate severe weather conditions, this document is not exhaustive and reasonable judgment needs to be exercised by all depot employees' et al.

3. POLICY

3.1. It is SOC policy that all employees and contractors working on the base will comply with this document and take appropriate precautions to protect life and property during severe weather events.

4. DEFINITIONS AND ACRONYMS

4.1. **Long Term Weather -** Any weather event that lasts more than 24 hours and may last up to days, event weeks or months.

4.2. **Short Term Weather -** Any weather event which lasts in-between one minute up to 24 hours.

4.3. **Severe Weather -** Any dangerous meteorological phenomena with the potential to cause damage, serious social disruption, or loss of human life. Types of severe weather phenomena vary, depending on the latitude, altitude, topography, and atmospheric conditions. High winds, hail, excessive precipitation, and wildfires are forms and effects of severe weather, as are thunderstorms, downbursts, lightning, tornadoes, waterspouts, tropical cyclones, and extra tropical cyclones. Regional and seasonal severe weather phenomena include blizzards, snowstorms, ice storms, and dust storms.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. SOC Nevada LLC establishes policies, procedures, requirements, responsibilities, and guidance pertaining to Contract W52P1J-11-D-0002 and all references within the contract related to State, Federal and Government regulations including the DoD Contractors Safety Manual and Occupational Safety & Health Administration (OSHA) regulations.

6.2. Each employee is responsible for his/her own safety and as such should have a good understanding of all components related to their job and any assigned tasks.

6.3. Failure to *follow prescribed safety requirements or written procedures* while working at the Hawthorne Army Depot or company supported work off station can result in disciplinary action by management.

6. RESPONSIBILITIES (CONTINUED)

6.4. Failure to comply with situational awareness rules and/or to willingly disregard company policies, written procedures, or any other type of written directives given by the GM, Director, Manager, Safety/QA, or Supervisor can result in disciplinary action possibly up to the immediate termination of the employee.

6.5. Any employee who knowingly endangers himself/herself or others by their actions and intentionally or unintentionally is in noncompliance with the written guidelines/policies/procedures issued by the company can be terminated as well as possibly be held liable for wrongful death or dismemberment to a fellow employee and have legal action brought upon them.

6.6. All employees have the right to stop any unsafe action.

7. PROCEDURE

7.1. **Hot to Extremely Hot Weather**

7.1.1. When the temperatures rise above 90° Fahrenheit, it is critical that all work areas are aware of the potential chance for accident/injury and take appropriate action to prevent heat stress and heat stroke. Standard Operating Procedures (SOP's), Letters of Instruction (LOI's), Internal Operating Procedures (IOP's), and items such as pamphlets and handouts are available to all employees' to provide information and instruction on how to protect themselves.

7.1.2. Proper clothing, hydration, rest breaks, and an understanding of the relevance of what to do as well as signs and symptoms needed for employee's to stay healthy when working in extreme temperatures and hot weather. (See Attachments 11.1., 11.2., and 11.3.)

7.2. **High Winds -** High winds can be sustained or gusts where the wind speed exceed the average or expected wind speed for a particular area and varies from geographical area to area.

7.2.1. Wind Warnings - The National Weather Service issues High Wind Warnings when sustained winds are expected to be over 40 miles per hour, or any time wind gusts are expected to exceed 58 miles per hour.

7.2.2. Wind Damage and Wind Injuries. Winds of less than 40 miles per hour or gust less than 58 miles per hour can and do cause property damage and injuries. Doors on vehicles can be blown shut on body parts causing injuries.

7.2.3. Suspend outdoor activities and stay indoors in a sheltered area or in a vehicle during high wind conditions. High winds can carry with it blowing debris, dust, dirt, snow, ice, or rain.

7.2.4. Stay away from roads and rail road tracks during high wind conditions. High winds or gusts can blow a person into oncoming traffic.

7.2.5. Use handrails where ever possible and stay away from elevated areas such as roofs.

7.3. **Dust Storms -** Are winds that pick up dust and sand into the air with the potential to cause property damage, white outs (limited or no visibility), and/or personal injury. Dust storms, similar to high winds should be treated similarly.

7. PROCEDURE (CONTINUED)

7.3.1. Stay Indoors or in a vehicle, if possible, and follow the guidelines below if you are caught outside or in the open:

7.3.1.1. Breathing Protection: Put a mask over your nose and mouth. If you have a respirator or dust mask designed to filter out small particulates, put it on immediately. If you don't have a mask, wrap a moist bandanna or another piece of cloth around your nose and mouth.

7.3.1.2. Eye Protection: Regular eye glasses and safety glasses provide minimal protection against dust. Safety glasses with foam rubber around the outside of the lenses are better. The best eye protection is air tight goggles.

7.3.2. Get to High Ground: The densest concentration of sand or dust bounces close to the ground, so the storm will be less forceful at the top of a hill. Seek high ground if you can find safe, solid, high point, but only if the storm is not accompanied by lightning and there is no danger of being struck by heavy flying debris.

7.3.3. Do not lie in a ditch, as flash flooding may occur even if no rain is falling.

7.3.4. If you are in or around sand dunes, do not seek shelter right on the leeward side of the dune. High winds can pick up huge amounts of sand and you can find yourself buried.

7.4. **Snow Storms -** An event in which the main types of precipitation are snow, sleet, or freezing rain.

7.4.1. Dressing for cold weather is both your first line and your last line of defense against frigid weather. Just because you go from your heated home or your heated car to your heated office, does not mean that there will always be heat where you are. Car and truck batteries tend to die quicker in frigid weather. Heating systems break down and power goes off.

7.4.2. Dress Warm: Wear layers of clothing with a water resistant outer layer to prevent cloths from becoming wet, increasing the potential for hypothermia.

7.4.3. Walking: Be aware of ice on sidewalks, steps, and stairs. Use handrails whenever possible. Stretch before shoveling snow to avoid overexertion. Wear reflective clothing and carry a flash light.

7.4.4. Driving: Keep your gas tank half full. Keep extra clothing or blankets along with food and water in your vehicle.

7.5. **Ice Storms -** Type of a winter storm characterized by freezing rain.

7. 5.1. The same precautions used for snow storms should be used however, road and sidewalks may be much more slippery than in a snow storm.

7. 5.2. Black ice is a deadly driving hazard defined as patchy ice on roadways or other transportation surfaces that cannot easily be seen. It is often clear with the black or concrete surface visible underneath.

7. 5.3. Use extra precaution with driving or walking in an ice storm.

7. 5.4. Hail Storms: Stay indoors or in your vehicle if possible.

7. PROCEDURE (CONTINUED)

7. 5.5. Hail storms can occur at any time of the year and can be extremely violent and destructive.

7. 5.6. Hail storms are often accompanied by lightning and thunder, high winds, and flash flooding.

7. 5.7. If you are caught outside, find shelter. If you can't find shelter but you are in a vehicle, stay in your vehicle. If you are not near a vehicle or structure, find something to protect your head such as a hard hat, book, clipboard, etc.

7. 5.8. Don't stand under a tree because you can be hit by lightning.

7.6. **Dense Fog -** The biggest problem with dense fog is in driving because visibility can be limited to a few feet.

7.6.1. If you are driving in dense fog, reduce speed, use low beams and fog light if equipped, turn off radio, open windows and listen for potential road hazards (squealing breaks or crashing metal). If visibility becomes too poor, pull off the road where safe and get as far from the road way as possible. Stay in your vehicle and keep your seat belt on.

7.7. **Lightning Storms -** Generally thunder storms occur during the warm summer months but can occur at other times of the year as well. (See Attachment 11.4. - Lightning Protection Safety on Page 12)

7.7.1. If possible stay indoors. If you are in your vehicle, stay in your vehicle until the storm subsides.

7.7.2. If you are caught outdoors, seek shelter. If shelter is not available, take all metal objects off your person and lay down in a low dry area, away from water. This reduces your chances of getting hit by lightning. (See Attachment 11.6.)

7.7.3. If you are inside, turn off and unplug all electrical appliances including computers and stay off corded telephones.

7.7.4. Stay out of bath and showers and away from metal pipes, such as metal plumbing pipes.

7.7.5. Follow all electrical storm procedures.

7.8. **Tornados -** A narrow, violently rotating column of air that extends from the base of a thunderstorm to the ground. Typically occur during the warmer months of the year, but can occur at any time.

7.8.1. If indoors, stay indoors and seek refuge in the center part of the building and if possible get under a sturdy table or desk.

7.8.2. If you are caught in your vehicle or outdoors and no sturdy buildings are available, find an overpass or culvert to hide in until the storm has passed.

7.9. **Sub Zero Temperatures -** Freezing temperatures are common in Northern Nevada, subzero temperatures are unlikely.

7.9.1. If you are indoors, stay indoors, conserve heat by using just one room and dress in layers, even inside.

7. PROCEDURE (CONTINUED)

7.9.2. If you are outdoors, stay in your vehicle. Dress for warmth and in layers before going out into potentially subzero weather. Wear gloves, scarfs, thermal underwear, a skull cap, heavy pants, shirts, coats, and sweaters.

7.10. **Droughts -** A shortage of water over an extended period of time. Northern Nevada is a dry desert and is therefore in a perpetual state of drought.

7.10.1. Carry water, do not get overheated, use sun screen, and stay with your vehicle if you break down.

7.10.2. Dry conditions often lead to brush fires or wildfires. Follow all safety precautions.

7.11. **Flooding & Flash Flooding -** An overflowing of water onto land that is normally dry. Flooding in northern Nevada is rare. The Depot has had flash flooding, especially in canyon areas near the mountains.

7.11.1. Do not ignore evacuation orders.

7.11.2. If flooding occurs do not drive through flooded areas. Flooded roads are difficult to spot at night.

7.11.3. If caught in a flood, abandon your car and move to higher ground. Your vehicle can be quickly swept away.

7.11.4. Pay attention to weather reports and disaster warnings.

7.11.5. If flooding threatens your work area or home, get to higher ground.

7.11.6. Do not walk through or play in flood waters, swift currents can exist that may not be visible from the surface.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. There are no records associated with this chapter.

10. FORMS

10.1. There are no forms associated with this chapter.

11. ATTACHMENTS

11.1. **Heat Guidelines:**

HEAT GUIDELINES

Preparation

• Prepare for hot weather months ahead of time.

• Conduct maintenance on cooling equipment prior to heat season.

• Ensure appropriate and adequate supply of PPE designed to cool the body is ordered and on hand.

• Educate supervisors and employees on Heat Stress: Prevention and Signs & Symptoms.

During

• Schedule shifts during the cooler parts of day.

• Watch weather forecasts and check temperatures throughout the day.

• Provide water (on demand and at least every 30 min.) and Gatorade (2 per shift at least 4 hours apart).

• Provide shade and a cooler environment for rest times (ventilation/ air conditioning when possible).

• Provide PPE; i.e., cooling vests, neckerchiefs, caps, etc.

• Discourage or disallow caffeine products (energy drinks, sodas, tea, and coffee).

OSHA and Army Guidelines

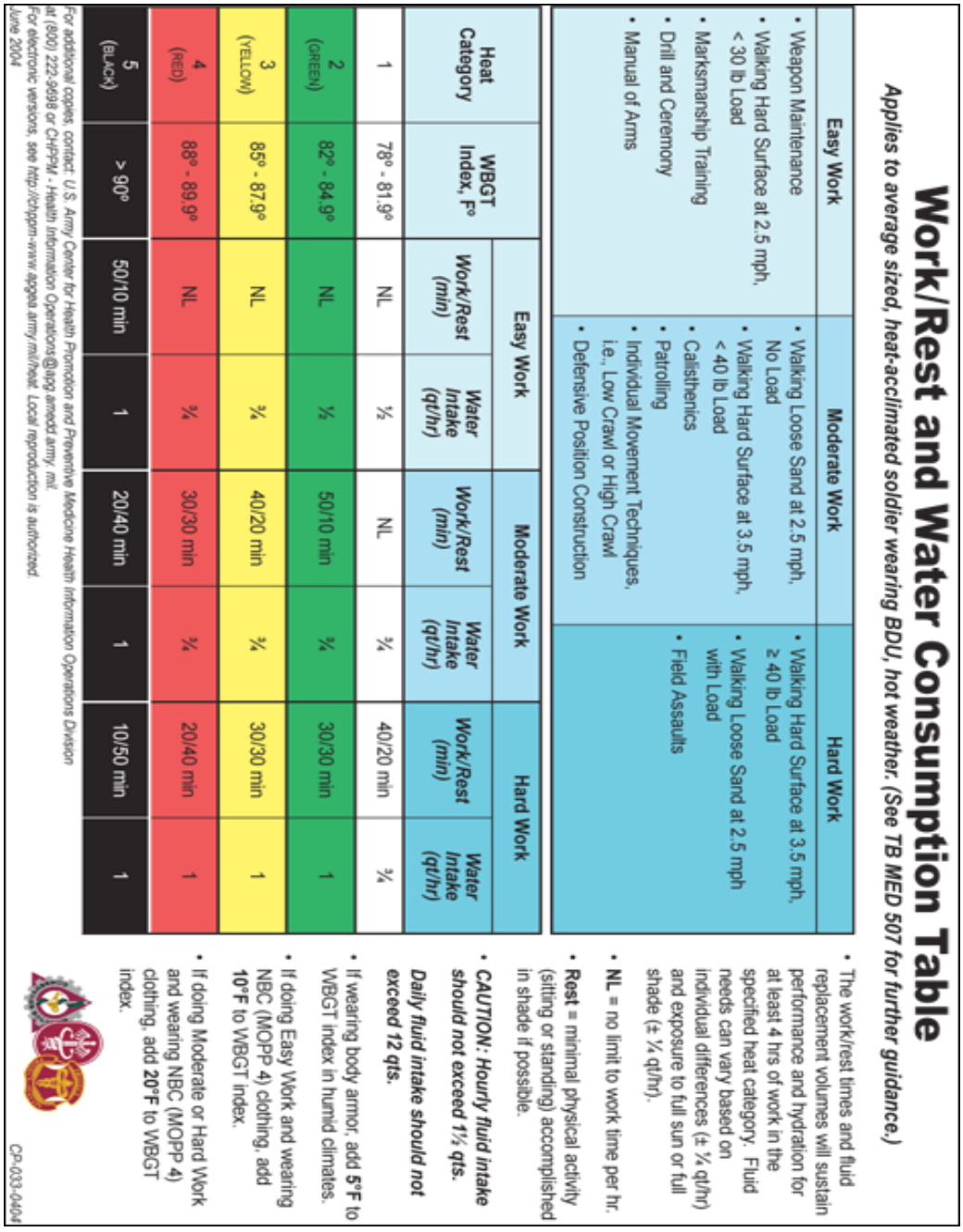
See tables on next page

- ✓ As heat increases, frequency and length of rest periods should increase.
- ✓ For moderate level work (Munitions Handlers) at temperatures 91 – 103 degrees, work 40 min and rest 20 minutes.
- ✓ 104 - 115 degrees continue to decrease work time and increase rest time.
    - ➢ 30 min work/ 30 min rest
    - ➢ 20 min work/ 40 min rest
    - ➢ min work/50 min rest

You can see that the tables on the next page are a “guideline.” The company will make a good faith effort to protect our employees during the heat season and also in hot work environments, regardless of the time of year. Supervisors ***shall*** make visual and verbal contact with each employee several times a day to assess their health and wellness.

SOC’s Safety Office can provide guidance, information and recommendations for the different types of work environments that may be encountered.

11.2. **Work / Rest and Water Consumption Table:**



Work/Rest and Water Consumption Table

Applies to average sized, heat-acclimated soldier wearing BDU, hot weather. (See TB MED 507 for further guidance.)

Easy Work	Moderate Work	Hard Work
• Weapon Maintenance • Walking Hard Surface at 2.5 mph, < 30 lb Load • Marksmanship Training • Drill and Ceremony • Manual of Arms	• Walking Loose Sand at 2.5 mph, No Load • Walking Hard Surface at 3.5 mph, < 40 lb Load • Calisthenics • Patrolling • Individual Movement Techniques, i.e., Low Crawl or High Crawl • Defensive Position Construction	• Walking Hard Surface at 3.5 mph, ≥ 40 lb Load • Walking Loose Sand at 2.5 mph with Load • Field Assaults

Heat Category	WBGT Index, F°	Easy Work		Moderate Work		Hard Work	
		Work/Rest (min)	*Water Intake (qt/hr)*	*Work/Rest (min)*	*Water Intake (qt/hr)*	*Work/Rest (min)*	*Water Intake (qt/hr)*
1	78° - 81.9°	NL	½	NL	¾	40/20 min	¾
2 (GREEN)	82° - 84.9°	NL	½	50/10 min	¾	30/30 min	1
3 (YELLOW)	85° - 87.9°	NL	¾	40/20 min	¾	30/30 min	1
4 (RED)	88° - 89.9°	NL	¾	30/30 min	¾	20/40 min	1
5 (BLACK)	> 90°	50/10 min	1	20/40 min	1	10/50 min	1

- The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hrs of work in the specified heat category. Fluid needs can vary based on individual differences (± ¼ qt/hr) and exposure to full sun or full shade (± ¼ qt/hr).
- **NL** = no limit to work time per hr.
- **Rest** = minimal physical activity (sitting or standing) accomplished in shade if possible.
- ***CAUTION: Hourly fluid intake should not exceed 1½ qts.***
  Daily fluid intake should not exceed 12 qts.
- If wearing body armor, add **5°F** to WBGT index in humid climates.
- If doing Easy Work and wearing NBC (MOPP 4) clothing, add **10°F** to WBGT index.
- If doing Moderate or Hard Work and wearing NBC (MOPP 4) clothing, add **20°F** to WBGT index.

For additional copies, contact: U.S. Army Center for Health Promotion and Preventive Medicine Health Information Operations Division at (800) 222-9698 or CHPPM - Health Information Operations@apg.amedd.army.mil. For electronic versions, see http://chppm-www.apgea.army.mil/heat. Local reproduction is authorized. June 2004

CP-033-0404

11.3. **Emergency Care for Treating Heat Stress:**

Emergency Care for Treating Heat Stress
Heat Fatigue- Take a break in a cool area and drink fluids.
Heat Rash – Usually no medical attention is required, but if not treated, it can become infected. Avoid heat rash by wearing cotton clothing, shower regularly, and fully dry skin before putting dry clothes on.
Heat Collapse – Move person to cool area to rest, give them fluids and look for signs of more serious heat disorders.
Heat Cramps – Relax in cool area. Apply pressure and massage cramping muscle.
Heat Exhaustion – Move person to cool area to lay down, elevate feet 8-12 inches, cool by loosening clothes, applying wet cloth, and fanning.
Heat Stroke – *Most serious*. Contact emergency medical services immediately **(x7911)**. Move person to cool area and quickly lower their body temperature by any means necessary. If vomiting, turn them on their side. **If not treated quickly death can occur.**

11.4. **Lightning Protection Safety:**

Lightning Safety for Ammunition and Explosive Operations

Department of the Army regulation DA PAM 385-64 states that “The lightning warning system shall allow ammunition and explosive operations to be terminated *before* the storm is 10 miles from the installation.” The Department of Defense (DOD) Manual 6055.09-M-V2 states the same.

SOC Nevada LLC Standard Operating Procedure (SOP): HW-0000-A-001 General Safety and Security Requirements has the following requirements;

The Procedure in the event of electrical storms: When an electrical storm approaches, all personnel shall evacuate locations where lightning could initiate explosions.

a. Such locations include:

(1.) Operating buildings or facilities containing explosives or explosives-loaded ammunition, not equipped with lightning protection systems, and locations within un barricaded interline distance of such facilities.

(2.) Buildings containing explosives dust or vapors, whether or not equipped with lightning protection systems, and locations within un barricaded interline distance of such buildings.

(3.) Magazines, open storage sites, or loading docks, not equipped with lightning protection systems.

b. When electrical storms cause evacuation of explosives buildings, operations requiring constant attention shall be manned by the minimum number of personnel consistent with safety requirements. Once the process has reached a condition that can be left safely, the building shall be completely evacuated. Explosives processes requiring constant attention **should not be started** when an electrical storm threatens.

c. The Division Manager will make the decision to evacuate. In the absence of the Division Manager, the Building Supervisor will make the decision to evacuate.

d. Secure the job, close any windows and doors.

e. Evacuate personnel IAW the Building Evacuation Plan.

The National Lightning Safety Institute (Institute, 2013) recommends that activity should be suspended immediately when lightning is 6-8 miles away. They suggest a three stage warning criteria: 30 miles yellow alert-threat is possible, 20 miles orange alert-threat is probable, 10 miles red alert- Danger! No one is allowed outside.

SOC Nevada LLC is instituting a four-stage warning criteria which is consistent with the recommendations contained in NFPA 780 and adds one more layer of warning for critical operations that have ***open explosive*** processes and outdoor ammunition present:

- 50 miles – Potential storm hazard observed, notification from Guard Operations Center (GOC) to melt out facilities (i.e. 117-5 and 117-6), open burn and open detonation (OB/OD) operations, MHQ programs and any military units on depot doing training exercises in outdoor environments. (Figure 1. Example of weather site being used)

- 30 miles Yellow Alert — Threat is possible.

- 20 miles Orange Alert — Threat is probable.

- 10 miles Red Alert — Danger! No one allowed outside.

The information/instructions contained in this chapter **shall** be trained and made available to all employees throughout the depot. Ammunition Production Operations Division (APOD) Supervisors of explosive processing buildings are warned of impending storms in the vicinity when they are at a distance of 50 miles from the installation. Supervisors should have sufficient time to start operations shut down, reduce explosive materials in system, clear explosive materials staged outside and evacuate the building before the storm is 10 miles from the installation.

It is recommended that Old Bomb, New Bomb, MHQ and military training evacuate when the storm is out 20 miles and seek safe shelter. Ammunition that is being transported across depot by Material Vehicle Operators (MVO's), train or commercial truck drivers should seek immediate safe haven that provides lightning protection and secure/evacuate conveyance and seek safe shelter.

11.6. Lightning Safety for Outdoor Workers

Lightning Safety for Outdoor Workers

Education and preparation are essential to achieving lightning safety. Remember this simple lightning safety message and teach it to others:

"If you can see it (Lightning), flee it; If you can hear it (Thunder), clear it."

SOC Nevada LLC's Lightning Safety Plan includes the following information for everyone's protection. This information shall be trained to depot employees who perform labor duties outside. At minimum, employees who work for Security, Golf Course, Grounds, Roads & Railroads:

1. When loud Thunder is heard the danger from Lightning is very near to you. Lightning's high temperature explodes the surrounding air. This always creates Thunder. BANG! BOOM! CRACK! (We hear Thunder).

2. Immediately tell others it is dangerous and all people should go to safe locations.

3. SAFE locations are:

   a. Fully enclosed metal vehicles with all windows and doors closed.
   b. Large permanent buildings.

4. **NO PLACE OUTSIDE IS SAFE.** **AVOID** being near any metal objects including fences, machinery and electrical equipment. **AVOID** solitary trees. **AVOID** water. **AVOID** open fields. **AVOID** small rain/sun shelters and gazebos. **AVOID** using the telephone or touching appliances. (Portable radios and cell phones are safe to use.)

5. When is it safe to go back outside? Wait a minimum of 20 minutes from the last observed Lightning or Thunder before resuming outdoor activities.

   a. If employees are unsure it is safe to resume work, they should contact their immediate supervisor or the next highest authority.

6. If you witness an employee being hit or in close contact to a lightning strike, call **7911**. People who have been struck by lightning do not carry an electrical charge and are safe to handle. Apply CPR immediately ***if you are qualified to do so***. Get emergency help promptly.

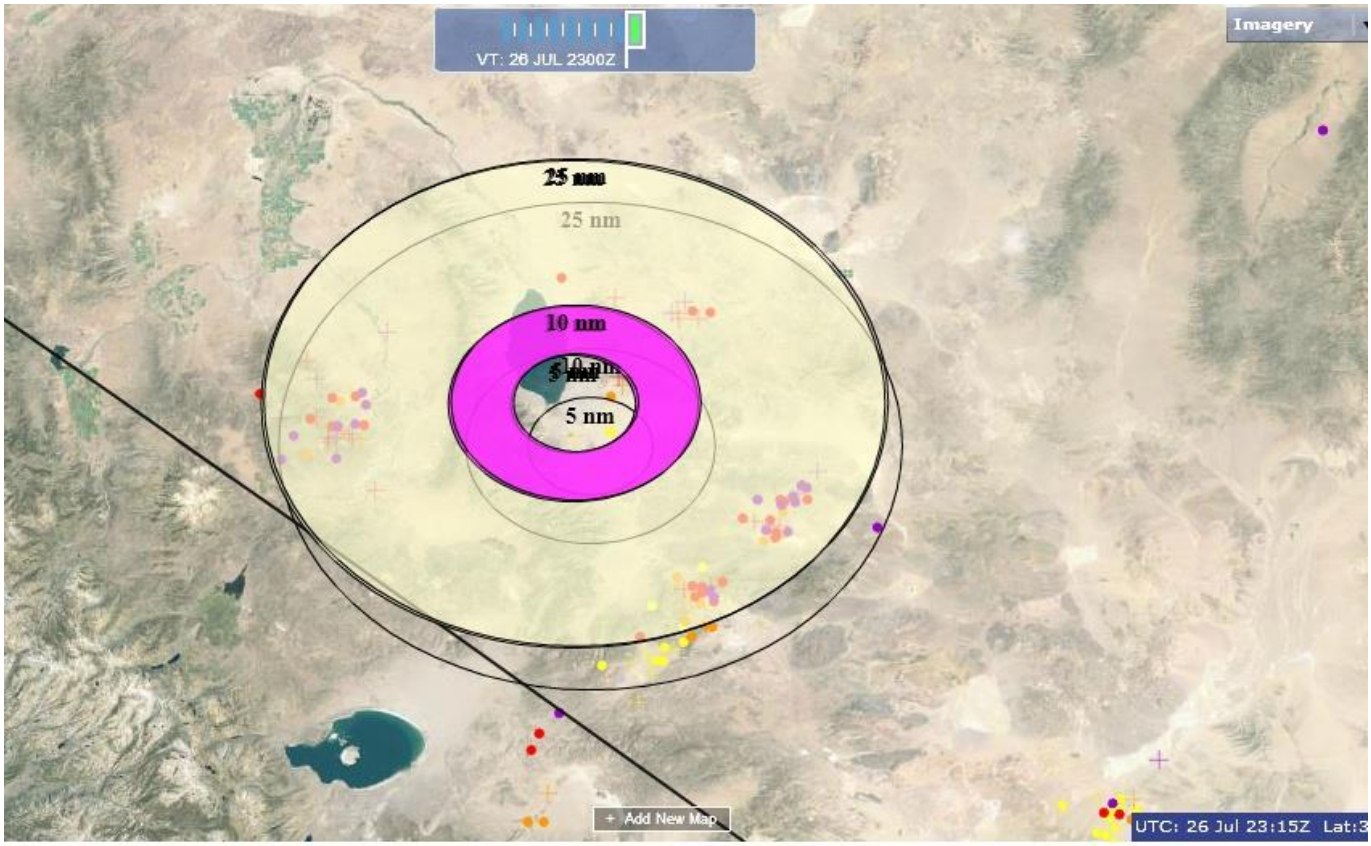


Figure1. Example of visual aid showing lightning strikes and notification rings.

1. PURPOSE

1.1. There are special safety precautions that should always be followed around railroads. All of SOC's railroad safety policies are outlined in this chapter. This chapter covers both the operations and maintenance aspects of railroad safety.

2. SCOPE

2.1. Covers all employees that are required to work on or around operations and maintenance of rolling stock.

3. POLICY

3.1. All employees that are required to work on or around operations and maintenance of rolling stock shall read this chapter and be aware of all safety requirements. It is SOC's policy that subcontractors shall adhere to all safety procedures outlined below.

3.2. SOC Nevada has adopted and all employees shall follow the General Code of Operating Rules (GCOR), Seventh edition.

4. DEFINITIONS AND ACRONYMS

4.1. There are no definitions and acronyms associated with this chapter.

5. FLOWCHART

5.1. There is no flow chart associated with this chapter.

6. RESPONSIBILITIES

6.1. **Both the conductor and the engineer are responsible for the safety of the train, the observance of the rules, and under conditions not provided by the rules they must take every precaution for protection.**

6.1.1. The conductor shall be held responsible for all damage to the equipment or personal injury resulting from the operation of equipment or personal injury resulting from the operation of locomotive and trains until it is established that the damage or injury was NOT due to his/ her negligence and/or misjudgment. (The conductor shall report immediately all incidents and injury to personnel to the dispatcher by radio or phone.) The supervisor in charge is responsible for the prompt submission or investigation report on DZHC 370-E.

6.1.2. At no time shall an engine be operated at a speed which will endanger material, equipment, or personnel. Reduced speeds shall be maintained when in or near filling plants, loading docks, roads crossings, magazines, or storehouses. The engineer is responsible to the conductor, and for operating at a safe speed, and shall not operate at any speeds in excess of the guidelines directed by the Army, which are as follows: "Maximum speeds for locomotives are 25 m.p.h. This speed allowance applies only to tangent tracks, not to through curves or switches. Normal yard speed maximum 10 M.P.H. applies to all switches and on sidings.

6. RESPONSIBILITIES (CONTINUED)

6.2. **Defects**

6.2.1. Conductors shall report all defects of tracks, switches, turnouts, or other track components to Railroad Track Inspector. When a defect of equipment or track constitutes a distinct danger, the engineer, conductor, or brakemen shall stop the train, and report such defects immediately to the Railroad Track Inspector.

6.3. **Operations, Hand Signals and Train Movement:**

6.3.1. The crew should know hand signals as to the proper operating signals to be used and shall ascertain that the signals plainly seen, clearly so they can be understood, and on the engineer's side of the track when practical.

6.3.2. Signals given improperly or any object waved violently by any person on or near the track shall be considered a "**STOP**" signal.

6.3.3. When the engine is in motion, the engineer will remain at the control station in the engine cab giving close attention to hand or lamp signals. The coupling/uncoupling of railcars will be conducted with extreme caution to avoid injury to persons or damage to property.

6.3.4. **Whistle Signals** - Unnecessary use of the whistle or bell is prohibited.

CROSSING	Two long, one short, one long	(--o-)
APPLY BRAKES (STOP)	One short	(o)
ANSWERING TO ANY SIGNAL	Two short	(oo)
BACK THE TRAIN	Three short	(ooo)
CALLS FOR SIGNAL	Four short	(oooo)
INSPECT TRAIN AIR LINE FOR LEAK OR BRAKES	One short, one long	(o-)
ALARM	Succession of shorts	(o o o o o)
TRAIN PARTING LEGEND	Three long	(---)

6.3.5. **Bell Signals**

6.3.5.1. The bell shall be rung prior to movement of the locomotive and at any other time when needed to serve as a warning to the train crew or other persons near the railroad right of way (crossings, etc.). The bell shall be rung at all times while in motion in the Industrial Area or near any building or area where personnel are working.

6.3.6. **Color signals**:

6.3.6.1. Red: **STOP**

6.3.6.2. Blue: Indicates that workmen are under or about an engine, car, or train, which must not be coupled or moved.

6.3.6.3. Yellow: **CAUTION**, use extra care, slow down to 5 miles per hour.

6. RESPONSIBILITIES (CONTINUED)

6.3.7. **Hand, Flag, and Lamp Signals Radio Wording**

6.3.7.1. At right angles to the track **STOP**.

6.3.7.2. Slight horizontal movement at arm's length at right angles to the track **REDUCE SPEED.**

6.3.7.3. Raised and lowered vertically **PROCEED**.

6.3.7.4. Swung vertically in a circle at right angles to the track **BACK**.

6.3.7.5. Swung horizontally above the head **APPLY AIR**.

6.3.7.6. Held at arm's length above the head **RELEASE AIR BRAKES**.

6.4. **License Requirements**

6.4.1. Only those persons who are qualified and licensed as Engineers, or persons designated by the Chief, Vehicle & RR Operations, instructed by qualified engineers (engineer must be present), shall operate, or **ATTEMPT TO OPERATE**, Depot rail locomotives.

6.5. **Right Of Way**

6.5.1. Commercial freight and switching trains used shall have the right-of-way over Army trains on track utilized by both. Light engines shall allow the right-of-way to other engines handling trains when meetings must be made.

6.6. **Night Operations**

6.6.1. At night, locomotives shall display a headlight to the front, and bright red light to the rear. When coupled to cars, the headlight on the end of the engine to which the cars are coupled shall be turned off. Headlights and rear lights *shall* also be used by day during dust storms, foggy weather, and under any-other conditions that noticeably reduce visibility. An amber flashing light on top of the engine will be operating anytime the engine is in operation, this includes railroad maintenance cars. Until the headlight of a train is turned on to meet another is extinguished, it is an indication that the main track is obstructed. When on a siding not clear on the main track, or in meeting an opposing train, the headlight is obscured by cars or other obstructions, or has failed, a flagman must immediately be sent ahead to ensure protection. Ample warning by whistle or bell must be given to persons seen on or near the track. Trains shall not block highway crossing any longer than is necessary to perform switching movement. A train or engine must not enter a track until the switches are properly aligned. The switches shall not be restored to normal positions until a movement is complete or clear of the track that is involved.

6.7. **Switch Control**

6.7.1. If a switch is run through, it is thereafter unsafe, and must be protected. Railroad maintenance shall be notified immediately along with Transportation, Safety, and Engineers. The train shall remain at the switch until released by Transportation or Safety authority. If the train is released prior to the switch being attended, the conductor shall see

6. RESPONSIBILITIES (CONTINUED)

that red flags are placed 100 feet from the switch on all tracks and that the broken switch is spiked over.

6.7.1.1. If an engine or car is run partly through a switch, the movement must be continued. In the event of an incident on the railroad system, trains or equipment involved shall not be moved until authorized to do so by the Safety Manager or designated representative.

6.7.2. When a switch is thrown, the employee setting it must see that both points have moved to the proper position. A switch must be fastened as soon as thrown either way, and when latched.

6.7.3. When attending a switch, a person must move away at least ten feet after each setting.

6.7.4. Derailing switches must be left set to **"DERAIL"** except when thrown to allow passage of trains. Cars must never be left **"BETWEEN"** the derailing switch and main line connection.

6.7.5. Switches that are provided with locks must be kept locked in position except when in use.

6.7.6. A switch must not be left open for use by a following train or engine unless left in charge of a trainman.

6.7.7. Switching must be carefully done, and trains must be carefully handled to avoid shocks from abrupt starting and stopping cars or from impact in making coupling and to prevent damage to cars or contents.

6.7.8. On cars which are to be controlled by hand brakes, the brakes must be tested before the cars are uncoupled and employee must know how to operate the type of brakes they are to use. Whenever one to five empty cars are left uncoupled from an engine, the hand brakes on at least one car shall be set. If more than 5 cars, one hand brake shall be set per 5 empty cars. Loaded and unattended cars will have 2 brakes per 4 cars. Brakes shall be set and the car wheel chocked with soft wood, 4x4 chocks, 3 inches long, and the edges to be forced between the wheel and rail should be leveled so that the chock can be wedged in place whenever a car is left uncoupled.

6.7.9. The use of hands or feet to adjust drawbar, knuckles, or lock pins while cars or engines are about to couple is prohibited. Moving equipment must be stopped, by not less than one car length, and remain stationary, at safe distance before drawbar, knuckles, or lock pins are adjusted on adjacent cars.

6.7.10. Before moving a newly made up train, it must be stretched to insure that all cars are properly coupled, and a proper air test performed. All hand brakes should be released.

6.8. **Braking Air Pressure**

6.8.1. A train shall not leave any descending grade with more than 180,000 pounds per operative brake when the air gauge registers 80 pounds train pipe pressure. If the tonnage exceeds 180,000 pounds per operative brake, the train pipe pressure shall be increased to 90

6. RESPONSIBILITIES (CONTINUED)

pounds. With 90 pounds train pipe pressure, 220,000 pounds per operative brake can be handled. Once in motion, a proper running air test is required.

6.8.2. The proper air brake test is made as follows. When the train has been made up, and air connected through the train, the engineer shall charge the train line to not less than five (5) pounds below standard pressure. The pressures is then reduced at least fifteen (15) pounds and as soon as the brake valve exhaust closes, note the brake pipe leakage, which must not exceed three (3) pounds in thirty (30) seconds. Then it is further reduced not to exceed twenty (20) pounds, and the reduction is indicated by one short blast of the whistle. The brakeman shall then determine if the brakes are applied on each car, and that the piston travel does not exceed nine (9) inches. Brakes with more than nine (9) inches of piston travel shall be considered non-operative.

6.8.3. If necessary to make changes or repairs to couplers, the action must be understood by all employees who may, through misunderstanding, move cars or cause cars to be moved; the cars must be separated by a distance not less than one car length, to reduce the possibility of injury, should they be moved by mistake. Employees should, when possible, avoid standing directly in line with coupler while making repairs.

6.9. **Blue Flag(S) Repairs**

6.9.1 When emergency repair work is done under or about locomotives, locomotive cranes, or cranes in the train, and blue signal is not available, the engineer shall be notified and flag protection must be given to those engaged in making the repairs. No unauthorized person shall perform maintenance in or on the 600 volts control and electrical box, no matter how minor, except the box may be opened to disconnect batteries at night. The assumption is to be made that all wires are "alive" and carry electric current. All persons on or about cars are cautioned to watch at all times for low or loose wires, and definitely warned **NOT TO COME IN CONTACT WITH ANY WIRE**, either broken, or hanging, Any such hazardous wires shall be reported to the General Foreman (Transportation) via the dispatcher **IMMEDIATELY**. All personnel making repairs on electrical controls shall comply with **SOC's Lockout/Tagout Policy** (See Chapter 21).

6.10. **Switching and Bumping**

6.10.1. Flying switches, bumping, or other means by which one or more cars are uncoupled from an engine and allowed to run free, are strictly forbidden, except at the railroad scales, and then only if an engine is weighing cars and it is impossible for the first car to be pushed completely off the scale without running the engine on the scale.

6.10.2. In this case, only the car may be allowed to roll freely until it has cleared the scale. Empties only may be kicked in Classification Yard when cars are being segregated. Under no Circumstances shall a car be kicked so that it could hit a loaded car.

6.10.2.1. Employees required to give signals shall provide themselves with the proper equipment and shall keep ready for immediate use.

6. RESPONSIBILITIES (CONTINUED)

6.10.2.2. Cars shall not be left standing on the main line without special instructions or permission from the train dispatcher.

6.10.2.3. All switches from Dock #3 to the junction switch shall normally be left lined for the main line.

6.10.2.4. Hand brakes will not be set until engine and car air lines have been separated.

6.10.2.5. Railway traffic shall have the right of way over pedestrians and all vehicles, except emergency vehicles displaying a red or blue light.

6.10.2.6. No railroad car shall be moved with unauthorized persons riding inside or outside the car. No boxcar loaded with any material whatsoever, whether explosive or inert, shall be coupled to or moved unless both doors are closed. Do not couple to, or move, a car that has a **"DO NOT COUPLE"** sign attached. Contact the building or area supervisor, who will remove the warning signs and release the car.

6.11. **General Safety**

6.11.1. The following rules deal with the more obvious principles of safety, but the greatest factor of all is common sense. Most serious incidents will occur through violation of these simple rules. Please read thru carefully.

6.11.2. When coupling air hoses, open angle cock slowly while standing in a position clear of the hose.

6.11.3. When using ladders on cars and tenders:

6.11.3.1. Face the equipment.

6.11.3.2. Keep your feet turned slightly sideways.

6.11.3.3. Place the maximum portion of the ball of the foot on the ladder ring.

6.11.3.4. Hold the body close to the ladder.

6.11.3.5. Grasp a separate grab-iron firmly with each hand.

6.11.4. All car doors will be closed prior to hook up and movement.

6.11.5. Do not cut off cars on descending grades unless they are properly chocked and braked.

6.11.6. When mounting a car, so far as practicable, before operating a hand brake, closely observe the condition of the pawl ratchet and the brake wheel to detect defects.

6.11.7. In applying any brake, take a firm position, and lean your body towards the car rather than away from it, when power is applied.

6.11.8. Apply steady pressure on the wheel; never apply pressure with a jerk.

6. RESPONSIBILITIES (CONTINUED)

6.11.8.1. If unable to release the pawl without forcing it from the ratchet when releasing a brake, obtain help to prevent the wheel from flying around, and release the brake gradually.

6.11.9. Look in both directions before you step afoul of any track. Be especially careful when coming out of or from behind an engine, car, building, or other structure.

6.11.10. Never place your feet in the "crotch of the frog" or any position where it may be caught.

6.11.11. Do not place your hand on the couple or between the coupler.

6.11.12. Never give a signal to move the engine or cars while an employee is between cars.

6.11.13. The railroad dispatcher will notify the conductor of any railroad maintenance and exact location.

6.11.14. The brakemen and the conductor shall take care when throwing switches that the switch lever does not fly up and strike them and when throwing switches whose levers operate toward the track, that they do not step or fall in front of the train.

6.11.15. Before using railroad appliances, operators shall determine that the equipment they are to operate is, in all respects, ready for service.

6.11.16. When visibility is reduced by dust, fog, rain, or other conditions, the speed of the engine shall be reduced so that the train can be stopped within half the distance of visibility.

6.11.17. All switches to spur tracks or house tracks at the dock lines are thrown to the main line.

6.11.18. Persons other than train crews shall not ride on moving locomotives unless authorized by that locomotive's conductor.

6.11.19. The conductor shall give all orders pertaining to movement and general management of the train.

6.11.20. The engineer shall not move the locomotive unless the track is seen or known to be clear for safety operations, and only on the signal of the conductor or appointed crewmembers.

6.11.21. All orders to train movements shall come from the dispatcher or other designated personnel.

6.11.22. Extreme care must be used in judging speed and distance of approaching vehicles. The same care will be taken at the approach of road crossings.

6.11.23. Engineer shall be prepared to stop at once in case of emergency.

6.12. **Railroad Crossing Safety**

6.12.1. The FRA Interim Manual part 234 on CROSSING SIGNAL SYSTEM SAFETY states the following**:**

6.12.1.1. "The purpose of these regulations is to provide for the safety of users of highway-rail grade crossings, including motor vehicle occupants, non-motorized

6. RESPONSIBILITIES (CONTINUED)

vehicle users, and pedestrians. It is the policy of the Federal Railroad Administration to promote voluntary compliance with these minimum safety standards. Civil penalty sanctions may be employed as necessary to secure compliance, if voluntary compliance is not forthcoming."

6.12.1.2. All crossings in which Army trains or machinery could possibly come in contact with the outside public (crossings over state roads and highways) are under the jurisdiction of the FRA and are subject to their minimum safety standards. Keep in mind that the following are MINIMUM standards and any other more stringent policy for crossing safety shall be adhered to.

6.12.2. Activation Failure:

6.12.2.1. An activation failure is the failure of an active highway/rail-grade crossing warning system to provide at least 20 seconds warning to an approaching highway user that a train is approaching the crossing, or a train is occupying the crossing (arms failing to drop down).

6.12.2.2. The train crew must provide alternate warning when encountering an activation failure. An alternative warning consists of at least one uniformed law enforcement officer or one uniformed railroad police officer, or an appropriately equipped flagger for each direction of highway traffic at the crossing, trains may proceed over the crossing at normal speed. If there is no appropriately equipped flagger, uniformed law enforcement officer, or uniformed railroad police officer to provide alternative warning, each train must stop and a

A MEMBER OF THE TRAIN CREW MUST FLAG HIGHWAY TRAFFIC TO A STOP BEFORE THE TRAIN OCCUPIES THE CROSSING.

6.12.2.2.1. **NOTE:** It shall not constitute an activation failure if on-track railroad equipment is not designed, equipped, and relied upon to activate such highway-rail grade crossing warning system.

6.12.3. False Activation:

6.12.3.1. A false activation is the activation of a highway/rail-grade crossing warning system caused by a condition that requires correction or repair of the grade crossing warning system (crossing arms dropping without any rail traffic to activate the system.)

6.12.3.2. When a railroad receives a credible report of a false activation, it is required to take prompt action to notify train crews and other railroads operating over such crossing prior to the next train operation over the crossing. These crews must take the same steps as described in an "activation failure" to use the grade crossing.

6. RESPONSIBILITIES (CONTINUED)

6.12.4. Interference with Normal Function of System:

6.12.4.1. Whether accidental or intentional **INTERFERENCE WILL NOT BE TOLERATED.** Interference consists of but is not limited to:

6.12.4.2. Trains, locomotives, or other railroad equipment left standing within the warning system's approach circuit, other than normal switching operations, where the system is not designed to accommodate those activities.

6.12.4.3. Not providing alternative methods of maintaining safety for the highway user and/or train movements while testing or performing work on the warning system or on track and other railroad systems or structures which may affect the integrity of the warning system.

6.12.4.4. Tying up gate arms by railroad personnel shall not be considered interference if:

6.12.4.4.1. When in the course of normal testing a shunt placed on the rail causes the warning system to be activated.

6.12.4.4.2. Proper warning is provided to highway users when manual overrides to activate or deactivate a crossing are used

6.12.5. Appropriately Equipped Flagger:

6.12.5.1. **All persons other than a train crew member, or uniformed officer, who is required to flag at railroad grade crossings, will be equipped with the following:**

6.12.5.1.1. **ORANGE VEST SHIRT, OR JACKET FOR DAYTIME FLAGGING. AT NIGHT SIMILAR OUTSIDE GARMENTS MUST BE REFLECTIVE. ACCEPTABLE HAND SIGNAL DEVICES FOR DAYTIME FLAGGING INCLUDE STOP/SLOW PADDLES AND/OR RED FLAGS. AT NIGHT A FLASHLIGHT, LANTERN, OR OTHER LIGHTED SIGNALS SHALL BE USED.**

6.12.6. Employee Notification Rules:

6.12.6.1. This section requires that all employees report by the quickest means of communication available any malfunction of highway-rail grade crossing warning systems to the Railroad Inspector.

6.12.6.2. These are other basic crossing rules that apply to operating train crews on the depot:

6.12.6.2.1. Train crews shall slow to 5 mph, sound the warning whistle, position one trainman at the lead car to ensure the way is clear and the crossing signals are operating before the train proceeds across any Highway 95 crossing.

6. RESPONSIBILITIES (CONTINUED)

6.12.6.2.2. All train crew members shall read and comprehend the entire FRA Interim Manual on GRADE CROSSING SIGNAL SYSTEM SAFETY, PART 234.

6.13. **Foul Weather Safety**

6.13.1. Both the conductor and the engineer are responsible for the safe operation of the train. This is magnified in foul weather situations. When there is ice, snow, or frost on the tracks or when there is dense fog in the operating area, the following procedures will be strictly adhered to:

6.13.1.1. The speed will be reduced by one half.

6.13.1.2. The load will be reduced by one half.

6.14. **Emergency Brake Use**

6.14.1. In the event that the emergency brake is used and the locomotive wheels slide on the tracks, the train will not be moved, except to move it from a hazardous location and then only to a safe location. At this time, the supervisor, Safety Office, and a qualified locomotive inspector will be notified and dispatched to the location and conduct a thorough investigation of the cause and any damage.

6.15. **Track Maintenance Crews, General Safety**

6.15.1. Be aware and alert of all work going on around you. Keep clear of suspended loads, traffic areas, etc.

6.15.2. Practice safe work habits. No horseplay, respect the rights of fellow employees.

6.15.3. All injuries and safety infractions must be reported to your supervisor immediately and the appropriate report filed.

6.15.4. Report all defective tools, equipment, and vehicles to your supervisor.

6.15.5. DO NOT walk in the center of the track, except on bridges that do not have walkways.

6.15.6. Make certain that all safety or warning devices are in place.

6.15.7. Never remove any safety or warning device, unless you are authorized to do so. Never remove or deface labels containing hazardous, toxic substance warnings. Warning systems shall be observed in designated work areas.

6.15.8. Maintain track right of way, never leave any material, equipment or debris within 8 feet of the nearest rail of the track unless authorized.

6.15.9. No TV's, radios, magazines, newspapers, tape recorders, cameras, video equipment or other literature allowed in-work areas without prior authorization.

6.15.10. Use designated paths, walkways, or routes to and from place of work ("short cuts" are prohibited).

6. RESPONSIBILITIES (CONTINUED)

6.15.11. While walking, look in the direction of your movement and be alert for any possible hazard.

6.15.12. Be alert, use caution, and then stand clear when working with cables, ropes, or chains that are under tension.

6.15.13. Do not operate equipment with internal combustion engines in unventilated areas.

6.15.14. Use track tools properly. Do not attempt to alter any safety device.

6.15.15. When a hazardous condition is present at a job that would require additional protection or information, it shall be reported to your supervisor immediately.

6.15.16. Material lifting devices shall be used whenever possible. Get help prior to lifting. Use the proper lifting stance. Bend your knees, not your back! No one person shall lift more than 50 pounds, or material that is not easily handled.

6.16. **Railroad Track Work Safety**

6.16.1. Always anticipate movement of trains, cars, or other movable equipment on any track from both directions.

6.16.2. Don't get trapped between trains on adjacent tracks.

6.16.3. When railroad equipment is moving up the track move to a safe place.

6.16.4. When a train is passing on parallel tracks, step out of your motorcar, or track equipment and move to a safe distance from the passing cars. Do not get back in to your track vehicle or equipment until the train has passed.

6.16.5. Step out of vehicles that are parked close to the track when trains are approaching on that track. Do not get back into the vehicle until the train has passed.

6.16.6. Employees shall not crawl under, over, or into rail cars unless the proper blue flag procedures have been enacted.

6.16.7. Always keep a safe distance from passing cars and trains, (20 ft. from track center) and provide a 50/50 roll-by.

6.16.8. Cross railroad tracks at a safe distance from the end of standing trains, cars, or locomotives (at least 20 ft.).

6.16.9. Always look both ways before crossing the tracks.

6.16.10. NEVER walk or step on rails, switches, guardrails, interlocking machinery, or movable connections.

6.16.11. When using rail crane tongs to lift rails, make sure they are centered on the rail. Ground person must handle rail from the end at arm's length, placing both hands on top of ball. Hardhat must be worn at all times.

6.16.12. **ALWAYS** wear gloves and long sleeved shirts when handling ties using tongs whenever possible. Be sure tongs are sharp.

6. RESPONSIBILITIES (CONTINUED)

6.16.13. Stand at the end of tie bundle to cut bands (not in front).

6.16.14. Do not stand on tie piles.

6.16.15. When handling rail, use the proper tools to turn rail; never use a striking tool to move rails. Do not drop rails or allow rails to strike each other.

6.16.16. Avoid stepping on slippery, creosote treated ties when possible and NEVER step on rails.

6.16.17. **NEVER** place your hands or feet under track that is suspended by jacks.

6.16.18. When driving spikes by hand, spikes must be well set before driving home. Look around you before you spike.

6.16.19. No employee shall ride in any moving gondola, or any time that ballast is present in gondola and the dump doors may be opened.

6.16.20. **NEVER PUT FINGERS OR HANDS BETWEEN RAIL AND SPIKE WHEN SETTING SPIKES**.

6.16.21. **NEVER PUT FINGERS UNDER THE RAIL, BETWEEN RAILS, OR INTO BOLT HOLES!**

6.17. **Hand and Power Tool Safety**

6.17.1. All tools must be used for their designated purposes only.

6.17.2. Spike mauls, sledges, chisels, or any other tools must not be used if any signs of chipping are present. **TOOLS WITH BROKEN OR SPLIT HANDLES SHALL NOT BE USED**.

6.17.3. When tightening or loosening track bolts you must stand facing the nut, so that if the wrench slips off the nut your fingers will not be smashed on the rail.

6.17.4. Use only a lining bar or jacking bar to raise track jacks. Always remove the bar when you are finished using it.

6.17.5. Do not hammer or beat track jacks under the rail.

6.17.6. Do not use chipped or cracked blades when using the rail saw.

6.17.7. All mauls and hammers will be dressed on a consistent basis to remove flow from around the head. Hammers and mauls with excessive flow must not be used.

6.17.8. Only spike mauls will be used to drive spikes by hand.

6.17.9. Only sledgehammers will be used to apply rail anchors.

6.17.10. A "taped" handle will be considered the same as a cracked handle and will not be used.

6.17.11. Before using any tools or equipment the operator shall inspect for possible damage and determine that the tools or equipment are (in all respects) safe for operation.

6.17.12. All unsafe or otherwise hazardous tools or equipment will not be used, and will be reported to the supervisor immediately.

6. RESPONSIBILITIES (CONTINUED)

6.17.13. Use of all heat or spark producing devices in the explosive area will require issuance of a Hot Work Permit (Chapter 10).

6.18. **Large Maintenance Equipment Safety**

6.18.1. Large pieces of rail maintenance equipment such as tampers, regulators, tie indenters, and rail cranes perform the bulk of all maintenance done on any railroad. The size and weight of these machines dictates that operators must be highly trained and exceedingly safe. The following are concrete rules and guidelines for operators to follow when operating or moving these machines.

6.18.1.1. All rail equipment shall be checked, if equipment is left unattended.

6.18.1.2. Only use these machines for their intended use!

6.18.1.3. Always performs operator maintenance before attempting to start or move machines. **NOTE: Service brake and parking brake will be tested before equipment is put into service.**

6.18.1.4. Become familiar with the operators manual for each machine before attempting to operate it.

6.18.1.5. Follow all the manufacturer's recommended safety precautions.

6.18.1.6. When parking machines on the rail for the night it is recommended to drop a stationary part of the equipment on the ground (i.e. one of the tamping bits on a tamper, the plow or wing on a ballast regulator, or the boom on an indenter or crane etc.).

6.18.1.7. Before moving equipment to a job site the operator must contact each train crew and notify them of his/her intentions.

6.18.1.8. When operating equipment and approaching rail switches that are thrown against your direction of travel the operator will slow equipment prior to the switch. This allows equipment to move toward the switch in a safe speed and under power.

6.18.1.9. Before leaving equipment at a job site the operator must contact each train crew and notify them of his/her intentions.

6.18.1.10. **TRAINS** have the right-of-way! Always be prepared to clear the area for a train unless prior arrangements have been made, or a "work window" has been created.

6.18.1.11. Flashing yellow lights and a headlight on the front of the machine must be operational, and on, when machine is running on the track.

6.18.1.12. Machines shall not follow closer than five hundred (500) feet behind any train or locomotive, or closer than three hundred (300) feet behind any other track equipment or motorcar.

6. RESPONSIBILITIES (CONTINUED)

6.18.1.13. While crossing Highway 95, with large rail maintenance equipment, operators will slow to 5 mph, sound warning whistle, and be certain the way is clear before proceeding. If the equipment being operated does not have the ability to "shunt" the crossing circuit, the circuit will be shunted manually with a jumper before the equipment enters the circuit.

6.18.1.14. Many of the policies described in QP.HSE.SAF.015 (6.1 through 6.15) also apply to large rail maintenance equipment. It is the operators' responsibility to read, comprehend, and adhere to these safety policies.

6.19. **Motor Car and High-Rail Safety**

6.19.1. No employee shall be allowed to operate a motor car or high-rail vehicle without a Motor Car Operators Permit.

6.19.2. Employees will not be allowed to ride on motorcar trailers unless they are equipped to carry passengers.

6.19.3. High-rail vehicles and motorcars will provide at least one white light to the front of the vehicle while traveling. Motorcars will also have an operating flashing amber light atop the cab.

6.19.4. All switches will be returned to the main unless locomotives are observed operating in the vicinity, or prior arrangements have been made.

6.19.5. Motor car trailers shall be pushed at no more than 10 mph, and trailers shall be pushed only when a pulling motion is not possible.

6.19.6. Two or more individuals are required to operate a motorcar and at least one person will be facing each direction looking out for other rail traffic.

6.19.7. TRAINS have the 'Right-of-way'! Be prepared to clear the line for trains unless prior arrangements have been made.

6.19.8. When crossing Highway 95 motorcars will slow to 5 mph, sound warning whistle, and be certain the way is clear before proceeding. If the motorcar is not equipped to shunt the track circuit the track circuit will be shunted with a jumper manually before the motorcar enters the circuit.

6.19.9. High-rail vehicles crossing Highway 95 will stop before crossing the road, look both ways and then proceed at no more than 5 mph. High-rail vehicles are not designed to shunt the track and often times have only one passenger. It is much safer to cross guard crossings when there is no oncoming traffic and not attempt dropping crossing arms.

6.19.10. Many of the policies described in Chapter 15 (6.1 through 6.15) also apply to motorcars and high-rail vehicles. It is the operator's responsibility to read, comprehend and adhere to all safety policies in Chapter 15.

6. RESPONSIBILITIES (CONTINUED)

6.20. **Flagging Safety**

6.20.1. The flagging rules described below are quoted from TM 5-627 section VI SAFETY: "Whenever any track is in a condition unsafe for passage of trains at authorized speed, protection must be provided consistent with type of traffic, authorized speed, and seriousness of the condition. Any track is regarded as unsafe for passage of trains at authorized speed when any of the following conditions exist:"

6.20.1.1. When spikes are withdrawn on one side of the track:

6.20.1.2. From more than every third tie on tangents.

6.20.1.3. From more than every third tie on curves up to 5%. From more than every fifth tie on curves over 5%

6.20.2. **When during tie renewals:**

6.20.2.1. Two or more adjoining ties are removed, or four or more adjoining ties are not fully spiked and tamped.

6.20.3. When ballast has been removed or tracks have been raised, exposing more than 3/4 of the depth of the ties above the ballast for more than one rail length, flange ways have not been provided on the gage side of the track, or ballast tends more than 4 inches above the top of the rails.

6.20.4. **ANY HAZARDOUS CONDITION REQUIRING RESTRICTIONS AS EXPLAINED IN TM 5-628 RAILROAD TRACK STANDARDS**.

6.20.4.1. Flagging application will consist of and NOT VARY FROM the following:

6.20.4.1.1. A yellow flag (at least 18" X 18" metal base on a steel staff of at least 6') shall be placed on the engineers side of the track, no closer than 8' perpendicular to the nearest rail, nor any closer than 2640' horizontally along the track from the point where slow track begins, on BOTH sides of the slow track. A proceed sign (a green flag of the same dimensions as the yellow) must ALWAYS (unless a red flag is also involved) accompany the placement of a yellow flag. The green flag will be placed on the engineers' side approximately 150' from where the slow track ends on BOTH sides."

6.20.4.1.2. "A stop sign (A red flag of the same dimensions as the yellow and green.) will always be placed between the rails approximately 150' from the track hazard on both sides of the hazard. A yellow flag will ALWAYS accompany a red flag and Will be located approximately 2640' from the track hazard on BOTH sides of the hazard."

6.20.5. **Whenever employees erect any of these flags the following steps must be taken:**

6.20.5.1. Notify all train crews.

6. RESPONSIBILITIES (CONTINUED)

6.20.5.2. Notify the supervisor of locomotive operations.

6.20.5.3. Notify the railroad inspector.

6.20.5.4. Notify your supervisor.

6.20.5.5. Document the reason for the flag, and who erected it.

6.20.5.6. The erection of flags must be logged by maintenance personnel.

6.20.5.7. When flags are removed you must follow the same steps as described above.

6.21. **Job Site Safety**

6.21.1. The track maintenance supervisor shall notify the rail dispatcher prior to, and upon completion of, any work on the track that will interfere with the movement of trains.

6.21.2. When any work is being performed on a track that will interfere with train movement, that section of the track shall be locked out for the maintenance crew to be in constant contact with all trains.

6.21.3. The track maintenance supervisor shall notify the Fire Department prior to blockading a road for repair of track. The Fire Department will also be notified when the blockade is removed.

6.21.4. At the end of each workday, all tools, material, and scrap shall be secured, or stowed, in its proper place.

6.21.5. All SOC personnel working adjacent to public traffic routes shall wear a highly visible orange vest.

7. PROCEDURE

7.1. All trains shall have one person designated as conductor, who shall be responsible for the safety of the train and its personnel. This stipulation does not relieve other employees of their general responsibilities of safety actions.

8. METRICS

8.1. There are no metrics associated with this chapter.

9. RECORDS

9.1. The following Quality Records shall be generated and managed in accordance with SOC.QP.QMS.0002:

QUALITY RECORDS			
RECORD REQUIRED	CUSTODIAN	RETENTION	DISPOSITION
DZHC 166-E	Safety Manager	3 years	Shred

10. FORMS

10.1 The following forms are applicable to this chapter:

APPLICABLE FORMS	
FORM NUMBER	TITLE
DZHC 166-E	Investigation of Incident/ Accident

11. ATTACHMENTS

11.1 There are no attachments associated with this chapter.